

CATALOGUE 2020



PRODUCTS AND SYSTEMS FOR BUILDING AUTOMATION



REGIN
THE CHALLENGER

PEOPLE'S WELL-BEING IN A
SUSTAINABLE FUTURE



Through personal commitment we create solutions that
optimize the use of resources in buildings

Meet the challenger who takes building automation personally

It's all about listening and using our collective expertise in the search for the perfect solutions – for you.

AT REGIN we want to be able to offer you the perfect product and the smartest solution adapted specifically to your needs. Whether you're in need of a control valve or if you're about to design a large complex system – we'll always be there to support and help you take on the challenge. That's what we mean when we say we take building automation personally. It's all about listening and using our collective expertise in the search for the perfect solutions for you. Because that's part of the Regin DNA.

This way of thinking and working has been part of who we are since 1947 when we developed our first humidistat in Gothenburg, Sweden. Today you can find solutions based on our product range in a wide variety of buildings and applications all around the world. We've come a long way and we continuously work to improve and to become even better tomorrow.

TABLE OF CONTENTS

	<u>REGIN NEWS OF 2020</u>	<u>4</u>			
1	<u>REGIN SYSTEMS</u>	<u>25</u>			
	SCADA software for complete control	29			
	EXOclever	35			
	EXOcompact – Freely programmable controllers	36			
	EXOcompact ^{Vido}	42			
	Add:io	43			
	EXOflex – Freely programmable controllers	44			
	Processor housings	45			
	Expansion housings	46			
	PIFA units	47			
	Communication options	52			
	Expansion units and I/O modules	53			
	EXO accessories	60			
2	<u>CONTROLLERS</u>	<u>65</u>			
	CLOUDigo	67			
	Corrigo – controllers for ventilation and heating	68			
	Exigo – controllers for heating and boiler control	70			
	Optigo – pre-programmed, stand-alone controllers	74			
	Controllers for other applications	76			
	Duct controller	77			
	Accessories for Corrigo and Exigo	78			
3	<u>ROOM CONTROLLERS</u>	<u>87</u>			
	Regio ^{Ardo} and Regio ^{Eedo} – The ultimate room control system	89			
	Regio accessories	96			
	Controllers and thermostats for fan-coil applications	97			
	Room controllers for other applications	102			
	EC fan/VAV controllers	103			
4	<u>THERMOSTATS</u>	<u>105</u>			
	Electromechanical thermostats	106			
	Electronic thermostats	112			
	Thermostats for DIN-rail mounting	113			
5	<u>ELECTRIC HEATING CONTROLLERS</u>	<u>115</u>			
	Pulser, 1- or 2-phase	116			
	TTC, 3-phase	119			
	Accessories	120			
6	<u>SENSORS, SWITCHES & TRANSMITTERS</u>	<u>121</u>			
	Temperature sensors	122			
	Temperature transmitters	140			
	Accessories for temperature sensors and transmitters	142			
	Humidistats / humidity controllers	143			
	Humidity/temperature transmitters	145			
	Accessories, humidity	149			
	Pressure switches, transmitters and controllers for air and non-corrosive gases	150			
	Pressure transmitters for liquids and gases	156			
	Accessories for pressure switches and transmitters for air and non-corrosive gases	158			
	Flow	159			
	Accessories for flow transmitters and switches	161			
	CO ₂ /CO/NO ₂ controllers and transmitters	162			
	Lux transmitter	167			
7	<u>DETECTORS</u>	<u>169</u>			
8	<u>WIRELESS PRODUCTS</u>	<u>173</u>			
9	<u>ENERGY METERS</u>	<u>179</u>			
10	<u>VALVES</u>	<u>185</u>			
	Zone valves	187			
	Accessories for zone valves	192			
	Externally threaded valves	194			
	Accessories for externally threaded valves	200			
	Internally threaded valves	201			
	Flanged valves	208			
	Butterfly valves	212			
	Pressure independent control valves	214			
	Adapter kit for adapting actuators of other brands to Regin's valves	218			
11	<u>VALVE ACTUATORS</u>	<u>221</u>			
	Thermal actuators	224			
	Linear valve actuators	228			
	Quarter turn actuators	232			
	On/off zone valve actuator	236			
12	<u>DAMPER ACTUATORS</u>	<u>247</u>			
	Damper actuator equivalents	248			
	Damper actuators with spring return	249			
	Damper actuators without spring return	251			
	Damper actuator accessories	253			
13	<u>MISCELLANEOUS PRODUCTS & ACCESSORIES</u>	<u>255</u>			
14	<u>CONTROL THEORY</u>	<u>265</u>			
I	<u>INDEX</u>	<u>269</u>			

REGIN SYSTEMS	1
CONTROLLERS	2
ROOM CONTROLLERS	3
THERMOSTATS	4
ELECTRIC HEATING CONTROLLERS	5
SENSORS & SWITCHES	6
DETECTORS	7
WIRELESS	8
ENERGY METERS	9
VALVES	10
VALVE ACTUATORS	11
DAMPER ACTUATORS	12
MISCELLANEOUS PRODUCTS & ACCESSORIES	13
CONTROL THEORY	14
INDEX	I

1
2
3
4
5
6
7
8
9
10
11
12
13
14
I



NEW POWERFUL EXOcompact MODELS

Let's introduce our new future proof models of freely programmable controllers for applications and system integration, EXOcompact Ardo, Eedo and Vido.

They are equipped with a two times faster processor, a significantly greater memory capacity and web pages with improved memory access speed. They are also optimized to handle many parallel tasks with retained top speed. The built-in webserver, Controller Web, based on future technology with HTML5, provides you with the tools needed for flexible commissioning and handling. It enables you to reach and control your system from any web browser on your cell phone, tablet or PC, providing real time data.

The Modbus Master-functionality has received a major facelift and is supported on both RTU and TCP. The new Multi-master Modbus makes it possible to connect to 3rd party products with different settings from one controller while its' advanced error handling, debugging and commissioning tools make integration a breeze.

READ
MORE
38

SYSTEM NEWS THAT MAKES YOU READY TO MEET THE FUTURE!

We are proud to present a range of breaking news in our system portfolio. The software is loaded with new functionalities which give endless possibilities in controlling most systems - no matter the size. We also present a range of future-proof, freely programmable controllers and new Add:io units. Our system news will increase your flexibility, facilitate your work and help you top perform.



EXPAND YOUR SYSTEMS WITH OUR NEW ADD:IO

Combine your EXOclever with one, or as many as you need, of our three new Add:io units providing your solution with 16 supplementary I/O either with universal input or universal output. You can also use the Add:io units for EXOcompact to connect up to 50 I/O via EFX. The units fit smoothly together, requiring minimal space. Programming tools for Add:io are available in EXOdesigner which make them easy to install and handle.

READ
MORE
43



HEATING SOLUTIONS WITH NEW ENERGY-SMART FUNCTIONS!

We have made a software update for our heating solutions – Exigo^{Ardo} and Exigo^{Vido}. The new version, Exigo 4.2, simplifies the integration and installation of our heating applications, but also allows for new energy-smart features. Now it is possible, among other things, to make power limitations in several different ways through energy meters with M-bus.

You can also connect our wireless concept, Go Wireless. Configuration is easily done via Application tool.

SHORT FACTS

- ✓ Communication with up to 10 pumps via Modbus
- ✓ If you prefer using wireless, Exigo can now communicate with up to 16 sensors
- ✓ Can take the building's stored energy into account when the outdoor temperature drops, thus saving energy
- ✓ Several smart alarm functions

READ
MORE
70



MONITOR YOUR ENERGY CONSUMPTION WITH OUR WIRELESS OPTICAL PULSE COUNTER

Let's simplify your tracking of energy consumption! The new wireless sensor, EPRW, monitors and reports the power consumption and the electric energy used in a building, by counting the light pulses from an electrical meter. Combined with our wireless receiver with Modbus communication, your solution will be one of the most reliable on the market.

SHORT FACTS

- ✓ Easy installation
- ✓ Extensive communication range
- ✓ Compatible with most meters commonly used
- ✓ About 6 years battery life

READ
MORE
177



THE REPEATER FOR WIRELESS RECEIVER THAT GIVES YOU FURTHER REACH

If you need to increase the distance between a wireless receiver and paired sensors or detectors - we have the repeater for you! Through radio-frequency communication the RPW strengthens and transmits the signal. Several repeaters may be used simultaneously. Adding repeaters to your solution means bringing more flexibility to the system!

SHORT FACTS

- ✓ Increases the transmission reach between paired units
- ✓ Easy mounting
- ✓ 230 V supply voltage
- ✓ Battery backup

READ
MORE
175



PRESSURE INDEPENDENT VALVE WITH SMART ACTUATOR

Our PCMTV valves are intended for control of heating, cooling and air handling in larger-scale heating and cooling applications where pressure independent control valves are preferred, such as high-rise buildings, supermarkets, factories and alike.

SHORT FACTS

- ✓ Precise hydronic balance gives increased comfort and reduced energy consumption
- ✓ Accurate flow control, stable maximum flow rate and

compensated variations in differential pressure result in a steady and enduring control system

- ✓ Smart actuator offers remarkable adjustment flexibility with many functions in one actuator
- ✓ Easy selection as no authority calculations are needed
- ✓ Nominal diameter: DN50–250
- ✓ Pressure rating: PN40
- ✓ Max flow: 25000 l/h (DN50–65–80) to 277000 l/h (DN200–250)

READ
MORE
217

ACTUATORS

RDAS



NEW SERIES OF DAMPER ACTUATORS

The RDAS actuators, with or without spring return, are used in ventilation and air conditioning plants to operate air dampers and air throttles. The robust housing ensures durability and the actuators are easy to mount. It has a patented self-centering shaft adapter that reduces actuator load, extends product life and improves reliability.

SMALL HEADLINE

- ✓ Torque 4–35 Nm
- ✓ For dampers up to 6 m²
- ✓ Special versions with auxiliary switches
- ✓ 24 V and 230 V supply voltage
- ✓ Manual override

CHAPTER
12

DO YOU WANT TO STAY UPDATED AT ALL TIMES?

Subscribe to our newsletter at
www.regincontrols.com



Greenline makes a difference for people and the climate



– TOGETHER WE CREATE A SUSTAINABLE FUTURE

With our Greenline initiative, we strive to reduce climate impact. We do this in several ways. By running green tech projects around the world, through climate compensation and by supporting initiatives for a sustainable development. This means that when you buy a Greenline product we make a difference together.

At Regin, we are guided by a vision of people's well-being in a sustainable future. We work hard to develop solutions for energy-efficient climate control in buildings. Apart from that, we take responsibility and get involved in social projects with the goal of reducing climate impact on a wider scale. In order to emphasize our ambitions, we have created a product category that is linked to Greenline. The bottom line is that each product sold supports a part of our investments in sustainability projects and climate compensation. In this way we can make a difference together with our customers.

Knowledge creates change in India

A significant portion of the world's carbon dioxide emissions derives from India. Reducing energy use in Indian buildings can thus bring large environmental benefits globally. For several years, Regin has invested considerable resources in projects in India, supported by the BMUB*, to share knowledge on how to improve energy efficiency in buildings. We have started up trainings at a school in southern India, participated in pilot projects and taught hundreds of people to manage building automation systems. For each optimized building, carbon dioxide emissions are significantly reduced. We are proud to have participated in making buildings in India more energy-efficient.

Better quality of life and less deforestation in Ghana

Regin's work within Greenline has also contributed to climate compensation through Tricorona Climate Partner. The projects that we have supported are "Gold Standard" certified, which means that they are high quality projects, audited annually. In line with the company's overall goal of promoting global energy efficiency, Regin has chosen to support a project in Ghana, in which energy-efficient stoves are developed, produced and sold. The stoves reduce the use of charcoal by half, which decreases deforestation. Moreover, it gives positive effects on carbon dioxide emissions. The stoves also have a major impact on human health, as they reduce the incidence of air pollution in homes. Local manufacturing and sales create jobs and secure the livelihood of many families.

Greenline is a long-term commitment for a sustainable and energy-efficient future, which is a challenging and important journey together with our employees and customers.

Thank you for joining us.

LEIF BRATTSCHÖLD
DIRECTOR & MEMBER OF THE BOARD
AB REGIN



*The projects are part of the International Climate Initiative (IKI). The Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, BMUB, supports this initiative on the basis of a decision adopted by the German Bundestag. See www.international-climate-initiative.com for more information.

REGIN

THE CHALLENGER



20°C
10°C
0°C

WE TAKE BUILDING
AUTOMATION PERSONALLY





The Regin vision takes us towards new challenges – every day

For us, every day is about listening and understanding the needs of each customer, project and building. We provide our knowledge in combination with our extensive product portfolio to create efficient solutions that optimize the use of resources in buildings worldwide. We focus on simplicity for all users – no matter how technically complex the solution. We do so with a strong personal commitment that is driven by our vision about creating something significant. A vision about caring for the energy use of future generations yet to come – A vision about *People's well-being in a sustainable future.*

Welcome to join us on our journey and take on the Challenge!

Regin
in 15 sec

- ✓ Increasing energy efficiency since 1947
- ✓ A comprehensive product range, from Systems to HVAC
- ✓ Our own product development
- ✓ The biggest Swedish-owned company in the business
- ✓ You can find our products in more than 90 countries – and the number is increasing
- ✓ Offices and warehouses in 17 countries with 230 employees
- ✓ Total annual turnover of approx €43,5 million



The Challenger.

That's what we call ourselves. But what do we challenge with?



One of the broadest product ranges on the market

WE KNOW that our broad range from Systems to HVAC makes life easier for our customers. With our comprehensive approach to energy saving we can offer products, service and consulting within all areas of building automation. Every year, we invest 10 % of our annual turnover in product development – that's how we future-proof our solutions.



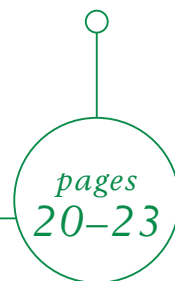
Global strength with a local presence

WE ALWAYS DO our utmost to make sure everything is in place when the customer needs it, wherever they need it. Thanks to our worldwide local presence, we can offer precise and fast deliveries to our customers' projects no matter where they are. Today, we sell our products in 90 countries and the number is steadily rising.



A personal commitment

COOPERATING with someone you trust and that you know is committed makes a difference. To us, personal communication and fast, internal decision-making is the best way to work. This has become our way towards success – working with our customers, partners and when working together with OEMs.





From mechanical humidistats to complete solutions

GOTHENBURG, 1947: Erik Haglund and Axel Jones buy the right to a humidistat. Under the *Regin* name, they remake it completely and release it to the market as HMH – a simple, stable humidistat that goes on to become a huge international success that is still manufactured and used today.

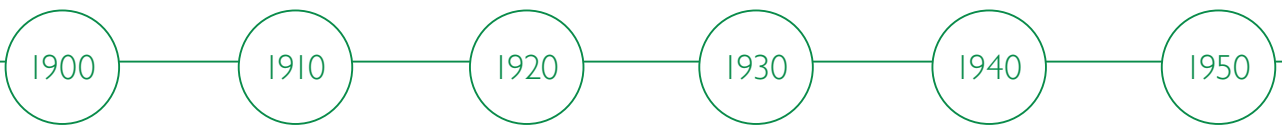
The evolution

In the late 80s, today's majority owners – Leif Brattschöld, Peter Bolin and John Reed, acquire Regin. They bring a strong commitment into the company together with a clear vision: Regin should develop their own products, have a broad range and establish close cooperative relations with installers and system integrators. Also, product development should be customer-driven through cooperation with OEMs and through a continuous dialogue with all kinds of users.

The expansion

During the first decade of the 2000s, Regin acquires the product companies Osby Armatur, Exomatic and RICCIUS+SOHN, three companies that have been true pioneers within their product fields and that will become important factors in achieving a complete, comprehensive product line. Customer-driven development is further strengthened and the decision is made to invest 10% of annual turnover in the company's product development.

These years also see the foundation of the Regin Academy, the company's international training centre. Coaching and courses are set up to increase product and energy saving system knowledge for all kinds of properties among system integrators, installers and OEM customers. Through the Regin Academy, Regin certifies system integrators who work with Regin systems.



TOWARDS THE END OF THE 19TH CENTURY Osby Armatur slowly starts to become synonymous with control valves around the world. This is very much due to the high quality valves used in the large ships crossing the world's oceans at that time.



IN 1947 REGIN IS FOUNDED and the first product, HMH, is launched. The humidistat HMH becomes an international success story and a modern version is still marketed today, some 70 years down the line. Few people know that the sensor is made from human hair.



IN BERLIN, DURING THE MID-50s Dr. Claus Riccius, Isolt Riccius and Günter Stroschen found the company RICCIUS+STROSCHEN, later named RICCIUS+SOHN. The first heat controllers for boiler control are manufactured in true pioneering spirit – in the family basement. Here the foundation is laid for the RU, one of Germany's most well known series of heat controllers. It's still on the market today.





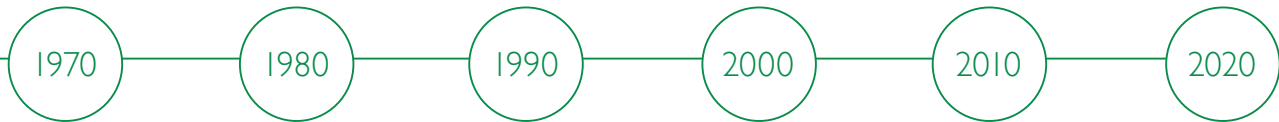
Present day

Today we can offer our own, personally developed product program that covers everything from valves and field products to some of the most sophisticated system solutions available within building automation. We sell our products in more than 90 countries worldwide – a number that is steadily increasing. Our Head Office is situated just outside of the city of Gothenburg, Sweden and we have offices and warehouses in 17 different countries.

Everything and nothing has changed since we were established in 1947. However, the one thing that will never change is our personal commitment to create easy and sustainable solutions for our customers, partners and OEMs – and for the people who use our products every day.



OUR HEAD OFFICE is situated in Källered just outside the city of Gothenburg. In 2015 the building was renovated and fitted with a new entrance and an updated Regin Centre.



IN 1983 EXOMATIC is founded in Svalöv, Sweden and today they are seen as pioneers when it comes to systems. The entrepreneur Carl Eric Olin had already, using huge computers, created one of the first building automation systems for a commercial property.

BETWEEN THE YEARS 1990 and 2010 Regin acquires Osby Armatur, RICCIUS+SOHN and Exomatic. Regin Academy is also established.

DURING THE SAME PERIOD Regin launches four series that all become huge successes and key products: EXOcompact, Regio, Corrigo and Optigo.

BETWEEN 2010 until today, Regin future-proofs technology and provides complete solutions for all kinds of applications. Internet of Things, Big Data and connected devices are on top of our agenda.



CLOUDigo

REGIN SOLUTIONS
IOT

GO WIRELESS





Everything under one roof

Control and climate control for all kinds of real estates

AFTER 70 YEARS IN THE BUSINESS, we know that our product range has to work for the installers in the field and for the system integrator with high demands on intelligent comprehensive solutions. This is why today we offer a complete product program from Systems to HVAC. We're able to do so thanks to our own customer-driven product development, combined with well-balanced acquisitions. With our product range we can provide both partners and OEM customers with the best ways to save energy and create comfort all around the world. But that's not enough.

We're convinced that the road to the right product and the smartest solution is based on a strong commitment, talking to the customer and cooperating – this is what makes the difference in the end.

System

Technical advances are moving faster and faster and every market has its own specific needs. To us, future-proofing and openness towards integration with standardised protocols are guiding principles. Today, you'll be able to find Regin's product range in all kinds of real estates, all around the world.

HVAC

Many of us who work at Regin have experience in fieldwork. We know that field products need to be of the highest quality, that they need to be easy and quick to install and that they should come with easy-to-understand instructions. With Regin's comprehensive HVAC range you'll always have what you need to succeed.

SYSTEM



SCADA system software



Energy Management system

EXO
add-on

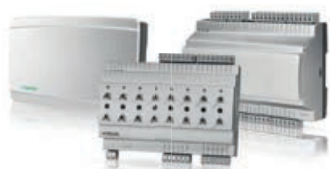
Lots of add-on products



Processor housings and Freely programmable controllers



Freely programmable room controllers



I/O-modules



Displays





OEM – Original Equipment Manufacturer

At Regin, you'll find everything you need in order to achieve a successful OEM cooperation. Our cooperation covers everything from product design to the finished product, from the entire project to smaller parts and from large to small volumes. In order to realise your specific visions, we have a dedicated OEM team that, together with your local contact, will ensure speed and quality during the entire process.

Ready-Steady-Go

Our Ready-Steady-Go concept and marking represents products that have been designed to be easy to install and start up. The concept is a good example of how we always try to focus on simplicity in interaction with our products and our systems.



READY STEADY GO

READY TO USE, RIGHT AWAY. *The Temporo product series has many features that simplify installation. Here you can see an illustration of the housing with a screw-on cap.*

HVAC



CLOUDigo



Pre-programmed controllers



Room controllers



Electric heating controllers



Thermostats



Sensors and Switches



Wireless products



Detectors



Energy meters



Valves



Valve actuator



Damper actuators



Accessories





Regin worldwide

TODAY THERE ARE SOLUTIONS based on Regin's broad product range in all kinds of properties and applications all over the world, both as standard executions or built into OEM products. We have a strong network of professional system integrators that help save energy through intelligent system solutions in building automation every day.



REGIN'S SOLUTIONS can be found in many different kinds of buildings all over the world. For example, in Google's offices in Madrid, Spain.

OUR STARTING POINTS FOR PRODUCT DEVELOPMENT

- ✓ Thanks to our comprehensive product program we can be a one-stop shop where our customers will always be able to find the best solution.
- ✓ Our products should always be easy to understand and intuitive to work with. We call it Ready-Steady-Go.
- ✓ Our products should always be flexible and compatible with earlier generations in order to guarantee a long life-cycle and to enable the possibility of growing and expanding with our solutions.
- ✓ We work with open systems and standardised protocols to facilitate integration with different products on the market.

OUR GLOBAL REFERENCES



BANK
Madrid, Spain
BBVA



UNIVERSITY
Helsinki, Finland
Department of Biosciences



RESORT
Ankara, Turkey
Mövenpick Hotel & Resort



SHOPPING MALL
Gurgaon, India
Shoppers Stop



LEISURE PARK
Longleat Forrest, UK
Center Parcs



OFFICE BUILDING
Lima, Peru
Graña & Montero headquarter



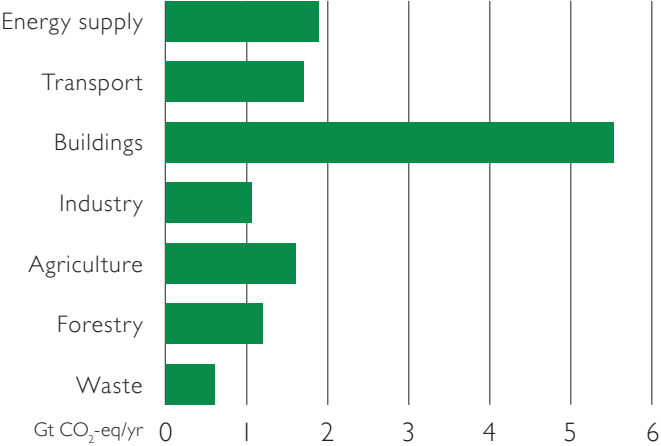
An effective way to reach climate change goals

Long before climate change issues climbed to the top of the international agenda, Regin's systems and products contributed to reductions in energy consumption in buildings all over the world. Thanks to the 2-degree goal set up by IPCC* and the EU's 20% CO₂ emission reduction goal, climate issues have moved even further to the fore.

Today, properties and buildings are responsible for approximately one third of the world's energy consumption. Research shows that investments in this field deliver the highest reductions in CO₂ emissions per invested coin.

At Regin, we're proud to be part of a business that contributes to reaching climate change goals.

* Intergovernmental Panel on Climate Change, UN



IPPC Climate change 2007: Synthesis Report.
 IPCC: Intergovernmental Panel on Climate Change, The UN

SMART ENVIRONMENTAL INVESTMENT. A reduction in CO₂ emissions results in the biggest increase in energy efficiency per coin spent when it comes to properties and buildings. The currency above is USD.



HOSPITAL

Vejile, Denmark
 Privathospitalet Mølholm



TERMINALS

70 places all over Sweden
 DB Schenker



PHARMACEUTICALS PLANT

Helsingborg, Sweden
 McNeil



MUSEUM

Beijing, China
 China National Film Museum



HOUSING

Gothenburg, Sweden
 District heating



GOVERNMENT BUILDING

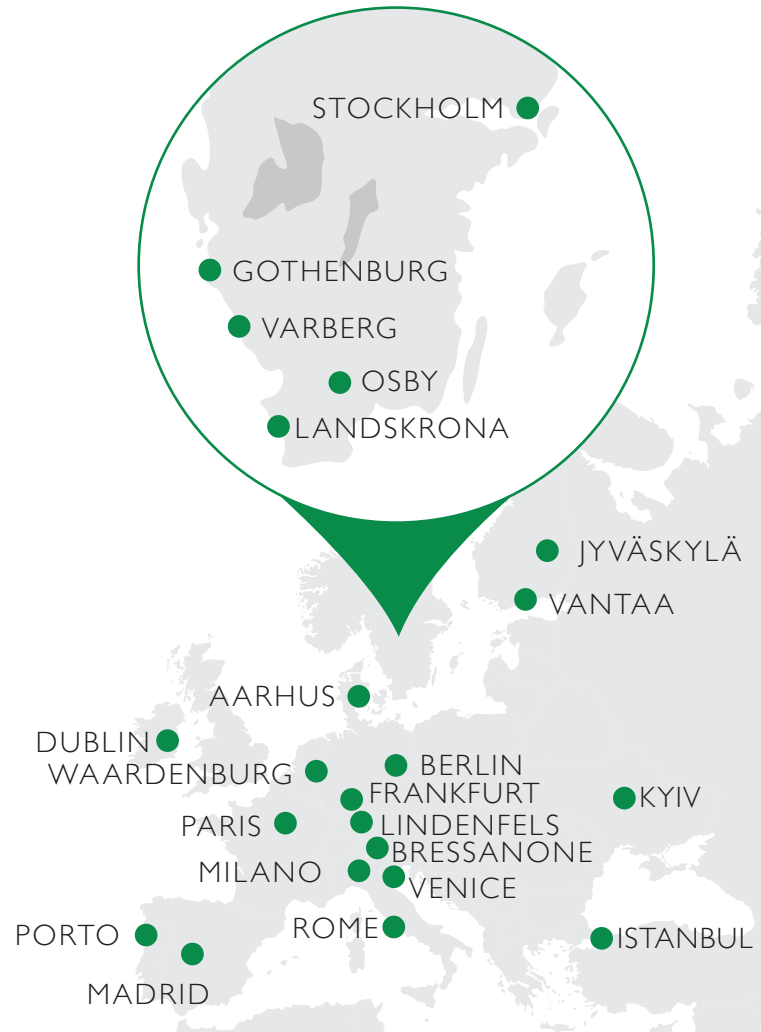
Ankara, Turkey
 Prime Minister's headquarter



Global strength with a local presence

WE ALWAYS DO OUR UTMOST to make sure everything is in place when our customers need it, where they need it. Whether you're in Singapore, Sundsvall or Madrid you should always get the right products, on time. We make sure this is the case through our local sales offices, our main warehouse and our service warehouses all over the world.

However, the very essence of our distribution chains is our flexible and adaptable attitude. No matter the difficulty, we'll always be there to solve the problems at hand and take on the challenges, wherever in the world they may occur.





TODAY WE ARE SELLING
OUR PRODUCTS IN OVER
90 COUNTRIES

WE HAVE OFFICES
AND WAREHOUSES IN
17 COUNTRIES

● NEW DELHI

● TAOYUAN CITY
● HONG KONG

● KUALA LUMPUR
● SINGAPORE

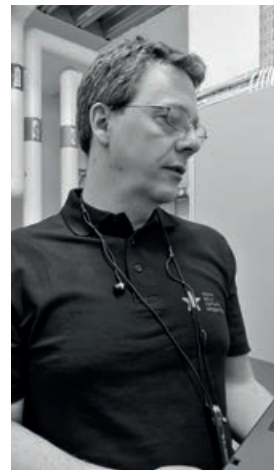


A personal commitment that makes the difference

WE CONTINUOUSLY focus our work on the development and support of our global customer, partner and OEM network. We do this to create added value for everyone involved in a project – from start to finish – in order to succeed together. Regin benefits

from the success of our partners' business and we evolve alongside them. This global network gives us important business insights into market differences and future needs and requirements. This is an approach that creates positive effects at every level.

An approach that generates wins for everyone involved



OEM customers

Can access proven expertise and experience from running successful OEM projects. A global network of partners for product integration and installation.

Installers

A complete product range from one single supplier. Direct contact and short decision making processes. Regin assists with problem solving.

System integrators

Everything under one roof. Knowledge exchange and network cooperation. Regin assists with problem solving and marketing.

Property owners and consultants

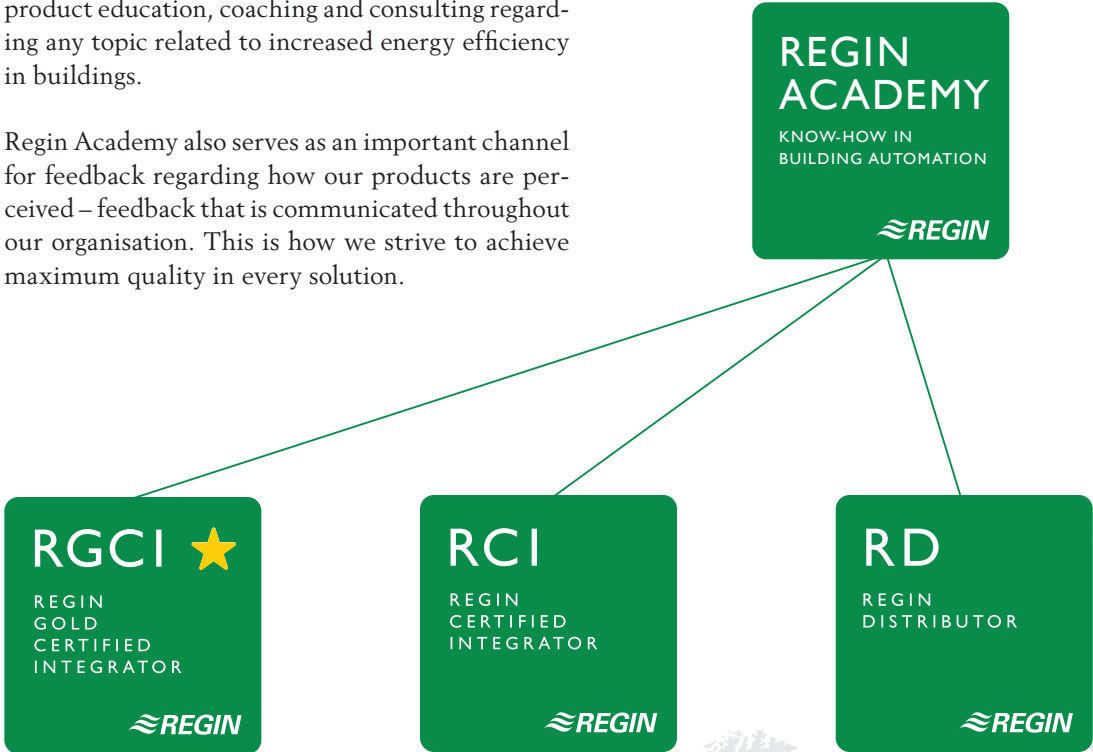
Energy-efficient solutions for the entire property. Access to a global partner network of system integrators.



Regin Academy – certifying success

OUR CUSTOMERS AND PARTNERS, together with us, communicate the Regin brand. All over the world, our customers are the ones installing our products and integrating and programming our systems. In order to provide quality assurance and to be able to offer maximum support, Regin Academy offers product education, coaching and consulting regarding any topic related to increased energy efficiency in buildings.

Regin Academy also serves as an important channel for feedback regarding how our products are perceived – feedback that is communicated throughout our organisation. This is how we strive to achieve maximum quality in every solution.



YOUR
LOGO
Here

OEM

ORIGINAL EQUIPMENT
MANUFACTURER

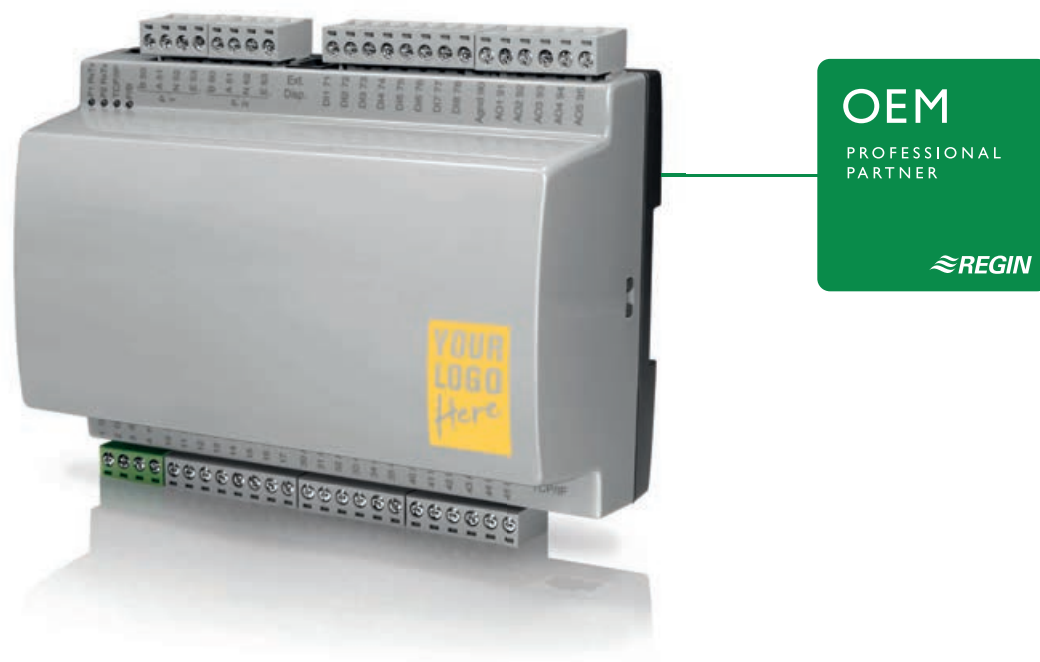
Our quality – your brand

IF YOU ARE AN OEM CUSTOMER, Regin is the perfect partner for you. You'll get access to our very special combination of a broad product range, expertise in most product areas, short decision-making and last but not least, our outstanding commitment.

Working with Regin means always working with a local contact who has a dedicated OEM team at his or her back. Together, we'll evaluate your requirements

and create an offer that suits your needs. Anything from product design to the finished product, from full to part projects, from small to large volumes, from assistance with the range and development of a platform for product development and production.

We're used to long-term, strategic cooperation with OEM customers. Today, a wide variety of Regin products form part of OEM applications worldwide.



TODAY YOU CAN FIND OUR PRODUCTS HERE

- ✓ Electric heating coils & Water coils
- ✓ Customised cabinets
- ✓ Heat exchangers
- ✓ VAV
- ✓ Heat pumps
- ✓ District heating centres
- ✓ AHU
- ✓ Solar panels
- ✓ Chillers
- ✓ Air curtains
- ✓ Dehumidifiers & Humidifiers
- ✓ Air heaters
- ✓ Chilled beams
- ✓ Fans
- ✓ Fan coils
- ✓ Heat recovery ventilation
- ✓ Energy recovery ventilation
- ✓ Fire damper systems



REGIN SYSTEMS





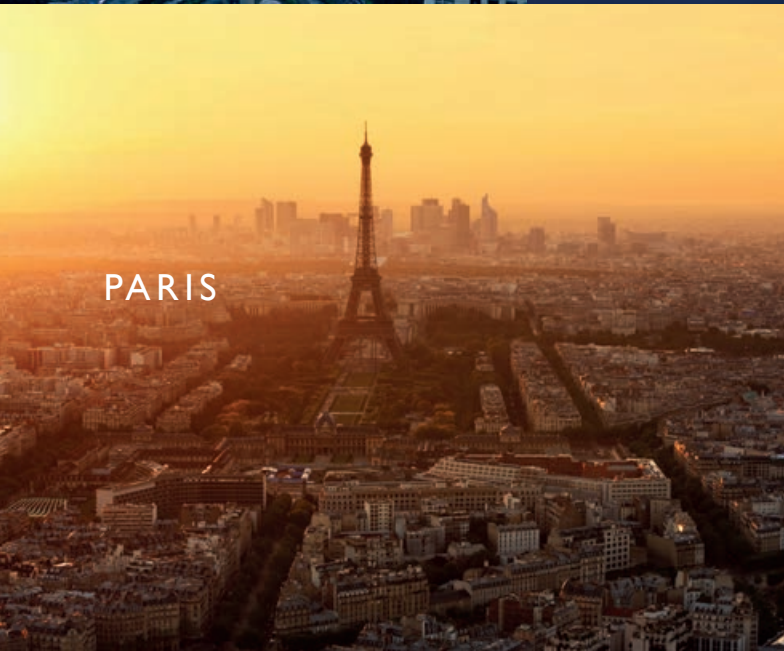
SHANGHAI



ÅRHUS



JYVÄSKYLÄ

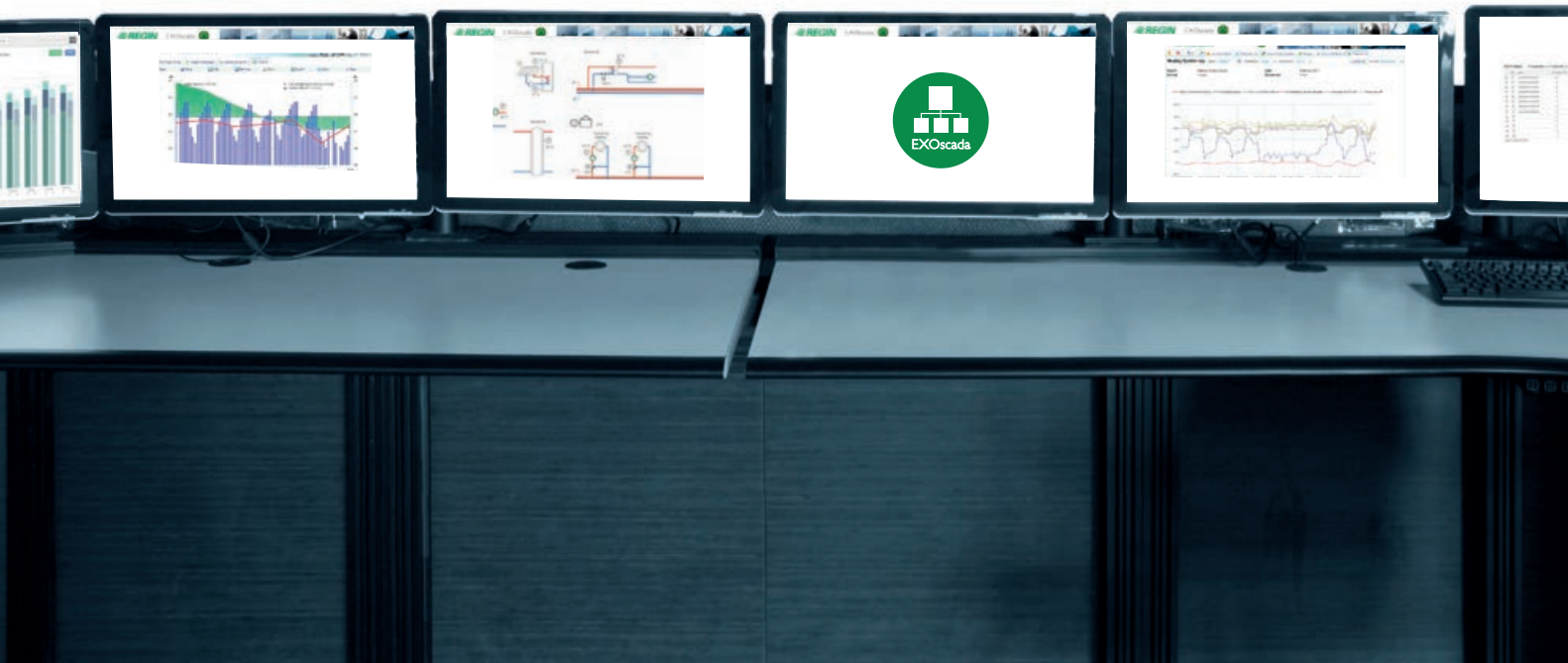


PARIS

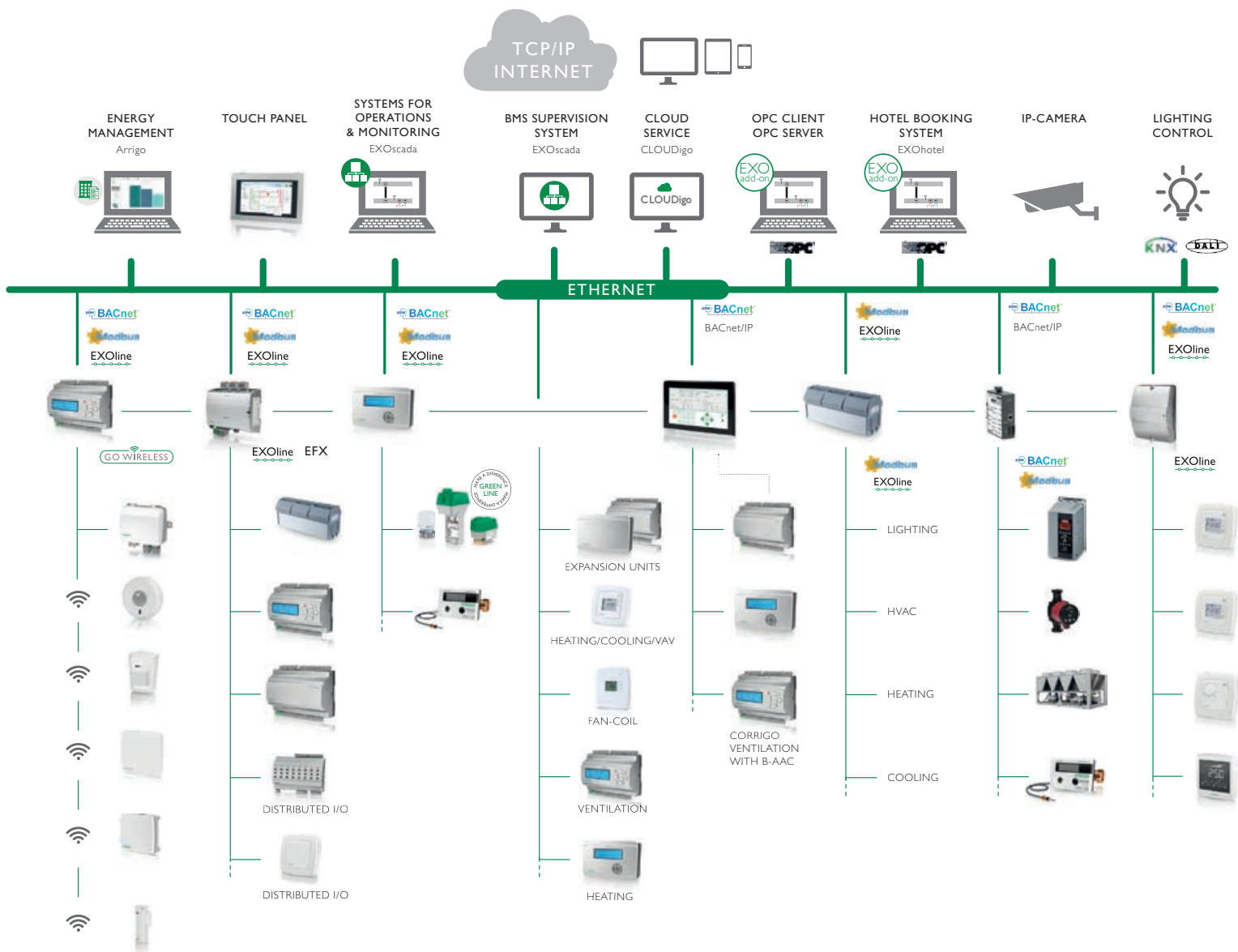


STOCKHOLM

ENERGY SOLUTIONS WITH A WHOLE
WORLD CONNECTED



COMPLETE SYSTEM SOLUTIONS





GLOBALLY CONNECTED ENERGY EFFICIENCY

ARRIGO EMS MAKES BUILDING ENERGY SAVINGS EASY

Arrigo's innovative energy management platform gives you the combined power of all data collected from a building by the control system. By connecting to the Arrigo EMS cloud service, you can easily access all building data and follow up on results gained from various actions in real time. The system gives you quality-assured analyses and forecasting without any manual input, helping you save valuable time.

Arrigo makes it easy for building owners to see tangible results from various actions and implementations, helping them gain control of their energy consumption. In the long run, using Arrigo can contribute to greater cash flow and increased building asset values.

Transparent energy reports, prognoses
and time-based comparisons

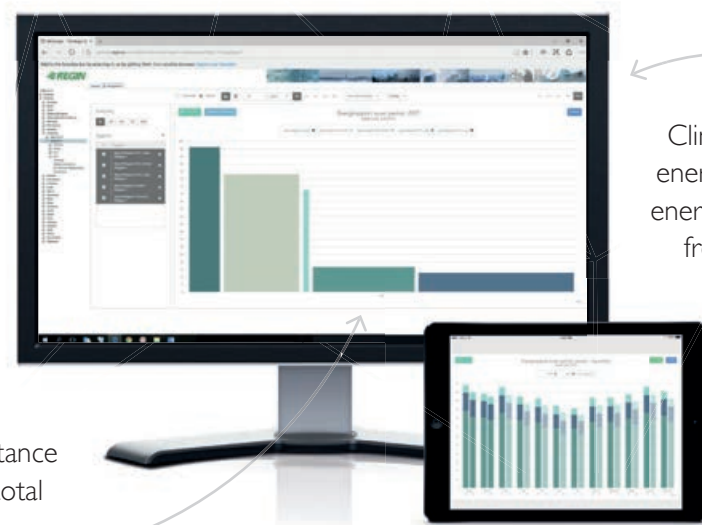
All energy reports entered into
EXOScada automatically

Following an accomplished en-
ergy measure, it is easy to get
an overview and to analyze the
same property over time

Climate correction directly in all
energy reports – degree days and
energy indexes are fetched directly
from online weather services

The help to prioritize, for instance
through diagrams showing total
square meters

Easy to compare buildings
with each other based on
relevant key figures



SCADA SOFTWARE FOR COMPLETE CONTROL

Regin SCADA

Software specifically designed for use together with Regin's EXO hardware. The result is a highly effective and user-friendly building automation system with software that takes full advantage of all possibilities offered by the hardware.



EXOscada

A complete and powerful SCADA system. EXOscada enables an operator to monitor and control system processes using a modern and intuitive interface. EXOscada supports most types of symbols, both animated and static, and offers many options for configuring the SCADA design according to your own requirements.

You can monitor everything online, from the present status of the system down to a single temperature in a building. You can use real-time charts to monitor short-term changes, and you receive alarms in the system naturally with a built-in e-mail function that lets you know when something is wrong. Historical data can be displayed using the built-in, easy-to-use, real-time report tool to show preconfigured reports on the screen. You can also view all your historical data in a very flexible chart where you can compare values over time easily. More advanced reports, with specific building compensated values, are possible to create using the Arrigo Connect function.

EXOscada can also communicate via OPC with equipment of other brands using various communication protocols.

EXOline



Key features

- ✓ Dynamic visualization of plants and processes
- ✓ Alarm window with advanced filtering function and direct link to the alarming site
- ✓ Alarm distribution via e-mail
- ✓ Powerful tool for showing logged values
- ✓ Built-in report generator for creation of advanced reports
- ✓ Time channel program
- ✓ Real-time data logger for short-term logging
- ✓ Easy online user setup with very flexible user administration
- ✓ Easy to change control curves
- ✓ Support for large server environments
- ✓ Configuration tool with templates made for all Regin controller functions
- ✓ Scalable and vector-based graphics
- ✓ Advanced Script language available
- ✓ High security in all aspects: SSL encryption on the login to the site. Secure passwords with settable security levels. Full audit trail with extra sign-in when you change values in the site. See who have made what changes and also why, since comments can be mandatory when changes are made.

Design tools

The built in configuration tools makes it easy to create user-friendly views in EXOscada. The huge library containing graphic symbols and SCADA images simplifies work even further. It also contains templates made to fit all the controller functions available when you program a Regin controller.

SCADA/HMI software for operator stations

EXOscada has a graphical user interface, making all settings and commands very easy to use.

The licensing system is flexible and can easily be adapted to various needs. A dongle and one or more licence codes are needed for every server running EXOscada.

EXOscada can communicate via OPC with equipment of other brands using various communication protocols.

SOFTWARE

Article	Description	Note
EXOSCADA-T	EXOscada Trial. Max. 75 I/O:s, only one user can be logged on at a time.	
EXOSCADA-B	EXOscada Base. Max. 200 I/O:s, up to three users can be logged on simultaneously.	
EXOSCADA-BSD	EXOscada Base Soft Dongle	
EXOSCADA-100	EXOscada 100 I/O. Add-on for EXOscada Base, adds another 100 I/O:s.	
EXOSCADA-500	EXOscada 500 I/O. Add-on for EXOscada Base, adds another 500 I/O:s.	
EXOSCADA-ULU	EXOscada Unlimited Users. Add-on for EXOscada Base, an unlimited amount of users can be simultaneously logged on.	
EXOSCADA-UL	EXOscada Unlimited. Add-on for EXOscada Base, unlimited amount of I/O:s, an unlimited amount of users can be simultaneously logged on.	
EXOSCADA-OPC	EXOscada OPC Connection. Add-on for EXOscada Base, 1 OPC server connection.	
EXOSCADA-BC	BACnet OPC server. Add-on for EXOscada Base, requires an EXOscada OPC licence.	
EXOSCADA-NIMBUS	Nimbus Alarm Server. Add-on for EXOscada Base with support for Nimbus Alarm Server.	





EXOscada upgrade agreement

Provides secure and continuous access to the latest version of Regin's software at a fixed annual rate. At least once a year, we will also launch new functions which you can make use of directly. ARRIGO EMS 10 is included in all upgrade agreements. Price per server.

Article	Description	Note
EXOSCADA-UPG	EXOscada Base Upgrade Agreement	
EXOSCADA-UPGBSD	EXOscada Base Soft Dongle Upgrade Agreement	
EXOSCADA-UPG100	EXOscada 100 I/O Upgrade Agreement	
EXOSCADA-UPG500	EXOscada 500 I/O Upgrade Agreement	
EXOSCADA-UPGUL	EXOscada Unlimited Upgrade Agreement	
EXOSCADA-UPGULU	EXOscada Unlimited Users Upgrade Agreement	
EXOSCADA-UPG-OPC	EXOscada OPC Connection Upgrade Agreement	
EXOSCADA-UPG-NIMBUS	EXOscada Nimbus Alarm Server Upgrade Agreement	



EXOscada Cloud Service

EXOscada Cloud Service is a complete web hosting service for property management. By connecting your buildings to EXOscada Cloud Service, you can manage your properties via a web-based SCADA system and subscribe to different services, while at the same time avoiding investments in e.g. servers. The only thing needed is a computer with a web browser. We take care of daily operation, maintenance, hardware and software upgrades on the server etc.

Please contact Regin for a quotation.

LICENCES

Article	Description	Note
WEBHOTEL SETUP	Start and setup	
SCADA CLOUD BASE	Base licence (200 I/Os, 3 simultaneously logged in users)	
SCADA CLOUD DNS	DNS name for connecting controllers to the server	
SCADA CLOUD 100	+100 I/Os	
SCADA CLOUD 500	+500 I/Os	
SCADA CLOUD ULU	Unlimited number of users	
SCADA CLOUD UL	Unlimited number of users and I/Os	
SCADA CLOUD NIMBUS	Nimbus Alarm Server	



EXOopc Driver

EXOopc Driver enables connecting EXO controllers to any software supporting the OPC standard. This means that most SCADA software in the market today can be used together with Regin's controllers.

The system is programmed using EXOdesigner. The program can be prepared in advance on a PC and loaded into the system at installation. All the data will then be available via the OPC interface.

Article	Description	Note
EXOOPC-DRIVER	EXOopc Driver	



EXOdesigner

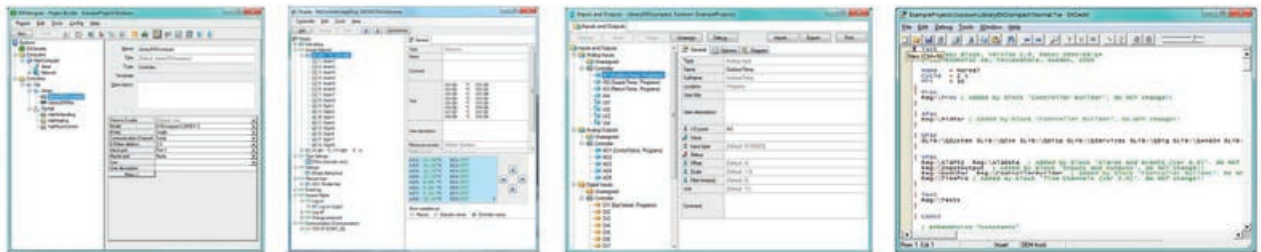
Software tool for design and configuration of a complete EXO system.

All EXO controllers are fully software compatible and are programmed using EXOdesigner, a PC-based development environment. The compatibility also applies across product generations, which means you only need to learn one programming tool and are free to change controllers in a system without having to rewrite all programs.

Controller Builder – Graphical programming without limitations

Controller Builder is an integrated function that makes it easy to construct a system in EXOdesigner. An extensive library of functions is available. Controller Builder provides increased efficiency and speed with maintained flexibility. The function is compatible with all other parts of the EXO system.

Article	Description	Note
EXODESIGNER	Development software	





Arrigo FMS (Facility Management System)

Cloud central for building management, inspections, error reporting and servicing

- ✓ Extremely user-friendly with powerful functionality
- ✓ Gives you complete control of your entire building portfolio
- ✓ Improves overall service for your tenants and end users
- ✓ Simplifies everyday work for you and your colleagues
- ✓ Gathers all building-related information in a single place
- ✓ Always available with high reliability
- ✓ Increases the value of your property portfolio

Energy consumption aside, maintenance and service make up major expenses for any building. Regular servicing and maintenance are essential for a building to be energy-efficient. Regin's cloud central gives you a platform you can build on.

Make sure everyone working in your buildings has access to Arrigo. That way, all your building-related information is gathered in a single place – in Arrigo. You can also feel completely secure knowing you have total control of your entire property portfolio.

All information gathered in one place

- ✓ Planned maintenance
- ✓ Error reports
- ✓ Damage reports
- ✓ Inspections
- ✓ Documents
- ✓ Journal

We'll help you to get started

- ✓ Arrigo is a simple system both to commission and for getting started
- ✓ No investments or IT staff needed
- ✓ We help you make work easy and efficient
- ✓ Increased operational reliability

Licences

- ✓ From the smallest to the largest
- ✓ The size of Arrigo is continually adapted after your individual needs
- ✓ Arrigo gives you great value for the money

Article	Description	Number of buildings	Note
ARRIGO FMS XXS	Portal for planning operations, maintenance and administration	1	
ARRIGO FMS XS	Portal for planning operations, maintenance and administration	2-5	
ARRIGO FMS S	Portal for planning operations, maintenance and administration	6-25	
ARRIGO FMS M	Portal for planning operations, maintenance and administration	26-100	
ARRIGO FMS L	Portal for planning operations, maintenance and administration	101-200	
ARRIGO FMS XL	Portal for planning operations, maintenance and administration	201-500	
ARRIGO FMS XXL	Portal for planning operations, maintenance and administration	501-	

Article	Description	Note
ARRIGO FMS SETUP	Start and setup	
ARRIGO FMS UPGRADE	Size upgrade	



Arrigo EMS (Energy Management System)

Cloud central for energy statistics and analysis

- ✓ Gives you complete control of your entire building portfolio
- ✓ Reduces your environmental impact through excellent energy monitoring
- ✓ Gives you the tools for responding quickly
- ✓ Provides you with statistics for prioritizing your work
- ✓ Offers direct verification that your investments are paying off

Monitoring the energy consumption of your buildings gives you a direct insight into the overall health of your property portfolio. Many factors contribute to the overall results, such as a good indoor climate and low energy consumption.

Monitoring the energy consumption of your property portfolio can prove to be quite a challenge. Many factors may contribute, such as the number of buildings, energy meters and types of energy, overall geography, access to automatic monitoring, routines, etc. Providing a good support system, which enables many different solutions to work in parallel, is what creates the foundation for good energy monitoring.

But regardless of the quality of collected energy data, all data still needs to be processed and presented in a readily understandable, straightforward way. Arrigo EMS provides you with a very intuitive report tool to analyse your data, letting you visualise all statistics clearly.

The hub in efficient energy monitoring

- ✓ Simple and clear energy/analysis reports
- ✓ Versatile connection to energy meters
- ✓ Quality assurance of energy values
- ✓ Climate correction of heating and cooling
- ✓ Automatic updates of climate data from Sweden's SMHI meteorological institute. Energy index and degree days.
- ✓ Possibility to create building unique climate data
- ✓ Easy distribution of reports via e-mail
- ✓ Exports to external billing systems
- ✓ Exports to other energy monitoring systems



Licences

- ✓ The licence is based on the number of logged meters, i.e. meters containing readings
- ✓ Calculated (fictitious) meters are free of charge

Article	Description	Number of meters	Note
ARRIGO EMS 10	Logged energy meters	Pack of 10 meters	

Article	Description	Note
ARRIGO EMS SETUP	Start and setup	

EXOclever

Freely programmable controllers

EXOclever is a series of freely programmable controllers with a modular design, which makes it easy to increase the capacity and add more functions.

EXOclever is programmed from EXOdesigner and visualised in EXOscada.



EC-PU4



Processor unit with 4 communication ports

The central processor unit in the EXOclever series. Equipped with three serial ports and one TCP/IP port.

Technical data	
Supply voltage	24 V AC 50...60 Hz or 24 V DC
Tolerance	18...26 V AC / 22...30 V DC
Power consumption	10 VA / 5 W
Dimensions (WxHxD)	140 x 136 x 40 mm
Mounting	DIN-rail
Protection class	IP20
Operating system	EXOreal C
Battery backup	RAM, RTC, atleast 5 years
Ambient temperature	0...55 °C
Ambient humidity	Max. 95 % RH
Storage temperature	-20...+70 °C
Storage humidity	Max. 95 % RH
Communication ports	
TCP/IP	EXOline, Modbus, BACnet/IP
RS485	EXOline, Modbus
M-Bus	Via external X1176 unit

Article	Description	Note
EC-PU4	Processor unit, 4 communication ports	

EXOcompact – FREELY PROGRAMMABLE CONTROLLERS



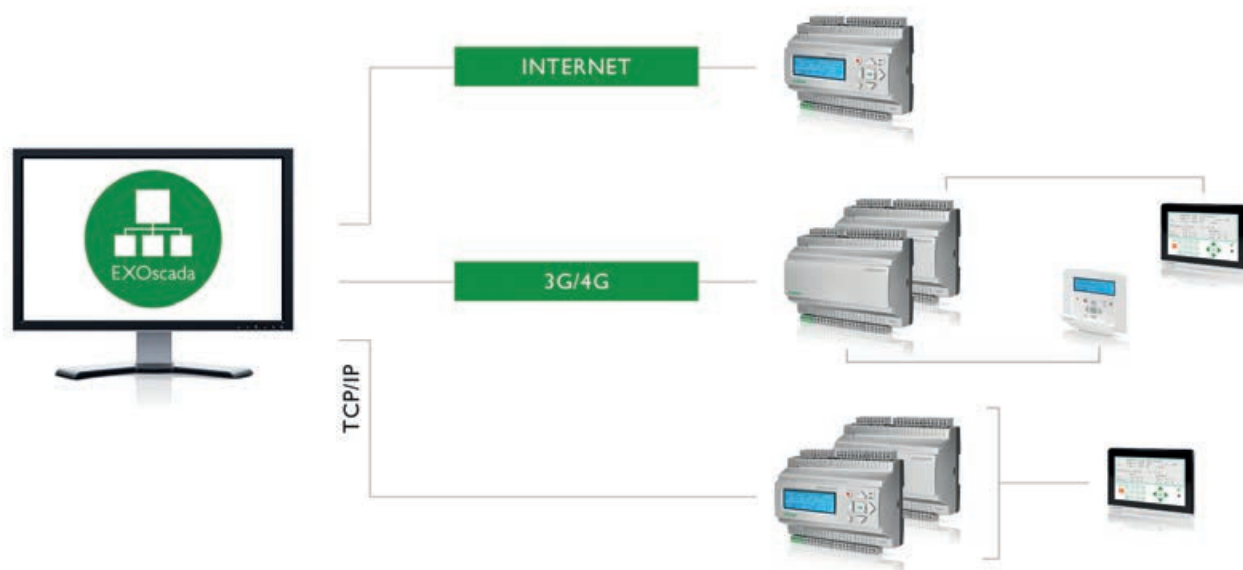
EXOcompact controller

The EXOcompact controllers are perfect for applications, e.g. zone control, control of heating and air handling units, as well as for system integration or as stand-alone units. They have a powerful processor and are available in two sizes with 15 or 28 I/Os, with or without display.

Programming takes place in EXOdesigner. The controllers communicate via EXOline or Modbus via RS485. M-Bus is also available as an option. EXOcompact is available with one, two or three communication ports, enabling easy input/output expansion, connection of electricity/energy meters or communication with other controllers.

- ✓ Freely programmable with fixed I/O configuration
- ✓ For control of heating centrals, air handling units etc.
- ✓ 15 or 28 I/Os, with or without display
- ✓ Digital outputs via Mosfet with 2 A, 24 V AC/DC
- ✓ Powerful processor
- ✓ Optional DC supply voltage
- ✓ Possible to expand the number of I/Os using two ports and expansion units based on EXOcompact without display
- ✓ One, two or three communication ports
- ✓ Programming is performed in EXOdesigner
- ✓ TCP/IP optional
- ✓ Communication via RS485 (EXOline or Modbus), M-Bus (internally for M-3 models or via external X1176 unit)
- ✓ Complement to EXOclever/EXOflex in large automation systems

Technical data	
Supply voltage	24 V AC ±15%, 50...60 Hz or 20...36 V DC
Power consumption	4 VA without load, no display
BTL approval	EXOreal version 3.1-1-02 or later
+C output	+ 24 V DC, 0.15 A, short-circuit proof
Operating system	EXOreal C
Battery backup	Memory and real-time clock, at least 5 years
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Ambient humidity	Max. 95 % RH
Display	Backlit, LCD, 4 rows of 20 characters, international character set
Dimensions (WxHxD)	149 x 121 x 60 mm
Casing	Polycarbonate, PC
Protection class	IP20
Mounting	DIN-rail or cabinet
Number of modules	8.5
Communication ports	
RS485	EXOline, Modbus
M-Bus ports	Internally for M-3 models or via external X1176 unit
Inputs	
Analogue inputs (AI)	0(4)...20 mA, 0...10 V DC, 0...200 mV, PT1000, Ni1000 DIN, Ni1000 LG, 800...1600 Ω, 0...4000 Ω, 12-bit A/D
Digital inputs (DI)	Floating switch, 24 V DC, configurable for pulse input
Universal inputs (UI)	AI or DI (see above)
Outputs	
Analogue outputs (AO)	0...10 V DC, 5 mA, 12-bit D/A, short-circuit proof
Digital outputs (DO)	Mosfet 24 V AC/DC, 2 A. Totally max. 8 A.
24 V DC output	0.15 A, short-circuit proof



Controller with display

Article	AI	DI	UI	AO	DO	RS485 ports	Note
C282D-3	4	8	4	5	7	2	
C152D-3	4	4	-	3	4	2	



Controller without display

Article	AI	DI	UI	AO	DO	RS485 ports	Note
C282-3	4	8	4	5	7	2	
C152-3	4	4	-	3	4	2	



EXOcompact^{Ard0} freely programmable controller

Small and compact controller with different types of communication, with or without built-in display. An EXOcompact^{Ard0} can be used either as a stand-alone unit or as part of a larger system.

User-friendly tools are available for flexible handling and easy access via the web server.



Technical data	
Supply voltage	24 V AC ±15%, 50...60 Hz or 20...36 V DC
Power consumption	4 VA without load, no display
Protection class	IP20
Ambient humidity	Max. 95 % RH
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Operating system	EXOreal
Battery backup	Memory and real-time clock, at least 5 years
Mounting	DIN-rail or cabinet
Number of modules	8.5
Dimensions, external (WxHxD)	149 x 121 x 58/149 x 136 x 58 (XCA20...) mm
I/O data	
Analogue input a (A1a)	PT1000, 0...10 V, 0(4)...20 mA (requires external 10 or 500 Ω shunt), 0...200 mV, DIN Ni1000, LGNi1000, 12 bits A/D
Digital input a (D1a)	24 V DC, floating contact, powered from +C (24 V DC)
Digital input b (D1b)	Sourcing input type, GND is ref (only available for XCA20...)
Universal input a (U1a)	A1a or D1a (see specifications above)
Condensation input a (C1a)	Input dedicated for Regin's condensation detector KG-A/1
Analogue output a (A1a)	0...10 V DC, max. 5 mA, short-circuit protected
Digital output b (D1b)	Mosfet output 24 V AC, max. 2 A, total max. 8 A
+C output	24 V DC, 0.15 A, short circuit-protected (not available for XCA20...)
Com ports data	
Communication ports	1/2/3, model dependent
Serial ports	1/2, model dependent
TCP/IP ports	0/1, model dependent
M-Bus ports	0/1, model dependent
Serial port, specifications	
Port type	RS485
Port number	1 and/or 2
Default protocol	EXOline slave
Supported protocols	Modbus slave / Modbus master / M-Bus master / EXOline master / EXOline slave / EFX master
Port isolation	Yes (port 1), No (port 2)
Communication speed	1200 - 76 800 bps (standard 9600 bps)
Parity	Odd, even (Fs) or no parity
Stop bits	8 bits, 1 or 2 stop bits
Cable connection	Push-in connector or screw terminals
TCP/IP port data	
Port type	TCP/IP
Default protocol	EXOline-TCP
Supported protocols	EXOline-TCP / BACnet/IP / Modbus/IP
Cable connection	RJ45, 10Base-T/100Base-TX auto-negotiation
Cable length	Max. 100 m
Cabling	Min. Cat 5

M-Bus port data	
Port type	M-Bus
Port number	2
Default protocol	M-Bus
Supported protocols	M-Bus
Communication speed	1200-9600 bps (standard 2400 bps)
Cable connection	Screw terminal
Cable length	1200-2400 bps: max. 1000 4800-9600 bps: max 100 m
HMI data	
Clock	Yes
Display	Built-in or/and external
Display type	Backlit, LCD, 4 rows of 20 characters, international character set
Indication type	LEDs
Material, housing	Polycarbonate, PC

Article	TCP/IP ports	RS485 ports	M-Bus ports	Inputs/Outputs	Display	Note
XCA151D-4	-	1	-	15	X	
XCA152W-4	1	1	-	15	-	
XCA152DW-4	1	1	-	15	X	
XCA203W-4	1	2	-	20	-	
XCA281-4	-	1	-	28	-	
XCA281D-4	-	1	-	28	X	
XCA282W-4	1	1	-	28	-	
XCA282DW-4	1	1	-	28	X	
XCA283W-4	1	2	-	28	-	
XCA283DW-4	1	2	-	28	X	
XCA283DWM-4	1	1	1	28	X	

Article	Description	Note
BATTERY-4289	Battery for EP1011, EXOcompact, Corrigo	
FMCE	Front mounting kit, room for one EXOcompact/Corrigo/Exigo Ardo unit	
PLTCE	Set of angled plug-in terminal blocks for EXOcompact, Optigo, Corrigo and Exigo Ardo	
E-CABLE2-USB	Cable for USB connection	
CONVERTERTCP	Adapter	
FMK2	Front mounting kit, 12 modules	
TP-AE	Terminal protection kit for Ardo and Eedo controllers	
ED-T7	External touch screen display	
E3-DSP	External display	
EDSP-K3	3 m cable for connecting E3-DSP, ED9200 or ED-T7	
EDSP-K10	10 m cable for connecting E3-DSP, ED9200 or ED-T7	
EDSP-SPLIT	Cable splitter for connecting two display units to one controller	



EXOcompact^{Eedo} freely programmable controller

EXOcompact^{Eedo} is a 230 V AC freely programmable room controller. The controller provides built-in communication via EXOline, Modbus or BACnet for integration into EXOscada or other SCADA systems. It can be used either as a stand-alone unit or as part of a larger system. The controller connects seamlessly to the room units in Regin's ED-RU-... series.

Technical data	
Supply voltage	24 V AC \pm 15%, 50...60 Hz or 20...36 V DC
Power consumption	11 VA without load, no display
Protection class	IP20
Ambient humidity	Max. 95 % RH
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Operating system	EXOreal
Battery backup	Memory and real-time clock, at least 5 years
Mounting	DIN-rail or cabinet
Number of modules	8.5
Indication type	LEDs
Display	External
Dimensions, external (WxHxD)	149 x 121 x 58 mm
Weight (incl. packaging)	
I/O data	
Analogue input b (Alb)	0...10 V DC
Analogue input c (Alc)	PT1000
Digital input b (Dlb)	Sourcing input type, GND is ref
Condensation input a (Cla)	Input dedicated for Regin's condensation detector KG-A/1
Analogue output a (AOa)	0...10 V DC, max. 5 mA, short-circuit protected
Digital output_c (DOc)	Relay output 230 V AC, max. 3 A
Digital output_d (DOd)	Triac output 230 V AC, max. 300 mA
Digital outputs, total max. current (fuse)	6.3 A (6.3 AT 5 x 20 mm)
Power output a (POa)	24 V DC, max. 50 mA
Com ports data	
Communication ports	3
Serial ports	2
TCP/IP ports	1
Serial port data	
Port type	RS485
Port number	1 and 2
Default protocol	EXOline slave
Supported protocols	Modbus slave / EXOline master / EXOline slave / EFX master
Port isolation	Yes (port 1), No (port 2)
Communication speed	1200 - 38400 bps (standard 9600 bps)
Parity	Odd, even (Fs) or no parity
Stop bits	8 bits, 1 or 2 stop bits
Cable connection	Push-in connector or screw terminals
TCP/IP port data	
Port type	TCP/IP
Default protocol	EXOline-TCP
Supported protocols	EXOline-TCP / BACnet/IP / Modbus/IP
Cable connection	RJ45, 10Base-T/100Base-TX auto-negotiation
Cable length	Max. 100 m
Cabling	Min. Cat 5

Material	
Material, housing	Polycarbonate, PC

Article	TCP/IP ports	RS485 ports	M-Bus ports	Inputs/Outputs	Display	Note
XCE163W-1	1	2		16	-	

Article	Description	Note
BATTERY-4289	Battery for EP1011, EXOcompact, Corrigo	
FMCE	Front mounting kit, room for one EXOcompact/Corrigo/Exigo Ardo unit	
PLTCE	Set of angled plug-in terminal blocks for EXOcompact, Optigo, Corrigo and Exigo Ardo	
E-CABLE2-USB	Cable for USB connection	
CONVERTERTCP	Adapter	
FMK2	Front mounting kit, 12 modules	
TP-AE	Terminal protection kit for Ardo and Eedo controllers	
ED-T7	External touch screen display	
E3-DSP	External display	
EDSP-K3	3 m cable for connecting E3-DSP, ED9200 or ED-T7	
EDSP-K10	10 m cable for connecting E3-DSP, ED9200 or ED-T7	
EDSP-SPLIT	Cable splitter for connecting two display units to one controller	

EXOcompact^{Vido}



EXOcompact^{Vido} freely programmable controllers

Small, compact controller with different types of communication and with or without built-in display. It can be used either as a stand-alone unit or as part of a larger system.

The EXOcompact^{Vido} series of controllers are available with 1 or 2 communication ports, and with or without M-Bus.

They are fully compatible with all other products in the EXO range. The controllers are freely programmable using the high-level EXO language EXOL[®]. Programming takes place in EXO-designer, the same environment used for other EXO controllers.

EXOcompact^{Vido} is primarily intended for use in installations with a limited number of I/O:s, placing a high importance on a freely programmable, compact controller providing both communication capabilities and high performance. EXOcompact^{Vido} can be used either together with other EXO products as part of a larger automation system or as a stand-alone unit.

In large automation systems, EXOcompact^{Vido} makes an excellent complement to EXOclever/ EXOflex, being ideally suited for localised tasks such as control of heating and ventilation applications.



Technical data	
Supply voltage	230 V AC +10%/−6%
Dimensions (WxHxD)	146.7 x 97.6 x 76.0 mm
Mounting	In cabinet door, on DIN-rail or on wall, alt. over a device box
Protection class	IP20 , IP40 when mounted in cabinet door
Display	4 rows of 20 characters with backlight
Operating system	EXOrealC
Battery backup	Memory and real-time clock, at least 5 years
Ambient temperature	0...+50 °C
Ambient humidity	Max. 95 % RH
Storage temperature	−20...+70 °C
Communication ports	
TCP/IP	EXOline, Modbus, BACnet/IP
RS485	EXOline, Modbus
M-Bus	Internally for M models or via external X1176 unit
Inputs	
Analogue inputs (AI)	PT1000 (−50...+150°C)
Digital inputs (DI)	Potential-free closure
Outputs	
Analogue outputs (AO)	0...10 V DC (8 bit D/A short-circuit protected)
Digital outputs (DO)	7x relay, 230 V AC, 1 A inductive load, max. 7 A total
Universal analogue I/O (UA)	AI or AO

Article	Display	AI	DI	UA	DO	RS485 ports	TCP/IP ports	M-Bus ports	Power consumption	Note
XCV193DWM-2	X	8	2	2	7	1	1	1	10.5 VA	
XCV193WM-2	-	8	2	2	7	1	1	1	9.5 VA	

ADD:IO



Additional I/O unit

Additional I/O unit for EXOcompact and EXOclever with 16 supplementary I/Os per Add:io. Possibility to expand an EXOclever controller with unlimited I/Os and an EXOcompact with up to 50 I/Os. The Add:io units fit smoothly together, requiring minimal space.

Technical data	
Supply voltage	24 V AC/DC (18...26 V AC / 22...30 V DC)
Power consumption	7.8 VA / 3.5 W
Protection class	IP20
Ambient humidity	Max. 95 % RH
Ambient temperature	0...55 °C
Ambient temperature, electronics	0...55 °C
Storage temperature	-20...+70 °C
Mounting	DIN-rail
Number of modules	8.5
Display	No
Indication type	LED for communication info
Dimensions, external (WxHxD)	140 x 120/139 x 46 mm
Weight (incl. packaging)	0.30 kg
I/O data	
Inputs/outputs (I/Os)	16 per Add:io
Universal input c (Ulc)	AI: Pt1000, 0...10 V, 0...800...1600 Ω, Ni1000 LG, Ni1000 DIN, 0...4000 Ω, Pt1000 ext, Ni1000 LG ext, Ni1000 DIN ext DI: Sourcing input type, GND is ref
Universal input d (Uld)	AI: Pt1000, 0...10 V, 0...20 mA, 0...800...1600 Ω, Ni1000 LG, Ni1000 DIN, 0...4000 Ω, Pt1000 ext, Ni1000 LG ext, Ni1000 DIN ext DI: Sourcing input type, GND is ref
Universal output b (UOb)	AO: 0...10 V DC, max 5 mA, short-circuit protected DO: 24 V DC, 0.15 A, short-circuit protected
Serial port, specifications	
Port type	RS485
Default protocol	EFX
Supported protocols	EFX slave
Port isolation	Yes
Communication speed	115200 bps
Cable connection	Push-in connectors

Article	Universal input c (Ulc)	Universal input d (Uld)	Universal output b (UOb)	Note
IO-EC16UIC-X	16	-	-	
IO-EC16UID-X	-	16	-	
IO-EC16UOB-X	-	-	16	

EXOflex – FREELY PROGRAMMABLE CONTROLLERS



Freely programmable controllers for building automation without limits

The EXOflex controllers are primarily intended for use in systems with a large number of I/Os and high demands on communication and adaptability. EXOflex consists of processor and expansion housings available in one to four sections. Programming is made using EXOdesigner or in free EXOL code.



The controller is tailored to its application by a selection of PIFA cards (Peripheral Interface Adapters). The cards are easily slotted into place in the housing and all connection ports are then accessible externally, offering easy connection of sensors, actuators, transmitters etc. The PIFA cards enable communication via protocols and field buses such as TCP/IP, KNX/EIB, Modbus, SIOX and M-Bus. EXOflex also supports communication via radio, telephone lines, GSM, cable, satellite, etc.

EH20-S

- ✓ For large buildings and integration of many buildings/installations
- ✓ For systems with a large number of I/Os (cost-efficient for more than 75 I/Os)
- ✓ Easy to expand capacity and adding functions
- ✓ Communication via EXOline, TCP/IP, KNX, Modbus, SIOX, M-Bus
- ✓ Gateway to the Arrigo web portal
- ✓ Large number of PIFA cards for different applications



Technical data*	
Operating system	EXOreal
Power supply	24 V DC
Operating temperature	0...50 °C
Battery backup	Memory and real-time clock, at least 5 years
Dimensions (WxHxD mm)	1-section housing, 117 x 160 x 137 (EH10-S, EH11-S) 2-section housing, 229 x 160 x 137 (EH20-S, EH21-S) 3-section housing, 341 x 160 x 137 (EH30-S, EH31-S) 4-section housing, 453 x 160 x 137 (EH40-S, EH41-S)
Mounting	35 mm DIN-rail, cabinet or wall
Protection class	IP20
Inputs	
Analogue inputs (AI)	0(4)...20 mA, 0...10 V DC, 0...200 mV, 0...2000 Ω, PT1000, PT100, DIN Ni1000, LGNi1000
Digital inputs (DI)	Floating switch, 24 V DC, configurable for pulse input
Outputs	
Analogue outputs (AO)	0...10 V DC
Digital outputs, communication (DO)	24 V DC, configurable for pulse output
Available interfaces	RS232/RS485 (EXOline, Modbus, etc.) TCP/IP, LON, KNX, SIOX, M-Bus. Other connections depend on the PIFA units installed.



* The input and output data depends on the choice of PIFA units.

PROCESSOR HOUSINGS



EH11-S

Processor housing, 1 section

Processor housing with room for the Main Power PIFA and one additional PIFA unit.

Article	Description	Note
EH11-S	Processor housing, 1 section	



EH21-S

Processor housing, 2 sections

Processor housing with room for the Main Power PIFA and three additional PIFA units.

Article	Description	Note
EH21-S	Processor housing, 2 sections	



EH31-S

Processor housing, 3 sections

Processor housing with room for the Main Power PIFA and five additional PIFA units.

Article	Description	Note
EH31-S	Processor housing, 3 sections	



EH41-S

Processor housing, 4 sections

Processor housing with room for the Main Power PIFA and seven additional PIFA units.

Article	Description	Note
EH41-S	Processor housing, 4 sections	

EXPANSION HOUSINGS



EH10-S

Expansion housing, 1 section

Expansion housing with room for the Power PIFA for Extender and one additional PIFA unit. The expansion housing connects to the main processor via the EFX channel (115 200 bps).

Article	Description	Note
EH10-S	Expansion housing, 1 section	



EH20-S

Expansion housing, 2 sections

Expansion housing with room for the Power PIFA for Extender and three additional PIFA units. The expansion housing connects to the main processor via the EFX channel (115 200 bps).

Article	Description	Note
EH20-S	Expansion housing, 2 sections	



EH31-S

Expansion housing, 3 sections

Expansion housing with room for the Power PIFA for Extender and five additional PIFA units. The expansion housing connects to the main processor via the EFX channel (115 200 bps).

Article	Description	Note
EH30-S	Expansion housing, 3 sections	



EH40-S

Expansion housing, 4 sections

Expansion housing with room for the Power PIFA for Extender and seven additional PIFA units. The expansion housing connects to the main processor via the EFX channel (115 200 bps).

Article	Description	Note
EH40-S	Expansion housing, 4 sections	

PIFA UNITS

Main power PIFA

Has a socket for the EFX channel and battery backup for the EXOL-processors. LEDs indicating battery error, power supply and communication.



EP1011

Article	Description	Note
EP1011	Main Power PIFA	

ACCESSORIES

Article	Description	Note
X9035	Battery charger/UPS	

Power PIFA for extender

Power supply for EXOflex expansion housings. Has a socket for the EFX channel.



EP1004

Article	Description	Note
EP1004	Power PIFA for Extender	

32 DI multifunction PIFA

Multifunction PIFA with 32 digital inputs for mounting in EXOflex housings.



EP2032

Technical data	
Inputs/outputs (I/Os)	28 DI with standard functionality (filtering, on/off delay, operating-time measurement). 4 DI with advanced functionality (pulse counting, frequency measurement, etc.) in addition to the standard functions.
Digital inputs (DI)	Signal levels 0 V/24 V DC or floating switch

Article	Description	Note
EP2032	32 DI Multifunction PIFA	

16 DO multifunction PIFA

Multifunction PIFA with 16 digital outputs for mounting in EXOflex housings.



EP3016

Technical data	
Inputs/outputs (I/Os)	16 DO with standard functionality (on/off delay, pulse-width modulation, frequency generation, settable offline action)
Digital outputs (DO)	Signal levels 0 V/24 V DC current source, max. 0.5 A per output and max. 3.5 A simultaneously. Short-circuit protected thermal protection with software-based error handling (short-circuit protected output).

Article	Description	Note
EP3016	16 DO Multifunction PIFA	



EP4024

16 DI / 8 DO mixed multifunction PIFA

Mixed Multifunction PIFA with 16 digital inputs and 8 digital outputs for mounting in EXO-flex housings.

Technical data	
Inputs/outputs (I/Os)	12 DI with standard functionality (filtering, on/off delay, operating time-measurement). 4 DI with advanced functionality (pulse counting, frequency measurement, etc.) in addition to standard functions. 8 DO with standard functionality (on/off delay, pulse-width modulation, frequency generation, settable offline action).
Digital inputs (DI)	Signal levels 0 V/24 V DC or floating switch
Digital outputs (DO)	Signal levels 0 V/24 V DC current source, max. 0.5 A per output and max. 2 A simultaneously. Short-circuit protected thermal protection with software-based error handling (short-circuit protected output).

Article	Description	Note
EP4024	16 DI / 8 DO Mixed Multifunction PIFA	



EP5012

12 AI multisensor PIFA, 12-bit

Multisensor PIFA with 12 analogue inputs for mounting in EXOflex housings.

Technical data	
Inputs/outputs (I/Os)	12 AI with possibility to set the measuring ranges individually
Analogue inputs (AI)	0...20 mA, 0...10 V DC, 0...200 mV, PT100, PT1000, Ni1000 DIN, LG-Ni1000, resistance 0...2000 Ω, etc. 12-bit A/D converter.

Article	Description	Note
EP5012	12 AI Multisensor PIFA	



EP5112

12 AI multisensor PIFA, 16-bit

Multisensor PIFA with 12 analogue inputs for mounting in EXOflex housings.

Technical data	
Inputs/outputs (I/Os)	12 AI with possibility to set the measuring ranges individually
Analogue inputs (AI)	0...20 mA, 0...10 V DC, 0...200 mV, PT100, PT1000, Ni1000 DIN, Ni1000 LG, resistance 0...2000 Ω, etc. 16-bit A/D converter.

Article	Description	Note
EP5112	12 AI Multisensor PIFA	



EP6012

12 AO voltage multifunction PIFA

Voltage Multifunction PIFA with 12 analogue outputs for mounting in EXOflex housings.

Technical data	
Inputs/outputs (I/Os)	12 AO
Analogue outputs (AO)	0...10 V DC, max. 20 mA, 11-bit resolution, scaling factor and offset, ramp generation, settable offline and power-up actions.

Article	Description	Note
EP6012	12 AO Voltage Multifunction PIFA	



EP7218

12 AI / 6 AO mixed multifunction PIFA

Mixed Multifunction PIFA with 12 analogue inputs and 6 analogue outputs for mounting in EXOflex housings.

Technical data	
Inputs/outputs (I/Os)	12 AI for individually settable measuring ranges. 6 AO.
Analogue inputs (AI)	0...10 V DC, 0...200 mV, PT100, PT1000, Ni1000 DIN, LG-Ni1000, resistance 0...2000 Ω, etc. Accuracy: 0.1 % of the measuring range, 12-bit A/D converter.
Analogue outputs (AO)	0...10 V DC, max. 20 mA, 11-bit resolution, scaling factor and offset, ramp generation, settable offline and power-up actions.

Article	Description	Note
EP7218	12 AI / 6 AO Mixed Multifunction PIFA	



EP7408

8 mixed I/O and serial PIFA (2 DI / 4 AI / 2 AO)

8 Mixed I/O and Serial PIFA with 2 digital inputs, 4 analogue inputs and 2 analogue outputs for mounting in EXOflex housings.

Technical data	
Inputs/outputs (I/Os)	2 DI with standard functionality (filtering, on/off delay, operating time-measurement). 4 AI with possibility to set the measuring ranges individually. 2 AO.
Communication	1 serial port (Port 3), switchable between RS232, RS485 (EXOflex) and hIEXOflex. Can be complemented with option cards for modem, KNX, SIOX, etc. Can also be supplemented with an external M-Bus/SIOX connection.
Digital inputs (DI)	Signal levels 0 V/24 V DC or floating switch
Analogue inputs (AI)	0...20 mA, 0...10 V, 0...200 mV, PT100, PT1000, Ni1000 DIN, LG-Ni1000, resistance 0...2000 Ω, etc. Accuracy: 0.1 % of the measuring range, 12-bit A/D converter with digital filter, scaling factor and offset, monitoring of the measuring range.
Analogue outputs (AO)	0...10 V DC, max. 20 mA, 11-bit resolution, scaling factor and offset, ramp generation, settable offline and power-up actions.

Article	Description	Note
EP7408	8 Mixed I/O and Serial PIFA (2 DI / 4 AI / 2 AO)	



EP7416

16 mixed I/O PIFA (6 DI / 2 DO / 4 AI / 4 AO)

Mixed I/O PIFA with 6 digital inputs, 2 digital outputs, 4 analogue inputs and 4 analogue outputs for mounting in EXOflex housings.

Technical data	
Inputs/outputs (I/Os)	2 DI with standard functionality (filtering, on/off delay, operating time-measurement). 4 DI with advanced functionality (pulse counting, frequency measurement, etc.) in addition to the standard functions. 2 DO with standard functionality (on/off delay, pulse-width modulation, frequency generation, settable offline action). 4 AI with possibility to set the measuring ranges individually. 4 AO.
Digital inputs (DI)	Signal levels 0 V/24 V DC or floating switch
Digital outputs (DO)	Signal levels 0 V/24 V DC current source, max. 0.5 A per output and max. 0.8 A simultaneously. Short-circuit protected thermal protection with software-based error handling (short-circuit protected output).
Analogue inputs (AI)	0...20 mA, 0...10 V, 0...200 mV, PT100, PT1000, Ni1000 DIN, LG-Ni1000, resistance 0...2000 Ω, etc. Accuracy: 0.1 % of the measuring range, 12-bit A/D converter with digital filter, scaling factor and offset, monitoring of the measuring range.
Analogue outputs (AO)	0...10 V DC, max. 20 mA, 11-bit resolution, scaling factor and offset, ramp generation, settable offline and power-up actions.

Article	Description	Note
EP7416	16 Mixed I/O PIFA (6 DI / 2 DO / 4 AI / 4 AO)	



EP8101

Basic serial PIFA

Communication PIFA with one serial port. Can be complemented with option cards for modem, KNX, SIOX, etc. Can also be supplemented with an external M-Bus/SIOX connection.

Article	Description	Note
EP8101	Basic Serial PIFA	



EP8102

Dual basic serial PIFA

Communication PIFA with two serial ports. Can be complemented with option cards for modem, KNX, SIOX, etc. Can also be supplemented with an external M-Bus/SIOX connection.

Article	Description	Note
EP8102	Dual Basic Serial PIFA	



EP8282

TCP/IP PIFA

Communication PIFA with Ethernet 10Base-T/100Base auto-negotiation for TCP/IP communication. Occupies one serial port (Port 3). Supports DHCP and DNS.

Article	Description	Note
EP8282	TCP/IP PIFA	



EP0000

Slot cover

For covering empty PIFA slots in an EXOflex housing.

Article	Description	Note
EP0000	Slot cover	

Card holder

Article	Description	Note
EH-CARDHOLDER	Card holders for EXOflex housings	

COMMUNICATION OPTIONS



X9017

Option KNX

X9017 is a KNX communication card for connection to a KNX network via a KNX interface. The KNX interface is ordered by an external supplier. X9017 is intended for internal mounting in an EXOflex house, occupying Port 2 or Port 3.

Requires that EP7408, EP8101 or EP8102 is installed.

Article	Description	Note
X9017	Option KNX	



EX8282

TCP/IP gateway

Communication gateway for TCP/IP communication, intended for connection of one or several controllers with serial communication to a computer network.

Technical data	
Supply voltage	24 V AC/DC (18...30 V AC/DC)
Internal serial port, type	RS232 or RS485
Ethernet port, type	10Base-T/100Base auto-negotiation
Ethernet port, cable length	Max. 100 m

Article	Description	Note
EX8282	TCP/IP Gateway	



X9035

Battery charger/UPS

Battery charger for EXOflex. Charges two external 12 V batteries connected in series (sealed lead cells) for UPS functionality. Batteries are not included.

Requires that EP1011 is installed.

Article	Description	Note
X9035	Battery charger/UPS	



EK20

Communication cable

Communication cables for RS232 connection between a computer and the EXOflex Main Power PIFA (9pol D-Sub female and RJ45 male).

Article	Cable length	Note
EK20	2 m	
EK22	5 m	
EK24	10 m	

EXPANSION UNITS AND I/O MODULES



IO-RU-7

Regin's expansion units and I/O modules offer the possibility to expand the EXOClever, EXOflex, EXOcompact and EXOdos controllers.

Integration of the expansion units and I/O modules into an EXO system is intended for advanced system integrators only, as it demands a deep knowledge of the EXO system. Up to 32 expansion units and I/O modules can be connected but the limit is set by the system integrator and the application.



IO-16AI



IO-4X4-M

Article	AI	DI	UI	AO	DO	UO	UA	LED	Switches	Total number of I/O:s	Note
IO-A15MIXW-3-BEM	4	4	-	3	4	-	-	-	-	15	
IO-A28MIXW-3-BEM	4	8	4	5	7	-	-	-	-	28	
IO-V19MIXW-1-BEM	4	2	4	-	7	-	2	-	-	19	
IO-RU-7	1	2 DI or CI	1	-	-	3	-	-	-	7	
IO-RU-10	1	2 DI or CI	1	-	4	2	-	-	-	10	
IO-16AI	16	-	-	-	-	-	-	-	-	16	
IO-16DI	-	16	-	-	-	-	-	X	-	16	
IO-16DO-M	-	-	-	-	16	-	-	X	X	16	
IO-8DO8AI-M	8	-	-	-	8	-	-	X	X	16	
IO-8DO8AO-M	-	-	-	8	8	-	-	X	X	16	
IO-4X4-M	4	4	-	4	4	-	-	X	X	16	



Expansion units Ardo

The expansion units enable easy in-/outputs expansion of a system. They are fully compatible with all other products in the EXO range as well as other brands using standard protocols like BACnet or Modbus.

Technical data	
Supply voltage	24 V AC \pm 15 %, 50...60 Hz or 21...36 V DC
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Ambient humidity	Max. 95 % RH
Protection class	IP20
Connection	Disconnectable terminal strips, 4 mm ²
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time
Mounting	DIN-rail or cabinet
Casing	Standard Euronorm (8.5 modules wide)
Communication ports	
TCP/IP	EXOline, Modbus, BACnet/IP
RS485	EXOline, Modbus, BACnet MS/TP
Inputs	
Analogue inputs (AI)	For PT1000 sensors (accuracy \pm 0.4°C) or 0...10 V DC (accuracy \pm 0.15 % of full output signal). 12 bit resolution in the A/D conversion.
Digital inputs (DI)	For potential-free contacts
Universal inputs (UI)	Can be configured to function as either analogue input or digital input
Outputs	
Analogue outputs (AO)	0...10 V DC, 1 mA, short-circuit protected
Digital outputs (DO)	Mosfet outputs, 24 V AC or DC, 2 A continuous. Max. 8 A in total.

Article	Description	Note
IO-A15MIXW-3-BEM	Ardo expansion unit with 15 I/O:s	
IO-A28MIXW-3-BEM	Ardo expansion unit with 28 I/O:s	



Expansion units Vido

The expansion units enable easy in-/outputs expansion of a system. They are fully compatible with all other products in the EXO range as well as other brands using standard protocols like BACnet or Modbus.

Technical Data		
Supply voltage	230 V AC	
Ambient temperature	0...50 °C	
Storage temperature	-20...+70 °C	
Ambient humidity	Max. 95 % RH, non-condensing	
Protection class	IP20 (IP40 when mounted in cabinet door)	
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time	
Mounting	DIN-rail, cabinet or on wall	
Communication ports		
TCP/IP	EXOline, Modbus, BACnet/IP	
RS485	EXOline, Modbus, BACnet MS/TP	
Inputs		
Analogue inputs (AI)	For PT1000 sensors. 12 bit resolution in the A/D conversion.	
Digital inputs (DI)	For potential-free contacts	
Universal inputs (UI)	Can be configured to function as either analogue input or digital input	
Outputs		
Universal analogue I/O (UA)	Configurable as output(0...10 V DC; 2...10 V DC; 10...0 V DC or 10...2 V DC, 8 bit D/A short-circuit protected) or input (0...10 V DC)	
Digital outputs (DO)	7x relay, 230 V AC, 1 A load per relay, max 7 A total	
Article	Description	Note
IO-V19MIXW-1-BEM	Vido expansion unit with 19 I/O:s	



IO-RU-7

I/O module with 7 or 10 inputs/outputs

I/O module for expansion of Regin's programmable EXOclever, EXOflex, EXOcompact and EXOdodos controllers.

Technical data	
Supply voltage	24 V AC ± 15 %, 50...60 Hz
Power consumption	2.5 VA
Ambient temperature	0...50 °C
Storage temperature	-20...70 °C
Ambient humidity	Max. 90 % RH
Protection class	IP20
Communication	EXOline RS485
Communication speed	9600 bps
Built-in temperature sensor	NTC type, measuring range 0...50°C
Accuracy	±0.5°C at 15...30°C
Material, casing	Polycarbonate (PC)
Weight	110
Inputs	
Analogue inputs (AI)	PT1000, 0...50°C
Condensation input (CI)	Input for Regin's condensation detector KG-A/1
Digital inputs (DI)	Closing potential-free contact
Universal inputs (UI)	Analogue input (AI), PT1000 sensor, 0...100°C or digital input (DI)
Outputs	
Digital outputs (DO)	24 V AC, max. 0.5 A.
Universal outputs (UO)	Digital output (DO) 24 V AC, max. 2.0 A or analogue output (AO), 0...10 V DC

Article	AI	DI	UI	DO	UO	Total number of I/O:s	Note
IO-RU-7	1	2 DI or CI	1	-	3	7	
IO-RU-10	1	2 DI or CI	1	4	2	10	



IO-16AI

I/O module with 16 analogue inputs

I/O module for expansion of Regin's programmable EXOclever, EXOflex, EXOcompact and EXOdodos controllers.

Technical data	
Supply voltage	24 V AC ± 15 %, 50...60 Hz
Power consumption	Max. 3.5 VA
Communication	EXOline, CAN-Bus
Inputs	16 analogue, PT1000, LMx35, 0...10 kΩ, 0...10 V, 0(4)...20 mA
Mounting	DIN-rail or in a standard casing
Number of modules	8.5
Operating temperature	0...50 °C
Dimensions (WxHxD)	148 x 123 x 59 mm (incl. terminals)
Protection class	IP20

Article	Description	Note
IO-16AI	Input module	



IO-16DI

I/O module with 16 digital inputs

I/O module for expansion of Regin's programmable EXOclever, EXOflex, EXOcompact and EXOdos controllers. Terminal status indicated by LEDs.

Technical data	
Supply voltage	24 V AC \pm 15 %, 50...60 Hz
Power consumption	Max. 3.5 VA
Communication	EXOline, CAN-Bus
Inputs	16 digital, potential-free closing contact between +C and DI, 24 V DC, can be configured as a pulse input
Mounting	DIN-rail or in a standard casing
Number of modules	8.5
Operating temperature	0...50 °C
Dimensions (WxHxD)	148 x 123 x 60 mm (incl. terminals)
Protection class	IP20

Article	Description	Note
IO-16DI	Input module	



IO-16DO-M

I/O module with 16 digital outputs

I/O module for expansion of Regin's programmable EXOclever, EXOflex, EXOcompact and EXOdos controllers. The outputs have manual switches which can be set to manual or auto position. Terminal status indicated by LEDs.

Technical data	
Supply voltage	24 V AC \pm 15 %, 50...60 Hz
Power consumption	Max. 3.5 VA
Communication	EXOline, CAN-Bus
Outputs	16 digital, potential-free relay (closing), 24 / 230 V AC (not mixable), max. 1 A inductive load or 4 A resistive load
Mounting	DIN-rail or in a standard casing
Number of modules	8.5
Operating temperature	0...50 °C
Dimensions (WxHxD)	148 x 123 x 74 mm (incl. terminals)
Protection class	IP20

Article	Description	Note
IO-16DO-M	Output module	



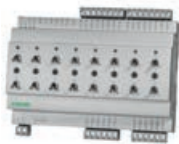
IO-8DO8AI-M

I/O module with 8 digital outputs and 8 analogue inputs

I/O module for expansion of Regin's programmable EXOclever, EXOflex, EXOcompact and EXOdos controllers. The outputs have manual switches which can be set to manual or auto position. Terminal status indicated by LEDs.

Technical data	
Supply voltage	24 V AC ± 15 %, 50...60 Hz
Power consumption	Max. 3.5 VA
Communication	EXOline, CAN-Bus
Inputs	8 analogue, PT1000, LMx35, 0...10 kΩ, 0...10 V, 0(4)...20 mA
Outputs	8 digital, potential-free relay (closing), 24 / 230 V AC (not mixable), max. 1 A inductive load or 4 A resistive load
Mounting	DIN-rail or in a standard casing
Number of modules	8.5
Operating temperature	0...50 °C
Dimensions (WxHxD)	148 x 123 x 74 mm (incl. terminals)
Protection class	IP20

Article	Description	Note
IO-8DO8AI-M	Input and output module	



IO-8DO8AO-M

I/O module with 8 digital and 8 analogue outputs

I/O module for expansion of Regin's programmable EXOclever, EXOflex, EXOcompact and EXOdos controllers. The outputs have manual switches which can be set to manual or auto position. Terminal status indicated by LEDs.

Technical data	
Supply voltage	24 V AC ± 15 %, 50...60 Hz
Power consumption	Max. 3.5 VA
Communication	EXOline, CAN-Bus
Outputs	8 digital, potential-free relay (closing), 24 / 230 V AC (not mixable), max. 1 A inductive load or 4 A resistive load. 8 analogue, 0...10 V DC, 5 mA, 8 bit D/A, short-circuit proof.
Mounting	DIN-rail or in a standard casing
Number of modules	8.5
Operating temperature	0...50 °C
Dimensions (WxHxD)	148 x 123 x 74 mm (incl. terminals)
Protection class	IP20

Article	Description	Note
IO-8DO8AO-M	Output module	



IO-4X4-M

I/O module with 4 digital inputs, 4 analogue inputs, 4 digital outputs and 4 analogue outputs

I/O module for expansion of Regin's programmable EXOClever, EXOflex, EXOcompact and EXOdos controllers. The outputs have manual switches which can be set to manual or auto position. Terminal status indicated by LEDs.

Technical data	
Supply voltage	24 V AC \pm 15 %, 50...60 Hz
Power consumption	Max. 3.5 VA
Communication	EXOline, CAN-Bus
Inputs	4 digital, potential-free closing contact between +C and DI, 24 V DC, can be configured as a pulse input. 4 analogue, PT1000, LMx35, 0...10 k Ω , 0...10 V, 0(4)...20 mA.
Outputs	4 digital, potential-free relay (closing), 24 / 230 V AC (not mixable), max. 1 A inductive load or 4 A resistive load. 4 analogue, 0...10 V DC, 5 mA, 8 bit D/A, short-circuit proof.
Mounting	DIN-rail or in a standard casing
Number of modules	8.5
Operating temperature	0...50 °C
Dimensions (WxHxD)	148 x 123 x 74 mm (incl. terminals)
Protection class	IP20

Article	Description	Note
IO-4X4-M	Input and output module	

EXO ACCESSORIES



ED-T7

External 7 inch touch display for Exigo 4.1, Exigo 4.2, EXOcompact, EXOclever and EXOdos

ED-T7 is a touch screen display and configuration unit intended for connection to a controller.

Technical data	
Power supply	24 V DC, range 9...28 V DC
Power consumption	< 6 W
Dimensions (WxHxD mm)	185.1 x 131.1 x 7.3 mm (front)
Touch panel	Glass front panel with capacitive multi-touch interface
Ambient temperature	-10...+60 °C
Ambient humidity	Max. 90 % RH (non condensing)
Protection class, front	IP65
Protection class, back	IP20

ED-T7

Article	Description	Note
ED-T7	External touch screen display	

ACCESSORIES

Article	Description	Note
X1111	Power supply unit	
EDSP-K3	3 m cable for connecting E3-DSP, ED9200 or ED-T7	
EDSP-K10	10 m cable for connecting E3-DSP, ED9200 or ED-T7	



External display unit for EXOclever, Corrigo E...-3, EXOcompact C...-3, Exigo and EXOdos

Display for operation of a EXOcompact C...-3, Corrigo E...-3, EXOdos, EXOclever or Exigo. E3-DSP can be connected to controllers with or without a built-in display. The external display and the built-in display can be used simultaneously.

Technical data	
Protection class	IP30
Connection cable	3 m, 10 m or user-supplied cable, max. 100 m

Article	Description	Note
E3-DSP	External display	



Cable must be ordered separately.

ACCESSORIES

Article	Description	Note
EDSP-K3	3 m cable for connecting E3-DSP, ED9200 or ED-T7	
EDSP-K10	10 m cable for connecting E3-DSP, ED9200 or ED-T7	



Panel computer

Panel computers intended for mounting in, for example, a cabinet door. They can easily be connected to Regin's EXOscada system and to controllers with integrated web server.

Technical data	
CPU type	Intel®Atom™ E3845 (2M Cache, 1.91 GHz)
RAM	4 GB, DDR3L on-board
Supply voltage	Power supply unit for 12 V DC (2.5 A) included in the delivery
Protection class	IP65
Mounting	Cabinet mounting (screws included), VESA 75 / 100 (ordered separately)
Ports	4 x COM ports (RS232), 4 x USB ports, 2 x LAN ports (Intel GbE)
Operating system	Windows 10

Article	Monitor size	Resolution	Description	Note
DP102N	10.2"	1024 x 600	Display for panel mounting	
DP156N	15.6"	1366 x 768	Display for panel mounting	
DP102N-BSD	10.2"	1024 x 600	Display for panel mounting, EXOscada is pre-installed (EXOscada Base with max. 200 I/O:s)	
DP156N-BSD	15.6"	1366 x 768	Display for panel mounting, EXOscada is pre-installed (EXOscada Base with max. 200 I/O:s)	



M3G230



M4G950



MODEM3G-ANT



M4G-ANT

3G/4G router

3G/4G router between TCP/IP connected controllers and a wireless, mobile network.

Technical data	
Communication	TCP/IP
WiFi	IEEE 802.11 b/g/n WiFi standard
Software	Open VPN, IPsec, GRE, L2TP, PPTP, Dynamic DNS and DHCP server
Power supply	9 - 30 V DC. Wall adapter included.
Operating temperature	-40 to +75 °C

Article	Description	Mobile network	Connections	SIM card	Note
M3G230	3G router	3G/GSM/GPRS/EDGE	RJ45 (1 LAN, 1 WAN), WiFi	1	
M4G950	4G router	4G (LTE) /3G/GSM/GPRS/EDGE	RJ45 (3 LAN, 1 WAN), WiFi	2	

ACCESSORIES

Article	Description	Note
MXGDIN	DIN-rail mounting kit for M3G900 and M4G950	
MODEM3G-ANT	External antenna for M3G900	
M4G-ANT	External antenna for M4G950	



E0-R

Display repeater for E3-DSP

Repeater for handling distances of up to 1200 m between Corrigo E...-3, EXOcompact C...-3, Exigo, EXOdos, EXOclever and the external display unit E3-DSP.

Article	Power supply	Protection class	Mounting	Note
E0R-3	24 V AC	IP20	DIN-rail	
E0R230K-3	230 V AC	IP65	Wall	



FMCE

Front mounting kit

Mounting kit for easier mounting of controllers in a control panel or cabinet door.

Technical data		
Protection class	IP40	
Article	Description	Note
FMCE	Front mounting kit, room for one EXOcompact/Corrigo/Exigo Ardo unit	



PLT-E8



PLT-E15



PLT-28



PLTCE

Plug-in terminal blocks for controllers

PLTCE is a set of angled plug-in terminal blocks for simple wiring of controllers when using the front mounting kits. The terminal blocks enable easy access to the clamping screws even after cabinet mounting.

Article	Description	Note
PLT-E8	Set of plug-in terminals for models with 8 I/O:s	
PLT-E15	Set of plug-in terminals for models with 15 I/O:s	
PLT-E28	Set of plug-in terminals for models with 28 I/O:s	
PLTCE	Set of angled plug-in terminal blocks for EXOcompact, Optigo, Corrigo and Exigo Ardo	



X1176

Connection unit M-Bus/SIOX

External interface converter for connection of meters to processor controllers. X1176 is connected to controllers with RS232, RS485 (EXOline) and hLEXOline. Meters are connected to X1176 via SIOX or M-Bus. Powered by 24 V DC or AC. IP65-classed polycarbonate casing.

Article	Description	Note
X1176	Connection unit M-Bus/SIOX	



E-CABLE2-USB

PC-cable for EXOclever, EXOflex, EXOcompact, Corrigo, Exigo and EXOdos

Cables for connecting EXOflex, EXOcompact, Exigo or EXOdos to RS232 or USB standard.

Article	Description	Note
E-CABLE2-USB	Cable for USB connection	
E-CABLE-RS232	Cable for RS232 connection	



Battery

Article	Description	Note
BATTERY-4289	Battery for EP1011, EXOcompact, Corrigo	
BATTERY-5518	Battery for 1304/1305	
BATTERY-5702	Battery for 5540	



Cabinets for Corrigo/Exigo^{Ardo}

Turn-key ready cabinets developed for Corrigo and Exigo Ardo. Can also be used for EXOcompact controllers. All inputs and outputs are pre-connected to the terminals. The CAB-STD... units are delivered with trafo, switches, relays and a wiring schematic for the cabinet.

Article	Description	Dimensions (HxW)	Protection class	Relays	Note
CAB-STD2	Cabinet intended for Corrigo/Exigo Ardo models with 15 I/O:s	483 x 403 mm	IP65	2	
CAB-STD3	Cabinet intended for Corrigo/Exigo Ardo models with 28 I/O:s	483 x 403 mm	IP65	3	



Corrigo/Exigo Ardo/EXOcompact must be ordered separately.



E-CASE-
E283DW-24

EXOcompact demo kit

Complete kit for testing the EXO system. Simply plug the controller into a wall socket and connect it to a computer running the EXO software to make simulations, trigger alarms, view indications, etc.

Article	Description	Note
E-CASE-XCA283DW-4-24	Complete kit for system evaluation, containing EXOcompact ^{Ardo} XCA283DW-4	

EXOflex mounting kit

Four brackets for mounting an EXOflex controller on a backplate, as an alternative to DIN-rail mounting.

Article	Description	Note
X204-0052:4	EXOflex mounting kit	



X1171A

EXOline to hEXOline converter

RS485 EXOline to hEXOline converters. Can be used for communication over long distances or unshielded signal cables.

Article	Description	Note
X1171A	EXOline to hEXOline converter	



5540PCB

Replacement unit for 5540 controllers

EXOflex for replacement of a 5540 controller using existing wiring.

Technical data	
Power supply	24 V DC
Accuracy	+ 1 % (0...20 mA)
Shunt resistors AI	10 Ohm (0...20 mA)
Dimensions (WxHxD)	5540, original: 268 x 115 x 118 mm / 5540, replacement: 258 x 160 x 160 mm
Mounting	DIN-rail (TS35)

Article	Description	Note
5540PCB	Replacement unit for 5540 controllers	



RM6H-24 D

Relay module

Relay module with six relays, intended for use together with Regin's Corrigo, EXOcompact, Exigo, EXOdos controllers. The relay module can be used for control of objects with higher voltage loads or larger current drain than the controller outputs can handle. RM6H-24/D has manual switches for manual control of each object.

Technical data	
Supply voltage	24 V AC ±15 %, 5 VA
Inputs	Six 24 V AC
Output	Six potential-free change-over contacts, 230 V AC, 10 A
Mounting	DIN-rail
Number of modules	6 (105 x 112 x 58)
Protection class	IP20

Article	Description	Note
RM6-24/D	Relay module	
RM6H-24/D	Relay module with manual switches	

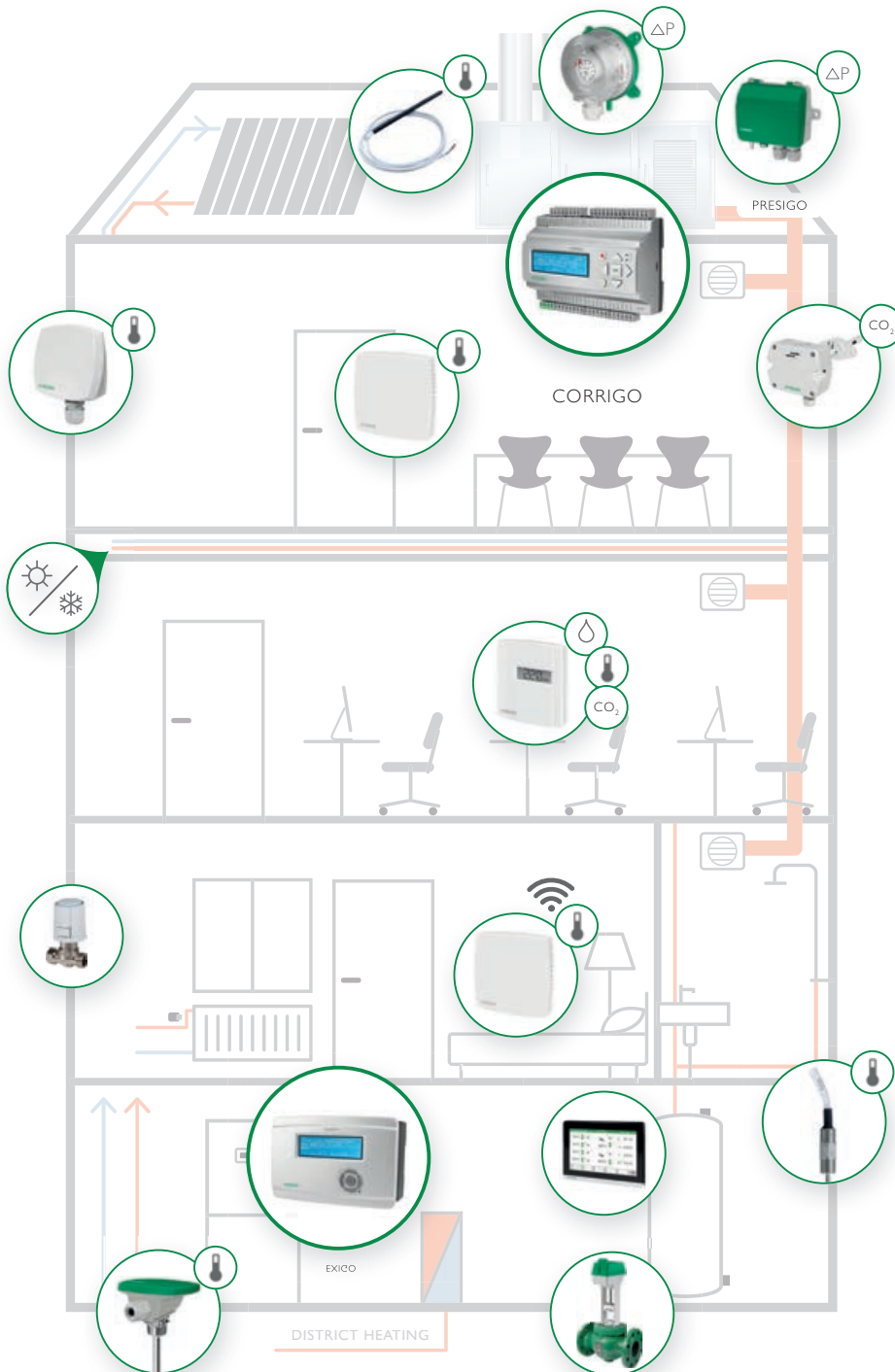


2

CONTROLLERS



IOT GIVES YOU FULL CONTROL OF YOUR PROPERTIES



CLOUDigo

THIS IS CLOUDigo:

- ✓ Let the cloud do the work and visualise your plant for you
- ✓ Check status and change settings online
- ✓ Ready-Steady-Go installation of the controllers
- ✓ No programming necessary
- ✓ Work independently from IT support and firewalls

CONTROLLERS WITH TCP/IP



CLOUDigo



CLOUDigo – The easiest way to control your installations

CLOUDigo

READY STEADY GO

For the user who wants complete control of the buildings' indoor climate at all times, CLOUDigo is the tool of choice. Our web-based platform can always be reached both by you and your colleagues regardless of your physical location.

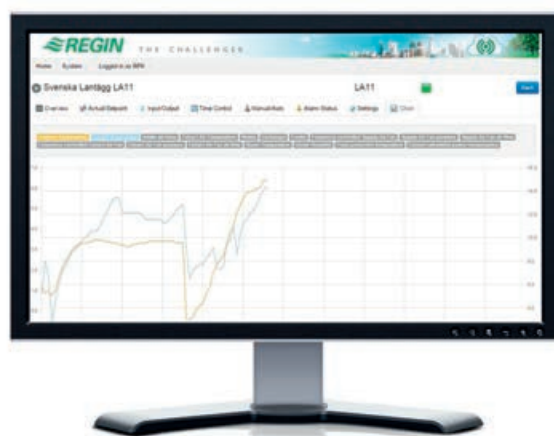
Complete control – anywhere and at any time

Follow your installations in real time with just a few simple clicks. Navigate between the settings and values in connected controllers. CLOUDigo offers excellent overview of all your controllers. All settings made in CLOUDigo take full effect in the controllers instantly. This makes CLOUDigo the natural choice for individuals working with multiple installations or installations distributed over a wide geographical area.

Short facts about CLOUDigo

- ✓ Gain control of the indoor climate of your buildings – anywhere and at any time.
- ✓ You get the ability to analyse data and act instantly. Quickly, easily and effectively.
- ✓ CLOUDigo handles historical data for complete control and overview.
- ✓ Work using any screen while still retaining full functionality.
- ✓ Getting started is easy. The installation of connected controllers is extremely easy and developed in accordance with our "Ready-Steady-Go" concept.
- ✓ Work using a platform that permits you to grow. You handle your installations – CLOUDigo handles the rest.

Article	Description	Note
CLO-LIC	Cloud service for controller access	



CORRIGO – CONTROLLERS FOR VENTILATION AND HEATING



Corrigo^{Ardo} - controllers for ventilation and heating

Corrigo comes preloaded with an application for control of ventilation. The ventilation application is intended for control of air handling units with temperature control, 1- or 2-speed operation or, alternatively, pressure or air flow control of supply air fan and extract air fan, humidity control as well as other common functions in ventilation.



Technical data	
Supply voltage	24 V AC ± 15 %, 50...60 Hz or 21...36 V DC
Power consumption	8 VA, 4 W (DC), model E...W-3: 12 VA, 6 W (DC)
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Ambient humidity	Max. 90 % RH
Protection class	IP20
Connection	Disconnectable terminal strips, 4 mm ²
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time
Display	Backlit LCD (blue), 4 rows of 20 characters
Mounting	DIN-rail or cabinet
Number of modules	8.5
Dimensions (WxHxD)	149 x 121 x 60 mm
Communication ports	
TCP/IP	Webserver, EXOline, Modbus, BACnet/IP, CLOUDigo
RS485	EXOline, Modbus, BACnet MS/TP
M-Bus ports	M-Bus communication
Inputs	
Analogue inputs (AI)	For PT1000 sensors (accuracy ± 0.4°C) or 0...10 V DC (accuracy ± 0.15 % of full output signal). 12 bit resolution in the A/D conversion.
Digital inputs (DI)	For potential-free contacts
Outputs	
Analogue outputs (AO)	0...10 V DC, 1 mA, short-circuit proof
Digital outputs (DO)	Mosfet outputs, 24 V AC or DC, 2 A continuous. Max. 8 A in total.



Controller with built-in web server and TCP/IP communication, with display

MODELS WITH DISPLAY

Article	AI	DI	UI	AO	DO	RS485 ports	TCP/IP ports	Note
E151DW-3	4	4	-	3	4	-	1	
E152DW-3	4	4	-	3	4	1	1	
E281DW-3	4	8	4	5	7	-	1	
E282DW-3	4	8	4	5	7	1	1	
E283DW-3	4	8	4	5	7	2	1	



Controller with built-in web server and TCP/IP communication, without display

MODELS WITHOUT DISPLAY

Article	AI	DI	UI	AO	DO	RS485 ports	TCP/IP ports	Note
E151W-3	4	4	-	3	4	-	1	
E152W-3	4	4	-	3	4	1	1	
E281W-3	4	8	4	5	7	-	1	
E282W-3	4	8	4	5	7	1	1	
E283W-3	4	8	4	5	7	2	1	

ACCESSORIES

Article	Description	Note
E3-DSP	External display	
E0R-3	Repeater	
E0R230K-3	Repeater	
IO-A15MIXW-3-BEM	Ardo expansion unit with 15 I/O:s	
IO-A28MIXW-3-BEM	Ardo expansion unit with 28 I/O:s	
IO-V19MIXW-1-BEM	Vido expansion unit with 19 I/O:s	

EXIGO – CONTROLLERS FOR HEATING AND BOILER CONTROL



Exigo^{Ardo} – Controllers for heating, 24V

Exigo^{Ardo} are controllers for heating and boiler control that make every step from installation to operation and maintenance easier than ever. Simply connect the controller, enter any settings as desired and start up. It can be used either stand-alone or integrated into a network. It has built-in support for many different languages and is designed for mounting on a DIN-rail or in a cabinet door.



Technical data	
Supply voltage	24 V AC ± 15 %, 50...60 Hz or 21...36 V DC
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Ambient humidity	Max. 95 % RH
Protection class	IP20
Connection	Disconnectable terminal strips, 4 mm ²
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time
Display	Backlit LCD, 4 rows of 20 characters
Mounting	DIN-rail or cabinet
Casing	Standard Euronorm (8.5 modules wide)
Dimensions (WxHxD)	149 x 121 x 60 mm
Inputs	
Analogue inputs (AI)	For PT1000 sensors (accuracy ± 0.4°C), Ni1000 sensors or 0...10 V DC (accuracy ± 0.15 % of full output signal). 12 bit resolution in the A/D conversion.
Digital inputs (DI)	For potential-free contacts
Universal inputs (UI)	AI or DI
Outputs	
Analogue outputs (AO)	0...10 V DC, 1 mA, short-circuit protected
Digital outputs (DO)	Mosfet outputs, 24 V AC or DC, 2 A continuous. Max. 8 A in total.
Communication ports	
TCP/IP	EXOline, Modbus, BACnet/IP, CLOUDigo
RS485	EXOline, Modbus, BACnet MS/TP
M-Bus	M-Bus communication

MODELS

Article	Display	AI	DI	UI	AO	DO	RS485 ports	TCP/IP ports	M-Bus ports	Power consumption	Note
HCA151DW-3	X	4	4	-	3	4	-	1	-	9 VA	
HCA152DW-3	X	4	4	-	3	4	1	1	-	9 VA	
HCA281DW-3	X	4	8	4	5	7	-	1	-	9 VA	
HCA282DW-3	X	4	8	4	5	7	1	1	-	9 VA	
HCA283DW-3	X	4	8	4	5	7	2	1	-	9 VA	
HCA283DWM-3	X	4	8	4	5	7	1	1	1	9 VA	

ACCESSORIES

Article	Description	Note
E3-DSP	External display	
ED-T7	External touch screen display	
E0R-3	Repeater	
E0R230K-3	Repeater	
IO-A15MIXW-3-BEM	Ardo expansion unit with 15 I/O:s	
IO-A28MIXW-3-BEM	Ardo expansion unit with 28 I/O:s	
IO-V19MIXW-1-BEM	Vido expansion unit with 19 I/O:s	

WE HELP YOU TO FIND YOUR CONFIGURATION FILE FOR EXIGO TOOL

On the Regin homepage you can visit our application selector site where you can find pre-programmed application examples. If you like, you can use them as they are or modify them for your needs using Exigo tool. There are pictures showing each example to help you find the right one.



www.regincontrols.com/exigo-config

Simply choose your application there and download the right configuration file for your Exigo. Simply – Ready-Steady-Go.



Exigo^{Vido} - Compact controllers for heating, 230 V

Exigo^{Vido} are controllers for heating and boiler control that make every step from installation to operation and maintenance easier than ever. Simply connect the controller, enter any settings as desired and start up. It can be used either stand-alone or integrated into a network. It has built-in support for many different languages and is designed for mounting on a DIN-rail, in a cabinet door or directly on a wall.



Technical Data	
Supply voltage	230 V AC
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Ambient humidity	Max. 95 % RH, non-condensing
Protection class	IP20 (IP40 when mounted in cabinet door)
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time
Display	Backlit LCD, 4 rows of 20 characters
Mounting	DIN-rail, cabinet or on wall
Inputs	
Analogue inputs (AI)	PT1000 (-50...+150°C), Ni1000, 0...10 V
Digital inputs (DI)	Potential-free closure
Universal inputs (UI)	AI or DI
Outputs	
Universal analogue I/O (UA)	Configurable 0...10 V DC; 2...10 V DC; 10...0 V DC or 10...2 V DC output (12 bit short-circuit protected) or 0...10 V DC input
Digital outputs (DO)	7x relay, 230 V AC, 1 A inductive load per relay
Communication ports	
TCP/IP	EXOline TCP, Modbus TCP, BACnet/IP, CLOUDigo
RS485	EXOline, Modbus, BACnet MS/TP
M-Bus ports	M-Bus communication

MODELS

Article	Display	AI	DI	UI	UA	DO	PWM	RS485 ports	TCP/IP ports	M-Bus ports	Power consumption	Note
HCV190D-1	X	4	2	4	2	7	-	-	-	-	7.5 VA	
HCV191DW-1	X	4	2	4	2	7	-	-	1	-	9.5 VA	
HCV192DW-1	X	4	2	4	2	7	-	1	1	-	10 VA	
HCV193DWM-1	X	4	2	4	2	7	-	1	1	1	10.5 VA	
HCV203DWM-1	X	4	2	4	2	7	X	1	1	1	11 VA	

ACCESSORIES

Article	Description	Note
E3-DSP	External display	
ED-T7	External touch screen display	
E0R-3	Repeater	
E0R230K-3	Repeater	
IO-A15MIXW-3-BEM	Ardo expansion unit with 15 I/O:s	
IO-A28MIXW-3-BEM	Ardo expansion unit with 28 I/O:s	
IO-V19MIXW-1-BEM	Vido expansion unit with 19 I/O:s	

OPTIGO – PRE-PROGRAMMED, STAND-ALONE CONTROLLERS



READY STEADY GO

Controllers for simple applications

A series of compact, economic and versatile stand-alone controllers without communication. They are pre-configured and intended for smaller applications. The controllers are very easy to install, commission and control.

Technical data	
Power consumption	4 VA
Ambient temperature	0...50 °C
Storage temperature	-40...+50 °C
Ambient humidity	Max. 90 % RH
Mounting	DIN-rail
Number of modules	7
Protection class	IP20
Display	Backlit LCD, numeric/graphic, language-independent symbols
Dimensions (WxHxD)	123 x 123 x 60 mm
Clock	Week-based 24-hour clock models with 10 I/Os only)
Inputs	
Analogue inputs (AI)	PT1000
Digital inputs (DI)	Closing potential-free contact
Universal inputs (UI)	0...10 V DC or digital
Setpoint input (SPI)	For an external PT1000 setpoint device, e.g. TG-R4/PT1000 or TBI-PT1000
Outputs	
Analogue outputs (AO)	0...10 V DC, short-circuit protected
Digital outputs (DO)	OP10 and OP10-230 only. Triac 24 V AC, 0.5 A (3-point control or alarm output) and one change-over relay 230 V AC, 5 A (fan start).

INPUTS/OUTPUTS (I/Os)

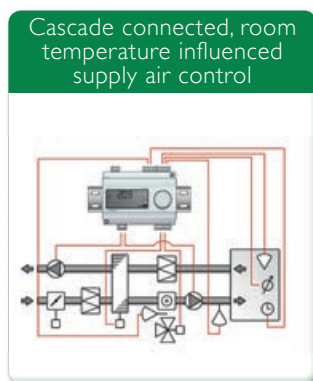
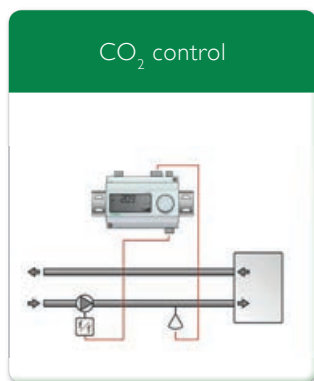
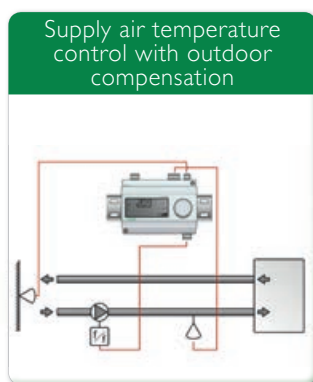
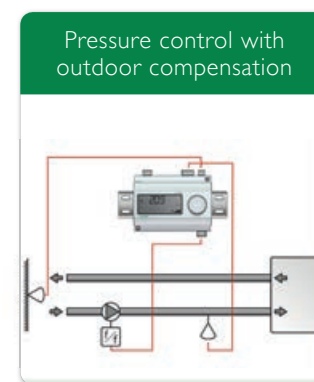
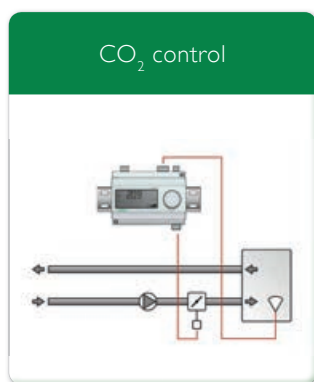
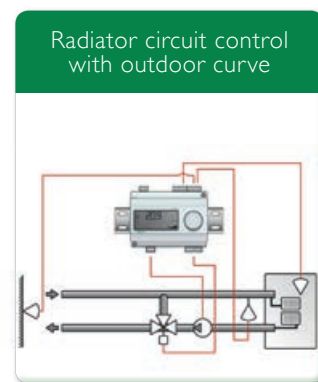
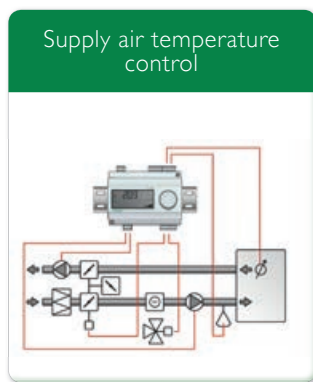
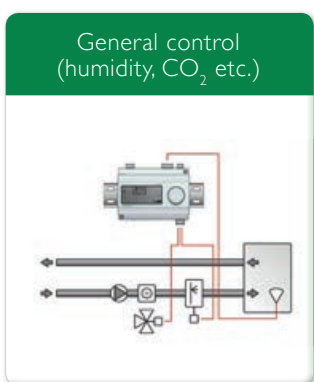
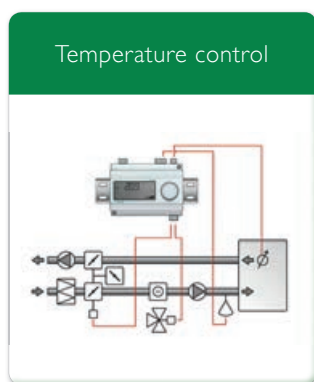
Article	AI	DI	UI	AO	DO	Total number of I/O:s	Note
OP5U	1	1	1	2	-	5	
OP10	2	2	1	2	3	10	
OP10-230	2	2	1	2	3	10	

Article	Supply voltage	Number of I/Os	Note
OP5U	24 V AC ±15 %	5	
OP10	24 V AC ±15 %	10	
OP10-230	230 V AC	10	

OPTIGO

The compact, flexible and versatile controller

2



CONTROLLERS FOR OTHER APPLICATIONS



AQUA24TF

Controller with active frost protection for 3-point actuator

Controller intended for control of valve actuators in water-heated systems. It has a built-in room sensor and can be used for control of supply air temperature or room temperature, with or without cascade control. The controller has built-in active frost protection with two alarm relays and automatic heat maintaining function during shutdown.

Technical data	
Supply voltage	24 V AC $\pm 10\%$, 50/60 Hz
Power consumption	Max. 5 VA
Control signal (output)	3-point floating control, 24 V AC output (heating)
Sensor inputs	Three 0...30°C (the sensor determines the range (NTC sensor))
Setpoint	0...30 °C
Minimum limit	0...30°C (not active for single sensor control)
Cascade factor (CF)	1...15 (must be set to 1 for single sensor control)
Frost alarm setpoint	5 °C
Shutdown mode setpoint	25°C (setpoint on frost protection sensor)
Fan relay	Breaking contact for fan contactor interlock if a frost protection alarm occurs. 230 V AC, 2 A.
Alarm relay	Change-over contact for alarm indication if a frost protection alarm occurs. 24 V AC, 2 A.
Mounting	Wall
Protection class	IP20

Article	Description	Note
AQUA24TF	Room controller for HVAC system, with active frost protection	

DUCT CONTROLLER



Controller for duct mounting

Compact controller for mounting in ventilation ducts. The controller has a built-in sensor and setpoint control. An external setpoint potentiometer can be connected if required. Can be used to control either heating or cooling. P- or PI-control optional.

The controller has an input for change-over between heating and cooling. The change-over function can be activated by means of an external closing contact or a sensor mounted on the supply-water side of the heating/cooling unit.

Technical data	
Supply voltage	24 V AC, 2 VA
Output	One, 0...10 V DC
Setpoint	0...30 °C
P-band	0.5...50 K
I-time	2 min/20 min, selectable
Change-over	Input for closing contact or sensor (0...30°C)
Mounting	Duct
Protection class	IP65

Article	Description	Note
AL24A1K	Duct controller, one 0...10 V DC output	

ACCESSORIES FOR CORRIGO AND EXIGO



Expansion units Ardo

The expansion units enable easy in-/outputs expansion of a system. They are fully compatible with all other products in the EXO range as well as other brands using standard protocols like BACnet or Modbus.

Technical data		
Supply voltage	24 V AC \pm 15 %, 50...60 Hz or 21...36 V DC	
Ambient temperature	0...50 °C	
Storage temperature	-20...+70 °C	
Ambient humidity	Max. 95 % RH	
Protection class	IP20	
Connection	Disconnectable terminal strips, 4 mm ²	
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time	
Mounting	DIN-rail or cabinet	
Casing	Standard Euronorm (8.5 modules wide)	
Communication ports		
TCP/IP	EXOline, Modbus, BACnet/IP	
RS485	EXOline, Modbus, BACnet MS/TP	
Inputs		
Analogue inputs (AI)	For PT1000 sensors (accuracy \pm 0.4°C) or 0...10 V DC (accuracy \pm 0.15 % of full output signal). 12 bit resolution in the A/D conversion.	
Digital inputs (DI)	For potential-free contacts	
Universal inputs (UI)	Can be configured to function as either analogue input or digital input	
Outputs		
Analogue outputs (AO)	0...10 V DC, 1 mA, short-circuit protected	
Digital outputs (DO)	Mosfet outputs, 24 V AC or DC, 2 A continuous. Max. 8 A in total.	
Article	Description	Note
IO-A15MIXW-3-BEM	Ardo expansion unit with 15 I/O:s	
IO-A28MIXW-3-BEM	Ardo expansion unit with 28 I/O:s	



Expansion units Vido

The expansion units enable easy in-/outputs expansion of a system. They are fully compatible with all other products in the EXO range as well as other brands using standard protocols like BACnet or Modbus.

Technical Data		
Supply voltage	230 V AC	
Ambient temperature	0...50 °C	
Storage temperature	-20...+70 °C	
Ambient humidity	Max. 95 % RH, non-condensing	
Protection class	IP20 (IP40 when mounted in cabinet door)	
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time	
Mounting	DIN-rail, cabinet or on wall	
Communication ports		
TCP/IP	EXOline, Modbus, BACnet/IP	
RS485	EXOline, Modbus, BACnet MS/TP	
Inputs		
Analogue inputs (AI)	For PT1000 sensors. 12 bit resolution in the A/D conversion.	
Digital inputs (DI)	For potential-free contacts	
Universal inputs (UI)	Can be configured to function as either analogue input or digital input	
Outputs		
Universal analogue I/O (UA)	Configurable as output(0...10 V DC; 2...10 V DC; 10...0 V DC or 10...2 V DC, 8 bit D/A short-circuit protected) or input (0...10 V DC)	
Digital outputs (DO)	7x relay, 230 V AC, 1 A load per relay, max 7 A total	
Article	Description	Note
IO-V19MIXW-1-BEM	Vido expansion unit with 19 I/O:s	



ED-T7

External 7 inch touch display for Exigo 4.1, Exigo 4.2, EXOcompact, EXOclever and EXOdos

ED-T7 is a touch screen display and configuration unit intended for connection to a controller.

Technical data	
Power supply	24 V DC, range 9...28 V DC
Power consumption	< 6 W
Dimensions (WxHxD mm)	185.1 x 131.1 x 7.3 mm (front)
Touch panel	Glass front panel with capacitive multi-touch interface
Ambient temperature	-10...+60 °C
Ambient humidity	Max. 90 % RH (non condensing)
Protection class, front	IP65
Protection class, back	IP20

ED-T7

Article	Description	Note
ED-T7	External touch screen display	

ACCESSORIES

Article	Description	Note
X1111	Power supply unit	
EDSP-K3	3 m cable for connecting E3-DSP, ED9200 or ED-T7	
EDSP-K10	10 m cable for connecting E3-DSP, ED9200 or ED-T7	



E3-DSP

External display units for Corrigo and Exigo

Article	Cable length	Protection class	Compatible with	Note
E3-DSP	Max. 100 m	IP30	Corrigo E...-3, EXOcompact C...-3, Exigo, EXOdos, EXOclever	
ED9200IP65	Max. 10 m (EXOcompact C...-S), max. 100 m (Corrigo E...-3, EXOcompact C...-3, Exigo, EXOdos, EXOclever)	IP65	Corrigo, EXOcompact, Exigo, EXOdos, EXOclever	



ED9200

ACCESSORIES

Article	Description	Note
EDSP-K3	3 m cable for connecting E3-DSP, ED9200 or ED-T7	
EDSP-K10	10 m cable for connecting E3-DSP, ED9200 or ED-T7	



Graphic touch display for Corrigo

For operation of a Corrigo with two ports. Intended for supervision and control of an air handling system.

Technical data	
Protection class	IP30
Power supply	24 V DC via terminal 4 (+C) and G0 on the Corrigo
Power consumption	50 mA
Connection cable	Twisted pair, 0.25 mm ²
Display	TFT-LCD (resistive), backlit LED
Language	Swedish or English, set automatically depending on the language used in the Corrigo
Aspect ratio	4:3
Resolution	320 x 240
Dimensions (WxHxD)	120 x 90 x 27 mm
Mounting	Room or device box
Communication	EXOline

Article	Description	Note
ED-TCV	External graphic touch display	



Panel computer

Panel computers intended for mounting in, for example, a cabinet door. They can easily be connected to Regin's EXOscada system and to controllers with integrated web server.

Technical data	
CPU type	Intel®Atom™ E3845 (2M Cache, 1.91 GHz)
RAM	4 GB, DDR3L on-board
Supply voltage	Power supply unit for 12 V DC (2.5 A) included in the delivery
Protection class	IP65
Mounting	Cabinet mounting (screws included), VESA 75 / 100 (ordered separately)
Ports	4 x COM ports (RS232), 4 x USB ports, 2 x LAN ports (Intel GbE)
Operating system	Windows 10

Article	Monitor size	Resolution	Description	Note
DP102N	10.2"	1024 x 600	Display for panel mounting	
DP156N	15.6"	1366 x 768	Display for panel mounting	



E0-R

Display repeater for E3-DSP

Repeater for handling distances of up to 1200 m between Corrigo E...-3, EXOcompact C...-3, Exigo, EXOdos, EXOclevor and the external display unit E3-DSP.

Article	Power supply	Protection class	Mounting	Note
E0R-3	24 V AC	IP20	DIN-rail	
E0R230K-3	230 V AC	IP65	Wall	



ED-RU



ED-RU-O



ED-RU-F



ED-RU-FO



ED-RU-DO,
ED-RU-DOCS



ED-RU-DFO



ED-RU-DOS



ED-RU-H

External room units

The ED-RU units can be connected to several different products and could, for example, be used to control an air handling unit running a ventilation application.

They can be used to change fan speed, set temperature, extended running, etc. at a distance of up to 300 m. Their stylish design is suitable for all environments.

Technical data	
Supply voltage	18...30 V AC, 50/60 Hz
Power consumption	25 mA
Protection class	IP20
Ambient humidity	Max. 90 % RH
Storage temperature	-20...+70 °C
Mounting	Wall mounting
Dimensions (WxHxD)	95 x 95 x 28 mm
Communication	EXoline

Article	Occupancy button	3-step fan control	Setpoint knob	Multi-function button	Hidden setpoint	Built-in CO ₂ sensor	Display	Note
ED-RU	-	-	X	-	-	-	-	
ED-RU-O	X	-	X	-	-	-	-	
ED-RU-F	-	X	X	-	-	-	-	
ED-RU-FO	X	X	X	-	-	-	-	
ED-RU-DO	X	-	-	-	-	-	X	
ED-RU-DFO	X	X	-	-	-	-	X	
ED-RU-DOS	X	-	-	X	-	-	X	
ED-RU-DOCS	X	-	-	-	-	X	X	
ED-RU-H	-	-	-	-	X	-	-	



The ED-RU range can also be used together with EXOcompact, EXOdos, EXOflex, and Regio^{Ardo} and Regio^{Eedo}.

Software for configuration of Corrigo and Exigo



E tool, Exigo tool and Application tool are PC-based configuration software that provide an excellent overview of the settings of Corrigo and Exigo. Using E tool, Exigo tool or Application tool, all settings can be made on the computer and downloaded into the controller. An infinite number of configurations can be stored in the computer memory for later use.

E tool, Exigo tool and Application tool can be downloaded free of charge from our web site, www.regincontrols.com.

Connection cables and plug-in terminals



PLTCE



E-CABLE2-USB

Article	Description	Note
E-CABLE2-USB	Cable for USB connection	
PLT-E8	Set of plug-in terminals for models with 8 I/O:s	
PLT-E15	Set of plug-in terminals for models with 15 I/O:s	
PLT-E28	Set of plug-in terminals for models with 28 I/O:s	
PLTCE	Set of angled plug-in terminal blocks for EXOcompact, Optigo, Corrigo and Exigo Ardo	



M4G950

3G/4G router

3G/4G router between TCP/IP connected controllers and a wireless, mobile network.

Technical data	
Communication	TCP/IP
WiFi	IEEE 802,11 b/g/n WiFi standard
Software	Open VPN, IPsec, GRE, L2TP, PPTP, Dynamic DNS and DHCP server
Power supply	9 - 30 V DC. Wall adapter included.
Operating temperature	-40 to +75 °C



M3G230



MODEM3G-ANT

Article	Description	Mobile network	Connections	SIM card	Note
M3G230	3G router	3G/GSM/GPRS/EDGE	RJ45 (1 LAN, 1 WAN), WiFi	1	
M4G950	4G router	4G (LTE) /3G/GSM/GPRS/EDGE	RJ45 (3 LAN, 1 WAN), WiFi	2	



M4G-ANT

ACCESSORIES

Article	Description	Note
MXGDIN	DIN-rail mounting kit for M3G900 and M4G950	
MODEM3G-ANT	External antenna for M3G900	
M4G-ANT	External antenna for M4G950	



Cabinets for Corrigo/Exigo Ardo

Turn-key ready cabinets developed for Corrigo and Exigo Ardo. Can also be used for EXOcompact controllers. All inputs and outputs are pre-connected to the terminals. The CAB-STD... units are delivered with trafo, switches, relays and a wiring schematic for the cabinet.

Article	Description	Dimensions (HxW)	Protection class	Relays	Note
CAB-STD2	Cabinet intended for Corrigo/Exigo Ardo models with 15 I/O:s	483 x 403 mm	IP65	2	
CAB-STD3	Cabinet intended for Corrigo/Exigo Ardo models with 28 I/O:s	483 x 403 mm	IP65	3	



Corrigo/Exigo Ardo/EXOcompact must be ordered separately.



E-CASE-E283DW-24

Corrigo demo case

Complete case with everything you need to test Corrigo. Simply plug the controller into the wall socket using the included transformer in order to make simulations, trigger alarms, view indications, etc.

Technical data	
Supply voltage	24 V AC
Dimensions	28 x 38 x 9 cm (HxLxW)

Article	Description	Note
E-CASE-E283DW-3-24	Demo case, contains a Corrigo E283DW-3 unit. Transformer included.	



FMCE

Front mounting kit

Mounting kit for easier mounting of controllers in a control panel or cabinet door.

Technical data		
Protection class	IP40	
Article	Description	Note
FMCE	Front mounting kit, room for one EXOcompact/Corrigo/Exigo Ardo unit	
FMCO	Front mounting kit, room for one Optigo unit	



PLTCE

Plug-in terminal blocks for controllers

PLTCE is a set of angled plug-in terminal blocks for simple wiring of controllers when using the front mounting kits. The terminal blocks enable easy access to the clamping screws even after cabinet mounting.

Article	Description	Note
PLTCE	Set of angled plug-in terminal blocks for EXOcompact, Optigo, Corrigo and Exigo Ardo	



Battery

Article	Description	Note
BATTERY-4289	Battery for EP1011, EXOcompact, Corrigo	



RM6H-24 D

Relay module

Relay module with six relays, intended for use together with Regin's Corrigo, EXOcompact, Exigo, EXOdos controllers. The relay module can be used for control of objects with higher voltage loads or larger current drain than the controller outputs can handle. RM6H-24/D has manual switches for manual control of each object.

Technical data		
Supply voltage	24 V AC \pm 15 %, 5 VA	
Inputs	Six 24 V AC	
Output	Six potential-free change-over contacts, 230 V AC, 10 A	
Mounting	DIN-rail	
Number of modules	6 (105 x 112 x 58)	
Protection class	IP20	

Article	Description	Note
RM6-24/D	Relay module	
RM6H-24/D	Relay module with manual switches	

800 ppm

3

ROOM
CONTROLLERS



 x135



FLEXIBLE ROOM SOLUTIONS



NEWS!

Regio^{Edo}
230 VAC

Specialized for fan coil applications

Room units



NEWS!

Regio^{Ardo}
24 AC/DC

Efficient solution for two zones

Room controllers

NEWS!



RCC



NEWS!



RCFD



RCF



AL...



RC

MULTIPLE COLOR CHOICES



ASHRAE **BACnet**

Modbus

EXOline

READY STEADY GO



Presence



Temperature



Fan speed



Comfort



Economy



CO₂



Lighting

REGIO^{Ardo} AND REGIO^{Eedo} – THE ULTIMATE ROOM CONTROL SYSTEM



Regio^{Ardo}

Regio^{Ardo} is a pre-programmed 24 V zone controller. One controller is able to control two different zones.

It is quick and easy to commission. The I/O configuration and application setup for a VAV controlled room are predefined and the room units ED-RU are easily connected.

The controller is compatible with other Regin products and can easily be integrated into systems with EXOflex, Corrigo, EXOcompact, EXOdos and EXOscada.

The controller can be used in systems with communication, e.g. EXOline (over RS485 or TCP/IP), Modbus (RS485) or BACnet. It is installed in a ceiling void, on a junction box plate or on a DIN-rail.

EXOline

Modbus

BACnet



Application tool[®]

The room controllers are pre-programmed and can be configured to suit specific needs with the software Application tool[®], downloadable free of charge from www.regincontrols.com.

Technical data	
Supply voltage	24 V AC ±15%, 50...60 Hz
Power consumption	4 VA without load, no display
Battery backup	Memory and real-time clock, at least 5 years
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Ambient humidity	Max. 95 % RH (non-condensing)
Protection class	IP20
Mounting	Wall, on a junction box plate or DIN-rail in cabinet
Number of modules	8.5
Communication	RS485 (EXOline or Modbus with automatic detection/change-over) and TCP (EXOline-TCP, BACnet/IP)
Inputs	
Analogue inputs (AI)	PT1000, 0...10 V DC, 12-bit A/D
Digital inputs (DI)	Sourcing input type, GND is reference
Condensation input (CI)	To be used with Regin's TG-A/1
Outputs	
Analogue outputs (AO)	0...10 V DC, 5 mA, 12-bit D/A, short-circuit proof
Digital outputs (DO)	Mosfet 24 V AC/DC, 2 A. Totally max. 8 A.
Communication ports	
RS485	EXOline, Modbus, BACnet
TCP/IP	EXOline, Modbus, BACnet/IP

Article	AI	DI	AO	DO	CI	RS485 ports	Ethernet	Note
RC-A203W-4-TP	4	4	4	6	2	2	1	



Regio^{Eedo}

Regio^{Eedo} is a pre-programmed 230 V zone controller for e.g. fan coils.

It is prepared for quick connection of the ED-RU room units. The controller is compatible with other Regin products and can easily be integrated into systems with EXOflex, Corrigo, EXO-compact, EXOdos and EXOscada.

The controller can be used in systems with communication, e.g. EXOline (over RS485 or TCP/IP), Modbus (RS485) or BACnet. It is installed in a ceiling void, on a junction box plate or on a DIN-rail.

Application tool[®]

The room controllers are pre-programmed and can be configured to suit specific needs with the software Application tool[®], downloadable free of charge from www.regincontrols.com.

Technical data	
Supply voltage	230 V AC ±10 %, 50..60 Hz
Power consumption	11 V A
Ambient humidity	Max. 95 % RH (non-condensing)
Storage temperature	-20...+70 °C
Mounting	Wall, on a junction box plate or DIN-rail in cabinet
Protection class	IP20
Inputs	
Analogue inputs (AI)	PT1000 or 0...10 V DC
Condensation input (CI)	Input for Regin's condensation detector KG-A/1
Digital inputs (DI)	Potential-free contact
Outputs	
Analogue outputs (AO)	0...10 V DC
Digital outputs (DO)	Triac outputs: 230 V AC, 300 mA / Relay outputs: 230 V AC, 3 A

Article	AI	DI	DO, 230 V AC triac	DO, 230 V AC relay	AO	CI	RS485 ports	Ethernet	Note
RC-E163W-1-TP	3	3	2	3	4	1	2	1	



ED-RU



ED-RU-O



ED-RU-F



ED-RU-FO

ED-RU-DO,
ED-RU-DOCS

ED-RU-DFO



ED-RU-DOS



ED-RU-H



ED-RUD

External room units

The ED-RU units can be connected to several different products and could, for example, be used to control an air handling unit running a ventilation application.

They can be used to change fan speed, set temperature, extended running, etc. at a distance of up to 300 m. Their stylish design is suitable for all environments.

Technical data	
Supply voltage	18...30 V AC, 50/60 Hz
Power consumption	25 mA
Protection class	IP20
Ambient humidity	Max. 90 % RH
Storage temperature	-20...+70 °C
Mounting	Wall mounting
Dimensions (WxHxD)	95 x 95 x 28 mm
Communication	EXOline

Article	Occupancy button	3-step fan control	Setpoint knob	Multi-function button	Hidden setpoint	Built-in CO ₂ sensor	Display	Note
ED-RU	-	-	X	-	-	-	-	
ED-RU-O	X	-	X	-	-	-	-	
ED-RU-F	-	X	X	-	-	-	-	
ED-RU-FO	X	X	X	-	-	-	-	
ED-RU-DO	X	-	-	-	-	-	X	
ED-RU-DFO	X	X	-	-	-	-	X	
ED-RU-DOS	X	-	-	X	-	-	X	
ED-RU-DOCS	X	-	-	-	-	X	X	
ED-RU-H	-	-	-	-	X	-	-	
ED-RUD	-	-	-	-	-	-	X	



The ED-RU range can also be used together with EXOcompact, EXOdos, EXOflex and Corrigo.

Cable splitter

Cable splitter for connection of two ED-RU units to one Regio Ardo.



EDSP-SPLIT

Article	Note
EDSP-SPLIT	



RC-C3, RC-CT

Regio Midi – Pre-programmed room controllers with communication

Regio Midi are controllers with a built-in temperature sensor and an RS485 communication port. Some models are available with CO₂ sensors. Controllers in different rooms and zones can be connected to a bus line enabling communication with a central SCADA system via RS485 (EXOline, BACnet or Modbus).

RC-CD*, RC-C3D* and RCC are BTL listed. All Regio Midi with display are listed at www.bacnetinternational.net

RC-C3H,
RC-CTH,
RCC-C3HCS

Regio tool®

The room controllers are pre-programmed and can be configured to suit specific needs with the software Regio tool®, downloadable free of charge from www.regincontrols.com.

RC-C3O,
RC-CTO

Product overview, Regio Midi

RC-C is the basic model in the range. The other models have various functions, indicated by the letters in the product name:

C = Communication, D = Display, F = Fan control button, H = Hidden setpoint, O = Occupancy button, T = 3-point output, C (at the end) = CO₂ input, 3 = Three universal outputs, S = Single beam CO₂ sensor

RC-C3DOC,
RC-CDTO,
RCC-C3DOCS

RC-CF



RC-CDOC



RC-CFO

RC-CDFO,
RC-C3DFOC

RC-C3DOC-BLACK

Technical data	
Supply voltage	24 V AC (18...30 V AC)
Power consumption	< 3 VA
Ambient temperature	0...50 °C °C
Storage temperature	-20...+70 °C
Ambient humidity	Max. 90 % RH (non-condensing)
Communication	RS485 (EXOline or Modbus with automatic detection/change-over, or BACnet). Note: BACnet communication is only an option for models with display.
Modbus	8 bits, 1 or 2 stop bits. Odd, even (FS) or no parity.
Communication speed	9600, 19200, 38400 bps (EXOline, Modbus and BACnet) or 76800 bps (BACnet only)
Built-in temperature sensor	0...50°C NTC linearised 15 kΩ
Accuracy	±0.5°C at 15...30°C
Measuring range, temperature	0...50 °C
Built-in CO ₂ sensor	0...5000 ppm
Mounting	Room
Protection class	IP20
Inputs	
Analogue inputs (AI)	PT1000, 0...50°C, 0...10 V (CO ₂)
Condensation input (CI)	Digital input for condensation detector
Digital inputs (DI)	Closing potential-free contact
Universal inputs (UI)	Analogue input (AI), PT1000 sensor, 0...100°C or digital input (DI)
Outputs	
Digital outputs (DO)	24 V AC, max. 0.5 A
Universal outputs (UO)	Digital output (DO) 24 V AC, max. 2.0 A or analogue output (AO), 0...10 V DC, max. 5 mA
+C power output for DI only	24 V DC, max. 10 mA, short circuit-protected

INPUTS/OUTPUTS (I/O:S)

Article	AI	DI	UI	UO	DO	Total number of I/O:s	Note
RC-C3	1	2	1	3	-	7	
RC-C3H	1	2	1	3	-	7	
RC-C3O	1	2	1	3	-	7	
RC-C3DOC	2	2	-	3	-	7	
RC-C3DOC-BLACK	2	2	-	3	-	7	
RC-CF	1	2	1	2	4	10	
RC-CFO	1	2	1	2	4	10	
RC-CDFO	1	2	1	2	4	10	
RC-C3DFOC	2	2	-	3	-	7	
RC-CT	1	2	1	-	5	9	
RC-CTH	1	2	1	-	5	9	
RC-CTO	1	2	1	-	5	9	
RC-CDTO	1	2	1	-	5	9	
RCC-C3DOCS	2	2	-	3	-	7	
RCC-C3HCS	2	2	-	3	-	7	

MODEL OVERVIEW

Article	Occupancy button / Forced ventilation	3-step fan control	EC fan control	Set-point knob	Hidden setpoint	Output	Display	Built-in CO ₂ sensor	Connection for CO ₂ sensor	Note
RC-C3	-	-	X	X	-	0...10 V DC or on/off	-	-	-	
RC-C3H	-	-	X	-	X	0...10 V DC or on/off	-	-	-	
RC-C3O	X	-	X	X	-	0...10 V DC or on/off	-	-	-	
RC-C3DOC	X	-	X	-	-	0...10 V DC or on/off	X	-	X	
RC-C3DOC-BLACK	X	-	X	-	-	0...10 V DC or on/off	X	-	X	
RC-CF	-	X	-	X	-	0...10 V DC or on/off	-	-	-	
RC-CFO	X	X	-	X	-	0...10 V DC or on/off	-	-	-	
RC-CDFO	X	X	-	-	-	0...10 V DC or on/off	X	-	-	
RC-C3DFOC	X	-	X	-	-	0...10 V DC or on/off	X	-	X	
RC-CT	-	-	-	X	-	3-point	-	-	-	
RC-CTH	-	-	-	-	X	3-point	-	-	-	
RC-CTO	X	-	-	X	-	3-point	-	-	-	
RC-CDTO	X	-	-	-	-	3-point	X	-	-	
RCC-C3DOCS	X	-	X	-	-	0...10 V DC or on/off	X	X	X	
RCC-C3HCS	-	-	X	-	-	0...10 V DC or on/off	-	X	X	



RC-CT, RC-CTH and RC-CTO are available on request.





RC-H



RC, RC-T



RC-O, RC-TO



RC-DO,
RC-DTO



RC-F



RC-FO



RC-DFO

Regio Mini – Pre-programmed room controllers

Stand-alone controllers for control of heating and cooling in a single zone or room

The Regio Mini controllers are pre-programmed and can be configured for a specific application via the display or dipswitches (in most cases, though, the default settings can be applied). The controllers have a built-in temperature sensor. Alternatively, an external temperature sensor can be connected.

RC is the basic model in the range. The other models have various functions, indicated by the letters in the product name:

D = Display, F = Fan control (3-speed), H = Hidden setpoint, O = Occupancy button, T = 3-point output

Technical data	
Supply voltage	18...30 V AC, 50...60 Hz
Power consumption	2.5 VA
Ambient temperature	0...50 °C
Storage temperature	-20...+70 °C
Built-in temperature sensor	0...50°C NTC linearised 15 kΩ
Accuracy	±0.5°C at 15...30°C
Mounting	Room
Protection class	IP20
Inputs	
Analogue inputs (AI)	PT1000, 0...50°C
Condensation input (CI)	Input for Regin's condensation detector KG-A/1
Digital inputs (DI)	Closing potential-free contact
Universal inputs (UI)	Analogue input (AI), PT1000 sensor, 0...100°C or digital input (DI)
Outputs	
Digital outputs (DO)	24 V AC, max. 0.5 A.
Universal outputs (UO)	Digital output (DO) 24 V AC, max. 2.0 A or analogue output (AO), 0...10 V DC, max. 5 mA
+C power output for DI only	24 V DC, max. 10 mA, short circuit-protected

INPUTS/OUTPUTS (I/O:S)

Article	AI	DI	UI	DO	UO	Total number of I/O:s	Note
RC	1	2	1	1	2	7	
RC-O	1	2	1	1	2	7	
RC-H	1	2	1	1	2	7	
RC-DO	1	2	1	1	2	7	
RC-F	1	2	1	4	2	10	
RC-FO	1	2	1	4	2	10	
RC-DFO	1	2	1	4	2	10	
RC-T	1	2	1	5	-	9	
RC-TO	1	2	1	5	-	9	
RC-DTO	1	2	1	5	-	9	



RC-TO is available on request

MODEL OVERVIEW

Article	Occupancy button / Forced ventilation	3-step fan control	Setpoint knob	Hidden setpoint	Output	Display	Note
RC	-	-	X	-	0...10 V DC or on/off	-	
RC-O	X	-	X	-	0...10 V DC or on/off	-	
RC-H	-	-	-	X	0...10 V DC or on/off	-	
RC-DO	X	-	-	-	0...10 V DC or on/off	X	
RC-F	-	X	X	-	0...10 V DC or on/off	-	
RC-FO	X	X	X	-	0...10 V DC or on/off	-	
RC-DFO	X	X	-	-	0...10 V DC or on/off	X	
RC-T	-	-	X	-	3-point	-	
RC-TO	X	-	X	-	3-point	-	
RC-DTO	X	-	-	-	3-point	X	

REGIO ACCESSORIES



Relay unit for Regio RC-...F... controllers in fan-coil applications

Technical data	
Outputs	Three closing relays, 230 V AC, 4 A
Inputs	Three inputs, 24 V AC, from an RC-...F... unit
Mounting	DIN-rail
Protection class	IP00

Article	Description	Note
RB3	Relay unit for RC-...F... controllers	



Power interface for Regio RC-...F... controllers in fan-coil applications

Article	Description	Note
X1178	Power interface for RC-...F... controllers	



Service adapter

Article	Description	Note
RC-TEST	Service adapter for Regio Midi units	



Condensation detector

Article	Description	Note
KG-A/1	Condensation detector for Regio controllers, 1 m cable length	



RC-CONN:10

Connector plates

Article	Description	Note
RC-CONN:10	A set of 10 connector plates for RC units	
RCC-CONN:10	A set of 10 connector plates for RCC units	



RCC-CONN:10

CONTROLLERS AND THERMOSTATS FOR FAN-COIL APPLICATIONS



Room thermostat with touch display and communication for fan-coil applications, 230 V AC on/off outputs

Slim electronic fan-coil thermostat for room temperature control. Automatic or manual change-over between heating and cooling. The thermostat has a function for 3-speed fan control (for fan-coil), a built-in temperature sensor, backlit touch display, and an input for a hotel key card or an occupancy detector.



Technical data	
Supply voltage	230 V ~ (207...253 V ~ 50/60 Hz)
Power consumption	< 3 VA
Protection class	IP30
Ambient humidity	10...90 % RH (non-condensing)
Ambient temperature	0...50 °C
Measuring range, temperature	0...50 °C
Sensor element, temperature	NTC
Accuracy, temperature	±0.5 K
Output signal, temperature	NTC
Display	Built-in
Display type	LED-backlit LCD
Setpoint adjustment	5...35 °C
Mounting	Room (flush-mounted with screw distance cc 60 mm)
Installation	Fan-coils, 2- or 4-pipe
Dimensions, external (WxHxD)	95 x 95 x 50.5 mm

MODELS

Article	DI	DO	AI	Note
RCFD-230C	1	5	1	

Article	Note
E-CABLE2-USB	
CONVERTERTCP	



RCF...

Fan-coil thermostat with on/off outputs

Electronic fan-coil thermostats for room temperature control. Automatic or manual change-over between heating and cooling. The thermostats have a function for 3-speed fan control (for fan-coil), a built-in temperature sensor, backlit display, and an input for a window contact or an occupancy detector.

RCF-230CD*, RFC-230CAD*, RCF-230CTD* and RCF-230CTD-EC* are BTL listed. PICS documents and more information are available at www.bacnetinternational.net



RCFM...

Technical data	
Supply voltage	230 V AC ±10 %, 50/60 Hz
Power consumption	< 3 VA
Setpoint	5...35 °C
Hysteresis	±0.5 K (adjustable)
Digital outputs (DO)	Three relay outputs for fan control, 230 V AC, 3 A / Two triac outputs for valve actuators, 230 V AC, 300 mA
Analogue inputs (AI)	One PT1000
Digital inputs (DI)	One closing potential-free contact
Universal inputs (UI)	One PT1000 or closing potential-free contact
Mounting	Room
Protection class	IP20



Article	Description	Installations	Change-over function	Note
RCF-230D	Fan-coil thermostat	2- or 4-pipe	Automatic	
RCF-230CD	Fan-coil thermostat with communication via RS485 (Modbus, BACnet or EXOline)	2- or 4-pipe	Automatic	
RCFM-230D	Fan-coil thermostat	2-pipe	Manual	



RCF...

Fan-coil controller for thermal or 3-point actuators

Electronic fan-coil controllers for room temperature control with PI controller. Automatic or manual change-over between heating and cooling. The controllers have a function for 3-speed fan control (for fan-coil), a built-in temperature sensor, backlit display, and an input for a window contact or an occupancy detector. RCF-230TD and RCF-230CTD also have a function for control of an electric heater.

RCF-230CD*, RFC-230CAD* and RCF-230CTD* are BTL listed. PICS documents and more information are available at www.bacnetinternational.net



RCFM...



Technical data	
Supply voltage	230 V AC $\pm 10\%$, 50/60 Hz
Power consumption	< 3 VA
Setpoint	5...35 °C
P-band	10°C
Hysteresis	± 0.5 K
I-time	300 s
Digital outputs (DO)	Three relay outputs for fan control, 230 V AC, 3 A / Two triac outputs for valve actuators, 230 V AC, 300 mA
Analogue inputs (AI)	One PT1000
Digital inputs (DI)	One closing potential-free contact
Universal inputs (UI)	One PT1000 or closing potential-free contact
Mounting	Room
Protection class	IP20

Article	Description	Installations	Change-over function	Note
RCF-230TD	Fan-coil controller	2- or 4-pipe	Automatic	
RCF-230CTD	Fan-coil controller with communication via RS485 (Modbus, BACnet or EXOline)	2- or 4-pipe	Automatic	



EC fan controller for thermal or 3-point actuators

Electronic fan-coil controller for control of EC fans. With PI controller. Automatic or manual change-over between heating and cooling. The controller has a function for EC fan control, a built-in temperature sensor, backlit display, and an input for a window contact or an occupancy detector. It also has a function for control of an electric heater.

RCF-230CD*, RFC-230CAD*, RCF-230CTD* and RCF230CTD-EC* are BTL listed. PICS documents and more information are available at www.bacnetinternational.net



Technical data	
Supply voltage	230 V AC ±10 %, 50/60 Hz
Power consumption	< 3 VA
Setpoint	5...35 °C
Hysteresis	±0.5 K
P-band	10°C
I-time	300 s
Analogue outputs (AO)	One for EC fan control, 0...10 V DC, max. 1 mA
Digital outputs (DO)	Two triac outputs for valve actuators, 230 V AC, 300 mA
Analogue inputs (AI)	One PT1000
Digital inputs (DI)	One closing potential-free contact
Universal inputs (UI)	One PT1000 or closing potential-free contact
Mounting	Room
Protection class	IP20

Article	Description	Installations	Change-over function	Note
RCF-230CTD-EC	Fan-coil controller for EC fans with communication via RS485 (Modbus, BACnet or EXOline)	2- or 4-pipe	Automatic	



Fan-coil controller with 0...10V control signal

Electronic fan-coil thermostats for room temperature control. With PI controller. The controllers have automatic change-over between heating and cooling and can be used for 2- or 4-pipe systems. They have a function for control of a 3-speed fan (for fan-coil), a built-in temperature sensor, backlit display, and an input for a window contact or an occupancy detector.

RCF-230CD*, RFC-230CAD*, RCF-230CTD* and RCF230CTD-EC* are BTL listed. PICS documents and more information are available at www.bacnetinternational.net



Technical data	
Supply voltage	230 V AC $\pm 10\%$, 50/60 Hz
Power consumption	< 3 VA
Outputs	Relays for fan control, 230 V AC, 3 A fan-coil. Actuator, 0...10 V DC, max. 1 mA.
Setpoint	5...35 °C
Hysteresis	± 0.5 K
P-band	10°C
I-time	300 s
Analogue outputs (AO)	Two for valve actuators, 0...10 V DC, max. 1 mA
Digital outputs (DO)	Three relay outputs for fan control, 230 V AC, 3 A
Analogue inputs (AI)	One PT1000
Digital inputs (DI)	One closing potential-free contact
Universal inputs (UI)	One PT1000 or closing potential-free contact
Mounting	Room
Protection class	IP20

Article	Description	Change-over function	Installations	Note
RCF-230AD	Fan-coil controller	Automatic	2- or 4-pipe	
RCF-230CAD	Fan-coil controller with communication via RS485 (Modbus, BACnet or EXOline)	Automatic	2- or 4-pipe	

RCF model overview

Article	Communication	Installations	Change-over function	EC fan control	Värme- & kylstyrning	AI	DI	UI	AO	DO	Note
RCF-230D	-	2- or 4-pipe	Automatic	-	On/Off	1	1	1	-	5	
RCF-230CD	RS485: Modbus, EXOline (using automatic detection/switching) or BACnet	2- or 4-pipe	Automatic	-	On/Off	1	1	1	-	5	
RCFM-230D	-	2-pipe	Manual	-	On/Off	1	1	1	-	5	
RCF-230TD	-	2- or 4-pipe	Automatic	-	3 position or thermal actuator	1	1	1	-	5	
RCF-230CTD	Modbus, BACnet & EXOline	2- or 4-pipe	Automatic	-	3 position or thermal actuator	1	1	1	-	5	
RCFM-230TD	-	2-pipe	Manual	-	3 position or thermal actuator						
RCF-230CTD-EC	Modbus, BACnet & EXOline	2- or 4-pipe	Automatic	X	On/Off or thermal actuator	1	1	1	1	2	
RCF-230AD	-	2- or 4-pipe	Automatic	-	0...10 V	1	1	1	2	3	
RCF-230CAD	Modbus, BACnet & EXOline	2- or 4-pipe	Automatic	-	0...10 V	1	1	1	1	3	

ROOM CONTROLLERS FOR OTHER APPLICATIONS



Room temperature controller for 0...10V DC or 3-point actuators

This room controller is primarily intended for control of heating or cooling in zone control systems. It has an input for a presence detector (occupancy control). The controller also has an input for change-over, which makes it possible for the control function to switch between heating and cooling.

Technical data	
Supply voltage	24 V AC, $\pm 15\%$ 50...60 Hz, 2 VA
Output	0...10 V DC, 1 mA or 3-point, 24 V AC, 1 A
Inputs	Two digital and one NTC sensor
Setpoint	0...40 °C
P-band	0.5...50 K
Protection class	IP20

Article	Description	Note
AL24A1T	Room temperature controller	

EC FAN/VAV CONTROLLERS



Room controller; temperature

Temperature controller for control of e.g. an EC fan or a damper in air handling or demand-controlled ventilation applications.

Technical data	
Supply voltage	85...230 V AC, 50/60 Hz
Working range, temperature	5...30 °C
Outputs	1 analogue output 0...10 V (RL > 10 K)
Mounting	Room
Protection class	IP30

Article	Description	Note
AL230A	Temperature controller	



Room controller; temperature and CO₂

Temperature and CO₂ controller for control of e.g. an EC fan or a damper in air handling or demand-controlled ventilation applications.

Technical data	
Supply voltage	85...230 V AC, 50/60 Hz
Temperature range	5...30 °C
Working range, CO ₂	0...2000 ppm
Outputs	1 analogue output 0...10 V (RL > 10 K)
Mounting	Room
Protection class	IP30

Article	Description	Note
ALC230A	Temperature and CO ₂ controller	



Room controller; humidity

Humidity controller for control of e.g. an EC fan or a damper in air handling or demand-controlled ventilation applications.

Technical data	
Supply voltage	85...230 V AC, 50/60 Hz
Working range, humidity	0...100 % RH
Outputs	1 analogue output 0...10 V (RL > 10 K)
Mounting	Room
Protection class	IP30

Article	Description	Note
ALH230A	Humidity controller	

3



Universal room controller

Universal controller for control of e.g. an EC fan or a damper in air handling or demand-controlled ventilation applications.

Technical data	
Supply voltage	85...230 V AC, 50/60 Hz
Working range	0...100 %
Outputs	1 analogue output 0...10 V (RL > 10 K)
Inputs	1 analogue input 0...10 V
Mounting	Room
Protection class	IP30

Article	Description	Note
ALU230A	Universal controller	



+22°C

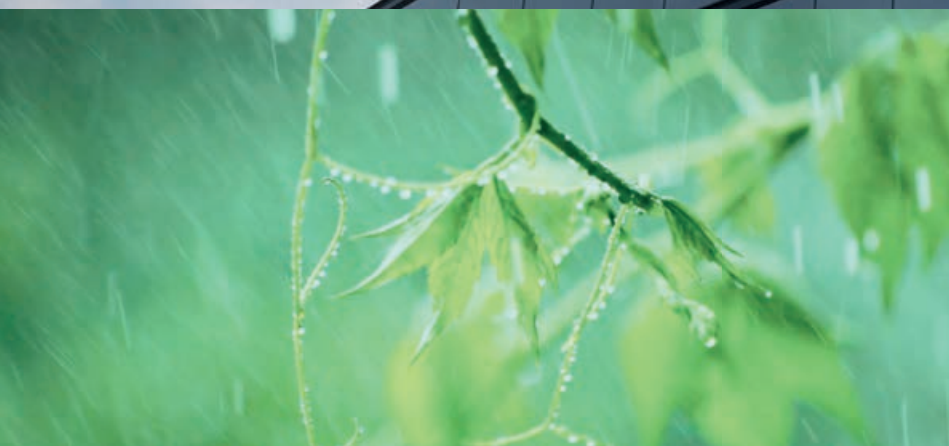
+21°C

+20°C

+19°C

4

THERMOSTATS



ELECTROMECHANICAL THERMOSTATS



Room thermostat

1-stage room thermostat. Models with on/off switch or summer/winter switch.

Technical data	
Contact	NO/NC 250 V AC 16 (2,5) A
Temperature range	5...30 °C
Ambient temperature	Max. 50 °C
Ambient humidity	10...90 % RH (non-condensing)
Storage temperature	0...50 °C
Mounting	Room
Casing	ABS, fireproof according UL94 V-0 color (Euro White)
Dimensions	80 x 80 x 44 mm
Weight	128 g
Protection class	IP20

Article	On/off button	Summer/winter switch	Hysteresis	Note
R31	-	-	1K	
R33	X	-	1K	
R34	-	X	1K	

ACCESSORIES

Article	Description	Note
SB4095/B	Back side for wall box mounting	



Electromechanical room thermostat for fan-coils

The thermostat has a switch for heating/cooling, as well as a switch for fan speed control.

Technical data	
Output	10 (3) A, 250 V AC
Setpoint	10...30 °C
Hysteresis	0.6 K
Mounting	Room
Protection class	IP20

Article	Function	Note
RRT025A	Heating or cooling switch	

Frost protection thermostat

High quality frost protection thermostats for use in cooling, heating and ventilation systems.



Technical data	
Contacts	SPDT microswitch
Switch capacity	15 (8) A, 24...250 V AC
Accuracy	± 1K
Ambient temperature	Max. 55 °C
Ambient humidity	10...90 % RH (non-condensing)
Casing	Base in ABS, cover in transparent Polycarbonate (PC)
Dimensions	140 x 62 x 65 mm (cable gland included)
Weight	340 g
Protection class	IP65

Article	Temperature range	Hysteresis	Reset	Max. bulb temperature	Capillary length	Note
FT18	-10...+10 °C or +14...+50 °F	2 K	Automatic	+150 °C	1.8 m	
FT30	-10...+10 °C or +14...+50 °F	2 K	Automatic	+150 °C	3 m	
FT60	-10...+10 °C or +14...+50 °F	2 K	Automatic	+150 °C	6 m	
FT18R	-10...+10 °C or +14...+50 °F	Manual minimal reset	Manual	+150 °C	1.8 m	
FT30R	-10...+10 °C or +14...+50 °F	Manual minimal reset	Manual	+150 °C	3 m	
FT60R	-10...+10 °C or +14...+50 °F	Manual minimal reset	Manual	+150 °C	6 m	

ACCESSORIES

Article	Description	Note
DR-01	Brass pocket 120 mm. Suitable for MTIC30S, MTIC30SH, MTIC30-2, MTIC30, MTIC30R, MTIC90S, MTIC90SH, MTIC90, MTIC90R and FT...	
DR-02	Stainless steel EN 1.4301 pocket, 120 mm. Suitable for MTIC30S, MTIC30SH, MTIC30-2, MTIC30, MTIC30R, MTIC90S, MTIC90SH, MTIC90, MTIC90R and FT...	
DR-05	Set of mounting brackets for capillary fixing (supplied with product)	



Immersion thermostat, IP65

High-quality immersion thermostats for use in cooling, heating and ventilation systems.

Technical data	
Sensor element	Liquid-filled coiled copper bulb
Contacts	Dust-tight microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+65 °C
Ambient humidity	10...90 % RH (non-condensing)
Casing	Bayblend® base, ABS cover
Weight	440 g
Protection class	IP65

Article	Temperature range	Max. bulb temperature	Note
MTIB60	0...60 °C	75 °C	
MTIB120	50...120 °C	140 °C	
MTIB90	20...90 °C	100 °C	

ACCESSORIES

Article	Description	Note
DR-16/14	Brass immersion well, 120 mm. Suitable for MTIB60, MTIB90 and MTIB120.	
DR-17/14	Stainless steel EN 1.4301 immersion well, 120 mm. Suitable for MTIB60, MTIB90 and MTIB120.	



Boiler thermostat with manual reset

High-quality electromechanical thermostats for use in cooling, heating, ventilation and boiler systems.

Technical data	
Sensor element	Liquid-filled coiled copper bulb
Contacts	Dust-tight microswitches with SPDT contacts (heat/cool)
Switch capacity	16 (6) A, 24...250 V AC
Ambient temperature	-35...+65 °C
Ambient humidity	10...90 % RH (non-condensing)
Casing	Bayblend® base, ABS cover
Weight	560
Dimensions	108 x 70 x 72 mm
Protection class	IP54

Article	Temperature range	Hysteresis	Note	Note
MTIBL90H	0...90 °C	4±1 K	Previous name MTIB90HL	

ACCESSORIES

Article	Description	Note
DR-30/14	Brass pocket ,120 mm. Suitable for MTIBL90H.	
DR-31/14	Stainless steel EN 1.4301 pocket, 120 mm. Suitable for MTIBL90H.	
DR-40/14	Brass pocket 100 mm. Suitable for MTIBL90H.	
DR-41/14	Stainless steel EN 1.4301 pocket, 120 mm. Suitable for MTIBL90H.	

Capillary thermostat, IP65

High quality thermostats for use in cooling, heating and ventilation systems.



Technical data	
Sensor element	Liquid-filled coiled copper bulb
Bulb	Ø 9.5 (Ø 8 for range 50...120°C)
Length, capillary tube	1.5 m
Contacts	Dust-tight microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+65 °C
Ambient humidity	10...90 % RH (non-condensing)
Casing	Bayblend® base, ABS cover
Weight	400 g
Protection class	IP65

Article	Temperature range	Steps	Hysteresis	Step diff.	Max. bulb temperature	Hidden setpoint	Note
MTIC30S	-30...+30 °C	1	2...20 K	-	60 °C	-	
MTIC30SH	-30...+30 °C	1	2...20 K	-	60 °C	X	
MTIC30-2	-30...+30 °C	2	1 K	2...5 K	60 °C	-	
MTIC30	-30...+30 °C	1	1 K	-	60 °C	-	
MTIC30R	-30...+30 °C	1	Manual minimal reset	-	60 °C	-	
MTIC90S	20...90 °C	1	2...20 K	-	100 °C	-	
MTIC90SH	20...90 °C	1	2...20 K	-	100 °C	X	
MTIC90	20...90 °C	1	1 K	-	100 °C	-	
MTIC90R	20...90 °C	1	Manual maximum reset	-	100 °C	-	
MTIC120S	50...120 °C	1	2...20 K	-	150 °C	-	

ACCESSORIES

Article	Description	Note
DR-01	Brass pocket 120 mm. Suitable for MTIC30S, MTIC30SH, MTIC30-2, MTIC30, MTIC30R, MTIC90S, MTIC90SH, MTIC90, MTIC90R and FT...	
DR-02	Stainless steel EN 1.4301 pocket, 120 mm. Suitable for MTIC30S, MTIC30SH, MTIC30-2, MTIC30, MTIC30R, MTIC90S, MTIC90SH, MTIC90, MTIC90R and FT...	
DR-16	Brass pocket, 120 mm. Suitable for MTIC120S.	
DR-17	Stainless steel EN 1.4301 pocket 120 mm, 10 x 0.5. Suitable for MTIC120S.	



Duct thermostat, IP65

High quality thermostats for use in cooling, heating and ventilation systems.

Technical data	
Sensor element	Liquid-filled coiled copper bulb with 200 mm protection spring and mounting bracket
Contacts	Dust-tight microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+65 °C
Ambient humidity	10...90 % RH (non-condensing)
Insertion length	200 / Ø 21 mm
Casing	Bayblend® base, ABS cover
Weight	690
Protection class	IP65

Article	Temperature range	Steps	Hysteresis	Step diff.	Max. bulb temperature	Hidden setpoint	Note
MTID30H	-30...+30 °C	1	1 K	-	60 °C	X	
MTID60S	0...60 °C	1	2...20 K	-	75 °C	-	
MTID60-2	0...60 °C	2	1 K	2...5 K	75 °C	-	
MTID60	0...60 °C	1	1 K	-	75 °C	-	
MTID120HR	50...120 °C	1	Manual maximum reset	-	140 °C	X	

ACCESSORIES

Article	Description	Note
DR-25	Protection spring and mounting bracket. Suitable for MTID.	



Wall thermostat, IP65

High quality thermostats for use in cooling, heating and ventilation systems.

Technical data	
Sensor element	Liquid-filled coiled copper bulb
Contacts	Dust-tight microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+60 °C
Ambient humidity	10...90 % RH (non-condensing)
Max. bulb temperature	65 °C
Casing	Bayblend® base, ABS cover
Weight	450 g
Dimensions	108 x 70 x 72 mm
Protection class	IP65

Article	Temperature range	Steps	Hysteresis	Step diff.	Hidden setpoint	Note
MTIR30S	-30...+30 °C	1	2...15 K	-	-	
MTIR30SH	-30...+30 °C	1	2...15 K	-	X	
MTIR30	-30...+30 °C	1	1 K	-	-	
MTIR30-2	-30...+30 °C	2	1 K	2...5 K	-	
MTIR60S	0...60 °C	1	2...15 K	-	-	
MTIR60	0...60 °C	1	1 K	-	-	
MTIR60SH	0...60 °C	1	2...15 K	-	X	
MTIR60-2	0...60 °C	2	1 K	2...5 K	-	



Clamp-on thermostat, IP65

Thermostats for use in cooling, heating and ventilation systems.

Technical data	
Sensor element	Liquid-filled coiled copper bulb for contact
Contacts	Dust-tight microswitches with SPDT contacts (heat/cool)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-35...+65 °C
Ambient humidity	10...90 % RH (non-condensing)
Hysteresis	2...20 K
Casing	Bayblend® base, ABS cover
Weight	410 g
Protection class	IP65 class I

Article	Temperature range	Max. bulb temperature	Hidden setpoint	Note
MTIS60S	0...60 °C	75 °C	-	
MTIS60SH	0...60 °C	75 °C	X	
MTIS90S	20...90 °C	95 °C	-	
MTIS90SH	20...90 °C	95 °C	X	

ELECTRONIC THERMOSTATS



Electronic room thermostat, 1-stage

Electronic thermostats intended for heating or cooling with built-in sensor and input for an external sensor.

Technical data	
Supply voltage	230 V AC $\pm 15\%$, 1 VA
Outputs	16 A, 230 V AC, change-over relay
Sensor inputs	NTC sensor
Mounting	Wall
Protection class	IP30

Article	Temperature range	Hysteresis	Note
TM1-P	0...30 °C	1 K	
TM1-50	20...50 °C	1...10 K	

THERMOSTATS FOR DIN-RAIL MOUNTING



Thermostat, 1-stage, DIN-rail mounting

Electronic thermostat for heating or cooling. Adjustable night setback via an external clock. Multiple thermostats can be connected to the same sensor.

Technical data	
Outputs	One, 16 A, 250 V AC, closing relay
Setpoint	0...30 °C
Hysteresis	0...10 K
Night setback	0...10
Sensor inputs	One Regin NTC sensor
Mounting	DIN-rail
Number of modules	3
Protection class	IP20
Dimensions (WxHxD)	53 x 85 x 74 mm

Article	Supply voltage	Note
TM1N/D	230 V AC $\pm 10\%$, 3 VA	
TM1N-24/D	24 V AC $\pm 10\%$, 3 VA	

4



Thermostat, 2-stage, DIN-rail mounting

Thermostat with two relay outputs and individually settable steps for heating or cooling function. Sequential or binary function.

Technical data	
Supply voltage	24 V AC, 2 VA
Outputs	Two, 10 A, 250 V AC, closing relays
Setpoint	0...30 °C
Hysteresis	0.5...5 K
Step differential	0...5 K
Sensor inputs	One Regin NTC sensor
Mounting	DIN-rail
Number of modules	3
Protection class	IP20
Dimensions (WxHxD)	53 x 85 x 74 mm

Article	Description	Note
TM2-24/D	Electronic 2-stage thermostat	

Scale for other temperature ranges

Alternative setpoint scale for the TM1 and TM2 thermostats, when using sensors with other temperature ranges.

Article	Description	Temperature range	Note
SKALA-1228	Scale for TM1N/D, TM1N-24/D and TM2-24/D	20...50 °C	



5

ELECTRIC HEATING CONTROLLERS



PULSER, 1- OR 2-PHASE



Controller with PI-control, 230...400 V AC, wall mounting

Wall mounted electric heating controller intended for control of radiators or electric heating coils. It is a complete controller with built-in sensor and setpoint adjustment. It pulses the whole load on/off and utilises time-proportional triac control. Both automatic control function adaptation, P- or PI-control and supply voltage adaptation, 230 V / 400 V.



Technical data	
Supply voltage	230...400 (210 - 415 V ~ 50/60 Hz 16 A)
Pulse period	60 s
Mounting	Wall
Power dissipation	20 W of heat at full load
Protection class	IP20
P-band	20 K (rapid temperature changes), 1.5 K (slow temperature changes)
I-time	6 min (rapid temperature changes)
Ambient temperature	0...30 °C
Ambient humidity	Max. 90 % RH, non-condensing
Storage temperature	-40...+50 °C
Dimensions	95 x 153 x 41 mm
Cable connection	Cage clamp
Inputs/outputs (I/Os)	
Output load	Resistive load, max 16 A, min 1 A
Sensor inputs	External main sensor and external sensor for temperature limitation
Sensor element	NTC Regin standard
Setpoint range	0...30 °C (the external sensor determines the temperature range)
Setpoint alternatives	Either internal setpoint potentiometer or external setting device
Night setback	0...10 K
Indication	Red LED that is lit when power is pulsed to the heater

Article	Description	Mounting	Note
PULSER-M	Electric heating controller with min./max. limitation	Wall	
PULSER-ADD	Add-on unit		



Electric heating controller for external input signal 0-10 V, 230 V AC or 400 V AC, wall mounting

Electric heating controller for controlling electric heating batteries, electric panels etc. It operates on an input signal from an external controller.

Technical data	
Supply voltage	...230X...: 230 V ~ (207...253 V ~ 50/60 Hz 16 A) ...400X...: 400 V ~ (360...440 V ~ 50/60 Hz 16 A)
Ambient temperature	0...30 °C , non-condensing
Pulse period	6/60/120 s , adjustable
Dimensions, external (WxHxD)	93 x 153 x 40 mm
Mounting	Wall
Protection class	IP20
Input signal	0...10 V
Output load	Resistive load, max 16 A, min 1 A

Article	Description	Supply voltage	Note
PULSER230X010	Electric heating controller for external 0...10 V DC control signal	230 V AC	
PULSER400X010	Electric heating controller for external 0...10 V DC control signal	400 V AC	



Electric heating controller with PI-control, 230...400 V AC, DIN-rail mounting

Electric heating controllers intended for control of radiators or electric heating coils. They can be mounted on a DIN-rail in a cabinet. The electric heating controllers pulse the whole load on/off and utilise time-proportional triac control. Automatic control function adaptation, P- or PI-control.

Technical data		
Supply voltage	230...400 V (210 - 415 V ~ 50/60 Hz 16 A)	
Pulse period	60 s	
Mounting	DIN-rail	
Power dissipation	20 W of heat at full load	
Protection class	IP20	
P-band	20 K (rapid temperature changes), 2 K (slow temperature changes)	
I-time	6 min (rapid temperature changes)	
Ambient temperature	0...40 °C	
Ambient humidity	Max. 90 % RH, non-condensing	
Storage temperature	-40...+50 °C	
Dimensions (WxHxD)	115 x 88 x 59 mm	
Number of modules	6.6	
Inputs/outputs (I/O)		
Output load	Resistive load, max 16 A, min 1 A	
Sensor inputs	One input for main sensor	
Sensor element	NTC Regin standard	
Setpoint range	0...30 °C (the external sensor determines the temperature range)	
Setpoint alternatives	Either internal setpoint potentiometer or external setting device.	
Night setback	5 K	
Indication	Red LED that is lit when power is pulsed to the heater.	
Article	Description	Note
PULSER/D	Electric heating controller	



Electric heating controller for external signal 0-10 V, 230/400 V AC, DIN-rail mounting

Electric heating controllers intended for control of radiators or electric heating coils. They can be mounted on a DIN-rail in a cabinet. The electric heating controllers utilise time-proportional triac control and operate on an external 0...10 V input signal.

Technical data		
Supply voltage	230 V ~ (207...253 V ~ 50/60 Hz 16 A) or 400 V ~ (360...440 V ~ 50/60 Hz), automatic adaption to supplied voltage	
Pulse period	6/60/120 s, adjustable	
Mounting	DIN-rail	
Power dissipation	20 W of heat at full load	
Protection class	IP20	
Ambient temperature	0...40 °C °C	
Ambient humidity	Max. 90 % RH, non-condensing	
Storage temperature	-40...+50 °C	
Dimensions (WxHxD)	115 x 88 x 59 mm	
Number of modules	6.6	
Inputs/outputs (I/O)		
Input signal	0...10 V DC	
Output load	Resistive load, max 16 A, min 1 A	
Article	Description	Note
PULSER-X/D	Electric heating controller for external 0...10 V DC control signal	

TTC, 3-PHASE



Electric heating controller for wall mounting, 3-phase, 210...415 V

The controller can be used with internal or external setpoint. Automatic control function adaptation, P- or PI-control. The controller can also be set to be controlled by an external 0...10 V DC signal.

Technical data	
Supply voltage	3-phase, 210...255 / 380...415 V AC, automatic adaptation
Setpoint	0...30 °C (the sensor determines the range)
Max. load	Max. 25 A, min. 3 A/phase
Sensor inputs	Two, main and min./max. limiting sensors (NTC sensor)
Control signal	0...10 V DC (external signal)
Mounting	Wall
Protection class	IP30
P-band	Supply air temperature control: 20 K, fixed Room temperature control: 1.5 K, fixed
I-time (supply air temperature control)	6 min, fixed
Pulse period	6...120 s

Article	Description	Note
TTC2000	Electric heating controller	



To control extra loads, the slave board TT-SI can easily be mounted into the unit.



Electric heating controller for DIN-rail mounting, 3-phase, 210...415 V, 40A

For control of electric heating coils or radiators. The controllers pulse the whole load on/off and utilise time-proportional triac control. Automatic control function adaptation, P- or PI-control. The controllers can also be set to be controlled by an external 0...10 V DC signal.

Technical data	
Ambient temperature	0...40 °C
Protection class	IP20
P-band	Supply air temperature control: 20 K, fixed Room temperature control: 1.5 K, fixed
I-time	6 min, fixed
Output	25 A, 3 x 400 V AC, 17 kW (3 x 230 V, 10 kW)
Inputs	
Setpoint	0...30 °C (the sensor determines the range)
Sensor inputs	Two, main and max./min. limiting sensors (NTC sensor).
Control signal	0...10 V DC

Article	Load	Supply voltage	Pulse period	Dimensions (HxWxD)	Note
TTC25	25 A	3-phase, 210...255 / 380...415 V AC, automatic adaptation	6...60 s	200 x 195 x 95	
TTC40F	40 A	3-phase, 210...255 / 380...415 V AC, automatic adaptation	6...60 s	220 x 195 x 95	
TTC80F	80 A	3-phase, 400 V AC ±10%	6...120 s	220 x 195 x 105	

ACCESSORIES



TT-S1

Slave board for electric heating controllers

TT-S1 is intended for use together with the electric heating controller TTC2000, in order to control extra loads.

Article	Description	Note
TT-S1	Slave board for control of extra loads (+17 kW)	



TRY-RATT-2271

Knobs for Pulser

Alternative setpoint knobs, when using sensors with other temperature ranges.

KNOBS FOR PULSER

Article	Temperature range	Note
TRY-RATT-2271	0...30 °C	
TRY-RATT-1588	20...50 °C	



TRY-RATT-1588



Step controller; 4- or 6-stage

Controller intended for control of electric heating coils, four or six relays. It can be used with any controller with a 0...10 V DC or 10...2 V DC output signal. The step controller also have an analogue output (0...10 V) for control of an electric heating controller to give proportional heating between steps.

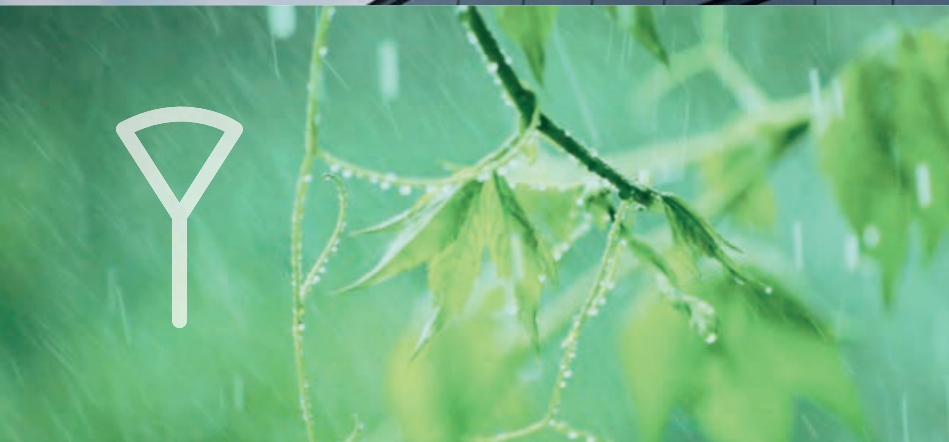
Technical data	
Supply voltage	24 V AC, 6 VA
Output	4 alt. 6 relays (closing), binary or sequential control
Input signal	0...10 V DC
Output signal	0...10 V DC
Mounting	DIN-rail
Number of modules	6
Protection class	IP20

Article	Description	Run-on time	Note
TT-S4/D	Step controller with 4 relays		
TT-S6/D	Step controller with 6 relays		



6

SENSORS, SWITCHES
& TRANSMITTERS



TEMPERATURE SENSORS



Clamp-on sensor; NTC Regin

Clamp-on sensor for surface temperature measurement. Supplied with 1.5 m cable.

Technical data	
Sensor element	NTC, 15...10 kΩ
Time constant	13 s
Material	Nickel-plated copper
Cable length	1.5 m
Protection class	IP65

Article	Description	Measuring range, temperature	Note
TG-A130	Clamp-on sensor, including clamp (Ø 40 mm max.)	0...30 °C	

ACCESSORIES

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	



This sensor cannot be used together with the Pulser series.

Clamp-on sensor with cable

For surface temperature measurement. Including clamp (\varnothing max 40 mm).



Technical data	
Time constant	13 s
Material	Nickel-plated copper
Cable length	1.5 m
Protection class	IP65

Article	Sensor element	Nominal resistance	Temperature range	Equivalent	Note
TG-A1/PT100	PT100	100 Ω (0°C)	-30...+150 °C	-	
TG-A1/PT1000	PT1000	1000 Ω (0°C)	-30...+150 °C	-	
TG-A1/NTC1.8	NTC 1.8	1800 Ω (25°C)	-30...+120 °C	TAC	
TG-A1/NTC2.2	NTC 2.2	2252 Ω (25°C)	-30...+150 °C	Johnson Controls	
TG-A1/NTC10-01	NTC 10	10 k Ω (25°C)	-30...+150 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-A1/NTC10-02	NTC 10	10 k Ω (25°C)	-30...+110 °C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-A1/NTC10-03	NTC 10	10 k Ω (25°C)	-30...+150 °C	Andover - Delta Controls - Siebe - York	
TG-A1/NTC20	NTC 20	20 k Ω (25°C)	-30...+150 °C	Honeywell	
TG-A1/NI1000-01	Ni1000	1000 Ω (0°C)	-30...+150 °C	Siemens - Landis & Staefa	
TG-A1/NI1000-02	Ni1000	1000 Ω (0°C)	-30...+150 °C	Sauter	

ACCESSORIES

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	



Clamp-on sensor with housing

Clamp-on sensor for surface temperature measurement.

Technical data	
Protection class	IP65
Time constant	3 s
Measuring range, temperature	-20...+120 °C
Cable gland	M16
Dimensions, external (WxHxD)	104 x 78 x 51 mm
Accessories, included	Two metal straps and heat-conductive paste (art.nr: PASTA-20).
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)

Article	Sensor element	Nominal resistance	Equivalent	Note
TG-AH3/PT100	PT100	100 Ω (0°C)	-	
TG-AH3/PT1000	PT1000	1000 Ω (0°C)	-	
TG-AH3/NTC1.8	NTC 1.8	1800 Ω (25°C)	TAC	
TG-AH3/NTC2.2	NTC 2.2	2252 Ω (25°C)	Johnson Controls	
TG-AH3/NTC10-01	NTC 10	10 kΩ (25°C)	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-AH3/NTC10-02	NTC 10	10 kΩ (25°C)	Carel - Evco - Eliwell - AB Industrietechnik	
TG-AH3/NTC10-03	NTC 10	10 kΩ (25°C)	Andover - Delta Controls - Siebe - York	
TG-AH3/NTC20	NTC 20	20 kΩ (25°C)	Honeywell	
TG-AH3/NI1000-01	Ni1000	1000 Ω (0°C)	Siemens - Landis & Staefa	
TG-AH3/NI1000-02	Ni1000	1000 Ω (0°C)	Sauter	

ACCESSORIES

Article	Note
PASTA-20	

Bulb sensor, NTC Regin



Technical data	
Sensor element	NTC, 15...10 kΩ
Diameter	6 mm
Material, tube	Nickel plated brass
Material, cable	Silicone
Cable length	1.5 m
Protection class	IP65

Article	Temperature range	Note
TG-B130	0...30 °C	
TG-B150	20...50 °C	
TG-B160	0...60 °C	
TG-B190	60...90 °C	

ACCESSORIES

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	



This sensor cannot be used together with the Pulser series.

6

Bulb sensor

Universal sensor.



TG-B6/PT100

Technical data	
Material	Stainless steel
Cable length	1.5 m
Diameter	6 mm



TG-B6/PT1000

Article	Sensor element	Nominal resistance	Temperature range	Diameter	Protection class	Equivalent	Note
TG-B6/PT100	PT100	100 Ω/0°C	-30...+100 °C	6 mm	IP65	-	
TG-B6/PT1000	PT1000	1000 Ω/0°C	-50...+110 °C	6 mm	IP67	-	

ACCESSORIES

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	



Bulb sensor, 4 mm diameter

Universal sensor

Technical data	
Material, bulb	Stainless steel AISI 304
Material, cable	Thermoplastic rubber
Bulb length	40 mm
Cable length	1.5 m
Diameter	4 mm
Protection class	IP67

Article	Sensor element	Nominal resistance	Temperature range	Equivalent	Note
TG-B4/PT1000	PT1000	1000 Ω/0°C	-50...+110 °C	-	
TG-B4/NTC1.8	NTC 1.8	1800 Ω/25°C	-50...+110 °C	TAC	
TG-B4/NTC2.2	NTC 2.2	2252 Ω/25°C	-50...+110 °C	Johnson Controls	
TG-B4/NTC10-01	NTC 10-01	10 kΩ/25°C	-50...+110 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-B4/NTC10-02	NTC 10-02	10 kΩ/25°C	-50...+110 °C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-B4/NTC10-03	NTC 10-03	10 kΩ/25°C	-50...+110 °C	Andover - Delta Controls - Siebe - York	
TG-B4/NTC20	NTC 20	20 kΩ/25°C	-50...+110 °C	Honeywell	
TG-B4/Ni1000-01	Ni1000	1000 Ω/0°C	-50...+110 °C	Siemens - Landis & Staefa	
TG-B4/Ni1000-02	Ni1000	1000 Ω/0°C	-50...+110 °C	Sauter	



Floor sensor; NTC Regin

Technical data	
Sensor element	NTC, 15...10 kΩ
Diameter	7 mm
Cable length	2.5 m
Protection class	IP65

Article	Description	Temperature range	Note
TG-G130	Floor sensor	0...30 °C	



Floor sensor

Sensor for measuring floor temperature.

Technical data	
Material, bulb	Thermoplastic rubber
Material, cable	Thermoplastic rubber exterior with polypropene interior
Cable length	1.5 m
Protection class	IP68
Diameter, sensor	4.7 mm
Length, sensor	19 mm

Article	Sensor element	Nominal resistance	Temperature range	Equivalent	Note
TG-G2/PT1000	PT1000	1000 Ω/0°C	-50...+110 °C	-	



Duct sensor with housing

Duct sensor for air temperature measurement in ventilation ducts.

Technical data	
Protection class	IP65
Time constant	16 s
Measuring range, temperature	-30...+70 °C
Cable gland	M16
Diameter, probe	8 mm
Dimensions, external (WxHxD)	78 x 263 x 104 mm
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Material, probe	Stainless steel, SUS304

MODELS

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-KH3/PT100	PT100	100 Ω (0°C)	60...205 mm	-	
TG-KH3/PT1000	PT1000	1000 Ω (0°C)	60...205 mm	-	
TG-KH3/PT1000-430	PT1000	1000 Ω (0°C)	60...405 mm	-	
TG-KH3/NTC1.8	NTC 1.8	1800 Ω (25°C)	60...205 mm	TAC	
TG-KH3/NTC2.2	NTC 2.2	2252 Ω (25°C)	60...205 mm	Johnson Controls	
TG-KH3/NTC10-01	NTC 10	10 kΩ (25°C)	60...205 mm	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-KH3/NTC10-02	NTC 10	10 kΩ (25°C)	60...205 mm	Carel - Evco - Eliwell - AB Industrietechnik	
TG-KH3/NTC10-03	NTC 10	10 kΩ (25°C)	60...205 mm	Andover - Delta Controls - Siebe - York	
TG-KH3/NTC20	NTC 20	20 kΩ (25°C)	60...205 mm	Honeywell	
TG-KH3/NI1000-01	Ni1000	1000 Ω (0°C)	60...205 mm	Siemens - Landis & Staefa	
TG-KH3/NI1000-02	Ni1000	1000 Ω (0°C)	60...205 mm	Sauter	



Duct sensor, NTC Regin

For air temperature measurement in ventilation ducts. Adjustable insertion length.

Technical data	
Sensor element	NTC, 15...10 kΩ
Time constant	38 s
Diameter	9 mm
Insertion length	15...130 mm
Cable length	1.5 m
Protection class	IP20

Article	Description	Temperature range	Note
TG-K300	Duct sensor	-30...+30 °C	
TG-K310	Duct sensor	-20...+10 °C	
TG-K330	Duct sensor	0...30 °C	
TG-K350	Duct sensor	20...50 °C	
TG-K360	Duct sensor	0...60 °C	
TG-K340	Duct sensor for Floorigo/AL24A1T	0...40 °C	



Duct sensor with cable

Duct sensor for air temperature measurement in ventilation ducts. Adjustable insertion length.

Technical data	
Temperature range	-30...+70 °C
Time constant	50 s including dead time
Insertion length	15...145 mm adjustable
Diameter	9 mm
Protection class	IP20

Article	Sensor element	Nominal resistance	Cable length	Temperature range	Equivalent	Note
TG-K3/PT100	PT100	100 Ω (0°C)	1.5 m	-30...+70 °C	-	
TG-K3/PT1000	PT1000	1000 Ω (0°C)	1.5 m	-30...+70 °C	-	
TG-K3/PT1000/3,0	PT1000 (DIN class B)	1000 Ω/0°C	3 m	-30...+70 °C	-	
TG-K3/NTC1.8	NTC 1.8	1800 Ω (25°C)	1.5 m	-30...+70 °C	TAC	
TG-K3/NTC2.2	NTC 2.2	2252 Ω (25°C)	1.5 m	-30...+70 °C	Johnson Controls	
TG-K3/NTC10-01	NTC 10	10 kΩ (25°C)	1.5 m	-30...+70 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-K3/NTC10-02	NTC 10	10 kΩ (25°C)	1.5 m	-30...+70 °C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-K3/NTC10-03	NTC 10	10 kΩ (25°C)	1.5 m	-30...+70 °C	Andover - Delta Controls - Siebe - York	
TG-K3/NTC20	NTC 20	20 kΩ (25°C)	1.5 m	-30...+70 °C	Honeywell	
TG-K3/Ni1000-01	Ni1000	1000 Ω (0°C)	1.5 m	-30...+70 °C	Siemens - Landis & Staefa	
TG-K3/Ni1000-02	Ni1000	1000 Ω (0°C)	1.5 m	-30...+70 °C	Sauter	



Duct sensor with housing for average temperature measurement

Sensor with a 4-point average temperature measurement for duct mounting.

Technical data	
Protection class	IP65
Time constant	63 s at 2 m/s and 43 s at 5 m/s
Cable gland	M16
Diameter	8 mm
Dimensions, external (WxHxD)	78 x 132 x 104 mm
Insertion length	75 mm
Sensor cable length	3 m
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Material, probe	Stainless steel, SUS304

MODELS

Article	Sensor element	Nominal resistance	Equivalent	Note
TG-MH3/PT1000	PT1000 (DIN class B)	1000 Ω (0°C)	-	

Immersion sensor, NTC Regin

For water temperature measurement.



Technical data	
Sensor element	NTC, 15...10 kΩ
Time constant	4 s
Diameter	R1/4" 6 mm
Material, probe	Stainless steel, SUS304
Pressure rating	PN10
Cable length	1.5 m
Protection class	IP65

Article	Sensor element	Nominal resistance	Temperature range	Insertion length	Note
TG-D130	NTC	15...10 kΩ	0...30 °C	135 mm	
TG-D150	NTC	15...10 kΩ	20...50 °C	135 mm	
TG-D170	NTC	15...10 kΩ	40...70 °C	135 mm	



DF

ACCESSORIES

Article	Description	Note
DF	Mounting flange for 135 mm long sensors for mounting in ventilation ducts	



This sensor cannot be used together with the Pulser series.

Immersion sensor with fixed cable

Immersion sensor for water temperature measurement with threaded connection R1/4".



Technical data	
Temperature range	-30...+70 °C
Time constant	4 s (liquid: 2 m/s)
Cable length	1.5 m
Connection	R1/4"
Diameter	4 mm
Material, probe	Stainless steel, SUS304
Pressure rating	PN10
Protection class	IP65

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-D1/PT100	PT100	100 Ω (0°C)	135 mm	-	
TG-D1/PT1000	PT1000	1000 Ω (0°C)	135 mm	-	
TG-D1/NTC1.8	NTC 1.8	1800 Ω (25°C)	135 mm	TAC	
TG-D1/NTC2.2	NTC 2.2	2252 Ω (25°C)	135 mm	Johnson Controls	
TG-D1/NTC10-01	NTC 10	10 kΩ (25°C)	135 mm	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-D1/NTC10-02	NTC 10	10 kΩ (25°C)	135 mm	Carel - Evco - Eliwell - AB Industrietechnik	
TG-D1/NTC10-03	NTC 10	10 kΩ (25°C)	135 mm	Andover - Delta Controls - Siebe - York	
TG-D1/NTC20	NTC 20	20 kΩ (25°C)	135 mm	Honeywell	
TG-D1/Ni1000-01	Ni1000	1000 Ω (0°C)	135 mm	Siemens - Landis & Staefa	
TG-D1/Ni1000-02	Ni1000	1000 Ω (0°C)	135 mm	Sauter	

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-D2/PT100	PT100	100 Ω (0°C)	220 mm	-	
TG-D2/PT1000	PT1000	1000 Ω (0°C)	220 mm	-	

ACCESSORIES



DF

Article	Description	Note
DF	Mounting flange for 135 mm long sensors for mounting in ventilation ducts	
ADAPTER	Adapter 1/4" to 1/2". For mounting immersion sensors in 1/2".	
ACC:10	Adjustable clamp connector	



Immersion sensor with cable, adjustable insertion length

Immersion sensor for water temperature measurement.

Technical data	
Temperature range	-30...+70 °C
Time constant	4 s
Cable length	1.5 m
Connection	R1/4"
Diameter	4 mm
Material, probe	Stainless steel, SUS304
Pressure rating	PN10
Protection class	IP65

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-D3/PT100	PT100	100 Ω (0°C)	300 mm	-	
TG-D3/PT1000	PT1000	1000 Ω (0°C)	300 mm	-	
TG-D3/NTC10-01	NTC 10	10 kΩ (25°C)	300 mm	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-D3/NTC10-02	NTC 10	10 kΩ (25°C)	300 mm	Carel - Evco - Eliwell - AB Industrietechnik	
TG-D3/NTC10-03	NTC 10	10 kΩ (25°C)	300 mm	Andover - Delta Controls - Siebe - York	
TG-D3/NTC20	NTC 20	20 kΩ (25°C)	300 mm	Honeywell	
TG-D3/Ni1000-01	Ni1000	1000 Ω (0°C)	300 mm	Siemens - Landis & Staefa	
TG-D3/Ni1000-02	Ni1000	1000 Ω (0°C)	300 mm	Sauter	



Immersion sensor with housing, without well, R1/4"

Immersion sensor for temperature measurement of heating or cooling batteries in ventilation units. Probe in stainless steel without a well.

Technical data	
Protection class	IP65
Time constant	4 s
Insertion length	90 mm
Measuring range, temperature	-20...+120 °C
Cable gland	M16
Connection, without well	R1/4"
Diameter, probe	5 mm
Pressure rating	PN16
Dimensions, external (WxHxD)	78 x 158 x 104 mm
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Material, probe	Stainless steel, SUS304

Article	Sensor element	Nominal resistance	Equivalent	Note
TG-DH3/PT100	PT100	100 Ω (0°C)	-	
TG-DH3/PT1000	PT1000	1000 Ω (0°C)	-	
TG-DH3/NTC1.8	NTC 1.8	1800 Ω (25°C)	TAC	
TG-DH3/NTC2.2	NTC 2.2	2252 Ω (25°C)	Johnson Controls	
TG-DH3/NTC10-01	NTC 10	10 kΩ (25°C)	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-DH3/NTC10-02	NTC 10	10 kΩ (25°C)	Carel - Evco - Eliwell - AB Industrietechnik	
TG-DH3/NTC10-03	NTC 10	10 kΩ (25°C)	Andover - Delta Controls - Siebe - York	
TG-DH3/NTC20	NTC 20	20 kΩ (25°C)	Honeywell	
TG-DH3/NI1000-01	Ni1000	1000 Ω (0°C)	Siemens - Landis & Staefa	
TG-DH3/NI1000-02	Ni1000	1000 Ω (0°C)	Sauter	



Immersion sensor with housing and well

Immersion sensor for temperature measurement in heating- or cooling applications. Supplied with a stainless steel well. Available in different lengths.

Technical data	
Protection class	IP65
Time constant	18 s
Measuring range, temperature	-20...+120 °C
Cable gland	M16
Connection, well	R1/2"
Diameter, well	8 mm
Pressure rating	PN25
Dimensions, external (WxHxD)	78 x 156 x 104 mm
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Material, probe	Stainless steel, SUS304
Material, well	Stainless steel, SUS304

MODELS

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-DHW3/PT100	PT100	100 Ω (0°C)	90 mm	-	
TG-DHW3/PT1000-50	PT1000	1000 Ω (0°C)	50 mm	-	
TG-DHW3/PT1000	PT1000	1000 Ω (0°C)	90 mm	-	
TG-DHW3/PT1000-120	PT1000	1000 Ω (0°C)	120 mm	-	
TG-DHW3/PT1000-170	PT1000	1000 Ω (0°C)	170 mm	-	
TG-DHW3/PT1000-310	PT1000	1000 Ω (0°C)	310 mm	-	
TG-DHW3/NTC1.8	NTC 1.8	1800 Ω (25°C)	90 mm	TAC	
TG-DHW3/NTC2.2	NTC 2.2	2252 Ω (25°C)	90 mm	Johnson Controls	
TG-DHW3/NTC10-01	NTC 10	10 kΩ (25°C)	90 mm	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-DHW3/NTC10-02	NTC 10	10 kΩ (25°C)	90 mm	Carel - Evco - Eliwell - AB Industrietechnik	
TG-DHW3/NTC10-03	NTC 10	10 kΩ (25°C)	90 mm	Andover - Delta Controls - Siebe - York	
TG-DHW3/NTC20	NTC 20	20 kΩ (25°C)	90 mm	Honeywell	
TG-DHW3/Ni1000-01	Ni1000	1000 Ω (0°C)	90 mm	Siemens - Landis & Staefa	
TG-DHW3/Ni1000-02	Ni1000	1000 Ω (0°C)	90 mm	Sauter	

ACCESSORIES

Article	Insertion length	Material	Description	Note
DR-50WA	50 mm	Acid-proof stainless steel, SUS316	Well for probe TG-DHW3 and TG-DHWA3	
DR-90WA	90 mm	Acid-proof stainless steel, SUS316	Well for probe TG-DHW3 and TG-DHWA3	
DR-120WA	120 mm	Acid-proof stainless steel, SUS316	Well for probe TG-DHW3 and TG-DHWA3	
DR-170WA	170 mm	Acid-proof stainless steel, SUS316	Well for probe TG-DHW3 and TG-DHWA3	
DR-310WA	310 mm	Acid-proof stainless steel, SUS316	Well for probe for TG-DHW3 and TG-DHWA3. Is available upon request, please contact Regin for more information.	



Insertion length 310 mm is available upon request, please contact Regin for more information.



Immersion sensor with housing and well in acid-proof stainless steel.

Immersion sensor for temperature measurement in heating- or cooling applications. Supplied with an acid-proof stainless steel well.

Technical data	
Protection class	IP65
Time constant	18 s
Cable gland	M16
Connection, well	R1/2"
Diameter, well	8 mm
Pressure rating	PN25
Dimensions, external (WxHxD)	78 x 156 x 104 mm
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Material, probe	Stainless steel, SUS304
Material, well	Acid-proof stainless steel, SUS316

MODELS

Article	Sensor element	Nominal resistance	Measuring range, temperature	Equivalent	Note
TG-DHWA3/PT1000	PT1000	1000 Ω (0°C)	-20...+120 °C	-	

ACCESSORIES

Article	Insertion length	Material	Description	Note
DR-90WA	90 mm	Acid-proof stainless steel, SUS316	Well for probe TG-DHW3 and TG-DHWA3	



Immersion sensor with housing, without well, R1/2"

Immersion sensor for temperature measurement in district heating systems. Probe in stainless steel without a well. Available in different lengths.

Technical data	
Protection class	IP65
Cable gland	M16
Connection, without well	R1/2"
Diameter, probe	4 mm
Pressure rating	PN16
Dimensions, external (WxHxD)	78 x 187 x 104 mm
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Material, probe	Stainless steel, SUS304

Article	Sensor element	Nominal resistance	Insertion length	Equivalent	Note
TG-DH312/PT1000	PT1000	1000 Ω (0°C)	120 mm	-	
TG-DH312/PT1000-50	PT1000	1000 Ω (0°C)	50 mm	-	
TG-DH312/PT1000-90	PT1000	1000 Ω (0°C)	90 mm	-	
TG-DH312/PT1000-170	PT1000	1000 Ω (0°C)	170 mm	-	



Room sensor, NTC Regin

For room temperature measurement.

Technical data	
Sensor element	NTC, 15...10 kΩ
Protection class	IP30

Article	Sensor element	Nominal resistance	Protection class	Temperature range	Note
TG-R530	NTC 15	15 kΩ (0°C)	IP30	0...30 °C	
TG-R550	NTC 15	15 kΩ (20°C)	IP30	20...50 °C	
TG-R540	NTC 15	15 kΩ (0°C)	IP30	0...40 °C	



Room sensor

For room temperature measurement.

Technical data	
Temperature range	0...50 °C
Protection class	IP30

Article	Sensor element	Nominal resistance	Protection class	Temperature range	Equivalent	Note
TG-R5/PT100	PT100	100 Ω (0°C)	IP30	0...50 °C	-	
TG-R5/PT1000	PT1000	1000 Ω (0°C)	IP30	0...50 °C	-	
TG-R5/NTC1.8	NTC 1.8	1800 Ω (25°C)	IP30	0...50 °C	TAC	
TG-R5/NTC2.2	NTC 2.2	2252 Ω (25°C)	IP30	0...50 °C	Johnson Controls	
TG-R5/NTC10-01	NTC 10	10 kΩ (25°C)	IP30	0...50 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	
TG-R5/NTC10-02	NTC 10	10 kΩ (25°C)	IP30	0...50 °C	Carel - Evco - Eliwell - AB Industrietechnik	
TG-R5/NTC10-03	NTC 10	10 kΩ (25°C)	IP30	0...50 °C	Andover - Delta Controls - Siebe - York	
TG-R5/NTC20	NTC 20	20 kΩ (25°C)	IP30	0...50 °C	Honeywell	
TG-R5/Ni1000-01	Ni1000	1000 Ω (0°C)	IP30	0...50 °C	Siemens - Landis & Staefa	
TG-R5/Ni1000-02	Ni1000	1000 Ω (0°C)	IP30	0...50 °C	Sauter	

6



Room sensor, NTC Regin, with setpoint adjustment

Room sensor for room temperature measurement. Can also be used for setpoint adjustment only.

Technical data	
Sensor element	NTC, 15...10 kΩ
Temperature range	0...30 °C
Protection class	IP30

Article	Description	Note
TG-R430	Room sensor	



Room sensor with setpoint adjustment

For room temperature measurement. Can also be used solely for setpoint adjustment.

Technical data					
Protection class				IP30	
Article	Sensor element	Nominal resistance	Temperature range	Equivalent	Note
TG-R4/PT1000	PT1000	1000 Ω (0°C)	0...50 °C	-	
TG-R4/PT1000-RB	PT1000	1000 Ω/0°C	0...30 °C	-	
TG-R4/NTC10-01	NTC10-01	10 kΩ/25°C	5...30 °C	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell	



Outdoor sensor; NTC Regin

Outdoor sensor for outdoor temperature measurement or for temperature measurement in rooms where higher protection class is needed.

Technical data		
Sensor element	NTC, 15...10 kΩ	
Protection class	IP54	
Article	Temperature range	Note
TG-R600	-30...+30 °C	
TG-R630	0...30 °C	



Outdoor sensor with housing

Outdoor sensor for air temperature measurement.

Technical data	
Protection class	IP65
Measuring range, temperature	-50...+70 °C
Cable gland	M16
Dimensions, external (WxHxD)	78 x 51 x 104 mm
Weight (incl. packaging)	0.09 kg
Material	
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)

MODELS

Article	Sensor element	Nominal resistance	Equivalent	Note
TG-UH3/PT100	PT100	100 Ω (0°C)	-	
TG-UH3/PT1000	PT1000	1000 Ω (0°C)	-	
TG-UH3/NTC1.8	NTC 1.8	1800 Ω (25°C)	TAC	
TG-UH3/NTC2.2	NTC 2.2	2252 Ω (25°C)	Johnson Controls	
TG-UH3/NTC10-01	NTC 10	10 kΩ (25°C)	Aquatrol - Johnson Controls - Satchwell - Trend - Cylon - Honeywell - Distech	
TG-UH3/NTC10-02	NTC 10	10 kΩ (25°C)	Carel - Evco - Eliwell - AB Industrietechnik	
TG-UH3/NTC10-03	NTC 10	10 kΩ (25°C)	Andover - Delta Controls - Siebe - York	
TG-UH3/NTC20	NTC 20	20 kΩ (25°C)	Honeywell	
TG-UH3/NI1000-01	Ni1000	1000 Ω (0°C)	Siemens - Landis & Staefa	
TG-UH3/NI1000-02	Ni1000	1000 Ω (0°C)	Siemens - Landis & Staefa	



Setpoint device for panel mounting

Setpoint device intended for NTC sensors only.

Technical data			
Protection class	IP20		
Article	Temperature range	Measuring range	Note
TBI-10	-20...+10 °C	-	
TBI-30	0...30 °C	-	
TBI-100	- °C	0...100 %	



Setpoint device for PT1000

Setpoint device which gives resistance corresponding to the standard PT1000 table.

Technical data		
Temperature range	5...30 °C	
Mounting	Panel mounting	
Protection class	IP20	
Article	Description	Note
TBI-PT1000	Setpoint device	

Sensor characteristics, NTC Regin

Temperature range	-30...30°C	-20...10°C	0...30°C	0...40°C	0...60°C	20...50°C	40...70°C	60...90°C
Temp. °C	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω
150								
140								
130								
120								
110								
100								
90								10000
80								11667
70							10000	13333
65							10833	14167
60					10000		11667	15000
55					10417		12500	
50					10833	10000	13333	
45					11250	10833	14167	
40				10000	11667	11667	15000	
35				10625	12083	12500		
30	10000		10000	11250	12500	13333		
29	10083		10167	11375	12583	13500		
28	10167		10333	11500	12667	13667		
27	10250		10500	11625	12750	13833		
26	10333		10667	11750	12833	14000		
25	10417		10833	11875	12917	14167		
24	10500		11000	12000	13000	14333		
23	10583		11167	12125	13083	14500		
22	10667		11333	12250	13167	14667		
21	10750		11500	12375	13250	14833		
20	10833		11667	12500	13333	15000		
19	10917		11833	12625	13417			
18	11000		12000	12750	13500			
17	11083		12167	12875	13583			
16	11167		12333	13000	13667			
15	11250		12500	13125	13750			
14	11333		12667	13250	13833			
13	11417		12833	13375	13917			
12	11500		13000	13500	14000			
11	11583		13167	13625	14083			
10	11667	10000	13333	13750	14167			
9	11750	10167	13500	13875	14250			
8	11833	10333	13667	14000	14333			
7	11917	10500	13833	14125	14417			
6	12000	10667	14000	14250	14500			
5	12083	10833	14167	14375	14583			
4	12167	11000	14333	14500	14667			
3	12250	11167	14500	14625	14750			
2	12333	11333	14667	14750	14833			
1	12417	11500	14833	14875	14917			
0	12500	11667	15000	15000	15000			
-5	12917	12500						
-10	13333	13333						
-15	13750	14167						
-20	14167	15000						
-25	14583							
-30	15000							
-35								
-40								

Sensor characteristics, other elements (PT100(0)/Ni1000.../NTC...)

Sensor element	PT100	PT1000	NTC1,8	NTC2,2	NTC10-01	NTC10-02	NTC10-03	NTC20	Ni1000-01	Ni1000-02
Equivalent			Tac	Johnson Controls	Aquatrol Johnson Controls Satchwell Trend Cylon Honeywell Distech	Carel Evco Eliwell Industrie- technik	Andover Delta Controls Siebe York	Honeywell	Siemens Landis & Staefa	Sauter
Temp. °C	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω	Ω
150	157.3	1573			186					
140	153.6	1536			235				1737	1909
130	149.8	1498			301				1675	1833
120	146.1	1461			390				1615	1760
110	142.3	1423	138	115	511	758	624	818	1557	1688
100	138.5	1385	177	153	679	973	817	1114	1500	1618
90	134.7	1347	230	206	916	1266	1084	1541	1444	1549
80	130.9	1309	303	283	1255	1668	1457	2166	1390	1483
70	127.1	1271	404	395	1752	2228	1990	3098	1337	1417
65	125.2	1252	469	469	2083	2588	2338	3732	1311	1385
60	123.2	1232	547	560	2488	3020	2760	4518	1285	1353
55	121.3	1213	640	672	2986	3536	3270	5494	1260	1322
50	119.4	1194	753	811	3602	4160	3893	6718	1235	1291
45	117.5	1175	888	984	4368	4911	4655	8260	1210	1260
40	115.5	1155	1052	1199	5324	5827	5594	10212	1186	1230
35	113.6	1136	1252	1471	6532	6940	6754	12698	1162	1200
30	111.7	1117	1498	1814	8055	8313	8196	15886	1138	1171
29	111.3	1113	1553	1893	8406	8622	8525	16627	1132	1165
28	111.0	1110	1611	1977	8779	8944	8869	17407	1128	1159
27	110.5	1105	1671	2064	9165	9281	9229	18227	1123	1153
26	110.1	1101	1734	2156	9574	9632	9606	19090	1119	1147
25	109.7	1097	1800	2252	10000	10000	10000	20000	1114	1141
24	109.3	1093	1868	2353	10448	10380	10413	20958	1109	1136
23	109.0	1090	1940	2460	10924	10780	10845	21968	1105	1130
22	108.6	1086	2015	2572	11421	11200	11298	23033	1100	1124
21	108.2	1082	2092	2689	11940	11630	11773	24156	1095	1118
20	107.8	1078	2174	2813	12491	12090	12270	25340	1091	1112
19	107.4	1074	2258	2944	13073	12560	12791	26491	1086	1107
18	107.0	1070	2347	3081	13681	13060	13337	27912	1081	1101
17	106.6	1066	2440	3226	14325	13580	13910	29307	1077	1095
16	106.2	1062	2537	3378	15000	14120	14510	30782	1072	1089
15	105.9	1059	2638	3538	15710	14690	15140	32340	1068	1084
14	105.5	1055	2744	3707	16461	15280	15801	33982	1063	1078
13	105.1	1051	2854	3886	17256	15900	16494	35716	1058	1072
12	104.7	1047	2972	4074	18091	16560	17222	37550	1054	1067
11	104.3	1043	3093	4272	18970	17240	17987	39489	1049	1061
10	103.9	1039	3222	4482	19902	17960	18790	41540	1045	1056
9	103.5	1035	3354	4703	20884	18700	19633	43715	1040	1050
8	103.1	1031	3493	4936	21918	19480	20519	46018	1036	1044
7	102.7	1027	3639	5183	23015	20300	21451	48457	1031	1039
6	102.3	1023	3791	5443	24170	21150	22430	51041	1027	1033
5	101.9	1019	3951	5718	25391	22050	23460	53780	1022	1028
4	101.6	1016	4120	6009	26683	23000	24545	56678	1018	1022
3	101.2	1012	4296	6317	28051	23990	25687	59751	1013	1016
2	100.8	1008	4481	6643	29498	25030	26890	63011	1009	1011
1	100.4	1004	4677	6988	31030	26130	28156	66469	1004	1005
0	100.0	1000	4882	7353	32650	27280	29490	70140	1000	1000
-5	98.0	980	6059	9532	42327	33900	37310	92220	978	973
-10	96.1	961	7580	12460	55329	42470	47540	122260	956	946
-15	94.1	941	9519	16430	72957	53410	61020	163480	935	919
-20	92.2	922	12061	21863	97083	67770	78910	220600	914	893
-25	90.2	902	15359	29371	130422	86430	102900	300400	893	867
-30	88.2	882	19747	39855	176976	111300	135200	413400	872	842
-35	86.3	863							851	816
-40	84.3	843							831	791



TEMPERATURE TRANSMITTERS



TRT5



TRT5-D

Temperature transmitter for room mounting, 0...10 V, IP30

Technical data	
Output signal	Analogue, 0...10 V
Supply voltage	24 V AC $\pm 10\%$ / 15...35 V DC
Power consumption	< 1 W
Transformer power	≥ 2 VA
Temperature range	0...50 °C
Accuracy	$\pm 0.4^\circ\text{C}$ at 20°C
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Output signal	Display	Note
TRT5	0...10 V DC	-	
TRT5-D	0...10 V DC	X	



TRT5-420



TRT5D-420

Temperature transmitter for room mounting, 4...20 mA, IP30

Technical data	
Output signal	4...20 mA (2-wire)
Supply voltage	Max. 28 V DC, Min. $11 + (0.02 \times RL)$ V DC
Power consumption	0.6 W
DC power	Min. 1 W
Temperature range	0...50 °C
Accuracy, temperature	$\pm 0.5^\circ\text{C}$ at 20°C
Mounting	Room
Dimensions (WxHxD mm)	100 x 85 x 30.5
Protection class	IP30

Article	Output signal	Display	Note
TRT5-420	4...20mA (2 wires)	-	
TRT5D-420	4...20mA	X	



TRT5-420



Temperature transmitter for Modbus communication, room mounting, IP30

Technical data	
Output signal	Modbus
Supply voltage	24 V AC $\pm 10\%$ / 15...35 V DC
Power consumption	< 1 W
Transformer power	≥ 2 VA
Temperature range	0...50 °C
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Output signal	Display	Note
TRTC5	Modbus	-	
TRTC5-D	Modbus	X	



Temperature transmitter for wall mounting

Technical data	
Temperature range	0...50 °C
Accuracy	±0.7°C
Mounting	Wall
Protection class	IP65

Article	Supply voltage	Output signal	Note
TRT50	24 V AC or 15...35 V DC , 1 VA	0...10 V DC	
TRT50-420	20...35 V DC	4...20 mA	



Temperature transmitter for duct mounting, IP65

Technical data	
Temperature range	0...50 °C
Accuracy	±0.5°C at 20°C
Insertion length	60...230 mm (adjustable)
Protection class	IP65
Mounting	Duct

Article	Supply voltage	Output signal	Note
TDT200	24 V AC or 20...35 V DC, 1 VA	0...10 V DC	
TDT200-420	20...35 V DC	4...20 mA	



Temperature transmitter for immersion mounting

Technical data	
Mounting	Immersion mounting
Protection class	IP65
Sensor element	NTC 10K
Immersion length	120 mm
Pipe fitting	R 1/2"

Article	Supply voltage	Temperature range	Output signal	Accuracy	Note
TLT100	18...24 V AC or 18...35 V DC	0...100 °C	0...10 V	± 2°C	
TLT100-420	11...30 V DC	0...100 °C	4...20 mA	± 2°C	
TLT50	18...24 V AC or 18...35 V DC	-30...+50 °C	0...10 V	± 1.5°C	
TLT50-420	11...30 V DC	-30...+50 °C	4...20 mA	± 1.5°C	

ACCESSORIES FOR TEMPERATURE SENSORS AND TRANSMITTERS



DBZ-90W

Well

Well for immersion sensors.

Technical data	
Connection	R1/2"
Pressure rating	PN25
Material, well	Acid-proof stainless steel, SUS316

Article	Insertion length	Note
DR-90R	90 mm	
DR-135R	135 mm	
DR-50WA	50 mm	
DR-90WA	90 mm	
DR-120WA	120 mm	
DR-170WA	170 mm	
DR-310WA	310 mm	

ACCESSORIES

Article	Description	Note
ADAPTER	Adapter 1/4" to 1/2". For mounting immersion sensors in 1/2".	



PASTA-20

Heat-conductive paste

Article	Description	Note
PASTA-20	Heat-conductive paste in tube, 20 g	

HUMIDISTATS / HUMIDITY CONTROLLERS



Room humidistat

Electromechanical humidistat with a synthetic element. The setpoint knob can be locked.

Technical data	
Output	One, 230 V AC, 5 A, change-over
Setpoint	35...95 % RH
Hysteresis	7 % RH
Mounting	Room
Protection class	IP30

Article	Description	Note
HR-S	Room humidistat, 1-step	



Room humidistat, 1- or 2-step

Electromechanical room humidistat for controlling humidification and/or dehumidification in HVAC systems. The setpoint knob can be locked. Can be used to control a humidifier or a dehumidifier or for on/off controlling of a fan. Can also be used to give an alarm when the humidity exceeds or falls below a pre-set level.

Technical data	
Setpoint	10...95 % RH
Hysteresis	4 % RH
Mounting	Room
Protection class	IP21

MODELS

Article	Description	Output	Step differential	Note
HR1	Room humidistat, 1-step	5 A, 250 V AC	-	
HR1-DH	Room humidistat, 1-step, for dehumidification only	10 A, 250 V AC	-	
HR2	Room humidistat, 2-step	5 A, 250 V AC	0...30 % RH	



Duct/wall humidistat, 1- or 2-step

Electromechanical humidistat with change-over contact.

Technical data	
Output	10 A, 250 V AC, change-over
Setpoint	10...100 % RH
Hysteresis	3 % RH
Mounting	Duct or wall
Protection class	IP54

Article	Description	Output	Step differential	Note
HMH	Duct/wall humidistat	1-step	-	
HMH2	Duct/wall humidistat	2-step	0...25 % RH	

Room controller; humidity

Humidity controller for control of e.g. an EC fan or a damper in air handling or demand-controlled ventilation applications.



Technical data	
Supply voltage	85...230 V AC, 50/60 Hz
Working range, humidity	0...100 % RH
Outputs	1 analogue output 0...10 V (RL > 10 K)
Mounting	Room
Protection class	IP30

Article	Description	Note
ALH230A	Humidity controller	

HUMIDITY/TEMPERATURE TRANSMITTERS

Humidity and temperature transmitter for room mounting, 0...10 V

Transmitter for relative humidity and temperature measurement in indoor environments. It has good long-term stability and is resistant to contamination.



Technical data	
Supply voltage	24 V AC $\pm 10\%$ / 15...35 V DC
Power consumption	< 1 W
Transformer power	≥ 2 VA
Working range, temperature	0...50 °C
Accuracy, temperature	$\pm 0.3^\circ\text{C}$ (PT1000), $\pm 0.4^\circ\text{C}$ (0...10 V) at 20°C
Working range, humidity	0...100 % RH
Accuracy, humidity	$\pm 3\%$ RH at 20°C
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

MODELS

Article	Supply voltage	Output, humidity	Output, temperature	Mounting	Display	Note
HTRT10A	24 V AC/DC	0...10 V	0...10 V/PT1000	Room	-	
HTRT10A-D	24 V AC/DC	0...10 V	0...10 V/PT1000	Room	X	

6

Humidity and temperature transmitter for room mounting, 4...20 mA



Technical data	
Output signal	4...20 mA (2 wire)
Supply voltage	Max. 28 V DC, Min. $11+(0.02 \times \text{RL})$ V DC
Power consumption	1.2 W
DC power	Min. 2 W
Temperature range	0...50 °C
Accuracy, temperature	$\pm 0.5^\circ\text{C}$ at 20°C
Mounting	Room
Dimensions (WxHxD mm)	100 x 85 x 30.5
Protection class	IP30

Article	Display	Note
HTRT10A-420	-	
HTRT10AD-420	X	



Humidity and temperature transmitter for Modbus communication, room mounting

Technical data	
Output signal	Modbus
Supply voltage	24 V AC $\pm 10\%$ / 15...35 V DC
Power consumption	< 1 W
Transformer power	≥ 2 VA
Working range, temperature	0...50 °C
Accuracy, temperature	$\pm 0.2^\circ\text{C}$ at 20°C
Working range, humidity	0...100 % RH
Accuracy, humidity	$\pm 2\%$ RH at 20°C
Communication	Modbus RTU
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Description	Output signal	Display	Note
HTRC10	RH + °C	Modbus	-	
HTRC10-D	RH + °C	Modbus	X	



HTRT



HTDT

Humidity/temperature transmitter

Transmitters for relative humidity and temperature measurement, resistant to contamination.

Technical data	
Supply voltage	24 V AC $\pm 20\%$ or 15...35 V DC
Output	0...10 V DC or 4...20 mA and passive PT1000 signal
Working range	Humidity: 10...95 % RH. Temperature: 0...50°C.
Accuracy, humidity	$\pm 2.5\%$ at 20°C
Accuracy, temperature	± 0.3 K at 20°C
Mounting	Wall or duct mounting
Protection class	IP65

Article	Mounting	Output signal	Note
HTRT2500	Wall	0...10 V DC + passive PT1000 signal	
HTRT2500-420	Wall	4...20 mA + passive PT1000 signal	
HTDT2500	Duct	0...10 V DC + passive PT1000 signal	
HTDT2500-420	Duct	4...20 mA + passive PT1000 signal	

ACCESSORIES

Article	Description	Note
CCERT-E	Calibration certificate, when certified calibration is demanded. Must be ordered together with a new transmitter.	



Humidity/temperature transmitter for wall mounting

Transmitter for relative humidity and temperature measurement in climate and air handling installations. HTWT10(-420) has high accuracy (± 2 % RH) and excellent temperature compensation. It has very good protection against condensation and pollution, is easy to mount and has a robust sensor element.

Technical data	
Working range	Humidity: 0...100 % RH. Temperature: -20...+80°C.
Accuracy, humidity	± 2 % RH (0...90 % RH), ± 3 % RH (90...100 % RH)
Accuracy, temperature	± 0.2 K at 20°C
Mounting	Wall
Protection class	IP65

Article	Description	Supply voltage	Output signal	Note
HTWT10	Humidity and temperature transmitter	15...29 V AC or 15...35 V DC	0...10 V DC	
HTWT10-420	Humidity and temperature transmitter	20...30 V DC	4...20 mA	

ACCESSORIES

Article	Description	Note
CCERT-E	Calibration certificate, when certified calibration is demanded. Must be ordered together with a new transmitter.	

6



Weather shield

Article	Description	Note
HVS	Weather shield for outdoor mounting of HTWT10(-420)	



HTDT10

Temperature transmitter for duct mounting

Transmitter for relative humidity and temperature measurement in climate and air handling installations. HTDT10(-420) has high accuracy (± 2 % RH) and excellent temperature compensation. It has very good protection against condensation and pollution, is easy to mount and has a robust sensor element.

Technical data	
Working range	Humidity: 0...100 % RH. Temperature: -40...+60°C.
Accuracy, humidity	± 2 % RH (0...90 % RH), ± 3 % RH (90...100 % RH)
Accuracy, temperature	± 0.2 K at 20°C
Insertion length	60...230 mm (adjustable)
Mounting	Duct
Protection class	IP65

Article	Description	Supply voltage	Output signal	Note
HTDT10	Humidity and temperature transmitter	15...29 V AC or 15...35 V DC	0...10 V DC	
HTDT10-420	Humidity and temperature transmitter	20...30 V DC	4...20 mA	

ACCESSORIES

Article	Description	Note
CCERT-E	Calibration certificate, when certified calibration is demanded. Must be ordered together with a new transmitter.	

ACCESSORIES, HUMIDITY

Spare parts for humidstats

Article	Description	Length	Note
HH1606	Hair element for HR1/HR2	107 mm	
HH1608	Hair element for HMH/HPH	182 mm	

Filters for humidity transmitters

Article	Description	Note
HA010101	Dust filter made of Gore-Tex, standard on the humidity transmitters	
HA010102	Sintered brass filter, protection in demanding environments	
HA010103	Sintered stainless steel filter, protection in demanding environments	
HA010105	Teflon filter	
HA010106	Metal filter	



HA010101



HA010102



HA010103



HA010105

PRESSURE SWITCHES, TRANSMITTERS AND CONTROLLERS FOR AIR AND NON-CORROSIVE GASES



Differential pressure switch for air and non-corrosive gases

Differential pressure switches with excellent long-term stability.



Technical data	
Max. overload pressure	10 kPa
Relay output	Max. 1.5A (0,4) 250 V AC
Ambient temperature	-20...+85 °C
Protection class	IP54

MODELS WITH CONNECTION KIT (ANS-I)

Article	Working range	Note
DTV300X	20...300 Pa	
DTV500X	50...500 Pa	
DTV1000X	200...1000 Pa	
DTV2500X	500...2500 Pa	
DTV5000X	1000...5000 Pa	

ACCESSORIES



Article	Description	Note
ANS-1	2 m plastic tube and two pressure outlets (cut 60°)	
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
DBZ-14A	Set with mounting bracket and screws (S-shaped)	
DBZ-14B	Set with mounting bracket and screws (L-shaped)	

Differential pressure switch for air and non-corrosive gases

Differential pressure switches with excellent long-term stability.



Technical data	
Max. overload pressure	5 kPa
Relay output	5 A (0.8 A) 250 V AC, change-over
Ambient temperature	-20...+85 °C
Protection class	IP54

MODELS WITH CONNECTION KIT (ANS-20)

Article	Working range	Note
DTV200	20...300 Pa	
DTV500	50...500 Pa	
DTV1000	100...1000 Pa	
DTV2000	500...2000 Pa	
DTV5000	1000...5000 Pa	

ACCESSORIES

Article	Description	Note
ANS-20	2 m plastic tube and two pressure outlets (straight)	
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	



Presigo – Differential pressure transmitters with analogue outputs

Single or dual port differential pressure transmitters with one or two analogue outputs. The transmitter can be configured for 0-10 V or 4-20 mA output signal. Selectable working range.



Technical data	
Supply voltage	24 V AC/DC \pm 15 %
Overall accuracy pressure	\leq 1 % full scale
Power consumption	0...10 V mode : 2 VA (rms), min. trafo size 7,5 VA 4...20 mA mode : 2.7 VA (rms), min. trafo size 9 VA
Operating temperature	-25...+50 °C
Protection class	IP54

MODELS WITH CONNECTION KIT (ANS-20)

Article	Working range	Number of sensors	Note
PDT12	0...1250 Pa	1	
PDT25	0...2500 Pa	1	
PDT75	0...7500 Pa	1	
PDT12S25-2	PS1: 0...1250 Pa / PS2: 0...2500 Pa	2	
PDT12S75-2	PS1: 0...1250 Pa / PS2: 0...7500 Pa	2	

ACCESSORIES

Article	Description	Note
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	



Differential pressure transmitters with communication

Differential pressure transmitters with two universal inputs and communication via EXOLine or Modbus.

Technical data	
Supply voltage	24 V AC/DC ±15 %
Overall accuracy pressure	≤ 1 % full scale
Power consumption	2 VA (rms), min. trafo size 7,5 VA
Operating temperature	-25...+50 °C
Communication	EXOLine / Modbus
Protection class	IP54
Universal inputs (UI1, UI2) to be configured as PT1000, Ni1000 (6180 ppm/K), digital or 0...10 V inputs	
PT1000 input	-40...+60°C / -40...+140°F, accuracy ±1 K (-25...0°C), ±0.5 K (0...50°C)
Ni1000 input	-40...+60°C / -40...+140°F, accuracy ±1 K (-25...0°C), ±0.5 K (0...50°C)
Digital input	Potential-free contacts on/off (closed=on)
0...10 V input	±1 % full scale accuracy

MODELS WITH CONNECTION KIT (ANS-20)

Article	Working range	Number of sensors	Note
PDT12C	0...1250 Pa	1	
PDT25C	0...2500 Pa	1	
PDT75C	0...7500 Pa	1	
PDT12C-2	PS1: 0...1250 Pa / PS2: 0...1250 Pa	2	
PDT25C-2	PS1: 0...2500 Pa / PS2: 0...2500 Pa	2	
PDT12S25C-2	PS1: 0...1250 Pa / PS2: 0...2500 Pa	2	
PDT12S75C-2	PS1: 0...1250 Pa / PS2: 0...7500 Pa	2	

ACCESSORIES

Article	Description	Note
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	



Differential pressure transmitter for air and non-corrosive gases

Compact differential pressure transmitter with automated zero-point adjustment and display

Technical data	
Supply voltage	24 V AC/DC (18...30 V AC/DC)
Output signal	0...10 V / 4...20 mA
Protection class	IP54
Display	Yes
Accuracy, pressure	±1 % full scale, min. ±1 Pa
Ambient temperature	-10...+50 °C °C
Media	Air and non-corrosive gases
Dimensions, external (WxHxD)	85 x 85 x 58 mm

MODELS WITH CONNECTION KIT (ANS-I)

Article	Measuring range, pressure	Description	Note
DTB5/5	-50...+50 Pa	Differential pressure transmitter with display and -50...+50 Pa measuring range	
DTB125	0...100 Pa / 0...250 Pa	Differential pressure transmitter with display and 0...100 Pa / 0...250 Pa measuring range	
DTB510	0...500 Pa / 0...1000 Pa	Differential pressure transmitter with display and 0...500 Pa / 0...1000 Pa measuring range	

ACCESSORIES



Article	Description	Note
DBZ-14A	Set with mounting bracket and screws (S-shaped)	
DBZ-14B	Set with mounting bracket and screws (L-shaped)	
ANS-1	2 m plastic tube and two pressure outlets (cut 60°)	
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	



Differential pressure transmitter for air and non-corrosive gases (multi-range)
Transmitters with a high level of accuracy and stability. Quick and easy mounting.

Technical data	
Supply voltage	24 V AC (24 V DC, two-wire for 4...20 mA), 0.24 VA
Accuracy	±1% full scale
Ambient temperature	0...70 °C
Protection class	IP54

MODELS WITH CONNECTION KIT (ANS-20)

Article	Working range	Output signal	Description	Note
DTL150	100 / 300 / 500 Pa	0...10 V DC	Differential pressure transmitter	
DTL150-420	100 / 300 / 500 Pa	4...20 mA	Differential pressure transmitter	
DTL310	300 / 500 / 1000 Pa	0...10 V DC	Differential pressure transmitter	
DTL310-420	300 / 500 / 1000 Pa	4...20 mA	Differential pressure transmitter	
DTL516	500 / 1000 / 1600 Pa	0...10 V DC	Differential pressure transmitter	
DTL516-420	500 / 1000 / 1600 Pa	4...20 mA	Differential pressure transmitter	
DTL1650	1600 / 2500 / 5000 Pa	0...10 V DC	Differential pressure transmitter	
DTL1650-420	1600 / 2500 / 5000 Pa	4...20 mA	Differential pressure transmitter	
DTL...-D/-420-D	See type	See type	Transmitter (all types above) in display version (LCD). Note: Non-stock item.	

ACCESSORIES

Article	Description	Note
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	
CCERT-H	Calibration certificate for the DTL series, when certified calibration is demanded.	



Differential pressure transmitter for air

Transmitter for differential pressure measurement of air and non-corrosive gases in air handling units, etc. A common application area is pressure control in ventilation systems.

Technical data	
Supply voltage	24 V AC +15/-10 % or 18...33 V DC. (4...20 mA only 18...33 V DC)
Measuring range	-100...+100 Pa
Protection class	IP54
Accuracy, linearity	< ±0.7 % full scale
Accuracy, hysteresis	< ±1.0 % full scale
Ambient temperature	0...70 °C

MODELS WITH CONNECTION KIT (ANS-20)

Article	Display	Output signal	Note
DTL10/10	-	0...10 V DC	
DTL10/10-D	X	0...10 V DC (settable to 4...20 mA via DIP-switch)	

ACCESSORIES

Article	Description	Note
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	



Differential pressure transmitter with display

Differential pressure transmitter for use in air and non-corrosive gases. For control of dampers, frequency converters, VAV systems etc.

Technical data	
Supply voltage	24 V AC/DC (21...27 V AC/DC)
Output signal, pressure	0...10 V DC / 4...20 mA
Measuring range, pressure	0...100 / 0...300 / 0...500 / 0...999 Pa
Accuracy, pressure	±1 % full scale at 20 °C
Electronic damping	0...20 s
Display	Yes
Protection class	IP54

MODELS WITH CONNECTION KIT (MTU) AND 2M PLASTIC TUBE

Article	Description	Note
DMD	Differential pressure transmitter	

ACCESSORIES

Article	Description	Note
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	

6



Differential pressure transmitter with built-in controller and display

Differential pressure transmitter for use in air and non-corrosive gases. For control of dampers, frequency converters, VAV systems etc.

Technical data	
Supply voltage	24 V AC/DC (21...27 V AC/DC 50-60 Hz)
Output signal, pressure	0...10 V DC / 4...20 mA
Output signal, controller	0...10 V DC
Measuring range, pressure	0...100 / 0...300 / 0...500 / 0...999 Pa
Accuracy, pressure	±1 % full scale at 20 °C
P-band	0...300 %
I-time	0...999 s
D-factor	0...999
Electronic damping	0...20 s
Display type	LED, three digits
Mounting	Wall
Protection class	IP54

MODELS WITH CONNECTION KIT (MTU) AND 2M PLASTIC TUBE

Article	Description	Note
DMD-C	Differential pressure transmitter	

ACCESSORIES

Article	Description	Note
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	

PRESSURE TRANSMITTERS FOR LIQUIDS AND GASES



Differential pressure transmitter for liquids and gases

Differential pressure transmitter for measurement of liquids (also glycol-mixed) and gases (not ammonia). The measuring element is made of ceramic material.

Technical data	
Supply voltage	24 V AC / 18...33 V DC (output signal 0...10 V DC), 0.1 VA 11...33 V DC, two-wire (output signal 4...20 mA), 0.5 VA
Ambient temperature	-15...+80 °C
Connection	Screw fitting for Ø 6 mm pipe included
Protection class	IP65

Article	Working range	Output signal	Max. overload pressure (one side)	Accuracy	Note
DTK10	0...10 kPa	0...10 V DC	60 kPa	±1.3 % fs	
DTK10-420	0...10 kPa	4...20 mA	60 kPa	±1.3 % fs	
DTK20	0...20 kPa	0...10 V DC	120 kPa	±1.3 % fs	
DTK20-420	0...20 kPa	4...20 mA	120 kPa	±1.3 % fs	
DTK40	0...40 kPa	0...10 V DC	200 kPa	±1.3 % fs	
DTK40-420	0...40 kPa	4...20 mA	200 kPa	±1.3 % fs	
DTK100	0...100 kPa	0...10 V DC	500 kPa	±1.3 % fs	
DTK100-420	0...100 kPa	4...20 mA	500 kPa	±1.3 % fs	
DTK250	0...250 kPa	0...10 V DC	1200 kPa	±1.3 % fs	
DTK250-420	0...250 kPa	4...20 mA	1200 kPa	±1.3 % fs	
DTK400	0...400 kPa	0...10 V DC	1200 kPa	±0.8 % fs	
DTK400-420	0...400 kPa	4...20 mA	1200 kPa	±0.8 % fs	
DTK600	0...600 kPa	0...10 V DC	1200 kPa	±0.5 % fs	
DTK600-420	0...600 kPa	4...20 mA	1200 kPa	±0.5 % fs	
DTK1000	0...1000 kPa	0...10 V DC	2000 kPa	±0.5 % fs	
DTK1000-420	0...1000 kPa	4...20 mA	2000 kPa	±0.5 % fs	
DTK1600	0...1600 kPa	0...10 V DC	3200 kPa	±0.5 % fs	
DTK1600-420	0...1600 kPa	4...20 mA	3200 kPa	±0.5 % fs	

ACCESSORIES

Article	Description	Note
DTK-NIPPEL	Nipple (R=1/8" 27NPT) for connection of Ø 6 mm copper pipe	
DTK-R	Copper pipe, Ø 6 mm, length 30 cm. Accessory to DTK.	



Pressure transmitter for liquids and gases

Pressure transmitter for measurement of liquids and gases.

Technical data	
Output signal	0...10 V DC (three-wire) or 4...20 mA (two-wire)
Pressure connection	G 1/4" (outside thread)
Dynamic response time	< 2 ms, 1 ms typically
Tolerable overload	≤ 4 bar 3.0 x full scale, > 4 bar 2.5 x full scale
Media temperature	-15...+125 °C
Ambient temperature	-30...+85 °C
Storage temperature	-50...+100 °C
Accuracy, characteristic line	±0.3 % full scale *
Accuracy, resolution	0.1 % full scale *
Accuracy, thermal characteristic	Max. ±0.2 % full scale / 10 K *
Accuracy, long-term stability according to IEC EN 60770-1	Max. ±0.25 % full scale *
Sealing	FPM
Weight	90 g
Cable length	1.5 m
Protection class	IP67



* Test conditions: 25°C, 45 % RH, 24 V DC supply voltage

6

MODELS

Article	Working range	Output signal	Supply voltage	Power consumption	Note
TTKN1	0...100 kPa (1 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN1-420	0...100 kPa (1 bar)	4...20 mA	7...33 V DC	< 23 mA	
TTKN2.5	0...250 kPa (2.5 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN2.5-420	0...250 kPa (2.5 bar)	4...20 mA	7...33 V DC	< 23 mA	
TTKN6	0...600 kPa (6 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN6-420	0...600 kPa (6 bar)	4...20 mA	7...33 V DC	< 23 mA	
TTKN10	0...1000 kPa (10 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN10-420	0...1000 kPa (10 bar)	4...20 mA	7...33 V DC	< 23 mA	
TTKN16	0...1600 kPa (16 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN16-420	0...1600 kPa (16 bar)	4...20 mA	7...33 V DC	< 23 mA	
TTKN25	0...2500 kPa (25 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN25-420	0...2500 kPa (25 bar)	4...20 mA	7...33 V DC	< 23 mA	
TTKN40	0...4000 kPa (40 bar)	0...10 V DC	12...33 V DC / 24 V AC ±15 %	< 7 mA	
TTKN40-420	0...4000 kPa (40 bar)	4...20 mA	7...33 V DC	< 23 mA	

ACCESSORIES

Article	Description	Note
105074	Mounting spacer which lowers the temperature at higher media temperatures than the sensor can handle.	
ADAPTER	Adapter 1/4" to 1/2". For mounting immersion sensors in 1/2".	

ACCESSORIES FOR PRESSURE SWITCHES AND TRANSMITTERS FOR AIR AND NON-CORROSIVE GASES

Pressure outlets

Article	Description	Note
ANS-1	2 m plastic tube and two pressure outlets (cut 60°)	
ANS-3	2 m plastic tube and two pressure outlets (metal, 90° angle)	
ANS-20	2 m plastic tube and two pressure outlets (straight)	



ANS-1



ANS-3



ANS-20

PRESSURE OUTLET SELECTION

Article	ANS-1	ANS-3	ANS-20	Note
DTV...X	X	X	-	
DTV...	-	X	X	
PDT...	-	X	X	
DTL...	-	X	X	
DTL10/10...	-	X	X	
DMD...	-	X	X	
DTB...	X	X	-	

FLOW



Air velocity transmitter

The transmitter is intended for air velocity measurement in HVAC systems, ventilation ducts or similar applications.

Technical data	
Supply voltage	24 V AC / DC $\pm 20\%$
Working range	0...10 m/s, 0...15 m/s, 0...20 m/s
Output signal	0...10 V (max. 1 mA), 4...20 mA
Time constant	1.5 s at 10 m/s
Accuracy	$\pm(0.2 \text{ m/s} + 3\% \text{ of the value})$ at 0.2...10 m/s $\pm(0.2 \text{ m/s} + 3\% \text{ of the value})$ at 0.2...15 m/s $\pm(0.2 \text{ m/s} + 4\% \text{ of the value})$ at 0.2...20 m/s
Damping	0.7 or 4 s
Ambient temperature	-10...+50 °C
Insertion length	50...200 mm - adjustable
Mounting	Duct
Dimensions	90 x 85 x 255 mm
Protection class	IP65

AVDT25N

Article	Description	Note
AVDT25N	Air velocity transmitter	

6



Air flow switch

Air or non-aggressive gas flow control. Alarm signal for flow shortage. Well-suited for air ducts, air conditioning and air handling systems.

Technical data	
Contacts	Dust-tight microswitch with SPDT contacts (NC/NO)
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-40...+85 °C
Ambient humidity	10...90 % RH (non-condensing)
Media temperature	-10...+85 °C
Paddles	Stainless steel AISI 301
Material, casing cover	Transparent PC
Material, casing base	ABS
Dimensions	265.5 x 140 x 102 mm
Protection class	IP65

Article	Cut out	Cut in	Max. air temperature	Note
AFS1	min. 1.0 m/s - max. 8.0 m/s	min. 2.5 m/s - max. 9.2 m/s	85 °C	



FLS304 ...



FLS305 ...



FLS306X, FLS307X,
FLS308X

Liquid flow switch

Electromechanical flow switches, suited for pipes of industrial plants: heating and air conditioning, refrigeration systems and heat pumps. Available in brass (suitable for normal media), and stainless steel AISI 316L (compatible with certain aggressive media).

Technical data	
Contacts	Dust-tight microswitch with switching contacts SPDT
Switch capacity	15 (8) A, 24...250 V AC
Ambient temperature	-40...+85 °C
Ambient humidity	10...90 % RH (non-condensing)
Media temperature	-40...+120 °C
Paddles	Stainless steel AISI 316L
Material, casing cover	Transparent Polycarbonate (PC)
Dimensions	140 x 62 x 65 mm
Protection class	IP65 class I

Article	For pipes (diameter)	Flow	Max. pressure	Media	"T" pipe fitting	Note
FLS304X	1...8"	0.6...90.8 m³/h	1100 kPa (11 bar)	Normal (body in brass)	-	
FLS304XT	1...8"	0.6...90.8 m³/h	1100 kPa (11 bar)	Normal (body in brass)	-	
FLS304XRE	1...8"	0.2...55.3 m³/h	1100 kPa (11 bar)	Normal (body in brass)	-	
FLS305XT	1...8"	0.6...90.8 m³/h	3000 kPa (30 bar)	Corrosive (AISI 316L compatibility)	-	
FLS305XRE	1...8"	0.2...55.3 m³/h	3000 kPa (30 bar)	Corrosive (AISI 316L compatibility)	-	
FLS306X	1/2"	0.174...0.846 m³/h	1100 kPa (11 bar)	Normal (body in brass)	X	
FLS307X	3/4"	0.138...0.768 m³/h	1100 kPa (11 bar)	Normal (body in brass)	X	
FLS308X	1"	0.2...1.0 m³/h	1100 kPa (11 bar)	Normal (body in brass)	X	

ACCESSORIES

Article	Description	Note
FLZ-09	Paddles for liquid flow switch in stainless steel AISI 316L.	



The FLS304XT and FLS305XT models are TÜV approved.

ACCESSORIES FOR FLOW TRANSMITTERS AND SWITCHES



DBZ-09

Paddles for liquid flow switch in stainless steel.

Article	Description	Note
FLZ-09	Paddles for liquid flow switch in stainless steel AISI 316L.	

CO₂/CO/NO₂ CONTROLLERS AND TRANSMITTERS



CO2RT-R

CO₂ transmitter with relay, room mounting

The CO2RT series measures CO₂ level. Models are available with or without display.



CO2RT-R-D

Technical data	
Supply voltage	24 V AC ±10 % / 15...35 V DC
Working range, CO ₂	0...2000 ppm
Accuracy, CO ₂	< ± (50 ppm + 2 % of the measured value) (25 °C)
Relay output	Max. 1 A at 50 V AC, min. 1 mA at 5 V DC
Mounting	Room
Protection class	IP30
Calibration	Automatic

Article	Display	Note
CO2RT-R	-	
CO2RT-R-D	X	



CTHR(A)

CO₂, temperature and humidity transmitter; room mounting

Transmitters for wall mounting with or without display.



CTHR(A)-D

Technical data	
Supply voltage	24 V AC/DC (22...26 V AC / 15...35 V DC)
Working range, CO ₂	0...2000 ppm
Accuracy, CO ₂	< ± (50 ppm + 2 % of the measured value)
Working range, temperature	0...50 °C
Accuracy, temperature	±0.3°C
Working range, humidity	10...90 % RH (non-condensing)
Accuracy, humidity	±3 % at 20°C
Power consumption	< 2.5 W
Energy consumption	< 0.5 Wh
Transformer power	≥ 5 VA
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Accuracy, temperature	Output, CO ₂	Output, humidity	Output, temperature	Display	Note
CTHR	± 0.3 °C	0...10 V DC	0...10 V DC	PT1000	-	
CTHR-D	± 0.3 °C	0...10 V DC	0...10 V DC	PT1000	X	
CTHRA	± 0.4 °C	0...10 V DC	0...10 V DC	0...10 V DC	-	
CTHRA-D	± 0.4 °C	0...10 V DC	0...10 V DC	0...10 V DC	X	



CTRTA



CTRTA-D

CO₂ and temperature transmitter, room mounting
Transmitters for wall mounting with or without display.

Technical data	
Supply voltage	24 V AC/DC (22...26 V AC / 15...35 V DC)
Working range, CO ₂	0...2000 ppm
Accuracy, CO ₂	< ± (50 ppm + 2 % of the measured value)
Working range, temperature	0...50 °C
Power consumption	< 2.5 W
Energy consumption	< 0.5 Wh
Transformer power	≥ 5 VA
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Accuracy, temperature	Output, temperature	Output, CO ₂	Display	Note
CTRTA	± 0.4 °C (0...10 V), ± 0.3 °C (PT1000)	0...10 V DC + PT1000	0...10 V DC	-	
CTRTA-D	± 0.4 °C (0...10 V), ± 0.3 °C (PT1000)	0...10 V DC + PT1000	0...10 V DC	X	



CTRC



CTRC-D

CO₂ and temperature transmitter for Modbus communication, room mounting
Transmitters for wall mounting with or without display.

Technical data	
Output signal	Modbus
Supply voltage	24 V AC/DC (22...26 V AC / 15...35 V DC)
Working range, CO ₂	0...2000 ppm
Accuracy, CO ₂	< ± (50 ppm + 2 % of the measured value) (25 °C)
Working range, temperature	0...50 °C
Accuracy, temperature	± 0.2 °C at 20 °C
Communication	Modbus RTU
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Display	Accuracy, temperature	Note
CTRC	-	± 0.2 °C	
CTRC-D	X	± 0.2 °C	



CTHRC



CTHRC-D



CO₂, temperature and humidity transmitter for Modbus communication, room mounting

Transmitters for wall mounting with or without display.

Technical data	
Output signal	Modbus
Supply voltage	24 V AC/DC (22...26 V AC / 15...35 V DC)
Working range, CO ₂	0...2000 ppm
Accuracy, CO ₂	< ± (50 ppm + 2 % of the measured value) (25 °C)
Working range, temperature	0...50 °C
Working range, humidity	10...90 % RH (non-condensing)
Accuracy, humidity	±3 % at 20°C
Communication	Modbus RTU
Mounting	Room
Dimensions	100 x 85 x 30.5 mm
Protection class	IP30

Article	Display	Accuracy, temperature	Note
CTHRC	-	± 0.2°C	
CTHRC-D	X	± 0.2°C	



CO₂ and temperature transmitter for duct mounting

Transmitter for measuring carbon dioxide concentration and temperature in air. Passive PT1000 output and 0...10 V DC for temperature.

Technical data	
Output signal	0...10 V DC or 4...20 mA (settable)
Supply voltage	24 V AC ±20 %, 50...60 Hz, 2 VA, 15...35 V DC
Working range, CO ₂	0...2000 ppm
Accuracy, CO ₂	< ± (50 ppm + 2 % of the measured value)
Working range, temperature	0...50 °C
Accuracy, temperature	±0.3°C
Mounting	Duct
Protection class	IP65 with probe downwards, otherwise IP20
Calibration	Automatic

Article	Description	Note
CTDT2	CO ₂ and temperature transmitter for duct mounting	



CO₂ transmitter, duct mounting

Measures the concentration of carbon dioxide in ducts.

Technical data	
Supply voltage	24 V AC \pm 20 %, 50...60 Hz or 15...35 V DC, 3 VA
Working range	0...2000 ppm
Accuracy	\pm (50 ppm + 2 % of the measured value)
Relay output	Max. 1 A at 50 V AC, min. 1 mA at 5 V DC
Mounting	Duct
Protection class	IP65
Calibration	Automatic

Article	Description	Note
CO2DT-R	CO ₂ transmitter with relay	



Also available with 0...5000 ppm working range on request



Carbon monoxide transmitter

This device measures the carbon monoxide concentration using an electrochemical method of measurement characterised by high selectivity even in low concentrations. It is installed for both safety and energy-saving reasons. The output signals are linear representations of the gas concentration.

The transmitter is TÜV-approved in accordance with VDI 2053.

Technical data	
Supply voltage	12...28 V DC
Measuring range	0...300 ppm
Outputs	4...20 mA, two-wire / 0...10 V DC, three-wire
Calibration	Automatic zero adjustment
Protection class	IP56
Accuracy	\pm 3 %

Article	Description	Note
COF	CO transmitter	



Nitrogen dioxide transmitter

NO2F measures the nitrogen dioxide concentration using an electrochemical method of measurement characterised by high selectivity even in low concentrations. The output signals are linear representations of the gas concentration.

The transmitter is TÜV-approved in accordance with VDI 2053.

Technical data	
Supply voltage	12...28 V DC
Measuring range	0...20 ppm
Outputs	4...20 mA, two-wire / 0...10 V DC, three-wire
Calibration	Automatic zero adjustment
Protection class	IP56
Accuracy	±3 %

Article	Description	Note
NO2F	NO ₂ transmitter	



Room controller; temperature and CO₂

Temperature and CO₂ controller for control of e.g. an EC fan or a damper in air handling or demand-controlled ventilation applications.

Technical data	
Supply voltage	85...230 V AC, 50/60 Hz
Temperature range	5...30 °C
Working range, CO ₂	0...2000 ppm
Outputs	1 analogue output 0...10 V (RL > 10 K)
Mounting	Room
Protection class	IP30
Calibration	Automatic

Article	Description	Note
ALC230A	Temperature and CO ₂ controller	

LUX TRANSMITTER



LTWT10N...

Lux transmitter

In- or outdoor lux transmitter with a passive PT1000 temperature sensor as well as DIP switches for scaling the measuring range.

Technical data	
Supply voltage	24 V AC/DC (12...34 V AC/DC)
Power consumption	<2 W
Load impedance	Min. 10 kΩ
Protection class	IP54
Ambient humidity	0...98 % RH (non-condensing)
Ambient temperature	-30...+70 °C
Cable connection	Screw terminals max. 1.5 mm ²
Mounting	Wall
Output signal, lux	0...10 V , corresponding to the selected measuring range
Sensor element, lux	MEMS
Measuring range, lux	0...1000 / 0...10000 / 0...50000 / 0...100000 lux
Accuracy, lux	±10 %
Sensor element, temperature	PT1000
Measuring range, temperature	-30...+70 °C
Accuracy, temperature	±0.3 K
Dimensions, external (WxHxD)	69 x 75 x 44 mm
Weight (incl. packaging)	0.17 kg

MODELS

Article	Description	Note
LTWT10N/PT1000	Lux transmitter	

+4°C

7

DETECTORS

+21°C



DETECTORS



SDD-...

Smoke detector for duct mounting, ionisation
Single-tube detector including 600 mm venturi tube.

Technical data	
Supply voltage	9...33 V DC (via ABV control unit). 24 V AC $\pm 15\%$ for RAC(M) models.
Power consumption, incl. end resistor (not RAC(M))	Normal operation: 10 mA at 24 V DC. Alarm condition: 50 mA at 24 V DC. Service alarm condition: 20 mA at 24 V DC.
Mounting	Duct
Protection class	IP54

Article	Description	Note
SDD-S65	Ionisation detector with service alarm including 600 mm venturi tube.	
SDD-S65-RAC	Ionisation detector with AC power supply and relay output only with service alarm, including 600 mm venturi tube.	



TDS

ACCESSORIES

Article	Description	Note
TDS	Mounting spacer for insulated pipe ducts	
VR600	Venturi tube, 540 mm length (standard supply together with the detector)	
VR2000	Venturi tube, 1940 mm length	



VR600



SDD-...

Smoke detector for duct mounting, optical
Single-tube detector, including 600 mm Venturi tube.

Technical data	
Supply voltage	9...33 V DC (via ABV control unit). 24 V AC $\pm 15\%$ for RAC(M) models.
Power consumption, incl. end resistor (not RAC(M))	Normal operation: 10 mA at 24 V DC. Alarm condition: 50 mA at 24 V DC. Service alarm condition: 20 mA at 24 V DC.
Mounting	Duct
Protection class	IP54

Article	Description	Note
SDD-OE65	Optical detector with service alarm (max 20 sensors, to be connected to CABV control unit) including 600 mm Venturi tube.	
SDD-OE65-RAC	Optical detector with AC power supply and relay output only, with service alarm, including 600 mm Venturi tube.	



TDS

ACCESSORIES

Article	Description	Note
TDS	Mounting spacer for insulated pipe ducts	
VR600	Venturi tube, 540 mm length (standard supply together with the detector)	
VR2000	Venturi tube, 1940 mm length	



VR600



S65

Smoke detector for ceiling mounting

Smoke detector for all kinds of areas. Constructed to meet the high demands of a modern fire installation. To be used with CABV control unit.

Technical data	
Supply voltage	9...33 V DC (via ABV control unit)
Current consumption	10 mA (50 mA if an alarm occurs)
Mounting	Ceiling
Protection class	IP43



S-BP

MODELS

Article	Description	Detection principle	Note
S65-OE	Optical detector with service alarm	Optical. Photoelectric, reflecting type	
S65	Ionisation detector with service alarm	Ionisation, two chamber	

ACCESSORIES

Article	Description	Note
S-BP	Base for detectors	
S-BPR-S65	Base for S65 detectors with built-in change-over relay (24 V AC)	



Control units for smoke detectors

Control unit for smoke detectors. Provides power supply and alarm handling for smoke detectors, with or without service alarm. Two relay contacts for alarm handling.

Technical data	
Current consumption	30 mA (70 mA if an alarm occurs)
Mounting	DIN-rail
Number of modules	3
Protection class	IP20

Article	Supply voltage	Alarm outputs	Service alarm	Note
ABV24-S-300/D	24 V AC/DC	One change-over contact (smoke), one closing contact (smoke), one closing contact (service)	X	
ABV-S-300/D	230 V AC	One change-over contact (smoke), one closing contact (smoke), one closing contact (service)	X	



Smoke spray

Spray for control of smoke detectors. Suitable for control of ionisation or optical smoke detectors.

Article	Description	Note
SS-260	Smoke spray, 260 ml	



IR24-P

Motion detector

Detector providing a signal when someone enters the room. The detector has a pulse-detecting function that minimizes the risk of false alarms. Settable on/off delays and change-over relay.

Technical data	
Supply voltage	24 AC/DC
Alarm relay	200 mA, 24 V AC/DC, potential-free, change-over relay
Current consumption	5 mA
Temperature range	-20...+50 °C
Ambient humidity	Max. 95 % RH
Protection class	IP20



IR24-PC

Article	Mounting	Detection area	Note
IR24-P	Wall	15 m, 110° angle	
IR24-PC	Ceiling	Height x 2.5 = coverage diameter, 25° angle	



WIRELESS PRODUCTS



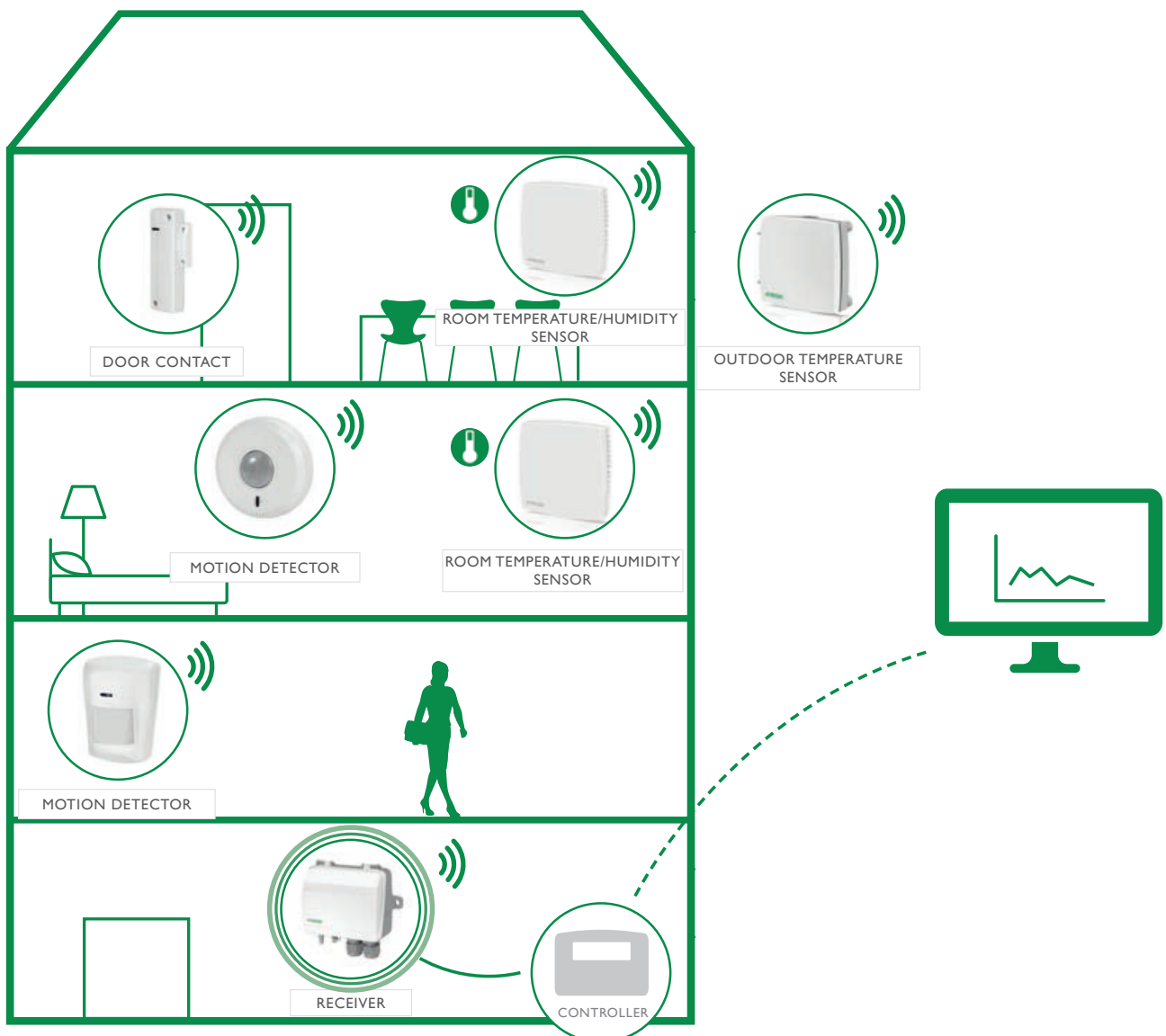
GO WIRELESS

WITH RELIABILITY IN FOCUS

- ✓ Install products on surfaces where you couldn't before, e.g. in heritage listed buildings with restrictions.
- ✓ The simple solution for flexible, module based offices – easy to move or add as needed. Easy to move when refurbishing.

SHORT FACTS

- ✓ Extensive communication range and high reliability
- ✓ Wireless = low installation costs + great timesaver
- ✓ Easy to integrate with Modbus based systems



EXOcompact
EXOclever
EXIGO

GO WIRELESS

READY STEADY GO



REGIN
THE CHALLENGER



MR32W

Wireless receiver with Modbus communication

Modbus receiver that can pair with up to 32 digital or analogue sensors.

Technical data	
Supply voltage	24 V AC/DC (21...27 V AC/DC)
Frequency	868 MHz
Protection class	IP54
Ambient temperature	-10...+50 °C
Ambient humidity	Max. 85 % RH, non-condensing
Dimensions, external (WxHxD)	120 x 112 x 40 mm
Internal serial port, type	RS485
Internal serial port, built-in protocol	Modbus
Internal serial port, communication speed	1200 / 2400 / 9600 (default) / 19200 / 38400 / 57600 bps
Internal serial port, parity	None (default) / even / odd
Internal serial port, stop bit	1 stop bit (default) / 2 stop bits
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	

Article	Description	Note
TG-R6W	Wireless outdoor temperature sensor	
TG-R6EW	Wireless outdoor temperature sensor equipped with a terminal for connecting an external PT1000 sensor	
HTRT5W	Wireless room temperature and humidity sensor	
IRCW	Wireless ceiling mounted ir motion detector	
IRW	Wireless motion detector	
DCW	Wireless digital input / door contact	
EPRW	Wireless electric pulse reader	
RPW	Wireless repeater	



Repeater for wireless receiver

Wireless repeater used within the Regin Go Wireless concept. The repeater makes the system more flexible by increasing the maximum possible distance between the receiver and the paired sensor or detector.



Technical data	
Supply voltage	230 V ~ (100...240 V ~ 50/60 Hz)
Power consumption	0.5 A
Battery backup	yes
Frequency	868 MHz
Protection class	IP30
Mounting	Any flat surface
Dimensions, external (WxHxD)	185 x 130 x 30 mm
Material, housing	Polycarbonate (PC)
Colour, housing	RAL9010

Article	Description	Note
RPW	Wireless repeater	



HTRT5W

Wireless room temperature and humidity sensor

High quality room temperature and humidity sensor within the Regin Go Wireless concept.

Technical data	
Power supply	AA 1.5 V L91 battery x 2
Battery life	10 years
Frequency	868 MHz
Protection class	IP30
Measuring range, temperature	-10...+50 °C
Measuring range, humidity	0...100 % RH
Accuracy, temperature	±0.2 K
Accuracy, humidity	±2 %
Dimensions, external (WxHxD)	86 x 86 x 30 mm
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)
Colour, housing	RAL9010
Colour, base	RAL9010

Article	Description	Note
HTRT5W	Wireless room temperature and humidity sensor	

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	



TG-R6EW

Wireless outdoor temperature sensor with input for external PT1000 sensor

TG-R6EW is a high quality outdoor temperature sensor within the Regin Go Wireless concept. The sensor is possible to use either with an external PT1000 sensor or an internal sensor.

Technical data	
Power supply	CR123A 3V lithium battery x 2
Battery life	5 years
Frequency	868 MHz
Protection class	IP54
Measuring range, temperature	-40...+50 °C
Measuring range, temperature (PT1000)	-50...+75 °C
Accuracy, temperature	±0.2 K
Dimensions, external (WxHxD)	90 x 85 x 35 mm
Material, housing	Polycarbonate (PC)
Material, base	Polycarbonate (PC)

Article	Description	Note
TG-R6EW	Wireless outdoor temperature sensor equipped with a terminal for connecting an external PT1000 sensor	

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	

NEWS!



Wireless optical pulse reader

Counts electrical pulses from an electricity meter.

Technical data	
Supply voltage	Battery AA 1.5V L91 Lithium x 2
Battery life	6 years (calculated on activation every 5 minutes)
Frequency	868 MHz
Ambient temperature	-10...+50 °C
Ambient humidity	up to 85 % RH non-condensing
Protection class	IP30
Dimensions, external (WxHxD)	86 x 86 x 30 mm
Dimensions (WxHxD)	19 x 27 x 17 mm
Cable length	1 m

Article	Description	Note
EPRW	Wireless electric pulse reader	



IRCW

Wireless ceiling mounted motion detector

Detector providing a signal when someone enters the room. 360° detection area with a diameter of 8 meters.

Technical data	
Power supply	CR123A 3V lithium battery x 1 (CR123A)
Battery life	6 years
Frequency	868 MHz
Range, frequency	Over 300 meters in unobstructed space
Ambient temperature	-10...+45 °C
Ambient humidity	Max. 85 % RH (non-condensing)
Protection class	IP20
Dimensions	Ø 106 mm x 30,3 mm
Mounting position	2.7 ...4 m above the floor
Range, detection	Ø 6...8 m

Article	Description	Note
IRCW	Wireless ceiling mounted IR motion detector	

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	



IRW

Wireless motion detector

Detector providing a signal when someone enters the room.

Technical data	
Power supply	CR123A 3V lithium battery (CR123A)
Battery life	6 years
Range, detection	12 m over 110° angle (2 m mounting height)
Range, communication	Up to 300 m (open space)
Frequency	868 MHz
Ambient temperature	-10...+50 °C
Ambient humidity	Max. 85 % RH (non-condensing)
Protection class	IP20
Dimensions, external (WxHxD)	64 x 94 x 42 mm

Article	Description	Note
IRW	Wireless motion detector	

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	



DCW

Wireless digital input / door contact

Digital input/door contact.

Technical data	
Power supply	CR2 3V lithium battery
Battery life	7 years
Frequency	868 MHz
Ambient temperature	-10...+50 °C
Ambient humidity	Max. 85 % RH (non-condensing)
Protection class	IP30
Dimensions, external (WxHxD)	42 x 105 x 20 mm

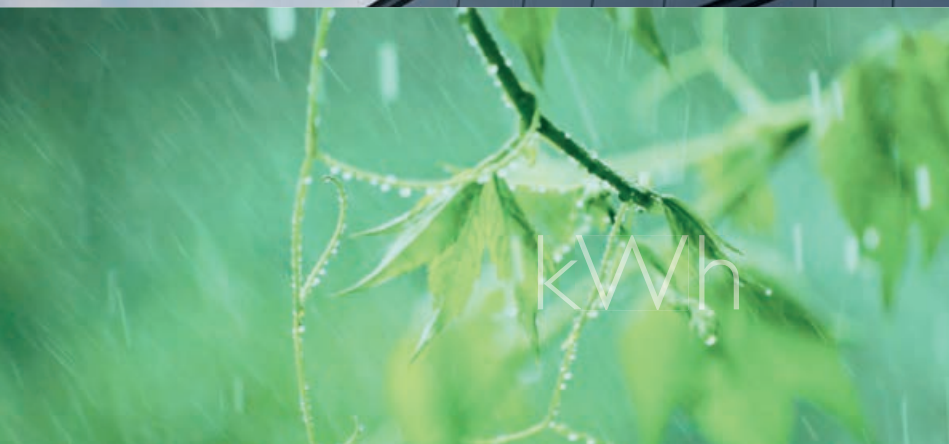
Article	Description	Note
DCW	Wireless digital input / door contact	

Article	Description	Note
RCW-M32	Wireless 32 channel receiver with Modbus communication	

9



ENERGY METERS



kWh





Ultrasonic energy meters

Externally threaded, compact energy meters with built-in ultrasonic flow meter, intended for heating or cooling.

We offer many different options, see the product sheet for more information.

Technical data, calculator	
Power supply	Exchangeable 3 V lithium battery, estimated lifetime 10 years. 24 V and 230 V power packs available as accessory.
Temperature difference range, heating	3...100 K
Temperature difference range, cooling	-3...-50 K
Protection class	IP65
Technical data, flow meter	
Connection	Threaded according to ISO 228/1
Pressure rating	PN16
Media	Water
Mounting position	Horizontal or vertical
Technical data, temperature sensor	
Cable length	1.5 m (the other temperature sensor is integrated into the flow meter)
Sensor element	PT1000, DIN IEC 60751
Diameter, sensor	5 mm

Article	Description	Note
SSU	Energy meter with ultrasonic flow meter. See ordering code selection table for more information on each model.	

ORDERING CODE SELECTION TABLE

Options	SSU				
Flow (thread on meter body) (DN) (length of flow meter)	0.6 m ³ /h (G3/4") (DN15) (110 mm)	15-0.6 ²			
	1.5 m ³ /h (G3/4")(DN15) (110 mm)	15-1.5			
	2.5 m ³ /h (G1") (DN20) (130 mm)	20-2.5			
	3.5 m ³ /h (G1") (DN20) (130 mm)	20-3.5			
	3.5 m ³ /h (G1 1/4") (DN25) (150 mm)	25-3.5			
	6.0 m ³ /h (G1 1/4") (DN25) (150 mm)	25-6.0			
	10.0 m ³ /h (G2") (DN40) (200 mm)	40-10			
Type of measurement and installation point	Heating installation of flow meter in return pipe (MID approval)		-	HR	
	Cooling ¹ , installation of flow meter in return pipe		-	CR	
Communication interface	M-Bus				- M
	M-Bus with 3 pulse inputs				- MPI
	Pulse output for energy				- PO

¹ TÜV approval. ² 0.6 is only available for heating, not for cooling.



If any further requirements or options are needed, or for pricing questions, please contact Regin.

ACCESSORIES

THREADED FITTING WITH COUPLING RING AND GASKET *



Article	Meter DN	Connection A	Connection B	Compatible with	Note
VSR-1/2	15	G $\frac{3}{4}$	R $\frac{1}{2}$	q _p 0.6/1.5 m ³ /h	
VSR-3/4	20	G1	R $\frac{3}{4}$	q _p 2.5/3.5 m ³ /h	
VSR-1	25	G1 $\frac{1}{4}$	R1	q _p 3.5/6.0 m ³ /h	
VSR-1 1/2	40	G2	R1 $\frac{1}{2}$	q _p 10 m ³ /h	

BALL VALVE WITH COUPLING RING AND GASKET *



Article	Meter DN	Connection A	Connection B	Compatible with	Note
KH-3/4	15	Rp $\frac{3}{4}$	G $\frac{3}{4}$	q _p 0.6/1.5 m ³ /h	
KH-1	20	Rp1	G1	q _p 2.5/3.5 m ³ /h	
KH-1 1/4	25	Rp1 $\frac{1}{4}$	G1 $\frac{1}{4}$	q _p 3.5/6.0 m ³ /h	
KH-2	40	Rp2	G2	q _p 10 m ³ /h	

BALL VALVE WITH INSTALLATION POINT FOR A TEMPERATURE SENSOR (SOCKET M10X1)



Article	Meter DN	Connection A	Compatible with	Note
KH-S-3/4	15	G $\frac{3}{4}$	q _p 0.6/1.5 m ³ /h	
KH-S-1	20	G1	q _p 2.5/3.5 m ³ /h	
KH-S-1 1/4	25	G1 $\frac{1}{4}$	q _p 3.5/6.0 m ³ /h	
KH-S-2	40	G2	q _p 10 m ³ /h	

SUPPLY FLOW ADAPTER WITH GASKET, FOR DIRECT MOUNTING OF A TEMPERATURE SENSOR IN A T-PIECE



Article	Connection A	Note
VAD-1/2	G $\frac{1}{2}$, M10x1	
VAD-3/8	G $\frac{3}{8}$, M10x1	

THREADED ADAPTER TO REPLACE A FLOW METER TEMPORARILY OR PERMANENTLY



Article	Meter DN	Compatible with	Installation length	Note
PS-110-3/4	15	q _p 0.6/1.5 m ³ /h	110 mm	
PS-130-1	20	q _p 2.5 m ³ /h	130 mm	
PS-150-1 1/4	25	q _p 3.5/6 m ³ /h	150 mm	
PS-200-2	40	q _p 10 m ³ /h	200 mm	

OPTICAL INTERFACE AND READ-OUT SOFTWARE



Article	Description	Note
OPTO-CABLE-USB	Optocoupler with USB interface	
OPTO-TOOL	Software device monitor	

24 V AND 230 V POWER PACK



Article	Description	Note
POWERPACK-EM	230 V power pack	
POWERPACK-EM-24	24 V AC power pack	

SPARE PARTS



Article	Description	Note
BATTERY-EM	Battery for SSU	



* Either the brass threaded fittings or the ball valves are to be used on each side of the flow meter: 2 pcs are required for each meter.



Ultrasonic energy meters

Flanged ultrasonic energy meters, intended for heating or cooling.

We offer many different options, see the product sheet for more information.

Technical data, calculator	
Power supply	3 V lithium battery, min. 10 years. 24 V and 230 V power packs are available as accessories.
Temperature range, heating (energy meter)	1...150 °C
Protection class	IP54
Technical data, temperature sensor	
Cable length	3 m
Sensor element	PT500; separately approved type as per EN60751, unshielded
Diameter, sensor	6 mm
Technical data, flow meter	
Connection	Flanged according to EN 1092-3
Pressure rating	PN25
Media	Water
Mounting position	Horizontal or vertical

Article	Description	Note
SSCU	Ultrasonic energy meter. See ordering code selection table for more information on each model.	

ORDERING CODE SELECTION TABLE

Options	SSCU				
Flow select m ³ /h (DN) (Length in mm) (Flange)	3.5 m ³ /h (DN25) (260 mm) (PN25 flange with 4 bolt holes)	25-3.5			
	6.0 m ³ /h (DN25) (260 mm) (PN25 flange with 4 bolt holes)	25-6.0			
	10 m ³ /h (DN40) (300 mm) (PN25 flange with 4 bolt holes)	40-10			
	15 m ³ /h (DN50) (270 mm) (PN25 flange with 4 bolt holes)	50-15			
	25 m ³ /h (DN65) (300 mm) (PN25 flange with 8 bolt holes)	65-25			
	40 m ³ /h (DN80) (300 mm) (PN25 flange with 8 bolt holes)	80-40			
	60 m ³ /h (DN100) (360 mm) (PN25 flange with 8 bolt holes)	100-60			
Type of measurement and installation point	Heating installation of flow meter in return pipe (MID approval)		-	HR	
	Cooling ¹ , installation of flow meter in return pipe		-	CR	
Communication interface	M-Bus				- M
	M-Bus with 3 pulse inputs				- MPI
	Pulse output for energy				- PO

¹ TÜV approval.



If any further requirements or options are needed, or for pricing questions, please contact Regin.



TH-85

TEMPERATURE SENSOR POCKET FOR INSTALLATION OF UNIVERSAL TEMPERATURE SENSOR WITH 6 MM SHEATH DIAMETER

Article	Connection A	Compatible with	Installation length	Note
TH-85-1/2	G½	q _p 3.5...10 m³/h	85 mm	
TH-120-1/2	G½	q _p 15...100 m³/h	120 mm	



OPTO-CABLE-USB

OPTICAL INTERFACE AND READ-OUT SOFTWARE

Article	Note
OPTO-CABLE-USB	
OPTO-TOOL	



POWERPACK-EM

24 V AND 230 V POWER PACK

Article	Description	Note
POWERPACK-EM	230 V power pack	
POWERPACK-EM-24	24 V AC power pack	



BATTERY-EM

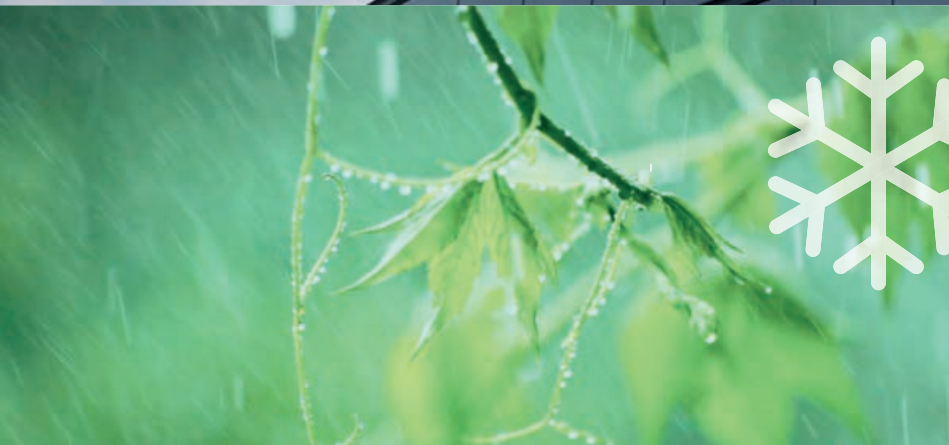
SPARE PARTS

Article	Description	Note
BATTERY-EM	Battery for SSU	



10

VALVES



VALVES APPLICATION



VALVE	TYPE	NOMINAL DIAMETER	KVS	STROKE	PN	CONNECTION	DZR Requirement	District heating	Heating / Cooling	Chilled beams, ceilings etc.	Fan-coil	Radiator	Steam
CTV	2-way	DN10–20	0,12–1,9	3,5mm	10	External thread			✓				
RTV	2-way	DN10–15	1,2–1,4	1,7mm		Internal/External			✓		✓		
FVR	2-way	DN10–20	0,01–1,1	1,7mm					✓		✓		
RV2	2-way	DN10–20	0,15–0,41	3,5mm				✓		✓			
ZFCM	2- & 3-way	DN15–32	3,2–10	20°	16	Internal threads				✓			



VTTV	2-way	DN15–20	0,25–6	2,5mm	16	External threads			✓	✓			
VTTR	3-way								✓	✓			
VTTB	3-way with bypass								✓	✓			



ZTV	2-way	DN15–25	0,25–7	5,5mm	16	External threads		✓	✓	✓			
ZTR	3-way								✓	✓	✓		
ZTVB	2-way	DN25–40	8,0–20			Internal threads		✓	✓	✓			
ZTRB	3-way								✓	✓	✓		
ZMD	2- & 3-way	DN15–40	0,25–25			External thread (internally threaded unions included)		✓	✓	✓			



ETVS	2-way	DN15–50	0,25–40	20mm	16	External thread (internally threaded unions included)	✓	✓	✓				
ETRS¹	3-way								✓		✓		
MTVS	2-way		0,63–39			Internal threads		✓		✓			
MTRS	3-way								✓		✓		
BF	2- & 3-way		0,63–40						✓				
BTV	2-way		0,6–39					✓					
BV	2- & 3-way		0,60–63	90°	40			✓					



PCTVS	2-way PICV Pressure independent control valve	DN15	150–900l/h	2,7mm	25	Internal threads			✓	✓	✓		
PCTVS		DN20						External threads			✓	✓	✓
PCMTV		DN15–25	150–1500l/h			6mm	Internal threads			✓	✓	✓	
		DN20–32	2200–3000l/h	90°	External thread (internally threaded unions included)				✓	✓	✓		
		DN32–50	6000–18000l/h			40			✓	✓	✓		
	DN50–250	25700–277000l/h	Multi-turns			Flanged		✓					



GF³	2- & 3-way (DIN-standard)	DN25–200	6,3–550	20–40mm	16	Flanged			✓				
NTVS³	2-way (DIN-standard)	DN15–150	0,4–310	20–40mm				✓	✓			✓²	
BW2	2-way	DN40–200	110–3120	90°					✓				

After selecting valve with this quick guide, please check the catalogue section for the valve in question and product sheet to make sure you have chosen correctly according to differential pressure etc.

¹ Can be used as 2-way valve as well with the attached blind cover
 ² Use the -M version, i.e. NTVS50-39M for instance, contact Reglin for prices.
 ³ Face-to-face measurement in DIN

DZR Requirement
 District heating
 Heating / Cooling / Ventilation
 Chilled beams, ceilings etc.
 Fan-coil
 Radiator
 Steam

ZONE VALVES



2-way radiator/zone valve, DN10-15, fixed kvs

Range of zone valves for control in aftertreatment systems. The valve can control water flow to cooling and heating batteries, radiators, convectors, chilled ceilings etc. and is intended to be used with the RTA(O)M100 thermal actuators.



Technical data	
Application	Heating systems, cooling systems, radiators, radiant cooling, ventilation systems
Pressure rating	PN10
Connection, actuator	M28 x 1.5
Max. leakage	0 % of the kvs value
Media temperature	5...100 °C
Stroke	1.7 mm
Material	
Body	Chromed brass CW614N
Seat	Brass CW614N
Stem	Stainless steel 1.4305
O-rings	EPDM
Bonnet	Brass CW614N
Seat packing	NBR

MODELS

Article	Nominal diameter	Connection, internal thread	Connection, external thread	Kvs	ΔP_{max}	ΔP_s	Actuator	Note
RTV10	DN10	G3/8" (inlet)	M22 x 1.5 (outlet)	1.2 m ³ /h	30 kPa	150 kPa	RTA(O)M	
RTV15	DN15	G1/2" (inlet)	M26 x 1.5 (outlet)	1.4 m ³ /h	30 kPa	150 kPa	RTA(O)M	

ACCESSORIES



Article	Description	Note
VA54	Adapter, M28 x 1,5	



ΔP_s constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure.

ΔP_{max} constitutes the max. permitted differential pressure over the flow path of the valve for the entire actuating range of the actuator (i.e. open valve).



FVR

2-way radiator/zone valve, DN10-20, adjustable kvs

The zone valve is intended for zone control systems together with the thermal actuators in the RTA(O)M100 series. The valve can control water flow to cooling as well as heating batteries, such as convectors, cooling ceilings etc.

Technical data	
Application	Heating systems, cooling systems, radiators
Pressure rating	PN10
Connection, actuator	M28 x 1.5
Max. leakage	0 % of the kvs value
Media temperature	2...90 °C
Stroke	1.7 mm
Material	
Body	Chromed brass CW614N
Seat	Brass CW614N
Stem	Stainless steel 1.4305
Packing box	EPDM
Bonnet	Brass CW614N

MODELS

Article	Nominal diameter	Connection, internal thread	Connection, external thread	Kvs (adjustable)	ΔP_s	ΔP_{max}	Actuator	Note
FVR10	DN10	G3/8" (inlet)	M22 x 1.5 (outlet)	0.01...0.9 m ³ /h	150 kPa	30 kPa	RTA(O) M100	
FVR15	DN15	G1/2" (inlet)	M26 x 1.5 (outlet)	0.01...0.9 m ³ /h	150 kPa	30 kPa	RTA(O) M100	
FVR20	DN20	G3/4" (inlet)	M34 x 1.5 (outlet)	0.01...1.1 m ³ /h	150 kPa	30 kPa	RTA(O) M100	



ACCESSORIES

Article	Description	Note
VA54	Adapter, M28 x 1,5	



ΔP_s constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure.

ΔP_{max} constitutes the max. permitted differential pressure over the flow path of the valve for the entire actuating range of the actuator (i.e. open valve).



2-way radiator/zone valve, DN10-20, adjustable kvs

The zone valve is intended for zone control systems together with the thermal actuators in the RTA(O)M100 series.

Tail and nut is included with the valve.



Technical data	
Application	Radiators, heating systems, cooling systems
Pressure rating	PN10
Stroke	3.5 mm
Connection, actuator	Snap-on
Max. leakage	0% of Kvs
Media	Hot water, cold water
Media temperature	5...110 °C
ΔPs	140 kPa
ΔPmax	30 kPa
Material	
Body	Brass CW617N
Protection lid with handwheel	PP-H
Stem	Stainless steel 1.4305
Sealing	EPDM
O-rings	EPDM

MODELS

Article	Nominal diameter	Actuator	Note
RV210	DN10	RTA(O)M100... (with adapter VA26)	
RV215	DN15	RTA(O)M100... (with adapter VA26)	
RV220	DN20	RTA(O)M100... (with adapter VA26)	



VA26

ACCESSORIES

Article	Description	Note
VA26	Adapter for RTA(O)M actuators	
RV-TOOL	Tool to preset flow on RV2-valves	



RV-TOOL



2-way zone valve, DN10-20, adjustable kvs

The valve range is intended to be used together with the RTA(O)M100 thermal actuators for temperature control in heating and cooling systems, such as radiators, convectors, chilled ceilings etc.



Technical data	
Application	Heating systems, cooling systems, radiators
Pressure rating	PN10
Connection, actuator	M28 x 1.5
Max. leakage	0.0 % of the kvs value
Media temperature	2...90 °C
Stroke	3.5 mm
Max. diff. pressure	150 kPa
Material	
Body	Chromed brass CW614N
Seat	Brass CW614N
Stem	Stainless steel 1.4305
O-rings	EPDM
Bonnet	Brass CW614N
Seat packing	NBR

MODELS

Article	Nominal diameter	Connection, external thread	Kvs (adjustable)	Actuator	Note
CTV10	DN10	G1/2"	0.12...1.14 m ³ /h	RTA(O)M100	
CTV15-1,9	DN15	G3/4"	0.17...1.9 m ³ /h	RTA(O)M100	
CTV20	DN20	G1"	0.15...1.55 m ³ /h	RTA(O)M100	



ACCESSORIES

Article	Description	Note
VA54	Adapter, M28 x 1,5	



2-way, 3-way and 3-way (bypass) zone valves DN15-20, kvs 0.25-6.0

Valves for control of heating and cooling in fan-coil or chilled beams applications. The valves are intended to be used together with the thermal RTAN and RTAOM actuators. They are available as 2- and 3-way versions, as well as bypass versions. The valves have linear flow characteristics. The adapter for RTAOM...actuators is delivered with the valve.

Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Pressure rating	PN16
Connection	BSP externally threaded according to ISO 228/1
Flow characteristics	Linear
Max. leakage	0 % of the kvs value
Media temperature	2...95 °C
Media	Hot water, cold water, glycol-mixed water (max. 40 % glycol)
Stroke	2.5 mm
Adapter	Included for RTAOM...actuators. No adapter is needed for RTAN... actuators.
Material	
Body	Brass CW614N
O-rings	FKM

2-WAY VALVES

Article	Nominal diameter	Connection	Kvs, A-AB	Kvs, B-AB	Max. diff. pressure	Actuator	Note
VTTV15-0,25	DN15	G1/2"	0.25 m³/h	N/A	250 kPa	RTAN, RTAOM100	
VTTV15-0,4	DN15	G1/2"	0.4 m³/h	N/A	250 kPa	RTAN, RTAOM100	
VTTV15-0,6	DN15	G1/2"	0.6 m³/h	N/A	250 kPa	RTAN, RTAOM100	
VTTV15-1,0	DN15	G1/2"	1.0 m³/h	N/A	250 kPa	RTAN, RTAOM100	
VTTV15-1,6	DN15	G1/2"	1.6 m³/h	N/A	250 kPa	RTAN, RTAOM100	
VTTV20-2,5	DN20	G3/4"	2.5 m³/h	N/A	250 kPa	RTAN, RTAOM100	
VTTV20-4,0	DN20	G3/4"	4.0 m³/h	N/A	80 kPa	RTAN140, RTAOM125	
VTTV20-6,0	DN20	G3/4"	6.0 m³/h	N/A	80 kPa	RTAN140, RTAOM125	

3-WAY VALVES

Article	Nominal diameter	Connection	Kvs, A-AB	Kvs, B-AB	Max. diff. pressure	Actuator	Note
VTTR15-0,25	DN15	G1/2"	0.25 m³/h	0.25 m³/h	250 kPa	RTAN, RTAOM100	
VTTR15-0,4	DN15	G1/2"	0.4 m³/h	0.4 m³/h	250 kPa	RTAN, RTAOM100	
VTTR15-0,6	DN15	G1/2"	0.6 m³/h	0.6 m³/h	250 kPa	RTAN, RTAOM100	
VTTR15-1,0	DN15	G1/2"	1.0 m³/h	0.8 m³/h	250 kPa	RTAN, RTAOM100	
VTTR15-1,6	DN15	G1/2"	1.6 m³/h	1.0 m³/h	250 kPa	RTAN, RTAOM100	
VTTR20-2,5	DN20	G3/4"	2.5 m³/h	1.6 m³/h	250 kPa	RTAN, RTAOM100	
VTTR20-4,0	DN20	G3/4"	4.0 m³/h	2.5 m³/h	80 kPa	RTAN140, RTAOM125	
VTTR20-6,0	DN20	G3/4"	6.0 m³/h	4.0 m³/h	80 kPa	RTAN140, RTAOM125	

3-WAY VALVES WITH BYPASS

Article	Nominal diameter	Connection	Kvs, A-AB	Kvs, B-AB	Max. diff. pressure	Actuator	Note
VTTB15-0,25	DN15	G1/2"	0.25 m³/h	0.25 m³/h	250 kPa	RTAN, RTAOM100	
VTTB15-0,4	DN15	G1/2"	0.4 m³/h	0.4 m³/h	250 kPa	RTAN, RTAOM100	
VTTB15-0,6	DN15	G1/2"	0.6 m³/h	0.6 m³/h	250 kPa	RTAN, RTAOM100	
VTTB15-1,0	DN15	G1/2"	1.0 m³/h	0.8 m³/h	250 kPa	RTAN, RTAOM100	
VTTB15-1,6	DN15	G1/2"	1.6 m³/h	1.0 m³/h	250 kPa	RTAN, RTAOM100	
VTTB20-2,5	DN20	G3/4"	2.5 m³/h	1.6 m³/h	250 kPa	RTAN, RTAOM100	
VTTB20-4,0	DN20	G3/4"	4.0 m³/h	2.5 m³/h	80 kPa	RTAN140, RTAOM125	
VTTB20-6,0	DN20	G3/4"	6.0 m³/h	4.0 m³/h	80 kPa	RTAN140, RTAOM125	

ACCESSORIES FOR ZONE VALVES



Valve connections, outlet (FVR, RTV and VHR)

Tail and nut, for valve outlet (external metric thread on the valve).

Article	Connection	Valve	Note
4161201	3/8" (M22 x 1.5)	RTV10, FVR10	
4161202	1/2" (M26 x 1.5)	RTV15, FVR15	
4161203	3/4" (M34 x 1.5)	FVR20	
4161204	1" (M40 x 2)	VHR25	



Valve connections, outlet (FVR and RTV), copper tubing

Nut and olive, for valve outlet (external metric thread on the valve).

Article	Connection	Valve	Note
4161841	3/8" (M22 x 1.5), K12	RTV10, FVR10	
4160801	1/2" (M26 x 1.5), K15	RTV15, FVR15	



Valve connection, inlet (FVR and RTV), copper tubing

Nut and olive, for valve inlet (internal pipe thread on the valve).

Article	Connection	Valve	Note
4161402	3/8", K10	RTV10, FVR10	
4161403	3/8", K12	RTV10, FVR10	
4161101	1/2", K10	RTV15, FVR15	
4161102	1/2", K12	RTV15, FVR15	
4161103	1/2", K15	RTV15, FVR15	



Pre-set tooling

Article	Description	Note
FV5	Pre-set tooling, key and scale (FVR valves)	
FN2	Pre-set tooling, basic key (FVR valves)	



Valve connections for copper tubing

Nut and olive for CTV, ZTV, ZTR, VTTV, VTTR and VTTB.

Article	Connection	Valve	Note
1885136	1/2", K12	CTV10, ZTV15, ZTR15, VTTV15, VTTR15, VTTB	
1886274	3/4", K15	CTV15, ZTV20 (kvs 2.0-2.5), ZTR (kvs 2.0-2.5), VTTV20 (kvs 2.5), VTTR20 (kvs 2.5), VTTB20 (kvs 2.5)	
1884709	3/4", K18	CTV15, ZTV20, ZTR20, VTTV20, VTTR20, VTTB20, PCTVS20	
1886282	1", K22	CTV20, ZTV25, ZTR25	



Steel pipe connection for VTTV/VTTR/VTTB and ZTV/ZTR valves

Article	Connection	Valve	Note
OVC-Z15	1/2" (DN15)	VTTV/VTTR/VTTB, ZTV/ZTR (DN15)	
OVC-Z20	3/4" (DN20)	VTTV/VTTR/VTTB, ZTV/ZTR, PCTVS (DN20)	
OVC-Z25	1" (DN25)	ZTV/ZTR (DN25)	

EXTERNALLY THREADED VALVES



2- and 3-way control valves DN15-40, kvs 0.25-25, 5.5 mm stroke

Externally threaded control valves intended for use in heating and cooling systems together with the RVAZ4... series of electromechanical actuators. A hand wheel for manual operation is delivered with the valve.



ZMD2

Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Pressure rating	PN16
Connection	BSP externally threaded according to ISO 228/1
Flow characteristics	Linear
Max. leakage	0.0 % of kvs
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	2...110 °C
Rangeability	50:1
Stroke	5.5 mm
Material	
Body	Brass CW614N
Seat	Brass CW614N
Plug	Brass CW614N
Stem	Stainless steel 1.4305
Seat packing	EPDM
O-rings	EPDM
Material, connections	
Nut	Malleable cast iron, galvanized
Nipple	Dezincification resistant brass CW 602N (DN15-DN20), Malleable cast iron (DN25-DN40)
Fitting seal	Novatec Premium 2, Nitrile bonded aramid fibre with graphite
Cover lid	Dezincification resistant brass CW 602N

2-WAY VALVES

Article	Nominal diameter	Kvs	Max. diff. pressure	Actuator	Note
ZMD215-0.25	DN15	0.25 m ³ /h	400 kPa	RVAZ4	
ZMD215-0.4	DN15	0.4 m ³ /h	400 kPa	RVAZ4	
ZMD215-0.6	DN15	0.6 m ³ /h	400 kPa	RVAZ4	
ZMD215-1.0	DN15	1.0 m ³ /h	400 kPa	RVAZ4	
ZMD215-1.6	DN15	1.6 m ³ /h	400 kPa	RVAZ4	
ZMD215-2.5	DN15	2.5 m ³ /h	400 kPa	RVAZ4	
ZMD215-4.0	DN15	4.0 m ³ /h	400 kPa	RVAZ4	
ZMD220-6.3	DN20	6.3 m ³ /h	350 kPa	RVAZ4	
ZMD225-10	DN25	10 m ³ /h	200 kPa	RVAZ4	
ZMD232-16	DN32	16 m ³ /h	130 kPa	RVAZ4	
ZMD240-25	DN40	25 m ³ /h	60 kPa	RVAZ4	



ZMD3

3-WAY VALVES

Article	Nominal diameter	Kvs	Max. diff. pressure	Actuator	Note
ZMD315-0.25	DN15	0.25 m ³ /h	400 kPa	RVAZ4	
ZMD315-0.4	DN15	0.4 m ³ /h	400 kPa	RVAZ4	
ZMD315-0.6	DN15	0.6 m ³ /h	400 kPa	RVAZ4	
ZMD315-1.0	DN15	1.0 m ³ /h	400 kPa	RVAZ4	
ZMD315-1.6	DN15	1.6 m ³ /h	400 kPa	RVAZ4	
ZMD315-2.5	DN15	2.5 m ³ /h	400 kPa	RVAZ4	
ZMD315-4.0	DN15	4.0 m ³ /h	400 kPa	RVAZ4	
ZMD320-6.3	DN20	6.3 m ³ /h	350 kPa	RVAZ4	
ZMD325-10	DN25	10 m ³ /h	200 kPa	RVAZ4	
ZMD332-16	DN32	16 m ³ /h	130 kPa	RVAZ4	
ZMD340-25	DN40	25 m ³ /h	60 kPa	RVAZ4	



ACCESSORIES

Article	Description	Note
2951352501	Hand wheel	



2- and 3-way control valves DN15-25, kvs 0.25-7.0, 5.5 mm stroke

Valves used for control of hot and cold water in climate, heating and ventilation systems. They can also control glycol-mixed water in for example liquid connected recovery systems. Intended to be used together with the RVAZ4 actuators.



ZTV



ZTR

Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Pressure rating	PN16
Connection, actuator	M30 x 1.5
Connection	BSP externally threaded according to ISO 228/1
Flow characteristics	Equal percentage
Max. leakage	0 % of the kvs value
Media temperature	1...110 °C (the valve has a max. temperature of 140°C, the RVAZ4 actuators have a max. temperature of 110°C)
Media	Hot water, cold water, glycol-mixed water (max. 30 % glycol)
Rangeability	50:1
Stroke	5.5 mm
Material	
Body	Brass CW614N
Seat	Brass CW614N
Plug	Brass CW614N
Stem	Stainless steel 1.4305
Seat packing	EPDM
O-rings	EPDM

2-WAY VALVES

Article	Nominal diameter	Kvs	Connection	Max. diff. pressure	Actuator	Note
ZTV15-0,25	DN15	0.25 m ³ /h	G1/2"	350 kPa	RVAZ4	
ZTV15-0,4	DN15	0.4 m ³ /h	G1/2"	350 kPa	RVAZ4	
ZTV15-0,6	DN15	0.6 m ³ /h	G1/2"	350 kPa	RVAZ4	
ZTV15-1,0	DN15	1.0 m ³ /h	G1/2"	350 kPa	RVAZ4	
ZTV15-1,6	DN15	1.6 m ³ /h	G1/2"	350 kPa	RVAZ4	
ZTV20-2,0	DN20	2.0 m ³ /h	G3/4"	250 kPa	RVAZ4	
ZTV20-2,5	DN20	2.5 m ³ /h	G3/4"	250 kPa	RVAZ4	
ZTV20-4,0	DN20	4.0 m ³ /h	G3/4"	150 kPa	RVAZ4	
ZTV20-6,0	DN20	6.0 m ³ /h	G3/4"	150 kPa	RVAZ4	
ZTV25-7,0	DN25	7.0 m ³ /h	G1"	70 kPa	RVAZ4	

3-WAY VALVES

Article	Nominal diameter	Kvs	Connection	Max. diff. pressure	Actuator	Note
ZTR15-0,25	DN15	0.25 m ³ /h	G1/2"	350 kPa	RVAZ4	
ZTR15-0,4	DN15	0.4 m ³ /h	G1/2"	350 kPa	RVAZ4	
ZTR15-0,6	DN15	0.6 m ³ /h	G1/2"	350 kPa	RVAZ4	
ZTR15-1,0	DN15	1.0 m ³ /h	G1/2"	350 kPa	RVAZ4	
ZTR15-1,6	DN15	1.6 m ³ /h	G1/2"	350 kPa	RVAZ4	
ZTR20-2,0	DN20	2.0 m ³ /h	G3/4"	250 kPa	RVAZ4	
ZTR20-2,5	DN20	2.5 m ³ /h	G3/4"	250 kPa	RVAZ4	
ZTR20-4,0	DN20	4.0 m ³ /h	G3/4"	100 kPa	RVAZ4	
ZTR20-6,0	DN20	6.0 m ³ /h	G3/4"	100 kPa	RVAZ4	
ZTR25-7,0	DN25	7.0 m ³ /h	G1"	70 kPa	RVAZ4	



2-way control valves, DN 15-50, kvs 0.25-40, 20 mm stroke, DZR

2-way valves designed for control of cold, hot or glycol-mixed water, for use in DZR requirement systems or district heating within the temperature range -5°C...+150°C. They are pressure balanced (from DN20-50, not DN15) and can therefore handle high differential pressure with low force. The valves are intended to be used together with Regin's RVAN5 actuators. We also offer adapters for actuators of other brands.

Technical data	
Application	Heating, cooling, ventilation, district heating and district cooling system and systems requiring DZR-materials
Pressure rating	PN16
Connection	BSP externally threaded according to ISO 228/1; supplied with threaded connections
Flow characteristics	Equal percentage
Max. leakage	0.0 % of the Kvs value (PTFE gasket, carbon-filled 25 %, no leakage)
Media temperature	-5...+150 °C
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Rangeability	100:1
Stroke	20 mm
Max. diff. pressure	1600 kPa
Material	
Body	Gunmetal CC491K (RG5)
Seat	Stainless steel 1.4301
Plug	Stainless steel 1.4305
Stem	Stainless steel 1.4305
Seat packing	PTFE with 25 % carbon
Packing box	Dezincification resistant brass CW 602N, self-adjusting teflon
O-rings	Viton
Material, connections	
Nut	Malleable cast iron, galvanized
Nipple	Dezincification resistant brass CW 602N
Fitting seal	Novatec Premium 2, Nitrile bonded aramid fibre with graphite

MODELS

Article	Nominal diameter	Kvs	Actuator	Note
ETVS15-0,25	DN15	0.25 m³/h	RVAN5	
ETVS15-0,4	DN15	0.4 m³/h	RVAN5	
ETVS15-0,63	DN15	0.63 m³/h	RVAN5	
ETVS15-1,0	DN15	1,0 m³/h	RVAN5	
ETVS15-1,25	DN15	1.25 m³/h	RVAN5	
ETVS15-1,6	DN15	1.6 m³/h	RVAN5	
ETVS15-2,5	DN15	2.5 m³/h	RVAN5	
ETVS15-4,0	DN15	4 m³/h	RVAN5	
ETVS20-5,0	DN20	5 m³/h	RVAN5	
ETVS20-6,3	DN20	6.3 m³/h	RVAN5	
ETVS25-8,0	DN25	8 m³/h	RVAN5	
ETVS25-10	DN25	10 m³/h	RVAN5	
ETVS32-12,5	DN32	12.5 m³/h	RVAN5	
ETVS32-16	DN32	16 m³/h	RVAN5	
ETVS40-20	DN40	20 m³/h	RVAN5	
ETVS40-25	DN40	25 m³/h	RVAN5	
ETVS50-31,5	DN50	31.5 m³/h	RVAN5	
ETVS50-40	DN50	40 m³/h	RVAN5	

ACCESSORIES



Article	Description	Note
S0603080300	Spare parts kit, packing box, for ETRS, MTVS and MTRS valves (until 2019-12) also ETVS and NTVS.	



ETRS2...



ETRS3...

3-way control valves DNI 5-50, kvs 0.63-40, 20 mm stroke, DZR

Valves intended for control of cold, hot and glycol-mixed water in heating, ventilation and when DZR material is a requirement. The valves are intended to be used together with Regin's RVAN5 actuators. RVAN10 actuators can also be used if larger actuating force is required. The valve is supplied with a cover lid for converting the 3-way valve into a 2-way valve.

Technical data	
Application	Heating, cooling, ventilation systems and systems requiring DZR-materials
Pressure rating	PN16
Connection	BSP externally threaded according to ISO 228/1; supplied with threaded connections
Flow characteristics	Equal percentage
Max. leakage	0.1 % of the kvs value
Media temperature	-5...+150 °C
Media	Hot, cold or glycol-mixed water (max. 50 % glycol)
Rangeability	100:1
Stroke	20 mm
Material	
Body	Gunmetal CC491K (RG5)
Seat	Gunmetal CC491K (RG5)
Plug	Gunmetal CC491K (RG5)
Stem	Stainless steel 1.4305
Packing box	Dezincification resistant brass CW 602N
O-rings	Viton
Material, connections	
Nut	Malleable cast iron, galvanized
Nipple	Dezincification resistant brass CW 602N
Fitting seal	Novatec Premium 2, Nitrile bonded aramid fibre with graphite
Cover lid	Dezincification resistant brass CW 602N

MODELS

Article	Nominal diameter	Kvs	ΔP_s (RVAN5)	ΔP_s (RVAN10)	ΔP_{max} (RVAN5)	ΔP_{max} (RVAN10)	Note
ETRS15-0,63	DN15	0.63 m ³ /h	1600 kPa	1600 kPa	700 kPa	700 kPa	
ETRS15-1,0	DN15	1 m ³ /h	1600 kPa	1600 kPa	700 kPa	700 kPa	
ETRS15-1,25	DN15	1.25 m ³ /h	1600 kPa	1600 kPa	700 kPa	700 kPa	
ETRS15-1,6	DN15	1.6 m ³ /h	1600 kPa	1600 kPa	700 kPa	700 kPa	
ETRS15-2,5	DN15	2.5 m ³ /h	1600 kPa	1600 kPa	700 kPa	700 kPa	
ETRS15-4,0	DN15	4 m ³ /h	1600 kPa	1600 kPa	700 kPa	700 kPa	
ETRS20-4,0	DN20	4 m ³ /h	1000 kPa	1600 kPa	600 kPa	600 kPa	
ETRS20-5,0	DN20	5 m ³ /h	1000 kPa	1600 kPa	600 kPa	600 kPa	
ETRS20-6,3	DN20	6.3 m ³ /h	1000 kPa	1600 kPa	600 kPa	600 kPa	
ETRS25-6,3	DN25	6,3 m ³ /h	600 kPa	1400 kPa	500 kPa	500 kPa	
ETRS25-8,0	DN25	8 m ³ /h	600 kPa	1400 kPa	500 kPa	500 kPa	
ETRS25-10	DN25	10 m ³ /h	600 kPa	1400 kPa	500 kPa	500 kPa	
ETRS32-10	DN32	10 m ³ /h	400 kPa	800 kPa	400 kPa	450 kPa	
ETRS32-12,5	DN32	12.5 m ³ /h	400 kPa	800 kPa	400 kPa	450 kPa	
ETRS32-16	DN32	16 m ³ /h	400 kPa	800 kPa	400 kPa	450 kPa	
ETRS40-16	DN40	16 m ³ /h	300 kPa	600 kPa	300 kPa	400 kPa	
ETRS40-20	DN40	20 m ³ /h	300 kPa	600 kPa	300 kPa	400 kPa	
ETRS40-25	DN40	25 m ³ /h	300 kPa	600 kPa	300 kPa	400 kPa	
ETRS50-25	DN50	25 m ³ /h	200 kPa	400 kPa	200 kPa	300 kPa	
ETRS50-31,5	DN50	31.5 m ³ /h	200 kPa	400 kPa	200 kPa	300 kPa	
ETRS50-40	DN50	40 m ³ /h	200 kPa	400 kPa	200 kPa	300 kPa	



ACCESSORIES

Article	Description	Note
S0603080300	Spare parts kit, packing box, for ETRS, MTRV and MTRS valves (until 2019-12) also ETVS and NTVS.	
S2921357901	Spare parts kit, packing box (from 2020-01)	



ΔP_s constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure.

ΔP_{max} constitutes the max. permitted differential pressure over the flow path of the valve for the entire actuating range of the actuator (i.e. open valve).

ACCESSORIES FOR EXTERNALLY THREADED VALVES



Valve connections for copper tubing

Nut and olive for CTV, ZTV, ZTR, VTTV, VTTR and VTTB.

Article	Connection	Valve	Note
1885136	1/2", K12	CTV10, ZTV15, ZTR15, VTTV15, VTTR15, VTTB	
1886274	3/4", K15	CTV15, ZTV20 (kvs 2.0-2.5), ZTR (kvs 2.0-2.5), VTTV20 (kvs 2.5), VTTR20 (kvs 2.5), VTTB20 (kvs 2.5)	
1884709	3/4", K18	CTV15, ZTV20, ZTR20, VTTV20, VTTR20, VTTB20, PCTVS20	
1886282	1", K22	CTV20, ZTV25, ZTR25	



Steel pipe connection for VTTV/VTTR/VTTB and ZTV/ZTR valves

Article	Connection	Valve	Note
OVC-Z15	1/2" (DN15)	VTTV/VTTR/VTTB, ZTV/ZTR (DN15)	
OVC-Z20	3/4" (DN20)	VTTV/VTTR/VTTB, ZTV/ZTR, PCTVS (DN20)	
OVC-Z25	1" (DN25)	ZTV/ZTR (DN25)	

INTERNALLY THREADED VALVES



2- and 3-way control valves, DN25-40, kvs 8-20, 5.5 mm stroke

Valves for control of heating and cooling in climate, heating and ventilation systems. They can also control glycol-mixed water in for example liquid recovery systems. The valves are intended to be used together with the RVAZ4 actuators. A hand wheel for manual operation is delivered with the valve.



Technical data	
Application	Heating systems, cooling systems, fan-coil units, radiant cooling, ventilation systems
Pressure rating	PN16
Connection, actuator	M30 x 1.5
Connection	BSP internally threaded according to ISO 228/1
Flow characteristics	Linear
Max. leakage	0 % of the kvs value
Media temperature	1...110 °C
Rangeability	50:1
Stroke	5.5 mm
Media	Hot, cold or glycol-mixed water (max. 50 % glycol)
Material	
Body	Brass CW614N
Seat	Brass CW614N
Plug	Brass CW614N
Stem	Stainless steel 1.4305
Seat packing	EPDM
O-rings	EPDM

2-WAY VALVES

Article	Nominal diameter	Connection	Kvs	Max. diff. pressure	Actuator	Note
ZTVB25-8	DN25	G1"	8 m ³ /h	200 kPa	RVAZ4	
ZTVB32-15	DN32	G1 ¼"	15 m ³ /h	150 kPa	RVAZ4	
ZTVB40-20	DN40	G1 ½"	20 m ³ /h	100 kPa	RVAZ4	

3-WAY VALVES

Article	Nominal diameter	Connection	Kvs	Max. diff. pressure	Actuator	Note
ZTRB25-8	DN25	G1"	8 m ³ /h	200 kPa	RVAZ4	
ZTRB32-15	DN32	G1 ¼"	15 m ³ /h	150 kPa	RVAZ4	
ZTRB40-20	DN40	G1 ½"	20 m ³ /h	100 kPa	RVAZ4	

ACCESSORIES



Article	Description	Note
2951352501	Hand wheel	



2-way control valves, DN15-50, kvs 0.6-39, 20 mm stroke

The valves are designed for control of hot, cold or glycol-mixed water in heating and ventilation systems. They are pressure balanced (from DN20-50, not DN15) and can therefore handle high differential pressure with low force. The valves are intended to be used together with Regin's RVAN5 actuators. They should not be used in domestic water systems.

Technical data	
Application	Heating systems, cooling systems, ventilation systems
Pressure rating	PN16
Connection	BSP internally threaded according to ISO 228/1
Flow characteristics	Equal percentage
Max. leakage	0.0 % of the kvs value (PTFE gasket, carbon-filled 25 %, no leakage)
Max. diff. pressure	1600 kPa (16 bar)
Media temperature	-5...+140 °C
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Rangeability	100:1
Stroke	20 mm
Material	
Body	Brass CW614N
Seat	Brass CW614N
Plug	Stainless steel 1.4301
Stem	Stainless steel 1.4305
Seat packing	PTFE with 25 % carbon
O-rings	EPDM

MODELS

Article	Nominal diameter	Connection	Kvs	Actuator	Note
BTV15-0,6	DN15	G½"	0.6 m³/h	RVAN5	
BTV15-1,0	DN15	G½"	1.0 m³/h	RVAN5	
BTV15-1,6	DN15	G½"	1.6 m³/h	RVAN5	
BTV15-2,5	DN15	G½"	2.5 m³/h	RVAN5	
BTV15-4,0	DN15	G½"	4.0 m³/h	RVAN5	
BTV20-1,6	DN20	G¾"	1.6 m³/h	RVAN5	
BTV20-2,7	DN20	G¾"	2.7 m³/h	RVAN5	
BTV20-3,9	DN20	G¾"	3.9 m³/h	RVAN5	
BTV20-6,3	DN20	G¾"	6.3 m³/h	RVAN5	
BTV25-6,3	DN25	G1"	6.3 m³/h	RVAN5	
BTV25-10	DN25	G1"	10 m³/h	RVAN5	
BTV32-10	DN32	G1¼"	10 m³/h	RVAN5	
BTV32-16	DN32	G1¼"	16 m³/h	RVAN5	
BTV40-10	DN40	G1½"	10 m³/h	RVAN5	
BTV40-16	DN40	G1½"	16 m³/h	RVAN5	
BTV40-27	DN40	G1½"	27 m³/h	RVAN5	
BTV50-27	DN50	G2"	27 m³/h	RVAN5	
BTV50-39	DN50	G2"	39 m³/h	RVAN5	



ACCESSORIES

Article	Description	Note
S02420001	Spare parts kit, O-ring kit for BTV valves from DN15 to DN25 (until 2018-12)	
S6321457301	Spare parts kit for BTV valves from DN32 to DN50, packing box (until 2018-12)	
S2921354201	Spare parts kit, packing box, for BTV (from 2019-01), GF (DN25-40), BF	



2- and 3-way control valves, DN15-50, kvs 0.63-40, 20 mm stroke

Valves designed for control of hot, cold or glycol-mixed water in heating and ventilation systems. The valves are intended for use together with Regin's RVAN5.../RVAN10... actuators.

Technical data	
Application	Heating systems, cooling systems, ventilation systems
Pressure rating	PN16
Connection	BSP internally threaded according to ISO 228/1
Flow characteristics	A - AB = equal percentage, B - AB = linear
Max. leakage	0.1 % of Kvs
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	-5...+140 °C
Rangeability	100:1
Stroke	20 mm
Material	
Body	Brass CW614N
Seat	Brass CW614N
Plug	Brass CW614N
Stem	Stainless steel 1.4305
Packing box	Brass CW614N
O-rings	EPDM

2-WAY VALVES

Article	Nominal diameter	Kvs	Connection	ΔPs (RVAN5...)	ΔPmax (RVAN5...)	ΔPs (RVAN10...)	ΔPmax (RVAN10...)	Note
BF215-0.63	DN15	0.63 m ³ /h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF215-1.0	DN15	1.0 m ³ /h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF215-1.6	DN15	1.6 m ³ /h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF215-2.1	DN15	2.1 m ³ /h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF215-2.7	DN15	2.7 m ³ /h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF220-4.2	DN20	4.2 m ³ /h	G ¾"	1000 kPa	600 kPa	1600 kPa	600 kPa	
BF220-5.6	DN20	5.6 m ³ /h	G ¾"	1000 kPa	600 kPa	1600 kPa	600 kPa	
BF225-10	DN25	10 m ³ /h	G 1"	600 kPa	500 kPa	1400 kPa	500 kPa	
BF232-16	DN32	16 m ³ /h	G 1¼"	400 kPa	400 kPa	800 kPa	450 kPa	
BF240-25	DN40	25 m ³ /h	G 1½"	300 kPa	300 kPa	600 kPa	400 kPa	
BF250-40	DN50	40 m ³ /h	G 2"	200 kPa	200 kPa	400 kPa	300 kPa	

3-WAY VALVES

Article	Nominal diameter	Kvs	Connection	ΔPs (RVAN5...)	ΔPmax (RVAN5...)	ΔPs (RVAN10...)	ΔPmax (RVAN10...)	Note
BF315-0.63	DN15	0.63 m ³ /h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF315-1.0	DN15	1.0 m ³ /h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF315-1.6	DN15	1.6 m ³ /h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF315-2.1	DN15	2.1 m ³ /h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF315-2.7	DN15	2.7 m ³ /h	G ½"	1600 kPa	700 kPa	1600 kPa	700 kPa	
BF320-4.2	DN20	4.2 m ³ /h	G ¾"	1000 kPa	600 kPa	1600 kPa	600 kPa	
BF320-5.6	DN20	5.6 m ³ /h	G ¾"	1000 kPa	600 kPa	1600 kPa	600 kPa	
BF325-10	DN25	10 m ³ /h	G 1"	600 kPa	500 kPa	1400 kPa	500 kPa	
BF332-16	DN32	16 m ³ /h	G 1¼"	400 kPa	400 kPa	800 kPa	450 kPa	
BF340-25	DN40	25 m ³ /h	G 1½"	300 kPa	300 kPa	600 kPa	400 kPa	
BF350-40	DN50	40 m ³ /h	G 2"	200 kPa	200 kPa	400 kPa	300 kPa	

ACCESSORIES



Article	Note
S2921354201	



2- and 3-way control valves, DN15-50, kvs 0.63-39, 20 mm stroke

Valves designed for control of hot, cold or glycol-mixed water in heating and ventilation systems. They also function very well where DZR-material is a requirement. The valves are intended for use together with Regin's RVAN5 actuators. RVAN10 actuators can also be used if larger actuating force is required.

Technical data	
Application	Heating, cooling, ventilation systems and systems requiring DZR-materials
Pressure rating	PN16
Connection	BSP internally threaded according to ISO 228/1
Flow characteristics	Equal percentage
Max. leakage	0.1 % of Kvs
Media temperature	-5...+150 °C
Media	Hot, cold, or glycol-mixed water (max. 50 % glycol)
Rangeability	100:1
Stroke	20 mm
Material	
Body	Gunmetal CC491K (RG5)
Seat	Gunmetal CC491K (RG5)
Plug	Gunmetal CC491K (RG5)
Stem	Stainless steel 1.4305
Packing box	Dezincification resistant brass CW 602N
O-rings	Viton

2-WAY VALVES

Article	Nominal diameter	Kvs	Connection	ΔP_s (RVAN5)	ΔP_s (RVAN10)	ΔP_{max} (RVAN5)	ΔP_{max} (RVAN10)	Note
MTVS15-0,63	DN15	0.63 m ³ /h	G½"	1600 kPa	1600 kPa	700 kPa	700 kPa	
MTVS15-1,0	DN15	1.0 m ³ /h	G½"	1600 kPa	1600 kPa	700 kPa	700 kPa	
MTVS15-1,6	DN15	1.6 m ³ /h	G½"	1600 kPa	1600 kPa	700 kPa	700 kPa	
MTVS15-2,1	DN15	2.1 m ³ /h	G½"	1600 kPa	1600 kPa	700 kPa	700 kPa	
MTVS15-2,7	DN15	2.7 m ³ /h	G½"	1600 kPa	1600 kPa	700 kPa	700 kPa	
MTVS20-4,2	DN20	4.2 m ³ /h	G¾"	1000 kPa	1600 kPa	600 kPa	600 kPa	
MTVS20-5,6	DN20	5.6 m ³ /h	G¾"	1000 kPa	1600 kPa	600 kPa	600 kPa	
MTVS25-10	DN25	10 m ³ /h	G1"	600 kPa	1400 kPa	500 kPa	500 kPa	
MTVS32-16	DN32	16 m ³ /h	G1¼"	400 kPa	800 kPa	400 kPa	450 kPa	
MTVS40-27	DN40	27 m ³ /h	G1½"	300 kPa	600 kPa	300 kPa	400 kPa	
MTVS50-39	DN50	39 m ³ /h	G2"	200 kPa	400 kPa	200 kPa	300 kPa	

3-WAY VALVES

Article	Nominal diameter	Kvs	Connection	ΔP_s (RVAN5)	ΔP_s (RVAN10)	ΔP_{max} (RVAN5)	ΔP_{max} (RVAN10)	Note
MTRS15-0.63	DN15	0.63 m ³ /h m ³ /h	G½"	1600 kPa	1600 kPa	700 kPa	700 kPa	
MTRS15-1,0	DN15	1.0 m ³ /h m ³ /h	G½"	1600 kPa	1600 kPa	700 kPa	700 kPa	
MTRS15-1,6	DN15	1.6 m ³ /h m ³ /h	G½"	1600 kPa	1600 kPa	700 kPa	700 kPa	
MTRS15-2,1	DN15	2.1 m ³ /h m ³ /h	G½"	1600 kPa	1600 kPa	700 kPa	700 kPa	
MTRS15-2,7	DN15	2.7 m ³ /h m ³ /h	G½"	1600 kPa	1600 kPa	700 kPa	700 kPa	
MTRS20-4,2	DN20	4.2 m ³ /h m ³ /h	G¾"	1000 kPa	1600 kPa	600 kPa	600 kPa	
MTRS20-5,6	DN20	5.6 m ³ /h m ³ /h	G¾"	1000 kPa	1600 kPa	600 kPa	600 kPa	
MTRS25-10	DN25	10 m ³ /h m ³ /h	G1"	600 kPa	1400 kPa	500 kPa	500 kPa	
MTRS32-16	DN32	16 m ³ /h m ³ /h	G1¼"	400 kPa	800 kPa	400 kPa	450 kPa	
MTRS40-27	DN40	27 m ³ /h m ³ /h	G1½"	300 kPa	600 kPa	300 kPa	400 kPa	
MTRS50-39	DN50	39 m ³ /h m ³ /h	G2"	200 kPa	400 kPa	200 kPa	300 kPa	



ACCESSORIES

Article	Description	Note
S0603080300	Spare parts kit, packing box, for ETRS, MTRS and MTRS valves (until 2019-12) also ETVS and NTVS.	
S2921357901	Spare parts kit, packing box (from 2020-01)	



ΔP_s constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure.

ΔP_{max} constitutes the max. permitted differential pressure over the flow path of the valve for the entire actuating range of the actuator (i.e. open valve).



2- and 3-way ball valves, DN15-50, kvs 0.6-63

Ball valves designed for control of hot, cold or glycol-mixed water in heating and ventilation systems. These ball valves can be used as either characterized control ball valves when a flow plate is installed in port A (default mode), or as on/off ball valves when the flow plate is removed. When the flow plate is removed the Kvs between port A and AB is increased. The valves are intended for use with Regin's RVAB4/RVAB5 actuators.



Technical data	
Application	Heating systems, cooling systems, ventilation systems
Pressure rating	PN40
Connection	BSP internally threaded according to ISO 228/1
Flow characteristics	A - AB = equal percentage (Flow plate installed), B - AB = linear, On/Off (No flow plate)
Max. leakage	0.0 % of the kvs value
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	-5...+140 °C
Rangeability	100:1
Material	
Body	Brass CW617N
Ball	Chromed brass CW614N
Seat	PTFE
Stem	Stainless steel 1.4305
Flow plate	POM
Circlips	Stainless steel 1.4310
O-rings	EPDM

2-WAY VALVES

Article	Nominal diameter	Kvs with flow plate installed in port A	Kvs (On/off, A-AB)	ΔP_{max}	ΔP_s	Note
BV215	DN15	0.6/1.0/1.6/2.5/4.0 m ³ /h	6.3 m ³ /h	350 kPa	2500 kPa	
BV220	DN20	6.3 m ³ /h	10 m ³ /h	350 kPa	2500 kPa	
BV225	DN25	10 m ³ /h	16 m ³ /h	350 kPa	2500 kPa	
BV232	DN32	16 m ³ /h	25 m ³ /h	350 kPa	1600 kPa	
BV240	DN40	25 m ³ /h	40 m ³ /h	350 kPa	1600 kPa	
BV250	DN50	40 m ³ /h	63 m ³ /h	350 kPa	1600 kPa	

3-WAY VALVES

Article	Nominal diameter	Kvs with flow plate installed in port A	Kvs (On/off, A-AB)	Kvs (On/off, B-AB)	ΔP_{max}	ΔP_s	Note
BV315	DN15	0.6/1.0/1.6/2.5/4.0 m ³ /h	6.3 m ³ /h	4 m ³ /h	350 kPa	2500 kPa	
BV320	DN20	6.3 m ³ /h	10 m ³ /h	6.3 m ³ /h	350 kPa	2500 kPa	
BV325	DN25	10 m ³ /h	16 m ³ /h	10 m ³ /h	350 kPa	2500 kPa	
BV332	DN32	16 m ³ /h	25 m ³ /h	16 m ³ /h	350 kPa	1600 kPa	
BV340	DN40	25 m ³ /h	40 m ³ /h	25 m ³ /h	350 kPa	1600 kPa	
BV350	DN50	40 m ³ /h	63 m ³ /h	40 m ³ /h	350 kPa	1600 kPa	

ACCESSORIES



Article	Description	Note
BV-HL1	Hand lever for manual operation of ball valves	



ΔP_s constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure.

ΔP_{max} constitutes the max. permitted differential pressure over the flow path of the valve for the entire actuating range of the actuator (i.e. open valve).



2- and 3-way on/off valves, DN15-32, kvs 3.2-10

Valves intended for on/off control of hot or cold water in heating or cooling systems. The valves can only be used together with Regin's RVAFC actuators. The valves are available as both 2- and 3-way models.



Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	2...94 °C
Pressure rating	PN16 (240 psi)
Connection	Internal thread BSP according to ISO 228/1
Material	
Body	Brass CW614N
Ball	EPDM
O-rings	EPDM

2-WAY VALVES

Article	Nominal diameter	Kvs	Connection	Max. diff. pressure	Actuator	Note
ZFCM-215X	DN15	3.2 m ³ /h m ³ /h	G1/2"	200 kPa	RVAFC-2302	
ZFCM-220X	DN20	4.6 m ³ /h m ³ /h	G3/4"	150 kPa	RVAFC-2302	
ZFCM-225X	DN25	5.7 m ³ /h m ³ /h	G1"	100 kPa	RVAFC-2302	
ZFCM-232X	DN32	10 m ³ /h m ³ /h	G1 1/4"	80 kPa	RVAFC-2302	

3-WAY VALVES

Article	Nominal diameter	Kvs	Connection	Max. diff. pressure	Actuator	Note
ZFCM-315X	DN15	3.2 m ³ /h m ³ /h	G1/2"	150 kPa	RVAFC-2303	
ZFCM-320X	DN20	4.6 m ³ /h m ³ /h	G3/4"	100 kPa	RVAFC-2303	
ZFCM-325X	DN25	5.7 m ³ /h m ³ /h	G1"	100 kPa	RVAFC-2303	
ZFCM-332X	DN32	8.4 m ³ /h m ³ /h	G1 1/4"	80 kPa	RVAFC-2303	

SUITABLE VALVE ACTUATORS

Article	Note
RVAFC-2302	
RVAFC-2303	

FLANGED VALVES



2- and 3-way control valves, DN25-200, kvs 6.3-550, DIN-standard

Control valves for use in heating, cooling and ventilation systems. They are intended to be used together with Regin's RVAN actuators. The valves have DIN-standard lengths.



Technical data	
Application	Heating systems, cooling systems, ventilation systems
Pressure rating	PN16
Connection	Flanged according to EN 1092-2
Flow characteristics	A - AB = equal percentage, B - AB = linear
Max. leakage	0 % of Kvs
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	-5...+120 °C
Rangeability	100:1 (DN50...200), > 50:1 (DN25...40)
Max. diff. pressure	If a smaller actuator than the suggested one is used, the max. differential pressure may be different. More information is available in the product sheet.
Material	
Body	Cast iron Grade 250
Plug	Gunmetal 1400 LG2 (DN50...200), Brass CW614N (DN25...40)
Seat	Gunmetal 1400 LG2 (DN50...200), Cast iron Grade 250 (DN25...40)
Stem	Stainless steel 1.4305
Packing box	Brass CW614N
Bonnet	Brass CW614N
O-rings	EPDM
Packing	Aramid reinforced rubber

2-WAY VALVES

Article	Nominal diameter	Kvs	Max. diff. pressure	Actuator	Note
GF225-6.3	DN25	6.3 m ³ /h	400 kPa	RVAN5, RVAN10	
GF225-10	DN25	10 m ³ /h	400 kPa	RVAN5, RVAN10	
GF232-10	DN32	10 m ³ /h	350 kPa	RVAN5, RVAN10	
GF232-16	DN32	16 m ³ /h	350 kPa	RVAN5, RVAN10	
GF240-16	DN40	16 m ³ /h	300 kPa	RVAN5, RVAN10	
GF240-25	DN40	25 m ³ /h	300 kPa	RVAN5, RVAN10	
GF250-31.5	DN50	31.5 m ³ /h	450 kPa	RVAN18	
GF250-40	DN50	40 m ³ /h	450 kPa	RVAN18	
GF265-50	DN65	50 m ³ /h	350 kPa	RVAN18	
GF265-63	DN65	63 m ³ /h	350 kPa	RVAN18	
GF280-80	DN80	80 m ³ /h	300 kPa	RVAN18	
GF280-100	DN80	100 m ³ /h	300 kPa	RVAN18	
GF2100-125	DN100	125 m ³ /h	200 kPa	RVAN18	
GF2100-160	DN100	160 m ³ /h	200 kPa	RVAN18	
GF2125-215	DN125	215 m ³ /h	120 kPa	RVAN25	
GF2150-310	DN150	310 m ³ /h	100 kPa	RVAN25	
GF2200-550	DN200	550 m ³ /h	200 kPa	RVAN25	



3-WAY VALVES

Article	Nominal diameter	Kvs	Max. diff. pressure	Actuator	Note
GF325-6.3	DN25	6.3 m ³ /h	400 kPa	RVAN5, RVAN10	
GF325-10	DN25	10 m ³ /h	400 kPa	RVAN5, RVAN10	
GF332-10	DN32	10 m ³ /h	350 kPa	RVAN5, RVAN10	
GF332-16	DN32	16 m ³ /h	350 kPa	RVAN5, RVAN10	
GF340-16	DN40	16 m ³ /h	300 kPa	RVAN5, RVAN10	
GF340-25	DN40	25 m ³ /h	300 kPa	RVAN5, RVAN10	
GF350-31.5	DN50	31.5 m ³ /h	450 kPa	RVAN18	
GF350-40	DN50	40 m ³ /h	450 kPa	RVAN18	
GF365-50	DN65	50 m ³ /h	350 kPa	RVAN18	
GF365-63	DN65	63 m ³ /h	350 kPa	RVAN18	
GF380-80	DN80	80 m ³ /h	300 kPa	RVAN18	
GF380-100	DN80	100 m ³ /h	300 kPa	RVAN18	
GF3100-125	DN100	125 m ³ /h	200 kPa	RVAN18	
GF3100-160	DN100	160 m ³ /h	200 kPa	RVAN18	
GF3125-215	DN125	215 m ³ /h	120 kPa	RVAN25	
GF3150-310	DN150	310 m ³ /h	100 kPa	RVAN25	
GF3200-550	DN200	550 m ³ /h	70 kPa	RVAN25	



ACCESSORIES

Article	Description	Note
02133005	Washer for actuator, 3 mm thick with \varnothing 14 mm hole. Required in order to motorize DN50-65 with RVAN5 or RVAN10.	
S2921354201	Spare parts kit, packing box, for BTV (from 2019-01), GF (DN25-40), BF	
S2921351201	Spare parts kit, packing box DN50-200	





2-way control valves, DN15-150, kvs 0.4-310, DIN-standard

Pressure balanced 2-way valve intended for control of hot, cold or glycol-mixed water or district heating within the temperature range -5...+185°C. Intended for use with the RVAN... actuators.

Technical data	
Application	Heating systems, cooling systems, district heating systems, district cooling systems, ventilation systems
Pressure rating	PN16
Connection	Flanges according to EN 1092-2
Flow characteristics	Equal percentage
Max. leakage	0.0 % of the kvs value (PTFE gasket, carbon-filled 25 %, no leakage) / 0.05 % of kvs for NTVS...-...M models with metal packing
Media temperature	-5...+185 °C
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Rangeability	100:1
Max. diff. pressure	1600 kPa
Material	
Body	Nodular cast iron (GJS) EN-JS1050
Seat	Stainless steel 1.4301 or gunmetal CC491K (RG5)
Plug	Stainless steel 1.4305 (DN15...DN100) or gunmetal CC491K (RG5) (DN125...DN150)
Stem	Stainless steel 1.4305
Lining	Stainless steel 1.4301
Seat packing, soft seal	PTFE with 25 % carbon
Seat packing, metal seal	Stainless steel 1.4057
Packing box	Dezincification resistant brass CW 602N, self-adjusting teflon
O-rings	Viton

MODELS

Article	Nominal diameter	Kvs	Stroke	Actuator	Note
NTVS15-0,4	DN15	0.4 m ³ /h	20 mm	RVAN5	
NTVS15-1,0	DN15	1.0 m ³ /h	20 mm	RVAN5	
NTVS15-1,6	DN15	1.6 m ³ /h	20 mm	RVAN5	
NTVS15-2,7	DN15	2.7 m ³ /h	20 mm	RVAN5	
NTVS20-0,8	DN20	0.8 m ³ /h	20 mm	RVAN5	
NTVS20-1,6	DN20	1.6 m ³ /h	20 mm	RVAN5	
NTVS20-2,7	DN20	2.7 m ³ /h	20 mm	RVAN5	
NTVS20-3,9	DN20	3.9 m ³ /h	20 mm	RVAN5	
NTVS20-6,3	DN20	6.3 m ³ /h	20 mm	RVAN5	
NTVS25-1,6	DN25	1.6 m ³ /h	20 mm	RVAN5	
NTVS25-2,5	DN25	2.5 m ³ /h	20 mm	RVAN5	
NTVS25-4,0	DN25	4 m ³ /h	20 mm	RVAN5	
NTVS25-6,3	DN25	6.3 m ³ /h	20 mm	RVAN5	
NTVS25-10	DN25	10 m ³ /h	20 mm	RVAN5	
NTVS32-4,0	DN32	4 m ³ /h	20 mm	RVAN5	
NTVS32-6,3	DN32	6.3 m ³ /h	20 mm	RVAN5	
NTVS32-10	DN32	10 m ³ /h	20 mm	RVAN5	
NTVS32-16	DN32	16 m ³ /h	20 mm	RVAN5	
NTVS40-6,3	DN40	6.3 m ³ /h	20 mm	RVAN5	
NTVS40-10	DN40	10 m ³ /h	20 mm	RVAN5	
NTVS40-16	DN40	16 m ³ /h	20 mm	RVAN5	

Article	Nominal diameter	Kvs	Stroke	Actuator	Note
NTVS40-27	DN40	27 m ³ /h	20 mm	RVAN5	
NTVS50-6,3	DN50	6.3 m ³ /h	20 mm	RVAN5	
NTVS50-10	DN50	10 m ³ /h	20 mm	RVAN5	
NTVS50-16	DN50	16 m ³ /h	20 mm	RVAN5	
NTVS50-27	DN50	27 m ³ /h	20 mm	RVAN5	
NTVS50-39	DN50	39 m ³ /h	20 mm	RVAN5	
NTVS65-16	DN65	16 m ³ /h	20 mm	RVAN10	
NTVS65-27	DN65	27 m ³ /h	20 mm	RVAN10	
NTVS65-39	DN65	39 m ³ /h	20 mm	RVAN10	
NTVS65-63	DN65	63 m ³ /h	20 mm	RVAN10	
NTVS80-100	DN80	100 m ³ /h	20 mm	RVAN10	
NTVS100-160	DN100	160 m ³ /h	38 mm	RVAN18	
NTVS125-215	DN125	215 m ³ /h	40 mm	RVAN25	
NTVS150-310	DN150	310 m ³ /h	40 mm	RVAN25	



ACCESSORIES

Article	Description	Note
S0603080300	Spare parts kit, packing box, for ETRS, MTVS and MTRS valves (until 2019-12) also ETVS and NTVS.	



For steam applications or at pressure drops of 7 bar or higher, we recommend using a metal packing (stainless steel). Use the extra letter M at the end of the reference type when ordering a valve with metal packing, for example NTVS50-27M instead of the usual NTVS50-27. For valves with metal packing, the maximum leakage is 0.05 % of kvs.

The NTVS valves meet the requirements of DIN-standard DIN 3202/F1 and ISO 5752 table I.

BUTTERFLY VALVES



2-way wafer type butterfly valves, DN40-200, kvs | 10-3 | 20

Butterfly valves for use in heating, cooling and ventilation systems. They are intended to be used together with Regin's actuators.



Technical data	
Application	Heating systems, cooling systems, ventilation systems
Pressure rating	PN16
Connection	Flanged according to EN 1092-2 / ISO 7005-2
Actuator mounting flange	ISO 5211
Flow characteristics	On/off (modulating possible between 10° and 70° opening)
Max. leakage	0 % of Kvs
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Media temperature	-20...+120 °C
Max. flow speed	4 m/s
Material	
Body	Nodular iron EN-GJS-450-10
Disc	Nodular iron EN-GJS-450-10 (Nylon coated)
Seat	EPDM
Stem	Stainless steel 1.4401
O-rings	EPDM

MODELS

Article	Nominal diameter	Kvs	ΔP_s (SR...) [kPa]	ΔP_s (GR...) [kPa]	ΔP_s (OM2...) [kPa]	ΔP_s (OM3...) [kPa]	ΔP_s (OM4...) [kPa]	Note
BW240	DN40	110 m ³ /h	1000 ¹	1600 ²	N/A	N/A	N/A	
BW250	DN50	190 m ³ /h	600 ¹	1600 ²	N/A	N/A	N/A	
BW265	DN65	315 m ³ /h	300 ¹	1600 ²	N/A	N/A	N/A	
BW280	DN80	425 m ³ /h	150 ¹	1400 ²	1600 ³	N/A	N/A	
BW2100	DN100	720 m ³ /h	N/A	600 ²	1600 ³	N/A	N/A	
BW2125	DN125	1240 m ³ /h	N/A	N/A	1400 ⁴	1600 ⁴	N/A	
BW2150	DN150	1860 m ³ /h	N/A	N/A	200 ⁴	1600 ⁴	N/A	
BW2200	DN200	3120 m ³ /h	N/A	N/A	N/A	N/A	1600 ⁵	



HL1

ACCESSORIES

Article	Description	Note
HL1	Hand lever for manual operation of BW2 valves DN40...DN100.	
HL2	Hand lever for manual operation of BW2 valves DN125...DN150.	
HL3	Hand lever for manual operation of BW2 valves DN200.	



ΔP_s constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure. ¹ With adapters VAR-SR + ZSV-I | ² With adapters ZGI-002 + ZGV-I6 ³ With adapter VAR-OM2 ⁴ With adapter VAR-OM3 ⁵ With adapter VAR-OM4

PRESSURE INDEPENDENT CONTROL VALVES



Pressure independent control valves, DN15-32, 2.7/6 mm stroke

The valve is a combined differential pressure regulator, flow limiter and equal percentage control valve with full stroke and authority. The pressure independent control valves are suitable for constant or variable temperature systems and can be used as constant flow limiters in constant volume systems (with no actuators), or as pressure independent control valves in variable volume systems (with actuators).



Technical data	
Application	Heating/cooling systems, fan coil units, radiant cooling and ventilation
Pressure class	25 bar
Flow characteristics	Equal percentage
Max. diff. pressure	600 kPa
Media	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
Max. leakage	0.01 % of maximum flow, Class IV IEC 60534-4
Media temperature	-10...+120 °C
Material	
Body	Brass CW602N (CZ121)
Plug parabol	Brass CW614N (CZ132)
Stem	Stainless steel
O-rings	EPDM
Pressure controller	EPDM, stainless steel and high resistance polymer

MODELS WITHOUT MEASURING PORT CONNECTORS

Article	Nominal diameter	Max. flow rate	Max. start up pressure	Rangeability	Stroke	Connection	Actuator	Note
PCTVS15-F150	DN15	150 l/h	20 kPa	50 ~ 100 : 1	2.7 mm	G½"	RTAM100, RVAPC	
PCTVS15-F600	DN15	600 l/h	25 kPa	50 ~ 100 : 1	2.7 mm	G½"	RTAM100, RVAPC	
PCTVS15-F900	DN15	900 l/h	30 kPa	50 ~ 100 : 1	2.7 mm	G½"	RTAM100, RVAPC	
PCTVS20-F600	DN20	600 l/h	25 kPa	50 ~ 100 : 1	2.7 mm	G¾"	RTAM100, RVAPC	
PCTVS20-F900	DN20	900 l/h	30 kPa	50 ~ 100 : 1	2.7 mm	G¾"	RTAM100, RVAPC	

MODELS WITH MEASURING PORTS, 2.7 MM STROKE

Article	Nominal diameter	Max. flow rate	Max. start up pressure	Rangeability	Stroke	Connection	Actuator	Note
PCMTV15-F150	DN15	150 l/h	20 kPa	50 ~ 100 : 1	2.7 mm	G1/2"	RTAM100, RVAPC	
PCMTV15-F600	DN15	600 l/h	25 kPa	50 ~ 100 : 1	2.7 mm	G1/2"	RTAM100, RVAPC	
PCMTV15-F780	DN15	780 l/h	35 kPa	50 ~ 100 : 1	2.7 mm	G1/2"	RTAM100, RVAPC	
PCMTV20-F1000	DN20	1000 l/h	30 kPa	50 ~ 100 : 1	2.7 mm	G3/4"	RTAM100, RVAPC	
PCMTV20-F1500	DN20	1500 l/h	35 kPa	50 ~ 100 : 1	2.7 mm	G3/4"	RTAM100, RVAPC	
PCMTV25-F1500	DN25	1500 l/h	35 kPa	50 ~ 100 : 1	2.7 mm	G1"	RTAM100, RVAPC	

MODELS WITH MEASURING PORTS, 6 MM STROKE

Article	Nominal diameter	Max. flow rate	Max. start up pressure	Rangeability	Stroke	Connection	Actuator	Note
PCMTV20-F2200	DN20	2200 l/h	25 kPa	100 ~ 150 : 1	6 mm	Rc 3/4"	RTAM125, RVAPC	
PCMTV20-F2700	DN20	2700 l/h	30 kPa	100 ~ 150 : 1	6 mm	Rc 3/4"	RTAM125, RVAPC	
PCMTV25-F2200	DN25	2200 l/h	25 kPa	100 ~ 150 : 1	6 mm	Rc1"	RTAM125, RVAPC	
PCMTV25-F2700	DN25	2700 l/h	30 kPa	100 ~ 150 : 1	6 mm	Rc1"	RTAM125, RVAPC	
PCMTV32-F2700	DN32	2700 l/h	30 kPa	100 ~ 150 : 1	6 mm	Rc1 1/4"	RTAM125, RVAPC	
PCMTV32-F3000	DN32	3000 l/h	35 kPa	100 ~ 150 : 1	6 mm	Rc1 1/4"	RTAM125, RVAPC	



ACCESSORIES

Article	Description	Actuator	Note
VA64	Adapter for valve with 2.7 or 6 mm stroke (to be ordered separately)	RTAM	
VA7010	Adapter for VFP valves (actuator connection from M28 to M30)	RVAPC...	
VA748X	Adapter for VFP valves (actuator connection from M28 to M30)	RVAPC...	



Pressure independent control valve with measuring ports, DN32-50

Valves intended for systems with multiple or large fan-coil units, chilled beams or air handling units etc., in which pressure independent control valves are preferred. They can be used as constant flow limiters in constant volume systems (without an actuator) or as true PICVs (pressure independent control valves) in variable volume systems (with an actuator).

Technical data	
Application	Heating systems, cooling systems, fan-coil units, ventilation systems
Pressure class	16 bar
Flow characteristics	Equal percentage
Rangeability	> 100 : 1
Max. diff. pressure	600 kPa
Stroke (°)	90 °
Media	Hot water, cold water, glycol-mixed water (max 50 % glycol)
Max. leakage	0.01 % of maximum flow, Class IV IEC 60534-4
Media temperature	-10...+120 °C
Material	
Body	Ductile iron EN-JS1030
Control ball	Brass CW614N
Pressure controller	EPDM, stainless steel 1.4305
Pre-setting disc	Brass CW617N
Stem	Stainless steel 1.4305
O-rings	EPDM

Article	Nominal diameter	Max. flow rate	Max. start up pressure	Connection	Actuator	Note
PCMTV32-F6	DN32	6000 l/h	30 kPa	Rc 1 1/4"	RVASN08	
PCMTV40-F9	DN40	9000 l/h	35 kPa	Rc 1 1/2"	RVASN08	
PCMTV50-F12	DN50	12000 l/h	35 kPa	Rc 2"	RVASN08	
PCMTV50-F18	DN50	18000 l/h	35 kPa	Rc 2"	RVASN08	



Pressure independent valve with smart actuator

Valves intended for control of heating, cooling and air handling in larger-scale heating and cooling applications where pressure independent control valves are preferred, such as high-rise buildings, supermarkets, factories, etc. The valve has a built-in actuator.

Technical data	
Stroke	Multi-turn
Application	Heating/cooling system, fan coil unit, radiant cooling and ventilation
Pressure class	PN40 bar
Flow characteristics	Linear flow, equal percentage, linear rotation or linear signal
Rangeability	100 : 1
Max. diff. pressure	800 kPa
Media	Hot water, cold water
Max. leakage	ANSI / FCI 70-2 206 / IEC 60534-4 - Class IV
Media temperature	-20...+120 °C
Material	
Seal	EPDM
Body	Ductile iron ASTM A395 Grade 60-40-18
Plug	Stainless steel 1.4301
Seat	Stainless steel 1.4301
Stem	Stainless steel 1.4301
Packing box	Brass CW614N
Gaskets	EPDM
O-rings	EPDM
Diaphragm	HNBR
Actuator	
Supply voltage	24 V AC/DC (22...26V AC, 50/60 Hz / 28...32V DC)
Control signal	Combined 0(2)-10V, 4-20mA, 2-point or 3-point
Ambient temperature	-10...+50 °C
Protection class	IP54

Article	Nominal diameter	Max. flow rate	Note
PCMTV50-65-80-F25	DN50/DN65/DN80	25700 l/h	
PCMTV50-65-80-F35	DN50/DN65/DN80	35600 l/h	
PCMTV80-100-F72	DN80/DN100	72700 l/h	
PCMTV125-150-F106	DN125/DN150	106000 l/h	
PCMTV200-250-F277	DN200/DN250	277000 l/h	

ADAPTER KIT FOR ADAPTING ACTUATORS OF OTHER BRANDS TO REGIN'S VALVES

Adapter kits for adapting actuators from other suppliers to Regin's series of valves. Adapter and stem extension are included in the kit.

Article	Actuator supplier	Actuator model	Compatible valves and dimensions	Note
OVA-B6	Belimo	EV...	GTVS (DN50-150), GTRS (DN50-150), 2SBS (DN80-100), NTVS (DN80-150)	
OVA-B7	Belimo	NV...-TPC	MTRS/MTVS/ETRS (until 2019-12), ETVS, FRS, FRSD, MRT, 2SAS (DN15), 2SBS (DN20-80), NTVS (DN15-80), GTRS (DN32-40), GTVS (DN32-40)	
OVA-T1	TAC Forta	M400/M800/M1500	MTRS/MTVS/ETRS (until 2019-12), ETVS, FRS, FRSD, MRT, 2SAS (DN15), 2SBS (DN20-80), NTVS (DN15-80), GTRS (DN32-50), GTVS (DN32-50), CVFS	
OVA-T2	TAC Forta	M400/M800/M1500	Old OAB 3/8" UNF thread on the stem: MTV, MTR, 2SA (DN15), 2SB (DN20-80), GTV (DN25-50), GTR (DN25-50), CFV	
OVA-S1	Siemens	All	MTRS/MTVS/ETRS (until 2019-12), ETVS, FRS, FRSD, MRT, 2SAS, 2SBS, NTVS, GTRS, GTVS	
OVA-AVM	Sauter	AVM234	2SBS (DN50-100), NTVS (DN50-150), GTVS (DN50-150), GTRS (50-150)	
S2951452201	TAC/Schneider	M400/M800/M1500	BTV (until 2018-12), BTR (DN15...DN50, 20 mm stroke)	
VAR-AVM	Sauter	AVM324SF132	GF2 (DN50...DN200), GF3 (DN50...DN200)	
VAR-B1	Belimo	NV...-TPC	GF2/GF3 (DN25...DN40), BF2/BF3 (DN15...DN50), BTV (from 2019-01), MTRS/MTVS/ETRS (from 2020-01)	
VAR-B2	Belimo	NV...-TPC	GF2 (DN50...DN65), GF3 (DN50...DN65)	
VAR-B3	Belimo	RV24A-SZ, EV...-TPC	RV24A-SZ : GF2/3 DN125...DN200, EV...-TPC : GF2/3 DN50...DN200	
VAR-S1	Siemens	All with 10 mm stem connection	GF2/GF3 (DN25...DN40), BF2/BF3 (DN15...DN50), BTV (from 2019-01), MTRS/MTVS/ETRS (from 2020-01)	
VAR-S2	Siemens	All with 10 mm stem connection	GF2 (DN50...DN200), GF3 (DN50...DN200)	
VAR-T1	TAC/Schneider	M400/M800/M1500	GF2/GF3 (DN25...DN40), BF2/BF3 (DN15...DN50), BTV (from 2019-01), MTRS/MTVS/ETRS (from 2020-01)	
VAR-T2	TAC/Schneider	M400/M800/M1500	GF2 (DN50...DN200), GF3 (DN50...DN200)	



OVA-B6



OVA-B7



OVA-T1



OVA-T2



OVA-S1



OVA-AVM



S2951452201



VAR-AVM



VAR-B1



VAR-B2



VAR-B3



VAR-S1



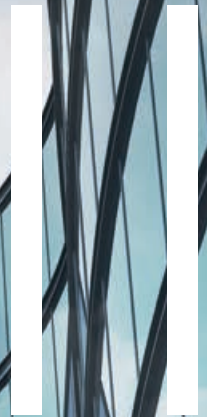
VAR-S2



VAR-T1



VAR-T2



VALVE ACTUATORS



✓ Recommended choice ♦ Other possible alternative



VALVE	TYPE	NOMINAL DIAMETER	KVS	STROKE	100 N	140 N			4 Nm	5 Nm
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ZONE VALVES



CTV	2-way	DN10–20	0,12–1,9	3,5mm						
RTV		DN10–15	1,2–1,4	1,7mm						
FVR		DN10–20	0,01–1,1	1,7mm						
RV2		DN10–20	0,15–0,41	3,5mm						
ZFCM-2	3-way	DN15–32	3,2–10	20°			✓			
ZFCM-3			3,2–8,4					✓		

EXTERNALLY THREADED VALVES



VTTV / VTTR / VTTB	2-way / 3-way / 3-way with bypass	DN15–20 DN20	0,25–2,5 4,0–6,0	2,5 mm	✓					
ZTV	2-way	DN15–25			5,5 mm		✓			
ZTR	3-way									
ZMD	2- & 3-way	DN15–40		5,5 mm						
ETVS	2-way	DN15–50		20 mm						
ETRS	3-way									

INTERNALLY THREADED VALVES



ZTVB	2-way	DN25–40		5,5 mm						
ZTRB	3-way									
MTVS	2-way	DN15–50		20 mm						
MTRS	3-way									
BF	2- & 3-way	DN15–50		20 mm						
BTV	2-way	DN15–50		20 mm						
BV	2-way & 3-way	DN15–25		90°					✓	
	2-way & 3-way	DN32–50								

PRESSURE INDEPENDENT CONTROL VALVES



PCTVS	2-way	DN15–20		2,7 mm							
PCMTV	2-way	DN15–25			6 mm						
		DN20–32		90°							
		DN32–50		Multiple turns	Actuator included						
		DN65–150									

FLANGED VALVES



GF2/GF3	2- & 3-way (DIN-standard)	DN25–40		20 mm						
		DN50–65								
		DN80–100		40 mm						
		DN125–200								
NTVS	2-way (DIN-standard)	DN15–50		20 mm						
		DN65–80								
		DN100		38 mm						
		DN125–150		40 mm						
BW2	2-way	DN40–80		90°						
		DN40–100								
		DN80–200								

RTAM100...

RTAM125...

RTAOM...

RTAOM125...

RVAZ4...

RVAPC...

RVAN5...

RVANI0...

RVANI8...

RVAN25...

RVASN08...

SR...

GR...

OM...



100 N	125 N	100 N	125 N	400 N	120 N	500 N	1000 N	1800 N	2500 N	8 Nm	20 Nm	40 Nm	90, 150, 400 Nm
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✓		♦											
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							✓	♦					
							✓	♦					
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									✓	♦			
										✓	♦		
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THERMAL ACTUATORS



Thermal actuators 100/140 N, 2.5 mm stroke

Thermal actuator with position indicator for control of valves in heating or cooling systems. The actuator can be used to control radiator circuits, solar heating systems, heating or cooling coils, floor heating etc. To be combined with the VTTV/VTTR/VTTB range of valves.

Technical data	
Stroke	2.5 mm
Ambient temperature	0...50 °C
Connection	M30 x 1.5 metal ring
Dimensions	Ø 40 x 61 mm
Protection class	IP40 (IP44 when vertically mounted)

MODELS

Article	Supply voltage	Control signal	Force	Power consumption	Stroke time	Note
RTAN-24	24 V AC ± 10 %, 50/60 Hz	On/Off	100 N	3.0 VA	4.5 min	
RTAN-230	230 V AC ± 10 %, 50/60 Hz	On/Off	100 N	3.0 VA	3.5 min	
RTAN-24A	24 V AC ± 10 %, 50/60 Hz	0...10 V DC	100 N	3.5 VA	4.5 min	
RTAN140-24	24 V AC ± 10 %, 50/60 Hz	On/Off	140 N	3.0 VA	4.5 min	
RTAN140-230	230 V AC ± 10 %, 50/60 Hz	On/Off	140 N	3.0 VA	3.5 min	
RTAN140-24A	24 V AC ± 10 %, 50/60 Hz	0...10 V DC	140 N	3.5 VA	3.5 min	



RTAM

Thermal actuator 100/125N, 4/6,5mm stroke

Thermal actuators with position indication for control of valves in heating or cooling systems. The actuator can be used to control radiator circuits, solar heating systems, heating or cooling coils, floor heating, etc.

Technical data	
Ambient temperature	0...60 °C
Protection class	IP54
Cable length	2 m

Article	Supply voltage	Control signal	Power consumption	Stroke time	Force	Stroke	Note
RTAM100-24	24 V AC/DC	On/off, NC	1 W. Max. inrush current < 300 mA during max. 2 min.	3.5 min	100 N	4 mm	
RTAOM100-24	24 V AC/DC	On/off, NO	1 W. Max. inrush current < 300 mA during max. 2 min.	3.5 min	100 N	4 mm	
RTAM100-24A	24 V AC	0...10 V DC, NC	1 W. Max. inrush current < 300 mA during max. 2 min.	30 s/mm	100 N	4 mm	
RTAOM100-24A	24 V AC	0...10 V DC, NO	1 W. Max. inrush current < 300 mA during max. 2 min.	30 s/mm	100 N	4 mm	
RTAM100-230	230 V AC	On/off, NC	1 W. Max. inrush current < 550 mA during max. 100 ms.	3.5 min	100 N	4 mm	
RTAOM100-230	230 V AC	On/off, NO	1 W. Max. inrush current < 550 mA during max. 100 ms.	3.5 min	100 N	4 mm	
RTAM125-24	24 V AC/DC	On/off, NC	1.2 W. Max. inrush current < 300 mA during max. 2 min.	4.5 min	125 N	6.5 mm	
RTAOM125-24	24 V AC/DC	On/off, NO	1.2 W. Max. inrush current < 300 mA during max. 2 min.	4.5 min	125 N	6.5 mm	
RTAM125-24A	24 V AC	0...10 V DC, NC	1.2 W. Max. inrush current < 300 mA during max. 2 min.	30 s/mm	125 N	6.5 mm	
RTAM125-230	230 V AC	On/off, NC	1.2 W. Max. inrush current < 550 mA during max. 100 ms.	4.5 min	125 N	6.5 mm	
RTAOM125-230	230 V AC	On/off, NO	1.2 W. Max. inrush current < 550 mA during max. 100 ms.	4.5 min	125 N	6.5 mm	



ACCESSORIES

Article	Description	Note
RTA-CASE	Adapter case containing an assortment of adapters for testing on site	



Adapters for the RTA(O)M actuators

Adapters for adjusting the RTA(O)M actuators to valves of other brands.

Article	Valve supplier	Connection, valve	Colour	Note
VA02	LK/Uponor	M30 x 1.5	Grey with red stem	
VA10	Siemens/Oventrop	M30 x 1.5	Light grey	
VA13H	Controlli	M30 x 1.5	White with black stem	
VA16H	Herz	M28 x 1.5	Grey with red stem	
VA17	MMA	M28 x 1.5	White	
VA18	Honeywell	M30 x 1.5	Light blue	
VA26	Giacomini	Clamping ring	Grey	
VA32	TA	M28 x 1.5	Green	
VA39	Oventrop	M30 x 1.0	White	
VA41	Danfoss AB-QM	M30 x 1.5	Dark green	
VA44H	Cazzaniga	M32 x 1.5	Grey	
VA50	Honeywell	M30 x 1.5	Dark grey	
VA54	MMA, Regin (CTV, RTV, FVR)	M28 x 1.5	Dark blue	
VA59	Danfoss RAV/L	Clamping ring	Light grey	
VA64	Pettinaroli	M28 x 1.5	Grey	
VA66	Industrietechnik	M30 x 1.5	Grey	
VA72	Danfoss RAV	Grub screw	Light grey	
VA78	Danfoss RA	Grub screw	White	
VA80	TA	M30 x 1.5	White/grey	
VA90	Valsir	M30 x 1.5	Red	

Article	Description	Note
RTA-CASE	Adapter case containing an assortment of adapters for testing on site	



VA02



VA10



VA13H



VA16H



VA17



VA18



VA26



VA32



VA39



VA41



VA44H



VA50



VA54



VA59



VA64



VA66



VA72



VA78



VA80



VA90

LINEAR VALVE ACTUATORS



RV AZ4



OVA-L1

Valve actuator for 0...10V or 3-position control

The RV AZ4 series of valve actuators are easy to mount and have a clear position indication which shows the position of the actuator. The actuator has manual manoeuvring.

The RV AZ4 models are intended for use together with Regin's valve ranges ZTV/ZTR, ZTVB/ZTRB and ZMD. The RV AZ4L1 models can be used for different brands of valves in combination with the OVA-L1 adapter.

Technical data	
Force	400 N
Stroke	5.5 mm
Ambient temperature	0...50 °C
Storage temperature	-10...+80 °C
Media temperature	1...110 °C
Ambient humidity	Max. 95 % RH
Protection class	IP44
Connection	M30 x 1.5

ACTUATORS FOR REGIN'S VALVE RANGES ZTV/ZTR AND ZTVB/ZTRB

Article	Supply voltage	Power consumption	Control signal	Stroke time	Note
RV AZ4-24	24 V AC ±15 %	0.6 W / 0.6 VA	3-point	150 s	
RV AZ4-24A	24 V AC ±15 %, 24 V DC ±15 %	6 W / 6 VA	0...10 V DC	30 s	
RV AZ4-230	230 V AC ±15 %, 50/60 Hz	6 W / 6 VA	3-point	150 s	

ACTUATORS FOR VALVES OF DIFFERENT BRANDS IN COMBINATION WITH THE OVA-L1 ADAPTER

Article	Supply voltage	Power consumption	Control signal	Stroke time	Note
RV AZ4L1-24	24 V AC ±15 %	0.6 W / 0.6 VA	3-position	150 s	
RV AZ4L1-24A	24 V AC ±15 %, 24 V DC ±15 %	6 W / 6 VA	0...10 V DC	30 s	
RV AZ4L1-230	230 V AC ±15 %, 50/60 Hz	6 W / 6 VA	3-position	150 s	



Valve actuator, 24 V supply voltage and 0(2)...10 V DC control

Valve actuator with automatic stroke adjustment for control of Regin's range of valves. Available in models with actuator force of 500, 1000, 1800 or 2500 N. The actuators can be operated manually with the manual override mechanism on the top cover. Using an adapter kit, the actuator can also be adapted for use with other valves on the market.



Technical data	
Supply voltage	24 V AC/DC
Control signal	0...10 V DC or 2...10 V DC (or 4...20 mA with a 500 Ω resistor connected)
Ambient temperature	0...50 °C
Storage temperature	-40...80 °C
Ambient humidity	10...90 % RH
Protection class	IP54

MODELS

Article	Max. power consumption	Force	Stroke	Stroke time	Note
RVAN5-24A	5.1 W / 13.9 VA	500 N	10...30 mm	1.5 s/mm	
RVAN10-24A	6.2 W / 17.4 VA	1000 N	10...30 mm	1.5 s/mm	
RVAN18-24A	8.6 W / 22.4 VA	1800 N	10...52 mm	3 s/mm	
RVAN25-24A	8.6 W / 22.4 VA	2500 N	10...52 mm	3 s/mm	



Valve actuator, 24 V supply voltage and 3-point control

Valve actuator for control of Regin's range of valves. Available in models with actuator force of 500, 1000, 1800 or 2500 N. The actuators can be operated manually with the manual override mechanism on the top cover. Using an adapter kit, the actuator can also be adapted for use with other valves on the market.



Technical data	
Supply voltage	24 V AC
Control signal	3-point
Stroke time	3 s/mm
Ambient temperature	0...50 °C
Storage temperature	-40...80 °C
Ambient humidity	10...90 % RH
Protection class	IP54

MODELS

Article	Max. power consumption	Force	Stroke	Stroke time	Note
RVAN5-24	7.8 W / 8.0 VA	500 N	10...30 mm	3 s/mm	
RVAN10-24	6.2 W / 6.7 VA	1000 N	10...30 mm	3 s/mm	
RVAN18-24	10.9 W / 11.7 VA	1800 N	10...52 mm	3 s/mm	
RVAN25-24	10.9 W / 11.7 VA	2500 N	10...52 mm	3 s/mm	



Valve actuator, 230V supply voltage and 3-point control

Valve actuator for control of Regin's range of valves. Available in models with actuator force of 500, 1000, 1800 or 2500 N. The actuators can be operated manually with the manual override mechanism on the top cover. Using an adapter kit, the actuator can also be adapted for use with other valves on the market.



Technical data	
Supply voltage	230 V AC \pm 15 %, 50 Hz
Control signal	3-point
Stroke time	3 s/mm
Ambient temperature	0...50 °C
Storage temperature	-40...+80 °C
Ambient humidity	10...90 % RH
Protection class	IP54

MODELS

Article	Max. power consumption	Force	Stroke	Stroke time	Note
RVAN5-230	15.3 W / 16.5 VA	500 N	10...30 mm	3 s/mm	
RVAN10-230	15.3 W / 16.5 VA	1000 N	10...30 mm	3 s/mm	
RVAN18-230	15.3 W / 16.5 VA	1800 N	10...52 mm	3 s/mm	
RVAN25-230	15.3 W / 16.5 VA	2500 N	10...52 mm	3 s/mm	



RVAPC

Electromechanical actuators for the PCTV, PCTVM and PCTVS valves

Technical data	
Max. media temperature	95 °C
Ambient temperature	0...50 °C
Protection class	IP43
Force	120 N +30% -20%
Stroke time	8 s/mm

MODELS

Article	Control signal	Stroke	Supply voltage	Power consumption	Note
RVAPC-24	3-point	6 mm (max.)	24 V AC	1.5 W / 2.5 VA	
RVAPC-230	3-point	6 mm (max.)	230 V AC	2.2 W / 6.5 VA	
RVAPC-24A	0...10 V	6 / 3.2 mm	24 V AC	1.5 W / 2.5 VA	



VA7010

ACCESSORIES

Article	Description	Actuator	Note
VA7010	Adapter for VFP valves (actuator connection from M28 to M30)	RVAPC...	
VA748X	Adapter for VFP valves (actuator connection from M28 to M30)	RVAPC...	



VA748X



Valve actuator for 0-10V control signal. Force 500 N.

Actuator intended for control of Regin's former MMV and MMR valves, as well as other valves. The actuator can be operated manually.

Technical data	
Max. power consumption	4.5 W
Force	500 N
Stroke	10...30 mm
Ambient temperature	0...50 °C
Ambient humidity	10...90 % RH
Storage temperature	-40...80 °C
Protection class	IP54

MODELS

Article	Supply voltage	Control signal	Stroke time	Note
RVAR5-24A	24 V AC/DC	0(2)...10 V DC or 4...20 mA with a 500 Ω resistor connected	1.5 s/mm	



QUARTER TURN ACTUATORS



SR24A

Quarter turn valve actuators for butterfly valves, 20 Nm

20 Nm quarter turn valve actuators for control of Regin's BW2 valves (DN40...DN80).

Technical data	
Torque	20 Nm
Running time	90 s / 90°
Storage temperature	-40...+80 °C
Ambient temperature	0...50 °C °C
Ambient humidity	< 95 % RH (non-condensing)
Protection class	IP54
Flanges	F03/F04/F05
Weight	0.9 kg

MODELS

Article	Supply voltage	Control signal	Power consumption	Connection cable	Sound power level	Isolation class	Note
SR24A-R	24 V AC, 50/60 Hz	2-point / 3-point	2.5 W	1 m, 3x0.75 mm ²	max. 45 dB (A)	III	
SR24A-MF-R	24 V AC, 50/60 Hz	0...10 V	4 W	1 m, 4x0.75 mm ²	max. 35 dB (A)	III	
SR230A-R	230 V AC, 50/60 Hz	2-point / 3-point	3 W	1 m, 3x0.75 mm ²	max. 45 dB (A)	II	



ACCESSORIES

Article	Description	Note
VAR-SR	Adapter F05/F07, for SR-actuator	
ZSV-11	Adapter 11x11x57 mm, for SR-actuator	



For more information about possible valve/actuator combinations and corresponding close-off pressures please see the BW2 product sheet.



GR-230A

Quarter turn valve actuators for butterfly valves, 40 Nm

40 Nm quarter turn valve actuators for control of Regin's BW2 valves (DN40...DN100).

Technical data	
Torque	40 Nm
Running time	150 s / 90°
Sound power level	max. 45 dB (A)
Storage temperature	-40...+80 °C
Ambient humidity	< 95 % RH (non-condensing)
Protection class	IP54
Isolation class	III
Flanges	F07

MODELS

Article	Supply voltage	Control signal	Power consumption	Connection cable	Ambient temperature	Weight	Note
GR24A-R	24 V AC, 50/60 Hz	2-point / 3-point	2.5 W	1 m, 3x0.75 mm ²	-30...+50 °C	1.85 kg	
GR24A-MF-R	24 V AC, 50/60 Hz	0...10 V	4 W	1 m, 4x0.75 mm ²	0...50 °C	2.5 kg	
GR230A-R	230 V AC, 50/60 Hz	2-point / 3-point	3 W	1 m, 3x0.75 mm ²	-30...+50 °C	1.85 kg	



ACCESSORIES

Article	Description	Note
ZGI-002	Adapter 11x11x20 mm, for GR-actuator	
ZGV-16	Adapter 16x16x40 mm, for GR-actuator	



For more information about possible valve/actuator combinations and corresponding close-off pressures please see the BW2 product sheet.



OM2

Quarter turn valve actuators for butterfly valves, 90...400 Nm

90...400 Nm quarter turn valve actuators for control of Regin's BW2 valves (DN80-200).

Technical data	
Manual override	Hand-wheel
Ambient temperature	-30...65 °C °C
Ambient humidity	30...95 %RH
Protection class	IP67
Motor insulation class	F
Working angle	0...90°
Duty cycle	30%

MODELS

Article	Supply voltage	Control signal	Max. power consumption	Flanges	Weight	Note
OM2-24	24 V AC, 50/60 Hz	on/off (open/close) / 3-point	70 W / 80 VA	F07	11 kg	
OM2-24A	24 V AC/DC, 50/60 Hz	0...10 V	70 W / 80 VA	F07	11 kg	
OM2-230	230 V AC, 50/60 Hz	on/off (open/close) / 3-point	180 W	F07	11 kg	
OM3-24	24 V AC, 50/60 Hz	on/off (open/close) / 3-point	70 W / 80 VA	F07	11 kg	
OM3-24A	24 V AC/DC, 50/60 Hz	0...10 V	70 W / 80 VA	F07	11 kg	
OM3-230	230 V AC, 50/60 Hz	on/off (open/close) / 3-point	180 W	F07	11 kg	
OM4-24	24 V AC, 50/60 Hz	on/off (open/close) / 3-point	200 W / 120 VA	F10	20 kg	
OM4-24A	24 V AC/DC, 50/60 Hz	0...10 V	200 W / 120 VA	F10	20 kg	
OM4-230	230 V AC, 50/60 Hz	on/off (open/close) / 3-point	300 W	F10	20 kg	



ACCESSORIES

Article	Description	Note
VAR-OM2	Adapter 22 mm / 11 mm, for OM2-actuator	
VAR-OM3	Adapter 22 mm / 14 mm, for OM3-actuator	
VAR-OM4	Adapter 36 mm / 17 mm, for OM4-actuator	



For more information about possible valve/actuator combinations and corresponding close-off pressures please see the BW2 product sheet.



Rotating valve actuator, 24V AC/DC or 230V AC

Valve actuators intended for control of Regin's pressure independent PCMTV32-50 range of valves. Compact design for simple installation and maintenance. Clear position indication and DIP-switches for setting of rotational direction.

Technical data	
Max. stroke (rotation)	0...90 °
Stroke time	30 s /90°
Torque	8 Nm
Angle limitation	5...85° (in increments of 5°)
Ambient temperature	-20...+50 °C
Media temperature	Max. 120 °C
Storage temperature	-40...+70 °C
Ambient humidity	5...95 % RH
Protection class	IP54

Article	Supply voltage	Control signal	Power consumption	Note
RVASN08-24	24 V AC, 50/60 Hz alt. 24 V DC ±20 %	On/Off (2-position) and 3-position	3.9 W (0.4 W/6.5 VA in standby mode)	
RVASN08-24A	24 V AC, 50/60 Hz alt. 24 V DC ±20 %	0...10 V DC	4.8 W (1.2 W/6.5 VA in standby mode)	
RVASN08-230	230 V AC, 50/60 Hz	On/Off (2-position) and 3-position	4.8 W (1.2 W/6.5 VA in standby mode)	



Ball valve actuator for BV2/BV3 valves

Ball valve actuator with bi-directional motor mainly used in central air-conditioning systems, heating systems, water treatment, and production industry to control the flow of cold/hot media.



Technical data	
Ambient temperature	-5...+50 °C
Storage temperature	-30...+70 °C
Ambient humidity	Max. 90 % RH (non-condensing)
Protection class	IP54
Working angle	90°
Connection, actuator	Square 9 mm hole with M5 screw

MODELS

Article	Supply voltage	Power consumption	Control signal	Torque	Running time, actuator	Note
RVAB4-24	24 V AC	3 VA	Floating or On/off (3-wire)	≥ 4 Nm	45 s / 90°	
RVAB4-24A	24 V AC	4 VA	0(2)...10 V DC or 0(4)...20 mA	≥ 4 Nm	45 s / 90°	
RVAB4-230	230 V ~	5 VA	Floating or On/off (3-wire)	≥ 4 Nm	45 s / 90°	
RVAB5-24	24 V AC	3 VA	Floating or On/off (3-wire)	≥ 5 Nm	50 s / 90°	
RVAB5-24A	24 V AC	4 VA	0(2)...10 V DC or 0(4)...20 mA	≥ 5 Nm	50 s / 90°	
RVAB5-230	230 V ~	5 VA	Floating or On/off (3-wire)	≥ 5 Nm	50 s / 90°	

ON/OFF ZONE VALVE ACTUATOR



Actuators for internally threaded 2- and 3-way valves

Actuator intended for on/off control of hot or cold water in heating or cooling systems. The actuator has a synchronous motor and spring return mechanism. It is intended for use together with Regin's ZFCM valves.



Technical data	
Supply voltage	230 V AC, 50...60 Hz
Control signal	On/off
Power consumption	6 VA
Opening time	Approx. 15 s
Closing time, spring	4...5 s
Ambient temperature	0...60 °C
Storage temperature	-20...+65 °C
Material	ABS
Dimensions	91 x 68 x 65 mm
Protection class	IP44

MODELS

Article	Valve	Note
RVAFC-2302	ZFCM-2...	
RVAFC-2303	ZFCM-3...	



OVA-131

Adapter kit for adapting Regin's actuators to valves of other brands

ABS, VADSTENA, VM (SHUNTMASER)

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
SV...25	25 mm	20 mm	RVAN5...	OVA-131	
SV...27	25 mm	20 mm	RVAN5...	OVA-131	
SV...33	32 mm	20 mm	RVAN5...	OVA-131	
SV...35	32 mm	20 mm	RVAN5...	OVA-131	
SV...36	32 mm	20 mm	RVAN5...	OVA-131	
SV...47	40 mm	20 mm	RVAN5...	OVA-131	
SV...54	50 mm	40 mm	RVAN18...	OVA-031	
SV...55	50 mm	40 mm	RVAN18...	OVA-031	
SV...56	50 mm	40 mm	RVAN18...	OVA-031	
SV...62	65 mm	40 mm	RVAN18...	OVA-031	
SV...65	65 mm	40 mm	RVAN18...	OVA-031	
SV...66	65 mm	40 mm	RVAN18...	OVA-031	
SV...67	65 mm	40 mm	RVAN18...	OVA-031	



OVA-031

ARI ARMATUREN

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
485-489	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
485-489	65 - 100 mm	20 - 30 mm	RVAN18.../RVNA25...	OVA-A2	
485-489	40 - 50 mm	14 mm	RVAN18	OVA-A3	

BELIMO



OVA-A1

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
H4	15 - 50 mm	15 mm	RVAN5.../RVAN10...	OVA-015	
H5	15 - 50 mm	15 mm	RVAN5.../RVAN10...	OVA-015	
H6	15 - 50 mm	15 mm	RVAN5.../RVAN10...	OVA-015	
H6	65 mm (kvs 58)	18 mm	RVAN10...	OVA-015	
H7	15 - 50 mm	15 mm	RVAN5.../RVAN10...	OVA-015	
H7	65 mm (kvs 58)	18 mm	RVAN10...	OVA-015	
H7	80 mm (kvs 90)	18 mm	RVAN10...	OVA-015	



OVA-A2

CONTROLLI

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VSB	15 - 50 mm	16.5 mm	RVAN5.../RVAN10...	OVA-141	
VMB	15 - 50 mm	16.5 mm	RVAN5.../RVAN10...	OVA-141	



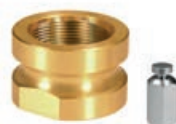
OVA-A3

DANFOSS

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
(H)VF2/(H)VF3	15 - 50 mm	15 mm	RVAN5.../RVAN10...	OVA-020	
(H)V2L2/(H)V2L3	15 - 50 mm	15 mm	RVAN5.../RVAN10...	OVA-020	
(H)VRB2/(H)VRB3	15 mm	10 mm	RVAN5...	OVA-020	
(H)VRB2/(H)VRB3	20 - 50 mm	15 mm	RVAN5.../RVAN10...	OVA-020	
(H)VRG2/(H)VRG3	15 mm	10 mm	RVAN5...	OVA-020	
(H)VRG2/(H)VRG3	20 - 50 mm	15 mm	RVAN5.../RVAN10...	OVA-020	
(H)VFS2	15 - 25 mm	15 mm	RVAN5.../RVAN10...	OVA-020	
VR2/VR3	15 - 25 mm	15 mm	RVAN5.../RVAN10...	OVA-020	
AB-QM	10 - 20 mm	2,3 mm	RVAPC...	N/A	
AB-QM	25 - 32 mm	4.5 mm	RVAPC...	N/A	



OVA-015



OVA-141

ESBE



Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VLF125	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLF135	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLF335	65 - 80 mm	20 mm	RVAN18.../RVAN25...	OVA-F4	
VLA121	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLA221	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLA131	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLA325	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLA325	65 mm	25 mm	RVAN5.../RVAN10...	OVA-131	
VLA325	65 mm	25 mm	RVAN18.../RVAN25...	OVA-031	
VLA325	80-150 mm	45 mm	RVAN18.../RVAN25...	OVA-131	
VLB325	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLB325	65 mm	25 mm	RVAN5.../RVAN10...	OVA-131	
VLB325	65 mm	25 mm	RVAN18.../RVAN25...	OVA-031	
VLB325	80-150 mm	45 mm	RVAN18.../RVAN25...	OVA-131	
VLB225	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLB225	65 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-F4	
VLA335	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLA335	65 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-F4	
VLB235	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLB235	65 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-F4	
VLA425	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLE122	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLE132	15 - 50 mm	20 mm	RVAN.../RVAN10...	OVA-131	
VLE222	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLE325	20 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLC125	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLC225	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLC325	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VLC425	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2FC	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL3FC	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2TA	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2TAA	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL3TA	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2FA	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2FAA	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL3FA	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2TB	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2TBA	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL3TB	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2FD	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
VL2FDA	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	

GEAMATIC

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
V121G (M6 threaded stem)	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-161	

HONEYWELL

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
V5011R	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5013A	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5013F	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-011	



OVA-011



OVA-013



OVA-171

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
V5013R	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5015A	100 - 150 mm	38 mm	RVAN18.../RVAN25...	OVA-013	
V5329C	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5329A	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5016A	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5016A	100 - 150 mm	38 mm	RVAN18.../RVAN25...	OVA-013	
V5025A	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5025A	100 - 150 mm	38 mm	RVAN18.../RVAN25...	OVA-013	
V5049A	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5049A	100 - 150 mm	38 mm	RVAN18.../RVAN25...	OVA-013	
V5050A	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V5050A	100 - 150 mm	38 mm	RVAN18.../RVAN25...	OVA-013	
V5328A	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V176A	15 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V176B	20 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V176B	100 mm	38 mm	RVAN18.../RVAN25...	OVA-013	
V538C6xxx	50 - 150 mm	27 - 40 mm	RVAN18.../RVAN25...	OVA-013	
V538C3xxx	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V186	15 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V186	20 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-011	
V186	100 mm	38 mm	RVAN18.../RVAN25...	OVA-013	



OVA-J1

IMI HYDRONICS

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
KTM512	15 - 50 mm	10 mm	RVAN5...	OVA-171	

INDUSTRIETECHNIK

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VFX	15 - 20 mm (up to kvs 2.5)	2,5 mm	RVAPC...	N/A	

JOHNSON

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VG7201/VG7203	25 - 32 mm	13 mm	RVAN5.../RVAN10...	OVA-J1	
VG7201/VG7203	40 - 50 mm	19 mm	RVAN5.../RVAN10...	OVA-J1	
VG7401/VG7403	25 - 32 mm	13 mm	RVAN5.../RVAN10...	OVA-J1	
VG7401/VG7403	40 - 50 mm	19 mm	RVAN5.../RVAN10...	OVA-J1	
VG7802/VG7804	25 - 32 mm	13 mm	RVAN5.../RVAN10...	OVA-J1	
VG7802/VG7804	40 - 50 mm	19 mm	RVAN5.../RVAN10...	OVA-J1	
BM-2xx2	15 - 50 mm	19 mm	RVAN5.../RVAN10...	OVA-J1	
BM-2xx8	15 - 50 mm	19 mm	RVAN5.../RVAN10...	OVA-J1	
VG6210	15 - 25 mm	2,5 mm	RVAPC...	N/A	
VG6510	15 - 25 mm	2,5 mm	RVAPC...	N/A	
VG6810	15 - 25 mm	2,5 mm	RVAPC...	N/A	
V5210	10 - 20 mm	4 mm	RVAPC...	N/A	
V5510	10 - 20 mm	3,7 mm	RVAPC...	N/A	
V5810	10 - 20 mm	3,7 mm	RVAPC...	N/A	



The OVA-J1 adapter applies to valves with a M28x1,5 neck and a 1/4" UNF-28 threaded stem.

KIEBACK UND PETER



OVA-A1

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
RF	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
RF	65 - 100 mm	20 - 30 mm	RVAN18.../RVAN25...	OVA-A2	
RK	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
RK	65 - 100 mm	20 - 30 mm	RVAN18.../RVAN25...	OVA-A2	

L&G, L&S, SIEMENS VALVES



OVA-A2

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VFF31 (VARISHUNT)	65 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VFF32 (VARISHUNT)	65 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VFF33 (VARISHUNT)	65 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VFF34 (VARISHUNT)	65 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VFF35 (VARISHUNT)	65 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VFF36 (VARISHUNT)	65 mm	40 mm	RVAN18.../RVAN25...	OVA-031	
VFG31 (VARISHUNT)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VFG32 (VARISHUNT)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VFG33 (VARISHUNT)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VFG34 (VARISHUNT)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VFG35 (VARISHUNT)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VFG36 (VARISHUNT)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VVF52E	15 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF52F	15 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF21	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF21	100 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VVF22	25 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF22	25 - 80 mm	20 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF22 (until 2015-10)	100 mm	40 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF22 (from 2015-10)	100 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VVF31	25 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF31	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VVF32	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF32	15 - 80 mm	20 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF32 (until 2015-10)	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF32 (from 2015-10)	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VVF40	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF40	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VVF41	50 - 150 mm	20/40 mm	RVAN18.../RVAN25...	OVA-082	
VVF42	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF42	15 - 80 mm	20 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF42 (until 2015-10)	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF42 (from 2015-10)	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VVF42...K	50 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF42...K	50 - 80 mm	20 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF42...K	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF43	65 - 250 mm	40 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF45	50 - 150 mm	20/40 mm	RVAN18.../RVAN25...	OVA-082	
VVF51	15 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF52	15 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF53	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF53	15 - 80 mm	20 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF53	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF53...K	50 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	



OVA-082



OVA-031



OVA-134



OVA-081



OVA-081



OVA-082



OVA-134



OVA-L1

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VVF53...K	50 - 80 mm	20 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF53...K	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VVF53...K	200 - 250 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VVF61	15 - 25 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VVF61	40 - 150 mm	20/40 mm	RVAN18.../RVAN25...	OVA-082	
VVG11 (VARIVALVE)	15 mm	5.5 mm	RVAZ4L1...	OVA-L1	
VVG11	20 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VVG12 (VARIVALVE)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VXF21	25 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF21	100 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VXF22	25 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF22	25 - 80 mm	20 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VXF22 (until 2015-10)	100 mm	40 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VXF22 (from 2015-10)	100 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VXF31	25 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF31	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VXF32	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF32	15 - 80 mm	20 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VXF32 (until 2015-10)	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VXF32 (from 2015-10)	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VXF40	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF40	100 - 150 mm	10 mm	RVAN18.../RVAN25...	OVA-082	
VXF41	15 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF41	50 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VXF42	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF42	15 - 80 mm	20 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VXF42 (until 2015-10)	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VXF42 (from 2015-10)	100 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-082	
VXF43	65 - 250 mm	40 mm	RVAN18.../RVAN25...	OVA-081 + 02133011	
VXF53	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF61	15 - 25 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXF61	40 - 150 mm	20/40 mm	RVAN18.../RVAN25...	OVA-082	
VVG41	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXG11 (VARIVALVE)	15 mm	5.5 mm	RVAZ4L1...	OVA-L1	
VXG11	20 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VXG12 (VARIVALVE)	25 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
VXG41	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-081	
VXG44	15 - 50 mm	5.5 mm	RVAZ4L1	OVA-L1	
VVG44	15 - 40 mm	5.5 mm	RVAZ4L1...	OVA-L1	
VVG549	15 - 25 mm	5.5 mm	RVAZ4L1...	OVA-L1	
VVI52	15 mm	5.5 mm	RVAZ4L1...	OVA-L1	
VVG55	15 - 25 mm	5.5 mm	RVAZ4L1...	OVA-L1	
VVP45	10 - 40 mm	5,5 mm	RVAZ4L1...	OVA-L1	
VXP45	10 - 40 mm	5,5 mm	RVAZ4L1...	OVA-L1	
VMP43	15 - 20 mm	5,5 mm	RVAZ4L1...	OVA-L1	
VMP45	10 - 40 mm	5,5 mm	RVAZ4L1...	OVA-L1	
VVI46	15 - 25 mm	2,5 mm	RVAPC...	N/A	
VXI46	15 - 25 mm	2,5 mm	RVAPC...	N/A	
VVS46	15 - 25 mm	2,5 mm	RVAPC...	N/A	
VXS46	15 - 25 mm	2,5 mm	RVAPC...	N/A	
VVP47	10 - 20 mm	2,5 mm	RVAPC...	N/A	
VXP47	10 - 20 mm	2,5 mm	RVAPC...	N/A	
VMP47	10 - 20 mm	2,5 mm	RVAPC...	N/A	

LDM



OVA-L1

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
RV 111/T	15 - 40 mm	5.5 mm	RVAZ4L1...	OVA-L1	
RV 111/W	15 - 40 mm	5.5 mm	RVAZ4L1...	OVA-L1	
RV 111/F	15 - 40 mm	5.5 mm	RVAZ4L1...	OVA-L1	

OSBY VALVES (OAB)



OVA-F1



OVA-F2



OVA-I34



OVA-F3

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
2SAS, 2SBS, 2SAM, 2SBM	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-F1	
2SBS, 2SBM	100 mm	38 mm	RVAN18...	OVA-F2	
NTVS	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-F1	
NTVS	100 - 150 mm	38, 40 mm	RVAN18.../RVAN25...	OVA-F2	
CVFS	20 - 65 mm	32 mm	RVAN18...	OVA-F2	
GTVS, GTRS	32 - 40 mm	20 mm	RVAN5.../RVAN10...	OVA-F1	
GTVS, GTRS	50 - 150 mm	24 - 40 mm	RVAN18.../RVAN25...	OVA-F2	
ETVS, ETVSU, ETRS, ETRSU	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-F1	
FRS, FRSD	15 - 65 mm (kvs 0.6 - 6.3)	20 mm	RVAN5.../RVAN10...	OVA-F1	
FRS	32 - 65 mm (kvs 10 - 20)	20 mm	RVAN18...	OVA-F2	
MRT	20 - 25 mm	20 mm	RVAN5.../RVAN10...	OVA-F1	
MTVS, MTRS	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-F1	
STR, STV	15 - 50 mm	15 mm	RVAN5.../RVAN10...	OVA-121	
NMTV, NMTR	15 - 20 mm	20 mm	RVAN5.../RVAN10...	OVA-121	
MMV, MMR	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-134	
BTV	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-F3 + 2921451401	
BTR	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-F3	
MMVA	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-F3	

OLD OSBY VALVES WITH 3/8" UNF THREAD ON THE STEM



OVA-I32



OVA-I33

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
2SA/2SB	15 - 80 mm	20 mm	RVAN5.../RVAN10...	OVA-132	
2SB	100 mm	38 mm	RVAN18...	OVA-133	
CVF	20 - 65 mm	32 mm	RVAN18...	OVA-133	
GTR/GTV	25 - 50 mm	20 - 24 mm	RVAN5.../RVAN10...	OVA-132	
GTR/GTV	65 - 150 mm	40 mm	RVAN18.../RVAN25...	OVA-133	
MTR/MTV	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-132	

OVENTROP



VA7010

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
Cocon 2TZ	15 - 20 mm	2,5 mm	RVAPC...	N/A	
Cocon QTZ	10 - 32 mm	2,8 / 3,5 / 4 mm	RVAPC...	N/A	
Tri-M Plus	15 mm	2,5 mm	RVAPC...	N/A	

PETTINAROLI



VA748X

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
91-series	15 - 25 mm	3 mm	RVAPC...	VA7010	
93-series	20 - 32 mm	6 mm	RVAPC...	VA748X	

REGIN



OVA-H1

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
VTTV/VTTR/VTTB	15 - 20 mm (up to kvs 2.5)	2,5 mm	RVAPC...	N/A	

RICCIUS + SOHN



OVA-H2

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
RGV2	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-H1	
RGV3	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-H1	
HMVF2	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-H1	
HMVF2	65 - 100 mm	20 - 30 mm	RVAN18.../RVAN25...	OVA-H2	
HMVF3	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-H1	
HMVF3	65 - 100 mm	20 - 30 mm	RVAN18.../RVAN25...	OVA-H2	
RGVA2	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
RGVA3	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
HMVFA2	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
HMVFA2	65 - 100 mm	20 - 30 mm	RVAN18.../RVAN25...	OVA-A2	
HMVFA3	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-A1	
HMVFA3	65 - 100 mm	20 - 30 mm	RVAN18.../RVAN25...	OVA-A2	



OVA-I33

SATCHELWELL



OVA-I32

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
SVB-XXX-F3	50 - 150 mm	23 - 40 mm	RVAN18.../RVAN25...	OVA-133	
SVG-XXX-F3	50 - 150 mm	23 - 40 mm	RVAN18.../RVAN25...	OVA-133	
SVR-XXX-F3	50 - 150 mm	23 - 40 mm	RVAN18.../RVAN25...	OVA-133	
SVR-G2	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-132	
SVR-G3	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-132	
VZ, MVZ	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-132	
VZF, MVZF	65 - 150 mm	27 - 40 mm	RVAN18.../RVAN25...	OVA-133	



OVA-I51

SAUTER

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
V6R	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
B6R	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
VXD	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
VXE	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
BXD	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
BXE	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
V6F	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
V6G	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
V6S	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
B6F	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
B6G	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
B6S	15 - 50 mm	14 mm	RVAN5.../RVAN10...	OVA-151	
VUL	10 - 20 mm	4 mm	RVAPC...	N/A	
BUL	10 - 20 mm	3,7 mm	RVAPC...	N/A	
VUT	10 - 20 mm	3/4 mm	RVAPC...	N/A	
BUT	10 - 20 mm	3 mm	RVAPC...	N/A	
VXL	10 - 20 mm	2,5 mm	RVAPC...	N/A	
BXL	25 - 40 mm	2,9 mm	RVAPC...	N/A	
VCL	10 - 32 mm	2,8 / 3,5 / 4 mm	RVAPC...	N/A	

TAC + SCHNEIDER



OVA-151



OVA-131



OVA-031



OVA-231

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
STL	20 - 65 mm	31.5 mm	RVAN18...	OVA-031	
STL-SR	20 - 65 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V241	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V341	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V353	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V231	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V232	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V298	20 - 40 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V211	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V211T	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V282	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V282	40 - 50 mm	31.5 mm	RVAN18...	OVA-031	
V282	15 mm	15 mm	RVAN18...	OVA-031	
VG211	15 - 50 mm	16.5/25 mm	RVAN5.../RVAN10...	OVA-131	
VG221F	65 mm	25 mm	RVAN10...	OVA-131	
VG221F	80 - 150 mm	45 mm	RVAN18.../RVAN25...	OVA-031	
VG222	65 - 150 mm	25/45 mm	RVAN18.../RVAN25...	OVA-031	
VG311F	65 mm	25 mm	RVAN10...	OVA-131	
VG311F	65 - 150 mm	25/45 mm	RVAN18.../RVAN25...	OVA-031	
VG321	65 - 150 mm	25 - 45 mm	RVAN18.../RVAN25...	OVA-031	
V311	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V311T	15 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V212	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V212T	25 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V395	40 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V395	65 - 100 mm	30/39.5 mm	RVAN18.../RVAN25...	OVA-031	
V265	40 - 100 mm	31.5/40.9/50.3 mm	RVAN18.../RVAN25...	OVA-031	
V221	65 - 100 mm	30/39.5 mm	RVAN18.../RVAN25...	OVA-031	
V384	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V384	40 - 50 mm	31.5 mm	RVAN18...	OVA-031	
V384	15 mm	15 mm	RVAN5...	OVA-231	
V386	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V386	40 - 50 mm	31.5 mm	RVAN18...	OVA-031	
V386	15 mm	15 mm	RVAN5...	OVA-231	
V392	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V392	40 - 50 mm	31.5 mm	RVAN18...	OVA-031	
V392	15 mm	15 mm	RVAN5...	OVA-231	
V394	20 - 50 mm	20 mm	RVAN5.../RVAN10...	OVA-131	
V394	40 - 53 mm	31.5 mm	RVAN18...	OVA-031	
V394	15 mm	15 mm	RVAN5...	OVA-231	
V292	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V292	40 - 100 mm	31.5/40.9/50.3 mm	RVAN18.../RVAN25...	OVA-031	
V292	15 mm	15 mm	RVAN5...	OVA-231	
V294	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V294	15 mm	15 mm	RVAN5	OVA-231	
V295	20 - 32 mm	22 mm	RVAN5.../RVAN10...	OVA-131	
V295	40 - 100 mm	31.5/40.9/50.3 mm	RVAN18.../RVAN25...	OVA-031	
V222	65 - 100 mm	30 mm	RVAN18...	OVA-031	
V321	65 - 100 mm	30 mm	RVAN18...	OVA-031	
VZ28/VZ28C	15 - 20 mm	2,5 mm	RVAPC...	N/A	
VZ38/VZ38C	15 - 20 mm	2,5 mm	RVAPC...	N/A	
VZ48/VZ48C	15 - 20 mm	2,5 mm	RVAPC...	N/A	



OVA-FM25

WATTS INDUSTRIES

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
2131	15 - 25 mm	2,5 mm	RVAPC...	N/A	
3131	15 - 25 mm	2,5 mm	RVAPC...	N/A	
4131	15 - 25 mm	2,5 mm	RVAPC...	N/A	



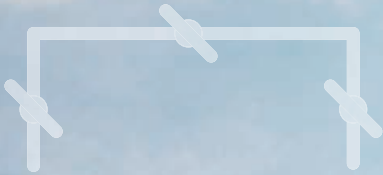
OVA-FM50

WSE/NORSHUNT

Valve	DN min.-max.	Stroke	Actuator	Adapter type	Note
FM25	25 mm	23.5 mm	RVAN5.../RVAN10...	OVA-FM25	
FM50	50 mm	37.5 mm	RVAN18...	OVA-FM50	

12

DAMPER ACTUATORS



DAMPER ACTUATOR EQUIVALENTS

Overview of damper actuators' replacements.

With spring return

MODELS

Article	Description	Replaces
RDAS4S-230	4 Nm, on/off, 230 V, spring return	LF230 (4 Nm), RDAB5S-230 (4 Nm)
RDAS4S-230S	4 Nm, on/off, 230 V, spring return, aux. switch	LF230-S (4 Nm), RDAB5S-230S (4 Nm)
RDAS4S-24	4 Nm, on/off, 24 V, spring return	LF24 (4 Nm), RDAB5S-24 (4 Nm)
RDAS4S-24S	4 Nm, on/off, 230 V, spring return, aux. switch	LF24-S (4 Nm), RDAB5S-24S (4 Nm)
RDAS4S-24A	4 Nm, 0...10 V, 24 V, spring return	LF24-SR (4 Nm), RDAB5S-24A (4 Nm)
RDAS7S-230	7 Nm, on/off, 230 V, spring return	NF230A (10 Nm), NFA (10 Nm, 230V setup)
RDAS7S-230S	7 Nm, on/off, 230 V, spring return, aux. switch	NF230A-S2 (10 Nm), NFA-S (10 Nm, 230V setup), RDAB10S-S (10 Nm, 230V setup)
RDAS7S-24	7 Nm, on/off, 24 V, spring return	NF24A (10 Nm), NFA (10 Nm, 24V setup)
RDAS7S-24S	7 Nm, on/off, 24 V, spring return, aux. switch	NF24A-S2 (10 Nm), NFA-S (10 Nm, 24V setup), RDAB10S-S (10 Nm, 24V setup)
RDAS7S-24A	7 Nm, 0-10 V, 24 V, spring return	NF24A-SR (10 Nm), RDAB10S-24A (10 Nm)
RDAS18S-230	18 Nm, on/off, 230 V, spring return	NF230A (10 Nm), SF230A (20 Nm), NFA (10 Nm, 230V setup), SFA (20 Nm, 230V setup), RDAB20S (20 Nm, 230V setup)
RDAS18S-230S	18 Nm, on/off, 230 V, spring return, aux. switch	NF230A-S2 (10 Nm), SF230A-S2 (20 Nm), NFA-S (10 Nm, 230V setup), RDAB10S-S (10 Nm, 230V setup), SFA-S (20 Nm, 230V setup), RDAB20S-S (20 Nm, 230V setup)
RDAS18S-24	18 Nm, on/off, 24 V, spring return	NF24A (10 Nm), SF24A (20 Nm), NFA (10 Nm, 24V setup), SFA (20 Nm, 24V setup), RDAB20S (20 Nm, 24V setup)
RDAS18S-24S	18 Nm, on/off, 24 V, spring return, aux. switch	NF24A-S2 (10 Nm), SF24A-S2 (20 Nm), NFA-S (10 Nm, 24V setup), RDAB10S-S (10 Nm, 24V setup), SFA-S (20 Nm, 24V setup), RDAB20S-S (20 Nm, 24V setup)
RDAS18S-24A	18 Nm, 0-10 V, 24 V, spring return	NF24A-SR (10 Nm), SF24A-SR (20 Nm), RDAB10S-24A (10Nm), RDAB20S-24A (20Nm)

Without spring return

MODELS

Article	Description	Replaces
RDAS5-230	5 Nm, on/off or 3-point, 230 V	LM230A (5 Nm), RDAB5-230 (5 Nm)
RDAS5-230S	5 Nm, on/off or 3-point, 230 V, aux. switch	LM230A-S (5 Nm), RDAB5-230S (5 Nm)
RDAS5-24	5 Nm, on/off or 3-point, 24 V	LM24A (5 Nm), RDAB5-24 (5 Nm)
RDAS5-24S	5 Nm, on/off or 3-point, 24 V, aux. switch	LM24A-S (5 Nm), RDAB5-24S (5 Nm)
RDAS5-24A	5 Nm, 0...10 V, 24 V	LM24A-SR (5 Nm), RDAB5-24A (5 Nm)
RDAS10-230	10 Nm, on/off or 3-point, 230 V	NM230A (10 Nm), RDAB10-230 (10 Nm)
RDAS10-230S	10 Nm, on/off or 3-point, 230 V, aux. switch	NM230A-S (10 Nm), RDAB10-230S (10 Nm)
RDAS10-24	10 Nm, on/off or 3-point, 24 V	NM24A (10 Nm), RDAB10-24 (10 Nm)
RDAS10-24S	10 Nm, on/off or 3-point, 24 V, aux. switch	NM24A-S (10 Nm), RDAB10-24S (10 Nm)
RDAS10-24A	10 Nm, 0-10 V, 24 V	NM24A-SR (10 Nm), RDAB10-24A (10 Nm)
RDAS20-230	20 Nm, on/off or 3-point, 230 V	SM230A (20 Nm), RDAB20-230 (20 Nm)
RDAS20-230S	20 Nm, on/off or 3-point, 230 V, aux. switch	SM230A-S (20 Nm), RDAB20-230S (20 Nm)
RDAS20-24	20 Nm, on/off or 3-point, 24 V	SM24A (20 Nm), RDAB20-24 (20 Nm)
RDAS20-24S	20 Nm, on/off or 3-point, 24 V, aux. switch	SM24A-S (20 Nm), RDAB20-24S (20 Nm)
RDAS20-24A	20 Nm, 0-10 V, 24 V	SM24A-SR (20 Nm), RDAB20-24A (20 Nm)
RDAS20-24AS	20 Nm, 0-10 V, 24 V, aux. switch	SM24A-SR-S2 (20 Nm)
RDAS35-230	35 Nm, 3-point, 230 V	GM230A (40 Nm), RDAB40-230 (40 Nm)
RDAS35-24	35 Nm, 3-point, 24 V	GM24A (40 Nm), RDAB40-24 (40 Nm)
RDAS35-24A	35 Nm, 0-10 V, 24 V	GM24A-SR (40 Nm), RDAB40-24A (40 Nm)

DAMPER ACTUATORS WITH SPRING RETURN



4 Nm

Damper actuator with spring return, 4 Nm. For 2-point (on/off) or 0...10V control signal.



RDAS4S

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	8...15 mm
Damper shaft, square	6...11 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	0.6 m ²
Torque	4 Nm
Protection class	IP54
Running time, actuator	60 s
Closing time, spring	15 s
Cable length	0,9 m (Maximum extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS4S-230	230 V ~ (100...240 V ~ 50/60 Hz)	-	2-point, On/Off	
RDAS4S-230S	230 V ~ (100...240 V ~ 50/60 Hz)	Yes	2-point, On/Off	
RDAS4S-24	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	-	2-point, On/Off	
RDAS4S-24S	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	Yes	2-point, On/Off	
RDAS4S-24A	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	-	0...10 V	



7 Nm

Damper actuator with spring return, 7 Nm. For 2-point (on/off) or 0...10V control signal.



RDAS7S

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	6.4...20.5 mm
Damper shaft, square	6.4...13 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	1.5 m ²
Torque	7 Nm
Protection class	IP54
Running time, actuator	90 s
Closing time, spring	15 s
Cable length	0,9 m (Maximum extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS7S-230	230 V ~ (100...240 V ~ 50/60 Hz)	-	2-point, on/off	
RDAS7S-230S	230 V ~ (100...240 V ~ 50/60 Hz)	Yes	2-point, On/Off	
RDAS7S-24	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	-	2-point, On/Off	
RDAS7S-24S	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	Yes	2-point, On/Off	
RDAS7S-24A	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	-	0...10 V	

12



RDAS18

18 Nm

Damper actuator with spring return, 18 Nm. For 2-point (on/off) or 0...10V control signal.

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	8...25.6 mm
Damper shaft, square	6...18 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	3.0 m ²
Torque	18 Nm
Protection class	IP54
Running time, actuator	90 s
Closing time, spring	15 s
Cable length	0,9 m (Maximum extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS18S-230	230 V ~ (100...240 V ~ 50/60 Hz)	-	2-point, On/Off	
RDAS18S-230S	230 V ~ (100...240 V ~ 50/60 Hz)	Yes	2-point, On/Off	
RDAS18S-24	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	-	2-point, On/Off	
RDAS18S-24S	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	Yes	2-point, On/Off	
RDAS18S-24A	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	-	0...10 V	

DAMPER ACTUATORS WITHOUT SPRING RETURN

NEWS!

5Nm

Damper actuator without spring return, 5 Nm. For 2-point (on/off)/3-point or 0...10 V control signal.



RDAS5

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	8...16, 8...10 mm
Damper shaft, square	6...12.8 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	0.8 m ²
Torque	5 Nm
Protection class	IP54
Running time, actuator	150 s
Cable length	0,9 m (Maximun extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS5-230	230 V ~ (100...240 V ~ 50/60 Hz)	-	3-point or 2-point, On/Off	
RDAS5-230S	230 V ~ (100...240 V ~ 50/60 Hz)	Yes	3-point or 2-point, On/Off	
RDAS5-24	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	-	3-point or 2-point, On/Off	
RDAS5-24S	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	Yes	3-point or 2-point, On/Off	
RDAS5-24A	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	-	0...10 V	

NEWS!

10 Nm

Damper actuator without spring return, 10 Nm. For 2-point (on/off)/3-point or 0...10 V control signal.



RDAS10

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	8...16 mm, 8...10 mm
Damper shaft, square	6...12.8 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	1.6 m ²
Torque	10 Nm
Protection class	IP54
Running time, actuator	150 s
Cable length	0,9 m (Maximun extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS10-230	230 V ~ (100...240 V ~ 50/60 Hz)	-	3-point or 2-point, On/Off	
RDAS10-230S	230 V ~ (100...240 V ~ 50/60 Hz)	Yes	3-point or 2-point, On/Off	
RDAS10-24	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	-	3-point or 2-point, On/Off	
RDAS10-24S	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	Yes	3-point or 2-point, On/Off	
RDAS10-24A	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	-	0...10 V	

12



20 Nm

Damper actuator without spring return, 20 Nm. For 2-point (on/off)/3-point or 0...10 V control signal.



RDAS20

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	8...20.5 mm
Damper shaft, square	8...14.5 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	4.0 m ²
Torque	20 Nm
Protection class	IP54
Running time, actuator	150 s
Cable length	0,9 m (Maximum extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS20-230	230 V ~ (100...240 V ~ 50/60 Hz)	-	3-point or 2-point, On/Off	
RDAS20-230S	230 V ~ (100...240 V ~ 50/60 Hz)	Yes	3-point or 2-point, On/Off	
RDAS20-24	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	-	3-point or 2-point, On/Off	
RDAS20-24S	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	Yes	3-point or 2-point, On/Off	
RDAS20-24A	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	-	0...10 V	
RDAS20-24AS	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 V DC)	Yes	0...10 V	



35 Nm

Damper actuator without spring return, 35 Nm. For 3-point or 0...10 V control signal.



RDAS35

Technical data	
Mounting	Interior, weather protected
Damper shaft, round	8...25.6 mm
Damper shaft, square	6...18 mm
Damper shaft, min. shaft length	20 mm
Damper shaft, shaft hardness	<300 HV
Max. damper size	6.0 m ²
Torque	35 Nm
Protection class	IP54
Running time, actuator	125 s
Cable length	0,9 m (Maximum extension 300 m)

Article	Supply voltage	Auxiliary switch	Control signal	Note
RDAS35-230	230 V ~ (100...240 V ~ 50/60 Hz)	-	3-point	
RDAS35-24	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 DC)	-	3-point	
RDAS35-24A	24 V AC/DC (20...28 V AC 50/60 Hz / 24...48 DC)	-	0...10 V	

DAMPER ACTUATOR ACCESSORIES

Article	Description	Note
ASK71.9	Damper crank arm for RDAS with torque 5-35Nm	
ASK71.6	Rotary/linear set with lever and plate for RDAS5 and RDAS10	
ASK78.6	Centering insert for RDAS5 and RDAS10, 8x8mm square profile	
ASK78.7	Centering insert for RDAS5 and RDAS10, 10x10mm square profile	
ASK74.7	Shaft extension for RDAS with torque 7-35Nm	
ASK71.14	Rotary/linear set with lever and plate for RDAS20	
ASC77.1E	External aux. switch (1) for RDAS with torque 7Nm, 18Nm, 20Nm and 35Nm	
ASC77.2E	External aux. switch (2) for RDAS with torque 7Nm, 18Nm, 20Nm and 35Nm	
DPTW	Positioner 0...100 % for modulating actuators (0...10 V), wall mounting	
DPTF	Positioner 0...100 % for modulating actuators (0...10 V), panel mounting	



ASK71.9



ASK71.6



ASK78.6



ASK78.7



ASK74.7



ASK71.14



ASC77.1E



ASC77.2E



DPTW



DPTF

13

MISCELLANEOUS PRODUCTS & ACCESSORIES



800 ppm





REPEAT485

Repeater

Repeater for connecting multiple units or for lengthening a cable. REPEAT485 is suitable in Regio systems since it provides galvanic isolation for RC controllers during communication.

Article	Description	Note
REPEAT485	Repeater, RS485	



CONV232-485

RS232 to RS485 converter

RS232 to RS485 converter. Can be used together with a PC to convert the serial com port into RS485 when using EXOline.

Article	Description	Note
CONV232-485	RS232 to RS485 converter	



Thermometer

Thermometer for duct mounting. Can be adjusted to fit different duct sizes by means of a moveable fastening flange. A rubber seal prevents air leakage.

Technical data	
Diameter	65 mm
Total length	162 mm

Article	Temperature range	Note
T40	-40...+40 °C	
T60	0...60 °C	
T100	0...100 °C	
T40:25	-40...+40 °C	



Differential pressure manometer

Simple, compact, easy-to-use filter manometer. MINI1200 is supplied with measuring fluid, pressure outlets and an adhesive label for noting down the filter type and the initial and final pressure drop.

Technical data	
Pressure range	0...1200 Pa
Dimensions	180 x 30 mm

Article	Description	Note
MINI1200	Manometer	
MINI1200:25	Manometer, 25 units	



Differential pressure manometer

Device for high accuracy measurements. The manometer measures up to 600 Pa differential pressure with enhanced resolution between 0...200 Pa. Equipped with blow-out protection and a knob for zero-point adjustment. Max. total pressure 100 kPa.

MV600 is supplied with measuring fluid, pressure outlets, tubing, screws and an adhesive label for noting down the initial and final pressure drop.

Technical data	
Pressure range	0...600 Pa
Accuracy	±3 %
Ambient temperature	-45...+65 °C
Dimensions	210 x 140 x 33 mm

Article	Description	Note
MV600	Manometer	

Manometer accessories

Article	Description	Note
MM-F2	Blue measuring fluid (MINI1200) 1.05 g/cm ³ , 500 ml	
MM-F3	Red measuring fluid (MV600) 0.786 g/cm ³ , 30 ml	
MTU:25	Pressure outlet, black plastic. For 6 mm tubing, 25 pcs	
MTU:100	Pressure outlet, black plastic. For 6 mm tubing, 100 pcs	
MM-P:25	Plastic tubing Ø 6 mm. Transparent, 25 m.	
MM-P:100	Plastic tubing Ø 6 mm. Transparent, 100 m.	
IPP8:1000	Expansion plug, grey plastic, 8 mm, 1000 pcs	
IPP10:1000	Expansion plug, grey plastic, 10 mm, 1000 pcs	
IPP12:250	Expansion plug, black plastic, 12 mm, 250 pcs	
T-ROR:100	Plastic T-branch joining piece, for 6 mm tubing, 100 pcs	



Rotation sentinel

SPINN/D is an electronic rotation sentinel, primarily intended for supervision of rotating heat-exchanger wheels. It has a change-over alarm relay and a function for blocking the alarm output at intentional stops.

Technical data	
Supply voltage	230 V AC, 5 VA
Alarm relay	5 A, 250 V AC, change-over
Mounting	DIN-rail
Number of modules	3
Protection class	IP20

Article	Description	Note
SPINN/D	Rotation sentinel	

ACCESSORIES

Article	Description	Note
RR-G3	Sensor including magnet	
MAGNET-424	Extra magnet	



Step controller, 1- and 2-stage

Step controller suitable for heating/cooling or alarm applications. It converts a 0...10 V DC input signal to a relay output. The controller is suitable for DIN-rail or cabinet mounting and have adjustable switching points. The step controller with 2 relays can be set to either binary or sequential control. Individually settable on/off levels



Technical data	
Supply voltage	24 V AC +/- 15 % 50-60 Hz, 24 V DC (18...35 V DC)
Input signal	0...10 V DC
Output signal	0...10 V DC
Mounting	DIN-rail
Number of modules	3
Protection class	IP20

Article	Description	Output	Step differential	Note
SC1/D	Step controller with 1 relay (change-over)	One relay, change-over, 10 A, 250 V AC	-	
SC2/D	Step controller with 2 relays (closing)	Two relays, in closing, 10 A, 250 V AC	0...2 V DC	



Frost protection unit

The electronic frost protection unit is mainly intended for use in air handling systems. If the temperature falls below the setpoint, the relays will fall and an alarm LED lights up. The unit should be connected to an NTC sensor placed on the heating coil or return water pipe. The frost protection unit has two alarm relays and manual or automatic reset. The sensor must have 0...30°C temperature range.

When there is frost risk, the device has a 0...10 V DC control output that can be used to override the valve.

Technical data	
Supply voltage	24 V AC
Power consumption	2 VA
Setpoint	0...15 °C
P-band, control signal override	5 K (fixed)
Inputs	
Sensor inputs	1, 0...30°C (NTC sensor)
Control signal	0...10 V DC (from the controller)
Outputs	
Relays	24 V AC, 1 A, change-over and 230 V AC, 1 A, single contact
Output signal	0...10 V DC
Mounting	DIN-rail
Number of modules	3
Protection class	IP20

Article	Description	Note
FV1/D	Frost protection unit (delivered without a sensor)	



Signal converter

Signal converter which selects the highest and lowest signal of up to six connected inputs and transforms them into two separate max. and min. output signals. If fewer than six inputs are used, unused inputs are left open. Both outputs can be used simultaneously. No settings are necessary.

Technical data	
Supply voltage	24 V AC, 3 VA
Input signal	Six, 0...10 V DC
Output signal	One max. signal 0...10 V DC and one min. signal 0...10 V DC
Accuracy	±3 % of the input signal
Mounting	DIN-rail
Number of modules	3
Protection class	IP20

Article	Description	Note
MM6-24/D	Signal converter	



Transient protection for RS485 (EXOline) and hEXOline DIN-rail mounting.

Article	Number of modules	Note
X1804	2.7	



Relay module

Coupling module which serves as electrical separation between controller and load. Equipped with screw-type terminal blocks (lift system) providing an easy and rapid wiring. The module has manual control function, LED indication and integral protective circuit.

Technical data	
Nominal voltage UN	24 V AC/DC
Output contact	One change-over contact (SPDT)
Max. switching voltage	250 V AC/DC
Max. making current	8 A
Continuous current	6 A
Ambient temperature	-20...+55 °C
Dimensions (WxHxL)	11.2 x 60 x 60 mm

Article	Description	Note
KR24-1W-S	Relay module, 1 relay, on/off/auto switch	



Relay modules

Relay modules with potential-free high load change-over contact. The modules have secure isolation according to DIN VDE 0106-101 and DIN VDE 0160.

KRAC24-2WAU is especially suitable for use with microsensors.

Technical data	
Output voltage	250 V AC
Nominal current	8 A
Ambient temperature	-40...+70 °C
Mounting	On DIN-rail 35 mm
Number of modules	1
Dimensions (WxHxD)	15.6 x 61 x 75 mm
Protection class	IP20
Change-over relays	2

Article	Description	Supply voltage	LED	Note
KRAC24-2WAU	Relay module, suitable for DDC technology	24 V AC	X	
KRAC230-2W	Relay module	230 V AC	X	



Power supply unit, 230 V AC / 24 V DC, stabilised

230 V AC / 24 V DC, stabilised.

Article	Max. current	Mounting	Number of modules	Note
X1111	0.6 A	DIN-rail or panel	1.3	
X1312	2.1 A	DIN-rail	2.3	
X1314	4.2 A	DIN-rail	2.9	



Transformer, 15 VA, DIN-rail mounting

Transformer with built-in PTC fuse. Overload and short-circuit proof.

Technical data	
Supply voltage	230 V ~ (230 V ~ 50/60 Hz 15 VA)
Output voltage	12 / 24 V AC
Max. load	15 VA
Mounting	DIN-rail
Number of modules	2
Protection class	IP20
Isolation class	II
Temperature class	B
Dimensions, external (WxHxD)	35 x 90 x 60 mm

Article	Description	Note
TRAF015N2/D	Transformer	



Transformer, 40 VA, DIN-rail mounting

Transformer with built-in PTC fuse. Overload and short-circuit proof.

Technical data	
Supply voltage	230 V ~ (230 V ~ 50/60 Hz 40 VA)
Output voltage	12 V AC and 24 V AC
Max. load	40 VA
Mounting	DIN-rail
Number of modules	3
Ambient temperature	Max. 40 °C °C
Protection class	IP20
Isolation class	II
Temperature class	B
Dimensions, external (WxHxD)	53 x 90 x 60 mm

Article	Description	Note
TRAF040N3/D	Transformer	



Transformer, 60 VA, wall mounting

Transformer with replaceable fuses on both poles of the secondary side. Overload and short-circuit proof.

Technical data	
Supply voltage	230 V ~ (230 V ~ 50/60 Hz 60 VA)
Output voltage	24 V AC
Max. load	60 VA
Mounting	Wall
Ambient temperature	Max. 40 °C
Protection class	IP44
Isolation class	II
Temperature class	B
Dimensions (WxHxD mm)	73 x 124 x 67

Article	Description	Note
TRAF060	Transformer	



Transformer, 63 VA, DIN-rail mounting

Transformer with built-in PTC fuse. Overload and short-circuit proof.

Technical data	
Supply voltage	230 V ~ (230 V ~ 50/60 Hz 63 VA)
Output voltage	12 and 24 V AC
Max. load	63 VA
Mounting	DIN-rail
Number of modules	6
Ambient temperature	Max. 40 °C °C
Protection class	IP20
Isolation class	II
Temperature class	B
Dimensions, external (WxHxD)	106 x 90 x 62 mm

Article	Description	Note
TRAF063/D	Transformer	



Transformer, 75 VA, wall mounting

Transformer with replaceable fuses on both poles of the secondary side.

Technical data	
Supply voltage	230 V ~ (230 V ~ 50/60 Hz 75 VA)
Output voltage	24 V AC
Max. load	75 VA
Mounting	Wall
Ambient temperature	Max. 40 °C
Protection class	IP23
Isolation class	II
Temperature class	B
Dimensions, external (WxHxD)	82 x 110 x 77 mm

Article	Description	Note
TRAF075	Transformer	



Pushbutton with indicator bulb

Pushbutton for extended running. Pressing PBI results in an instantaneous closed contact, which will activate extended running for the connected system. The pushbutton has a light bulb which, if desired, can be connected to the system for run indication. Bulbs for 230 V AC and 24 V AC are supplied.

Technical data	
Nominal current	16 A
Voltage rating	250 V
Mounting	Flush mounting
Protection class	IP21

Article	Description	Note
PBIE	Push-button with indicator bulb for flush mounting	



Timer with alternating relay

Timer for room mounting, activated when pressed. The connection time can be set to 15 min, 30 min, 1 h, 2 h, 4 h and 8 h. The timer is switched off when the set time has expired, or when the timer is pressed during the connection period.

Technical data	
Voltage range	230 V AC
Effect	Alternating voltage: Max. 2300 VA (resistive). Fluorescent tube load: Max. 360 VA.
Connection	Potential-free relay output
Main fuse	Max. 10 A
Connection time	15 min, 30 min, 1 h, 2 h, 4 h, 8 h
Protection class	IP20
Installation	CEE60

Article	Description	Note
TIM480N	Timer with alternating relay	



Industry standard casing

Plastic industry standard casing with transparent lid for DIN-rail mounting.

Technical data	
Protection class	IP65

Article	Width	Number of modules	Note
EK54	54 mm	3	
EK216	216 mm	12	
EK324	324 mm	18	
EK432	216 mm	24	



Front mounting kit, IP55

For front mounting of products intended for DIN-rail mounting. Including DIN-rail, nuts and bolts.

Technical data	
Mounting	Front mounted
Number of modules	12
Weight (incl. packaging)	0.87 kg
Dimensions, external (WxHxD)	308x169x70 mm
Protection class	IP55

Article	Description	Note
FMK2	Front mounting kit, 12 modules	



Cooling spray

For control of frost protection. Cools down to -50°C.

Article	Description	Note
CS-260	Cooling spray, 200 ml	



Smoke spray

Spray for control of smoke detectors. Suitable for control of ionisation or optical smoke detectors.

Article	Description	Note
SS-260	Smoke spray, 260 ml	

14

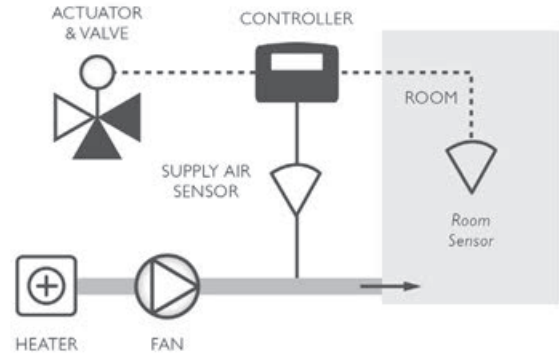
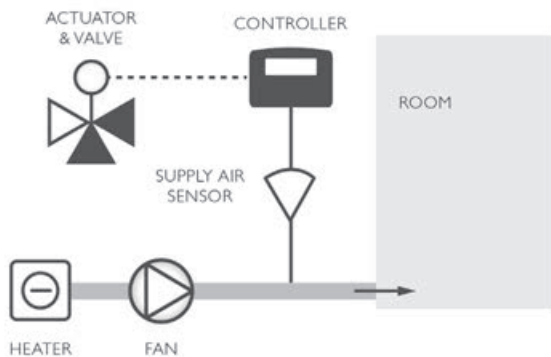
CONTROL THEORY



CONTROL THEORY

CONSTANT SUPPLY AIR CONTROL

Constant supply air control (constant supply air, duct temperature control) is used when heated air is blown into a room at a constant temperature. A temperature sensor is located in the supply air duct. This sensor is connected to a controller (with P- or PI-function) and the controller is connected to an actuator with a valve. The controller can also control multiple actuators in sequence.



ROOM CONTROL

Room control (constant room temperature, extract air control) is used to maintain a constant temperature in the room. It is also used when the temperature in the room is variable due to draughts, machinery heat loads, etc. The supply air temperature will vary depending on whether it is necessary to heat or to cool the premises. A sensor located in the supply air duct dictates a minimum and a maximum supply air temperature so that air which is too cold or too hot is not blown into the room.

Regin's controllers have built-in cascade control. They, in turn, contain two controllers, P+PI or PI+PI. The first controller is connected to a sensor in the room and the second to a sensor in the supply air duct. The controllers are connected so that the output signal of the first controller forms the input signal of the second.

A temperature change in the room results in a change of the duct controller setpoint. The size of this change is determined by the cascade factor, CF. The cascade factor is the amplification at the first controller, i.e. the number of degrees by which the supply air temperature should be changed if the room temperature is changed by 1°C.

The main sensor is located in the room or in the extract air duct (if the average temperature of multiple rooms is required). The main sensor, together with the controller, determines the supply air temperature for each individual load. The controller can also control several actuators in sequence.

FROST PROTECTION – FROST PROTECTION SENSOR

The purpose of the frost protection sensor is to prevent the formation of ice in the air heating coil. If ice is allowed to form, the air heater may freeze and burst, with subsequent water damage. The location of the temperature sensor is of particular importance, since it must be able to sense when the temperature is too low. It can be difficult to determine where in the air heater the temperature is at its lowest.

The sensor can be placed on a pipeline (1), on the return (2), or on a pipe bend (3). The best location depends on the design of the heater. Some heating coils are fitted with a standard sensor receptor (4). A frost protection sensor may be electromechanical or electronic. The electronic frost protection sensor often has several functions:

A.	To stop the supply air fan at a certain temperature.
B.	To provide a minimum limit for the heating coil temperature when the fan is in operation.
C.	To maintain a constant coil temperature when the fan is non-operational. The outdoor air damper will close when the frost protection sensor stops the fan.

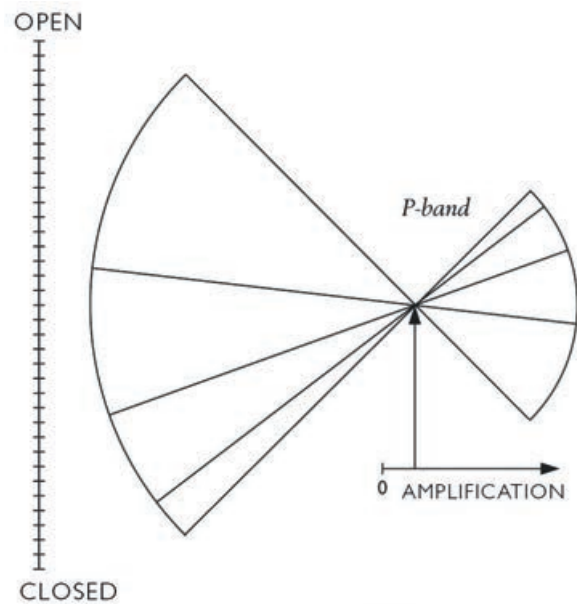


P-CONTROL, P-BAND

P-control stands for proportional control, i.e. a change at the sensor bears a certain relation to a change in the actuator. The magnitude of the actuator movement is determined by the amplification F . A small amplification results in a small movement for a given change, while a large amplification results in a large movement for the same change. However, the amplification F is not usually used in terms of comfort: instead, we refer to a P-band. The P-band is equal to $1/F$ (%). The P-band can also be expressed as the temperature change required for the actuator to move from closed to open position. Then the P-band value is specified in $^{\circ}\text{C}$.

One example of P-controllers is automatic thermostat valves fitted to radiators. When the temperature in the room drops, the valve opens to the corresponding extent. These valves usually have a P-band of 2°C , i.e. a change in the room temperature of 2°C is required for the valve to open fully, which means that the temperature in the room will vary within these 2°C . This is known as P deviation. It should then be possible for the P-band to be reduced in order to achieve a more even temperature, but the system would then become unstable, i.e. the valve would start to open and close continuously, with a fluctuating temperature (increasing and decreasing) as a result.

P-controllers are sometimes used for ventilation purposes in order to maintain a constant temperature, e.g. the supply air temperature. Then the P deviation results in an undesirable temperature variation. If P deviation is not required, it is possible to use a controller containing an integrator instead so that PI-control is achieved.



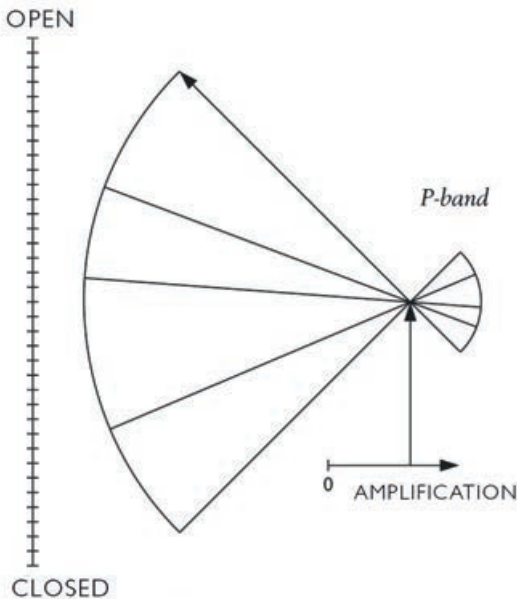
Small amplification means a large P-band

PI-CONTROL, I-TIME

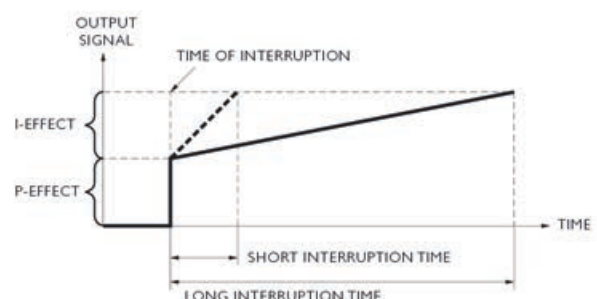
PI-control is a combination of P-control and I-control. It is possible to compare PI-control with what happens when you fill a bucket with water - first you turn the tap on fully (P-effect) and then you gradually turn it off again (I-effect) until the bucket is full.



I-control means integrating control. This means a control link where the output signal is influenced by the magnitude and time of the input signal. A large deviation over a long period of time gives a large output signal and vice versa - a small deviation over a short period of time gives a small output signal. This signal is added to the signal from the P-controller. I-time is defined as the time it takes to increase the output signal to equal the value of the P stage.

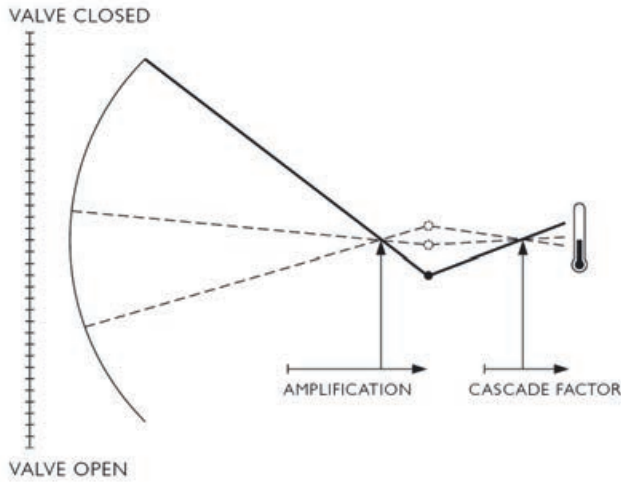


Large amplification means a small P-band



CASCADE CONTROL, CASCADE FACTOR

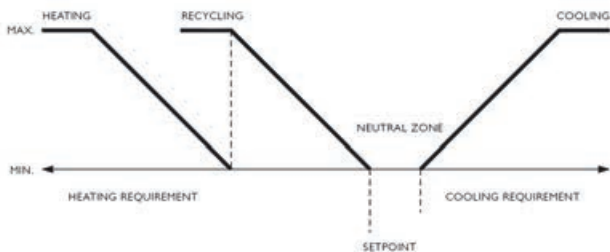
Cascade control is utilised e.g. for room control. Two controllers (P + PI or PI + PI) are used. The first controller is connected to a sensor in the room and the second to a sensor in the supply air duct. The controllers are connected so that the output signal of the first controller forms the input signal of the second. The cascade factor is the amplification at the first controller, i.e. the number of degrees by which the supply air temperature should be changed if the room temperature is changed by 1°C.



SEQUENCE CONTROL, NEUTRAL ZONE

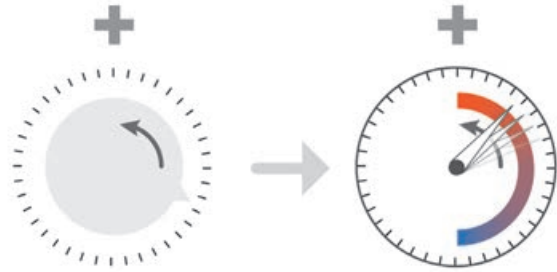
“Sequence” means “series” and therefore “sequence control” means “series control”. When using sequence control, several actuators (output signals) are controlled in sequence, i.e. one actuator moves to its end position first followed by the next actuator, and so on. Sequence control usually takes place in two (e.g. cooling - heating) or three (e.g. cooling - recycling - heating) stages.

A neutral zone can be set between the cooling stage and the heating stage. The neutral zone (Nz) will give the cooling stage a higher setpoint value. This leads to a saving in energy used for cooling and will result in greater comfort since no sudden cold will be experienced by a person entering the room.



SETPOINT CONTROL

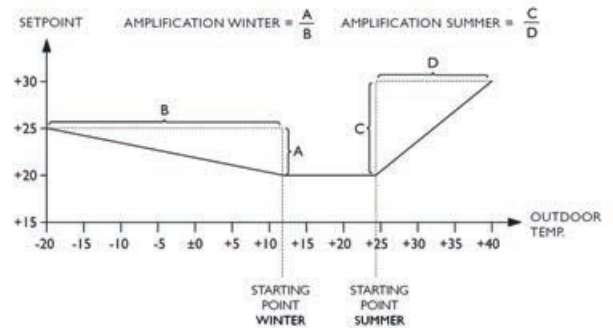
The SPC (setpoint control) input is used to change the desired temperature (setpoint value) from distance. This is done by displacing the setpoint value up or down. The input is adjusted to accommodate a standard signal, e.g. 0...10 V DC. At 5 V there is no effect, at 0 V the setpoint value is fully reduced, and at 10 V the value is fully increased.



OUTDOOR TEMPERATURE COMPENSATION

In some cases, it is desirable for the outdoor temperature to influence the main controller setpoint value, i.e. if the outdoor temperature falls below or exceeds a set value, the setpoint value is increased gradually. An outdoor sensor is then connected to the main controller via a separate unit.

Compensation can take place in the summer and/or in the winter. Summer compensation means that the setpoint value is increased when the outdoor temperature exceeds a set value, and winter compensation means that the setpoint value is increased when the outdoor temperature falls below a set value. An amplification factor for both summer and winter compensation determines the amount by which the setpoint value should be increased.



INDEX

5540PCB	64
105074	157
1884709	193,200
1885136	193,200
1886274	193,200
1886282	193,200
2133005	209
4160801	192
4161101	192
4161102	192
4161103	192
4161201	192
4161202	192
4161203	192
4161204	192
4161402	192
4161403	192
4161841	192
2951352501	195,201

A

ABV24-S-300/D	171
ABV-S-300/D	171
ACC:10	130
ADAPTER	130,142,157
AFS1	159
AL24A1K	77
AL24A1T	102
AL230A	103
ALC230A	103,166
ALH230A	103,144
ALU230A	104
ANS-1	150,153,158
ANS-3	150,151, 152,153, 154,155,158
ANS-20	150,151,152, 154,155,158
AQUA24TF	76
ARRIGOEMS10	34
ARRIGOEMSSETUP	34
ARRIGOFMSL	33
ARRIGOFMSM	33
ARRIGOFMSS	33
ARRIGOFMSSETUP	33

ARRIGOFMSUPGRADE	33
ARRIGOFMSXL	33
ARRIGOFMSXS	33
ARRIGOFMSXXL	33
ARRIGOFMSXXS	33
ASC77.1E	253
ASC77.2E	253
ASK71.6	253
ASK71.9	253
ASK71.14	253
ASK74.7	253
ASK78.6	253
ASK78.7	253
AVDT25N	159

B

BATTERY-4289	39,41,63,85
BATTERY-5518	63
BATTERY-5702	63
BATTERY-EM	181,183
BF215-0.63	203
BF215-1.0	203
BF215-1.6	203
BF215-2.1	203
BF215-2.7	203
BF220-4.2	203
BF220-5.6	203
BF225-10	203
BF232-16	203
BF240-25	203
BF250-40	203
BF315-0.63	203
BF315-1.0	203
BF315-1.6	203
BF315-2.1	203
BF315-2.7	203
BF320-4.2	203
BF320-5.6	203
BF325-10	203
BF332-16	203
BF340-25	203
BF350-40	203
BTV15-0,6	202
BTV15-1,0	202
BTV15-1,6	202

BTV15-2,5	202
BTV15-4,0	202
BTV20-1,6	202
BTV20-2,7	202
BTV20-3,9	202
BTV20-6,3	202
BTV25-6,3	202
BTV25-10	202
BTV32-10	202
BTV32-16	202
BTV40-10	202
BTV40-16	202
BTV40-27	202
BTV50-27	202
BTV50-39	202
BV215	206
BV220	206
BV225	206
BV232	206
BV240	206
BV250	206
BV315	206
BV320	206
BV325	206
BV332	206
BV340	206
BV350	206
BV-HL1	206
BW240	213
BW250	213
BW265	213
BW280	213
BW2100	213
BW2125	213
BW2150	213
BW2200	213

C

C152-3	37
C152D-3	37
C282-3	37
C282D-3	37
CAB-STD2	63,84
CAB-STD3	63,84
CCERT-E	146,147,148

CCERT-H	154
CLO-LIC	67
CO2DT-R	165
CO2RT-R	162
CO2RT-R-D	162
COF	165
CONV232-485	256
CONVERTERTCP	39,41,97
CS-260	264
CTDT2	164
CTHR	162
CTHRA	162
CTHRA-D	162
CTHRC	164
CTHRC-D	164
CTHR-D	162
CTRC	163
CTRC-D	163
CTRТА	163
CTRТА-D	163
CTV10	190
CTV15-1,9	190
CTV20	190

D

DBZ-14A	150,153
DBZ-14B	150,153
DCW	175,178
DF	129,130
DMD	155
DMD...	158
DMD-C	155
DP102N	61,81
DP102N-BSD	61
DP156N	61,81
DP156N-BSD	61
DPTF	253
DPTW	253
DR-01	107,109
DR-02	107,109
DR-05	107
DR-16	109
DR-16/14	108
DR-17	109
DR-17/14	108
DR-25	110
DR-30/14	108
DR-31/14	108

DR-40/14	108
DR-41/14	108
DR-50WA	133,142
DR-90R	142
DR-90WA	133,134,142
DR-120WA	133,142
DR-135R	142
DR-170WA	133,142
DR-310WA	133,142
DTB...	158
DTB5/5	153
DTB125	153
DTB510	153
DTK10	156
DTK10-420	156
DTK20	156
DTK20-420	156
DTK40	156
DTK40-420	156
DTK100	156
DTK100-420	156
DTK250	156
DTK250-420	156
DTK400	156
DTK400-420	156
DTK600	156
DTK600-420	156
DTK1000	156
DTK1000-420	156
DTK1600	156
DTK1600-420	156
DTK-NIPPEL	156
DTK-R	156
DTL...	158
DTL10/10	154
DTL10/10...	158
DTL10/10-D	154
DTL150	154
DTL150-420	154
DTL310	154
DTL310-420	154
DTL516	154
DTL516-420	154
DTL1650	154
DTL1650-420	154
DTL...-D/-420-D	154
DTV...	158
DTV200	150

DTV300X	150
DTV500	150
DTV500X	150
DTV1000	150
DTV1000X	150
DTV2000	150
DTV2500X	150
DTV5000	150
DTV5000X	150
DTV...X	158

E

E0R-3	61,69,71,73,81
E0R230K-3	61,69,71,73,81
E3-DSP	39,41,60,69,71,73,80
E151DW-3	68
E151W-3	69
E152DW-3	68
E152W-3	69
E281DW-3	68
E281W-3	69
E282DW-3	68
E282W-3	69
E283DW-3	68
E283W-3	69
E-CABLE2-USB	39,41,62,83,97
E-CABLE-RS232	62
E-CASE-E283DW-3-24	84
E-CASE-XCA283DW-4-24	63
EC-PU4	35
ED9200IP65	80
ED-RU	82,91
ED-RUD	91
ED-RU-DFO	82,91
ED-RU-DO	82,91
ED-RU-DOCS	82,91
ED-RU-DOS	82,91
ED-RU-F	82,91
ED-RU-FO	82,91
ED-RU-H	82,91
ED-RU-O	82,91
EDSP-K3	39,41,60,79,80
EDSP-K10	39,41,60,79,80
EDSP-SPLIT	39,41,91
ED-T7	39,41,60,71,73,79
ED-TCV	80

EH10-S	46	ETRS40-20	199	FLS304XRE	160
EH11-S	45	ETRS40-25	199	FLS304XT	160
EH20-S	46	ETRS50-25	199	FLS305XRE	160
EH21-S	45	ETRS50-31,5	199	FLS305XT	160
EH30-S	46	ETRS50-40	199	FLS306X	160
EH31-S	45	ETVS15-0,4	197	FLS307X	160
EH40-S	46	ETVS15-0,25	197	FLS308X	160
EH41-S	45	ETVS15-0,63	197	FLZ-09	160,161
EH-CARDHOLDER	51	ETVS15-1,0	197	FMCE	39,41,62,85
EK20	52	ETVS15-1,6	197	FMCO	85
EK22	52	ETVS15-1,25	197	FMK2	39,41,263
EK24	52	ETVS15-2,5	197	FN2	192
EK54	263	ETVS15-4,0	197	FT18	107
EK216	263	ETVS20-5,0	197	FT18R	107
EK324	263	ETVS20-6,3	197	FT30	107
EK432	263	ETVS25-8,0	197	FT30R	107
EP0000	51	ETVS25-10	197	FT60	107
EP1004	47	ETVS32-12,5	197	FT60R	107
EP1011	47	ETVS32-16	197	FV1/D	258
EP2032	47	ETVS40-20	197	FV5	192
EP3016	47	ETVS40-25	197	FVR10	188
EP4024	48	ETVS50-31,5	197	FVR15	188
EP5012	48	ETVS50-40	197	FVR20	188
EP5112	48	EX8282	52	G	
EP6012	48	EXODESIGNER	32	GF225-6.3	208
EP7218	49	EXOOPC-DRIVER	31	GF225-10	208
EP7408	49	EXOSCADA-100	30	GF232-10	208
EP7416	50	EXOSCADA-500	30	GF232-16	208
EP8101	50	EXOSCADA-B	30	GF240-16	208
EP8102	50	EXOSCADA-BC	30	GF240-25	208
EP8282	50	EXOSCADA-BSD	30	GF250-31.5	208
EPRW	175,177	EXOSCADA-NIMBUS	30	GF250-40	208
ETRS15-0,63	199	EXOSCADA-OPC	30	GF265-50	208
ETRS15-1,0	199	EXOSCADA-T	30	GF265-63	208
ETRS15-1,6	199	EXOSCADA-UL	30	GF280-80	208
ETRS15-1,25	199	EXOSCADA-ULU	30	GF280-100	208
ETRS15-2,5	199	EXOSCADA-UPG	31	GF325-6.3	209
ETRS15-4,0	199	EXOSCADA-UPG100	31	GF325-10	209
ETRS20-4,0	199	EXOSCADA-UPG500	31	GF332-10	209
ETRS20-5,0	199	EXOSCADA-UPGBSD	31	GF332-16	209
ETRS20-6,3	199	EXOSCADA-UPG-	31	GF340-16	209
ETRS25-6,3	199	NIMBUS		GF340-25	209
ETRS25-8,0	199	EXOSCADA-UPG-OPC	31	GF350-31.5	209
ETRS25-10	199	EXOSCADA-UPGUL	31	GF350-40	209
ETRS32-10	199	EXOSCADA-UPGULU	31	GF365-50	209
ETRS32-12,5	199	F		GF365-63	209
ETRS32-16	199	FLS304X	160	GF380-80	209
ETRS40-16	199				

GF380-100	209
GF2100-125	208
GF2100-160	208
GF2125-215	208
GF2150-310	208
GF2200-550	208
GF3100-125	209
GF3100-160	209
GF3125-215	209
GF3150-310	209
GF3200-550	209
GR24A-MF-R	233
GR24A-R	233
GR230A-R	233

H

HA010101	149
HA010102	149
HA010103	149
HA010105	149
HA010106	149
HCA151DW-3	71
HCA152DW-3	71
HCA281DW-3	71
HCA282DW-3	71
HCA283DW-3	71
HCA283DWM-3	71
HCV190D-1	73
HCV191DW-1	73
HCV192DW-1	73
HCV193DWM-1	73
HCV203DWM-1	73
HH1606	149
HH1608	149
HL1	213
HL2	213
HL3	213
HMH	143
HMH2	143
HR1	143
HR1-DH	143
HR2	143
HR-S	143
HTDT10	148
HTDT10-420	148
HTDT2500	146
HTDT2500-420	146
HTRC10	146

HTRC10-D	146
HTRT5W	175,176
HTRT10A	145
HTRT10A-420	145
HTRT10A-D	145
HTRT10AD-420	145
HTRT2500	146
HTRT2500-420	146
HTWT10	147
HTWT10-420	147
HVS	147

I

IO-4X4-M	53,59
IO-8DO8AI-M	53,58
IO-8DO8AO-M	53,58
IO-16AI	53,56
IO-16DI	53,57
IO-16DO-M	53,57
IO-A15MIXW-3-BEM	53,54,69, 71,73,78
IO-A28MIXW-3-BEM	53,54,69, 71,73,78
IO-EC16UIc-X	43
IO-EC16UId-X	43
IO-EC16UOb-X	43
IO-RU-7	53,56
IO-RU-10	53,56
IO-V19MIXW-1-BEM	53,55,69, 71,73,79
IPP8:1000	257
IPP10:1000	257
IPP12:250	257
IR24-P	172
IR24-PC	172
IRCW	175,177
IRW	175,178

K

KG-A/1	96
KH-1	181
KH-11/4	181
KH-2	181
KH-3/4	181
KH-S-1	181
KH-S-11/4	181
KH-S-2	181
KH-S-3/4	181

KR24-1W-S	259
KRAC24-2WAU	260
KRAC230-2W	260

L

LTWT10N/PT1000	167
----------------	-----

M

M3G230	61,84
M4G950	61,84
M4G-ANT	61,84
MAGNET-424	257
MINI1200	256
MINI1200:25	256
MM6-24/D	259
MM-F2	257
MM-F3	257
MM-P:25	257
MM-P:100	257
MODEM3G-ANT	61,84
MTIB60	108
MTIB90	108
MTIB120	108
MTIBL90H	108
MTIC30	109
MTIC30-2	109
MTIC30R	109
MTIC30S	109
MTIC30SH	109
MTIC90	109
MTIC90R	109
MTIC90S	109
MTIC90SH	109
MTIC120S	109
MTID30H	110
MTID60	110
MTID60-2	110
MTID60S	110
MTID120HR	110
MTIR30	110
MTIR30-2	110
MTIR30S	110
MTIR30SH	110
MTIR60	110
MTIR60-2	110
MTIR60S	110
MTIR60SH	110
MTIS60S	111

MTIS60SH	111
MTIS90S	111
MTIS90SH	111
MTRS15-0,63	205
MTRS15-1,0	205
MTRS15-1,6	205
MTRS15-2,1	205
MTRS15-2,7	205
MTRS20-4,2	205
MTRS20-5,6	205
MTRS25-10	205
MTRS32-16	205
MTRS40-27	205
MTRS50-39	205
MTU:25	257
MTU:100	257
MTVS15-0,63	204
MTVS15-1,0	204
MTVS15-1,6	204
MTVS15-2,1	204
MTVS15-2,7	204
MTVS20-4,2	204
MTVS20-5,6	204
MTVS25-10	204
MTVS32-16	204
MTVS40-27	204
MTVS50-39	204
MV600	257
MXGDIN	61,84

N

NO2F	166
NTVS15-0,4	210
NTVS15-1,0	210
NTVS15-1,6	210
NTVS15-2,7	210
NTVS20-0,8	210
NTVS20-1,6	210
NTVS20-2,7	210
NTVS20-3,9	210
NTVS20-6,3	210
NTVS25-1,6	210
NTVS25-2,5	210
NTVS25-4,0	210
NTVS25-6,3	210
NTVS25-10	210
NTVS32-4,0	210
NTVS32-6,3	210

NTVS32-10	210
NTVS32-16	210
NTVS40-6,3	210
NTVS40-10	210
NTVS40-16	210
NTVS40-27	211
NTVS50-6,3	211
NTVS50-10	211
NTVS50-16	211
NTVS50-27	211
NTVS50-39	211
NTVS65-16	211
NTVS65-27	211
NTVS65-39	211
NTVS65-63	211
NTVS80-100	211
NTVS100-160	211
NTVS125-215	211
NTVS150-310	211

O

OM2-24	234
OM2-24A	234
OM2-230	234
OM3-24	234
OM3-24A	234
OM3-230	234
OM4-24	234
OM4-24A	234
OM4-230	234
OP5U	74
OP10	74
OP10-230	74
OPTO-CABLE-USB	181,183
OPTO-TOOL	181,183
OVA-011	238,239
OVA-013	239
OVA-015	237
OVA-020	237
OVA-031	236,238,240,244
OVA-081	240,241
OVA-081+02133011	240,241
OVA-082	240,241
OVA-121	242
OVA-131	236,238,244
OVA-132	242,243
OVA-133	242,243

OVA-134	240,241,242
OVA-141	237
OVA-151	243
OVA-161	238
OVA-171	239
OVA-231	244
OVA-A1	237,240,243
OVA-A2	237,240,243
OVA-A3	237
OVA-AVM	218
OVA-B6	218
OVA-B7	218
OVA-F1	242
OVA-F2	242
OVA-F3	242
OVA-F3+2921451401	242
OVA-F4	238
OVA-FM25	245
OVA-FM50	245
OVA-H1	243
OVA-H2	243
OVA-J1	239
OVA-L1	241,242
OVA-S1	218
OVA-T1	218
OVA-T2	218
OVC-Z15	193,200
OVC-Z20	193,200
OVC-Z25	193,200

P

PASTA-20	122,123,124,125,142
PBIE	262
PCMTV15-F150	214
PCMTV15-F600	214
PCMTV15-F780	214
PCMTV20-F1000	214
PCMTV20-F1500	214
PCMTV20-F2200	215
PCMTV20-F2700	215
PCMTV25-F1500	214
PCMTV25-F2200	215
PCMTV25-F2700	215
PCMTV32-F6	216
PCMTV32-F2700	215
PCMTV32-F3000	215
PCMTV40-F9	216

PCMTV50-65-80-F25	217
PCMTV50-65-80-F35	217
PCMTV50-F12	216
PCMTV50-F18	216
PCMTV80-100-F72	217
PCMTV125-150-F106	217
PCMTV200-250-F277	217
PCTVS15-F150	214
PCTVS15-F600	214
PCTVS15-F900	214
PCTVS20-F600	214
PCTVS20-F900	214
PDT...	158
PDT12	151
PDT12C	152
PDT12C-2	152
PDT12S25-2	151
PDT12S25C-2	152
PDT12S75-2	151
PDT12S75C-2	152
PDT25	151
PDT25C	152
PDT25C-2	152
PDT75	151
PDT75C	152
PLTCE	39,41,62,83,85
PLT-E8	62,83
PLT-E15	62,83
PLT-E28	62,83
POWERPACK-EM	181,183
POWERPACK-EM-24	181,183
PS-110-3/4	181
PS-130-1	181
PS-150-11/4	181
PS-200-2	181
PULSER230X010	116
PULSER400X010	116
PULSER-ADD	116
PULSER/D	117
PULSER-M	116
PULSER-X/D	118

R

R31	106
R33	106
R34	106
RB3	96
RC	94,95

RC-A203W-4-TP	89
RC-C3	93
RC-C3DFOC	93
RC-C3DOC	93
RC-C3DOC-BLACK	93
RC-C3H	93
RC-C3O	93
RCC-C3DOCS	93
RCC-C3HCS	93
RCC-CONN:10	96
RC-CDFO	93
RC-CDTO	93
RC-CF	93
RC-CFO	93
RC-CONN:10	96
RC-CT	93
RC-CTH	93
RC-CTO	93
RC-DFO	94,95
RC-DO	94,95
RC-DTO	94,95
RC-E163W-1-TP	90
RC-F	94,95
RCF-230AD	101
RCF-230CAD	101
RCF-230CD	98,101
RCF-230CTD	99,101
RCF-230CTD-EC	100,101
RCF-230D	98,101
RCF-230TD	99,101
RCFD-230C	97
RCFM-230D	98,101
RCFM-230TD	101
RC-FO	94,95
RC-H	94,95
RC-O	94,95
RC-T	94,95
RC-TEST	96
RC-TO	94,95
RCW-M32	175,176, 177,178
RDAS4S-24	249
RDAS4S-24A	249
RDAS4S-24S	249
RDAS4S-230	249
RDAS4S-230S	249
RDAS5-24	251
RDAS5-24A	251

RDAS5-24S	251
RDAS5-230	251
RDAS5-230S	251
RDAS7S-24	249
RDAS7S-24A	249
RDAS7S-24S	249
RDAS7S-230	249
RDAS7S-230S	249
RDAS10-24	251
RDAS10-24A	251
RDAS10-24S	251
RDAS10-230	251
RDAS10-230S	251
RDAS18S-24	250
RDAS18S-24A	250
RDAS18S-24S	250
RDAS18S-230	250
RDAS18S-230S	250
RDAS20-24	252
RDAS20-24A	252
RDAS20-24AS	252
RDAS20-24S	252
RDAS20-230	252
RDAS20-230S	252
RDAS35-24	252
RDAS35-24A	252
RDAS35-230	252
REPEAT485	256
RM6-24/D	64,85
RM6H-24/D	64,85
RPW	175
RR-G3	257
RRT025A	106
RTA-CASE	225,226
RTAM100-24	225
RTAM100-24A	225
RTAM100-230	225
RTAM125-24	225
RTAM125-24A	225
RTAM125-230	225
RTAN-24	224
RTAN-24A	224
RTAN140-24	224
RTAN140-24A	224
RTAN140-230	224
RTAN-230	224
RTAOM100-24	225
RTAOM100-24A	225

RTAOM100-230	225
RTAOM125-24	225
RTAOM125-230	225
RTV10	187
RTV15	187
RV210	189
RV215	189
RV220	189
RVAB4-24	235
RVAB4-24A	235
RVAB4-230	235
RVAB5-24	235
RVAB5-24A	235
RVAB5-230	235
RVAFC-2302	207,236
RVAFC-2303	207,236
RVAN5-24	229
RVAN5-24A	229
RVAN5-230	230
RVAN10-24	229
RVAN10-24A	229
RVAN10-230	230
RVAN18-24	229
RVAN18-24A	229
RVAN18-230	230
RVAN25-24	229
RVAN25-24A	229
RVAN25-230	230
RVAPC-24	230
RVAPC-24A	230
RVAPC-230	230
RVAR5-24A	231
RVASN08-24	235
RVASN08-24A	235
RVASN08-230	235
RVAZ4-24	228
RVAZ4-24A	228
RVAZ4-230	228
RVAZ4L1-24	228
RVAZ4L1-24A	228
RVAZ4L1-230	228
RV-TOOL	189

S

S65	171
S65-OE	171
S02420001	202

S0603080300	197,199, 205,211
S2921351201	209
S2921354201	202,203,209
S2921357901	199,205
S2951452201	218
S6321457301	202
SB4095/B	106
S-BP	171
S-BPR-S65	171
SC1/D	258
SC2/D	258
SCADACLOUD100	31
SCADACLOUD500	31
SCADACLOUDBASE	31
SCADACLOUDDNS	31
SCADACLOUDNIMBUS	31
SCADACLOUDUL	31
SCADACLOUDULU	31
SDD-OE65	170
SDD-OE65-RAC	170
SDD-S65	170
SDD-S65-RAC	170
SKALA-1228	113
SPINN/D	257
SR24A-MF-R	232
SR24A-R	232
SR230A-R	232
SS-260	172,264
SSCU	182
SSU	180

T

T40	256
T40:25	256
T60	256
T100	256
TBI-10	137
TBI-30	137
TBI-100	137
TBI-PT1000	137
TDS	170
TDT200	141
TDT200-420	141
TG-A1/NI1000-01	123
TG-A1/NI1000-02	123
TG-A1/NTC1.8	123
TG-A1/NTC2.2	123

TG-A1/NTC10-01	123
TG-A1/NTC10-02	123
TG-A1/NTC10-03	123
TG-A1/NTC20	123
TG-A1/PT100	123
TG-A1/PT1000	123
TG-A130	122
TG-AH3/NI1000-01	124
TG-AH3/NI1000-02	124
TG-AH3/NTC1.8	124
TG-AH3/NTC2.2	124
TG-AH3/NTC10-01	124
TG-AH3/NTC10-02	124
TG-AH3/NTC10-03	124
TG-AH3/NTC20	124
TG-AH3/PT100	124
TG-AH3/PT1000	124
TG-B4/NI1000-01	126
TG-B4/NI1000-02	126
TG-B4/NTC1.8	126
TG-B4/NTC2.2	126
TG-B4/NTC10-01	126
TG-B4/NTC10-02	126
TG-B4/NTC10-03	126
TG-B4/NTC20	126
TG-B4/PT1000	126
TG-B6/PT100	125
TG-B6/PT1000	125
TG-B130	125
TG-B150	125
TG-B160	125
TG-B190	125
TG-D1/NI1000-01	130
TG-D1/NI1000-02	130
TG-D1/NTC1.8	130
TG-D1/NTC2.2	130
TG-D1/NTC10-01	130
TG-D1/NTC10-02	130
TG-D1/NTC10-03	130
TG-D1/NTC20	130
TG-D1/PT100	130
TG-D1/PT1000	130
TG-D2/PT100	130
TG-D2/PT1000	130
TG-D3/NI1000-01	131
TG-D3/NI1000-02	131
TG-D3/NTC10-01	131
TG-D3/NTC10-02	131

TG-D3/NTC10-03	131	TG-K3/PT1000/3,0	128	TG-UH3/PT100	137
TG-D3/NTC20	131	TG-K300	127	TG-UH3/PT1000	137
TG-D3/PT100	131	TG-K310	127	TH-85-1/2	183
TG-D3/PT1000	131	TG-K330	127	TH-120-1/2	183
TG-D130	129	TG-K340	127	TIM480N	263
TG-D150	129	TG-K350	127	TLT50	141
TG-D170	129	TG-K360	127	TLT50-420	141
TG-DH3/NI1000-01	132	TG-KH3/NI1000-01	127	TLT100	141
TG-DH3/NI1000-02	132	TG-KH3/NI1000-02	127	TLT100-420	141
TG-DH3/NTC1.8	132	TG-KH3/NTC1.8	127	TM1-50	112
TG-DH3/NTC2.2	132	TG-KH3/NTC2.2	127	TM1N-24/D	113
TG-DH3/NTC10-01	132	TG-KH3/NTC10-01	127	TM1N/D	113
TG-DH3/NTC10-02	132	TG-KH3/NTC10-02	127	TM1-P	112
TG-DH3/NTC10-03	132	TG-KH3/NTC10-03	127	TM2-24/D	113
TG-DH3/NTC20	132	TG-KH3/NTC20	127	TP-AE	39,41
TG-DH3/PT100	132	TG-KH3/PT100	127	TRAFO15N2/D	260
TG-DH3/PT1000	132	TG-KH3/PT1000	127	TRAFO40N3/D	261
TG-DH312/PT1000	134	TG-KH3/PT1000-430	127	TRAFO60	261
TG-DH312/PT1000-50	134	TG-MH3/PT1000	128	TRAFO63/D	262
TG-DH312/PT1000-90	134	TG-R4/NTC10-01	136	TRAFO75	262
TG-DH312/PT1000-170	134	TG-R4/PT1000	136	T-ROR:100	257
TG-DHW3/NI1000-01	133	TG-R4/PT1000-RB	136	TRT5	140
TG-DHW3/NI1000-02	133	TG-R5/NI1000-01	135	TRT5-420	140
TG-DHW3/NTC1.8	133	TG-R5/NI1000-02	135	TRT5-D	140
TG-DHW3/NTC2.2	133	TG-R5/NTC1.8	135	TRT5D-420	140
TG-DHW3/NTC10-01	133	TG-R5/NTC2.2	135	TRT50	141
TG-DHW3/NTC10-02	133	TG-R5/NTC10-01	135	TRT50-420	141
TG-DHW3/NTC10-03	133	TG-R5/NTC10-02	135	TRTC5	140
TG-DHW3/NTC20	133	TG-R5/NTC10-03	135	TRTC5-D	140
TG-DHW3/PT100	133	TG-R5/NTC20	135	TRY-RATT-1588	120
TG-DHW3/PT1000	133	TG-R5/PT100	135	TRY-RATT-2271	120
TG-DHW3/PT1000-50	133	TG-R5/PT1000	135	TTC25	119
TG-DHW3/PT1000-120	133	TG-R6EW	175,176	TTC40F	119
TG-DHW3/PT1000-170	133	TG-R6W	175	TTC80F	119
TG-DHW3/PT1000-310	133	TG-R430	135	TTC2000	119
TG-DHWA3/PT1000	134	TG-R530	135	TTKN1	157
TG-G2/PT1000	126	TG-R540	135	TTKN1-420	157
TG-G130	126	TG-R550	135	TTKN2.5	157
TG-K3/NI1000-01	128	TG-R600	136	TTKN2.5-420	157
TG-K3/NI1000-02	128	TG-R630	136	TTKN6	157
TG-K3/NTC1.8	128	TG-UH3/NI1000-01	137	TTKN6-420	157
TG-K3/NTC2.2	128	TG-UH3/NI1000-02	137	TTKN10	157
TG-K3/NTC10-01	128	TG-UH3/NTC1.8	137	TTKN10-420	157
TG-K3/NTC10-02	128	TG-UH3/NTC2.2	137	TTKN16	157
TG-K3/NTC10-03	128	TG-UH3/NTC10-01	137	TTKN16-420	157
TG-K3/NTC20	128	TG-UH3/NTC10-02	137	TTKN25	157
TG-K3/PT100	128	TG-UH3/NTC10-03	137	TTKN25-420	157
TG-K3/PT1000	128	TG-UH3/NTC20	137	TTKN40	157

TTKN40-420	157
TT-S1	120
TT-S4/D	120
TT-S6/D	120

V

VA02	226
VA10	226
VA13H	226
VA16H	226
VA17	226
VA18	226
VA26	189,226
VA32	226
VA39	226
VA41	226
VA44H	226
VA50	226
VA54	187,188, 190,226
VA59	226
VA64	215,226
VA66	226
VA72	226
VA78	226
VA80	226
VA90	226
VA748X	215,230,242
VA7010	215,230,242
VAD-1/2	181
VAD-3/8	181
VAR-AVM	218
VAR-B1	218
VAR-B2	218
VAR-B3	218
VAR-OM2	234
VAR-OM3	234
VAR-OM4	234
VAR-S1	218
VAR-S2	218
VAR-SR	232
VAR-T1	218
VAR-T2	218
VR600	170
VR2000	170
VSR-1	181
VSR-11/2	181
VSR-1/2	181

VSR-3/4	181
VTTB15-0,4	191
VTTB15-0,6	191
VTTB15-0,25	191
VTTB15-1,0	191
VTTB15-1,6	191
VTTB20-2,5	191
VTTB20-4,0	191
VTTB20-6,0	191
VTTR15-0,4	191
VTTR15-0,6	191
VTTR15-0,25	191
VTTR15-1,0	191
VTTR15-1,6	191
VTTR20-2,5	191
VTTR20-4,0	191
VTTR20-6,0	191
VTTV15-0,4	191
VTTV15-0,6,	191
VTTV15-0,25	191
VTTV15-1,0	191
VTTV15-1,6	191
VTTV20-2,5	191
VTTV20-4,0	191
VTTV20-6,0	191

W

WEBHOTELSETUP	31
---------------	----

X

X204-0052:4	63
X1111	60,79,260
X1171A	63
X1176	62
X1178	96
X1312	260
X1314	260
X1804	259
X9017	52
X9035	47,52
XCA151D-4	39
XCA152DW-4	39
XCA152W-4	39
XCA203W-4	39
XCA281-4	39
XCA281D-4	39
XCA282DW-4	39
XCA282W-4	39

XCA283DW-4	39
XCA283DWM-4	39
XCA283W-4	39
XCE163W-1	41
XCV193DWM-2	42
XCV193WM-2	42

Z

ZFCM-215X	207
ZFCM-220X	207
ZFCM-225X	207
ZFCM-232X	207
ZFCM-315X	207
ZFCM-320X	207
ZFCM-325X	207
ZFCM-332X	207
ZGI-002	233
ZGV-16	233
ZMD215-0.4	194
ZMD215-0.6	194
ZMD215-0.25	194
ZMD215-1.0	194
ZMD215-1.6	194
ZMD215-2.5	194
ZMD215-4.0	194
ZMD220-6.3	194
ZMD225-10	194
ZMD232-16	194
ZMD240-25	194
ZMD315-0.4	195
ZMD315-0.6	195
ZMD315-0.25	195
ZMD315-1.0	195
ZMD315-1.6	195
ZMD315-2.5	195
ZMD315-4.0	195
ZMD320-6.3	195
ZMD325-10	195
ZMD332-16	195
ZMD340-25	195
ZSV-11	232
ZTR15-0,4	196
ZTR15-0,6	196
ZTR15-0,25	196
ZTR15-1,0	196
ZTR15-1,6	196
ZTR20-2,0	196
ZTR20-2,5	196

ZTR20-4,0	196
ZTR20-6,0	196
ZTR25-7,0	196
ZTRB25-8	201
ZTRB32-15	201
ZTRB40-20	201
ZTV15-0,4	196
ZTV15-0,6	196
ZTV15-0,25	196
ZTV15-1,0	196
ZTV15-1,6	196
ZTV20-2,0	196
ZTV20-2,5	196
ZTV20-4,0	196
ZTV20-6,0	196
ZTV25-7,0	196
ZTVB25-8	201
ZTVB32-15	201
ZTVB40-20	201

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CONVERSION CHARTS

	Unit	Factor	Unit	Factor	Unit
Length	Inches Feet	x 25.4 x 0.3048	= mm = m	x 0.03937 x 3.208	= inches = feet
Area	Square inches Square feet	x 645.16 x 0.0929	= mm ² = m ²	0.00155 x 10.764	= in ² = ft ²
Volume	Cubic inches Cubic feet Cubic feet Pints Imp.gal Imp.gal	x 16387 x 0.02832 x 28.32 x 0.56825 x 4.546 x 0.004546	= mm ³ = m ³ = litre = litre = litre = m ³	0.000061 x 35.31 x 0.0353 x 1.7598 x 0.22 x 220	= in ³ = ft ³ = ft ³ = Pints = Imp.gal = Imp.gal
Mass	lb (pounds)	x 0.4536	= kg	x 2.2046	= lb
Force	lb (pounds)	x 4.448	= N	x 0.22482	= lb
Speed	ft/min	x 0.00508	= m/s	x 196.85	= ft/m
Flow	imp.gal/min Imp.gal/h ft ³ /min	x 0.07577 x 0.000126 x 0.000472	= l/s = m ³ /s = m ³ /s	x 13.2 x 7936.51 x 2118.64	= imp.gal/min = imp.gal/h = ft ³ /min
Heating power	kcal/h	x 1.163	= W	x 0.8598	= kcal/h
Pressure	lb/in ² lb/in ² kg/cm ²	x 0.0689 x 0.0703 x 0.9807	= bar = kg/cm ² = bar	x 14.5 x 14.22 x 1.020	= lb/in ² = lb/in ² = kg/cm ²

	kPa	Pa	bar	mmWC	mWC	MPa	kp/cm ²	psi
1 kPa		1000	0.01	100	0.1	0.001	0.01	0.15
1 Pa	0.001		0.00001	0.1	0.0001	0.000001	0.00001	0.00015
1 bar	100	100000		10000	10	0.1	1	15
1 mmWC	0.01	10	0.0001		0.001	0.00001	0.0001	0.0015
1 mWC	10	10000	0.1	1000		0.01	0.1	1.5
1 Mpa	1000	1000000	10	100000	100		10	150
1 kp/cm ²	100	100000	1	10000	10	0.1		15
1 psi	6.666667	6666.667	0.066667	666.6667	0.666667	0.006667	0.066667	

bar	x 14.50377	= psi
bar	x 100	= kPa
kg/cm ²	x 14.22334	= psi
inches Hg	x 0.4912	= psi
N/m ²	x 1.0	= Pa
mbar	x 100	= Pa
°C	x (1.8x°C)+32	= °F
kgcm	x 0.098	= Nm
litre	x 1000	= m ³
gal (IMP)	x 4.5460	= litre
gal (US)	x 3.7854	= litre
gal (IMP)	x 1.20095	= gal (US)



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