

Products and Systems for Building Automation



REGIN

THE CHALLENGER IN BUILDING AUTOMATION

Table of Contents

| | | | |
|--|------------|--|------------|
| Meet the Challenger | 5 | Detectors | 161 |
| Regin Systems | 21 | Energy meters | 165 |
| Regin SCADA software for complete control | 26 | Energy meter with coaxial multi-jet flow sensor | 166 |
| EXOflex - Freely programmable controllers | 36 | Energy meters including flow sensor | 167 |
| EXOcompact - Freely programmable controllers | 47 | | |
| EXO accessories | 50 | Accessories | 169 |
| Controllers and thermostats for DIN-rail mounting | 53 | Modems | 170 |
| Corrigo E - Pre-programmed controllers | 62 | Additional devices and accessories for building control and communication technology | 172 |
| RegelUNIT 6X | 68 | Displays | 175 |
| RegelUNIT 9X | 78 | Step controllers | 178 |
| CAN-IO modules | 83 | Power supply units | 182 |
| Compact controller RV5027 | 87 | Transformers | 183 |
| Optigo - Pre-programmed, stand-alone controllers | 88 | Miscellaneous accessories | 185 |
| Thermostats for DIN-rail mounting | 92 | Valves and valve actuators | 187 |
| Room controllers/thermostats | 95 | Thermal actuators and valves | 193 |
| Regio - The ultimate zone control system | 96 | Accessories for thermal valves | 197 |
| Room controllers/thermostats | 105 | Valves and actuators | 198 |
| Electromechanical thermostats | 109 | Flanged valves | 207 |
| Floorigo - Electronic thermostats for flush mounting | 112 | Adapter kits | 216 |
| Electronic thermostats | 114 | Damper actuators | 221 |
| Duct controllers | 114 | Damper actuators with spring return | 222 |
| Electric heating controllers | 115 | Damper actuators without spring return | 224 |
| | | Damper actuator accessories | 226 |
| Sensors and switches | 121 | Miscellaneous products | 227 |
| Temperature sensors - NTC | 128 | | |
| Temperature sensors - PT100/PT1000 | 132 | Application examples | 231 |
| Temperature sensors for RU6X, RU9X and RV5027 | 137 | Application examples | 232 |
| Remote setpoint units | 141 | Control systems | 241 |
| Temperature transmitters | 143 | | |
| Humidistats - Electromechanical | 144 | Index | 245 |
| Humidistats - Electronic | 146 | | |
| Humidity/temperature transmitters | 147 | | |
| Humidity accessories | 151 | | |
| Pressure | 152 | | |
| Flow | 157 | | |
| CO ₂ /CO/NO ₂ transmitters | 158 | | |

| | |
|---|----|
| MEET THE CHALLENGER IN BUILDING AUTOMATION | 1 |
| REGIN SYSTEMS | 2 |
| CONTROLLERS AND THERMOSTATS FOR DIN-RAIL MOUNTING | 3 |
| ROOM CONTROLLERS/THERMOSTATS | 4 |
| ELECTRIC HEATING CONTROLLERS | 5 |
| SENSORS AND SWITCHES | 6 |
| DETECTORS | 7 |
| ENERGY METERS | 8 |
| ACCESSORIES | 9 |
| VALVES AND VALVE ACTUATORS | 10 |
| DAMPER ACTUATORS | 11 |
| MISCELLANEOUS PRODUCTS | 12 |
| APPLICATION EXAMPLES | 13 |
| INDEX | 14 |



Product News



Regin SCADA Web Hotel

Complete and advanced web hosting service for property management. By connecting your buildings to Regin SCADA Web Hotel, 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.



Transmitters for demand-controlled ventilation in e.g. parking garages and road tunnels

COF and NO2F are transmitters for demand-controlled ventilation. They measure the concentration of carbon monoxide (COF) and nitrogen dioxide (NO2F), gases that are produced by vehicles and extremely dangerous to inhale. The transmitters have a robust design and high selectivity even in low concentrations.



2- and 3-way control valves, DN25...DN40

The valves in the range ZTVB / ZTRB are used to control heating and cooling in climate, heating and ventilation systems. They are intended to be used in conjunction with the RVAZ4 actuators.



2-way zone valves, DN10...DN20

The valves in the CTV range are used to control heating and cooling in fan-coil or chilled beams applications. They have adjustable kvs value and are intended to be used in conjunction with the thermal RTA actuators.



2- and 3-way zone valves, DN15...DN20

The valves in the range ZTTV / ZTTR / ZTTB are used to control heating and cooling in fan-coil or chilled beams applications. They are intended to be used in conjunction with the thermal RTAOM... actuators.



2-way zone valve, DN10...DN15

RTV is a range of zone valves for control in aftertreatment systems. The valve can control water flow to cooling as well as heating batteries and is intended to be used in conjunction with the RTA thermal actuators.



CC5 computer controller

The embedded computer CC5 is a PC without a display. It can be used as a TCP/IP master or an additional main computer.



Displays for panel mounting

DP89 and DP156 are displays with 8.9" and 15.6" monitor size respectively for mounting in for example a cabinet door. The displays can be connected to Regin's EXO4 Web Server and Regin's controllers. EXO4 can also be installed on both models. DP89 and DP156 replace AFL-12A-GB and AFL-12A-SE.



Timer, TIM480

Timer for wall-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.



Push-buttons, PB and PBI

Push-buttons for extended running of air handling units and similar systems. Intended for flush-mounting.



EXOline to BACnet converter

E-Bacnet-V is an EXOline RS485 to BACnet IP converter for connection of a Corrigo E unit with activated ventilation application to a SCADA system using BACnet. It is pre-programmed for easy installation and connection to the Corrigo E controller.



Cabinets for Corrigo E

Turn-key ready cabinets developed for the Corrigo E series. All inputs and outputs are pre-connected to the terminals. The CAB-STD... units are delivered with trafo, switches, relays (CAB-STD2 and CAB-STD3) and a wiring schematic for the cabinet.



The fan-coil controller RCF-230TD is now even more versatile

We now launch an updated version of RCF-230TD which can be used for control of electric heating in fan-coil applications with built-in cool-down function. In the winter, the controller can also be set to change-over with the sequence heating/heating.



Remote control unit with CAN Bus interface and 10 additional terminals

Remote control units with CAN Bus interface intended to be used together with RU 6X or RU 9X. The standard models have a room temperature sensor. By pressing a button, you can extend the operating time or switch between operating and non-operating time. The status is indicated by an LED.



Relay module, KR24-IW-S

Coupling module which serves as a secure potential separation between logic and load. Equipped with screw-type terminal blocks (lift system) providing an easy and rapid wire connection.



Transformers, RSTH

Safety transformers designed for devices which are to be supplied with a voltage of 24 V AC. At an operating voltage of 230 V / 50 Hz, it provides outputs of 12 VA to 200 VA. A second fuse is already integrated with the terminal block.



A new generation of damper actuators

RDAB10S... and RDAB20S... are our new damper actuators with spring return, 10 Nm and 20 Nm.

Chapter I



Meet the Challenger in Building Automation



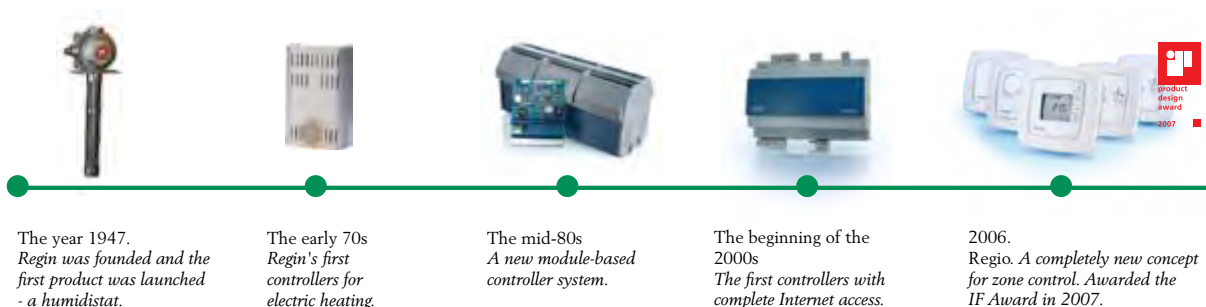
The Challenger!

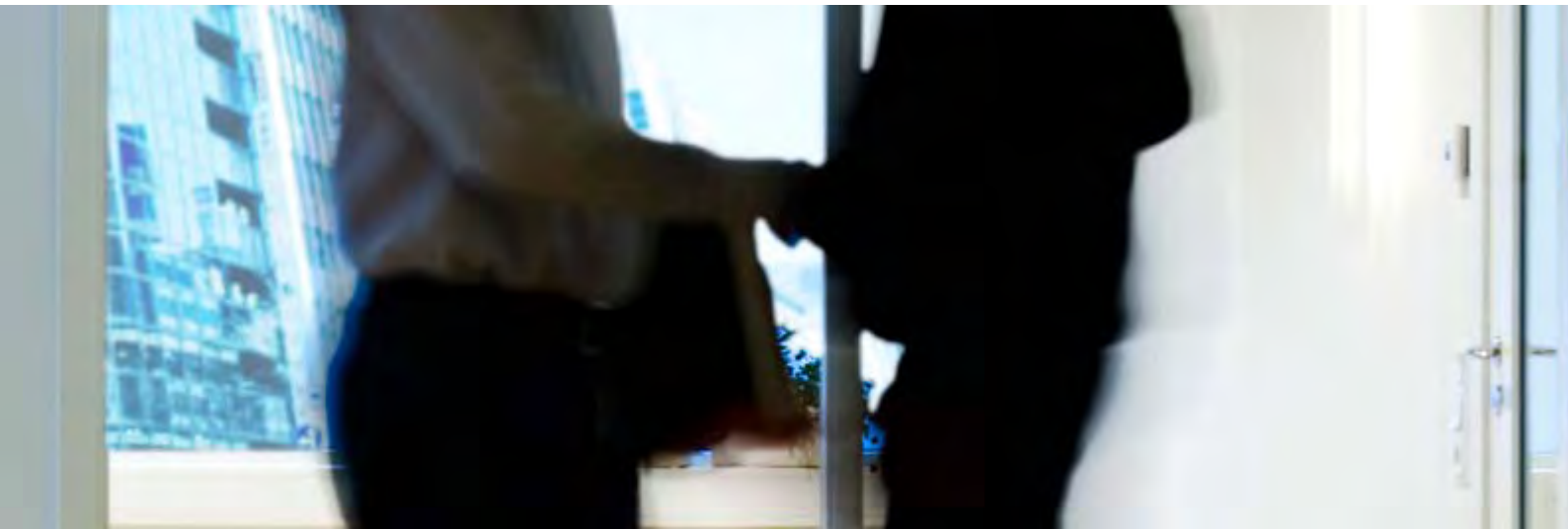
A history of knowledge, experience and constant product development

Ever since Regin was established in 1947, we have developed and marketed products and systems that create good levels of indoor comfort. Today, we are an important player with one of the market's broadest ranges for building automation. You will also find that we have the knowledge, experience and resources to give you first-class support and guidance.

What makes Regin stand out the most is probably our undivided commitment and our motivation to do our best for our customers and partners. Many see us as the challenger within building automation. That stimulates us to work even harder.

- Has developed energy-efficient solutions since 1947
- Broad product range
- Does not carry out installation - works through a network of partners who compete under equal conditions
- Wide technical competence - from electromechanics to system development





Commitment and motivation

Our goal is to make Regin your* leading supplier of solutions that contribute to reduced energy consumption and sustainable development.

Therefore, all of us in the Regin Group have the same values. Our task is to always do our utmost to solve your problems. Hence, you, as a customer, have access to our knowledgeable staff in product development, technical sales support, training, logistics etc, who are always there for you.

*whether you are an integrator, consultant, distributor, installation engineer or property owner.

Our guiding values

Take part

We always do our utmost to solve our customers' problems

Listen

We always listen before we act and react

Be knowledgeable

We must be knowledgeable and good at what we do

Simplicity

It must be easy to do business with us

Commitment

We commit ourselves to what we do



2007.
Optigo. The universal controller for all fundamental control functions.



2008.
Corrigo Web Controller with integrated web browser.



2008.
Regin launches a series of energy-saving valves that seal 100%



2008.
Continued Web development.

Regin is investing vigorously in energy-efficient solutions for the future.



Global strength, strong local presence

Regin is an international Group with representation in about forty countries. The head office is located in Källered (Gothenburg). Our product development centres are located in Varberg and Landskrona. In Landskrona, we also have a sales office, technical support, as well as the Regin Academy, our training centre. The main warehouse, logistics unit and valve division are located in Osby.

In addition, Regin has offices in Stockholm, Paris, Berlin, Hong Kong, Hangzhou, Singapore and Almaty in Kazakhstan. Thanks to our global presence with strong local representation, we are well aware of the requirements of the market, as well as of how our products and systems function under the most variable conditions.

- Sales offices in Stockholm, Gothenburg, Paris, Berlin, Singapore, Hangzhou, Hong Kong and Almaty in Kazakhstan
- Representation in over 40 countries
- Reference installations all around the world
- A network of local distributors and integrators





Professional partners



Integrators

Regin does not perform installations. Instead, we offer a network of certified integrators who are responsible for planning, installation, commissioning and maintenance. The integrators are certified, after training at the Regin Academy. You can choose the integrator you want to work with - they all compete under the same conditions.

Regin Gold Certified Integrators

- Handle all of Regin's products and systems.
- Are RGCI certified by the Regin Academy and have completed all of the courses.
- Have access to reference plants (for study visits).
- Have access to extensive technical support from Regin.

Regin Certified Integrators

- Primarily handle Regin's system products.
- Are RCI certified by the Regin Academy and have completed courses in Regin's systems.
- Can advance to RGCI - Gold Certified Integrator by taking all of the courses.

Distributors

Our products and systems are kept in stock by distributors in about 40 countries around the world. They are responsible for marketing the products locally to consultants, installation engineers, property companies as well as to companies working with integration and system solutions.

Regin Certified Distributors

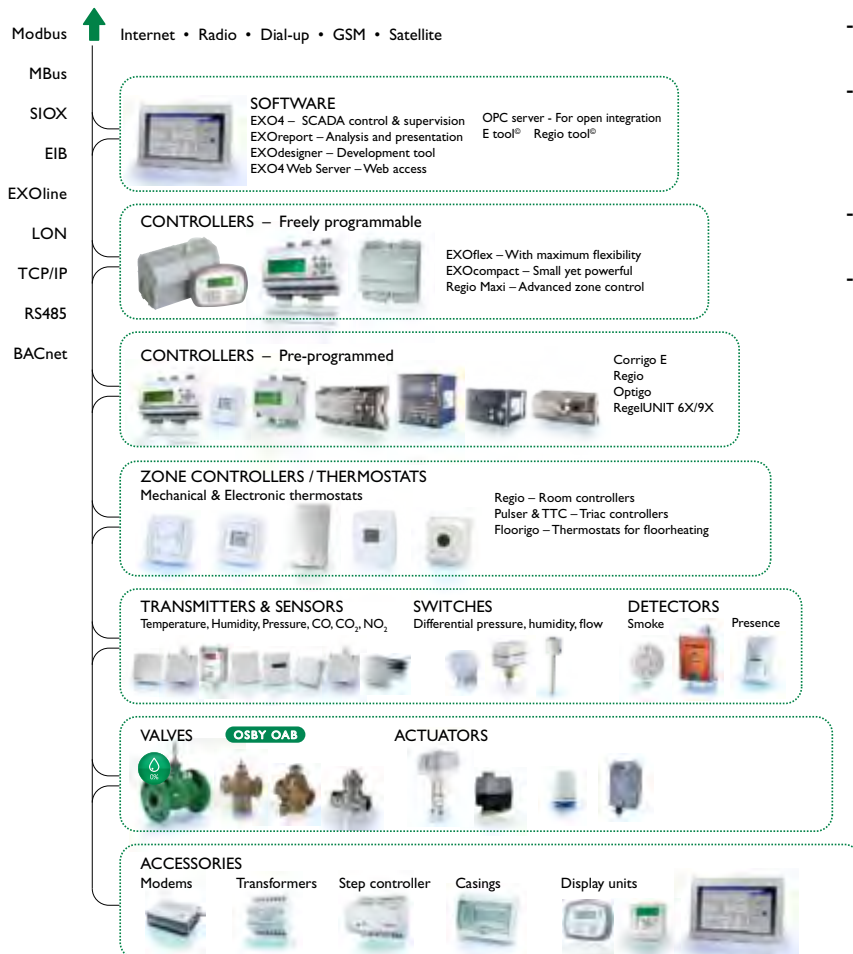
- Represent our complete product range, including our systems.
- Well acquainted with Regin's brand and values.
- They have the resources to provide high-quality local support.
- Build networks with system integrators.

Regin Distributors

- Represent Regin's basic range (not systems and system products)
- Have a good knowledge of Regin's products and brand.
- Can advance to RCD after training at the Regin Academy



Regin's systems offer total freedom



- Complete range - from individual products to comprehensive systems
- Open systems which allow integration with systems operating with other standards and equipment of other brands
- Modular construction for flexible, simple and cost-effective system expansion
- Backward-compatible products

A Regin system can always be modified and expanded in a cost-effective fashion, in step with changes in the conditions.



Regin's energy-efficient solutions can be found all over the world

Regin's products and systems save energy and facilitate operation and maintenance in buildings in all parts of the world under the most variable conditions.

Tenants and anyone working or staying in the buildings always enjoy a comfortable indoor climate.

Museums



National Film Museum, China

Hotels



Zhanjiang, China

Hospitals



Adana State hospital, Turkey

Waterparks



Aqua Mundo, the Netherlands

Shopping centres



Panora shopping centre, Turkey

Arenas



Låkerol Arena, Sweden

Visit our homepage for more information, www.regin.se



Regin System for open flexible integration



EXOflex

Controllers for larger systems

Freely programmable controllers and regulation units to be supplemented with plug-in units (PIFA) for different applications. Communication via GSM, TCP/IP, LAN/WAN, landline, satellite, etc. A web interface provides Internet access.



Regio Maxi

Zone controller

Freely programmable controller with communication. Can be connected to bus systems: LON, Modbus, EXOline (TCP/IP or RS485). Web interface for remote reading and setting.



EXOcompact

Controllers for smaller and intermediate systems

Powerful freely programmable controllers for heating, ventilation and zone control especially suited for the EXO system.



EXOcommunicator

Integration and communication solutions

Solutions for integration with the vast majority of standards, incl. TCP/IP, LON, EIB, MBus, Modbus, Siox, EXOline etc. Communication via radio, telephony, GSM, cable TV, network, satellite, etc.

Software



EXO4

Powerful SCADA that provides complete control and supervision of property functions, and measurement data.



EXOdesigner

Software tool for creating a Regin System with a communication network, configuring controllers and creating SCADA systems.



EXOreport

Supplementary programme for EXO4. Simplifies and automates the analysis and presentations of the collected measurements. Data can be processed in Microsoft Excel.



EXO4 Web Server

Gives access to the Regin system via Internet/Intranet.



EXOopc Driver

Makes it possible to connect EXO controllers to other units that support the OPC standard.



Arrigo

A powerful, web-based platform, useful in all phases of energy consumption streamlining. Collects information from start-up until the measures are completed. Enables connection with the EXOsystem in one or more properties in order to control and supervise operations



EXOhotel

A supplementary programme based on the Fidelio protocol, which makes it possible to connect a hotel booking system with EXO4.



E tool®

With E tool®, a PC based tool, Corrigio E can be quickly adjusted for each application.



Regio tool®

Configuration and commissioning software for Regio Zone Control System.



Controllers and Thermostats DIN Mounting



Corrigo E / Corrigo Web

Pre-programmed controllers for control of heating, cooling, zones etc. It can be equipped with communication ports for TCP/IP, LON or EXOline networks, for access, e.g., via the Internet.



E tool®

With E tool®, a PC based tool, Corrigo E can be quickly adjusted for each application



Optigo

A series of controllers for control of temperature, CO₂, pressure and humidity in HVAC applications, as well as for control of domestic hot water.



Duct Controller & Thermostat Heating/Cooling

Controllers and Thermostats for room control



Regio Maxi

Freely programmable room controllers with communication. Can be connected to bus systems such as LON, Modbus or EXOline (TCP/IP or RS485). The web interface provides access for remote reading and setting of setpoint values.



Regio Midi and Mini

Regio Midi

Pre-programmed room controllers with features of the stand-alone version, but with communication via Modbus or EXOline (RS485).

Regio Mini

Pre-programmed room controllers for stand-alone control of heating and cooling in a room.



Regio tool®

Configuration and commissioning software for Regio Zone Control System.

Controllers



Controller
for Fan Coil



Room controller



Room controllers
with display

Thermostats

A broad range of mechanical and electrical thermostats for mounting on the wall, flush mounting or on a DIN rail.



Electronic thermostat
for underfloor heating



Room
thermostats
electronic



Mechanical
thermostats



Controllers, electrical heating

For mounting on the wall or on a DIN rail, as well as for 1-phase 230V, 2 and 3-phase 230V/400V.



PULSER room controllers with and without display



PULSER controller for DIN-rail mounting



TTC controller for DIN-rail mounting



TTC controller for wall mounting



Step controller used for larger loads

Sensors, switches and detectors

Everything you need to measure and control the indoor climate is included here.



Temperature

Room, outdoor, clamp-on, duct and immersion sensors.



Pressure

For measurement, regulation and monitoring of pressure in liquid and air



CO₂/CO/NO₂

Also available as combination sensors for CO₂ temperature and humidity. For room or duct mounting



Humidity

Available only for humidity or as a combined sensor for humidity and temperature.

Room humidity sensor

Duct humidity sensor

Humidistats Wall or duct mounting



Flow

Stable output signal with compensation for temperature variations.

Flow-switch

Air velocity sensor

Presence detectors

Smoke detectors



Ceiling

Wall



Ceiling

Duct

Control and alarm unit



Accessories

Modem



Transformers



Mains power supply



Step controller



Displays and Panel PC



Other accessories

Casings



Manometer



Valves & Actuators

Valves

District heating, hot water, hot service water, district cooling, cooling water, fan coil.
Wide range from DN15 to DN150



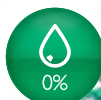
2-way valves



Zone valves



2-way and 3-way control valves



District heating valves



2 and 3 way valves with flange

Valve actuators

With 0...10 V, 3-way control or on/off control signal. Thermal actuators for chilled ceilings, underfloor heating and air-conditioning units (fan-coil) Damper actuators with or without spring return.



Valve and actuator
for fan coil



Thermal
actuators
100 Nm



Valve actuators
400 Nm



Valve actuator RVA
500 - 2500 Nm

Damper actuators

Full range of damper actuators with or without spring return.



Damper actuators
with spring return
4 Nm



Damper actuators
with spring return
20 Nm



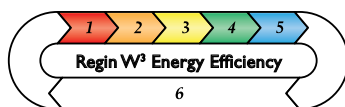
Damper actuators
5-40 Nm



Towards a bright future

Regin's concept for streamlining of energy consumption is aimed at reducing a property's energy consumption through increased insight. Commitment is ensured through the active participation of the property owner and the personnel. Regin runs and is responsible for the project. Through access to our extensive network of knowledgeable integration engineers, we put together, in consultation with the property owner, the exact working group that is needed for the task. Consultants and installation engineers can also be included. Regin and the integrator contribute competence, experience and practical solutions that provide the property owner with a more energy-efficient property. All three of them win. This is why the concept is called Regin W3.

With the implementation of last of the five stages, Regin's responsibility for the project is transferred to a property energy group, which carries on with the work.



Stages of the energy project

1. Startup and planning
2. Analysis of the current situation, data collection, inspection
3. Processing of ideas for energy-efficient measures
4. Implementation of designated measures
5. Evaluation and startup of internal energy group
6. The property owner's working group carries on with the project

Arrigo – the universal portal

Arrigo is a universal portal that ties together the property's technical and administrative systems. All of the data and functions concerning the property are accessible through direct links and search functions. From Arrigo, it is possible to connect directly to EXO 4 (Regin's SCADA system) or other systems in a common interface. There is automatic access to alarm lists and error reports. It is possible to supervise the operation, read off the energy consumption, etc. At the same time, Arrigo is a practical tool for planning, initialisation, as well as follow-up on service and maintenance.

Through Arrigo, it is also possible to access technical documentation, as-built documentation, inspection reports, energy declarations, etc.



**Arrigo –
the universal portal**



Regin Academy – knowledge and experience

Our activities for more than sixty years have given us knowledge and experience we would like to share. This is why we have been running the Regin Academy for several years now with the purpose of training integrators, distributors and other customers in our systems and products.

The courses are based on our experience in building automation, as well as on our dialogue with consultants, integrators and property owners and managers.





Dynamic development Flexible manufacture

Every year, Regin dedicates approx. 10% of its turnover to the development of new products. Our goal is to find new, intelligent solutions that save energy. For example, Regin's own valve centre in Osby has developed a new generation of valves with a sealing technology that makes them completely tight in closed position. As a leader in the field, Regin now offers several valve series with this sealing technology that will successively include more valves.

Ready-Steady-Go makes the job easier

Ready-Steady-Go is another example of how we run our development with the aim of simplifying installation, commissioning and use. The concept can be found in the Corrigio E, Regio and Optigo controller products, as well as in our FRS district heating valves.

Quality and flexibility in manufacturing

Our products are manufactured by a group of selected partners who work with the absolute latest and most modern technology. Our task is to take responsibility for purchasing of materials and components, production planning, as well as a certain degree of assembly. This arrangement gives us full control of the complete production chain, from prototype to series production, with guaranteed high quality assurance. At the same time, this gives extremely high flexibility and short lead times.





We take OEM customers' ideas and turn them into reality

Regin has developed products and systems for control/regulation of indoor climate since 1947. This competence, together with our production resources, is an asset for many customers who entrust our OEM department with helping them with everything from product design to the finished product. Since we have a long tradition in flow control, we also develop and produce valves and actuators for different OEM applications.

Our services

- Product design, construction
- Prototype production
- PCB production
- Injection moulding of casings
- Assembly
- Testing, e.g. climate tests
- Customising different applications
- Programming
- Customised packaging
- Manuals, instructions

- *Project leaders with technical and commercial competence*
- *Specialists in design, programming, web technology, etc.*
- *Purchasing department with a wide network*
- *Technical support/helpdesk*

Examples of OEM areas of expertise:

- Zone control
- Ventilation
- Heating/cooling
- Dehumidification/Humidification
- Heat pumps
- District heating/cooling
- Circuit boards/PCB



Chapter 2



Regin Systems

Regin's SCADA and development tools are designed for use with the EXO hardware. The result is a highly effective and user-friendly building automation system where the software takes full advantage of all the possibilities of the hardware.

Regin Systems



Regin Systems cover all types of applications, such as climate control units, heat pumps, boilers, district heating/cooling, etc. Alarms, access control and lighting management systems can be integrated with Regin Systems.

A Regin System provides a flexible installation which can be modified and extended cost-effectively

as requirements change. New units can be added to existing systems and linked to older controllers and equipment. A Regin System can also be integrated with systems made by other manufacturers and following different standards.

Market-leading solutions in web-based building automation

Regin has developed the market's broadest concept for building automation based on TCP/IP and the Internet. Regin's Internet solutions enable you to control, regulate and monitor everything from individual units and functions to large building complexes.

Solutions include web-based technology for:

- EXO4 Web Server
- Corrigo Web
- EXOcommunicator



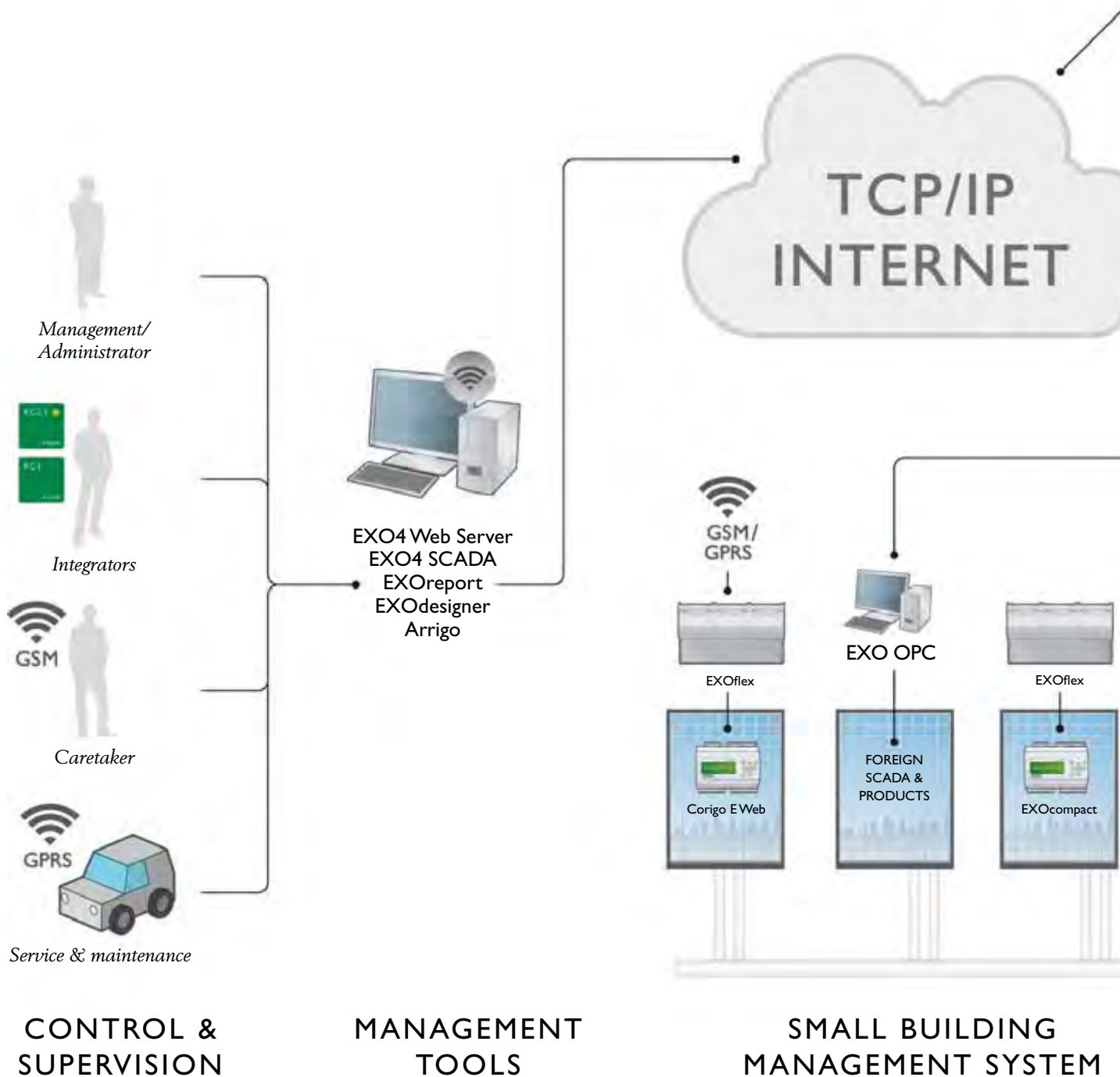
Bus systems:

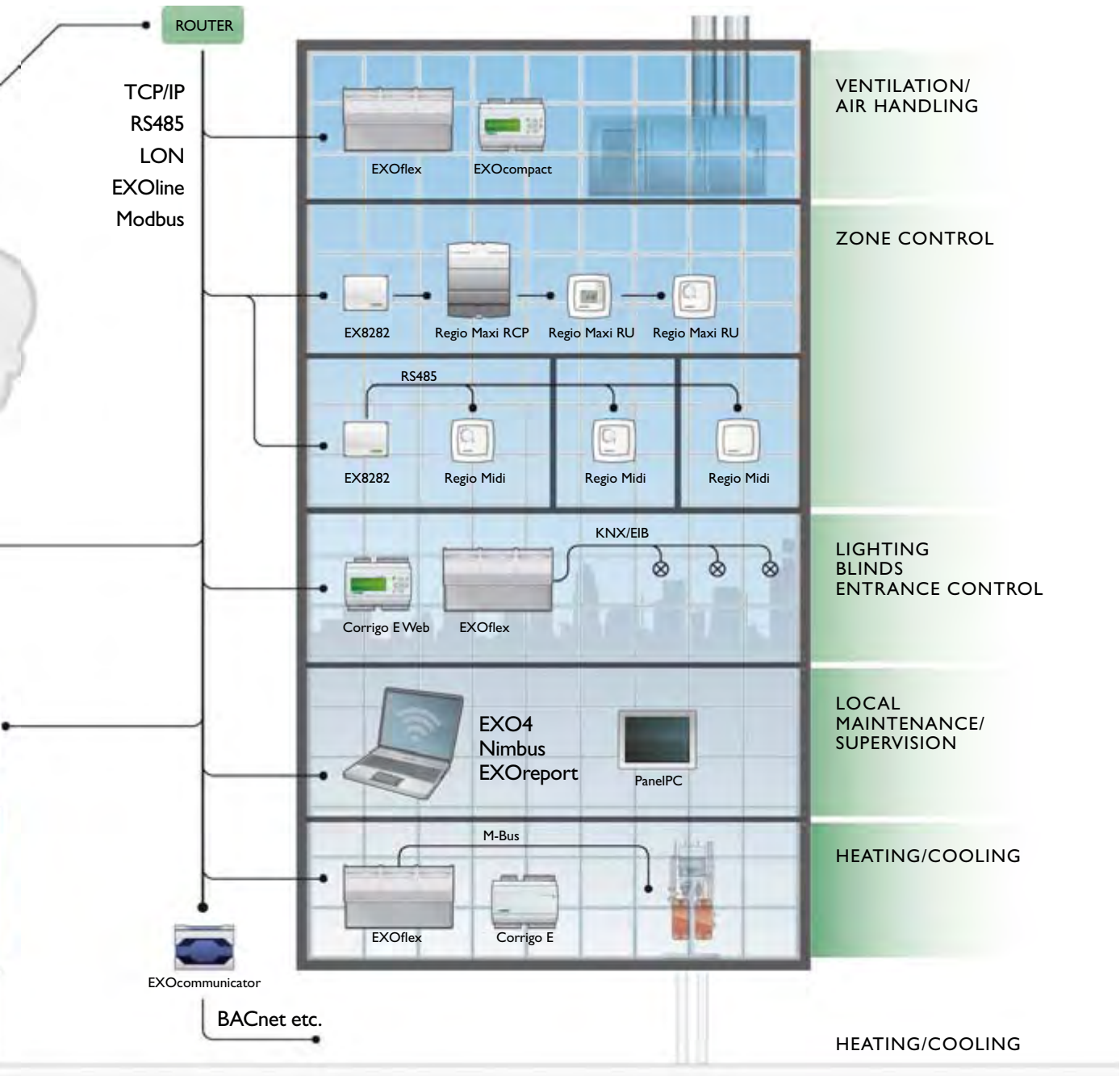
- TCP/IP
- BACnet
- LON
- KNX/EIB
- EXOline
- Modbus
- M-bus, SIOX
- N2 Bus
- S-bus
- Trend
- OPC

Communication:

For communication between the system's units and modules and the SCADA system.

- Telephone lines
- GSM
- TCP/IP
- LAN/WAN
- Internet
- Cable
- Satellite
- GPRS





LARGE BUILDING MANAGEMENT SYSTEMS

APPLICATIONS

Regin SCADA software for complete control

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 the possibilities offered by the hardware.

Operating system

Windows 2000, Windows XP, Windows Vista, Windows Server 2003, Windows 7. For detailed information, see the respective manuals. Communication ports for the application.



Arrigo

Regular service and maintenance are essential prerequisites for energy-efficient buildings. Regin's web portal Arrigo gives you a platform to start from.



EXOreport

EXOreport is an add-on program for EXO4 that simplifies and automates the analysis and presentation of collected operational data. Stored data is available in Microsoft Excel format.



EXOhotel

A supplementary program based on the Fidelio protocol, which makes it possible to connect a hotel booking system with EXO4.



EXOopc Driver

EXOopc Driver makes it possible to connect the EXO controllers to any software supporting the OPC standard. This means that most of the SCADA software available in the market can be used together with our controllers.



EXO4

EXO4 is a complete and powerful SCADA system that gives the operator a full overview of the building management system and direct access to all the important parameters, functions and stored data.



EXOdesigner

EXOdesigner is a software tool for design and configuration of a complete EXO system. It includes functions for designing communication networks, configuring controllers and SCADA design. By using only one programming tool, you are free to change controllers in your system without having to rewrite all the programs.



EXO4 Web Server

Gives access to the automation system from any Internet-connected computer with a web browser.



Arrigo 2010

Web-based portal for planning of operation, maintenance and administration

Maintenance and service are, besides energy consumption, major property costs. Regular service and maintenance are essential prerequisites for energy-efficient buildings. Regin's web portal gives you a platform to start from.

More efficient operation and energy use

- Planned service measures
- Error reports
- Alarm reports and measures taken
- Time and energy reports, based on the area of the building, etc.
- Compare the energy consumption of your properties over a period of up to five years
- Automatic connection to different service companies

All information in one place

- Technical documentation/as-built documentation for each building
- Inspection protocols
- Energy declarations

We take care of the hosting

- No need for investments or IT personnel
- Increased operation reliability

| Description | Number of buildings | Payment | Type |
|--|---------------------|---------|-----------|
| Portal for planning of operation, maintenance and administration | 5 | Monthly | ARRIGO XS |
| | 25 | Monthly | ARRIGO S |
| | 100 | Monthly | ARRIGO M |
| | 200 | Monthly | ARRIGO L |
| | 500 | Monthly | ARRIGO XL |

| Description | Type |
|-----------------|----------------|
| Start and setup | ARRIGO SETUP |
| Size upgrade | ARRIGO UPGRADE |





Regin SCADA Web Hotel

Regin SCADA Web Hotel is a complete and advanced web hosting service for property management. By connecting your buildings to Regin SCADA Web Hotel, 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. All you need is a computer with a web browser. We take care of the daily operation, maintenance, software and hardware upgrades, etc.

| Description | Number of I/Os | Type |
|---|----------------|-------------|
| Web hosting service for property management | 300 | WEBHOTEL-XS |
| | 500 | WEBHOTEL-S |
| | 1000 | WEBHOTEL-M |
| | 3000 | WEBHOTEL-L |

| Description | Type |
|-----------------|------------------|
| Start and setup | WEBHOTEL-SETUP |
| Size upgrade | WEBHOTEL-UPGRADE |



We provide this service through our partners. They can offer you an exact price for your properties, even if the number of inputs and outputs is greater or less than the I/Os listed in the table above.



EXO4

Powerful SCADA system giving you complete control and overview of one or many buildings. You can handle alarms and access all important parameters, functions and data.

Design tools

It is easy to design user-friendly screens in EXO4 with the built-in configuration tools. Included in EXO4 is InkScape, an advanced tool for design of images. It comes with a large library of graphic symbols and SCADA pictures.

EXO4 also supports animated symbols and offers many possibilities to configure the SCADA design according to your requirements.

SCADA/HMI software for operator stations

EXO4 has a graphical user interface and all settings and commands are very easy to use. The software is sold together with a matching hardware key.

The EXO software is copy protected and requires the prior installation of a hardware key. The keys are available in USB or PC card versions. The licence includes SQL Express which is capable of handling 4 Gbyte data. For larger databases, the SQL Server is used (not included). The licence also includes all configuration tools.

EXO4 can handle communication with the Regin System via our EXOline protocol. EXO4 can also communicate via the BACnet protocol, which is useful for communication with devices of other brands. The BACnet driver works with EXO4M7 and larger.

EXO4 systems come in six different sizes

EXO4 is always supplied with a hardware key. The size of the key depends on the requested number of I/Os. You can choose between PC card and USB versions, see below.

- Dynamic visualization of plants and processes
- Real-time curves and trends
- Time channel program
- Historical database
- Alarm and status supervision with three alarm priority levels
- Registration and handling of events
- Support for SQL
- Client-server for large systems with many workstations
- Script language available

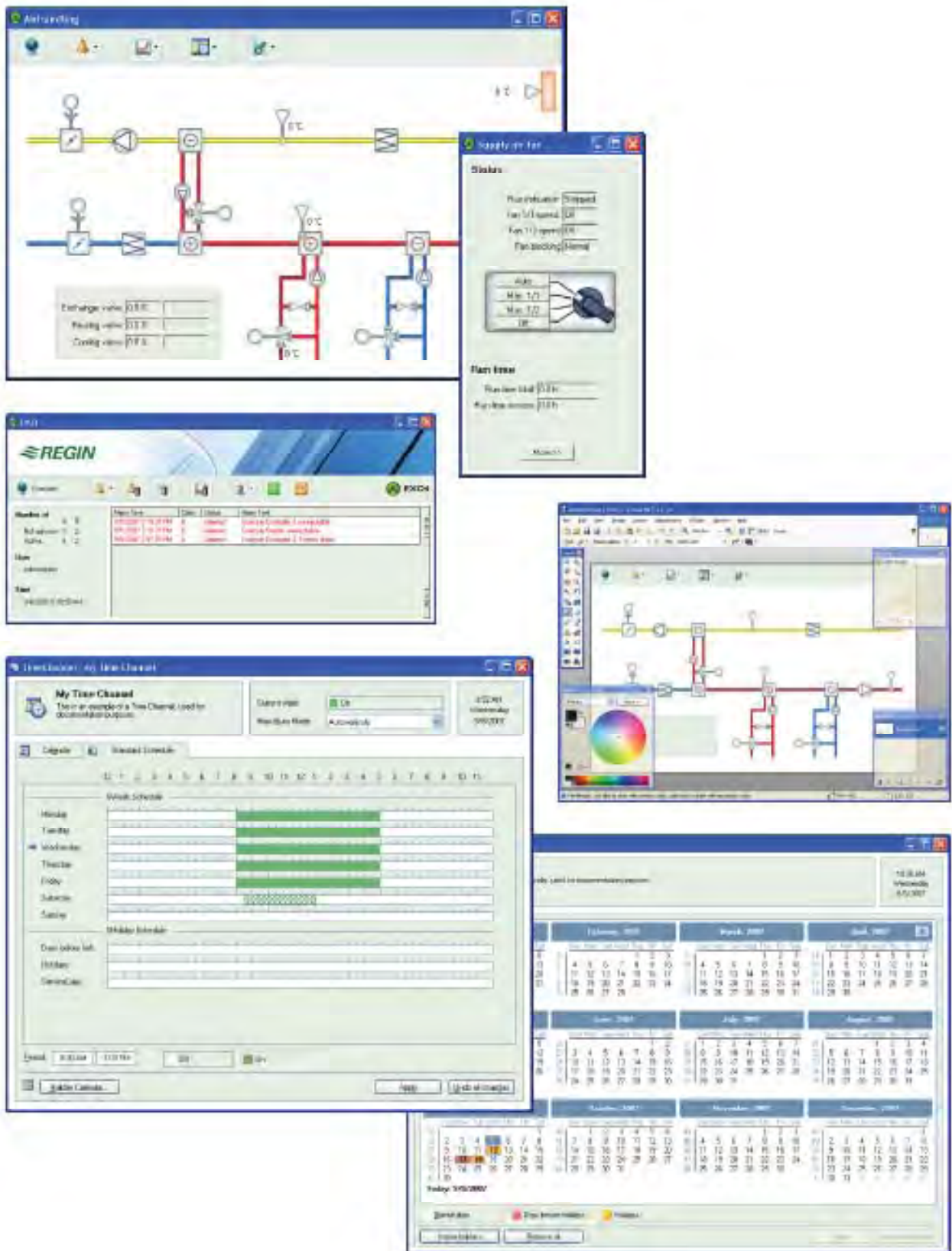
| EXO4 version | Max. number of I/Os | Several computers connected in a network | Version | Type |
|-----------------|---------------------|--|----------------|------------------------------------|
| EXO4 2009 TRIAL | 75 I/Os | No | - | EXO4TRIAL |
| EXO4 2009 XS7 | 300 I/Os | Yes | PC card USB | EXO4XS7PCC-2009 EXO4XS7USB-2009 |
| EXO4 2009 S7 | 500 I/Os | Yes | PC card USB | EXO4S7PCC-2009 EXO4S7USB-2009 |
| EXO4 2009 M7 | 1000 I/Os | Yes | PC card USB | EXO4M7PCC-2009 EXO4M7USB-2009 |
| EXO4 2009 L7 | 3000 I/Os | Yes | PC card USB | EXO4L7PCC-2009 EXO4L7USB-2009 |
| EXO4 2009 XL7 | Unlimited | Yes | PC card USB | EXO4XL7PCC-2009 EXO4XL7USB-2009 |

BACnet Driver EXO4

EXO4 communicates directly with BACnet systems. The BACnet driver software is intended for use together with EXO4 and works with EXOkey M7 and larger.

A hardware key type 7 or later is required.

| Description | Type |
|--------------------|------------|
| BACnet Driver EXO4 | EXO4OPC-BL |



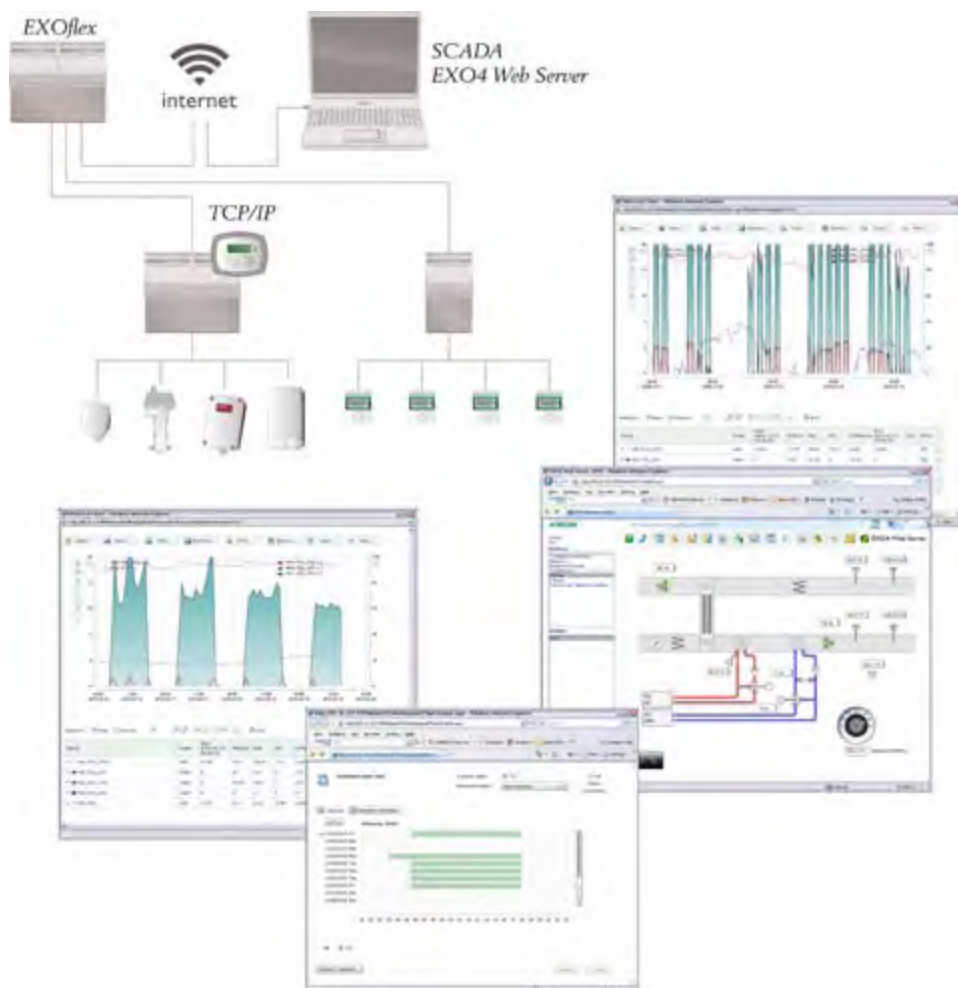


EXO4 Web Server 2010

EXO4 Web Server is a web-based SCADA system which gives access to required information via the Internet or an intranet solution. EXO4 Web Server is available in different versions based on the size of the connected system. The size of the licence corresponds to the size of the EXO hardware keys, from XS to XL. For more information on how to upgrade your existing EXO Web Server, please contact Regin.

EXO4 Web Server requires a fixed line to the Internet/intranet and that EXO4 with its database and EXOdesigner are installed on one and the same computer. To view animations, Flash Player must be installed on the operator computer (can be downloaded free of charge from www.adobe.com).

| Description | Number of I/Os | Type |
|------------------------|----------------|-------------|
| EXO4 Web Server 2009XS | 300 I/Os | EXO4WEB-XS7 |
| EXO4 Web Server 2009S | 500 I/Os | EXO4WEB-S7 |
| EXO4 Web Server 2009M | 1000 I/Os | EXO4WEB-M7 |
| EXO4 Web Server 2009L | 3000 I/Os | EXO4WEB-L7 |
| EXO4 Web Server 2009XL | Unlimited | EXO4WEB-XL7 |

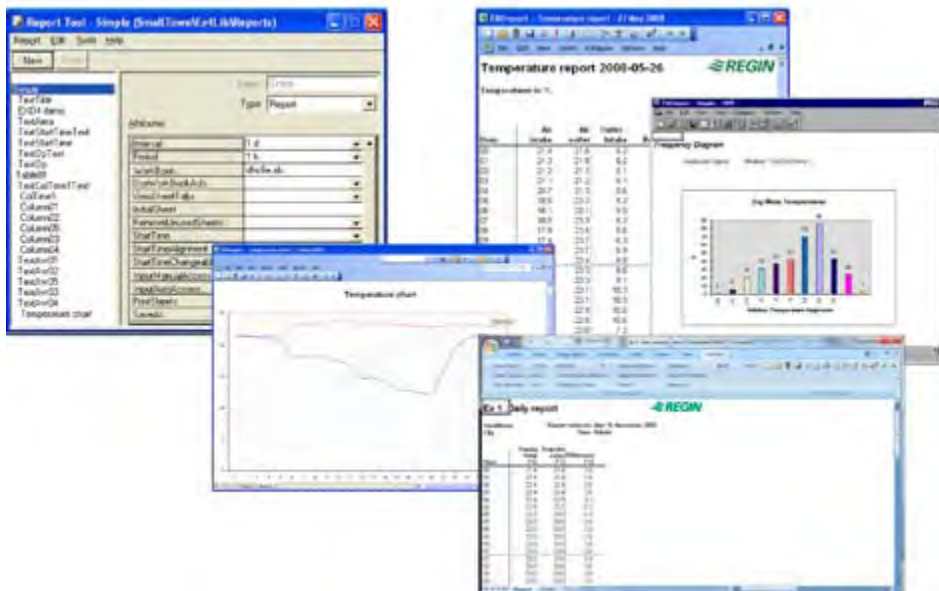
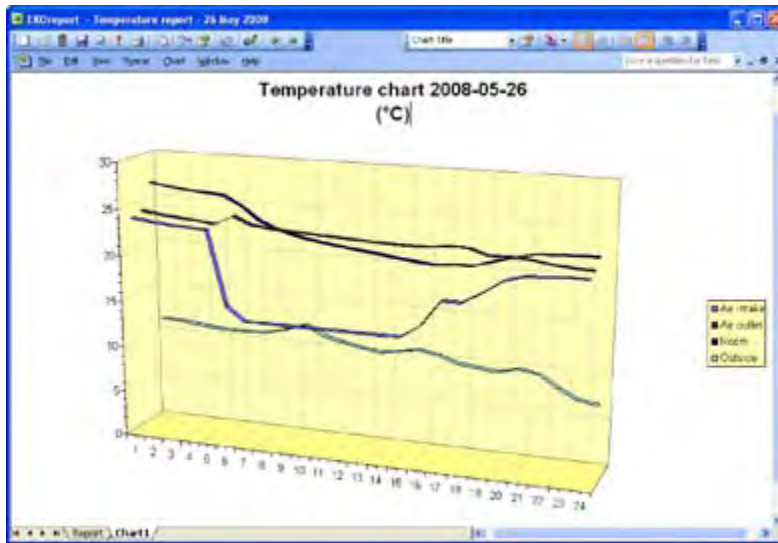




EXOreport 2010

EXOreport is an add-on program for EXO4 which simplifies the analyses of operation costs and energy consumption. It helps you create diagrams, trend curves etc. in Microsoft Excel format. EXOreport automatically generates and prints your monthly or weekly reports, e.g. at 6 a.m. on the first day of every month. You can also add all kinds of calculations in Excel format.

| Description | Type |
|----------------|-----------|
| EXOreport 2010 | EXOREPORT |





EXOopc Driver

EXOopc Driver makes it possible to connect EXO controllers to any software supporting the OPC standard. This means that most of the SCADA software in the market today can be used together with Regin's controllers. The possibility of communication with various OPC clients/servers can easily be controlled using the Matrikon OPC Sniffer (www.matrikon.com).

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.

| Description | Type |
|---------------|--------|
| EXOopc Driver | EXOOPC |



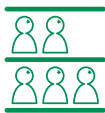
EXOhotel

Hotel booking system

EXOhotel is an add-on program for EXO4 which connects a hotel booking system using the Fidelio protocol with the full range of functionalities of the EXO4 system. Heating and cooling in each hotel room can be controlled to save energy when the room is empty and provide a comfortable indoor climate when the room is occupied.

EXOhotel is intended for use together with EXO4 and works with EXO4M7 and larger.

| Description | Type |
|----------------------|----------|
| Hotel booking system | EXOHOTEL |



Reduce energy costs by planning the bookings on each floor



Integrate fire protection systems, facilitate fire extinguishing



The corridor lighting is based on the time and occupancy



Occupancy control common areas to achieve energy savings and safety



Domestic hot water access based on the total number of guests



Control the temperature, lighting, blinds and bathroom dryers when the guests check in/out. Open window turns the heating/cooling etc. off.



The ventilation in conference rooms is controlled by measuring the CO₂ concentration



Minimise the risk of leakage

Nimbus alarm server 2

Software for use together with EXO4. The system sends alarms from your system via e-mail, sms, fax etc. Requires hardware key version 7 or later.

| Description | Type |
|-----------------------|-------------|
| Nimbus alarm server 2 | NIMBUS-2009 |



EXOdesigner

Software tool for design and configuration of a complete EXO system

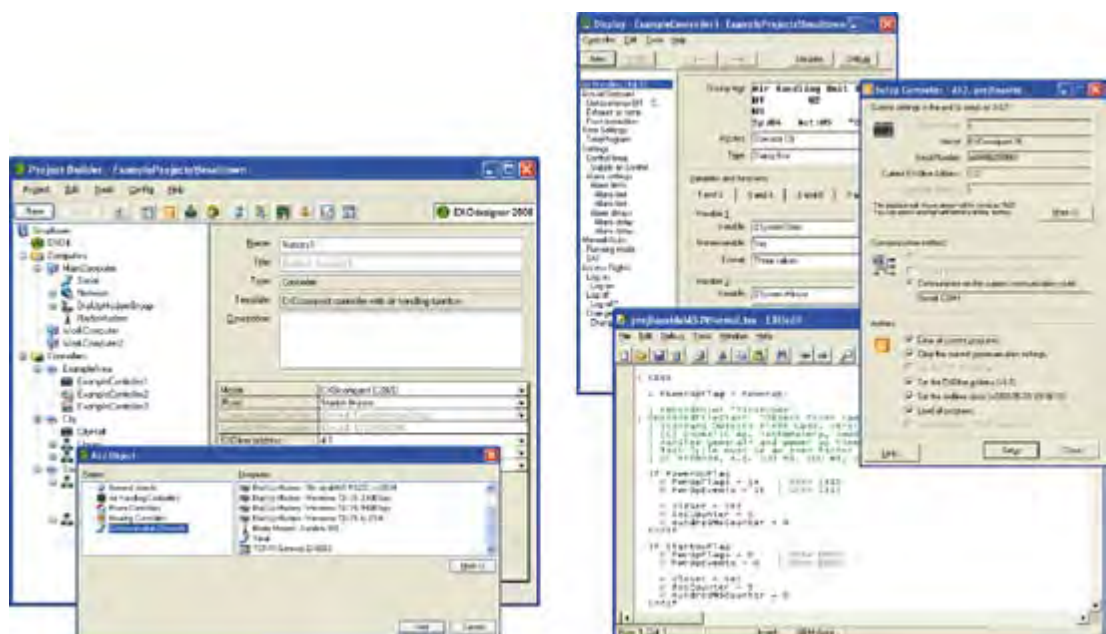
All EXO controllers are fully software compatible and are programmed using EXOdesigner, a PC-based development environment. The compatibility also applies across product generations, which means that you only need to learn one programming tool and are free to change controllers in a system without having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

Programming can be performed in two ways. The easiest and fastest way is to use the ready-made program blocks in EXOdesigner. By combining these you quickly build full-scale applications. A large number of program blocks for the most common tasks in building automation are included in EXOdesigner, e.g. for control of pumps, fans and heating, handling of alarms and time channels, communication, etc.

The other way of programming the controllers is to use the high-level programming language EXOL. EXOL is especially developed for the EXO system and has a large number of commands and functions that facilitate programming of automation applications. Because it is possible to use ready-made program blocks, and to customise the programs with EXOL programming, maximum speed and flexibility in the development process is guaranteed.

EXOdesigner includes an online debugging tool for easy configuration.

| Description | Type |
|---------------------------------------|-----------------|
| Development software EXOdesigner 2009 | EXODESIGNER2009 |





EXO4 Upgrade

Upgrade software for EXO systems with EXO4 and EXOkey version 7. Price per computer.

| Description | Type |
|-------------------|-------------|
| EXO4 2009 Upgrade | EXO4UPGRADE |

2



Upgrade agreement

Upgrade agreement which gives the end customer secured and continuous access to the latest versions of Regin's software at a fixed yearly rate.

The agreement applies to the following software:

- EXO4
- EXOdesigner
- EXOreport



The customer receives:

- Continuous access to the latest version of the licenced software
- A full licence for EXOdesigner (even if the customer purchased the software at an earlier point in time)
- Anti-theft protection of registered hardware keys (dongle). A stolen hardware key is replaced free of charge.

If a customer without an upgrade agreement wishes to upgrade a software in the future, this is done by buying the software. The agreement is only signed if all the customer's software and hardware key licences are included. The cost is based on the number of hardware keys and the size of the system. Contact Regin for more information.



| Description | Type |
|-------------------------------------|------------|
| Yearly upgrade agreement EXOkey XS7 | UPGRADEXS7 |
| Yearly upgrade agreement EXOkey S7 | UPGRADES7 |
| Yearly upgrade agreement EXOkey M7 | UPGRADEM7 |
| Yearly upgrade agreement EXOkey L7 | UPGRADEL7 |
| Yearly upgrade agreement EXOkey XL7 | UPGRADEXL7 |

EXOflex - Freely programmable controllers

Freely programmable controllers for building automation without any restrictions

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, LON, KNX/EIB, Modbus, SIOX and M-Bus. EXOflex also supports communication via radio, telephony, GSM, cable, satellite, etc.

- 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 the capacity and add functions
- Communication via EXOline, TCP/IP, LON, KNX/EIB, Modbus, SIOX, M-Bus
- Gateway to Arrigo web portal
- Large number of PIFA cards for different applications



EXOflex

The EXOflex line of freely programmable controllers offers excellent possibilities for creating flexible and powerful systems for control, regulation, supervision and communication. An EXOflex unit can be used stand-alone or together with other EXOflex units and other types of equipment, in small or large systems. The modular design provides unique opportunities for adapting the number and type of inputs and outputs, as well as the type of communication.

Processor housings

EXOflex consists of processor housings with one to four sections, each equipped with a main processor. The processor is programmed using EXOdesigner or in EXOL code.

Expansion housings

Expansion housings, without a processor, make it possible to increase the functionality by adding more PIFA units.

PIFA units

There is a wide range of PIFA units (Peripheral Interface Adapters) for adapting EXOflex to specific applications. All cards are of standardized design and size and can easily be slotted into place in the housings. Once a PIFA card has been mounted, all connection ports are accessible externally, offering easy connection of devices such as sensors and actuators. Most of the PIFA units have their own microprocessor, which facilitates programming and reduces the load on the EXOL processor.

External display unit

The external display unit ED9200 can be used locally for viewing alarms, changing setpoint values, etc.

| 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, EIB, SIOX, M-Bus. Other connections depending on the installed PIFA units. |

* The inputs and outputs data depends on the choice of PIFA units

Processor housings



Processor housing, 1 section

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

| Description | Type |
|------------------------------|--------|
| Processor housing, 1 section | EH11-S |



Processor housing, 2 sections

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

| Description | Type |
|-------------------------------|--------|
| Processor housing, 2 sections | EH21-S |



Processor housing, 3 sections

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

| Description | Type |
|-------------------------------|--------|
| Processor housing, 3 sections | EH31-S |



Processor housing, 4 sections

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

| Description | Type |
|-------------------------------|--------|
| Processor housing, 4 sections | EH41-S |

Expansion housings



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).

| Description | Type |
|------------------------------|--------|
| Expansion housing, 1 section | EH10-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).

| Description | Type |
|-------------------------------|--------|
| Expansion housing, 2 sections | EH20-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).

| Description | Type |
|-------------------------------|--------|
| Expansion housing, 3 sections | EH30-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).

| Description | Type |
|-------------------------------|--------|
| Expansion housing, 4 sections | EH40-S |

PIFA units



Main Power PIFA

24 V DC supply voltage. 4 digital inputs and 4 digital outputs. Communication port (Port 1), switchable between RS232, RS485 (EXOnline) and hLEXOnline. Has a socket for the EFX channel and battery backup for the EXOL-processors. LEDs indicating battery error, power supply and communication. Option X9035 UPS for battery backup.

| Description | Type |
|-----------------|--------|
| Main Power PIFA | EP1011 |



Power PIFA for Extender

Power supply for EXOflex expansion housings, powered by 24 V DC. Has a socket for the EFX channel.

| Description | Type |
|-------------------------|--------|
| Power PIFA for Extender | EP1004 |



32 DI Multifunction PIFA

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

| Technical data | |
|---------------------|---|
| 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 |

| Description | Type |
|--------------------------|--------|
| 32 DI Multifunction PIFA | EP2032 |



16 DO Multifunction PIFA

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

| Technical data | |
|----------------------|---|
| I/Os | 16 DO with standard functionality (on/off delay, pulse-width modulation, frequency generation, settable offline action) |
| Digital outputs (DO) | Signal level 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). |

| Description | Type |
|--------------------------|--------|
| 16 DO Multifunction PIFA | EP3016 |



16 DI / 8 DO Mixed Multifunction PIFA

Mixed Multifunction PIFA with 16 digital inputs and 8 digital outputs for mounting in EXOflex housings.

| Technical data | |
|----------------------|--|
| 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 the 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). |

| Description | Type |
|---------------------------------------|--------|
| 16 DI / 8 DO Mixed Multifunction PIFA | EP4024 |



12 AI Multisensor PIFA

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

| Technical data | |
|----------------------|--|
| 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. Accuracy: 0.1 % of the measuring range, 12-bit A/D converter. |

| Description | Type |
|------------------------|--------|
| 12 AI Multisensor PIFA | EP5012 |



12 AO Voltage Multifunction PIFA

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

| Technical data | |
|-----------------------|---|
| 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 |

| Description | Type |
|----------------------------------|--------|
| 12 AO Voltage Multifunction PIFA | EP6012 |



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 | |
|-----------------------|---|
| I/Os | 12 AI with possibility to set the measuring ranges individually 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 |

| Description | Type |
|---------------------------------------|--------|
| 12 AI / 6 AO Mixed Multifunction PIFA | EP7218 |



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 | |
|-----------------------|---|
| 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. |
| Com | 1 serial port (Port 3), switchable between RS232, RS485 (EXOflex) and hIEXOflex. Can be complemented with option cards for modem, EIB, 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 |

| Description | Type |
|--|--------|
| 8 Mixed I/O and Serial PIFA (2 DI / 4 AI / 2 AO) | EP7408 |



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 | |
|-----------------------|---|
| 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 level 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. |

| Description | Type |
|---|--------|
| 16 Mixed I/O PIFA (6 DI / 2 DO / 4 AI / 4 AO) | EP7416 |



Basic Serial PIFA

Communication PIFA with one serial port (Port 2 or Port 3), switchable between RS232, RS485 (EXOline) and hLEXOline. Can be complemented with an option card for modem, EIB, SIOX, etc. Can also be supplemented with an external M-Bus/SIOX connection.

| Description | Type |
|-------------------|--------|
| Basic Serial PIFA | EP8101 |



Dual Basic Serial PIFA

Communication PIFA with two serial ports (Port 2 and Port 3), switchable between RS232, RS485 (EXOline) and hLEXOline. Output +12 V, 700 mA for feeding transmitters, radio modems, etc. Can be complemented with an option card for modem, EIB, SIOX, etc. Can also be supplemented with an external M-Bus/SIOX connection.

| Description | Type |
|------------------------|--------|
| Dual Basic Serial PIFA | EP8102 |



LON PIFA

Communication PIFA for LonWorks. Direct connection of SNVTs to other LON-based units and systems. Max. 1024 SNVTs/PIFA. Connected to the EFX channel.

| Description | Type |
|-------------|--------|
| LON PIFA | EP8210 |



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.

| Description | Type |
|-------------|--------|
| TCP/IP PIFA | EP8282 |



Slot cover

For covering empty PIFA slots in an EXOflex housing.

| Description | Type |
|-------------|--------|
| Slot cover | EP0000 |

Card holder

Five plastic card holders for special cards showing PIFA-unit signal descriptions in EXOflex housings.

| Description | Type |
|-----------------------------------|---------------|
| Card holders for EXOflex housings | EH-CARDHOLDER |



EXOcommunicator

Gateway to BACnet and local web server

EXOcommunicator is a combined web server and protocol gateway for small systems.

Gateway

As a gateway, EXOcommunicator can link EXOline to bus systems with BACnet protocols (BACnet/MSTP, BACnet/IP and BACnet/Ethernet) and other protocols such as N2 - System91 from Johnson Controls, S-bus from SAIA, and Trend.

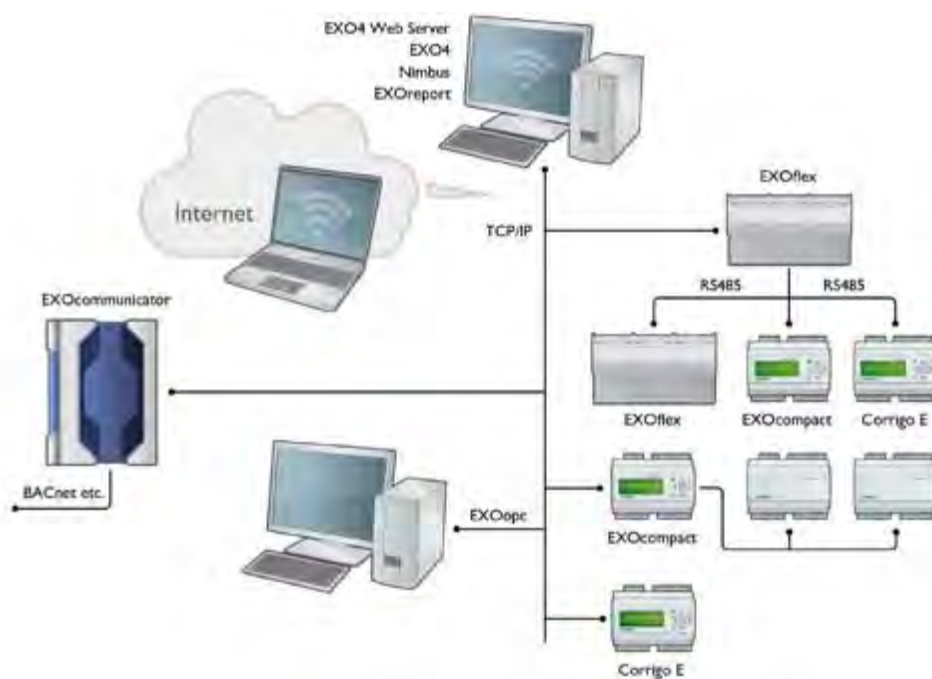
Three Ethernet ports (1xWAN and 2xLAN) enable simultaneous handling of several protocols. Two serial ports (RS232) are used for communication with controllers, e.g. EXOcompact.

Web server

EXOcommunicator can also be used as a local web server for up to 2500 connected points. The web server provides alarm information and real-time reports with values from selected points. The trend interface is a useful tool for inspection of historical data logs on the server.

| Technical data | |
|---------------------|------------------------|
| Supply voltage | 12 V, externally 5 A |
| Processor | VIA Eden 533 MHz |
| Serial ports | 2 x RS232 |
| RAM | 256 MB |
| FLASH | 1 GB |
| Ethernet (100 MBit) | 3 ports (2 LAN, 1 WAN) |
| Protection class | IP20 |

| Description | Type |
|--|------------------|
| EXOcommunicator, local web server or gateway to BACnet | EXO-COMMUNICATOR |



Communication options

Option KNX (EIB)

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.

| Description | Type |
|------------------|-------|
| Option KNX (EIB) | X9017 |

* The EIB system and protocol have been updated and are now called KNX

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 | |
|----------------------|---|
| Power supply | 18...30 V AC or DC, 5 VA (connected to a network) |
| Internal serial port | RS232 or RS485, 9600 bps |
| Ethernet port | 10 Base-T/100Base auto-negotiation |
| Max. cable length | 100 m (min. CAT 5) |

| Description | Type |
|----------------|--------|
| TCP/IP Gateway | EX8282 |

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.

| Description | Type |
|---------------------|-------|
| Battery charger/UPS | X9035 |

Communication cable

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

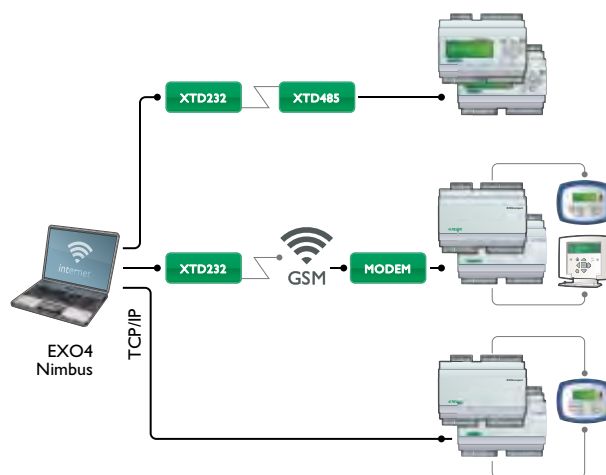
| Description | Cable length | Type |
|-----------------------------------|--------------|------|
| Communication cable, PC - EXOflex | 2 m | EK20 |
| Communication cable, PC - EXOflex | 5 m | EK22 |
| Communication cable, PC - EXOflex | 10 m | EK24 |

EXOcompact - Freely programmable controllers

The EXOcompact controllers are perfect for stand-alone applications, e.g. zone control, control of heating and air handling units, as well as for system integration. They have a powerful processor and are available in three sizes with 8, 15 or 28 I/Os, with or without display.

Programming is performed in EXOdesigner. The controllers communicate via RS485, EXOline or Modbus, communication via LON and TCP/IP is optional. Another option is dual ports, which enables expansion of the number of I/Os for energy meters, PLCs etc. With two ports, EXOcompact also supports communication via PSTN (Public Switched Telephone Network).

- Freely programmable with fixed I/O configuration
- For control of heating centrals, air handling units etc.
- 8, 15 or 28 I/Os, with or without display
- Complement to EXOflex in large automation systems
- Communication via RS485 (EXOline, Modbus) or dial-up connection (phone or GSM dial-up)
- TCP/IP and LON optional
- Programming is performed in EXOdesigner
- Dual ports as option
- Possibility to expand the number of I/Os using two ports and expansion units based on EXOcompact without display
- Possibility of DC supply voltage
- Powerful processor
- Digital outputs via Mosfet with 2 A, 24V AC/DC





EXOcompact

The EXOcompact line of freely programmable controllers offers a wide variety of choices. The controllers are available in three different I/O sizes with or without display. There are models with TCP/IP and LON communication. EXOcompact can be used either as a stand-alone unit or as part of a system.

| Technical data | |
|-----------------------|---|
| Supply voltage | 24 V AC $\pm 15\%$, 50...60 Hz or 20...36 V DC |
| Power consumption | 5 VA |
| Display | Backlit, LCD, 4 rows of 20 characters, international character set |
| Dimensions (WxHxD) | 148 x 123 x 58 mm, 8.5 modules |
| Protection class | IP20 |
| Mounting | DIN-rail or cabinet |
| Inputs | |
| Analogue inputs (AI) | 0...10 V DC, 0...200 mV, PT1000, DIN Ni1000, LGNi1000, 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, 8-bit D/A, short-circuit proof |
| Digital outputs (DO) | Mosfet 24 V AC/DC, 2 A. Totally max. 8 A. |
| 24 V DC output | 0.1 A, short-circuit proof |
| Communication | EXOline, Modbus or dial-up connection Port 1, isolated, via a built-in RS485 connector. Modems are available as accessories for Port 1. There are models with TCP/IP or LON port. |
| Operating system | EXOreal |
| Battery backup | Memory and real-time clock, at least 5 years |
| LON | FT3150, gives a second communication route |
| TCP/IP | EXOline (Port 1) over TCP/IP instead of RS485 |

Model overview

| | C80-S | C80D-S | C150-S | C150D-S | C152-S | C152D-S | C280-S | C280D-S | C282-S | C282D-S |
|------------------|--------|--------|--------|---------|--------|---------|--------|---------|--------|---------|
| AI | 2 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| DI | 3 | 3 | 4 | 4 | 4 | 4 | 8 | 8 | 8 | 8 |
| UI | - | - | - | - | - | - | 4 | 4 | 4 | 4 |
| AO | 1 | 1 | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 5 |
| DO | 2 | 2 | 4 | 4 | 4 | 4 | 7 | 7 | 7 | 7 |
| LON | Option | Option | Option | Option | - | - | Option | Option | - | - |
| TCP/IP | Option | Option | Option | Option | Option | Option | Option | Option | Option | Option |
| Display version | - | Yes | - | Yes | - | Yes | - | Yes | - | Yes |
| External display | Option | - | Option | - | Option | - | Option | - | Option | - |
| Dual ports | - | - | - | - | Yes | Yes | - | - | Yes | Yes |



Controller with or without display

| Description | Inputs | Outputs | Dual ports | Type |
|----------------------------|--------|---------|------------|---------|
| Controller with display | 5 | 3 | | C80D-S |
| Controller with display | 8 | 7 | | C150D-S |
| Controller with display | 8 | 7 | Yes | C152D-S |
| Controller with display | 16 | 12 | | C280D-S |
| Controller with display | 16 | 12 | Yes | C282D-S |
| Controller without display | 5 | 3 | | C80-S |
| Controller without display | 8 | 7 | | C150-S |
| Controller without display | 8 | 7 | Yes | C152-S |
| Controller without display | 16 | 12 | | C280-S |
| Controller without display | 16 | 12 | Yes | C282-S |



Controller with LON or TCP/IP communication, with display

| Description | Inputs | Outputs | Dual ports | Type |
|-----------------------------|--------|---------|------------|----------|
| Controller with LON port | 5 | 3 | | C80DL-S |
| Controller with LON port | 8 | 7 | | C150DL-S |
| Controller with LON port | 16 | 12 | | C280DL-S |
| Controller with TCP/IP port | 5 | 3 | | C80DT-S |
| Controller with TCP/IP port | 8 | 7 | | C150DT-S |
| Controller with TCP/IP port | 8 | 7 | Yes | C152DT-S |
| Controller with TCP/IP port | 16 | 12 | | C280DT-S |
| Controller with TCP/IP port | 16 | 12 | Yes | C282DT-S |



Controller with LON or TCP/IP communication, without display

| Description | Inputs | Outputs | Dual ports | Type |
|-----------------------------|--------|---------|------------|---------|
| Controller with LON port | 5 | 3 | | C80L-S |
| Controller with LON port | 8 | 7 | | C150L-S |
| Controller with LON port | 16 | 12 | | C280L-S |
| Controller with TCP/IP port | 5 | 3 | | C80T-S |
| Controller with TCP/IP port | 8 | 7 | | C150T-S |
| Controller with TCP/IP port | 8 | 7 | Yes | C152T-S |
| Controller with TCP/IP port | 16 | 12 | | C280T-S |
| Controller with TCP/IP port | 16 | 12 | Yes | C282T-S |

Accessories for EXOcompact

See also the mounting kit FMCE for front mounting of EXOcompact and the plug-in terminal blocks PLTCE for simple wiring of EXOcompact when using FMCE. You will find these products in the chapter Accessories.

EXO accessories



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.

| Description | Type |
|----------------------------|-------|
| Connection unit M-Bus/SIOX | X1176 |



PC-cable for EXOflex and EXOcompact

Cables for connecting EXOflex or EXOcompact to RS232 or USB standard.

| Description | Type |
|----------------------------|---------------|
| Cable for RS232 connection | E-CABLE-RS232 |
| Cable for USB connection | E-CABLE-USB |



Battery

| Description | Type |
|---|--------------|
| Battery for EP1011, EXOcompact, Corrigo E | BATTERY-4289 |
| Battery for 1304/1305 | BATTERY-5518 |
| Battery for 5540 | BATTERY-5702 |



EXOcompact demo kit

Complete kit for testing the EXO system, with everything you need in one case. The kit contains an EXOcompact controller (C282DT-S), EXO4 and EXOdesigner software, a manual, and a step-by-step training CD. Simply plug the controller to the wall socket and start it up to make simulations, get alarms, indications etc.

| Description | Type |
|------------------------------------|------------------|
| Complete kit for system evaluation | KITEXOEVALUATION |

EXOflex mounting kit

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

| Description | Type |
|----------------------|-------------|
| EXOflex mounting kit | X204-0052:4 |



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.

| Description | Type |
|-----------------|-----------|
| Repeater, RS485 | REPEAT485 |



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.

| Description | Type |
|--------------------------|-------------|
| RS232 to RS485 converter | CONV232-485 |



EXOline to hEXOline converter

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

| Description | Mounting | Type |
|-------------------------------|----------|--------|
| EXOline to hEXOline converter | DIN-rail | X1171A |
| EXOline to hEXOline converter | Card | X9021 |



Computer controller

The embedded computer CC5 is a PC without a display. It can be used as a TCP/IP master or as an additional main computer.



| Technical data | |
|----------------|---|
| CPU type | Intel Atom N270 1.6 GHz |
| Flash memory | 4 GB |
| RAM | 1 GB |
| Ports | 1 x COM port (RS232), 2 x USB ports, 1 x LAN port (Realtek RLT8111C 10/100/1000 Mbps), 1 x port for connection to a monitor |
| Supply voltage | Power supply unit for 12 V DC (2.5 A) included in the delivery |
| Mounting | Wall mounting, VESA 75 x 75 mm (mounting kit included) |

| Description | Type |
|---------------------|------|
| Computer controller | CC5 |



Displays for panel mounting

DP89 and DP156 are panel computers intended to be mounted in for example a cabinet door. They can easily be connected to Regin's EXO4 Web Server and Regin's controllers, with or without integrated web.



DP89



DP156

| Technical data | |
|------------------|---|
| Monitor size | DP89: 8.9" DP156: 15.6" |
| Resolution | DP89: 1024 x 600 DP156: 1366 x 768 |
| CPU type | Intel Atom N270 1.6 GHz |
| Flash memory | 4 GB |
| RAM | 1 GB |
| Ports | DP89: 2 x COM ports (RS232), 2 x USB ports, 1 x LAN port (Realtek RLT8111C 10/100/1000 Mbps) DP156: 5 x COM ports (RS232), 2 x USB ports, 1 x LAN port (Realtek RLT8111C 10/100/1000 Mbps) |
| Supply voltage | Power supply unit for 12 V DC (2.5 A) included in the delivery |
| Protection class | IP65 |
| Mounting | Cabinet mounting, VESA 75 / 100 (screws included) |

| Description | Type |
|----------------------------------|-------|
| 8.9" display for panel mounting | DP89 |
| 15.6" display for panel mounting | DP156 |



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