CARLO GAVAZZI
Automation Components

CARLO GAVAZZI

Solutions

Building Automation

Building Automation Solutions for

Metering | **Lighting control** | **HVAC systems** | **Integrated solutions** | **Parking guidance system** | **Monitoring and protection**

ABOUT CARLO GAVAZZI

Carlo Gavazzi Automation is a multinational electronics group active in the design, manufacture and marketing of electronic equipment targeted at the global markets of industrial and building automation.

Our history is full of firsts and our products are installed in a huge number of applications all over the world. With more than 80 years of successful operation, our experience is unparalleled.

We have our headquarters in Europe and numerous offices around the world.

Our R&D competence centres and production sites are located in Denmark, Italy, Lithuania, Malta and the People's Republic of China.

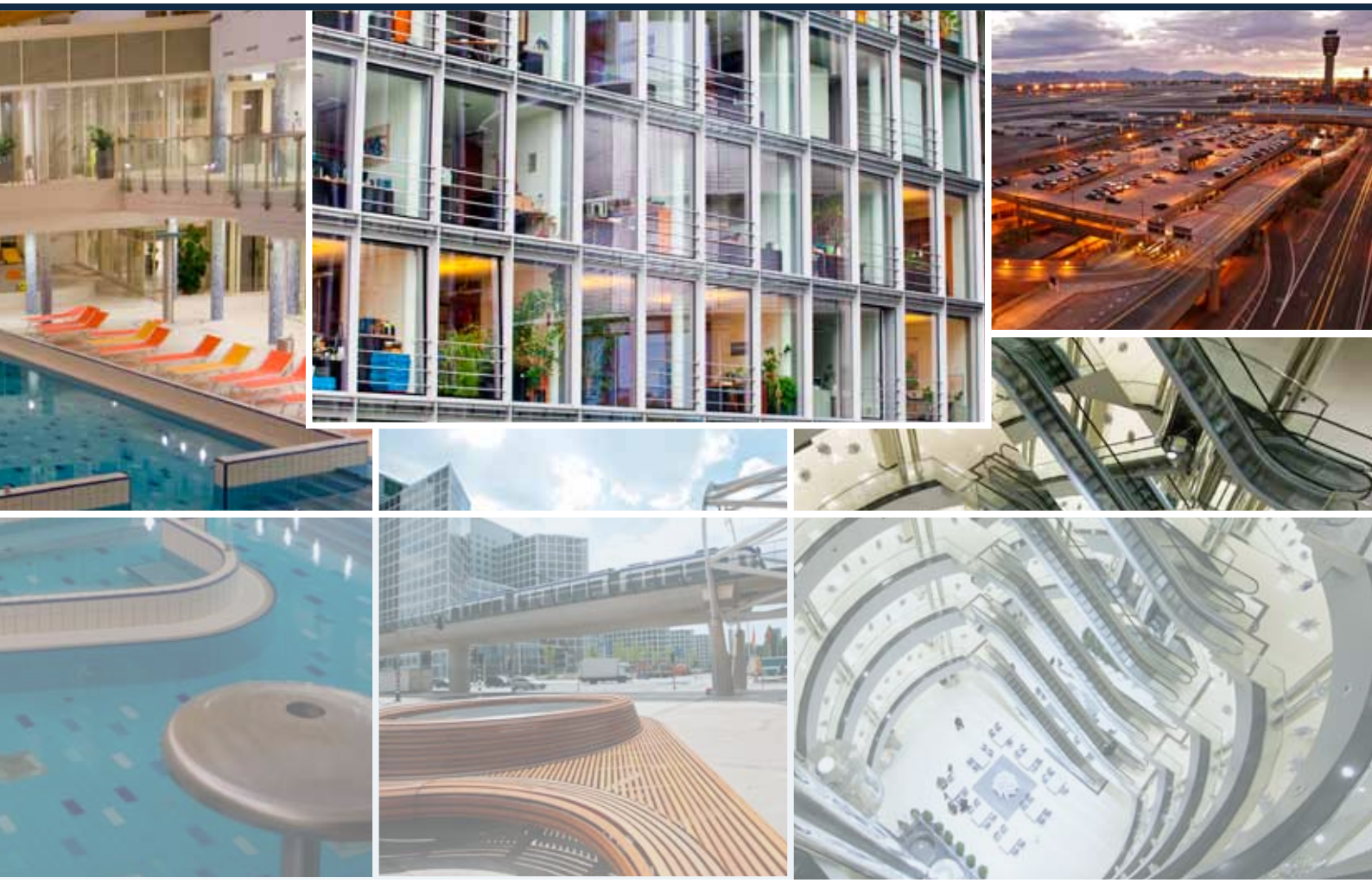
We operate worldwide through 22 of our own sales companies and also selected representatives in more than 65 countries, from the United States in the West to the Pacific Rim in the East.

Our core competence in automation spans four product lines: Sensors, Switches, Controls and Fieldbuses.

Our wide array of products includes sensors, monitoring relays, timers, energy management system, solid state relays, safety devices and fieldbus systems.

We focus our expertise on offering state-of-the-art product solutions in selected market segments.

Our customers include original equipment manufacturers of packaging machines, plastic-injection moulding machines, food and beverage production machines, conveying and material handling equipment, door and entrance control systems, lifts and escalators, as well as heating, ventilation and airconditioning devices.



DESIGNED TO MEET MARKET REQUIREMENTS

Building Automation Systems consists of the networking of electronic devices designed to monitor and control the mechanical, security, lighting, HVAC and humidity control and ventilation systems in buildings such as:

- **Shopping malls**
- **Offices**
- **Airports**
- **Hospitals**
- **Schools**
- **Carparks**
- **Production facilities**
- **Logistics centres**

Commercial Buildings and Infrastructures

New energy-efficient buildings and the improvement of existing ones are arguably the most important initiatives we can take to reduce energy consumption and limit CO_2 emissions.
Energy in these buildings is mainly used for lighting, air-conditioning, ventilation, heating, refrigeration, lifts and motors. The majority of these buildings already exist, so there are great opportunities to improve their energy performance through targeted initiatives, upgrades and retrofitting.
To meet the mandatory requirements for energy saving, building owners must comply with efficiency improvement regulations.

Production Facilities and Processes

Predictive maintenance and energy saving are probably the most important issues for improving the efficiency of machinery and reducing overall energy consumption and production downtime.
The continuous and efficient operation of equipment is a crucial element in optimising and reducing energy use. In particular, preventing equipment failure through predictive maintenance is very cost effective, both in terms of production output efficiency and in terms of operating costs. High energy users are: motors, electric heaters, lighting systems, air-conditioning units and compressors; all these have to be monitored and optimised in order to reduce energy consumption.

Metering

Energy meters/analysers	Power quality analysers	Current transformers	Double 3-phase energy meters	Web servers
EM23/EM24	WM30	CTD	EM270	VMU-C EM
EM26 /EM340	WM40	TCD	EM271	VMU-Y EM
			EM280	Em²-Server

The accurate measurement of energy consumption is the first step in the collection and analysis of the information required for effective energy management. Information about the quality of the power used can improve on-site efficiency and facilitate troubleshooting in the case of any problem to the electrical installation.

In many commercial buildings the need to control and measure the energy consumption of single users is becoming more important for an accurate cost allocation. Our energy meters and data logging systems provide information so that operators can identify consumption trends and take corrective action.

By analysing the energy consumption profile, operators can also aggregate loads and negotiate more favourable tariffs with utility companies. Alarm thresholds can be set to warn if preset limits are reached, so that corrective action can be taken. Real-time power consumption monitoring allows energy managers to anticipate overloads, avoid circuit breaks and not exceed contractual tariffs. You can now monitor in detail each single load of the installation thanks to the new Quick-fit energy meters EM270/271/280. These meters can manage 2 current inputs, so they can monitor 2 three-phase loads at the same time , or 6 single-phase channels. In addition, compact 3-phase current transformers contribute to a smart and rational use of the available space in any switch board, while pre-assembled groups of 3 miniature split-core current allows retrofitting in all the more complex situations. Finally 6-channel current sensing units (either solid- or split-core) allow to extend the granularity of the energy information to each branch of the electrical installation.

Lighting control

BACnet controller	DALI bus generator	PIR + Lux meters	Light switches	Analogue input modules	Decentral output modules
SB2WEB24	SB2DALI230	SHSQP360L SH...P90L SH...P150/150L	SHG....LS4 SHG....LS6 SHG....SLD B..X-LS4-U	BDB-INCONX-U SHPIN	BDA-RE13A-U

The use of electricity for lighting obviously has a considerable impact on energy consumption in commercial buildings, infrastructures, production facilities and logistic centres.

In the case of hospitals and airports, or in the case of shiftwork, lighting is used 24 hours per day, all year round, heavily impacting on total consumption.
Energy bills can be reduced by installing energy-efficient control systems.
Using lighting controls for dimming or turning lights on and off, such as dimmers and luminosity and occupancy sensors, energy efficiency is increased.

- Dimmers reduce the power supplied to the bulbs, limiting consumption and increasing their life cycle.
- Lux sensors dim or turn lights on or off in response to natural lighting levels.
- Presence sensors activate lights when a person is in the area and turn the lights off after the person has left.

HVAC systems

Soft starters	Environmental sensors	PIR + Lux meters	Solid state relays	Monitoring relays	Energy meters/analysers
RSBD/RSGD RSBT/RSWT	SHSU....D SHSU....L SHSU....	SHSQP360L SH...P90L SH...P150/150L	RGC1A/RGC1P RGC2A/RGC2P RGC3A/RGC3P	DPA51 DPA53 DPB51	EM210 EM110/EM111 EM112

Commercial buildings and infrastructures, production sites and logistics centres, use a large percentage of energy in HVAC systems.
This is due to the presence of a large number of people who need to be offered the most comfortable environment.

Most of the motors used in ventilation systems are simply switched on and off with no speed control.
Various switching modes are available in the new RGC1P (1-phase) and RGC3P (3-phase) solid state controllers to cater for different application needs, such as phase angle switching for speed control and light dimming and full cycle switching for temperature control.
The version with soft starting prevents high inrush currents associated with loads which have a high cold/hot resistance ratio.
RSBD and RSBT soft starters are used to limit the scroll compressor starting current thereby eliminating light flickering.
RSWT and RSGD soft starters are used to control the acceleration of pumps and ventilators to reduce mechanical stress on the motor shaft.
Presence sensors provide zoned temperature control by setting on/off time schedules for the right climate conditions.

Integrated solutions

BACnet controller	DALI bus generator	PIR + Lux meters	Light switches	Environmental sensors	Decentral I/O modules
SB2WEB24	SB2DALI230	SH...P150/150L SHSQP360L SH...P90L	B..X-LS4-U SHG....LS4 SHG....LS6 SHG....SLD	SHSU....D SHSU....L SHSU....	SHPIN.... BDB-INCONX-U BDA-RE13A-U

Carlo Gavazzi's innovative bus technology, Dupline®, allows system integrators to design and build efficient building automation systems integrating lighting control, HVAC and metering at the field level.
The Dupline® bus greatly simplifies the installation and commissioning of a building automation system. Sensors and I/O-modules are bus-powered and designed for de-central installation, hence the cabling is merely a question of multi-dropping the 2-wire bus from module to module.
This provides a significant installation cost reduction compared to the traditional star wiring, where every signal needs a wire back to the controller, and every module needs power supply connection. Furthermore, the system provides high flexibility for last minute changes and future enhancements, because the 2-wire cable is already available throughout the installation, so it is easy to add extra modules.

The brain in the system is the SB2WEB BACnet controller, which performs the intelligent functions, and at the same time provides the link to any upper level BMS through BACnet/IP. During configuration, the PC-based programming tool scans the Dupline® network and automatically assigns addresses to all the data points and creates the relevant BACnet objects. This allows any BACnet compatible DDC controller to use Dupline® as remote I/O by reading and controlling the data points through standard BACnet objects.
In the lighting control system, Dupline® is used for presence and movement detectors, lux sensors and light switches etc, while the DALI bus is used for the lighting actuators (ballasts).

The DALI controller is a 2-DIN module, which connects to the Dupline® bus at any point. The SB2WEB provides a range of pre-defined lighting functions, including the much used constant light control.

Parking guidance system

Channel generator	Master zone counter	Ultrasonic sensors	LED indicators	Carpark displays	Carpark software
GP32900003	GPMZ-SET	GP6220.. GP6240..	GP6289.. GP6265..	GP676330.. GP676301..	DUP-PGS-SW

The Parking Guidance System (PGS) is based on Carlo Gavazzi's expertise in sensing and communication technology within the industrial automation market. Our patented Dupline® 3-wire bus is a tried and tested network with more than 150,000 installations worldwide. The PGS is completely scalable and can be used in any type and size of indoor carpark. In spite of the advanced functions, the system is surprisingly easy to install and configure, providing the detection, counting and indication of vacant spaces. By means of dynamic green arrows, drivers are directed to the closest free parking bay, resulting in considerable time-saving.

Our Parking Guidance System not only provides drivers with more convenience and less stress, but by monitoring the whole situation of the parking area it increases efficiency in car flow, reducing energy costs.

Cars can be directed to pre-selected areas of the carpark, while the system ensures that lighting and ventilation systems are disabled in unoccupied zones. Carlo Gavazzi's product range for carparks, besides the controller, sensors, LED indicators and displays, also includes a series of easy to install 'loop detectors'. Based on an inductive measurement principle, a coil of wire is buried in the ground, detecting cars driving over it. Typically it is installed in the ground in front of a security entry gate or to detect the occupancy of outdoor parking bays. In addition to the single space detection system, Carlo Gavazzi also provides a zone count solution. Sensors detect the cars entering and leaving the zones, thereby allowing the master zone counter to keep track of the available spaces and showing them on parking zone displays. Combined single spot and count systems are possible resulting in great advantages.

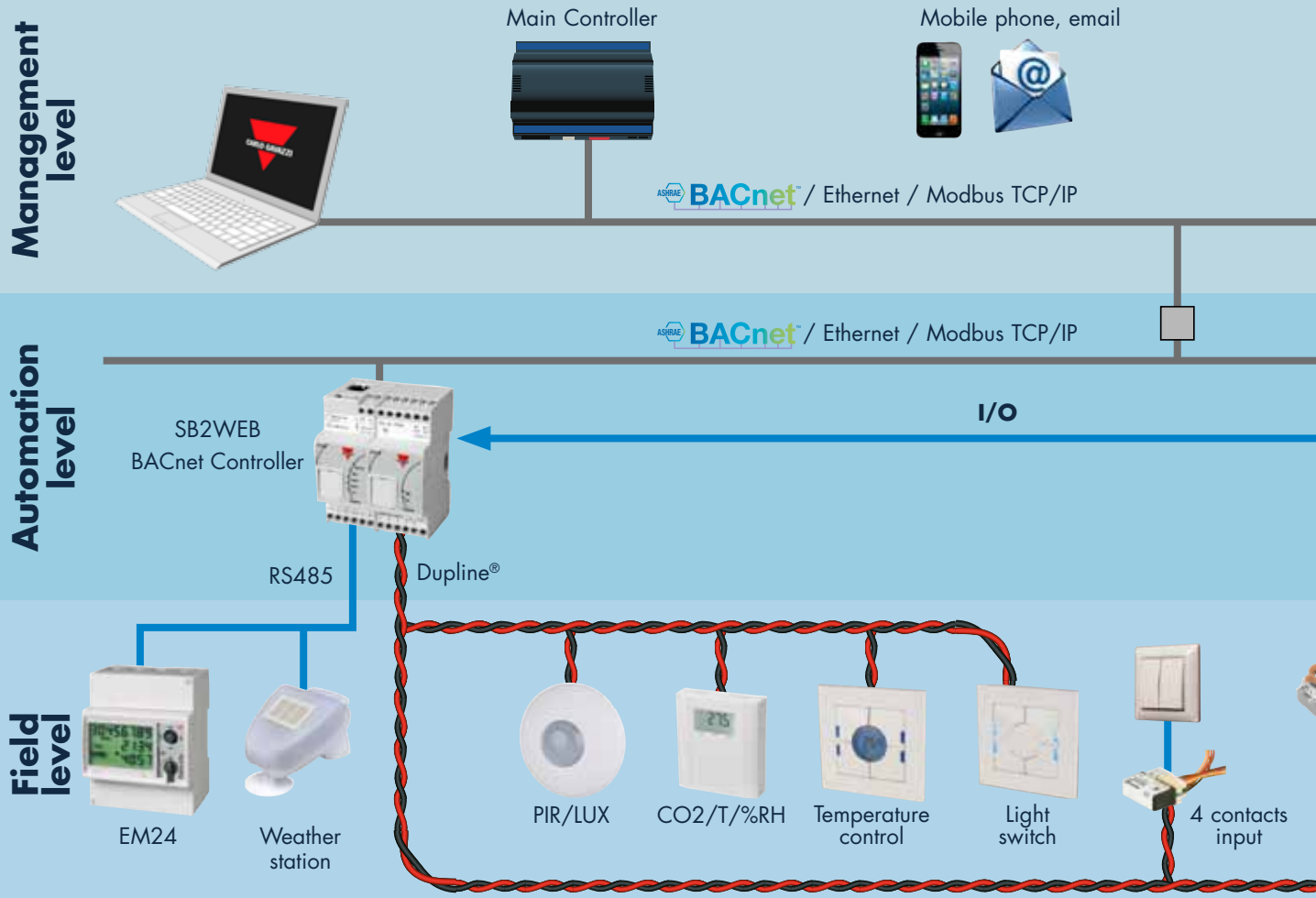
A specific web app has been developed so as to provide an easy remote access to the carpark occupancy data via smart phone and an improved carpark revenue and management via the booking system.

Monitoring and protection

Power transducers	Current transformers	3-phase monitoring relays	Current monitoring relays	Surge protection devices
CPT	E83 A82 MP3	DPA51 DPA53	DIA53 DIA01	DSF A/P DSB A/P DSB51XXDP

Good voltage level and stability are fundamental requirements for reliable equipment operation; too low or too high voltage levels could cause failures. It is important to monitor the instant level of voltage as well as voltage sags and transients which may occur over time. In a production facility it is quite common to use and add to electrical loads, especially these with high in-rush current. Voltage sags indicate that a system is not able to respond properly to load requirements, leading to production process interruptions.
Monitoring voltage balance in a three-phase power distribution system is crucial for the efficiency of motors and any three-phase load; an unbalanced supply can cause poor performance of the equipment, leading to premature motor failure due to increased mechanical stress. Controlling harmonic distortion helps prevent failures of critical equipment such as motors and transformers; the main problems caused by harmonics are overheating of motor windings and transformers, higher susceptibility to voltage sags, excessive current to neutral conductors and noise, all of which reduce the lifespan of the equipment. Within our product range, we can offer devices to monitor the correct level of voltage and frequency of single and 3-phase systems. Phase sequence and loss, along with the voltage, can be detected, notifying the user if a system failure occurs. The voltage level of the start-up battery can also be properly monitored. We can also offer current monitoring devices capable of sending alarm signals when an over-current situation is detected.
Our new Surge Protection devices can be used in Building Automation applications, in order to protect devices connected to the mains. A special range has been developed for the protection of Dupline® buses as well as for RS485 communication lines.

Lighting and environmental control



Dupline® into a BAS infrastructure

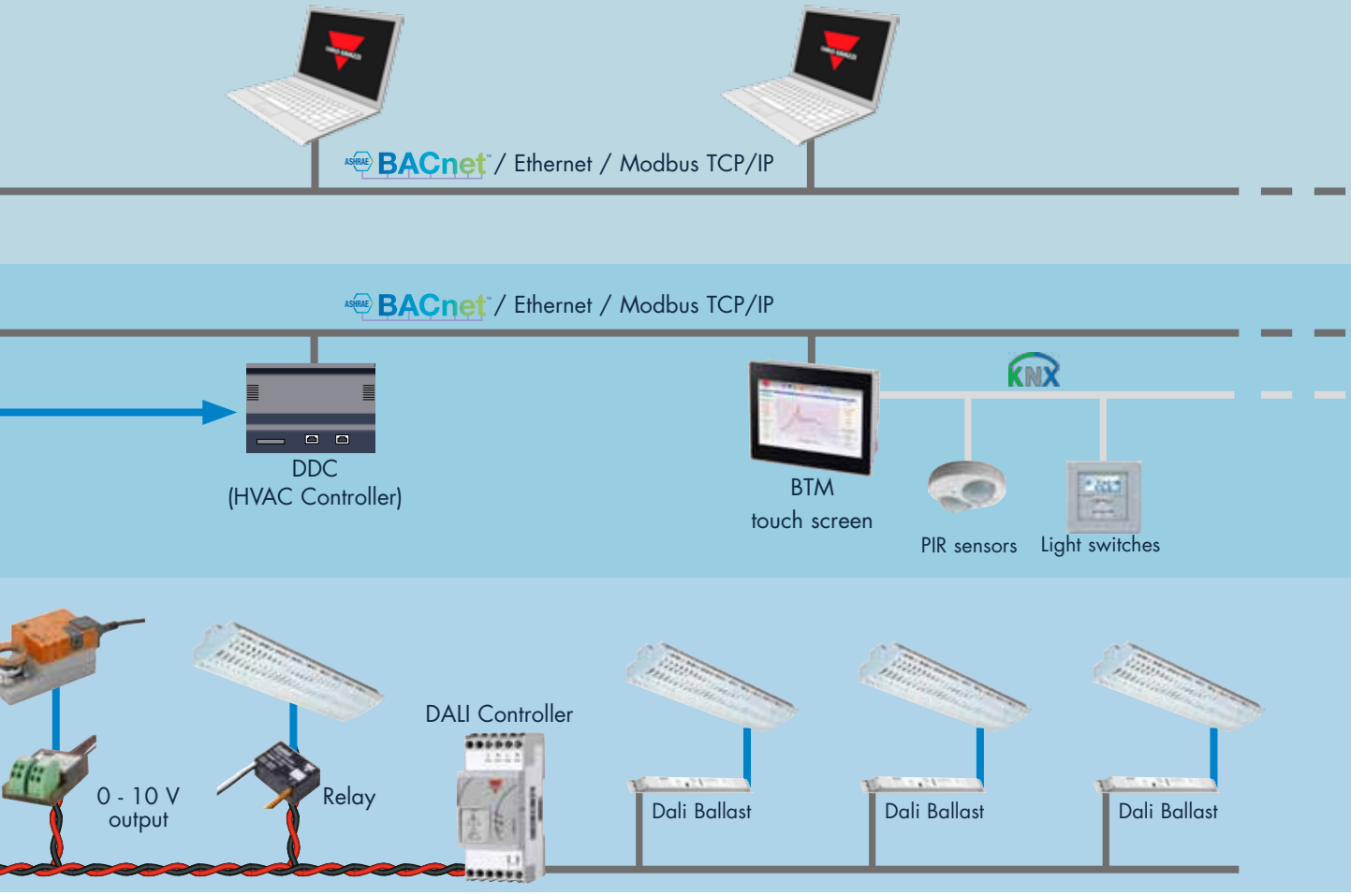
The Dupline® fieldbus carries out the task to link together all the field level devices in a simple and cost-effective way, and to cetralize the data in the BACnet controller SB2WEB.
Any DCC and BMS front end with the capability to act as BACnet client then have access to all the Dupline® data points via the BACnet/IP connection, thereby eliminating the need for hardwired I/O.

The SB2WEB programmable functions include several pre-defined lighting control functions for energy saving, based on presence detection, lux level and dimming of lights via the DALI bus. All of the functions can be controlled and managed via BACnet objects, for example adjusting operating parameters like lux threshold and energy saving timer.

Dupline® at a glance

- 2-wire bus with free topology
- Bus-powered sensors and I/O-modules
- Long transmission distance
- No need for special cables (no shield required)
- High noise immunity
- Easy installation and commissioning
- Technology proven in 100.000+ industrial installations
- Cost-effective

BACnet is standard communications protocol for building automation and control networks. It is an ASHRAE, ANSI, and ISO standard protocol too.



BTM touch screen

The BTM touch screen is now available with BACnet on board in order to control and visualise any data point with an eye-catching user interface: the whole building is under control just with a fingertip.

In addition, using the new KNX plug-in module, the BTM becomes the perfect gateway to integrate Carlo Gavazzi's home and building automation system with the KNX products.

Dupline® benefits

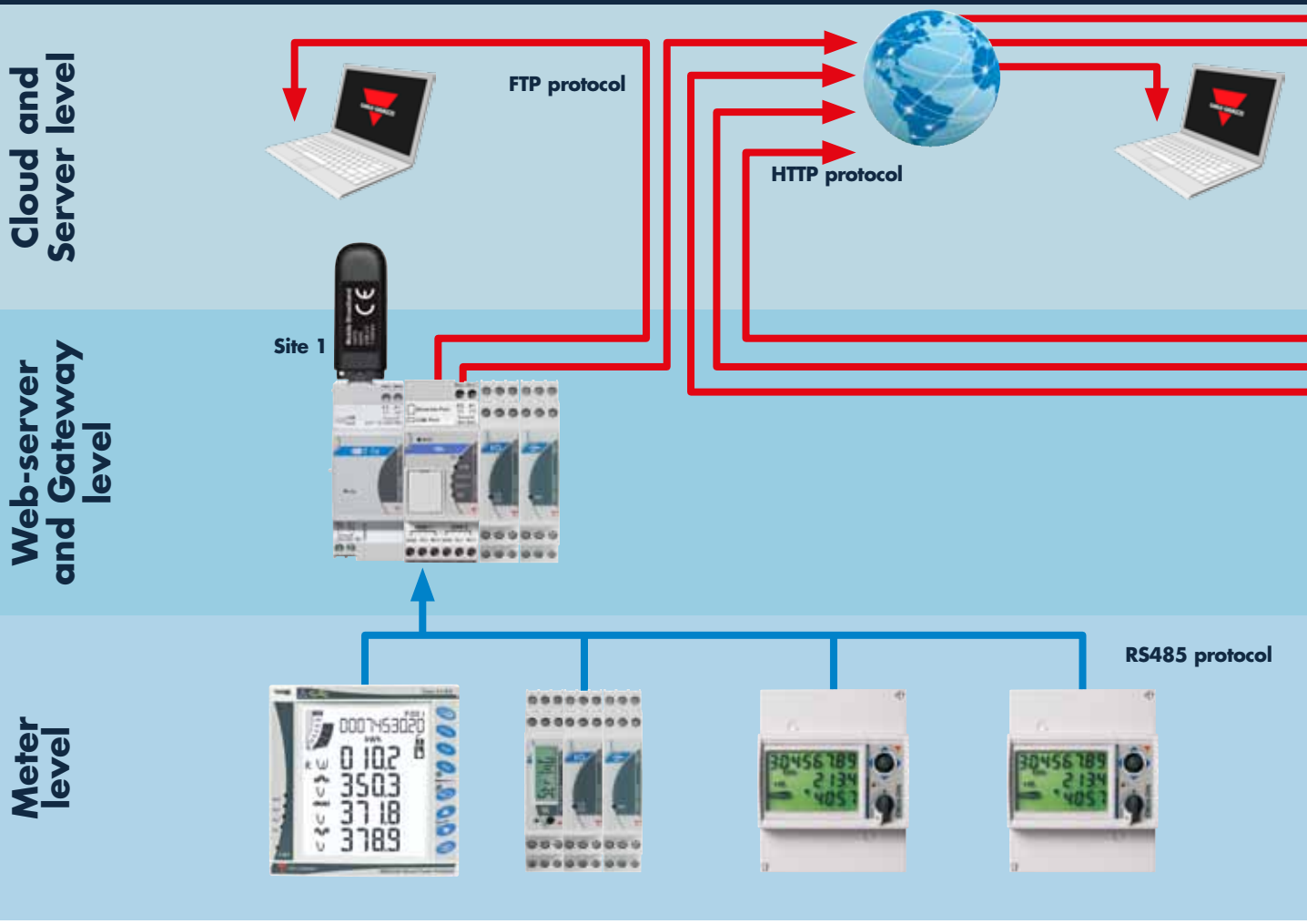
Benefits for system integrators

- Simplified system design
- Easier planning
- Reduced installation time
- Reduced commissioning time
- High flexibility for last minute changes and system enhancements
- Enhanced diagnostic
- Reduced cost of implementation

Benefits for building owners

- High flexibility for future enhancements
- Reduced maintenance cost
- Reduced cost of implementation

Energy efficiency monitoring



VMU-C EM into an Energy Monitoring architecture

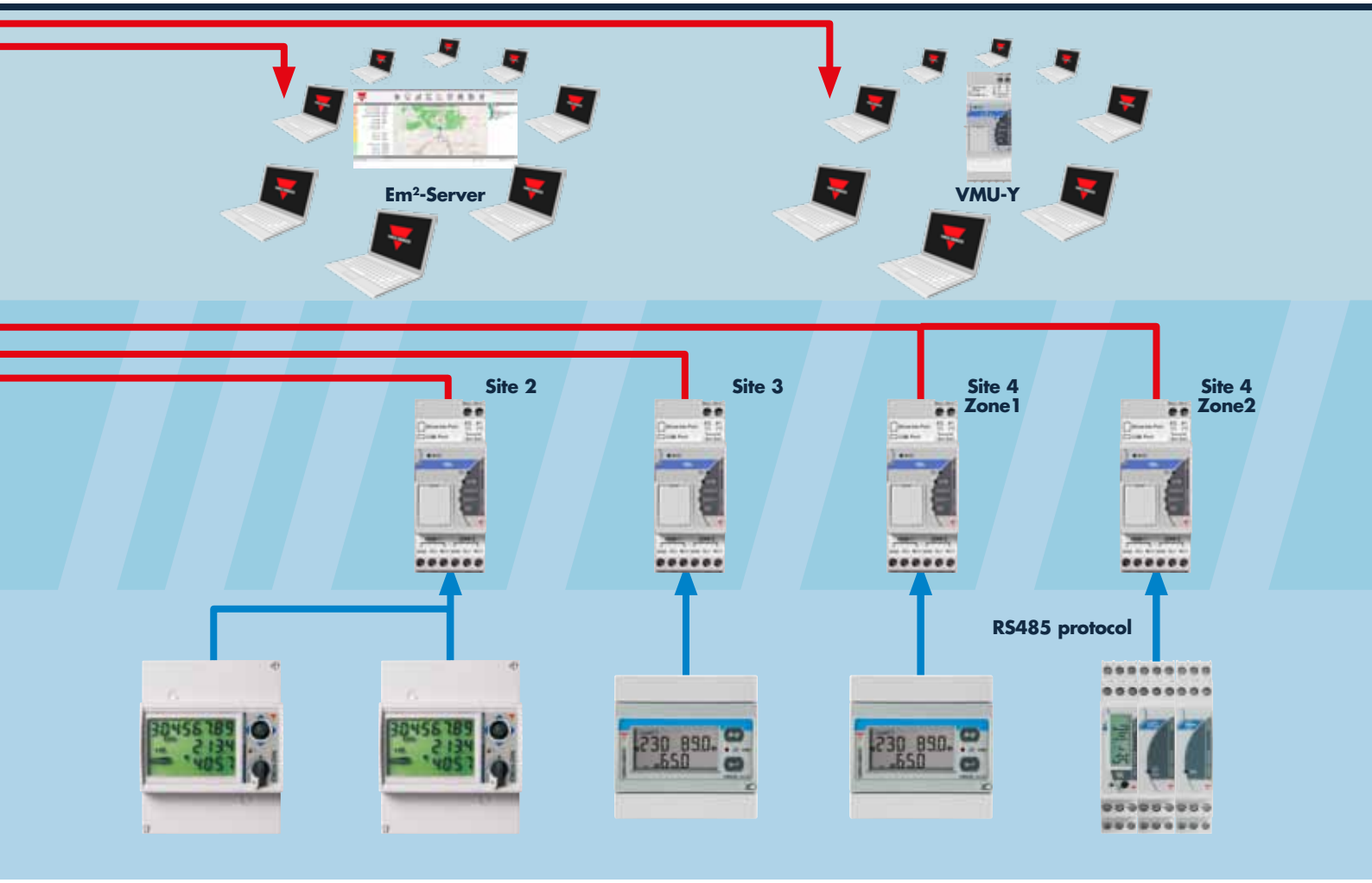
The VMU-C EM is the core solution for effective Energy Monitoring in applications of all sizes. It collects measurements from energy meters through the fieldbus; it stores information (variables and alarms) in its local database and displays it through its web-based graphical user interface.

The whole system set-up and operation is possible via the VMU-C's web interface, without any external software.

The VMU-C EM can exchange data with other systems by means of standard FTP/HTTP communication. Multi-site applications can be managed by adding either the Em²-Server or the VMU-Y EM to the VMU-C EM powered installations.

VMU-C EM at a glance

- No crash or compatibility problems due to different operative systems, different languages, libraries, etc.
- Improved IT security
- Application-focused software embedded inside industrial grade hardware: no need for a dedicated PC for monitoring
- On-site database
- Polling device, data-logger and Ethernet gateway in a single compact unit
- Modular solution for additional inputs/outputs
- Optional modular modem for wireless Ethernet connections
- Scalability to multi-site applications by means of VMU-Y + Em²-Server solutions



Em²-Server multi-site cloud solution at a glance

- Multi-site management software based on Virtual Machine concept
- Flexible operation and set-up
- Reliable data communication with VMU-C EM
- Up to 100 geographically different sites can be managed with a single unit
- A single supplier for energy meters, gateways and data management solutions
- Scalable solution

VMU-Y EM multi-site solution at a glance

- Multi-site management software embedded in compact hardware
- Plug and play operation and set-up
- Reliable data communication with VMU-C EM
- Up to 10 geographically different sites can be managed with a single unit
- A single supplier for energy meters, gateways and data management solutions

Our product range

BACnet controller

SB2WEB24

- Multi-protocol device
- Manages up to 7 Dupline® Bus segments
- Connects directly to Energy Meters via Modbus RS485
- Any data point and internal value available as BACnet object
- BTL certified

MAIN FEATURES
- Easy and fast configuration
- Dimensions: 2-DIN modules
- DC power supply

Wired bus generator

SH2MCG24

- Connection to SH2WEB24 via internal bus or terminals via the high speed bus
- Up to 7 SH2MCG24 can be connected on the same network, considering the sum of SH2MCG24 and SH2WBU24

MAIN FEATURES
- Dimensions: 2-DIN modules
- DC power supply

DALI bus generator

SB2DALI230

- Interfaces the Dupline® bus to standard DALI lighting actuators
- Operates as DALI controller and power supply with possibility to connect up to 64 ballasts to the DALI bus output
- Can be linked to Dupline® at any point in the installation
- Multiple SB2DALI230 units can be connected to the same Dupline® bus

MAIN FEATURES
- Allows the powerful combination of Dupline® and DALI
- Compact dimension: 2-DIN module
- 230 VAC power supply

Repeater modules

SB2REP230

- Regenerates the Dupline® carrier signal
- Output current load up to 300 mA
- Extends network lenght
- Isolates the primary and secondary Dupline®
- 230 VAC power supply

MAIN FEATURES
- Extends the lenght of the bus cable
- 230 VAC power supply suitable for decentralised installation
- Compact 2-Din housing

Digital input modules 4 inputs

SH2INDI424

- 4 digital inputs NPN, PNP, voltage free
- The 4 inputs can be configured as contact or counter
- LED indication for power supply, dupline bus, input activated
- Connection to other cabinet modules via local bus

MAIN FEATURES
- Dimensions: 2-DIN modules
- DC power supply

Output modules solid state relay

SH2SSTRI424

- 4 triac output
- Module load: 4 x 10 W
- LED-indications for supply, bus and outputs status
- Connection to other cabinet modules via local bus
- Push button for local on/off switching

MAIN FEATURES
- Dimensions: 2-DIN modules
- DC power supply

Relay modules

SH2RE16A4

- 4 separate outputs relay
- LED-indications for supply, bus and outputs status
- Connection to other cabinet modules via local bus
- Push button for local on/off switching

MAIN FEATURES
- Dimensions: 2-DIN modules
- Bus supplied

Relay modules with energy reading

SH2RE16A2E230

- 2 outputs relay
- Energy reading
- LED-indications for supply, bus and outputs status
- Connection to other cabinet modules via local bus
- Push button for local on/off switching

MAIN FEATURES
- Dimensions: 2-DIN modules
- 230V supplied

Our product range

Decentral output modules

BDA-RE13A-U

- Small sized single relay output
- Load: 16 A/250 VAC
- Withstands 130 A inrush current

MAIN FEATURES
- Bus powered

Up/down control for DC motor

SHDRODC230

- AC powered small dimension 2 x 5 A relay output for control of roller blind motor
- Relay interlock function for roller blind motor protection
- cUL approved

MAIN FEATURES
- Design for mounting in eurobox
- Relay load 5 A

Up/down control for AC motor

SH2ROAC224

- Up/down control of 2 AC rollerblind motors
- LED indication for power supply, dupline bus, motor up, motor down
- Connection to other cabinet modules via local bus
- Push button for local on/off switching

MAIN FEATURES
- Dimensions: 2-DIN modules
- DC power supply

Dimmer modules up to 500 W

SH2D500W1230

- Universal dimmer switch for R, L, C up to 500 W and LED loads
- Integrated heat sink for temperature dissipation
- Automatic load detection for L, R, C load
- Connection to other cabinet modules via local bus
- Push button for local on/off switching

MAIN FEATURES
- Dimensions: 2-DIN modules
- 230 V supplied

Dimmer modules 1-10 V

SH2D10V424

- Switching and dimming adjustable ballasts 1 to 10 V
- 4 independent dimmable outputs
- LED-indications for supply, bus and outputs status
- Connection to other cabinet modules via local bus
- Push button for local on/off switching

MAIN FEATURES
- Dimensions: 2-DIN modules
- DC power supply

Analogue input modules

SHPINA224 /SHPINV324 SHPINV2T1P124

- Ranges: 0-10V, 0-20 mA, 4-20 mA
- 24 VDC powered
- Small dimension

MAIN FEATURES
- Small dimension makes it easy to install decentrally
- SHPINV324: 3 x 0-10V inputs
- SHPINA224: 2 x 0-20 mA / 4-20 mA inputs (configurable) SHPINV2T1P124: 2 x 0-10V + 1 x 10K3 + 1 x 1-11K inputs

Temperature resistor input modules

SHPINNI2 SHPINT1P1

- Ranges: Pt1000, Ni1000, 10K3 thermistor, 1-11 K potentiometer
- Bus-powered
- Small dimension

MAIN FEATURES
- Small dimension makes it easy to install with existing meters
- Buspowered, so no local power supply needed
- Option for count reset via Smart Dupline

Pulse counter modules

SHPINCNT4 SHPINCNTS04

- Pulse counter module with 4 inputs
- Available with standard S04 inputs and low current inputs
- The count values are stored in non-volatile memory on board
- Input count frequency up to 100 Hz
- Inputs can also be used as digital contact inputs

MAIN FEATURES
- Small dimension makes it easy to install with existing meters
- Buspowered, so no local power supply needed
- Option for count reset via Smart Dupline®

Our product range

Analogue output modules

SHPOUTV224

- Output modules with two 0-10 V outputs
- Small dimensions for decentralised installations

MAIN FEATURES
- DC power supply

Dupline® fire damper I/O modules

SBB4I2O230

- Robust I/O-module for decentralised installation near fire dampers
- Designed to control two fire dampers
- 4 contact inputs (voltage-free)
- 2 relay outputs (230 VAC/3 A)
- 230 VAC power supply

MAIN FEATURES
- Box for decentralised mounting near or directly on fire dampers
- Easy wiring of the system
- Cost-effective design

Voltage input modules

BDA-INVOL-U

- Input voltage module for building automation
- 1 opto-isolated voltage input 90-265 VAC

MAIN FEATURES
- Compact housing
- Bus powered

Light switch interfaces

BDB-INCONx-U
BDB-IOCP8x-U

- Small-sized 4 or 8 I/O modules
- 4 or 8 contact inputs for push buttons

MAIN FEATURES
- Compact housing
- Bus powered

Glass touch switches

SHG060WLS4/BLS4
SHG503WLS6/BLS6

- 4 or 6 individually programmable keys
- Black or white glass
- Backlight ON when the hand nears the glass
- Programmable buzzer when a key is pressed
- Integrated temperature sensor, range -9° to 50°C

MAIN FEATURES
- Power supply: 24 VDC
- Mounting: 503 box, Ø60 box

Glass touch dimming

SHG060BSLD/WSLD
SHG503BSLD/WSLD

- 4 dimmable outputs or on/off functions. The push buttons can be programmed to control up to
- The dimming level is changed by moving the finger over the slider
- Black or white glass
- Backlight ON when the hand nears the glass
- Programmable buzzer when a key is pressed

MAIN FEATURES
- Power supply: 24 VDC
- Mounting: 503 box, Ø60 box

Glass touch temperature

SHG060BSLT/WSLT
SHG503BSLT/WSLT

- It can control one temperature function managing 3 setpoints with the slider and on/off functions
- Integrated temperature sensor, range -9° to 50°C
- White and black glass
- Backlight ON when the hand nears the glass
- Programmable buzzer when a key is pressed
- Shows current room temperature and a secondary temperature

MAIN FEATURES
- Power supply: 24 VDC
- Mounting: 503 box, Ø60 box

Light switches

B4X-LS4-U
B5X-LS4-U

- 4 individually programmable push button inputs
- 4 individually programmable LEDs for true response
- Bus powered, no external supply required

MAIN FEATURES
- B4X-LS4-U: Developed to fit into wall socket and frames from Fuga, NIKO and Bticino
- B5X-LS4-U: Developed to fit into wall socket and frames from Elko, Gira and Jung

Our product range

Light switch + temperature and humidity sensor

SHA4XLS4TH
SHE5XLS4TH

- 4 individually programmable push button
- Integrated temperature and humidity sensor
- Temperature range: -40° to 60°C
- Humidity range: 5 to 95 %

MAIN FEATURES
- SHA4XLS4TH: Developed to fit into wall socket and frames from Fuga, NIKO and Bticino
- SHE5XLS4TH: Developed to fit into wall socket and frames from Elko, Gira and Jung

Temperature displays

SHA4XTEMDIS
SHE5XTEMDIS

- Temperature controller with display
- Shows current room, outdoor and auxiliary temperature
- Turns on/off heating and cooling
- Energy Save through 3 different setpoints: comfort, activity, economy

MAIN FEATURES
- Bus powered
- SHA: Developed to fit into wall socket from Fuga, NICO an Bticino
- SHE: Developed to fit into wall socket from Elko, Gira and Jung

90° PIR + Lux meters

SHA4XP90L / SHE5XP90L

- Passive infrared detector (PIR)
- Detects movement and presence
- Indoor and outdoor applications
- Operating angle: 90°
- Lighting measuring range: 0 to 20 K lux

MAIN FEATURES
- Bus powered
- Walk test: LED indication
- Programmable sensitivity

150° PIR + Lux meters

SH..XP150/150L

- Passive infrared detector (PIR)
- Detects movement and presence
- Indoor and outdoor applications
- Operating angle: 150°
- Lighting measuring range: 0 to 20 K lux

MAIN FEATURES
- Bus powered
- Walk test: LED indication
- Programmable sensitivity

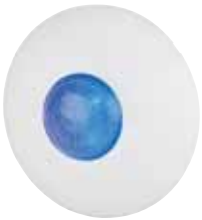
90° PIR + Lux meters

SHSDP90L / SHSBP90L
SHSPP90L

- Passive infrared detector (PIR)
- Detects movement and presence
- Indoor and outdoor applications
- Operating angle: 90°
- Lighting measuring range: 0 to 20 K lux

MAIN FEATURES
- Bus powered
- Walk test: LED indication
- Programmable sensitivity

360° PIR + Lux meters



SHSQP360L

- Passive infrared detector (PIR)
- Detects movement and presence
- Indoor and outdoor applications
- Operating angle: 360°
- Lighting measuring range: 0 to 20 K lux

MAIN FEATURES
- Bus powered
- Walk test: LED indication
- Programmable sensitivity

Touch screen/ data logger

BTM-T4-24

- 4" colour display
- Easy setup of graphic pages and functions with the powerful software Wizard
- Activation of internet links through touch buttons
- Support viewing from IP cameras

MAIN FEATURES
- Ethernet connection
- BACnet protocol available
- USB port, SD memory, Modbus RTU serial port
- KNX compatibility plug-in

Touch screen/ data logger

BTM-T7-24

- 7" colour display
- Easy setup of graphic pages and functions with the powerful software Wizard
- Activation of internet links through touch buttons
- Support viewing from IP cameras

MAIN FEATURES
- Ethernet connection
- BACnet protocol available
- USB port, SD memory, Modbus RTU serial port
- KNX compatibility plug-in

Our product range

Weather station

SHOWEAGPS

- Light, wind, temperature measurement
- Ranges: 0 to 100K lux, 0 to 35 m/s, -40° to 80°C
- Rain sensor included

MAIN FEATURES
- Integrated GPS receiver
- Modbus RS485 protocol

Lux meters for outdoor installation

BSH-LUX-U

- Lighting measuring range: 0 to 20K lux
- For indoor and outdoor installation
- Working temperature: -30° to +60°C

MAIN FEATURES
- Easily mountable
- Bus powered

Environmental sensors

SHSU....D
SHSU....L
SHSU....

- Room sensors for CO_2, temperature and humidity measurement
- Available with display, RGB LED or neutral
- Temperature range: -20°C to +50°C
- Humidity range: 0 to 100 %RH
- CO_2 range: 0 to 2000 ppm

MAIN FEATURES
- Easily mountable
- Bus powered
- Low current consumption

Outdoor temperature sensors

BSI-TEMANAx-U

- Temperature range: -40° to +60°C
- BSI-TEMANA-U is delivered with a M12 plug
- BSI-TEMANAB-U is delivered with 2 m cable

MAIN FEATURES
- Easily mountable
- Bus powered

Ultrasonic sensors

GP62xxxxxx724

- Ultrasonic sensor for detection of cars
- Option for built-in 2-colour LED indication (red/green, red/blue)
- Option for built-in bus-controlled 3-colour LED indication (red/green/amber, red/green/blue, red/blue/amber)
- Option to use external LED indicator (2-colour or 3-colour)
- Power and communication via Dupline 3-wire bus
- Protected against dust and moisture
- cUL approved

MAIN FEATURES
- Fast and easy wiring through push-wire connectors
- Built-in temperature compensation
- Extremely high detection accuracy

2-colour LED indicators

GP6289000x724

- External LED indicator for ultrasonic sensor
- 2-colour LED indication (red/green , red/blue)
- Controlled directly from carpark sensor G62402224724 output
- Low power consumption
- Protected against dust and moisture
- cUL approved

MAIN FEATURES
- Fast and easy wiring through push-wire connectors
- Easy mounting on ceiling or cable tray
- Clear and bright indication for the drivers

Bus-controlled 3-colour LED indicators

GP6265230x724

- External 3-colour LED indication (red/green/amber, red/green/blue, red/blue/amber)
- Power and control of colour via Dupline 3-wire bus
- LED colour can be controlled from PC software or Controller
- Protected against dust and moisture
- cUL approved

MAIN FEATURES
- Possibility to indicate space status (e.g. booked, time exceeded etc.)
- Possibility to install external indicators in one long bus-line along the lane
- Clear and bright indication for the drivers

Dupline® master modules

GP34960005700

- Driver of power and communication for one bus segment with up to 120 sensors
- Powered from 28 VDC
- Modbus-RTU communication over RS485 / TCP with server running software
- DIN-rail mounting
- cUL approved

MAIN FEATURES
- Required to create a bus segment
- High current drive capability
- Free topology wiring of the bus

Our product range

Carpark monitor

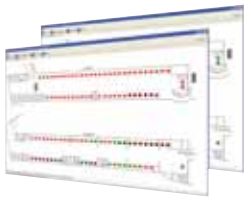
GP34829091724

- Programmable device for monitoring of several spaces
- Controls carpark displays via RS485 connection
- Slave mode for local segment monitoring, master mode for area monitoring
- DIN-rail mounting
- cUL approved

MAIN FEATURES

- Easy programming via handheld tool
- Up to 480 slave units in one system
- Possibility to enter offset value for display

Carpark software



DUP-PGS-SWxxxx

- Monitors all spaces in the PGS continuously
- Graphical overview of the status of the spaces in the parking facility
- Bar graphs and trend curves for occupancy rates in the different areas
- Logging of all parking incidents to provide possibility for historical analyzes
- Monitoring and logging of alarms like "exceeded parking time", "area almost full" etc.

MAIN FEATURES

- Real-time overview for the parking operators
- Analysis of historical data for optimized carpark performance
- Booking feature with easy selection of the relevant spaces

Count modules

GP32950030700

- Controller in the Dupline® zone counting system
- Micro Linux PC with Ethernet port and Web-server
- Manages up to 3840 parking spaces in multiple zones
- Each zone can have multiple entry and exit points
- Easy configuration, monitoring and count adjustment via web-server

MAIN FEATURES

- Mixed systems with zone counting and single space detection possible
- Option to detect the split between handicap and standard spaces occupancy
- Requires 2 pcs GP32900003700 for external bus connection

Channel generator

GP32900003

- Channel generator for the Dupline® 3-wire bus in zone count systems
- 24 VDC Power Supply
- Connect up to 120 count sensors via Dupline® L1 3-wire bus

MAIN FEATURES

- Provides power supply and communication line for the carpark sensors and monitors

Master zone counter

GPMZC-SET

- Complete set of cabinet modules required for zone counting

MAIN FEATURES

- Dupline® ultrasonic sensors, loop detectors or photoelectric sensors can be used
- Mixed systems with zone counting and single space detection possible

Carpark programmer

GP73800080

- Handheld programmer for sensors and Carpark Monitors
- Used to enter device addresses and operation modes
- Can be used as test unit to monitor status of spaces
- Used to trigger global calibration of sensors
- Battery powered

MAIN FEATURES

- Easy to use
- Programmer and test unit in one device
- Possibility to simulate sensors

Carpark displays

GP6763xxxx

- Display the number of available car spaces
- Various types available with different number of digits and with alphanumeric indication
- Indoor and outdoor version available
- 24 VDC DC-powered

MAIN FEATURES

- Clear indication with long distance visibility
- Aesthetic appearence
- Different operation modes selectable via DIP-switches

Carpark displays

GP6763xxxx

- Display the number of available car spaces
- Detect and display the difference between standard and disabled parking spaces
- Various types available with different number of digits and with alphanumeric indication
- Indoor and outdoor version available
- 24 VDC DC-powered

MAIN FEATURES

- Clear indication with long distance visibility
- Aesthetic appearence
- Different operation modes selectable via DIP-switches

Our product range

1-phase energy meters up to 45A

EM110

- 1 DIN module
- Electromechanical totalizer
- Bi-directional energy metering, 7 digits cl. B (EN50470)
- Measuring inputs: 115/230 VAC, 45A

MAIN FEATURES
- Self-powered
- Pulse output
- Sealable terminal covers
- CE, MID (PFB)

1-phase energy analysers up to 45A

EM111

- 1 DIN module
- Backlit touch LCD
- Measurement of voltage, current, power, power factor and frequency
- Bi-directional energy metering, 7 digits cl. B (EN50470)
- Measuring inputs: 115/230 VAC, 45A

MAIN FEATURES
- Self-powered
- Dual tariff management
- Pulse output or RS485 Modbus or M-Bus port
- Sealable terminal covers
- CE, MID (PFB)

1-phase energy analysers up to 100A

EM112

- 2 DIN modules
- Backlit touch LCD
- Display backup by supercapacitor
- Measurement of voltage, current, power, power factor and frequency
- Bi-directional energy metering, 8 digits, cl. B (EN50470)
- Measuring inputs: 115/230 VAC, 100 A

MAIN FEATURES
- Self-powered
- Dual tariff management
- Pulse output or RS485 Modbus or M-Bus port
- Sealable terminal covers
- CE, MID (PFB)

3-phase energy analysers for direct current up to 65A

EM340

- 3 DIN modules
- Backlit touch LCD
- Measurement of voltage, current, power, power factor and frequency
- Bi-directional energy metering, 3x 8-digit, cl. B (EN50470)
- Measuring inputs: 230 to 400 VLL AC, 65A

MAIN FEATURES
- Self-powered
- Dual tariff management
- Pulse output or RS485 Modbus or M-Bus port
- Sealable terminal covers
- CE, MID (PFA and PFB)

3-phase energy analysers for 5A or 0.333mV CTs

EM210

- 4 DIN modules or 72 x 72 mm
- LCD with two installation options
- Measurement of voltage, current, power, power factor and frequency
- Bi-directional energy metering, 3 x 3-digit or 8-digit readout, cl. B (EN50470)
- Voltage inputs: 3x230(400) VAC; Current inputs: 5 A CT (AV version) or 0.333mV from CTV-xX sensors (MV version)

MAIN FEATURES
- Self-power supply (230-400V aux power supply in MID version)
- Pulse output and optionally: RS485 Modbus RTU, high speed (up to115 kbps)
- Sealable terminal covers
- CE, cULus, MID (only 5A, aux power supply version)

3-phase energy meters/analysers

EM23 DIN / EM24 DIN

- 4 DIN modules
- 3-phase energy meters with direct connection
- Current input up to 65 A
- Class B (kWh) acc. to EN50470
- Pulse open collector output
- Modbus communication port
- M-bus or Dupline® port (EM24)

MAIN FEATURES
- Direct measurement in a very compact housing to save space
- Suitable for measuring generated and consumed energy (EM24)
- CE, MID, cULus (only EM24 5A)

3-phase energy analysers

EM26 96

- 96 x 96 mm housing, only 45 mm behind the panel
- 3-phase energy meters with CT/VT connection
- Primary current input: 5 A
- Class B (kWh) acc. to EN50470
- Pulse/alarm outputs
- Modbus communication port

MAIN FEATURES
- Energy analyser in a very compact housing to save space
- Suitable to measure generated and consumed energy
- CE, MID, cULus

3-phase power quality analysers

WM30 96

- 96 x 96 mm panel mounting housing
- Accuracy 0.2 % (voltage, current)
- Universal power supply
- Front protection degree IP65, NEMA4X, NEMA12
- cULus approved

MAIN FEATURES
- Provides installation data to a SCADA to manage the whole system
- Modular housing to build the instrument according to the real application needs
- Modbus, Ethernet, EtherNet/IP, Profibus, BACnet (IP and MS/TP) communication ports

Our product range

3-phase power quality analysers

WM40 96

- 96 x 96 mm panel mounting housing
- Accuracy 0.2 % (voltage, current)
- Universal power supply
- Front protection degree IP65, NEMA4X, NEMA12
- cULus approved

MAIN FEATURES

- Built-in datalogger for instantaneous variables, dmd profiles and events
- Modular housing to build the instrument according to the real application needs
- Modbus, Ethernet, EtherNet/IP, Profibus, BACnet (IP and MS/TP) communication ports

Double 3-phase energy meters

EM270 + TCD X

- 4 DIN modules or 72 x 72 mm
- Triple 3-phase energy meter
- Current measurement by triple CT solid core with RJ plug
- Equivalent to class 1 (kWh)
- Two pulse open collectors and serial
- RS485 outputs

MAIN FEATURES

- Save 90% of the installation time
- Voltage and serial bus daisy chain installation
- Fast and error-proof CT connection with CT ratio self-recognising

Double 3-phase energy meters

EM271 + TCD M

- 4 DIN modules or 72 x 72 mm
- Triple 3-phase energy meter for retrofit
- Current measurement by triple CT split-core with RJ plug
- Equivalent to class 1 (kWh)
- Two pulse open collectors and serial
- RS485 outputs

MAIN FEATURES

- Save 90% of the installation time
- Voltage and serial bus daisy chain installation
- Fast and error-proof CT connection with CT ratio self-recognising

Quick-fit 3-phase energy analysers

EM280 +TCD06BX

- 4 DIN modules or 72 x 72 mm
- 6-channel energy meter
- Current measurement by 6-channel CT blocks with RJ plugs: solid core (TCD06BX)
- Equivalent to class 1 (kWh)
- Two pulse open collectors and serial
- RS485 outputs

MAIN FEATURES

- Branch monitoring in new and retrofit applications, saving 90% of the installation time
- Voltage and serial bus daisy chain installation
- Fast and error-proof CT connection with CT ratio self-recognition

USB dongle connection modules

VMU-D

- 2 DIN modules
- Compatible with Carlo Gavazzi approved 3G/4G USB modems
- Power supply:24 VDC (+/- 20%)
- Suitable for use with VMU-C and VMU-Y

MAIN FEATURES

- 3G or 4G Mobile Internet connectivity
- SMS alerting
- SMS commands

Web server and data logger

VMU-C EM

- Micro PC with Web-server and Web service capability
- Data and event logging capability
- Internal 4GB memory and 16GB SDHC card back-up memory
- Variables shown as graphs and numbers in formatted tables
- All data exports on HTML format compatible with Excel or other spread sheets
- Management up to 32 energy meters and 11 remote I/O module groups

MAIN FEATURES

- Energy analysis of each single load
- Energy bill evaluation
- Virtual main meter
- Alarms control with automatic e-mailing and SMS management

Embedded aggregation server

VMU-Y EM

- 2-DIN size; DIN-rail mounting
- Multi-site monitoring management
- Power supply 24 VDC (± 20%)
- 2 USB ports (data /connection backup)
- 1 SD port (backup)

MAIN FEATURES

- Load profile management
- Data analysis and benchmark
- Data and event logging
- Customizable graphical synoptic
- All data exported in format compatible with Excel or other spread sheets
- Tariffs, contracts, alarms management
- Database replication from up to 10 VMU-C EM

Cloud multi-site aggregation server

Em²-Server

- Software for energy data management
- Multi-site monitoring management
- Flexible and scalable architecture
- VMware® technology compatibility

MAIN FEATURES

- Load profile management
- Data analysis and benchmark
- Data and event logging
- Customizable graphical synoptic
- All data exported in format compatible with Excel or other spread sheets
- Tariffs and contract management
- Alarms management
- Database replication from up to 100 VMU-C EM

Our product range

Current transformers

CTD / TADK

- CTD: currents from 40 to 4000 A TADK2: 1-250 A
- Removable panel fixing clips
- DIN-rail and panel mounting facility (TAD...)
- Double screw terminals (CTD)
- Sealable covers
- Case: ABS, self-extinguishing level UL 94 V-0
- Accuracy class: 0.5

MAIN FEATURES

- Wound primary / solid core or split-core
- Compliance with IEC 60185, VDE 0414-1 regulations
- Removable DIN-rail mounting holder

Current sensors

CTV

- Split-core current sensors
- Primary currents: 60 to 800 A
- Secondary output: 0.333V AC
- Accuracy class: 1
- CE, cURus approved

MAIN FEATURES

- Very compact split-core sensors ideal for retrofit applications
- Suitable for use with EM210_MV energy meter

AC Current transformers

E83

- Dimensions: 56 x 22.5 x 49 mm
- 7 input ranges
- Ouput 4-20 mA DC
- No power supply
- UL, CSA approved

MAIN FEATURES

- Easy interface to PLC
- Built in hall sensor for current sensing
- LED indication

Power transducers

CPT DIN

- Dimensions: 83.5 x 45 x 98.5 mm DIN rail housing
- Accuracy 0.5 % (voltage, current)
- Measurement by CT and VT
- Front protection degree IP20
- Analogue, digital, pulse or serial outputs available

MAIN FEATURES

- Very compact size power transducer
- Provides electrical variables set to a PLC to manage compressors and other loads
- Suitable for on-board panel installation

Current monitoring relays

DIA53

- Dimensions: 81 x 17.5 x 67.2 mm DIN-rail housing with 12 mm hole for current measurement
- Current monitoring relay with built.in current transformer
- 20 A, 50 A or 100 A full scale
- Self powered
- UL - CSA - CCC approved

MAIN FEATURES

- Only 2 wires connection
- Adjustable current tripping setpoint
- Integrated solid state NPN PNP output

3-phase monitoring relays

DPA51 / DPA53

- Dimensions 81 x 17,5 x 67,2 mm DIN-rail housing
- Phase sequence and loss relay
- 3 phase AC (own power supply); regenerated voltage
- Power supply from 208 to 480 VAC
- Undervoltage detection
- CE, UL, CSA and CCC approved

MAIN FEATURES

- Compressor protection from reverse running and phase loss
- 17.5 mm width: the smallest in the market
- Plug and play: no settings needed

3-phase monitoring relays

DPB51

- Dimensions: 81 x 17,5 x 67,2 mm DIN- rail housing
- TRMS 3-phase over/under voltage, phase sequence and loss
- 3 phase AC (own power supply); regenerated voltage
- Power supply 208 to 480 VAC
- Undervoltage detection
- UL and CSA approved

MAIN FEATURES

- Compressors protection from reverse running and phase loss
- Detects L-L and L-N voltage
- Independent voltage setpoints and built-in delays

Current monitoring relays

DIA01

- Dimensions: 80 x 22.5 x 99.5 mm DIN-rail housing
- Current measurement by internal shunts or external CT
- 5 A full scale
- 24/48 VAC/DC or 115/230 VAC
- UL - CSA - CCC approved

MAIN FEATURES

- Latch and adjustable hysteresis
- Adjustable current tripping setpoint
- 8 A SPDT relay output

Our product range

3-phase surge protection devices

DSF A/P

- Suitable for all single phase (A) and three phase (P) utilities
- Available for MCOV 300 V, 385 V, 460 V and 550 V
- 20 kA Inom, 40 kA Imax per pole
- Din rail mouting socket
- CE, UL and CSA. Category IEC / EN Class II / Type 2

MAIN FEATURES

- Optional remote monitoring contact
- Patented topology, no backup fuse required
- Socket with replaceable cartridge

3-phase surge protection devices

DSB A/P

- Suitable for all single phase (A) and three phase (P) utilities
- Available for 275V , 385V and 440V
- 20kA Inom, 40kA Imax per pole
- Din rail mouting socket
- CE, Category IEC / EN Class II / Type 2

MAIN FEATURES

- Optional remote monitoring contact
- 3 MOVs topology
- Socket with replaceable cartridge

Dupline® surge protection devices

DSB51XXDP

- Dimensions 90 x 12 x 71.5 mm DIN-rail housing
- 15Vdc nominal voltage
- 10kA Inom, 20kA Imax
- Rated spark overvoltage 184V to 276V
- C1/C2/C3 according to IEC 61643-21

MAIN FEATURES

- Designed for Dupline® communication lines
- Three stage topology with dual GDT
- Socket with replaceable cartridge

3-phase scroll compressor soft starters

RSBT

- Self-learning algorithm for current reduction
- Operational current: 12 A up to 95 A
- 3-phase controlled & internally bypassed
- Operational voltage: 220 - 480 VAC, 50/60 Hz
- Approvals: cULus, CCC, VDE

MAIN FEATURES

- Plug and play: no user settings required
- Compact dimensions: 32 A in 45 mm and 95 A in 120 mm wide housing
- Serial communication: Modbus 2-wire (RS485)

3-phase scroll compressor soft starters

RSBD

- Self-learning algorithm for current reduction and current balancing
- Operational current: 12 A up to 95 A
- Operational voltage: 220 - 600 VAC, 50/60 Hz
- Alarm and top of ramp relay outputs
- Approvals: cULus, CCC

MAIN FEATURES

- Compact dimensions: 45 A in 45 mm and 95 A in 75 mm wide housing
- Plug and play: no user settings required
- Internally Bypassed

3-phase centrifugal pump soft starters

RSWT

- Operational current: 12 A up to 90 A
- 3-phase controlled & internally bypassed
- Ramp-up/Ramp-down time: up to 20 sec
- Operational voltage: 220 - 600 VAC, 50/60 Hz
- PTC input, Alarm - Top of Ramp - Run relay indication

MAIN FEATURES

- Easy to use and set up: only 3-user adjustments required
- Self-learning algorithm to improve pump starts/stops
- Integrated overload protection (Class 10)

22 kW compact motor soft starters

RSGD 45mm

- Operational voltage range: 187 - 440 VAC, 187 - 660 VAC
- Operational current range: 12 AAC up to 45 AAC
- Control voltage: 24 VAC/DC, 110 - 400 VAC
- Auxiliary relays for top of ramp and alarms
- cULus, CCC

MAIN FEATURES

- Compact dimensions: up to 22 kW in 45 mm wide housing
- Easy to setup: standard 3-knob setting
- Internally bypassed and supplied

1-phase solid state contactors

RGC1A

- Product width 17.5 mm up to 70 mm, DIN mount
- Rated operational voltage: up to 660 VAC
- Rated current: up to 85 AAC @ 40°C
- Control input: 4-32 VDC, 20-275 VAC (24-190 VDC)
- CE - cULus - VDE - GL (up to 30 AAC)

MAIN FEATURES

- Integrated heatsink
- 100 kA short circuit current rating
- Optional overtemperature protection

Our product range

3-phase solid state contactors

RGC2A / RGC3A

- Product width 54 mm up to 70 mm, DIN mount
- Rated operational voltage: up to 660 VAC
- Rated current: up to 75 AAC/pole (RGC2A), 65 AAC/pole (RGC3A) @ 40°C
- Control input: 5-32 VDC, 20-275 VAC (24-190 VDC)
- CE - cULus

MAIN FEATURES
- Integrated output overvoltage protection
- Optional monitoring for SSR and load circuit malfunction (RGC...M)
- 100 kA short circuit current rating

1-phase proportional controllers

RGS1P / RGC1P

- Product width 35 mm up to 70 mm, DIN or Panel mounting
- Ratings: up to 660VAC, 90AAC, 18000A²s
- Control Input: 4-20mA, 0-10 VDC, 0-5 VDC, 1-5 VDC, external potentiometer
- LED indication for control and load status
- CE- cULus (RGC), cURus (RGS), CSA (RGS)

MAIN FEATURES
- Power control via a selectable switching mode (phase angle, full cycle, advance full cycle or soft start switching)
- Compact dimensions
- Reliability with integrated overvoltage protection

3-phase proportional controllers

RGC2P / RGC3P

- Product width 54 mm up to 70 mm,DIN mount
- Rated operational voltage: 180 - 660 VAC
- Rated current: up to 75 AAC/pole (RGC2P), 65 AAC/pole (RGC3P) @ 40°C
- Control input: 0-20 mA, 4-20 mA, 12-20 mA, 0-10 V, 0-5 V, 1-5 V, external potentiometer
- CE - cULus

MAIN FEATURES
- Integrated output overvoltage protection
- Phase angle, Distributed full cycle or Soft start as switching modes
- Integrated monitoring for SSR and load circuit malfunction

Switching power supplies

SPD

- DIN rail housing
- 1-phase (5-480 W), 2-phase (100 W), 3-phase (120-960 W)
- Rated input voltage: 85-264 VAC (1-phase), 380-575 VAC (2-phase), 340-575 VAC / 480-820 VDC (3-phase)
- Approvals/Marks: UL, cUL listed and TÜV/CE approved

MAIN FEATURES
- Power Factor Correction (PFC)
- Parallel versions available
- High efficiency (up to 93%)

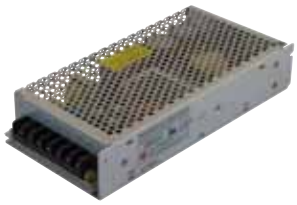
Switching power supplies

SPM

- DIN rail housing
- Universal input 90-264 VAC / 120-370 VDC
- Single phase and battery charger versions available
- Approvals/Marks: UL, cUL listed and TÜV/CE approved

MAIN FEATURES
- Operating temperature w/o derating -25°C to + 60°C
- Short circuit and Overload protection
- High efficiency (up to 89%)

Switching power supplies



SPPC 150

- AC input selectable by switch
- Input voltage range: 88-132 VAC / 176-264 VAC
- Output protections: OLP / OVP / SCP
- Wide operating temperature (-25°C to 70°C)
- 105C long life electrolytic capacitors

MAIN FEATURES
- Competitive price and compact size
- DC output: 5, 12, 15, 24 and 48 V
- Good efficiency and high reliability

Our product range

Switching power supplies with PFC	UPS controllers	Smart UPS

SPPC 150 F

- Universal input voltage range: 85-264 VAC / 120-370 VDC
- High reliability
- Output protections: OLP / OVP / SCP
- 105C long life electrolytic capacitors
- 100% full load burn-in test

MAIN FEATURES

- Built-in active PFC (Power Factor Correction) function: PF > 0.98 @ 115 VAC and PF > 0.95 @ 230 VAC
- Competitive price and compact size
- DC output: 5, 12, 15, 24 and 48 V
- High efficiency (typ): 82 % - 87 %

SPUC

- Up to 30 A UPS controller
- 12 V and 24 V versions
- Outputs for Device OK, Battery OK and battery Low.
- DIN rail battery accessory available up to 7.2 A/h
- CE and UL approved

MAIN FEATURES

- To be used in addition with 12 or 24 V power supply
- Front 30 A replaceable fuse
- Plug and play: no settings needed

SPUBC

- Power supply, UPS and battery charger "All in one"
- 24 VDC 5 A output
- Power boost up to 2 times rated output, permanent.
- Built in battery diagnosys
- CE and UL approved

MAIN FEATURES

- Power supply independent from charger.
- Remote indication for battery operation and battery low
- "Start from battery" and "Empty battery charging" features

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