CARLO GAVAZZI
Automation Components

CARLO GAVAZZI

Building Automation

Solutions for
HVAC systems

HVAC systems

Solutions for

Air handling units **Heat pumps** **Chillers** **Roof tops** **Pellet burners**

ABOUT CARLO GAVAZZI

Carlo Gavazzi Automation is an international 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 air-conditioning devices.

DESIGNED TO MEET MARKET REQUIREMENTS

It is becoming more and more important to have an energy-efficient integrated HVAC system for buildings. That is why HVAC components, such as Heat Pumps, Rooftops, Chillers and Air Handling Units need more effective control and additional functions so as to improve overall performance.
Communication is important, both for the building management system, using buses such as BACnet, and for the individual units, where Modbus implementation is becoming more and more common, involving components such as the main controller, the compressor, the expansion valve, the energy meter and the soft starter.

Enhance performance with our monitoring relay solutions

- Various monitoring functions: Phase sequence, phase loss and voltage level
- Compact dimensions
- Worldwide approvals

Increase system efficiency with our solutions for energy management

- Energy meters & power transducers
- Power analysers
- Current transformers
- Serial communications
- Solutions with BACnet communication
- Web-server solutions

Extend the lifetime of scroll compressors with easy to use soft starting solutions

- Dedicated solutions for scroll compressors
- 1- and 3-phase compact solutions
- 2- and 3-phase controlled solutions
- Integrated monitoring functions
- Modbus communication

Resistive heaters switching with solid state relays

- ON/OFF solid-state contactors
- Proportional controllers
- Wide range of 1-phase and 3-phase solutions
- Modular solutions

HVAC systems

Air handling units

Environmental sensors	Energy meters/ analysers	Soft starters	Solid state relays	Power transducers	Monitoring relays	Solid state relays
CGESCO2 CGESHT CGESAIRVEL	EM23 EM340	RSGD RSDR	RGC3P/RGC2P RJ1P RM1E	CPT	DWA01	RG RM

Carlo Gavazzi's comprehensive range of energy meters, energy analysers and power transducers keep your plant monitored 24/7.
The following communication protocols are available: Modbus, BACnet, M-bus and Profibus.
Our web server solutions also provide multi-site monitoring.
Our easy to use and reliable soft starter range, with extended ramp-up times, ensures smoother centrifugal fan starts. An intelligent algorithm for current reduction and current balancing results in fewer electrical disturbances and less vibrations during starts.
A wide selection of solid-state relays offers analogue switching versions for the efficient control of resistor packs for heating or dehumidification and Zero Cross switching to reduce electrical spikes on the network.
Our compact monitoring relays for power factor monitoring allow the detection of broken belts in centrifugal fans.

- Efficiency improvement
- Easy access to monitored data via IT network
- Reduced maintenance and lower mechanical noise when fan starts
- Fewer electrical disturbances and lower current peaks
- Reduced air pressure shocks in the case of canvas ducts
- Optimal de-humidification

Heat pumps

Soft starters	Solid state relays	Monitoring relays	Energy meters/ analysers	Timers	Electromechanical relays
RSBS - RSBD RSBS HP RSBT	RG RM RGC3P	DPA51	EM10/EM111 EM23/EM340	DAA51 DMB51	RMIA

Carlo Gavazzi's comprehensive range of solid state relays for auxiliary heater switching also includes low noise versions so as to reduce disturbance to the supply network.
Slim energy meters are available for 1-phase applications.
Our wide range of monitoring relays provides phase loss, phase sequence, over and under-voltage monitoring.
The complete range for fixed speed scroll compressors consists of single and three phase dedicated to soft starters and two and three-phase controlled solutions with a patented self-learning algorithm to limit scroll compressor start current. The RSBS and RSBT soft starters are compliant with EMC Class B (residential).

- Noise-free switching of auxiliary heaters
- Plug'n'play soft starting solutions
- Best-in class current reduction
- Compliant with the stringent requirements for noise emissions
- Easy to fit in electrical panels
- More protection for the compressor
- Quick detection of abnormal conditions

HVAC systems

Chillers

Monitoring relays	Switching power supplies	Soft starters	Power quality analysers	Energy meters/ analysers	Power transducers	Timers
DPB51 - DPA51 DLA71 - DPA53	SPD SPM SPPC	RSBD - RSDR RSBT - RSGD	WM40 WM30	EM210 EM23	CPT	DAA51 DAC51

Carlo Gavazzi's compact and cost-effective range of power supplies, timers for star/delta switching and monitoring relays are designed to meet your toughest specification requirements for panel mounting.
Two-phase controlled solutions with current balancing, three-phase scroll compressor soft starters up to 95 A with a dedicated algorithm for multi-scroll compressor applications.
Our solutions for energy management for DIN and panel mount are comprehensive and versatile for the monitoring and power analysis.
Modbus or BACnet communication ports are available for communication with controllers and BMS.

- Easy installation even in limited space
- Protection of compressors
- Reduction of starting current by 50%
- No settings required
- Improved efficiency
- Remote access to data
- Easy integration into existing communication networks

Roof tops

Monitoring relays	Switching power supplies	Soft starters	Power quality analysers	Energy meters	Solid state relays	Timers	Environmental sensors
DPA53 DPA51 DPB51	SPM SPD SPPC	RSBT RSDR - RSBD	WM40 WM30	EM24	RGC3P RGC3A RJ1P	DAA51 DAC51	CGESHT CGESAIRVEL CGESCO2

Carlo Gavazzi's range of energy meters and power analysers fulfil all requirements in terms of both features and costs, for remote monitoring of energy consumption.
The comprehensive communication protocols and web-server solutions allow flexible and easy integration.
We offer proportional controllers for heaters and fans. Our compact IP20 solutions with phase angle control for fan speed regulation (one-phase and three-phase), also two-phase solutions for resistive heater modulation (RGC2P) full cycle switching.
Our range of soft starters are able to provide integrated diagnostic functions for additional protection.
The related operational temperature range is up to 60°C.
The self-learning algorithm, which is active at every compressor start, ensures that the compressor always starts with the correct parameters.
Modbus communication is also available to transmit real-time data to the machine controller.

- Efficiency improvement
- Easy data transmission to the BMS or the controller
- Automatic settings
- Reliable operation even at high temperatures
- Compact and cost-effective solutions

Pellet burners

Inductive proximity sensors	Capacitive sensors	Solid state relays
ICB12	CA30CA CD50 CA18	RM1A RP1

Carlo Gavazzi's compact and cost-effective series of solid state relays is widely known for its reliability and robustness for high switching frequencies of water pump or smoke fan.

Our ICB inductive sensors are used to detect the position of the dampers so as to direct the air flow where needed. Short circuit, reverse polarity and transients protection is assured.

Our new 4th generation of Tripleshield sensors CA30CA.. allows a dust alarm to be sent when the sensor gets dirty and needs to be cleaned.

A temperature alarm is sent when the temperature exceeds 60°C.

EMC immunity and high sensing capability ensure correct detection in all conditions, especially where pellet-dust remains on the reservoir surface.

- High switching frequency
- Silent and reliable operation even in harsh environments
- Safer operation of the burner
- Intelligent alarms
- Different configurations available, tailored to specific needs

Our expertise in scroll compressors

Soft starters	Monitoring relays	Soft starters
RSBS **RSBS HP**	**DPA51**	**RSBD** **RSBT**

In a Heat Pump, as well as in a Rooftop or in a Chiller unit, the compressor is the heart of the system. It supplies the inverse cycle and is also the most expensive and energy-consuming device in the machine. When starting, the scroll compressor operates in a very abrupt way and this can lead to undesirable effects to the machine itself and to the nearby environment. A direct on-line (DOL) start is performed in just 3 cycles (around 60 ms) for a 3-phase machine and a little more for 1-phase ones. This can result in rapid inrush current (around 8 times the nominal current) and significant vibrations. The first effect of high inrush current is voltage fluctuations during starts, especially where the grid is not so resistant, as in many domestic or commercial environments or in locations far from the energy source. This leads to lights flickering and potential interference with equipment such as LAN networks, Wifi, smartphones and tablets. The second effect is that the nominal current for the utility contract may be exceeded, which could result in fines from the energy supplier or having to increase the contract power at a higher cost. In addition, direct on-line starts cause wear and tear to the coils, reducing the lifetime of the compressor.Vibrations mainly cause a shock to the motor, starting from the shaft, which means shorter compressor lifetime. They also lead to mechanical shock to the pipes which, especially in the long term and for larger machines, can cause refrigerant leakage. Last but not least, the noise of a direct on-line start can be rather annoying. These problems can be solved by using our range of soft starters specifically designed for scroll compressor applications. Inrush current is reduced by 50 to 55% and the compressor is started within 1s, allowing a smooth start and proper compression and lubrication. The 3-phase RSBD and RSBT soft starters are provided with an auto-adaptive algorithm which ensures the best inrush current reduction at every start. As the soft starter follows the changes in the compressor and the system over time, no setting is needed. At the same time, when unexpected conditions occur, such as a very high pressure difference in the refrigeration circuit, the soft starter will react ensuring starting even in the worst conditions.

HVAC systems

Our product range

Phase sequence and loss 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 208-480 VAC (±15%)
- Undervoltage detection
- UL - CSA - CCC approved

MAIN FEATURES

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

Phase relay under/over voltage

DPB51 / DPB71

- Dimensions 81 x 17.5 or 35.5 (DPB71) x 67.2 mm DIN-rail housing
- TRMS 3-Phase sequence, Phase and Neutral loss relay
- 3 phase independent over and under voltage with adjustable delay
- Star and Delta power supply from 208-480 VAC (±15%)
- UL - CSA - CCC approved

MAIN FEATURES

- Compressors protection from reverse running and phase loss
- Detects L-L and L-N voltage
- 17.5 mm width: the smallest in the market
- Independent voltage setpoints and built-in delays

Cosφ relays

DWA01

- Dimensions 83 x 22.5 x 99.5 mm DIN rail housing
- Cosφ monitoring relays
- 3 phase AC (own power supply); regenerated voltage
- Power supply 208-240 VAC or 380-480 VAC
- UL - CSA approved

MAIN FEATURES

- Detects any potentially dangerous change of the cosφ
- Direct current connection or by CT
- Easy setup

Pump alternating relays

DLA71

- Dimensions: 81 x 35.5 x 67.2 mm DIN rail housing
- Pump alternating relay for 2 or 3 pumps
- Galvanically separated power supply, 24/48 or 115/230 VAC
- 2x or 3x 5A SPST relay output
- UL - CSA approved

MAIN FEATURES

- Built-in function for automaticrotation of the pumps
- Built-in delay for the second or thirdpump in case simultaneous activation is required
- Plug and play: no settings needed

AC Current transformer

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

Timers

DAA51 / DAC51

- Dimensions: 81 x 17.5 x 67.2 mm DIN rail housing
- Delay on operating function (DAA), start/delta function (DAC)
- Universal power supply
- Repeatability: < 0.2%
- UL - CSA approved

MAIN FEATURES

- Extended delay-on-operating time, selectable from 0.1 s to 100 h
- Star-delta control function with star and star-to-delta adjustable times
- Protection against frequent compressor starting and from big inrush currents

Our product range

Timers

DMB51

- Dimensions: 81 x 17.5 x 67.2 mm DIN rail housing
- Combined AC and DC power supply
- Repeatability: <0.2%
- UL - CSA - RINA approved

MAIN FEATURES
- Delay on operate/release-, interval (manual/automatic start)
- Double interval; symmetrical recycler (ON or OFF first)
- Timing range from 0.1 s to 100 h

3-phase scroll compressor soft starters

RSBT

- Enhanced current reduction capability with patented auto-adaptive algorithm
- Integrated advanced diagnostic functions
- 3-phase controlled and internally bypassed
- Compliant with Residential (Class B) Limits for Emissions
- cULus listed, VDE (EN60335-2-40)

MAIN FEATURES
- Plug&Play: no external settings needed
- Typicallly >50% scroll compressor inrush current reduction
- Compact dimensions: better panel space savings

3-phase scroll compressor soft starters

RSBD 45 mm

- Current balancing algorithm to reduce unbalance on uncontrolled phase
- Patented auto-adaptive algorithm for better inrush current reduction
- 2-phase controlled and internally bypassed
- Alarm and top of ramp indication
- cULus - CCC

MAIN FEATURES
- Plug&Play: no external settings needed
- Operational current: 12 AAC up to 45 AAC @ 40°C
- Multi-voltage operation: 220-400 VAC

3-phase scroll compressor soft starters

RSBD / RSBT

- Enhanced current reduction capability with patented auto-adaptive algorithm
- Integrated advanced diagnostic functions
- 2-phase (RSBD) and 3-phase (RSBT)controlled and internally bypassed solutions
- Top of ramp and alarm relay indication

MAIN FEATURES
- No external settings required
- Mutli-voltage operation: 220-480 VAC 50/60 Hz
- Operational current: 55/70/95 AAC
- Internally supplied

3-phase scroll compressor soft starters

RSBD / RSBT Modbus

- Modbus RTU over RS485 serial communication
- User settable device address: 1-247
- Enhanced current reduction capability with patented auto-adaptive algorithm.
- cULus

MAIN FEATURES
- Communication of instantaneous variables (current, voltage, kWh, power factor)
- Remote start/stop via Modbus
- Alarm discrimination for quicker fault diagnosis

1-phase scroll compressor soft starters

RSBS / RSBS HP

- Current limit starting
- Advanced diagnostic functions
- Internally bypassed
- Up to 12 starts per hour
- cULus listed - EN60335-2-40 approval

MAIN FEATURES
- Plug&Play: no external settings needed
- Space saving IP20 design
- Integrated starting capacitor
- Optimised algorithm for high pressure starts (RSBS HP)

Our product range

22 kW compact motor soft starters

RSGD 45 mm

- 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

3-phase 280 kW soft starters

RSDR

- Motor Rating: Up to 280 kW @ 400 V
- Ramp up time: 0.5-30 sec
- Internally bypassed
- 6-wire connection capability
- UL approved

MAIN FEATURES

- Multi voltage operation: 230-460 VAC, 50/60 Hz
- Auxiliary relays for run signal and alarms

PCB mounted solid state relays

RP1

- Dimensions: 37 x 43 x 22 mm, PCB mounted
- Rated operational voltage: up to 480 VAC
- Rated operational current: up to 10 AAC
- Control input range: 4-32 VDC
- CE - cURus

MAIN FEATURES

- Zero cross or instant-on switching
- Optional DIN mounting with RP..Mx accessory

1-phase solid state relays

RM1A / RAM1A

- Dimensions: 58.2 x 44.8 x 28.8 mm, panel mount
- Rated operational voltage: up to 660 VAC
- Rated current: 25 AAC, 50 AAC, 75 AAC, 100 AAC, 125 AAC
- Control input: 4-32 VDC, 20-280 VAC
- CE - cURus - CSA - VDE (RAM) - CCC

MAIN FEATURES

- Zero cross or Random switching
- Suited for resistive, inductive or capactive loads
- Integrated output overvoltage protection (RM1)

1-phase solid state relays

RGS1A / RGC1A

- Product width 17.5 mm up to 70 mm, DIN or panel mounting
- Ratings: up to 660 VAC, 90 AAC, 18000 A^2s
- Integrated output overvoltage protection
- Control input: 4-32 VDC, 20-275 VAC (24-190 VDC)
- CE - cULus (RGC) - UR (RGS) - CSA (RGS) - VDE - GL (up to 30 AAC)

MAIN FEATURES

- Integrated heatsink (RGC1A) or without heatsink (RGS1A)
- 100 kA short circuit current rating
- Optional overtemperature protection (RGC1A)

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

Our product range

1-phase proportional controllers

RM1E

- Dimensions: 58.2 x 44.8 x 28.8 mm, panel mount
- Rated operational voltage: up to 660 VAC
- Rated current: 25 AAC, 50 AAC, 100 AAC
- Control input: 4-20 mA, 0-10 V
- CE - cURus - CSA

MAIN FEATURES

- Phase angle switching
- Integrated overvoltage protection
- 0 to 99% power output control

1-phase proportional controllers

RJ1P

- Dimensions: 81.7 x 45 x 107 mm, DIN mount
- Rated operational voltage: up to 660 VAC
- Rated current: up to 50 AAC @ 25°C
- Control input: 4-20 mA, 0-10 V
- CE - cURus

MAIN FEATURES

- Integrated heatsink
- Phase angle or Distributed full cycle switching
- Optional ovetemperature 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

Environmental sensors CO_2

CGESC02

- CO_2 sensor
- Duct and wall mounting
- Working range 0-2000 ppm / 0-5000 ppm
- 3 outputs: 0-10 V; 4-20 mA;
- Supply voltage: 24 VAC/DC

MAIN FEATURES

- High accuracy ±50 ppm (+2%) at 2000 ppm
- Auto-calibration
- Plug&Play: no settings needed

Environmental sensors humidity and temperature

CGESHT

- Relative Humidity and Temperature sensor
- Duct and wall mounting
- Working range: 10 to 95% RH; 0...50°C
- 2 outputs: 0-10 V; 4-20 mA; Supply voltage: 24 VAC/DC

MAIN FEATURES

- 200 mm probe length
- Plug&Play: no settings needed
- Passive temperature probe

Environmental sensors air velocity

CGESAIRVEL

- Air Velocity sensor
- Duct mounting
- Working range 0...10/15/20 m/s
- Outputs: 0-10 V; 4-20 mA;
- Supply voltage: 24 VAC/DC

MAIN FEATURES

- Low angular dependence
- Very good accuracy at low air velocity
- Plug&Play: no settings needed

HVAC systems

Our product range

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

1-phase energy meters

EM10 DIN

- Single-phase energy meters with direct connection
- Current input up to 32 A
- 1 DIN module dimension
- Class 1 (kWh) acc. to EN62053-1
- Pulse open collector output

MAIN FEATURES

- Direct measurement in a very compact housing to save space
- Suitable to measure generated energy
- MID Annex D certification available

1-phase energy analysers

EM111 DIN

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

MAIN FEATURES

- Self-powered
- Pulse output or as an alternative: RS485 Modbus, M-Bus
- Sealable terminal covers

3-phase energy analysers

EM210

- Dimensions: 4 DIN modules or 72 x 72 mm
- Installation: DIN-rail or panel mounting in a single product
- 3-phase energy meters with CT/VT connection
- Measurement of voltage, current, power, power factor and frequency
- Pulse output
- RS485 Modbus RTU, high speed (up to 115kbps)
- CE - cULus

MAIN FEATURES

- Self-powered
- Sealable terminal covers
- Very compact housing to save space

3-phase energy meters/analysers

EM23 DIN / EM24 DIN

- Dimensions: 4 DIN modules
- 3-phase energy meters with direct connection
- Current input up to 65 A
- Class 1 (kWh) acc. to EN62053-1
- 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)
- MID Annex D certification available

3-phase energy analysers

EM340

- Dimensions: 3 DIN modules
- Backlit touch LCD
- Measurement of voltage, current, power, power factor and frequency
- Bi-directional energy metering on 2 8-digit counters, cl. B (EN50470)
- Measuring inputs: 3 x 230 (400) VAC, 65 A
- CE - cULus

MAIN FEATURES

- Self-powered
- Pulse output or as an alternative: RS485 Modbus, M-Bus
- Sealable terminal covers

Our product range

3-phase power quality analysers

WM30

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

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 and BACnet (both RS485 or Ethernet), and Ethernet/IP communication port available

3-phase power quality analysers

WM40

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

MAIN FEATURES

- 16-alarm PLC logic and digital inputs for utility metering
- Modular housing to build the instrument according to the real application needs
- Modbus and BACnet (both RS485 or Ethernet), and Ethernet/IP communication port available
- Built-in datalogger for instantaneous variables, dmd profiles and events

Capacitive sensors

CA18

- Dimensions: M18 / M30
- Tripleshield™ sensor protection
- Plastic housing, DC and AC versions
- Sensing distance 0.5-12 mm
- CE - UL - CSA

MAIN FEATURES

- Optimised features for level detection in plastic and rubber applications
- Sensing face can withstand temperatures up to 120°C
- Protection: short circuit, transient and reverse polarity

Capacitive sensors

CA30

- 4-12 mm sensing distance adjustable
- Time delay on operate or release, up to 10 minutes adjustable
- Multi voltage supply: 20.4-255 VAC/DC
- 2 A, SPDT relay output
- Housing M30 x 100 mm
- CE - cULus approved

MAIN FEATURES

- Level sensor for solid, fluid or granulated substances
- IP67, NEMA 1, 2, 4, 4X, 5, 6, 6P, 12

Capacitive sensors

CA30CA.. series

- High EMC Immunity.
- M30 mm housing, easy to mount
- Power supply 10-40 VDC, 200 mA NPN or PNP, NO and NC
- CE - UL - CSA approved

MAIN FEATURES

- Reliable detection of pellets in the burner's feeding system
- Dust alarm output
- Temperature alarm output

Capacitive sensors

CD50

- Dimensions: 50 x 30 x 7 mm
- Flat pack sensor, easy to mount
- Power supply 10-30 VDC, 50 mA NPN or PNP, NO or NC
- CE approved

MAIN FEATURES

- Detection of condensed water from Airconditioning system

HVAC systems

Our product range

Inductive proximity sensors

ICB series

- M12/M18 nickel-brass housing in short or long barrel lenghts
- Standard and double distance sensing ranges
- Flush and non-flush versions
- NPN or PNP, NO or NC output
- 2-meter oil resistant PVC cable or M12 disconnect plug
- Protection: reverse polarity, short circuit, transients

MAIN FEATURES

- High precision and minimum deviation thanks to the new generation of microprocessor
- Eco-friendly potting material
- Improved design for highest reliability and resistance to vibration and impacts
- Laser engraved on front cap, permanently legible

Conductive level systems

CLD / CLP

- Exact level detecting with insulated electrodes
- SPDT 8 A relay output
- 24-240 AC/DC or 230 AC or 115 AC
- CE - UL - CSA approved

MAIN FEATURES

- Detection of condensed water from air conditioning system
- Easy to install with simple electrodes
- Wide sensitivity 250 Ω to 500 kΩ

Conductive level probes

CLH

- 3-5 stainless steel electrodes
- User defined electrode length
- Insulation available in Kynar or Polyolefine
- 1 1/2" pipe thread mounting
- IP65/68 rating

MAIN FEATURES

- -20°C to 90°C
- Replaceable electrodes
- Extendable electrodes

Photoelectric level sensors

VP / VPA / VPB

- 3/8 "pipe thread x 70.5 (74 mm) housing
- Power supply 10-40 VDC, 200 mA NPN or PNP, NO and NC
- CE approved

MAIN FEATURES

- Detection of condensed water from Air-conditioning system
- Reliable detecting of water even with oil presence

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)
- UL - cUL listed - 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
- UL - cUL listed - 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%)

Our product range

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

Switching power supplies with PFC

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%

Electromechanical relays

RMIA series

- 2 x 10 A and 4 x 5 A versions
- DC coils: 6-220 V
- AC coils: 6-380 V
- Free wheeling diode integrated
- Sockets for PCB or DIN rail installations

MAIN FEATURES

- Contacts suitable for High Inrush loads
- Very compact size
- LED, latchable mechanical push button and flag as standard

Electromechanical relays

RCP series

- 2 x 10 A and 3 x 10 A contacts
- Industry standard relay
- High immunity to supply voltage fluctuation
- DC coils: 6-110 V
- AC coils: 6-230 V

MAIN FEATURES

- Octal and Undecal
- LED, latchable mechanical push button and flag as standard
- Wide selection of sockets for PCB and DIN rail

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