CARLO GAVAZZI
Automation Components

CARLO GAVAZZI

Solutions

Food and Beverage

Solutions for Food and Beverage

Coffee and vending machines

Heating and cooking equipment

Ice makers and cooling systems

ABOUT CARLO GAVAZZI

Carlo Gavazzi Automation is a multinational electronics group active in designing, manufacturing 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

With over 40 years of expertise in manufacturing components for food and beverage equipment, Carlo Gavazzi can provide a wide range of advanced and reliable products for commercial heating and cooking equipment, ice making technology and cleaning processes.

Carlo Gavazzi is a market leader in solid state relay technology, offering innovative solutions in very compact dimensions for the control of heater loads. The range of products includes solid state relays for PCB mounting, chassis mounting as well as solutions ready for use with a built-in heatsink.

The number of switching cycles in food and beverage equipment is quite substantial and a reliable switching solution that guarantees a long, maintenance free lifetime can be provided only with solid state switching.

Carlo Gavazzi sensors are widely used to detect door closure or to check water level in coffee machines.

Food and beverage processes demand equipment capable of working in harsh environments and conditions.

The Carlo Gavazzi range of sensors includes new photoelectric and capacitive types (Ecolab and IP69K approved) capable of withstanding high pressure and steam cleaning.

Monitoring relays, timers, switching power supplies and energy meters complete the range of Carlo Gavazzi products to ensure safe operation and monitoring of equipment, while increasing longevity.

CARLO GAVAZZI Automation Components. Specifications are subject to change without notice. Illustrations are for example only.

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Food and Beverage
Coffee and vending machines

Solid state relays	Solid state relays	Solid state relays	Photoelectric sensors	Capacitive sensors	Magnetic level sensors	Energy analysers	Monitoring relays
RF1	RAM1A..G	RA2A	PD30 PA18 PH18	CD50CNF CA18CA	ILM ILSP	EM111	DPA51 DPB51 DIB71

Coffee machines, for both domestic and commercial use, must be reliably monitored in order to avoid any damage to the electromechanical elements such as the pump or the electric resistance. Carlo Gavazzi products provide efficient control and ensure the reliability of equipment.

Level sensors are the best solution to check the water level. The sensor may be installed directly in the bottom of the tank. Usually, plastic propylene sensors (ILSP, ILM series) are used for this purpose. A second solution consists of a float in the tank controlled by means of magnetic sensors.

The switching of heaters can be carried out reliably with the RF1, RAM1..G or RA2A series which are fully solid state solutions and hence are not so susceptible to problems concerning contacts and arcing as is the case with electromechanical solutions. The RAM1 and RA2A series are also suitable for motor switching.

In the vending market, quality of dispensed drinks (hot and cold), reliability, easy cleaning and maintenance are the keys for success.

In coffee machines, the PD30 sensors with background suppression detect the cups to prevent the coffee from spillage, while CD50 sensors detect the levels of coffee beans.

Heating and cooking equipment

Solid state relays	Solid state relays	Solid state contactors	Proportional controllers	Safety magnetic sensors	Switching power supplies	Energy analysers
RF1	RAM1A..G RM1	RGC1A RGC2A RGC3A	RGC2P RGC3P	SMS CLS	SPD SPPC	EM340

Manufacturers of cooking equipment such as ovens, griddles, steamers and toasters need to ensure food quality and safety, improving production processes and ensuring long operating lifetime.

Global legislation enforces restrictions and bans on the use of mercury. Carlo Gavazzi solid state relays and contactors are RoHS compliant and are mercury free.

They can operate in humid conditions without being affected by vapours that may be present in surrounding environmental conditions.

The Carlo Gavazzi solid state solutions integrate protection against uncontrolled transients and over voltages to guarantee reliable operation.

Additionally, the materials used for the RF1, RAM..G and RG conform to the glow wire requirements of IEC/EN 60335-1 (Safety of Household and Similar Electrical Appliances).

The RF1 and RG series offer the possibility of panel space optimisation. The RF1 occupies only 30% of the space required by other panel mount solid state relays whilst RG solutions are available in a width as small as 17.5 mm.

The RGCxP series enables analog inputs to be connected directly to the relay when it is necessary to control the output power in proportion to the level of control input.

Machinery protection from voltage surges, overcurrent or phase loss is ensured by Carlo Gavazzi compact monitoring relays, thus prolonging their lifetime.

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Ice makers and cooling systems

Photoelectric sensors	Inductive proximity sensors	Timers	Capacitive sensors	Soft starters	Energy analysers	Digital panel meters
PA18 PH18	IA08	HAA08 HAA14 FMB01	CD50CNF	RSWT RSGD	EM340 EM112	UDM 40 LDM 40

Thanks to the progress in energy efficiency, reduced size and low refrigerant charge there are many applications of ice making technology, with millions of ice makers around the world. You can find ice makers in hotels, bars and restaurants as well as in hospitals, laboratories, supermarket and in the food industry.

The wide range of inductive, capacitive, photoelectric and ultrasonic sensors by Carlo Gavazzi includes some types suitable to be installed. An inductive sensor - specifically designed for this application - detects low speed of the gear motor, sending a signal to the PC board which stops the ice machine operation.
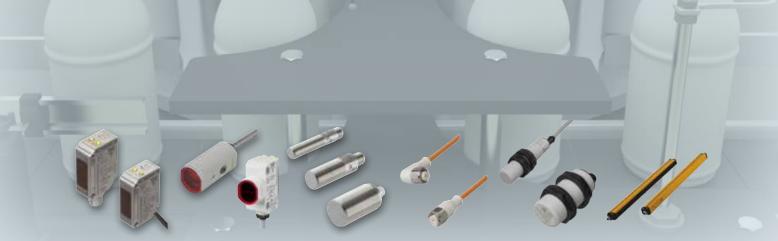
Carlo Gavazzi photoelectric sensors can be used for ice level control. The sensor will signal the P.C. board to stop the machine when a beam of light sent by the optical device is sheltered by ice. The ice machine will stop making ice before the bin or dispenser is full.

Capacitive sensors also enable accurate control of water levels sending a water fill signal to the controller. RSWT and RSGD soft starters are also used to soft start and soft stop high pressure pumps in industrial washing equipment.

Conveying, filling and cleaning processes

Photoelectric sensors	Photoelectric sensors	Inductive proximity sensors	Cordsets	Capacitive sensors	Safety light curtains
PD30ET	PA18	ICS12	CONB14NF	CA18CA	SC2
	PH18	ICS18	CONB54NF	CA30CA	SC4
		ICS30			

The food industry requires a high level of hygiene and cleanliness in equipment that has to withstand daily wash down at high temperatures, high pressure cleaning and harsh detergents.

The PD30ET Stainless Steel sensors work perfectly even in the harshest environments (e.g. in detecting presence

of meat or meat trays on a conveyor system). The sturdy stainless steel housing (AISI316L) together with high-quality plastic materials such as PEEK, PPSU, and PES sealings of FKM, guarantee an outstanding mechanical resistance. These sensors are built to withstand cleaning with water at 80°C (176°F), high pressure washing up to 100 bar (1,450 psi) and to resist alkaline and acidic cleaning agents. IP69K and Ecolab certified.

The PD30 background suppression sensors superiorly detect all lid colours on objects at the same distance from the sensor, and its durable design withstands daily cleaning processes

The PA/PH18 sensor series is another solution for applications where harsh

cleaning methods are required. The photoelectric sensors - PA18 series - comply with the requirements set out by Ecolab, IP67, IP69K. Offered in a compact M18 threaded ABS housing, this sensor series is, available in both axial (straight) and radial (90° right angled) versions.

The Carlo Gavazzi ICS series of inductive proximity sensors also represents the ideal solution for demanding applications characterized by harsh environmental conditions. The Ecolab certification guarantees the resistance to industrial cleaning agents, such as alkaline or chlorine foam and acid foam disinfectants. The material used for the plastic cap is FDA certified.

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Food and Beverage

Our product range

1-phase solid state relays	1-phase solid state relays	1-phase solid state relays

RF1

- Dimensions 36 x 21 x 24 mm, panel mount
- Rated operational voltage: up to 280 VAC
- Rated current: up to 25 AAC
- Control input: 5 VDC, 12 VDC, 24 VDC
- Approvals/Marks: CE - cURus - CSA - VDE (pending)

MAIN FEATURES
- Zero cross or Random switching
- Suited for resistive loads
- Integrated output overvoltage protection

RM1

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

MAIN FEATURES
- Zero cross or Random switching
- Integrated output overvoltage protection
- 1400 Vp blocking voltage

RAM1A..G

- 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, 125 AAC
- Control input: 4-32 VDC, 20-280 VAC
- Approvals/Marks: CE - cURus - CSA - CCC - VDE

MAIN FEATURES
- Zero cross switching
- Integrated output overvoltage protection
- Certified to EN 60335 glow wire requirements

1 / 2-phase solid state relays	1-phase solid state relays	1-phase solid state contactors

RA2A / RA2A..C

- Dimensions: 57.8 x 44.5 x 31.7 mm, panel mount
- Rated operational voltage: up to 660 VAC
- Rated current per pole: up to 40 AAC
- Control input: 4-32 VDC
- Approvals/Marks: CE - cURus - CSA

MAIN FEATURES
- 2 separately controlled relays in a compact platform
- Zero cross switching
- LED per pole for control status indication

RGS1A

- Dimensions 90 x 17.8 x 51mm, panel mount
- Ratings: up to 660 VAC, 90 AAC, 18,000 A^2s
- Integrated output overvoltage protection
- Control input: 4-32 VDC, 20-275 VAC (24-190 VDC)
- Approvals/Marks: CE - cURus - CSA - VDE - GL (50 AAC)

MAIN FEATURES
- Zero cross or Random switching
- 100 kA short circuit current rating
- Certified as a motor switching device

RGC1A

- Product width 17.5 mm up to 70 mm, DIN or panel mount
- Ratings: up to 660 VAC, 85 AAC, 18,000 A^2s
- Integrated output overvoltage protection
- Control input: 4-32 VDC, 20-275 VAC (24-190 VDC)
- Approvals/Marks: CE - cULus - VDE - GL (up to 30AAC)
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MAIN FEATURES
- Zero cross or Random switching
- 100 kA short circuit current rating
- Optional integarted overtemperature protection

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Our product range

3-phase solid state contactors	3-phase proportional controllers	Photoelectric sensors

RGC2A / RGC3A

- Product width up to 70 mm, DIN rail mount
- Ratings: up to 660 VAC, 75 AAC (RGC2A), 65 AAC (RGC3A) @ 40°C
- Motor ratings up to 11 kW @ 400 VAC, 25 HP @ 600 VAC
- Control input: 5-32 VDC, 20-275 VAC (24-190 VDC)
- Approvals/Marks: CE - cULus

MAIN FEATURES
- 3-phase; 2-pole or 3-pole switching
- Optional monitoring for load and SSR malfunction
- 100 kA short circuit current rating

RGC2P / RGC3P

- Product width up to 70 mm, DIN rail mount
- Rated operational voltage: 180 - 660 VAC
- Rated current: up to 75 AAC (RGC2P), 65 AAC (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
- Approvals/Marks: 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

PD30ET

- World standard housing style 11 x 31.5 x 21 mm
- Supply voltage: DC 4-wire
- Sensing distance: < 15 m
- Output: NPN/PNP NO+NC
- Sensor types: D, B, R, P and T
- Connectivity: Cable or M8 connectors
- Approvals/Marks: CE - cULus - ECOLAB

MAIN FEATURES
- Stainless Steel housing AISI 316L
- Resistant to high-pressure washdown, aggressive cleaning agents, and disinfectants.
- IP67, IP68, IP69K, NEMA type 1, 2, 4, 4x, 5, 6, 6P
- Protection: reverse polarity, short circuit and transients

Photoelectric sensors	Photoelectric sensors	Photoelectric sensors

PD30C

- World standard housing style 10.8 x 30 x 20 mm
- Power supply: 10 to 30 VDC
- NPN or PNP transistor output
- Connection cable or built in M8 connector
- Approvals/Marks: CE - UL 508

MAIN FEATURES
- Distance and output setting by means of teach-button (advanced version PD30CN)
- Back potentiometer for sensitivity adjustment (basic version PD30C)
- Long detecting distances
- Protection: reverse polarity, short circuit and transients

PA18

- Standard M18 cylindrical housing
- Power supply: 10 to 30 VDC
- Separate models available for NPN or PNP outputs
- Range: 1 m (Axial), 0.8 m (Radial)
- Sensitivity adjustment by potentiometer
- Approvals/Marks: CE - cULus

MAIN FEATURES
- ECOLAB approved/CE-marking /cULus approved according to UL508
- Diagnostic LED indication (Green and Yellow LED)
- Short-circuit, reverse polarity and overload protection

PH18

- Square sensor with M18 front
- Power supply: 10 to 30 VDC
- Separate models available for NPN or PNP outputs
- Sensing types: Diffuse reflective, BGS, Pol. Retro-reflective, Through beam
- Sensitivity adjusted by potentiometer
- Approvals/Marks: CE - cULus

MAIN FEATURES
- ECOLAB approved/CE-marking/ cULus approved according to UL508
- Diagnostic LED indication (Green and yellow LED)
- Short circuit, reverse polarity and overload protected

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Food and Beverage

Our product range

Capacitive sensors	Capacitive sensors	Inductive proximity sensors

CA18CA / CA30CA

- Sensing distance: 0.5 - 12 mm (M18), 2 - 30 mm (M30)
- NPN or PNP versions with N.O. and N.C. output
- Dust or temperature alarm output
- Approvals/Marks: CE - cULus

CD50CNF

- Dimensions 50 x 30 x 7 mm
- Supply 10-30 VDC or 5 VDC
- 3-wire DC sensors with open collector NPN or PNP transistor output
- Approvals/Marks: CE

IA08

- Stainless steel housing M8
- Sensing distance: 1.5 mm or 2.5 mm
- Power supply: 10 to 30 VDC
- Approvals/Marks: CE - UL - CSA

MAIN FEATURES
- ECOLAB approved
- IP69K
- Diagnostic LED indication (Green and yellow LED)
- 4th Generation TRIPLESHIELD™

MAIN FEATURES
- Basic capacitive water level sensor
- Detection of excess water in the tank
- Mounting by screws or glued on the outside of any non-metallic tank

MAIN FEATURES
- Miniature inductive proximity switches with reduced body length
- LED-indication for output ON
- Protection: Short-circuit

Inductive proximity sensors	Cordsets	Level magnetic sensors

ICS12 / ICS18 / ICS30

- Standard M12, M18 and M30 cylindrical housing
- Power supply: 10 to 36 VDC
- Sensing distance from 2 mm up to 22 mm
- Housing: stainless steel, IP67, IP68 and IP69K
- Approvals/Marks: CE - cULus

CONB14NF / CONB54NF

- M12 and M8 connectors
- Straight and angled versions
- 2 or 5 m cable length
- 4-wire version
- Degree of protection IP69K

ILM/ILSP

- Cylindrical, float diameter 17.5 to 53 mm
- Reversible output function by float overturning
- High temperature versions available
- Degree of protection: IP67 minimum

MAIN FEATURES
- ECOLAB approved / cULus approved according to UL508
- Short-circuit and overload LED indication
- Extended temperature range: -40°C to +80°C
- FDA approved plastic face

MAIN FEATURES
- ECOLAB approved/ UL approved
- Extended Temperature range: -40°C to +105°C
- LED version also available

MAIN FEATURES
- Cylindrical non-toxic polypropylene or stainless steel housing
- Vertical or horizontal mounting
- NO, NC or change-over output function

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Our product range

Safety magnetic sensors	1-phase energy analysers up to 45A	1-phase energy analysers up to 100A

CLS / SMS

- Rectangular housing
- Output function: NO+NC
- Housing material: Plastic - Stainless steel (CLSA2M)
- Approvals/Marks: CE - cULus

MAIN FEATURES
- Multiple flux coding
- 1 NC auxiliary output (SMS03NC only)
- Operating temperature -25° to +70°C

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, 45 A

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

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	Multifunction meters	Monitoring relays

EM340

- 3 DIN modules
- Backlit touch LCD
- Measurement of voltage, current, power, power factor and frequency
- Bi-directional energy metering, 3x8-digit, cl. B (EN50470)
- Measuring inputs: 230 to 400 V_{LL} AC, 65 A

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

WM14 / WM12

- Dimensions: 6 DIN rail module or 96 x 96 mm panel mounting housings
- 3-phase multifunction indicator (WM12) or analyser (WM14)
- Accuracy 0.5 % (voltage, current)
- Front protection degree IP65, NEMA4X, NEMA12

MAIN FEATURES
- Available models from a simple indicator up to an advanced analyser
- Allows the serial re-trasmission of the main parameters to a PLC for full control of the system
- Suitable for DIN-rail or panel mounting

DPA51

- 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
- Approvals/Marks: UL, CSA and CCC approved

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

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Our product range

Monitoring relays	Monitoring relays	Monitoring relays

DPB51

- Dimensions: 81 x 17.5 x 67.2 mm DINrail housing
- TRMS 3-phase over/under voltage, phase sequence and loss relay
- 3-phase AC (own power supply)
- Power supply from 208 to 480 VAC
- Approvals/Marks: UL and CSA approved

MAIN FEATURES
- Detects the phase-phase or phase neutral voltage
- 17.5 mm width: the smallest in the market
- Independent voltage setpoints and built-in delays

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, 50 or 100 A full scale
- Self powered
- Approvals/Marks: UL - CSA - CCC approved

MAIN FEATURES
- 2-wire connection
- Knob adjustable setpoint
- Integrated solid state NPN PNP output

DIB71

- Dimensions: 81 x 35.5 x 67.2 mm DINrail housing
- Over or under current monitoring relay 1-phase AC/DC TRMS
- Power supply from 24 to 2380 VAC (± 15%)
- Approvals/Marks: UL, CSA and CE approved

MAIN FEATURES
- Solution to simply monitor oveload LED indication for relay, alarm and power supply ON
- 35.5 mm wide housing suitable both for both back and front panel mounting

3-phase centrifugal pump soft starters	3-phase general purpose soft starters	Soft starters

RSWT

- Motor rating: Up to 45 kW (90 A)
- 3-phase controlled & internally bypassed
- Ramp-up/Ramp-down time: up to 20 sec
- Operational voltage:
  RSWT40: 220 - 400 VAC, RSWT60: 220 - 600 VAC
- PTC input, Alarm - Top of Ramp - Run relay indication

MAIN FEATURES
- Easy to use and set up
- Self-learning algorithm to improve pump starts/stops
- Integrated overload protection (Class 10)

RSGD

- Motor Rating: Up to 22 kW in 45 mm
- Ramp up time: 1 - 20 sec
- Internally bypassed
- Mutli-voltage operation:
  RSGD40: 220 - 400 VAC
  RSGD60: 220 - 600 VAC
- Wide Control voltage range:
  Option E: 110 - 400 VAC
  Option F: 24 VAC/DC

MAIN FEATURES
- Easy to use and setup
- Current balancing algorithm
- Auxiliary relays for top of ramp and alarms

RSBS / RSBS HP

- Current limit starting
- Advanced diagnostic functions
- Internally bypassed
- Up to12 starts per hour
- Approvals/Marks: 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

Timers	Timers	Switching power supplies

HAA08 / HAA14

- 21.5 x 28 mm housing for 8 pin or 14 pin blade socket
- Multifunction timer
- DPDT or 4PDT output
- Universal power supply
- Approvals/Marks: cUR and CSA approved

MAIN FEATURES
- Front knob adjustable time setting
- Selectable time ranges from 0.1 s to 100 h
- Delay on operate/release, ON/OFF first symmetrical recycle, single/double interval on trigger open/close

FMB01

- 48 x 48 mm housing for 11 pin socket or panel mounting
- Multifunction timer with 7 functions
- DPDT output
- Universal power supply
- Approvals/Marks: cUR - CSA

MAIN FEATURES
- Front knob adjustable time setting
- Selectable time ranges from 0.05 s to 300 h
- Delay on operate/release, ON/OFF first symmetrical recycle, single/double interval on trigger open/close

SPD - DIN rail type (5 W...960 W)

- DIN-rail housing
- Short circuit and overload protection
- 1-Phase and 3-phase
- Universal supply voltage AC/DC
- Approvals/Marks: cUL listed and TUV/CE approved

MAIN FEATURES
- High efficiency
- LED indicator for DC power on
- Parallel versions available
- Active PFC ≥ 90 W
- Class II output ≤ 90 W

Switching power supplies	Digital panel meters	Digital panel meters

SPPC - Enclosed type - 25 W...800 W

- Compact dimensions
- Universal input voltage range: 85 VAC ~ 264 VAC / 120 VDC ~ 370 VDC (SPPC150F type)
- 105°C long life electrolytic capacitors
- Adjustable output

MAIN FEATURES
- High efficiency and compact size
- DC output: 5, 12, 15, 24 and 48 V
- Built-in active PFC (Power Factor Correction) function: PF >0.98 @115 VAC and PF > 0.95@ 230 VAC (SPPC150F type)

UDM40

- Panel mounting 48 x 96 x 105 mm
- Multi input modular 4DGT LED meter & controller
- AC/DC current and voltage, °C & °F temperature, resistance, frequency measurement
- Serial Port RS485/RS232 Modbus, JBUS protocol
- Approvals/Marks: CE, UL and CSA approved

MAIN FEATURES
- Particularly indicated for process control
- Up to 4 independent alarms and set points
- Linearization of V, A and Hz inputs up to 16 points

LDM40

- Dimensions: 48 x 96 x 83 mm
- Multi input instrument 4DGT LED
- AC/DC current/voltage measurements: selectable full scales (200 µA to 5 A / 200 mV to 500 V)
- Approvals/Marks: CE, cURS, CSA

MAIN FEATURES
- Measuring ranges and functions easily programmable from the front key pad
- Accuracy class 0.1% reading

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Food and Beverage

Our product range

CERTUS configurable safety module	CERTUS configurable I/O expansion modules	CERTUS data and diagn. modules + bus transfer

CMM

- 4 non-safety test outputs for sensor monitoring
- 2 non-safety programmable digital signal outputs
- 2 non-safety inputs for Start / Restart interlock and EDM
- CMC config memory card slot
- LOG file with 5 configuration modifications
- 24 connectors in 22.5 mm
- Connection with other exp. units via rear bus

MAIN FEATURES
- Also usable as a stand-alone device, able to control any other expansion unit
- 8 safety digital inputs
- 2 safety OSSD pairs (400 mA Output)
- Certified to the highest safety levels: SIL 3, SILCL 3, PLe, Cat.4, CE, TUV, cULus

C I/O

- Wide range of Input/Output, Input only or Output only (both OSSD and standard relay) expansion units to serve different application requirements
- Models offer a variety of non-safety Inputs/Outputs such as: inputs for Start/Restart interlock and EDM, test outputs

MAIN FEATURES
- The models offer eight combinations:
  - 8 Inputs 2 Outputs; 12 Inputs 8 test Outputs
  - 8 Inputs, 16 Inputs,
  - 2 OSSD, 4 OSSD
  - 2 relay Outputs, 4 relay Outputs

DDC + CBT

- DDC: Expansion unit for Diagnostics and Data Comm.:
  - C PFBUS - Profibus DP, - C DNET - DeviceNET
  - C CAN - CANOpen, - C EIP - Ethernet IP
  - C ECAT - EtherCAT, - C PFNET - PROFINET
  - C OMMS - Universal Serial Bus
- Bus Transfer: Interface module allowing the connection of remote expansions via bus
- DDC: Allows communication with most common industrial fieldbus systems

MAIN FEATURES
- Bus transfer: up to 100 m for each connection. Maximum 5 CBT expansions. Ideal solution for the interconnection of the safety functions of several machines in a production line

CERTUS Speed monitoring modules	Safety modules	Safety light curtains

CES

- Expansion units to monitor speed (Ple):
  - Zero speed
  - Max speed
  - Speed range
  - Motion direction; rotation / translation.
- RJ45 for encoder connections and terminal blocks for connection of proximity (up to 2 proximity switches per module).
- Inputs frequency: Encoder up to 500 KHz (300 KHz for HTL), Proximity up to 5 KHz.

MAIN FEATURES
- The modules allow to configure up to 4 speed thresholds for each logic output (axis)
- Each module integrates two logic outputs configurable via the MSD and is capable to control up to two independent axes

NES02D / NES13D / NLG

- Safety modules for gate and emergency stop (NE) and light curtain (NL)
- 2 NO / 3 NO safety Outputs
- IP40 protection for housing and IP20 protection for terminals
- Approvals/Marks: CE - cULus

MAIN FEATURES
- Safety category 4
- < 30 ms response time
- Performance Level PLr: e in according with ISO 13849-1
- Safety Integrity Level SILcl:3 in according with IEC 62061

SC2 / SC4

- Dimensions: 36.9 x 32.3 mm in lengths from 300 to 1500 mm for type 2, and from 150 to 1650 mm for type 4
- 24 VDC supply with two PNP transistor Outputs
- IEC-61496-2 environment light rejection
- Approvals/Marks: CE - cULus

MAIN FEATURES
- Selectable Manual/Automatic Restart, EDM and Anti interference
- Compact body

CARLO GAVAZZI

OUR SALES NETWORK IN EUROPE

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