CARLO GAVAZZI
A u t o m a t i o n   C o m p o n e n t s

CARLO GAVAZZI

Solutions

Lifts and Escalators

Solutions for Lifts & Escalators

Electric Lifts

Hydraulic Lifts

Escalators

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 three product lines: Sensors, Switches and Controls.

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 materials handling equipment, door and entrance control systems, lifts and escalators, as well as heating, ventilation and air-conditioning devices.

DESIGNED TO MEET MARKET REQUIREMENTS

Carlo Gavazzi, thanks to its expertise in providing components for Lift and Escalator equipment, is able to offer innovative and reliable solutions to maximize comfort and reduce operational costs. The Lifts and Escalators market includes three main areas: new equipment, modernization and maintenance. Market trends show that Asia will be a key source of demand for elevators in the coming years, thanks to the very active construction market and the trend to concentrate people in high-rise buildings, while in Europe and North America, sales of maintenance and upgrading systems are expected to grow at higher rates than new equipment

sales, as a result of safety requirements and the aging of current installations.
Carlo Gavazzi's magnetic proximity sensors are used in the Lifts and Escalators market for many applications, such as cabin levelling, speed monitoring and cabin presence detection. The accuracy and speed of these sensors, combined with the availability of various output functions, ensure the best signals for economical high speed elevator control. The levelling accuracy of a lot of existing lift equipment could be deemed unacceptable by today's stringent standards. The SMS20, SMS31 and CL20D2A modules are used to monitor safe levelling of the cabin. Pit inspection and maintenance activities of the lifts can be controlled by our range of safety modules (SMS20,

SMS31, CL20D2A, CM40D0A and CM30D1A).
These modules allow the technicians to disable the panel commands inside the cabin and give specific movement commands only from the panel on the roof of the cabin.
Not only is safety important in lift systems, but also continuity of operation in case of energy loss.
Our range of DIN rail mounting DC UPS modules provides different solutions with integrated or external power supply, load and charging current up to 30A.
Furthermore, the energy efficiency of lift and escalator systems can be constantly monitored by our wide range of energy meters. Our range also includes several accessories to enhance our powerful and user-friendly solutions.

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

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Lift levelling safety modules	Multifunction safety modules	Magnetic sensors	Photoelectric sensors	Photoelectric sensors
SMS20 SMS31 CL20D2A	CM40D0A CM30D1A	SPBP2 FMP	PD70 PE12 PA18	PF74

Electric lifts make any number of trips per day, from a few to hundreds. So their components have to guarantee maximum reliability, accuracy and robustness. Carlo Gavazzi offers a wide range of components to make sure these requirements are met, such as the top-selling SPB2 and FMP series of magnetic sensors to detect the presence of the cabin at various levels in the shaft.

The DPA51 monitoring relay is designed to detect phase sequence or loss in the system.

Protection of people or property against the risk of electric shock or fire is provided by the DEB71 earth leakage monitoring Rilay.

The SMS20, SMS31 and CL20D2A modules are used to monitor safe levelling of the cabin. Pit inspection and maintenance activities of the lifts can be controlled by our range of safety modules (SMS20, SMS31, CL20D2A, CM40D0A and CM30D1A).

The cabin door can be equipped with the PE12 or PD70 photoelectric sensors.

In high speed lifts, floor detection is carried out with the PF74 photoswitch and bands to trip the sensor when at the floors. High commutation speed allows the detection of all floors even when the cabin is at the maximum speed. The sensor can also be fitted into limited space, with easy installation

and setting.

The PS limit switch series ensures reliable detection of the cabin position. The range of panel products also includes the DPA51, DPA52 and DPA53 monitoring relays to monitor mains quality and avoid undesidered failures, the 24VDC switching power supplies (used increasingly in electrical panels), the thermistor relays DTA71 and DTA72 to detect lift motor overheating, the FSA hour meter to correlate preventive maintenance with usage of the lift, and our well-known DAA51, DMB51 and HAA timers and RMI relays. A special role is reserved for energy meters, used increasingly to ensure the

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Energy analyzer	Earth leakage protection relays	Monitoring relays		Timers		Power supplies	Power transducers
EM210	DEB71	DPA51 / DPA01	HAA08 / HAA14			SPD	CPT
EM340		DPA55 / DPB51	DAA51 / DMB51			SPM	
						SPDM	

lift complies with LEED requirements or other energy-saving policies and legislation. Our EM210 and EM340 energy meters or CPT transducer (when no visualization is required) are excellent cost-effective solutions when panel space is limited.

Goods lifts

Built to withstand the rigours of harsh working environments, goods lifts are particularly suitable for industrial and commercial use.

They are ideal for locations requiring efficient transfer of goods from one floor to another, such as shopping malls, department stores, hotels and leisure establishments.

Construction characteristics may differ from those of a standard lift, such as the absence of a segregated shaft or cabin doors.

For this reason, Carlo Gavazzi recommends the use of special components in addition to the features available on standard electrical or hydraulic lifts.

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

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Hydraulic Lifts

Lift levelling safety modules	Multifunction safety modules	Magnetic sensors	Photoelectric sensors
SMS20 SMS31 CL20D2A	CM40D0A CM30D1A	FMP SPB2	PE12 PD70 PA18

A hydraulic elevator system lifts a car using a hydraulic ram, a fluid-driven piston mounted inside the cylinder.
With hydraulic lifts it is particularly important to safely regulate cabin/floor levelling. If the cabin is not at the same level as the floor, when the door opens, this could be dangerous for passengers. In order to avoid any kind of accident, Carlo Gavazzi's solution is to control cabin levelling by means of a safety contact, according to the norms included in the Lifts and Machinery Directives.
Our solution consists of two monostable magnetic switches mounted on the cabin and connected to safety modules, allowing the safety control system to effectively operate the level adjustment.

Two additional mono-stable magnetic switches send an indication of the correct levelling to the control system.

The SMS20, SMS31 and CL20D2A modules are used to monitor floor levelling and re-levelling of the cabin. Pit inspection and maintenance activities of the lifts can be controlled by our range of safety modules (SMS20, SMS31, CL20D2A, CM40D0A and CM30D1A).
They are connected to the lift plant and to the lift controller board. When the cabin arrives at the floor level, the landing circuit slows it down, while the cabin doors circuit allows the cabin to be levelled to the floor.
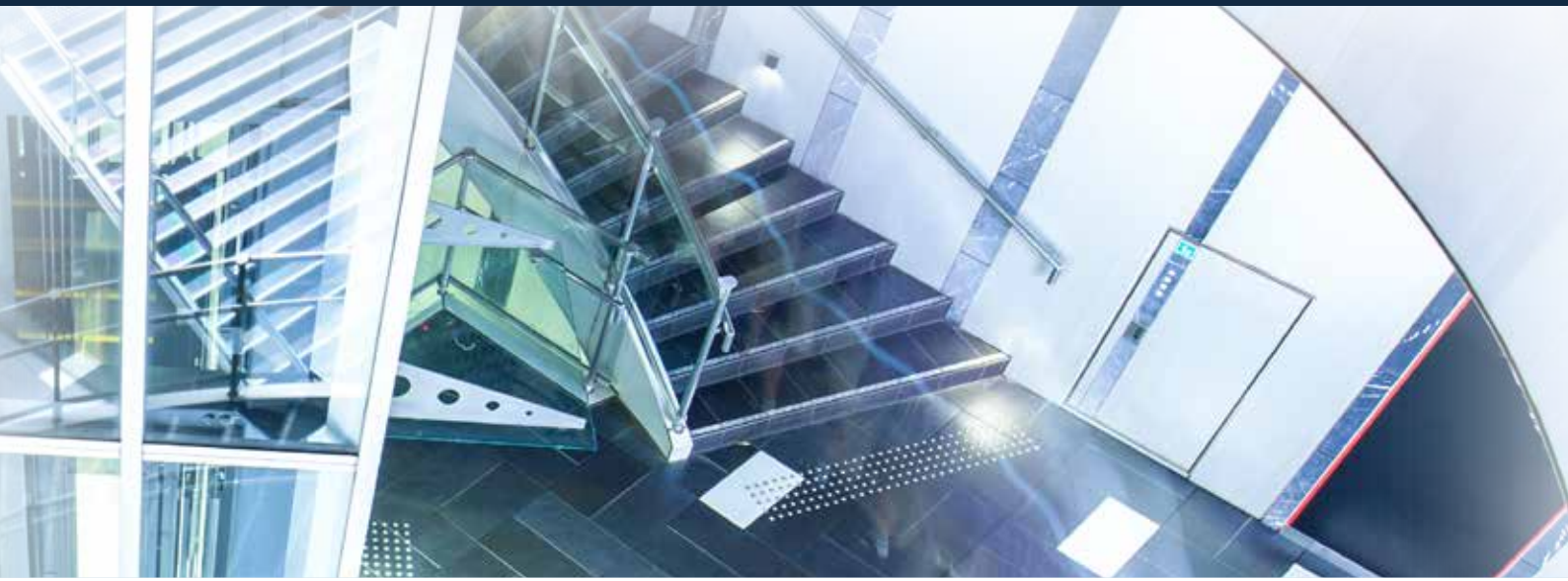
These safety modules are compliant with Lift Directive standards EN 81-20, EN 81-50, EN 12015 and EN 12016.
These standards apply to both passenger and goods lifts.
The EN 81-20 specifies the technical requirements for the construction of lifts.
The EN 81-50 specifies rules, calculations and testing of the lift components.

The PS limit switch series also ensures reliable detection of the cabin position.

Protection of people or properties against shock risk or fire is provided by the DEB71 earth leakage monitoring relay.

Monitoring relays	Earth leakage protection relays	Soft starters	Smart UPS	Limit switches
DTA71 DTA72	DEB71	RSGD RSBD RSBT	SPUBC	PS

The SPUBC, our latest development for DC energy continuity, is not just a simple battery charger, it is a totally new DC UPS concept. It is a power supply providing 5A nominally, but capable of supplying 10A continuous service, boosting up to 15A for 4 seconds in case of need.

The condition of the battery is continuously monitored by the diagnostic cycle and this can predict or provide remote information about any possible failure.

The SPUBC does not allow complete battery discharge but, if connected to a totally flat battery, it can restore the operation by means of a specific charging cycle.
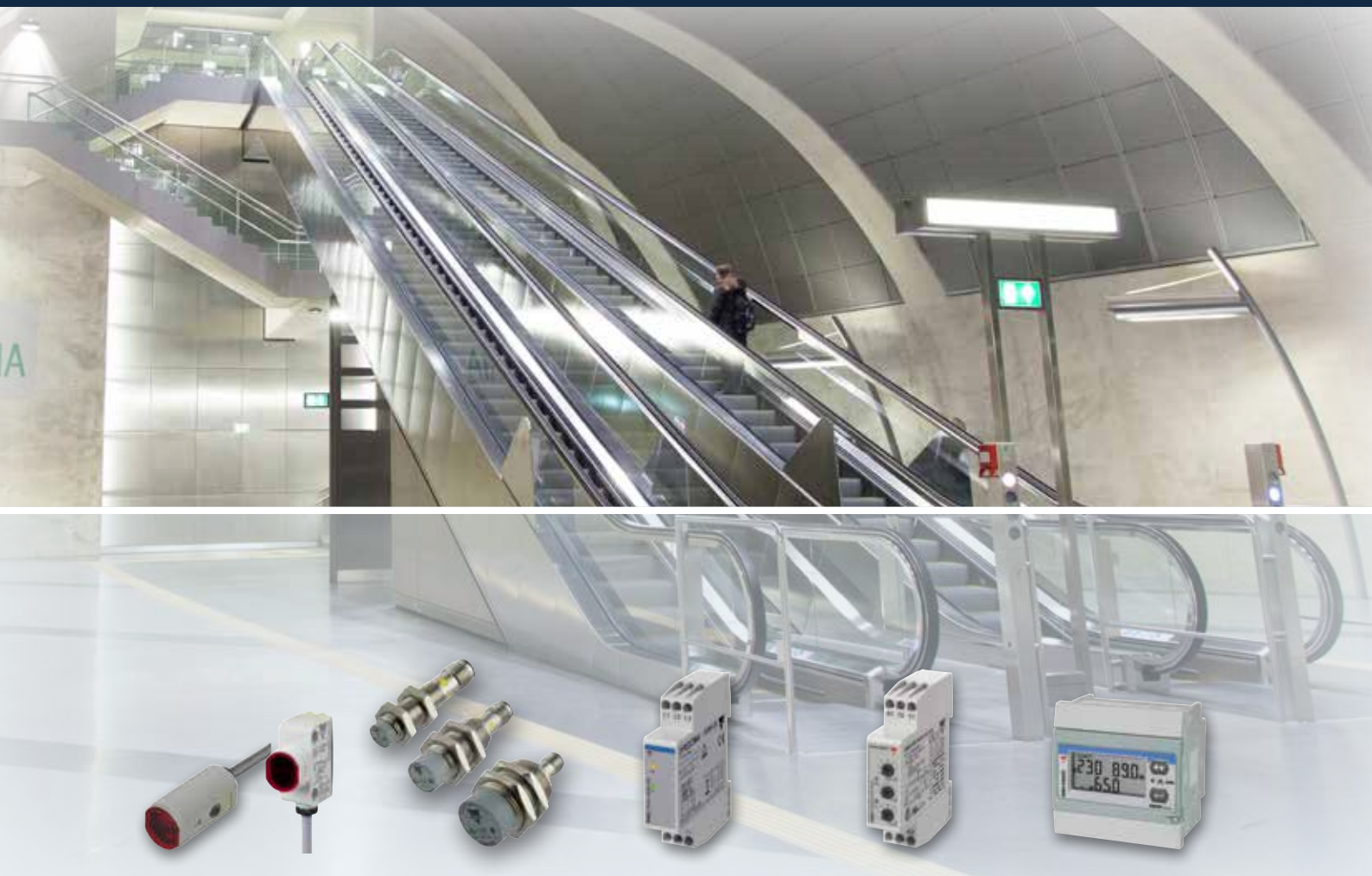
Goods lifts

For hydraulic goods lifts, the SMS20 and SMS31 are even more important components than for ordinary lifts, as they correct sudden shifts of position caused by platform loading and unloading.

RSBT/D soft starters help to reduce the starting current of the hydraulic pump.

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

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Escalators

Photoelectric sensors	IO-Link inductive sensors	Monitoring relays	Timers	Energy analyzers
PA18 / PH18 PD30 / PE12	ICB12 ICB18 ICB30	DPA52 / DPA51 DPA53 / DPB52 DTA71 / DTA72	DAA51 DMB51	EM210

Carlo Gavazzi considers all indoor and outdoor application needs when designing and manufacturing products for the escalator market.

Its range includes inductive proximity sensors to ascertain the speed, position and direction of the escalator, as well as photoelectric sensors to detect the presence of commuters using the escalator and switch from standby mode to operational mode (dual-speed mode).

The IO-Link ICB inductive sensors allow easy exchange of process data, remote configurations and events with simple and inexpensive 3-wire cabling, without needing to change the existing architecture. The ICB series, available from M12 to M30, can be completely configured to enable new functionalities such as the divider and speed control functions.

In line with global attention to energy conservation issues, energy meters are also available to monitor energy efficiency.

Our range of monitoring relays provide additional control features to indicate possible malfunctions in the escalator control and power system such as over/under voltage/current, phase loss, incorrect phase sequence and motor overheating.

Protection of people or property against the risk of electric shock or fire is provided by the DEB71 earth leakage monitoring relay.

For escalator control panels, the Carlo Gavazzi offer includes industrial mechanical relays; timers/counters; safety modules and many other devices.

Our Expertise in Energy Efficiency

Energy analyzers	Energy analyzers	Current sensors
EM24	EM210 EM210 MV	CTV ROG4K

When considering the energy profile of a building, lifts are an important power issue (power consumption is high) and often also an energy efficiency issue (as lifts are frequently in use). This makes energy management a prerequisite for lifts. Here are a couple of examples:

EM24 and EM210:
for regenerative lifts

Electric lifts, with regenerative variable speed drives, consume electrical energy when ascending full or descending empty. When they go up empty or they descend full, the motor acts as a brake and the mechanical energy is transformed into electrical energy and then delivered back to the network.

The BMS (Building Management System) needs to know the energy consumption of the elevator, how it impacts on the total consumption of the building and how much energy is returned to the network (very important, as this goes into the "green" part of the energy equation of the building). The EM24 measures energy in both directions, it is easy to install and directly measures up to 65A, covering most applications. It can retransmit the info via several protocols, including the possibility to be directly connected to the LAN in its Modbus Ethernet version. The EM210 measures both imported and exported energy for CT measuring applications. Furthermore, the Modbus RTU connection allows data transmission to the BMS.

EM210 MV: better efficiency

When proposing the replacement of a lift (or, sometimes, only the electrical parts) it is important to have convincing arguments. One of these can be produced by connecting the EM210 MV to the old system.
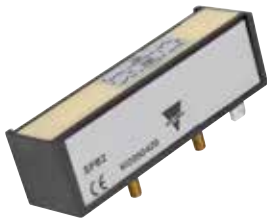
The EM210 MV (designed for easy installation in a refitting) measures the total energy consumption of the elevator, making it easy to calculate the energy saving that a new lift could achieve.

The EM210, in its retrofit variant, can manage both split-core transformers and Rogowski coils, so that its installation in order to perform the monitoring test is faster and easier.

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Lifts & Escalators

Our product range

Magnetic sensors	Cylindrical magnetic sensors	Inductive sensors	Smart configurator for IO-Link sensors

SPB2

- Dimensions: 85 x 24 x 25.5 mm
- Housing material: plastic with two metal shielded sides
- Operating distance: 5 - 30 mm
- Output function: bistable
- Degree of protection: IP65 (SPB2) - IP67 (SPB22MT)

MAIN FEATURES
- Easy and fast mounting
- Cable or faston connector output
- Reduced magnetic interference when mounted side by side with other sensors

FMP

- Housing material: plastic with M12 diameter
- Operating distance: 7 - 26 mm
- Output functions: NO, NC, bistable or CO
- Front side switching
- Degree of protection: IP67

MAIN FEATURES
- Different housing colours based on the output function
- Threaded body and two plastic nuts included for easy mounting
- Supports and brackets for simple sensor positioning (on request)

ICB12..IO/ICB18..IO/ICB30..IO

- Nickel-plated brass M12, M18 or M30 cylindrical threaded barrel housings
- Sensing distance from 4 mm to 22 mm
- Output functions: programmable NO or NC, NPN, PNP or push-pull
- 2 meter oil resistant PVC cable or M12 plug version
- CE, cULus
- IO-Link V1.1

MAIN FEATURES
- Operating temperature: -25°C to +70°C (-13° to +158°F), and -40°C to +70°C (-40° to +158°F) for M12-plug version
- Adjustable sensing distance and hysteresis and configurable output
- Up to 2 kHz operating frequency

SCTL55

- Handheld device for IO-Link sensors
- 5.5" HD touch screen display
- Automatic IODD file download via Wi-Fi
- High capacity rechargeable battery
- M8 3-wire, M8 4-wire and M12 connectors
- CE, FCC, IC
- IO-Link v1.1

MAIN FEATURES
- Intuitive GUI with dedicated App for a simplified user experience.
- Access to an advanced diagnostic of the sensor connected.
- Easy management of parameters such as switchpoint mode, logic and timing functions, sensing distance, output configuration (PNP/NPN/push-pull, NO/NC)

Photoelectric sensors	Photoelectric sensors	Photoelectric sensors	Photoelectric sensors

PE12

- Dimensions: Ø12 x 29 mm Click-in
- Through-beam sensors, 15 m sensing distance
- Cable or pig-tail versions
- Power supply 10 to 30 VDC
- CE, cULus

MAIN FEATURES
- Detects interruptions of the light beam
- Fast mounting
- ESPE2, performance level: C (EN13849-1)
- Plug and play: no settings needed

PD70

- Dimensions: 11.6 x 11.6 x 70 mm
- Through-beam sensors, 12 m sensing distance
- Cable or M8 plug versions
- Power supply 10 to 30 VDC
- CE, cULus

MAIN FEATURES
- Detects interruptions of the light beam
- Slim housing, ESPE2 viewing angle
- Plug and play: no settings needed

PA18

- Dimensions: M18 x 39 mm
- Diffuse reflective sensors, 1 m detecting distance
- Cable or M12 plug versions
- Power supply 10 to 30 VDC
- CE, cULus

MAIN FEATURES
- Sensors used to directly detect human presence
- Fast mounting, smooth finish
- Sensitivity adjustment

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
- 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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Our product range

Photoelectric sensors	Photoelectric fork sensor for lifts	Lift levelling and pit inspection modules	Multifunction safety modules

PD30

- Dimensions: 10,8 x 20 x 30 mm
- Power supply: 10 to 30 VDC
- Output NPN or PNP, Normally Open or Normally Closed
- Emitter with Mute Input for testing the sensor
- Through beam and Retro-reflective sensors

MAIN FEATURES
- Light beam approved to Safety Category 2
- UL325, UL508, EN12445, EN12453, EN12978
- Visible polarized light or Infrared versions
- Used for Entrance systems

PF74

- Dimensions: 74 x 60 x 15 mm Fork opening 30 mm
- Photoelectric Fork Sensor
- Power supply 24 VDC (± 20%)
- Push-Pull Transistor output, 100 mA
- CE, CCC

MAIN FEATURES
- Detection of the elevator chair
- Fast detection: 1000 Imp per sec.
- High detection gain to detect through i.e. smoke.

SMS20 / SMS31

- Dimensions 110,8 x 17,5 x 121,1 mm DIN-rail housing
- Auto, manual or monitored manual start
- 2 NO (SMS20) or 3 NO (SMS31) safety relay outputs
- 1 NC auxiliary relay output (SMS31)
- Detachable screw terminals

MAIN FEATURES
- Dual channels simultaneity infinite
- Safe monitoring of emergency stops, interlocks, safety magnetic and limit switches
- Front LED's for safety channel diagnosis
- PL e as per ISO EN 13849-1
- EN81-20/EN81-50 Lifts Directive

CM40D0A / CM30D1A

- Compact dimensions: 18 x 90 x 63 mm
- Dual channels for E-stop, ESPE, interlocks, safety magnetic and limit switches
- Automatic or manual start
- 4 OSSD safety outputs (CM40)
- 3 OSSD safety outputs + 1 OSSD auxiliary output (CM30)
- Screw terminals

MAIN FEATURES
- Safe monitoring of E-stops, safety optical sensors, interlocks, safety switches
- Adjustable delay on OSSD safety outputs (CM40)
- Front LED's for safety channel diagnosis
- PL e as per ISO EN 13849-1
- SIL3 as per IEC 62061, SIL cl3 as per IEC 61508

Lift levelling safety modules	3-phase monitoring relays	3-phase monitoring relays	3-phase monitoring relays

CL20D2A

- Compact dimensions: 18 x 90 x 63 mm
- Dual channels for ESPE, safety magnetic and limit switches
- Automatic or manual start
- 2 OSSD safety outputs
- 2 OSSD auxiliary outputs (NO + NC)
- Screw terminals

MAIN FEATURES
- Safe monitoring of safety optical sensors and safety switches
- Front LED's for safety channel diagnosis
- Certified as per EN 81-20 and EN 81-50 Lift standards
- PL e as per ISO EN 13849-1
- SIL3 as per IEC 62061, SIL cl3 as per IEC 61508

DPA51 / DPA52 / DPA53

- Phase sequence and loss
- Dimensions: 81 x 17,5 x 67,2 mm DIN-rail housing
- Undervoltage detection [DPA53]
- Power supply voltage 208-480 VAC [DPA51, DPA52]
- CE, UL, CSA, CCC

MAIN FEATURES
- Protects lift from reverse run [DPA51,DPA52]
- Motor protection from reverse running and undervoltage [DPA53]
- Detect regenerated voltage protecting from motor failure
- Small size for the control panel
- Plug and play: just undervoltage setpoint [DPA53]

DPA55

- Phase sequence and loss
- Detects incorrect mains voltage
- Dimensions: 81 x 17.5 x 67.2 mm DIN-rail housing
- Power supply voltage 208-480 VAC
- CE, UL, CSA, CCC

MAIN FEATURES
- Protects lift from reverse run
- 17.5 mm width: the smallest on the market
- Disconneting power supply if not the expected one

DPB51 / DPB52

- Phase sequence and loss; overvoltage and undervoltage detection + time delay
- 3P connection; 3P + N connection [DPB51]
- Dimensions: 81 x 17,5 x 67,2 mm DIN-rail housing
- Power supply voltage 208-480 VAC
- CE, UL, CCC

MAIN FEATURES
- Complete mains monitoring in a space saving solution
- Lift motor protection from power supply issues
- Small size for the control panel

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

Our product range

Motor thermistor relays	Earth leakage protection relays	Dupline® channel generator	Dupline® master modules

DTA71/ DTA72

- Motor temperature
- PTC Open and PTC Short detection
- Dimensions: 81 x 35.5 x 67.2 mm DIN-rail housing
- Universal power supply from 24 V to 240 VAC/DC
- CE, UL

MAIN FEATURES
- Multicolour LED with alarm discrimination
- Auto or manual, local or remote reset, test function (DTA72)
- Ready for reset function (DTA72)

DEB71

- Earth leakage with warning output
- LED leakage Level indicator
- Dimensions: 81 x 35.5 x 67.2 mm DIN-rail housing
- Power supply from 24V to 240 VDC
- CE (IEC EN 60947-2 Annex M), UL

MAIN FEATURES
- Adjustable trip current setting from 30 mA to 30 A
- Remote test / Reset input
- Warning indication and outputt

SD2DUG24

- DIN-rail housing, 2 modules
- 2 and 3-wire operation with DC-power on the 3°rd wire. The unit supports Digital in/out, Analink in/out, Mux BCD in/out, 8 bit in/out and Dupline®
- Dupline® to Modbus gateway via RS485

MAIN FEATURES
- Programmable via software
- Powered by 24Vdc
- Part of the UWP platform

G219600..700

- Dimensions: 86 x 54 mm Open PCB
- Generates Dupline® carrier signal
- RS485 interface for Lift Controller
- Power supply from 20 to 30 VDC
- Synchronizes 24 VDC power supply with Dupline®

MAIN FEATURES
- Generates 3-wire system with power and communication
- Plug&Play versions available for specific PLC brands
- Possibility to multidrop up to 16 units as modbus slaves

Dupline® I/O modules	Dupline® I/O modules	Dupline® output /input modules	3-phase power transducer

G21404421700

- Dimensions: 54 x 40 mm Open PCB
- 2 contact inputs
- 2 PNP transistor outputs
- Powered by Dupline® 3-wire bus
- LED indications for supply and carrier

MAIN FEATURES
- Used as interface for buttons and lamps at landing stations
- Input pulse prolongation to catch short button activations
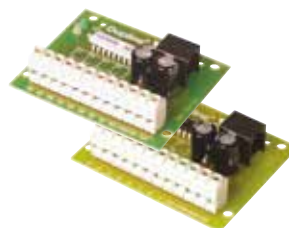- Simplifies the wiring to the lift controller

G214055.0700

- Dimensions: 74 x 59 mm Open PCB
- 4 contact inputs
- 4 PNP transistor outputs
- Powered by Dupline® 3-wire bus
- LED indications for supply and carrier

MAIN FEATURES
- Used as interface for buttons and lamps in the car
- Input pulse prolongation to catch short button activations
- Simplifies the wiring to the lift controller

G213055.1700
G2120550.700

- Dimensions: 74 x 59 mm Open PCB
- 8 PNP or NPN transistor outputs (G2130)
- 8 contact or voltage inputs (G2120)
- Powered by Dupline® 3-wire bus
- LED indications for supply and carrier
- Operating temperature -20°C to 50°C

MAIN FEATURES
- Used as interface for floor indicators (G2130) or as general purpose inputs (G2120)
- The same 8 Dupline® addresses can be used for all floor indicators (G2130)
- Input pulse prolongation to catch short button activations (G2120)
- Simplifies the wiring to the lift controller

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

Our product range

3-phase energy analyzers	3-phase energy analyzers for 5A, CTV or ROG4K	3-phase energy analyzers for direct current up to 65A	3-phase soft starters

EM24

- 3-phase energy meter with direct connection
- Direct connection up to 65 A
- Dimensions 4-DIN rail module housings
- Class 1 (kWh) acc. to EN62053-1
- Optional serial port (RS485 Modbus RTU, Ethernet Modbus TCP/IP, wired and wireless M-bus), digital input and outputs

MAIN FEATURES
- Direct measurement in a very compact housing to save space
- Allows integration of energy management in the Dupline® fieldbus system
- On request, MID annex D certification available
- Dupline® port for energy and inst. variable retransmission (optional)

EM210 / EM210 MV

- 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); miniature CTV or Rogowski ROG4K 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)

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 V$_{LL}$ 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)

RSGD

- Operational current: 12 A up to 100 A
- 2-phase controlled & internally bypassed
- Settings: FLC, ramp-up and ramp-down
- Operational voltage: 220 - 600VAC, 50/60Hz
- Housing width: 45mm up to 45A, 75mm 55A to 100A
- cULus, CCC, EAC

MAIN FEATURES
- Self-learning, auto-optimising algorithm for low and high starting torque applications
- Easy to use and setup: only 3-user adjustments required
- Current balancing algorithm
- Integrated overload protection (Class 10)
- Torque control during ramp-down

3-phase soft starters	3-phase soft starters	Switching power supplies	1-phase DIN-rail power supplies

RSBD

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

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

RSBT

- Self-learning algorithm for current reduction
- Operational current: 16 A up to 95 A
- 3-phase controlled and internally bypassed
- Operational voltage: 220 - 480VAC, 50/60Hz
- cULus, CCC and VDE

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

SPM

- Output power from 7.5 W to 100 W
- Input 110 / 240 V 1-phase and DC 120 V to 370 V
- Short circuit, overload protection
- From -25°C to +60°C operation without derating
- CE, cULus, cURus, UL1310 Class 2 (up to 91.2 W), ISA 12.12.1 Class I Div2, TÜV

MAIN FEATURES
- Compact design for installation within distribution box, ratings up to 100W
- High efficiency (up to 89%)
- Operating temperature w/o derating -25°C to + 60°C

SPD

- DIN-rail housing
- Short circuit protection
- 1-phase, Bi-phase and 3-phase AC; up to 960 watt output
- Rated input voltage: 115/230 VAC selectable 100/240 VAC
- CE, cULus, cURus, UL1310 Class 2 (up to 90W), ISA 12.12.1 CLASS I DIV2, TÜV, CCC

MAIN FEATURES
- Overload protection
- Parallel versions available
- High efficiency

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Lifts & Escalators
Our product range

Switch mode power supplies	UPS controller	Smart UPS	Limit switches

SPDM Plastic

- Output from 24W to 72W
- Low consumption
- Compact dimension
- Universal input voltage AC and DC
- CE, cULus, UL1310 Class 2 (for 72 W only for 24 VDC models)

MAIN FEATURES
- Screw or spring loaded terminals
- DC OK LED indication
- Short circuit, overload and overvoltage protection

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, cULus, cURus, TÜV

MAIN FEATURES
- To be used in addition to 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 diagnosis
- CE, cURus

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

PS

- Material: plastic, metal
- Horizontal / vertical control available
- Minimum actuation force / torque
- CE, UL and CSA

MAIN FEATURES
- Mechanical life > 15,000,000 cycles
- Precise operating point

Timers	Timers	Industrial relays	Counters

DAA51 / DMB51

- Dimensions: 81 x 17.5 x 67.2 mm DIN-rail housing
- Delay on operating function (DAA51), multifunction (DMB51)
- Combined AC and DC power supply
- Repeatability: < 0.2%
- UL, CSA and RINA

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

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
- cUR and CSA

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

RMI...

- 2 or 4 poles
- Max load: 5 A (4 poles) 10 A (2 poles) / 250 VAC
- DC coils: 6 - 110 VDC
- AC coils: 6 - 230 VAC
- Degree of protection IP40

MAIN FEATURES
- High switching power
- Long life (minimum 100.000 electrical ops.)
- Standard with LED, Push with arm and Flag

FSA01 / FSA02

- 24 x 48 mm housing
- Counting up to 100,000 hours
- Battery lifetime 8 years
- NPN/PNP or AC/DC inputs
- Reset button with locking function

MAIN FEATURES
- Preventive maintenance ensured
- Can be connected straight to the pump for time counting
- Front IP65 protection for all environments

CARLO GAVAZZI

OUR SALES NETWORK IN EUROPE

AUSTRIA
Carlo Gavazzi GmbH
Ketzergasse 374,
A-1230 Wien
Tel: +43 1 888 4112
Fax: +43 1 889 10 53
office@carlogavazzi.at

BELGIUM
Carlo Gavazzi NV/SA
Mechelsesteenweg 311,
B-1800 Vilvoorde
Tel: +32 2 257 4120
Fax: +32 2 257 41 25
sales@carlogavazzi.be

DENMARK
Carlo Gavazzi Handel A/S
Over Hadstenvej 40,
DK-8370 Hadsten
Tel: +45 89 60 6100
Fax: +45 86 98 15 30
handel@gavazzi.dk

FINLAND
Carlo Gavazzi OY AB
Ahventie, 4 B
FI-02170 Espoo
Tel: +358 9 756 2000
myynti@gavazzi.fi

FRANCE
Carlo Gavazzi Sarl
Zac de Paris Nord II, 69, rue de la Belle Etoile,
F-95956 Roissy CDG Cedex
Tel: +33 1 49 38 98 60
Fax: +33 1 48 63 27 43
french.team@carlogavazzi.fr

GERMANY
Carlo Gavazzi GmbH
Pfnorstr. 10-14
D-64293 Darmstadt
Tel: +49 6151 81000
Fax: +49 6151 81 00 40
info@gavazzi.de

GREAT BRITAIN
Carlo Gavazzi UK Ltd
4.4 Frimley Business Park,
Frimley, Camberley, Surrey GU16 7SG
Tel: +44 1 276 854 110
Fax: +44 1 276 682 140
sales@carlogavazzi.co.uk

ITALY
Carlo Gavazzi SpA
Via Milano 13,
I-20020 Lainate
Tel: +39 02 931 761
Fax: +39 02 931 763 01
info@gavazziacbu.it

NETHERLANDS
Carlo Gavazzi BV
Wijkermeerweg 23,
NL-1948 NT Beverwijk
Tel: +31 251 22 9345
Fax: +31 251 22 60 55
info@carlogavazzi.nl

NORWAY
Carlo Gavazzi AS
Melkeveien 13,
N-3919 Porsgrunn
Tel: +47 35 93 0800
Fax: +47 35 93 08 01
post@gavazzi.no

PORTUGAL
Carlo Gavazzi Lda
Rua dos Jerónimos 38-B,
P-1400-212 Lisboa
Tel: +351 21 361 7060
Fax: +351 21 362 13 73
carlogavazzi@carlogavazzi.pt

SPAIN
Carlo Gavazzi SA
Avda. Iparraguirre, 80-82,
E-48940 Leioa (Bizkaia)
Tel: +34 94 480 4037
Fax: +34 94 431 6081
gavazzi@gavazzi.es

SWEDEN
Carlo Gavazzi AB
V:a Kyrkogatan 1,
S-652 24 Karlstad
Tel: +46 54 85 1125
Fax: +46 54 85 11 77
info@carlogavazzi.se

SWITZERLAND
Carlo Gavazzi AG
Verkauf Schweiz/Vente Suisse
Sumpfstrasse 3,
CH-6312 Steinhausen
Tel: +41 41 747 4535
Fax: +41 41 740 45 40
info@carlogavazzi.ch

OUR SALES NETWORK IN THE AMERICAS

USA
Carlo Gavazzi Inc.
750 Hastings Lane,
Buffalo Grove, IL 60089, USA
Tel: +1 847 465 6100
Fax: +1 847 465 7373
sales@carlogavazzi.com

CANADA
Carlo Gavazzi Inc.
2660 Meadowvale Boulevard,
Mississauga, ON L5N 6M6, Canada
Tel: +1 905 542 0979
Fax: +1 905 542 22 48
gavazzi@carlogavazzi.com

MEXICO
Carlo Gavazzi Mexico S.A. de C.V.
Circuito Puericultores 22, Ciudad Satelite
Naucalpan de Juarez, Edo Mex. CP 53100
Mexico
T +52 55 5373 7042
F +52 55 5373 7042
mexicosales@carlogavazzi.com

BRAZIL
Carlo Gavazzi Automação Ltda.Av.
Francisco Matarazzo, 1752
Conj 2108 - Barra Funda - São Paulo/SP
Tel: +55 11 3052 0832
Fax: +55 11 3057 1753
info@carlogavazzi.com.br

OUR SALES NETWORK IN ASIA AND PACIFIC

SINGAPORE
Carlo Gavazzi Automation Singapore Pte. Ltd.
61 Tai Seng Avenue #05-06
Print Media Hub @ Paya Lebar iPark
Singapore 534167
Tel: +65 67 466 990
Fax: +65 67 461 980
info@carlogavazzi.com.sg

MALAYSIA
Carlo Gavazzi Automation (M) SDN. BHD.
D12-06-G, Block D12,
Pusat Perdagangan Dana 1,
Jalan PJU 1A/46, 47301 Petaling Jaya,
Selangor, Malaysia.
Tel: +60 3 7842 7299
Fax: +60 3 7842 7399
sales@gavazzi-asia.com

CHINA
Carlo Gavazzi Automation
(China) Co. Ltd.
Unit 2308, 23/F.,
News Building, Block 1,1002
Middle Shennan Zhong Road,
Shenzhen, China
Tel: +86 755 83699500
Fax: +86 755 83699300
sales@carlogavazzi.cn

HONG KONG
Carlo Gavazzi Automation
Hong Kong Ltd.
Unit No. 16 on 25th Floor, One Midtown,
No. 11 Hoi Shing Road, Tsuen Wan,
New Territories, Hong Kong
Tel: +852 26261332
Fax: +852 26261316

OUR COMPETENCE CENTRES AND PRODUCTION SITES

DENMARK
Carlo Gavazzi Industri A/S
Hadsten

CHINA
Carlo Gavazzi Automation (Kunshan) Co., Ltd.
Kunshan

MALTA
Carlo Gavazzi Ltd
Zejtun

ITALY
Carlo Gavazzi Controls SpA
Belluno

LITHUANIA
Uab Carlo Gavazzi Industri Kaunas
Kaunas

HEADQUARTERS

Carlo Gavazzi Automation SpA
Via Milano, 13
I-20020 - Lainate (MI) - ITALY
Tel: +39 02 931 761
info@gavazziautomation.com

CARLO GAVAZZI
Automation Components

Energy to Components!

www.gavazziautomation.com

CARLO GAVAZZI