Solutions

Lifts and 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 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 materials handling equipment, door and entrance control systems, lifts and escalators, as well as heating, ventilation and airconditioning devices.

Lifts & Escalators

Solutions for

Electric Lifts

Hydraulic Lifts

Escalators
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.

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.
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: from the top-selling SPB2 and FMP series of magnetic sensors to detect the presence of the cabin at various depths in the shaft, to the DPA51 monitoring relay, designed to detect phase sequence or failure in the system. 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 DPA53 monitoring relay to detect very low power supply voltage to avoid the cabin stopping in mid-shaft, the 24VDC switching power supplies (used increasingly in electrical panels), the DTA01/DTA02 PTC relays to detect overheating in the lift engine,
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 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.

Finally, the RAD01 and RAD02 microwave radars keep the lift door open while there are people outside (e.g. in hospitals).

**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.
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 a safety module, 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 safety module NA12DLIFT is also approved by TÜV for compliance with the annex A3 (EN 81-1:1998 A3:2009 Chapter 9.11.7 and EN 81-2:1998 A3:2009 Chapter 9.13.7) to allow conformity of the lift to the norm with the configuration used for re-levelling and the control panel functions.
The PS limit switch series also ensures reliable detection of the cabin position.

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 NA1.2D/LIFT is an even more important component than for ordinary lifts, as it corrects 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 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).

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

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, abnormal phase sequence and motor overheating.

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

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.
**Our product range**

**Magnetic sensors**

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

**Cylindrical magnetic sensors**

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions: Ø12 x 29 mm Click-in</th>
<th>Through-beam sensors, 15 m sensing distance</th>
<th>Cable or pig-tail versions</th>
<th>Power supply 10 to 30 VDC</th>
<th>CE and cULus approved</th>
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**Inductive proximity sensors**

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions: 118 x 80 x 53 mm</th>
<th>K-Band radar sensor, Up to 4 m mounting height</th>
<th>Power supply 12 to 24 VAC/DC</th>
<th>CE, cULus and FCC approved</th>
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</table>

**Photoelectric sensors**

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions: 11.6 x 11.6 x 70 mm</th>
<th>Through-beam sensors, 12 m sensing distance</th>
<th>Cable or M8 plug versions</th>
<th>Power supply 10 to 30 VDC</th>
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**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 and cULus approved

**MAIN FEATURES**

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

**Photoelectric fork sensor for lifts**

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions: 74 x 60 x 15 mm Fork opening 30 mm</th>
<th>Photoelectric Fork Sensor</th>
<th>Power supply 24 VDC (± 20%)</th>
<th>Push-Pull Transistor output, 100 mA</th>
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**Motion radar sensors**

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<th>Model</th>
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**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 and cULus approved

**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 and cULus approved

**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 and CCC approved

**RAD01 / RAD02**

- Dimensions: 118 x 80 x 53 mm
- K-Band radar sensor, Up to 4 m mounting height
- Power supply 12 to 24 VAC/DC
- CE, cULus and FCC approved

**MAIN FEATURES**

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

**Photoelectric sensors**

<table>
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<tr>
<th>Model</th>
<th>Dimensions: M12, M18 and M30 Nickel-brass housing in short or long barrel lengths</th>
<th>Standard, double and triple distance sensing ranges</th>
<th>Output functions: NO or NC, PNP or NPN</th>
<th>Two meter oil resistant PVC cable or M12 plug version</th>
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**ICB12 / ICB18 / ICB30**

- M12, M18 and M30 Nickel-brass housing in short or long barrel lengths
- Standard, double and triple distance sensing ranges
- Output functions: NO or NC, PNP or NPN
- Two meter oil resistant PVC cable or M12 plug version
- Protection: reverse polarity, short circuit, transients

**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)

**Photoelectric sensors**

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<th>Model</th>
<th>Dimensions: M12 x 24 x 25.5 mm</th>
<th>Housing material: plastic with two metal shielded sides</th>
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**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

**Photoelectric sensors**

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**MAIN FEATURES**

- High precision and reliability thanks to the microprocessor technology
- Short-circuit and overload LED indication
- Laser engraved information on the front cap, permanently legible

**Photoelectric sensors**

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**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 and CCC approved

**MAIN FEATURES**

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

**Motion radar sensors**

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- Dimensions: 118 x 80 x 53 mm
- K-Band radar sensor, Up to 4 m mounting height
- Power supply 12 to 24 VAC/DC
- CE, cULus and FCC approved

**MAIN FEATURES**

- Detects interruptions of the light beam
- Fast mounting
- ESPE2, performance level: C (EN13849-1)
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**SPB2**

- Dimensions: 85 x 24 x 25.5 mm
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<tr>
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<th>3-phase monitoring relays</th>
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<th>Temperature relays</th>
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<tbody>
<tr>
<td><strong>NA12DLIFT</strong></td>
<td><strong>DPA51</strong></td>
<td><strong>DPA53</strong></td>
<td><strong>DTA / PPA 01/02</strong></td>
</tr>
<tr>
<td>• Lift cabin levelling module</td>
<td>• Dimensions: 81 x 17.5 x 67.2 mm DIN-rail housing</td>
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<td>• Dimensions: 22.5 mm Euronorm for DIN-rail or 36 mm plug-in version</td>
</tr>
<tr>
<td>• Input from magnetic sensors</td>
<td>• Phase sequence and loss relay</td>
<td>• Phase sequence, loss and undervoltage relay</td>
<td>• Motor temperature relay</td>
</tr>
<tr>
<td>• Feedback circuit for external contactor monitoring</td>
<td>• 3 phase AC (own power supply); regenerated voltage</td>
<td>• 3 phase AC (own power supply)</td>
<td>• Measuring ranges: PTC according to EN 44081</td>
</tr>
<tr>
<td>• Dual channel input</td>
<td>• Power supply 208 to 480 VAC (± 15%)</td>
<td>• Power supply from 208 to 480 VAC (2 models)</td>
<td>• Power supply: 24 to 48 VAC/DC, 110, 230 VAC</td>
</tr>
<tr>
<td>• 2 NO safety outputs</td>
<td>• CE, UL, CSA and CCC approved</td>
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<td>• CE, UL, CSA approved</td>
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**MAIN FEATURES**
- Certified according to Lift Directive EN 81-1/-2, EN12015, EN12016
- Possibility to connect mechanical or magnetic switches for lift cabin position monitoring
- TÜV approved
- Motor protection from reverse running and phase loss
- 17.5 mm width: the smallest on the market
- Plug and play: no settings needed
- 3-phase monitoring relays
- Lift cabin levelling module
- Input from magnetic sensors
- Feedback circuit for external contactor monitoring
- Dual channel input
- 2 NO safety outputs

**MAIN FEATURES**
- Motor protection from reverse running and phase loss
- 17.5 mm width: the smallest on the market
- Plug and play: only undervoltage threshold to be set
- 3-phase monitoring relays
- Lift cabin levelling module
- Input from magnetic sensors
- Feedback circuit for external contactor monitoring
- Dual channel input
- 2 NO safety outputs

**MAIN FEATURES**
- Motor protection from reverse running and wrong phase voltage
- 17.5 mm width: the smallest on the market
- Plug and play: only undervoltage threshold to be set
- 3-phase monitoring relays
- Lift cabin levelling module
- Input from magnetic sensors
- Feedback circuit for external contactor monitoring
- Dual channel input
- 2 NO safety outputs

**MAIN FEATURES**
- Protection from high temperatures of the coils of a motor with built-in PTCs.
- Alarm resettable by external contactor or reset button
- Test button allowing the simulation of the fault condition
- Temperature relays

---

**Dupline® master modules**
- **G349600..700**
  - Dimensions: 77 x 72 x 70 mm DIN-rail housing
  - Generates Dupline® carrier signal
  - RS485/RS232 interface for Lift Controller
  - Power supply from 20 to 30 VDC
  - Synchronizes 24 VDC power supply with Dupline®
  - 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® master modules**
- **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®

**Dupline® I/O modules**
- **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

**Dupline® I/O modules**
- **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

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

### Our product range

<table>
<thead>
<tr>
<th>Dupline® output modules</th>
<th>Dupline® input modules</th>
<th>Timers</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>G213055.1700</strong></td>
<td>• Dimensions: 74 x 59 mm Open PCB</td>
<td>• 8 PNP or NPN transistor outputs</td>
<td>• 8 contact or voltage inputs</td>
</tr>
<tr>
<td></td>
<td>• Powered by Dupline® 3-wire bus</td>
<td>• Powered by Dupline® 3-wire bus</td>
<td>• LED indications for supply and carrier</td>
</tr>
<tr>
<td></td>
<td>• Operating temperature -20°C to 50°C</td>
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<td></td>
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<td>• Operating temperature -20°C to 50°C</td>
</tr>
<tr>
<td><strong>DAA51 / DMB51</strong></td>
<td>• Dimensions: 81 x 17.5 x 67.2 mm DIN-rail housing</td>
<td>• Delay on operating function (DAA), multifunction (DMB)</td>
<td>• Combined AC and DC power supply</td>
</tr>
<tr>
<td></td>
<td>• LED indications for supply and carrier</td>
<td>• Repeatability: &lt; 0.2%</td>
<td>• UL, CSA, RINA approved</td>
</tr>
<tr>
<td><strong>HAA08 / HAA14</strong></td>
<td>• 21.5 x 28 mm housing for 8 pin or 14 pin blade socket</td>
<td>• Multifunction timer</td>
<td>• Universal power supply</td>
</tr>
<tr>
<td></td>
<td>• DPDT or 4PDT output</td>
<td></td>
<td>• cUL and CSA approved</td>
</tr>
</tbody>
</table>

### MAIN FEATURES

**G213055.1700**
- Used as general purpose inputs
- Input pulse prolongation to catch short button activations
- Simplifies the wiring to the Lift Controller

**G212055.700**
- Used as interface for floor indicators
- The same 8 Dupline® addresses can be used for all floor indicators
- Simplifies the wiring to the Lift Controller

**DAA51 / DMB51**
- 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**
- 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

### 3-phase energy analysers

<table>
<thead>
<tr>
<th>3-phase energy analyser</th>
<th>3-phase energy analysers for 5A or 0.333mV CTs</th>
<th>3-phase energy analysers for direct current up to 65A</th>
<th>3-phase power transducer</th>
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<tbody>
<tr>
<td><strong>EM24</strong></td>
<td>• 3-phase energy meter with direct connection</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Direct connection up to 65 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Dimensions 4-DIN rail module housings</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Class 1 (kWh) acc. to EN62053-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Optional serial port, digital input and outputs</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EM210 / EM210 MV</strong></td>
<td>• 4 DIN modules or 72 x 72 mm</td>
<td>• 3 DIN modules</td>
<td>• Dimensions: 83.5 x 45 x 98.5 mm DIN-rail housing</td>
</tr>
<tr>
<td></td>
<td>• LCD with two installation options</td>
<td>• Backlit touch LCD</td>
<td>• Accuracy 0.5 % (voltage, current)</td>
</tr>
<tr>
<td></td>
<td>• Measurement of voltage, current, power, power factor and frequency</td>
<td>• Measurement of voltage, current, power, power factor and frequency</td>
<td>• Measurement by CT and VT</td>
</tr>
<tr>
<td></td>
<td>• Bidirectional energy metering, 3 x 3-digit or 6-digit readout, cl. B (EN50470)</td>
<td>• Bidirectional energy metering, 3x 8-digit, cl. B (EN50470)</td>
<td>• Front protection degree IP20</td>
</tr>
<tr>
<td></td>
<td>• Voltage inputs: 3x230(400) VAC, Current inputs: 5 A CT (AV version) or 0.333mV from CT+X sensors (MV version)</td>
<td>• Measuring inputs: 230 to 400 VU, AC, 65A</td>
<td>• Analogue, digital, pulse or serial outputs available</td>
</tr>
<tr>
<td><strong>EM340</strong></td>
<td>• 3 DIN modules</td>
<td>• Pulse output and optionally: RS485 Modbus RTU, high speed (up to 115 kbps)</td>
<td>• CE, MID (only 5A, aux power supply version)</td>
</tr>
<tr>
<td></td>
<td>• Self-power supply (230-400V aux power supply in MID version)</td>
<td>• Sealable terminal covers</td>
<td>• CE, MID (PFA and PFB)</td>
</tr>
<tr>
<td></td>
<td>• Pulse output and optionally: RS485 Modbus RTU, high speed (up to 115 kbps)</td>
<td>• Pulse output or RS485 Modbus or M-Bus port</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Sealable terminal covers</td>
<td>• Sealable terminal covers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• CE, MID (only 5A, aux power supply version)</td>
<td>• CE, MID (PFA and PFB)</td>
<td></td>
</tr>
</tbody>
</table>

**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
## Our product range

<table>
<thead>
<tr>
<th>3-phase general purpose soft starters</th>
<th>3-phase general purpose soft starters</th>
<th>1-phase DIN-rail power supplies</th>
<th>Switch mode power supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RSBD</strong></td>
<td><strong>RSBT</strong></td>
<td><strong>SPD</strong></td>
<td><strong>SPDM Plastic</strong></td>
</tr>
<tr>
<td>• Self-learning algorithm for current reduction and current balancing</td>
<td>• Self-learning algorithm for current reduction</td>
<td>• DIN-rail housing</td>
<td>• Output from 24W to 72W</td>
</tr>
<tr>
<td>• Operational current: 12 A up to 95 A</td>
<td>• Operational current: 16 A up to 95 A</td>
<td>• Short circuit protection</td>
<td>• Low consumption</td>
</tr>
<tr>
<td>• Operational voltage: 220 - 600VAC, 50/60Hz</td>
<td>• 3-phase controlled and internally bypassed</td>
<td>• 1-phase, Biphase and 3-phase AC</td>
<td>• Compact dimension</td>
</tr>
<tr>
<td>• Alarm and top of ramp relay outputs</td>
<td>• Operational voltage: 220 - 480VAC, 50/60Hz</td>
<td>• Up to 960 watt output</td>
<td>• Universal input voltage AC and DC</td>
</tr>
<tr>
<td>• cULus and CCC approved</td>
<td>• cULus, CCC and VDE approved</td>
<td>• Rated input voltage: 115/230 VAC selectable 100/240 VAC</td>
<td>• CE, TÜV, UL and UL1310 Class 2 approved</td>
</tr>
</tbody>
</table>

**MAIN FEATURES**

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

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</thead>
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<tr>
<td><strong>SPDM Plastic</strong></td>
<td><strong>SPD</strong></td>
<td><strong>SPUC</strong></td>
</tr>
<tr>
<td>• Output from 24W to 72W</td>
<td>• DIN-rail housing</td>
<td>• Up to 30 A UPS controller</td>
</tr>
<tr>
<td>• Low consumption</td>
<td>• Short circuit protection</td>
<td>• 12 V and 24 V versions</td>
</tr>
<tr>
<td>• Compact dimension</td>
<td>• 1-phase, Biphase and 3-phase AC</td>
<td>• Outputs for: Device OK, Battery OK and Battery Low.</td>
</tr>
<tr>
<td></td>
<td>• Up to 960 watt output</td>
<td>• DIN rail battery accessory available up to 7.2 A/h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CE and UL approved</td>
</tr>
</tbody>
</table>

**MAIN FEATURES**

- Overload protection
- Parallel versions available
- High efficiency

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<th>Switch mode power supplies</th>
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<tr>
<td><strong>SPUBC</strong></td>
<td><strong>DPB51CM44B006</strong></td>
<td><strong>PS</strong></td>
</tr>
<tr>
<td>• Power supply, UPS and battery charger “All in one”</td>
<td>• Dimensions 81x17,5x67,2mm DIN-rail housing</td>
<td>• Material: plastic, metal</td>
</tr>
<tr>
<td>• 24 VDC 5 A output</td>
<td>• TRMS 3-phase sequence</td>
<td>• Horizontal / vertical control available</td>
</tr>
<tr>
<td>• Power boost up to 2 times rated output, permanent.</td>
<td>• Phase and Neutral loss relay</td>
<td>• Minimum actuation force / torque</td>
</tr>
<tr>
<td>• Built in battery diagnosis</td>
<td>• Star and Delta power supply from 208 to 480 VAC (+/-15%)</td>
<td>• CE, UL and CSA approved</td>
</tr>
</tbody>
</table>
| • CE and UL approved | • CE, UL and CCC approved | **MAIN FEATURES**

**MAIN FEATURES**

- Power supply independent of charger
- Remote indication for battery operation and battery low
- “Start from battery” and “Empty battery charging” features

**MAIN FEATURES**

- Motors and users protection from reverse running
- Detects all phase presence and also Neutral loss (Ln-N)
- 17.5 mm width: the smallest in the market
- No-settings nor adjustments: plug & play

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<td><strong>PS</strong></td>
<td><strong>DPB51CM44B006</strong></td>
<td><strong>PS</strong></td>
</tr>
<tr>
<td>• Mechanical life &gt; 15,000,000 cycles</td>
<td><strong>MAIN FEATURES</strong></td>
<td><strong>MAIN FEATURES</strong></td>
</tr>
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<td>• Precise operating point</td>
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</tbody>
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- “Start from battery” and “Empty battery charging” features

**MAIN FEATURES**

- Motors and users protection from reverse running
- Detects all phase presence and also Neutral loss (Ln-N)
- 17.5 mm width: the smallest in the market
- No-settings nor adjustments: plug & play
## Lifts & Escalators

*Our product range*

<table>
<thead>
<tr>
<th>Industrial relays</th>
<th>Counters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RMI...</strong></td>
<td><strong>FSA01 / FSA02</strong></td>
</tr>
<tr>
<td><em>2 or 4 poles</em></td>
<td><em>24 x 48 mm housing</em></td>
</tr>
<tr>
<td><em>Max load: 5 A (4 poles)</em></td>
<td><em>Counting up to 100,000 hours</em></td>
</tr>
<tr>
<td><em>10 A (2 poles) / 250 VAC</em></td>
<td><em>Battery lifetime 8 years</em></td>
</tr>
<tr>
<td><em>DC coils: 6 - 110 VDC</em></td>
<td><em>NPN/PNP or AC/DC inputs</em></td>
</tr>
<tr>
<td><em>AC coils: 6 - 230 VAC</em></td>
<td><em>Reset button with locking function</em></td>
</tr>
<tr>
<td><em>Degree of protection IP40</em></td>
<td></td>
</tr>
</tbody>
</table>

**MAIN FEATURES**

- High switching power
- Long life (minimum 100,000 electrical ops.)
- Standard with LED, Push with arm and Flag

**MAIN FEATURES**

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

---

CARLO GAVAZZI Automation Components. Specifications are subject to change without notice. Illustrations are for example only.
OUR SALES NETWORK IN EUROPE

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

BELGIUM
Carlo Gavazzi NV/SA
Mechelssteenweg 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

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

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

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

FRANCE
Carlo Gavazzi Sarl
28e de Paris Nord II, 69, rue de la Belle Étoile,
F-95956 Roissy CDG Cedex
Tel: +33 1 49 38 98 60
Fax: +33 1 48 63 27 43
french.team@carlogavazzi.fr

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

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

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

MEXICO
Carlo Gavazzi Mexico S.A. de C.V.
Calle la Montaña no. 28, Fracc. las Pastores
Naucalpan de Juárez, EDOMEX CP 53340
Tel & Fax: +52.55.5373.7042
mexicosales@carlogavazzi.com

CANADA
Carlo Gavazzi Inc.
61 Tai Seng Avenue
#05-06 UE Print Media Hub
Singapore 534167
Tel: +65 67 465 990
Fax: +65 67 467 980
info@carlogavazzi.com.sg

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

SINGAPORE
Carlo Gavazzi Automation Singapore Pte. Ltd.
61 Tai Seng Avenue
#05-06 UE Print Media Hub
Singapore 534167
Tel: +65 67 465 990
Fax: +65 67 461 980
info@carlogavazzi.com.sg

OUR SALES NETWORK IN ASIA AND PACIFIC

MEXICO
Carlo Gavazzi Mexico S.A. de C.V.
Calle la Montaña no. 28, Fracc. las Pastores
Naucalpan de Juárez, EDOMEX CP 53340
Tel & Fax: +52.55.5373.7042
mexicosales@carlogavazzi.com

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

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

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

OUR COMPETENCE CENTRES AND PRODUCTION SITES

DENMARK
Carlo Gavazzi Industri A/S
Hadsten

MALTA
Carlo Gavazzi Ltd
Zejtun

ITALY
Carlo Gavazzi Controls SpA
Belluno

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