

## 2-pole solid state relays

# Switches

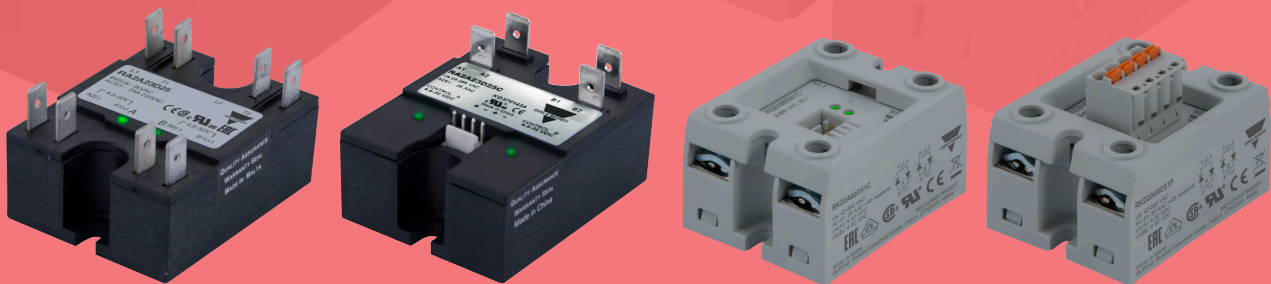
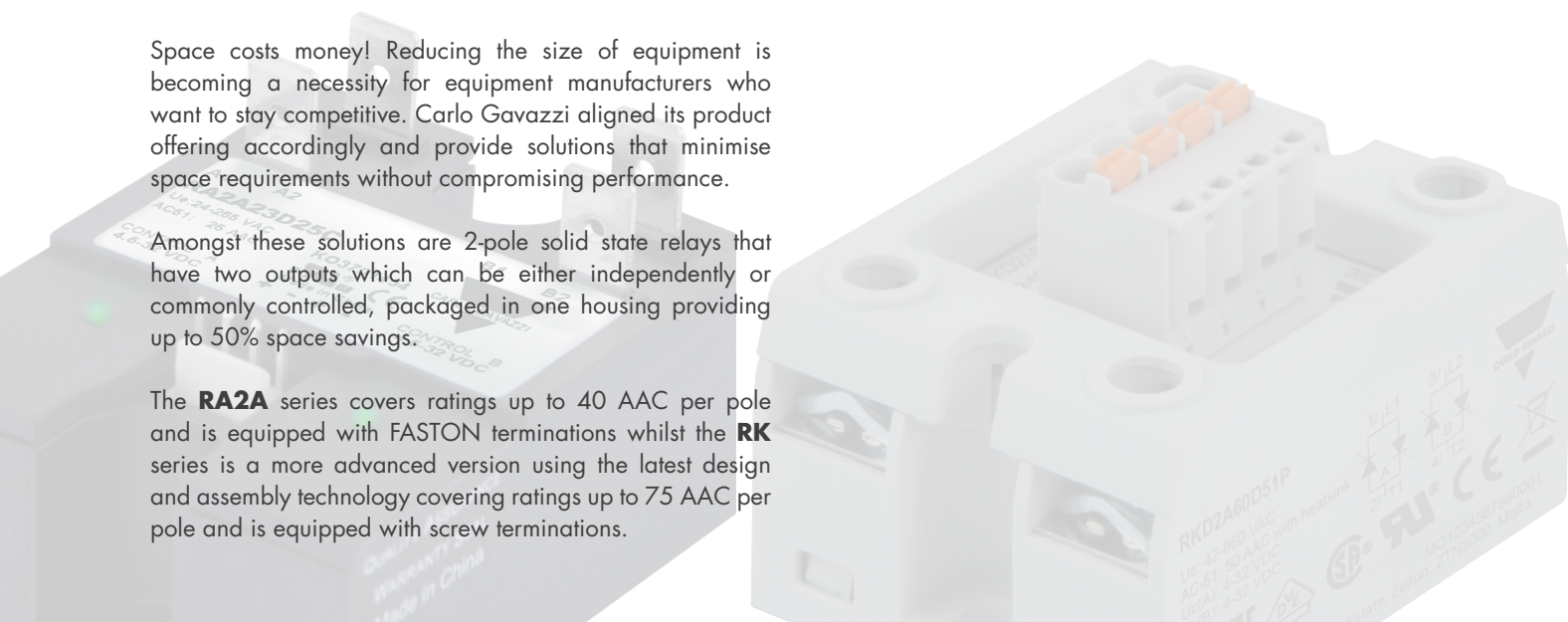
# RA2A, RK series

## 2-pole solid state relays

Space costs money! Reducing the size of equipment is becoming a necessity for equipment manufacturers who want to stay competitive. Carlo Gavazzi aligned its product offering accordingly and provide solutions that minimise space requirements without compromising performance.

Amongst these solutions are 2-pole solid state relays that have two outputs which can be either independently or commonly controlled, packaged in one housing providing up to 50% space savings.

The **RA2A** series covers ratings up to 40 AAC per pole and is equipped with FASTON terminations whilst the **RK** series is a more advanced version using the latest design and assembly technology covering ratings up to 75 AAC per pole and is equipped with screw terminations.



## Space optimisation solutions

### Space savings

- Up to 50% space savings for 2-poles
- Economy switching of 3-phase loads using 2-poles

### Time savings in installation

- FASTONs for low current loads (RA2)
- Spring plug for control termination (RK..P)

### Long lifetime

- Robust solution with back-to-back thyristor technology instead of triacs
- No internal moulding mass to reduce thermal stresses
- Wire bonding on power chips to reduce thermal and mechanical stresses (RK)

### Efficient heat dissipation

- Optimal thermal efficiency by design - low junction temperature due to the low junction to heatsink thermal resistance (RK)

### Certifications and conformance

- Certified to International standards
- 100,000 cycle test according UL requirements for Food equipment (RK)
- Conformance to glow wire requirements for Food equipment according to EN 60335 (RK)

### One stop shop

- A range of Accessories including heatsinks and cables for a complete package from one supplier

## Plastic & rubber

- Injection machines
- Thermoforming machines
- Temperature control units
- Dryers












## Food & beverage

- Electrical ovens
- Fryers
- Griddles
- Coffee machines



## Product range overview



Series	RA2A	RA2A...C	RK...C	RK...P
Current ratings	2x 25 A, 40 A	2x 25 A, 40 A	2x 50 A, 75 A	2x 50 A, 75 A
Max. operating voltage	660 VAC	660 VAC	660 VAC	660 VAC
Power connection	FASTON 6.35mm	FASTON 6.35mm	Screw	Screw
Control connection	FASTON 6.35mm	2.54mm pitch header	2.54mm pitch header	spring plug (provided)
Variants	Dual output with independent control		Dual output with independent or common control	
Switching mode	Zero cross	Zero cross	Zero cross or Instant on	
Control ON LED indication (x2)	■	■	■	■
DC control voltage	■	■	■	■
Integrated overvoltage protection	-	Varistor	Transil	Transil
Dimensions W x H x D mm	45 x 58 x 32	45 x 58 x 35	45 x 58 x 33	45 x 58 x 44
Approvals	CE C  US  EAC UK CA	CE C  US  EAC UK CA	CE C  US   EAC UK CA	  EAC UK CA



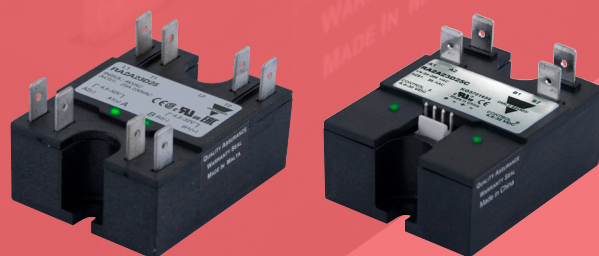
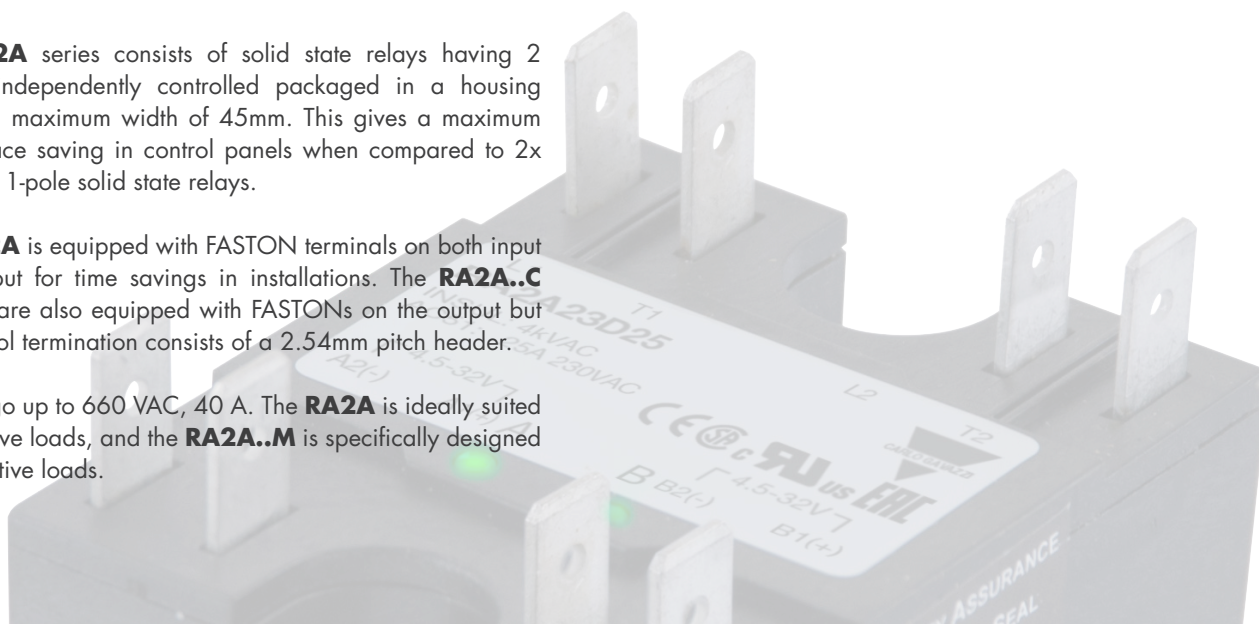
# RA2A series

## 2-pole solid state relays

The **RA2A** series consists of solid state relays having 2 outputs independently controlled packaged in a housing having a maximum width of 45mm. This gives a maximum 50% space saving in control panels when compared to 2x standard 1-pole solid state relays.

The **RA2A** is equipped with FASTON terminals on both input and output for time savings in installations. The **RA2A..C** variants are also equipped with FASTONs on the output but the control termination consists of a 2.54mm pitch header.

Ratings go up to 660 VAC, 40 A. The **RA2A** is ideally suited for resistive loads, and the **RA2A..M** is specifically designed for inductive loads.



## Fast installation with quick connect terminals

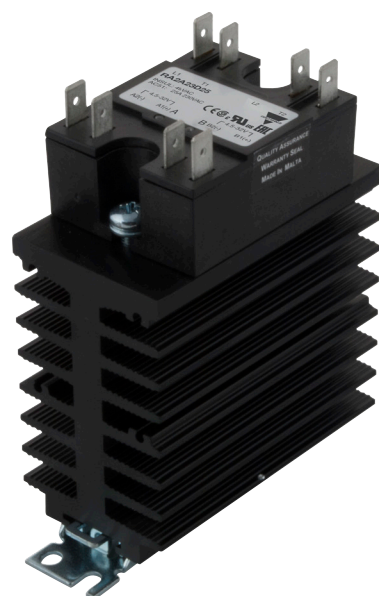
### Applications

In some cases, the application conditions will necessitate that the solid state relay is mounted on a heatsink in order to keep the junction temperature of the solid state relay from exceeding its maximum rating.

The size of heatsink required can be determined either from the product datasheets or by making use of the online Heatsink Selector Tool available at:

<http://www.gavazziautomation.com/en-gb/products/solid-state-relays/heatsink-selector-tool>

Carlo Gavazzi offers a range of heatsinks that can be provided with a pre-mounted solid state relay. Consult a Carlo Gavazzi representative for further details regarding these assemblies.



## Main features

### Long lifetime

Free of moulding mass to ensure components are not subject to thermal and mechanical stresses

### Fast installation

Quick connect terminals (FASTONs)

### User friendly

2x green LEDs for control ON indication

### Versatile

**RA2A** for resistive loads  
**RA2A..M** for inductive loads

### Compact

2 independently controlled poles in 1 housing

### Approvals



### Approvals



### Reliable

Integrated overvoltage protection for **RA2A..C**

### Control termination

6.35mm FASTONs for **RA2A**

### Control termination

2.54mm pitch header for **RA2A..C**

## Selection guide

**RA2A series** - 2 independently controlled poles for resistive loads

Control termination	Max. current	Control voltage	Operational voltage		
			24-265 VAC	42-530 VAC	42-660 VAC
Fastons	2 x 25 AAC	4.5 - 32 VDC	RA2A23D25	RA2A48D25	RA2A60D25
	2 x 40 AAC	4.5 - 32 VDC	RA2A23D40	RA2A48D40	RA2A60D40
Pins	2 x 25 AAC	4.5 - 32 VDC	RA2A23D25C	-	RA2A60D25C
	2 x 40 AAC	4.5 - 32 VDC	RA2A23D40C	-	RA2A60D40C

**RA2A..M series** - 2 independently controlled poles for inductive loads

Control termination	Max. current	Control voltage	Operational voltage		
			24-265 VAC	42-530 VAC	42-660 VAC
Fastons	2 x 25 AAC	4.5 - 32 VDC	RA2A23D25M	RA2A48D25M	RA2A60D25M
	2 x 40 AAC	4.5 - 32 VDC	RA2A23D40M	RA2A48D40M	RA2A60D40M

Further details are available on online datasheets at [www.gavazziautomation.com](http://www.gavazziautomation.com)

# RK series

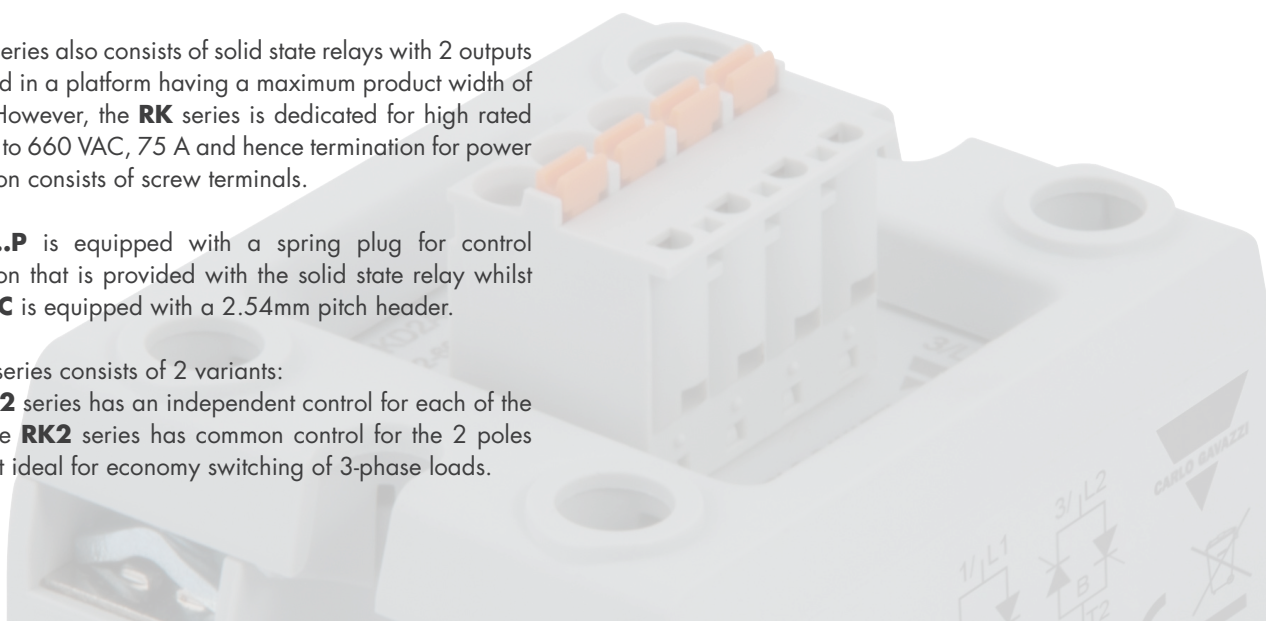
## 2-pole solid state relays

The **RK** series also consists of solid state relays with 2 outputs packaged in a platform having a maximum product width of 45mm. However, the **RK** series is dedicated for high rated loads up to 660 VAC, 75 A and hence termination for power connection consists of screw terminals.

The **RK..P** is equipped with a spring plug for control connection that is provided with the solid state relay whilst the **RK..C** is equipped with a 2.54mm pitch header.

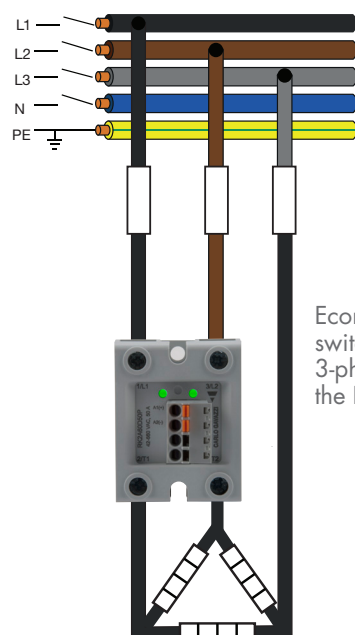
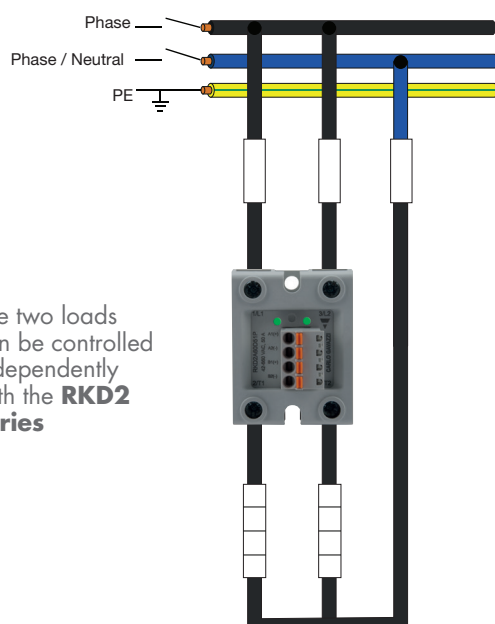
The **RK** series consists of 2 variants:

the **RKD2** series has an independent control for each of the poles, the **RK2** series has common control for the 2 poles making it ideal for economy switching of 3-phase loads.



## Screw output termination for high power

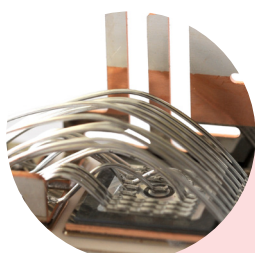
### Applications



## Main features

### Easy replacement

Pluggable control termination



### Long lifetime

Wire bonding technology for lower thermal and mechanical stresses on power chips

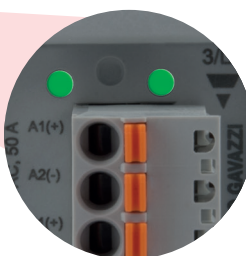
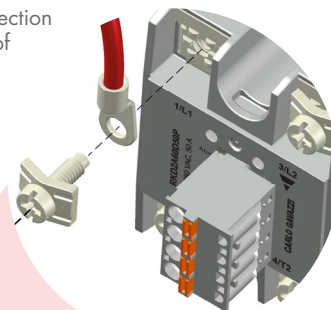
### Time saving

Pre-attached thermal interface to backplate



### Flexible connections

Removable touch protection cover for connection of ring lugs



**User friendly** 2x green LEDs for control ON indication

### Low downtime

Integrated overvoltage protection

### Conformance to Food Industry

UL certified for 100,000 cycle test,  
Conforms to glow wire requirements of EN 60335

### Space savings

2 poles in a 45mm wide housing **RKD2** for independent control  
**RK2** for common control

## Selection guide

**RKD2 series** - 2 independently controlled poles

Control termination	Max. current	I <sup>2</sup> t	Control voltage	Operational voltage	
				24 - 265 VAC	42 - 660 VAC
Pins	2x 50 AAC	1500 A <sup>2</sup> s	4 - 32 VDC	RKD2A23D50C	RKD2A60D50C
	2x 50 AAC	3000 A <sup>2</sup> s	4 - 32 VDC	RKD2A23D51C	RKD2A60D51C
	2x 75 AAC	9800 A <sup>2</sup> s	4 - 32 VDC	-	RKD2A60D75C
Spring plug	2x 50 AAC	1500 A <sup>2</sup> s	4 - 32 VDC	RKD2A23D50P	RKD2A60D50P
	2x 50 AAC	3000 A <sup>2</sup> s	4 - 32 VDC	RKD2A23D51P	RKD2A60D51P
	2x 75 AAC	9800 A <sup>2</sup> s	4 - 32 VDC	-	RKD2A60D75P

**RK2 series** - common control for the 2 poles

Control termination	Max. current	I <sup>2</sup> t	Control voltage	Operational voltage	
				24 - 265 VAC	42 - 660 VAC
Pins	2x 50 AAC	1500 A <sup>2</sup> s	4 - 32 VDC	-	RK2A60D50C
	2x 50 AAC	3000 A <sup>2</sup> s	4 - 32 VDC	-	RK2A60D51C
	2x 75 AAC	9800 A <sup>2</sup> s	4 - 32 VDC	-	RK2A60D75C
Spring plug	2x 50 AAC	1500 A <sup>2</sup> s	4 - 32 VDC	-	RK2A60D50P
	2x 50 AAC	3000 A <sup>2</sup> s	4 - 32 VDC	-	RK2A60D51P
	2x 75 AAC	9800 A <sup>2</sup> s	4 - 32 VDC	-	RK2A60D75P

Instant on versions are also available: RKD2B.., RK2B..

Further details are available on online datasheets at [www.gavazziautomation.com](http://www.gavazziautomation.com)



## OUR SALES NETWORK IN EUROPE

### AUSTRIA

Carlo Gavazzi GmbH  
Ketzergerasse 374,  
A-1230 Wien  
Tel: +43 1 888 4112  
Fax: +43 1 889 1053  
office@carlogavazzi.at

### BELGIUM

Carlo Gavazzi NV/SA  
Mechelsesteenweg 311,  
B-1800 Vilvoorde  
Tel: +32 2 257 41 20  
sales@carlogavazzi.be

### DENMARK

Carlo Gavazzi Handel A/S  
Over Hadstenvej 40,  
DK-8370 Hadsten  
Tel: +45 89 60 61 00  
Fax: +45 86 98 15 30  
handel@gavazzi.dk

### FINLAND

Carlo Gavazzi OY AB  
Sinimäentie 8B  
02630 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 81 00 0  
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 854110  
Fax: +44 1 276 682140  
sales@carlogavazzi.co.uk

### ITALY

Carlo Gavazzi SpA  
Via Milano, 13,  
I-20045 Lainate  
Tel: +39 02 931 76 1  
Fax: +39 02 931 76 301  
info@gavazziacbu.it

### NETHERLANDS

Carlo Gavazzi BV  
Wijkmeerweg 23,  
NL-1948 NT Beverwijk  
Tel: +31 251 22 93 45  
Fax: +31 251 22 60 55  
info@carlogavazzi.nl

### NORWAY

Carlo Gavazzi AS  
Melkeveien 13,  
N-3919 Porsgrunn  
Tel: +47 35 93 08 00  
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 70 60  
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 40 37  
Fax: +34 94 431 60 81  
gavazzi@gavazzi.es

### SWEDEN

Carlo Gavazzi AB  
V:a Kyrkogatan 1,  
S-652 24 Karlstad  
Tel: +46 54 85 11 25  
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 45 35  
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 60089-6904, USA  
Tel: +1 847 465 61 00  
Fax: +1 847 465 73 73  
sales@carlogavazzi.com

### CANADA

Carlo Gavazzi Inc.  
2430 Meadowpine Blvd. Unit 104.,  
Mississauga, ON L5N 6S2, Canada  
Tel: +1 888 575 2275  
gavazzi@carlogavazzi.com

### MEXICO

Carlo Gavazzi Mexico S.A. de C.V.  
Circuito Puericultores 22, Ciudad Satelite  
Naucalpan de Juárez, 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 05001-200 - 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  
info@gavazzi-asia.com

### CHINA

Carlo Gavazzi Automation  
(China) Co. Ltd.  
Unit 2308, 23/F.,  
News Building, Block 1, 1002  
Middle Shennan Zhong Road, Futian District,  
Shenzhen, China  
Tel: +86 755 8369 9500  
Fax: +86 755 8369 9300  
sales@carlogavazzi.cn

### HONG KONG

Carlo Gavazzi Automation  
Hong Kong Ltd.  
Unit No. 16 on 25<sup>th</sup> Floor, One Midtown,  
No. 11 Hoi Shing Road, Tsuen Wan,  
New Territories, Hong Kong  
Tel: +852 26261332 / 26261333  
Fax: +852 26261316

### TAIWAN

Branch of Carlo Gavazzi Automation  
Singapore Pte. Ltd.  
22F-1, No.500 Shizheng Rd, Xitun Dist,  
Taichung City 407,  
Taiwan, China  
Tel: +886 4 2258 4001  
Fax: +886 4 2258 4002

## OUR COMPETENCE CENTRES AND PRODUCTION SITES

### DENMARK

Carlo Gavazzi Industri A/S  
Hadsten

### MALTA

Carlo Gavazzi Ltd  
Zejtun

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Uab Carlo Gavazzi Industri Kaunas  
Kaunas

### CHINA

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

## HEADQUARTERS

Carlo Gavazzi Automation SpA  
Via Milano, 13  
I-20045 - Lainate (MI) - ITALY  
Tel: +39 02 931 76 1  
info@gavazziautomation.com

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www.gavazziautomation.com