

# A perfect fit

## Solid State Relays RAM series

### **More features**

The range of Solid State Relays now available from Carlo Gavazzi offers the widest range of options to fit your needs.

### **Self-protected**

Also available on request with internal self-switching protection that prevents damage by transients and eliminates the need for an external metal oxide varistor (MOV).

### **Innovative**

No hard moulding mass inside. Reduces stress from thermal cycling on electronic components. Increases lifetime of device.

### **Best-in-class technology**

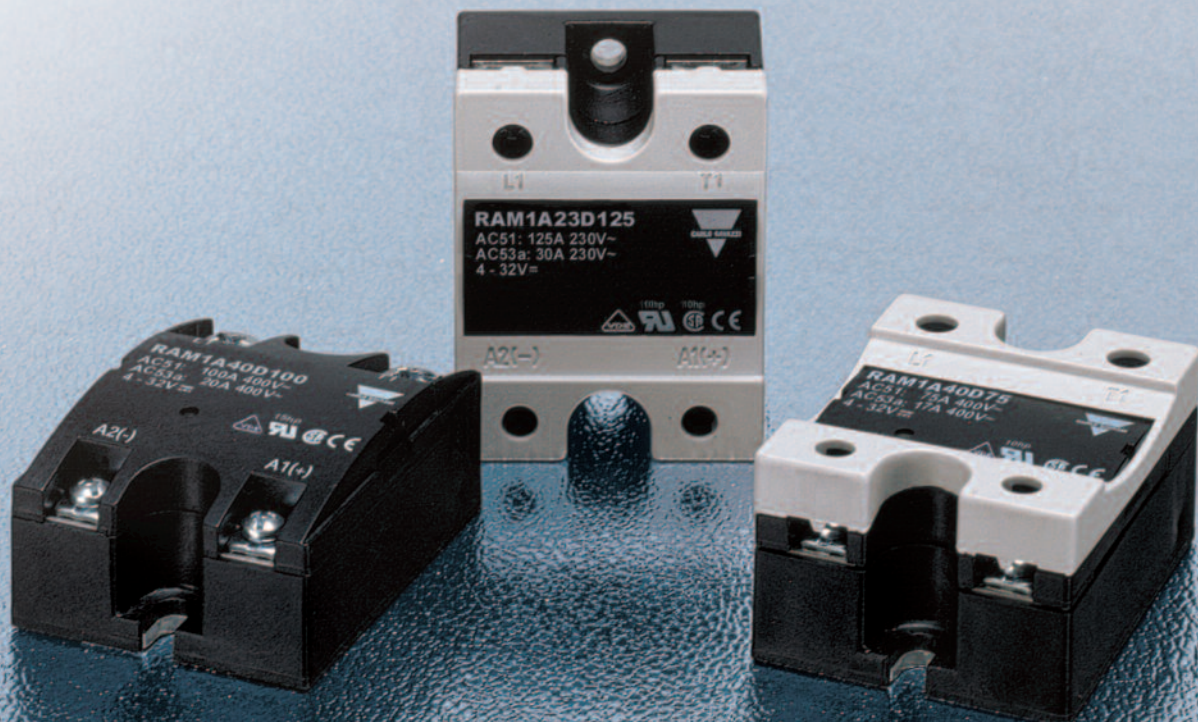
State-of-the-art power management. Operating range up to 125A, 600Vrms. Also available on request: 690Vrms.

### **Superior EMC performance**

IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, EN 55011

### **Recognised worldwide**

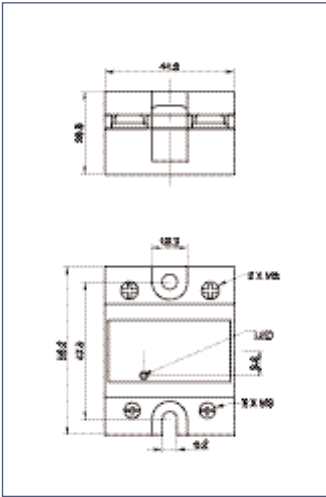
VDE, UL, CSA certify that the products are designed to high standards and meet world-class safety requirements.



**The Spirit of  
Innovation**



## Dimensions



## Specifications

Criteria	RAM..
Operational current change AC51	0.15 to 125Arms
Operational current change AC53a	0.15 to 30Arms
Max I <sup>2</sup> t for fusing (t=10ms)	18000A <sup>2</sup> s
Operational voltage range	24-660Vrms
Non-repetitive peak voltage	1200Vp
Operational frequency	45-65Hz
Power factor	≥0.50
Control input voltage DC	4-32VDC
Control input voltage AC	18-280VAC/22-48VDC
Control input current	≤15mA
Critical dv/dt off-state	1000V/μs
Operating temperature range	-40 to +80°C
Storage temperature range	-40 to +100°C
Rated insulation	4000Vrms
Housing material	Noryl
Weight	60g (25-50A)/100g (75-125A)

## Representations

**Austria:** CARLO GAVAZZI GmbH  
Ketzergasse 374, A-1230 Wien  
Tel. +43 1 888 41 12, Fax +43 1 889 10 53  
E-Mail: cg\_at@attglobal.net

**Belgium:** CARLO GAVAZZI NV/SA  
Schaarbeeklei 213/3, B-1800 Vilvoorde  
Tel. +32 2 257 41 20, Fax +32 2 257 41 25  
E-Mail: carlo.gavazzi@skynet.be

**Canada:** CARLO GAVAZZI (CANADA) INC  
2660 Meadowvale Boulevard, Ont. L5N 6M6,  
CDN-Mississauga  
Tel. +1 905 542 09 79, Fax +1 905 542 22 48  
E-Mail: gavazzi@carlogavazzi.ca

**Denmark:** CARLO GAVAZZI HANDEL A/S  
Over Hadstenvej 42, DK-8370 Hadsten  
Tel. +45 89 60 61 00, Fax +45 86 98 15 30  
E-Mail: handel@gavazzi.dk

**Finland:** CARLO GAVAZZI OY AB  
Petaksentie 2-4, SF-00661 Helsinki  
Tel. +358 9 756 2000, Fax +358 9 756 20010  
E-Mail: myynti@carlogavazzi.fi

**France:** CARLO GAVAZZI Srl  
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  
E-Mail: cg\_fr@attglobal.net

**Germany:** CARLO GAVAZZI GmbH  
Rudolf-Diesel-Strasse 23, D-64331 Weiterstadt  
Tel. +49 6151 81 00 0, Fax +49 6151 81 00 40  
E-Mail: kontakt@carlogavazzi.de

**Italy:** CARLO GAVAZZI SpA  
Via Milano 13, I-20020 Lainate  
Tel. +39 02 93 17 61, Fax +39 02 93 17 63 01  
E-Mail: cgpantec@tin.it

**Netherlands:** CARLO GAVAZZI BV  
Wijkmeerweg 23, NL-1948 NT Beverwijk  
Tel. +31 251 22 93 45, Fax +31 251 22 60 55  
E-Mail: carlo.gavazzi@wxs.nl

**Norway:** CARLO GAVAZZI AS  
Melkeveien 13, N-3919 Porsgrunn  
Tel. +47 35 93 08 00, Fax +47 35 93 08 01  
E-Mail: gavazzi@carlogavazzi.no

**Portugal:** CARLO GAVAZZI LDA  
Rua dos Jerónimos 38-B, P-1400-212 Lisboa  
Tel. +351 21 36 36 117, Fax +351 21 36 21 373  
E-Mail: carlogavazzi@mail.telepac.pt

**Spain:** CARLO GAVAZZI S.A.  
Avda. Iparraguirre, 80-82, E-48940 Leioa (Bizkaia)  
Tel. +34 94 480 40 37, Fax +34 94 480 10 61  
E-Mail: gavazzi@carlogavazzi-sa.es

**Sweden:** CARLO GAVAZZI AB  
Nattvindsgatan 1, S-65221 Karlstad  
Tel. +46 54 85 11 25, Fax +46 54 85 11 77  
E-Mail: gavazzi@carlogavazzi.se

**Switzerland:** CARLO GAVAZZI AG  
Verkauf Schweiz/Vente Suisse  
Sumpfstrasse 32, CH-6312 Steinhausen  
Tel. +41 41 747 45 35, Fax +41 41 740 45 40  
E-Mail: verkauf\_vente@carlogavazzi.ch

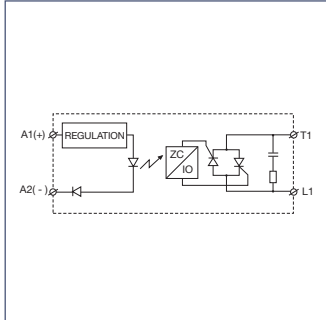
**United Kingdom:** CARLO GAVAZZI UK LTD  
7 Springlakes Industrial Estate, Deadbrook Lane,  
Hants GU12 4UH, GB-Aldershot  
Tel. +44 1 252 339 600, Fax +44 1 252 326 799  
E-Mail: sales@carlogavazzi.co.uk

**USA:** CARLO GAVAZZI INC  
750 Hastings Lane, IL 60089-6904,  
USA-Buffalo Grove  
Tel. +1 847 465 6100, Fax +1 847 465 7373  
E-Mail: cgimail@carlogavazzi.com

For more information about CARLO GAVAZZI  
please consult:  
<http://www.carlogavazzi.com>  
For full technical information about  
CARLO GAVAZZI automation components  
please consult **PRODUCTS ONLINE**:  
<http://productsonline.carlogavazzi.com>

Approvals pending  
Specifications are subject to change without notice

## Functional diagram



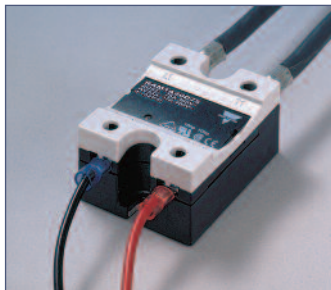
## Selection Guide (zero switching)

Ratings	230VAC	600VAC	Input
25A	RAM1A23D25	RAM1A60D25	DC control input
50A	RAM1A23D50	RAM1A60D50	
75A	RAM1A23D75	RAM1A60D75	
100A	RAM1A23D100	RAM1A60D100	
125A	RAM1A23D125	RAM1A60D125	AC control input
25A	RAM1A23A25	RAM1A60A25	
50A	RAM1A23A50	RAM1A60A50	
75A	RAM1A23A75	RAM1A60A75	
100A	RAM1A23A100	RAM1A60A100	
125A	RAM1A23A125	RAM1A60A125	

690 VAC option available on request



Removable IP20 cover



Secure connections



Accessories also available

## Carlo Gavazzi Industrial SSR - Type selection

Relay type	Switching mode	Status LED	IP20 safety	Max Current	690VAC option	Transient overvoltage protection	Typical load	Application examples
RAM1A	Zero	yes	yes	125 A <sub>rms</sub>	yes	internal snubber/ optional TVS diode	resistive/ inductive	heaters/ motors
RAM1B	Instant-on	yes	yes	125 A <sub>rms</sub>	yes	internal snubber/ optional TVS diode	resistive/ inductive	heaters/ motors
RM1A	Zero	yes	yes	100 A <sub>rms</sub>	no	internal MOV	resistive/ inductive	heaters/ motors
RM1B	Instant-on	yes	yes	100 A <sub>rms</sub>	no	internal MOV	resistive/ inductive	heaters/ motors
RM1C	Peak	yes	yes	50 A <sub>rms</sub> *	no	internal snubber/ optional MOV	inductive	transformers
RM1E	Phase-angle	yes	yes	100 A <sub>rms</sub> *	no	internal snubber	resistive/ slightly inductive	heaters/ fans
RS1A	Zero	yes	yes	40 A <sub>rms</sub>	no	self-switching optocoupler	resistive	heaters

All operational current ratings at T<sub>A</sub>=25°C

\* Other types up to 125A<sub>rms</sub> available on request

**CARLO GAVAZZI**  
Automation Components

Distributed by:

