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Solid State Relays Accessories, Cables Types RC..

CARLO GAVAZZI



Ordering Key

RCS 3 - 100 - 1

R-System cable

No. of wires

Cable length in cm

Termination at one end

Selection Guide

Part No.	No. of wires	Cable length (cm)	Type	Cable size	Termination
RCS3-100-1	3	100	UL style 2547	0.14mm ²	3-pin socket to mate with RM1E..V..
RCS4-100-1	4	100	UL style 2464	0.14mm ²	4-pin socket to mate with RA2A..C
RCS4-400-1	4	400	UL style 2464	0.14mm ²	4-pin socket to mate with RA2A..C
RCS5-200-1	5	200	UL style 2464	0.25mm ²	5-pin socket to mate with RA..S
RCK4-100-1	4	100	UL style 2464	0.14mm ²	4-pin socket to mate with RKD2..C
RCK2-100-1	2	100	UL style 2464	0.14mm ²	2-pin socket to mate with RK2..C



Ordering Key

RCRGN - 150 - 2

Cable for NRG system

Cable length in cm

Termination at both ends

Selection Guide

Part No.	No. of wires	Cable length (cm)	Packing qty.	Type	Termination
RCRGN-010-2	5	10	4	UL style 2464	Micro-USB termination to mate with NRG system components.
RCRGN-025-2	5	25	1		
RCRGN-075-2	5	75	1		
RCRGN-150-2	5	150	1		
RCRGN-350-2	5	350	1		
RCRGN-500-2	5	500	1		

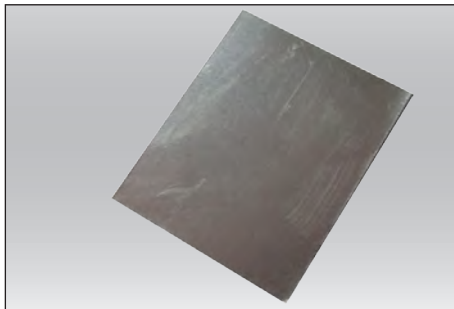


Ordering Key

RGN - TERMRES

RGN-TERMRES termination resistor to be fitted on the last RG..N on the NRG bus chain. Packing qty. 4 pc.

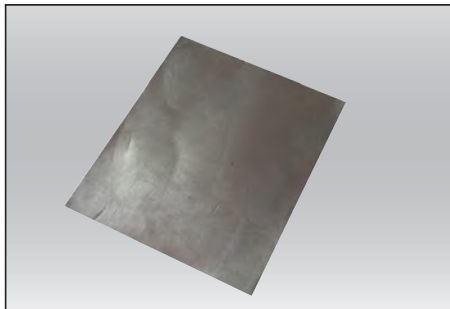
Thermal Pads



Ordering Key

KK071CUT

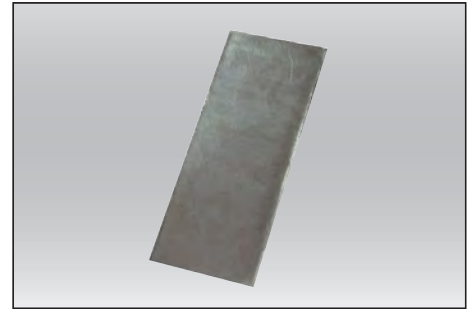
- Graphite thermal pad for RA, RD, RM, RAM and RS series with adhesive on one side
- Width x Height x Thickness = 35 x 43 x 0.25 mm
- Packing qty. 50 pcs.



Ordering Key

RZHT

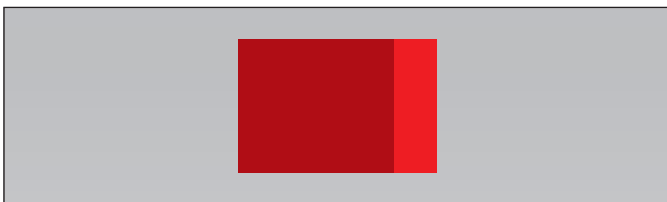
- Graphite thermal pad for RZ3 series with adhesive on one side
- Width x Height x Thickness = 70 x 77 x 0.25 mm
- Packing qty. 10 pcs.



Ordering Key

RGHT

- Graphite thermal pad for RG series with adhesive on one side
- Width x Height x Thickness = 14 x 35 x 0.13 mm
- Packing qty. 10 pcs.

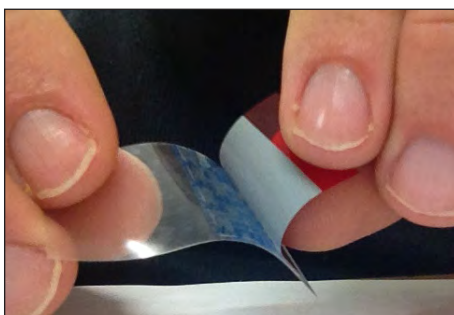


Ordering Key

RFHT

- Phase change thermal pad for RF1
- Width x Height x Thickness = 19 x 17 x 0.13 mm
- Packing qty. 10 pcs.

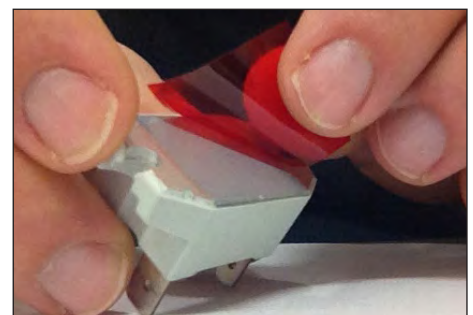
Mounting of RFHT on SSR



1 Remove thermal pad from its protective layer.



2 Ensure that surface is clean. Mount on the back of the SSR.



3 Leave for 30 minutes and peel off liner.

Thermal Paste



Ordering Key

HTS02S

- Silicone based thermal paste sachet
- Volume = 2.38ml (5g sachet)
- Packing qty. 1pc.

Solid State Relays
Accessories, Screw Kits
Types SRWKIT...



Ordering Key **SRWKIT M5 X 10MM**

Screw Kit _____
Screw size _____
Screw length _____

Selection Guide

Part No.	Screw size	Length	Packing qty.	Screw head
SRWKITM5X10MM	M5	10mm	20	Pozidrive PZ2
SRWKITM4X15MM	M4	15mm	20	Philips
SRWKITM5X23MM	M5	23mm	20	Torx T20
SRWKITM5X30MM	M5	30mm	20	Torx T20

Please refer to SSR datasheet and / or heatsink datasheet, as applicable, for reference to the type of screw suitable for mounting a specific SSR model on a specific heatsink

DIN Adaptors for PCB SSRs

DIN rail adaptor module for mounting RP series SSRs on DIN rail. The RPM1 is intended for max. operational voltage of 250V, whilst the RPM2 can be used up to 600V.

The RP SSR is not included. Suffix ‘M1’ or ‘M2’ is added to the SSR part no. for a factory mounted solution.

Note that when the RP..10 is mounted on DIN rail (vertical mounting), a derating factor has to be applied.

Ordering Key

RPM 1 -

RP DIN rail adaptor module

Module size

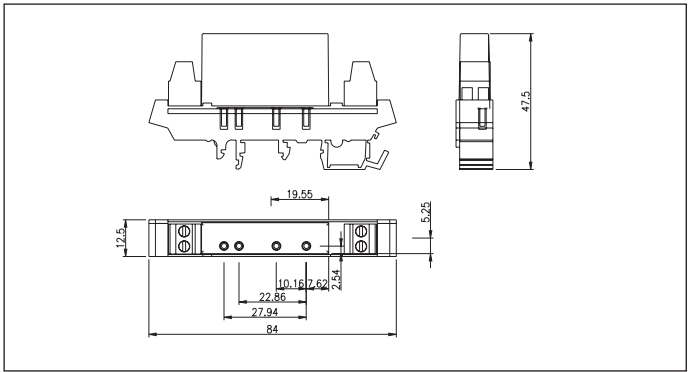
Options

Selection Guide

Part No.	Description	Packing qty.
RPM1 ^{1,2}	250V module with LED	1
RPM1V ^{1,2}	250V module with LED + varistor across output terminals	1
RPM1P	250V module with pins for easy removal of RP unit	1
RPM1PD ^{1,2}	250V module with pins for easy removal of RP unit + LED	1
RPM2 ²	600V module with LED	2

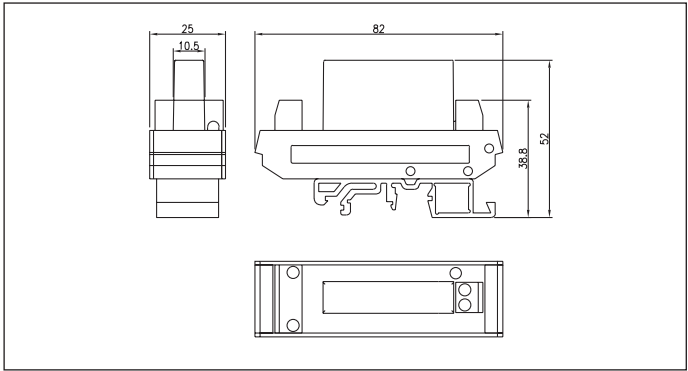
1: Not suitable for use with RP1A23A6
2: Control voltage to be applied to the RPMx terminal block differs from the RP1... control voltage. Refer to the RP1... datasheet for further details.

RPM1



Dimensions in mm including SSR

RPM2



Dimensions in mm including SSR

Housing Specifications

Housing material	PA, green, UL94 V0
Weight	RPM1 approx. 15g RPM2 approx. 20g
Terminal screws	M3
Terminal cable size max. (stranded)	1.5mm ²

Mounting torque max.	0.5 Nm
Operating temperature	-20° to + 70°C [-4 to +158°F]
Storage temperature	-40° to + 100°C [-40° to +212°F]
DIN rail guide	DIN EN 50022, 50035

DIN Adaptor for 1-phase SSRs

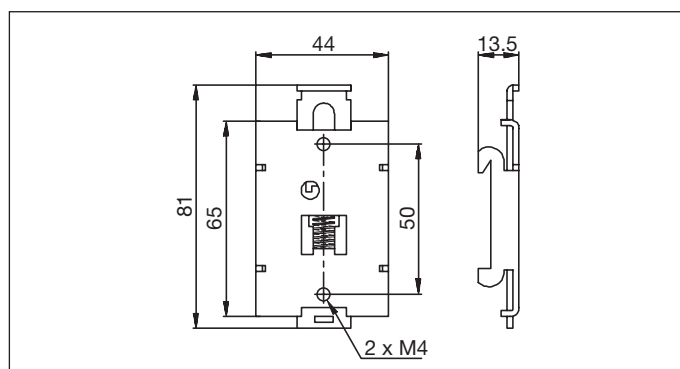
DIN rail adaptor module for mounting the 1-phase SSR series RA, RD, RM, RS and RAM directly on DIN rail.

Suffix H8 added to SSR part no. refers to factory mounted DIN clip. Conditions apply. Please ask your Sales representative for further details.

Ordering Key

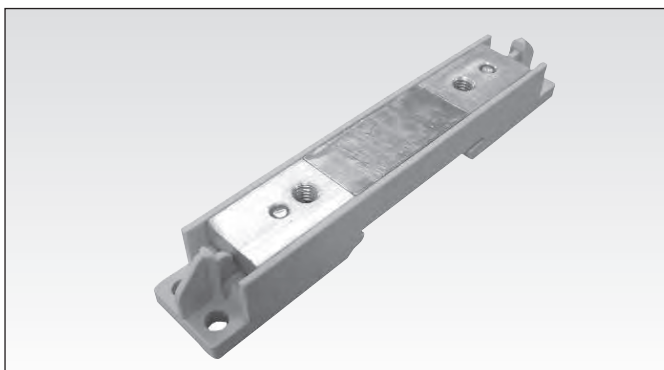
RHS00

Material	Electroplated steel
Thermal resistance	12.3 °C/W (>10W)



Dimensions in mm

DIN Adaptor for RGS SSRs



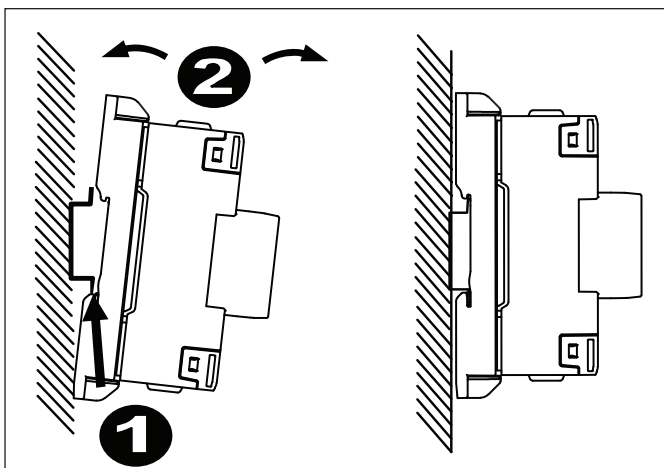
Ordering Key

RGS1DIN

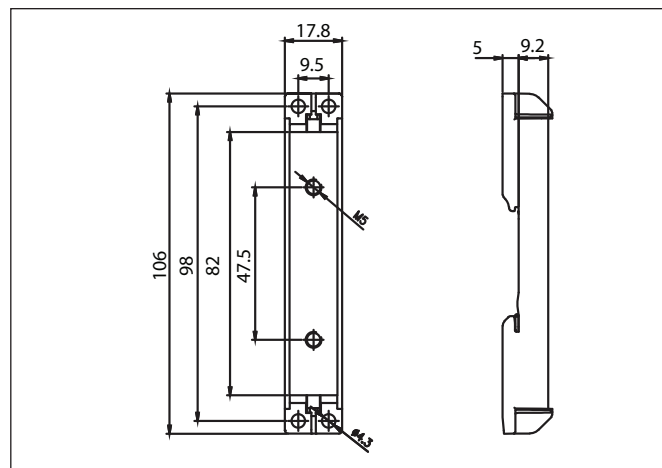
DIN rail adaptor module for mounting the RGS series on DIN rail.

This adaptor integrates an aluminium plate with pre-attached thermal pad, which allows the RGS with mounted RGS1DIN to be used for load current of minimum 10AAC @ 40°C. Refer to RGS datasheet for derating characteristics.

Installation Instructions

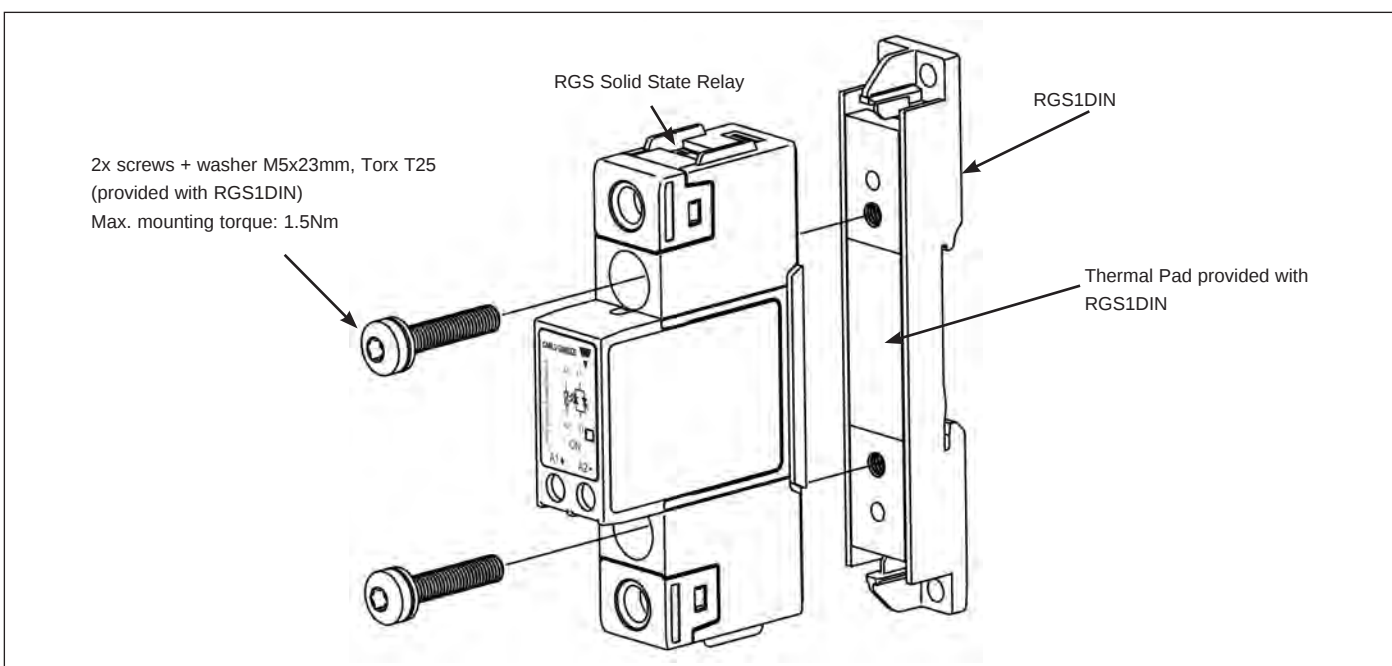


Dimensions

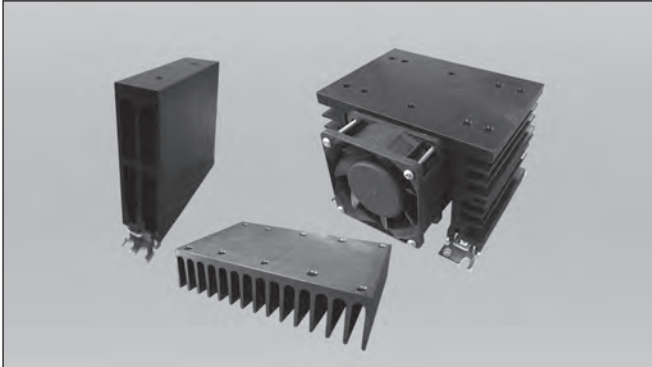


Dimensions in mm

Mounting Instructions for RGS1..DIN



Solid State Relays Accessories, Heatsinks Types RHS..



Ordering Key

RHS

The tables below give an overview of the range of Carlo Gavazzi heatsinks. For specific details refer to the individual datasheet of each heatsink model.

An online **Heatsink Selector Tool** available at www.gavazziautomation.com indicates the most suitable heatsink for a specific application.

DIN mount heatsinks

Heatsink reference	Mounted fan	Thermal resistance	Overall dimensions not including SSR Width x Height x Depth (mm)	Max. number of SSRs per series per heatsink					
				RA.. RD.. RK.. RM1.. RAM1.. RS1..	RGS1..	RGS1S..E	RGS1S..U.	RGS1P..E	RZ3..
RHS00	-	12.3 °C/W (>10W)	44 x 82 x 16	1	-	-	-	-	-
RHS300	-	5.40 °C/W (>30W)	105 x 82 x 20	-	-	-	-	-	1
RHS37A	-	4.00 °C/W (>20W)	18 x 110 x 52	-	1	1	-	-	-
RHS10015	-	4.00 °C/W (>30W)	100 x 82 x 32	2	-	-	-	-	-
RHS100, RHS100D	-	3.10 °C/W (>25W)	44 x 82 x 48	1	-	-	-	-	-
RHS45C, RHS45CD	-	2.20 °C/W (>45W)	45 x 103 x 55	1	-	-	-	-	-
RHS52A	-	2.00 °C/W (>45W)	22.5 x 110 x 90	-	1	1	-	-	-
RHS45B, RHS45BD	-	1.85 °C/W (>50W)	45 x 103 x 80	1	-	-	-	-	-
RHS540, RHS540D	-	1.85 °C/W (>60W)	54 x 110 x 51	1	3	1	1	1	-
RHS542, RHS542D	-	1.85 °C/W (>60W)	54 x 110 x 51	-	2	2	-	1	-
RHS703, RHS703D	-	1.10 °C/W (>60W)	72 x 110 x 75	1	3	2	2	1	-
RHS90A, RHS90AD	-	0.97 °C/W (>60W)	90 x 103 x 80	1	-	-	-	-	-
RHS301, RHS301D	-	0.82 °C/W (>80W)	119 x 82 x 94	2	-	-	-	-	1
RHS112A, RHS112AD	-	0.76 °C/W (>100W)	112 x 103 x 80	2	-	-	-	-	1
RHS11267DIND	-	0.54 °C/W (>150W)	119 x 125 x 94	1	3	3	2	2	1
RHS540F40-24	24VDC	0.65 °C/W	54 x 135 x 51	1	3	1	1	1	-
RHS542F40-24	24VDC	0.65 °C/W	54 x 135 x 51	-	2	2	-	1	-
RHS703F60-24	24VDC	0.37 °C/W	72 x 141 x 75	1	3	2	2	1	-
RHS703F60-230	220-240VAC	0.37 °C/W	72 x 141 x 75	1	3	2	2	1	-
RHS112AF60-24	24VDC	0.35 °C/W	112 x 120 x 80	2	-	-	-	-	1
RHS112AF60-230	220-240VAC	0.35 °C/W	112 x 120 x 80	2	-	-	-	-	1
RHS301F115C	115VAC	0.28 °C/W	124 x 146 x 122	2	-	-	-	-	1
RHS301F230C	220-240VAC	0.28 °C/W	124 x 146 x 122	2	-	-	-	-	1
RHS28009F80-24P	24VDC	0.12 °C/W	280 x 87 x 122	4	9	9	4	4	-
RHS28011F80-24P	24VDC	0.12 °C/W	280 x 87 x 122	3	11	6	5	-	-

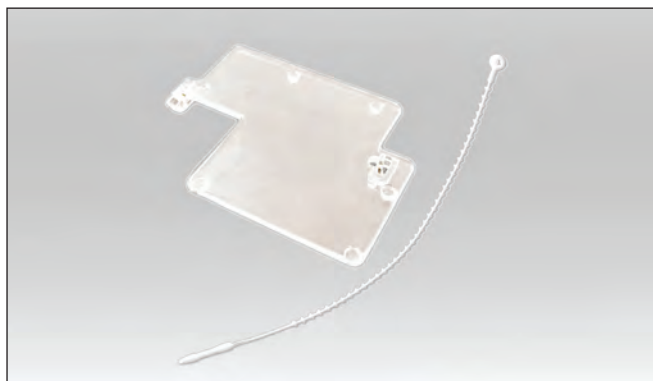
Thru wall mount heatsinks

Heatsink reference	Mounted fan	Thermal resistance	Overall dimensions not including SSR Width x Height x Depth (mm)	Max. number of SSRs per series per heatsink						
				RF1...	RA.. RD.. RK.. RM1.. RAM1.. RS1..	RGS1..	RGS1S..E.	RGS1S..U.	RGS1P..E	RZ3..
RHS38ARFD	-	2.85 °C/W (>40W)	46 x 76 x 33	1	-	-	-	-	-	-
RHS10025D	-	1.85 °C/W (>60W)	100 x 100 x 25	-	1	3	2	1	1	-
RHS16225D	-	1.30 °C/W (>90W)	162 x 100 x 25	-	3	3	3	3	2	1
RHS16225LD	-	0.84 °C/W (>120W)	162 x 250 x 25	-	3	3	3	3	2	1
RHS11267D	-	0.54 °C/W (>150W)	112 x 125 x 67	-	1	3	2	2	1	-
RHS30040D	-	0.40 °C/W (>180W)	300 x 200 x 40	-	8	12	12	5	6	-

Panel mount heatsinks

Heatsink reference	Mounted fan	Thermal resistance	Overall dimensions not including SSR Width x Height x Depth (mm)	Max. number of SSRs per series per heatsink						
				RF1...	RA.. RD.. RK.. RM1.. RAM1.. RS1..	RGS1..	RGS1S..E.	RGS1S..U.	RGS1P..E	RZ3..
RHS5050D	-	3.50 °C/W (>25W)	80 x 50 x 51	-	1	-	-	-	-	-
RHS5050RFD	-	3.50 °C/W (>25W)	80 x 50 x 51	1	-	-	-	-	-	-
RHS38AD	-	2.85 °C/W (>40W)	46 x 76 x 33	-	1	-	-	-	-	-
RHS38ARFD	-	2.85 °C/W (>40W)	46 x 76 x 33	1	-	-	-	-	-	-
RHS10025D	-	1.85 °C/W (>60W)	100 x 100 x 25	-	1	3	2	1	1	-
RHS5840D	-	1.80 °C/W (>60W)	81 x 100 x 40	-	1	3	2	1	1	-
RHS10067D	-	1.70 °C/W (>20W)	121 x 76 x 67	-	1	-	-	-	-	-
RHS16225D	-	1.30 °C/W (>90W)	162 x 100 x 25	-	3	3	3	3	2	1
RHS10067LD	-	0.88 °C/W (>80W)	121 x 140 x 67	-	2	2	-	-	1	-
RHS16225LD	-	0.84 °C/W (>120W)	162 x 250 x 25	-	3	3	3	3	2	1
RHS320	-	0.40 °C/W (>120W)	240 x 100 x 93	-	3	3	3	3	3	1

Solid State Relays Accessories, Protection Covers

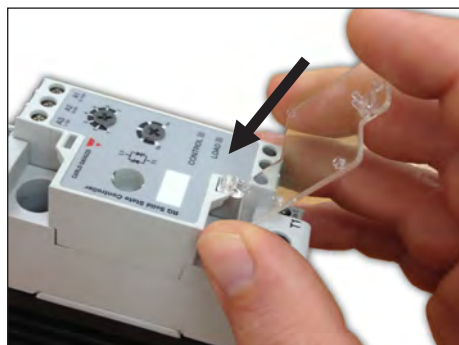


Ordering Key

RGTMP

Tamper proof accessory kit for RGS1P, RGC1P series containing:
- x5 transparent covers
- x5 secureness ties

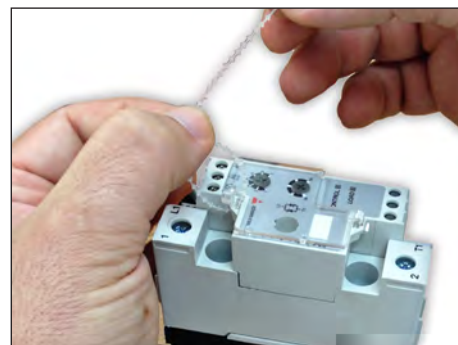
Installation



1: Clip hook of the transparent cover to the bottom loop of the RGx1P control module



2: Close the cover by clipping to the top loop of the RGx1P control module



3: Secure with provided tie.

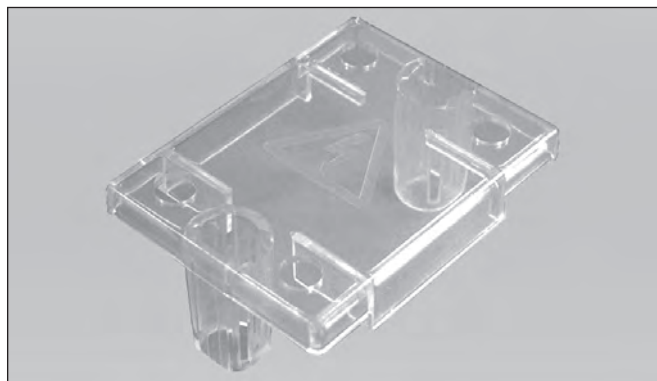


Ordering Key

RKIP20

- IP20 touch protection cover for RK series
- Packing qty. 10pcs.

Protection Covers



Ordering Key

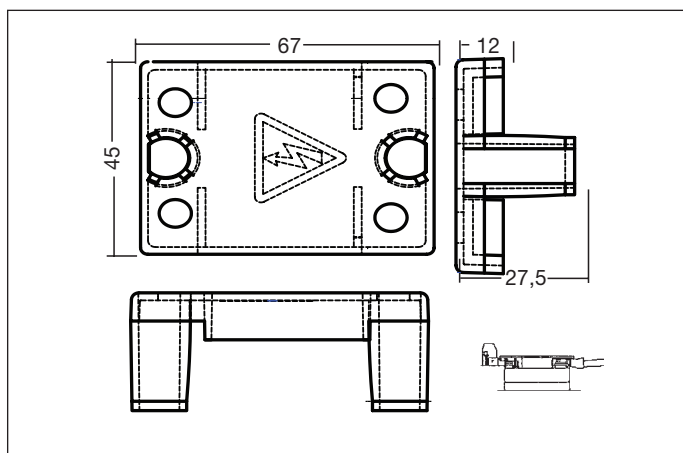
BBR

- IP20 touch protection cover for RA & RD series
- Packing qty. 25 pcs.

Ordering Key

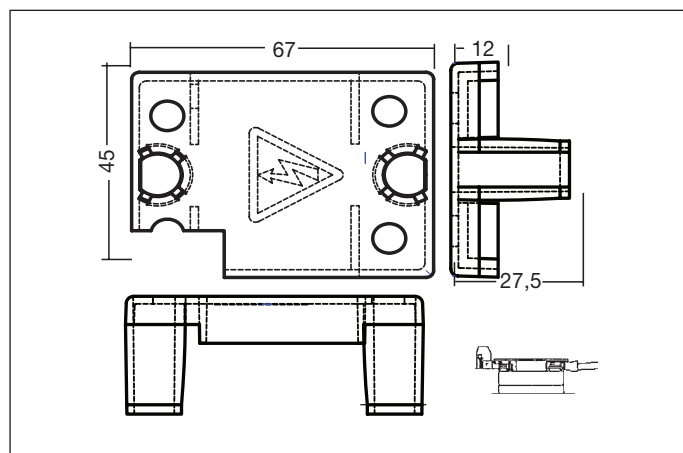
BBR - S

- IP20 touch protection cover for RA..S series
- Packing qty. 25 pcs.



BBR

Dimensions in mm



BBR-S

Dimensions in mm

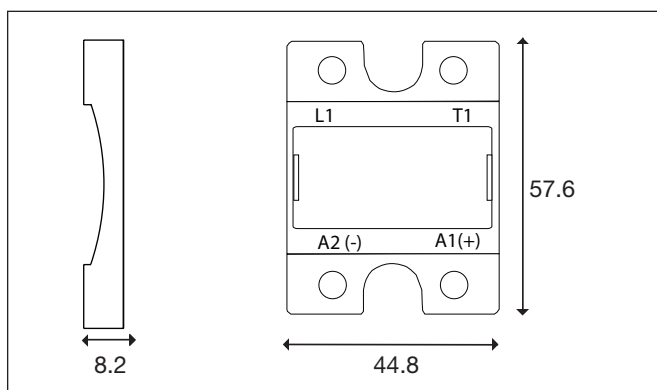


Ordering Key

RMIP20

- IP20 touch protection cover for RM, RS and RAM series
- Packing qty. 20 pcs.

Note: Cover not suitable with RM1E..V..



Dimensions in mm



Ordering Key

RHSF..

Fans for mounting to heatsinks RHS45C, RHS45B, RHS90A, RHS112A, RHS540, RHS542, RHS703, RHS301 for higher thermal resistance.

Assemblies with pre mounted fans are also available. Refer to Heatsinks datasheet for further details.

Selection Guide

Part No.	Size Width x Height x Depth (mm)	Current Consumption	Voltage rating	Power consumption	Suitable for mounting to heatsink
RHSF40-24	40 x 40 x 20	33 mA	24VDC	0.92 Watts	RHS45C, RHS45B, RHS540, RHS542
RHSF60-24	60 x 60 x 20	75 mA	24VDC	1.8 Watts	RHS90A, RHS112A, RHS703
RHSF60-230	60 x 60 x 20	198 mA / 211 mA	220 - 240 VAC, 50/60Hz	4.1 / 4.4 Watts	RHS90A, RHS112A, RHS703
RHS301F115	120 x 120 x 38 (plus bracket)	210 mA / 180 mA	115 VAC 50/60Hz	20 / 18 Watts	RHS301
RHS301F230	120 x 120 x 38 (plus bracket)	125 mA / 110 mA	220 - 240 VAC, 50/60Hz	20 / 19 Watts	RHS301

Fork Terminals

These fork terminals are suitable for use with the RM, RS and RAM series. The maximum cross sectional area that these connectors can handle is 35mm²/AWG2. A version with touch protection is also available.

Ordering Key

RM 635 FK

RM, RAM, RS solid state relay

Size

Fork terminal

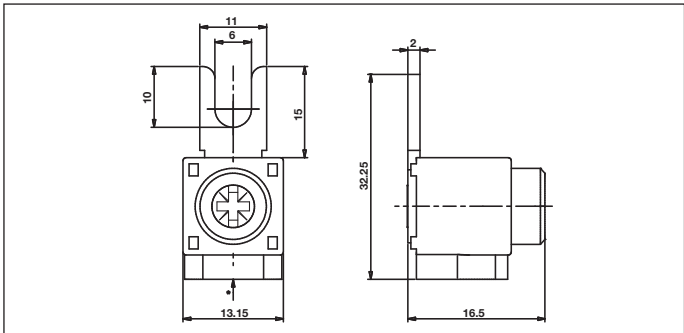
Options

Selection Guide

Part No.	Max. cross sectional area (flexible conductor)	Touch protection	Packing qty.
RM625FK	16mm ²	No	10
RM635FK	35mm ²	No	10
RM635FKP	35mm ²	Yes	10



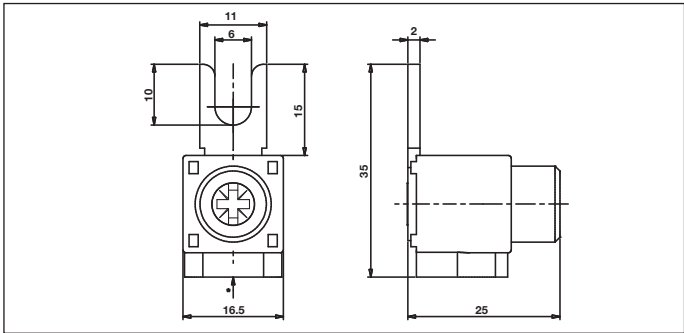
RM625FK



Dimensions in mm



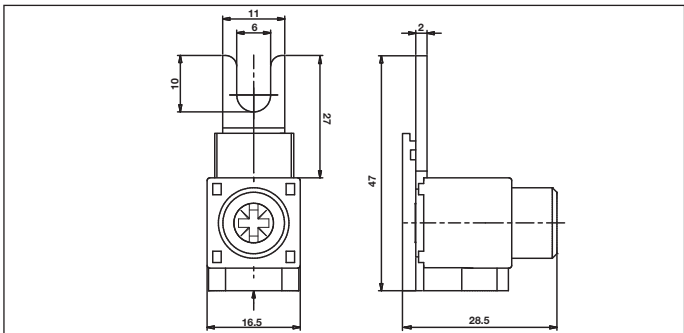
RM635FK



Dimensions in mm



RM635FKP



Dimensions in mm

General Specifications

Housing	RM625FK, RM635FK RM635FKP	Cyclopol UL94 V0 PA66 UL94 V0
Connection lug		CuZn37 with surface Zn4ymcA RAL 7035
Max. fastening torque	RM625FK, RM635FK RM635FKP	2 Nm (17.7 lb-in) 3-3,5 Nm (26.55 - 30.97 lb-in), 6mm ² (AWG 10) 4-4,5 Nm (35.40 - 39.82 lb-in), 10-16mm ² (AWG 8-6) 5-5,5 Nm (44.25 - 48.68 lb-in), 25-50mm ² (AWG 4-1)
Wire acceptance		
Solid Cu conductor	RM625FK RM635FK RM635FKP	6 - 25mm ² (AWG 10 - 4) 6 - 50mm ² (AWG 10 - 1) 6 - 50mm ² (AWG 10 - 1)
Flexible Cu conductor	RM625FK RM635FK RM635FKP	6 - 16mm ² (AWG 10 - 6) 6 - 35mm ² (AWG 10 - 3) 6 - 35mm ² (AWG 10 - 3)
Max. handling current	RM635FK RM635FKP	100 A 160A
Max. operating voltage		600 VAC

FASTON Terminals



Ordering Key

RM 48 F4

RM, RAM, RS solid state relay

Tab size

Tab orientation

FASTON tabs for screw mounting on RM, RS, RAM series. Tabs are tin plated brass with dimensions according to DIN46342 part 1.

Selection Guide

Part No.	Tab size	Tab orientation	Packing qty.
RM48F4	4.8 x 0.8mm for input	Angled 45°	20
RM48F0	4.8 x 0.8mm for input	Flat 0°	20
RM63F4	6.3 x 0.8mm for output	Angled 45°	20
RM63F0	6.3 x 0.8mm for output	Flat 0°	20

Hex Spacers



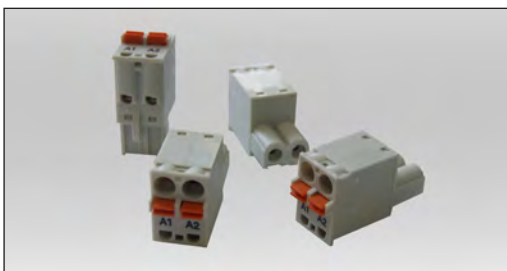
Ordering Key

RMSP03

- Dimensions M3 x 12mm
- Packing qty. 20 pcs.

Hex tin plated brass spacer M3x12mm for mounting on input terminals of RM, RS and RAM series to allow for mounting of PCB on top of SSR.

Plug Terminals



Ordering Key

RGM25

- Spring loaded plug terminal for RG series
- 2 pole, 1x 0.2-2.5mm² (24 - 12 AWG)
- Packing qty. 10 pcs.



Ordering Key

RGMREF

- Spring loaded plug terminal for NRG system
- 2 pole, 1x 0.2-2.5mm² (24 - 12 AWG)
- Packing qty. 10 pcs.



Ordering Key

Spring plug labelled 'NC NO COM'

RG3M15AL

Spring plug labelled 'A1+ A2- Us+'

RG3M15CTR

- Spring plugs for RG..M, 5.00mm pitch
- 3 pole, 1 x 0.2 - 2.5 mm² (26 - 12 AWG)
- Packing qty. 10 pcs.



Ordering Key

RG3G25

- Box clamp plug terminal for RGCM series
- 3 way 2 pole, 1x 0.2-2.5mm² (24 - 12 AWG)
- Packing qty. 10 pcs.

Plug Terminals

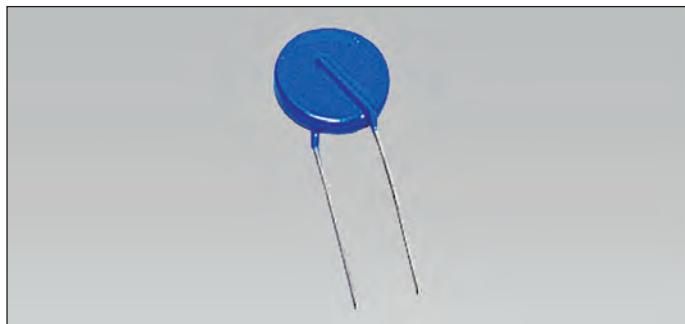


Ordering Key

RK4MT, RK2MT

- Spring plugs for RK...P, 5.08mm pitch
- RK2MT, 4-way, 2-pole for RK2..P
- RK4MT, 4-way, 4-pole for RKD2..P
- Packing qty. 10 pcs.

Solid State Relays Accessories, Varistors Type RV



- Transient protection devices for Solid State Relays

Product Description

A metal oxide varistor (MOV) is a voltage dependent resistor with a symmetrical V/I characteristics curve whose resistance decreases with increasing voltage. Varistors are ideally suited for protecting sensitive electronic circuits and components (power semiconductors)

against voltage transients caused either by the mains or by other application parts. Connected in parallel with the electronic device that is to be guarded, they form a low resistance shunt when voltage increases and thus prevent any further V/I in the over voltage.

Ordering Key

RV 04

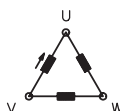
Solid State Relay _____

Varistor _____

Varistor voltage _____

Type Selection

3-phase mains without neutral

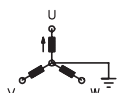


Mains	Uc *	Carlo Gavazzi**	Epcos	AVX	Nippon Chemi-Con	ACPA/ Song Long
230 V	710	RV 02	SIOV-S20K275	VF20M10431K	TND 20V-431	431KD20
400 V	1120	RV 04	SIOV-S20K420	VF20M10681K	TND 20V-681	681KD20
480 V	1355	RV 05	SIOV-S20K510	VF20M10821K	TND 20V-821	821KD20
600 V	1650	RV 06	SIOV-S20K625	VF20M10102K	TND20V-102	102KD20
660 V	1815	RV 07	SIOV-S20K680	-	TND20V-112	112KD20

* Uc @ 100 Ap (SIOV-S20K...)

** Pack of 10 pieces

3-phase mains without neutral



Mains	Uc *	Carlo Gavazzi**	Epcos	AVX	Nippon Chemi-Con	ACPA/ Song Long
120/240	710	RV 02	SIOV-S20K275	VF20M10431K	TND 20V-431	431KD20
230/400	710	RV 02	SIOV-S20K275	VF20M10431K	TND 20V-431	631KD20
400/690	1120	RV 04	SIOV-S20K420	VF20M10681K	TND 20V-681	681KD20

* Uc @ 100 Ap (SIOV-S20K...)

** Pack of 10 pieces

Wiring Diagrams

	Mains without neutral	Mains with neutral
1-phase		
2-phase		
3-phase		

Solid State Relays
Accessories, Temperature Limit Switches
Type UP 62 - ..



- Solid State Relays Accessories, Temperature Limit Switches Type UP 62 - ..

Product Description

The temperature limit switch is a readily available accessory. It is a thermostat especially designed for overheat protection for small assemblies.

The thermal response is excellent due to its miniaturized housing. It becomes an effective thermal cutout due to the fact that this limit switch can be fitted close to the heatsink of the relay.

When connected serial with the control voltage, the TLS will switch off the relay as soon as the operating temperature of the switch is reached. The relay will be activated again

when the temperature drops (approx. 30°C) below its cutout value.

In the RZ3 relay, the TLS can be connected to two free (internally non-connected) terminals (B1/B2).

Thermal compound must be added when inserting the TLS (to guarantee a fast thermal response).

The heatsink selection charts (load current versus ambient temperature) for RSO types provide information about which thermal switch to use.

Ordering Key

UP 62 - 90

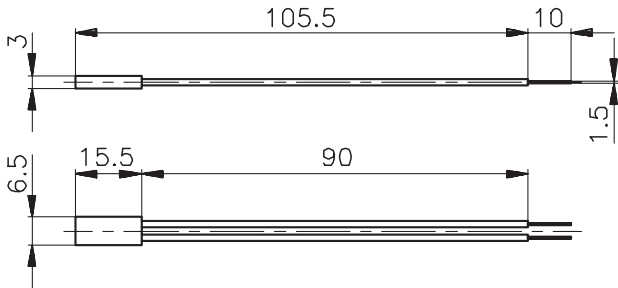
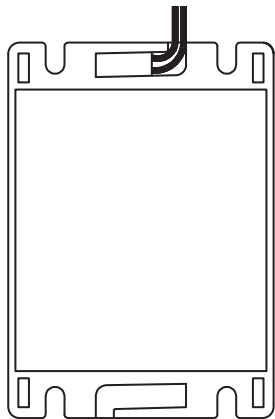
Thermostat type _____
Switch temperature _____

Type Selection

Switching temperature	
UP 62-70	70°C (158°F)
UP 62-80	80°C (176°F)
UP 62-90	90°C (194°F)

Installation

The UP 62 - .. is mounted in one of the two slots of the 3-phase SSR housing.



All dimensions in mm