

# Solid State Relays Accessories

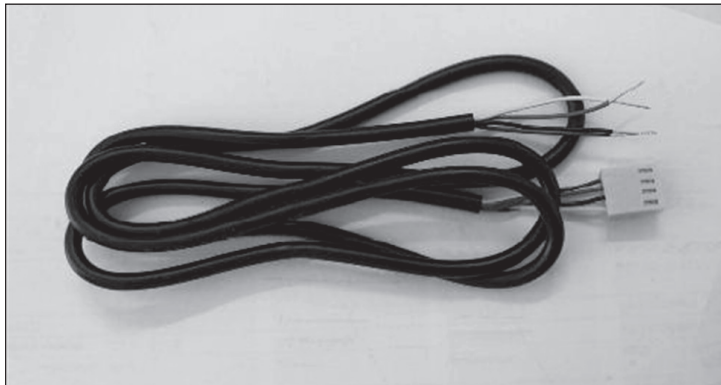


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# Solid State Relays Accessories, Cables Types RC..



## 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 <sup>2</sup>	3-pin socket to mate with RM1E..V..
RCS4-100-1	4	100	UL style 2464	0.14mm <sup>2</sup>	4-pin socket to mate with RA2A..C
RCS4-400-1	4	400	UL style 2464	0.14mm <sup>2</sup>	4-pin socket to mate with RA2A..C
RCS5-200-1	5	200	UL style 2464	0.25mm <sup>2</sup>	5-pin socket to mate with RA..S
RCK4-100-1	4	100	UL style 2464	0.14mm <sup>2</sup>	4-pin socket to mate with RKD2..C
RCK2-100-1	2	100	UL style 2464	0.14mm <sup>2</sup>	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

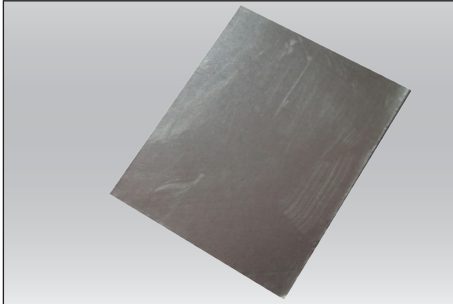
**RGN - TERMRES**

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

# Solid State Relays Accessories, Thermal Interface



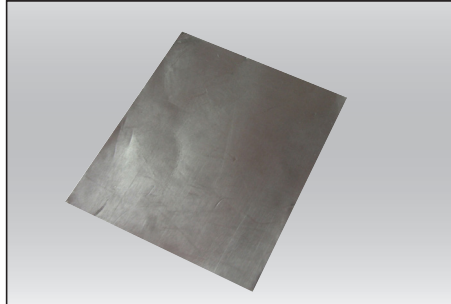
## Thermal Pads



### Ordering Key

#### KK071CUT

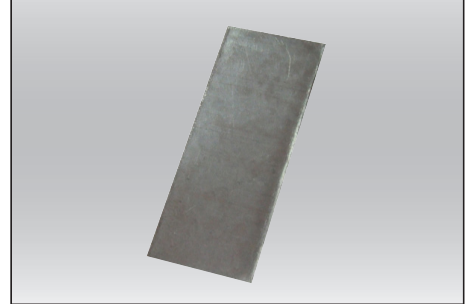
- Graphite thermal pad for RA, RD, RM, RAM and RS series with adhesive on one side
- Width x Height x Thickness = 35 x 43 x 0.25 mm
- Packing qty. 50 pcs.



### 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.

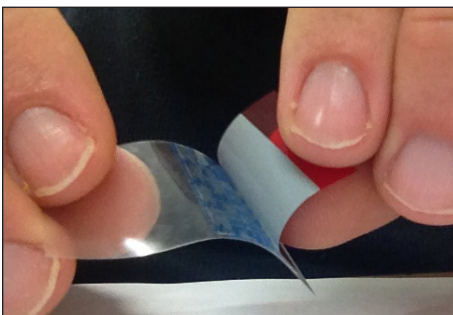


### Ordering Key

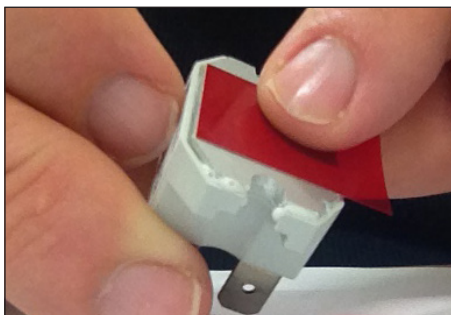
#### RFHT

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

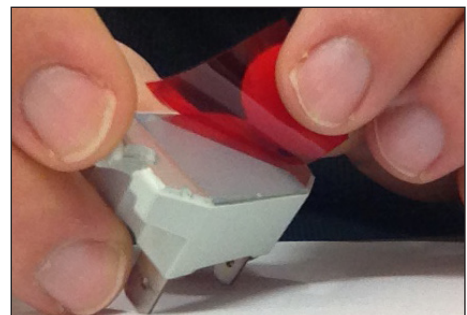
## Mounting of RFHT on SSR



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

# Solid State Relays Accessories, DIN Adaptors



## 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

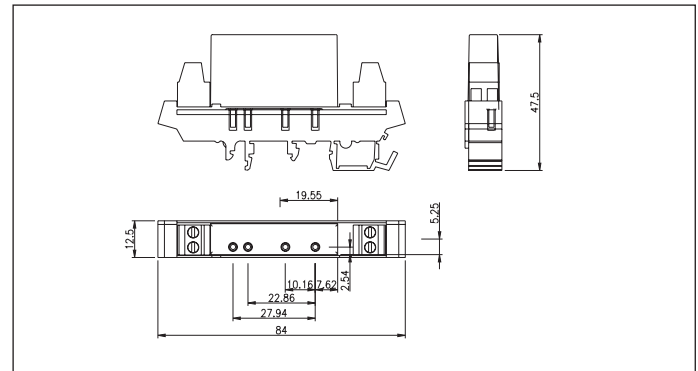
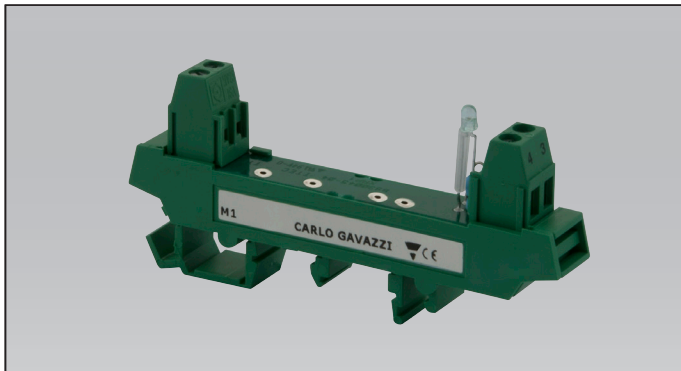
## Selection Guide

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

1: Not suitable for use with RP1A23A6

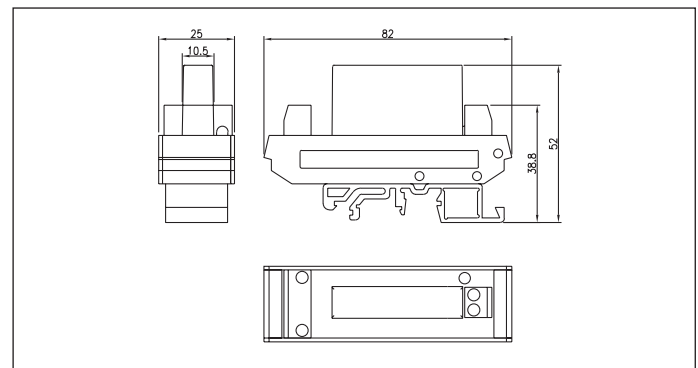
2: Control voltage to be applied to the RPMx terminal block differs from the RP1... control voltage. Refer to the RP1... datasheet for further details.

## RPM1



Dimensions in mm including SSR

## RPM2



Dimensions in mm including SSR

# DIN Adaptors



## 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 <sup>2</sup>

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

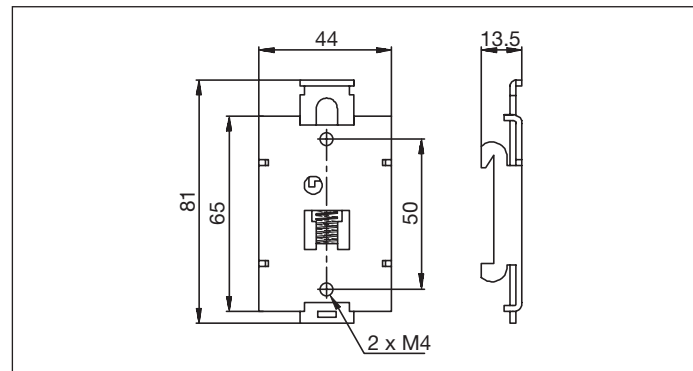
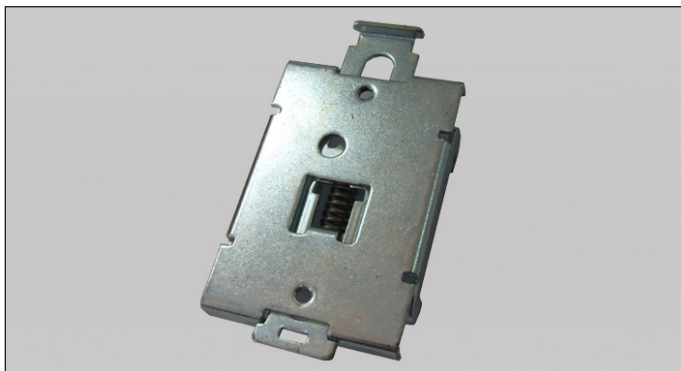
DIN rail adaptor module for mounting the 1-phase SSR series RA, RD, RM, RS and RAM directly on DIN rail.

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)

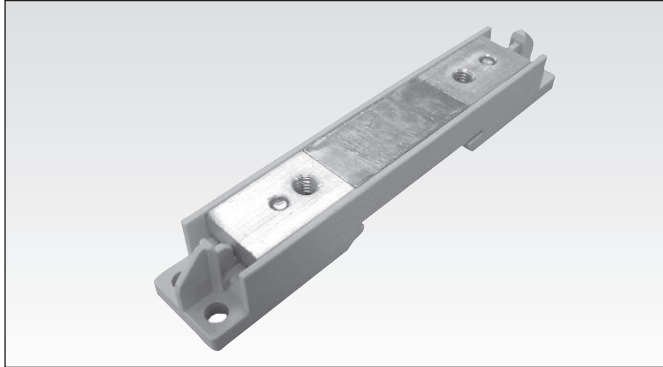


Dimensions in mm

# DIN Adaptors



## DIN Adaptor for RGS SSRs



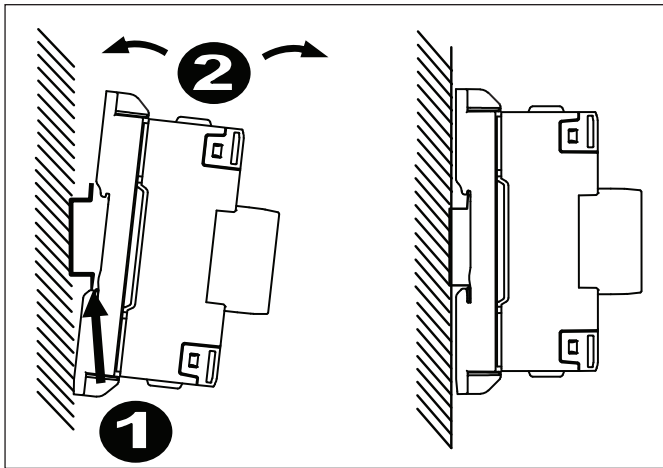
### Ordering Key

**RGS1DIN**

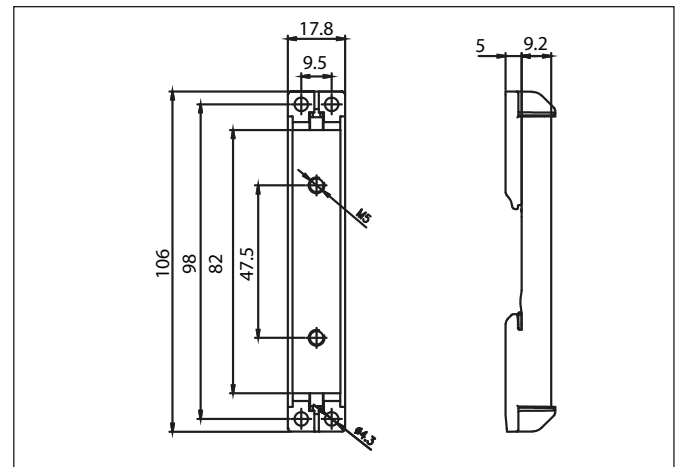
DIN rail adaptor module for mounting the RGS series on DIN rail.

This adaptor integrates an aluminium plate 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

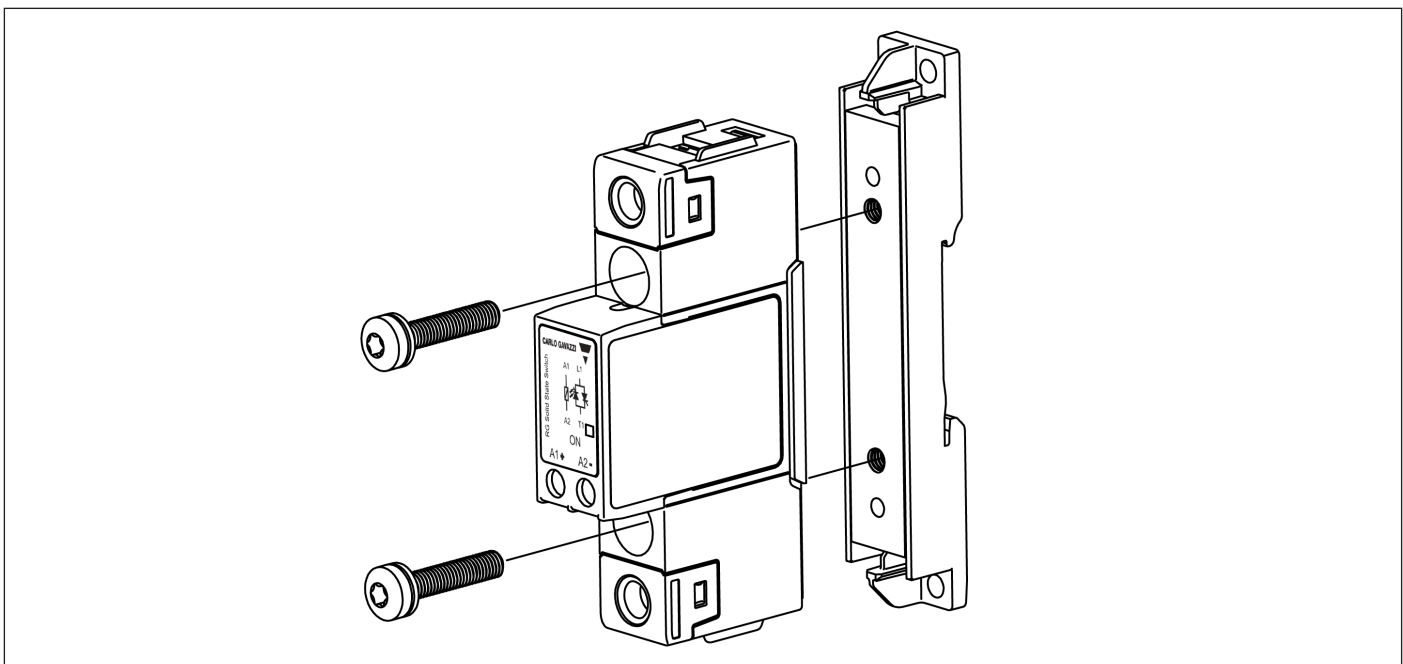


### Dimensions



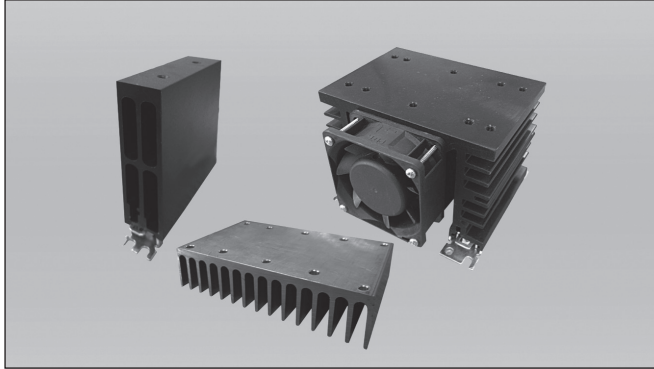
Dimensions in mm

### Mounting Instructions





# 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.productselection.net](http://www.productselection.net) 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	-

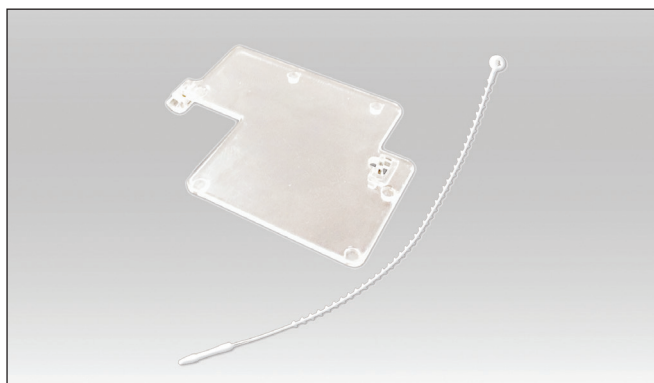
## Panel mount heatsinks

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



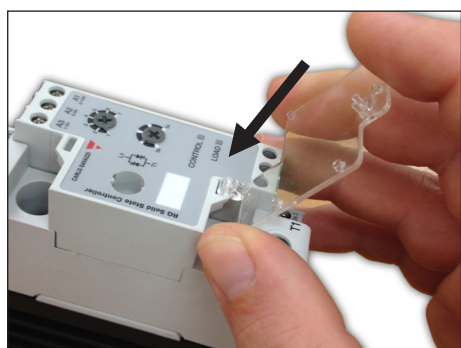
**RGTMP**



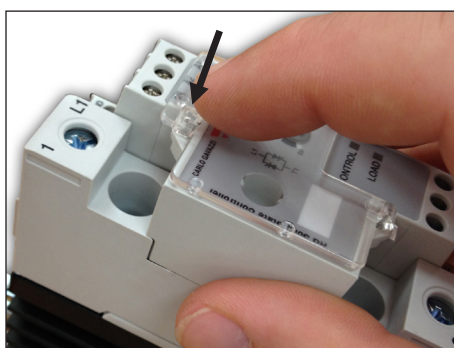
## Ordering Key

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

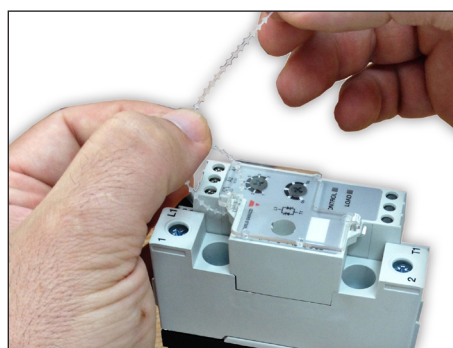
## Installation



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.

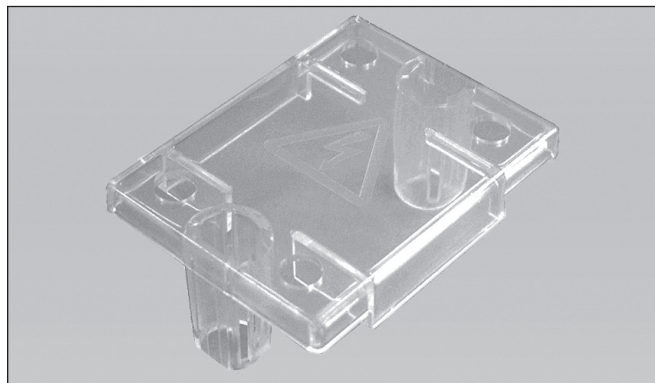


## Ordering Key

**RKIP20**

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

# Protection Covers



## Ordering Key

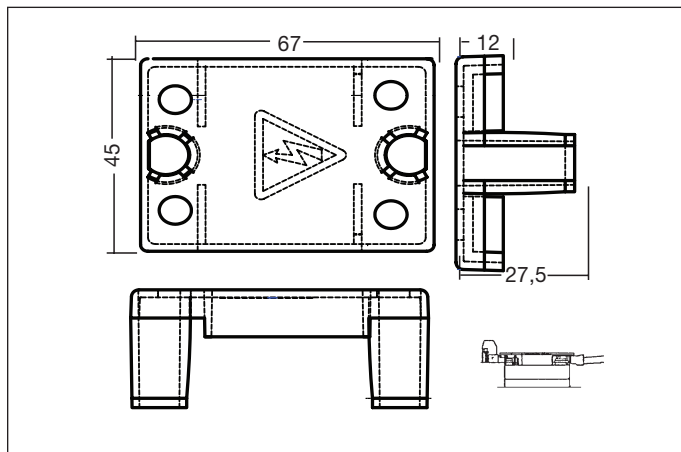
**BBR**

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

## Ordering Key

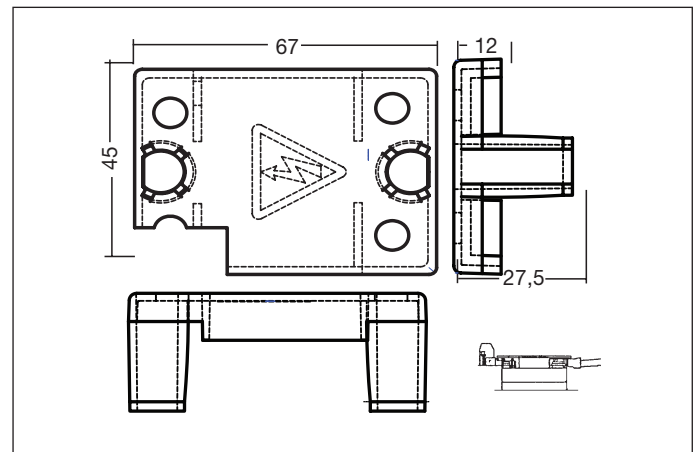
**BBR - S**

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



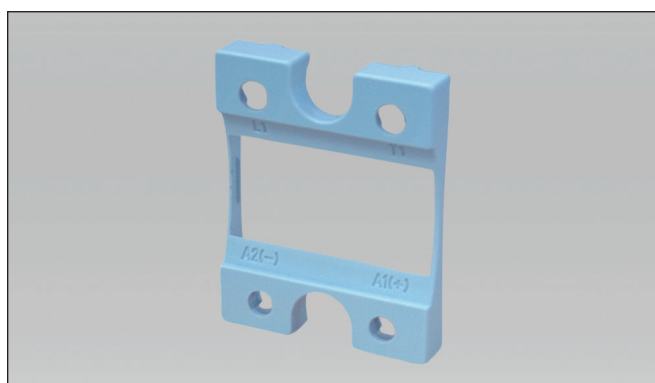
**BBR**

Dimensions in mm



**BBR-S**

Dimensions in mm

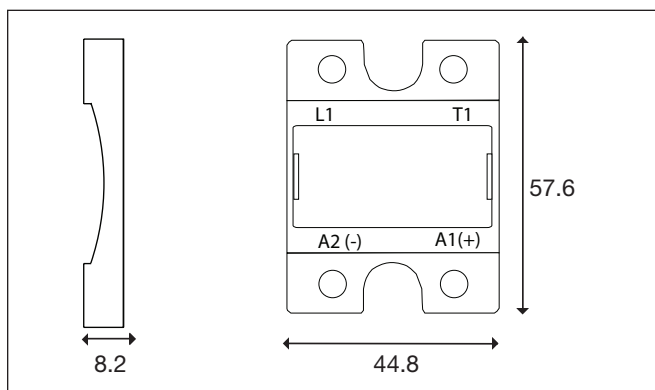


## Ordering Key

**RMIP20**

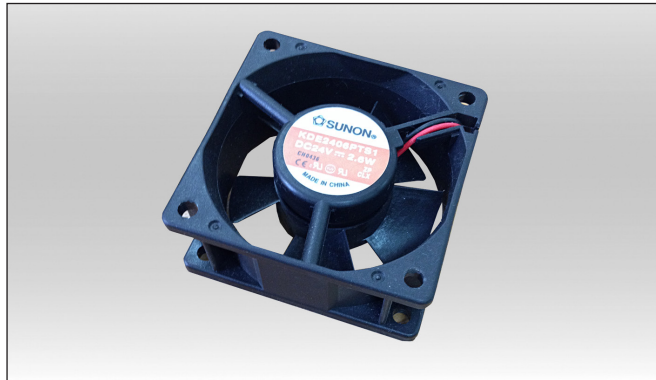
- IP20 touch protection cover for RM, RS and RAM series
- Packing qty. 20 pcs.

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



Dimensions in mm

# Solid State Relays Accessories, Fans



## 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

# Solid State Relays Accessories, Terminal Adaptors



## 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 35mm<sup>2</sup>/AWG2. A version with touch protection is also available.

## Ordering Key

**RM 635 FK**

RM, RAM, RS solid state relay

Size

Fork terminal

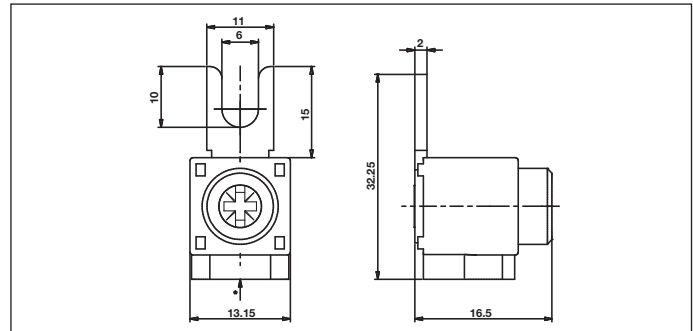
Options

## Selection Guide

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



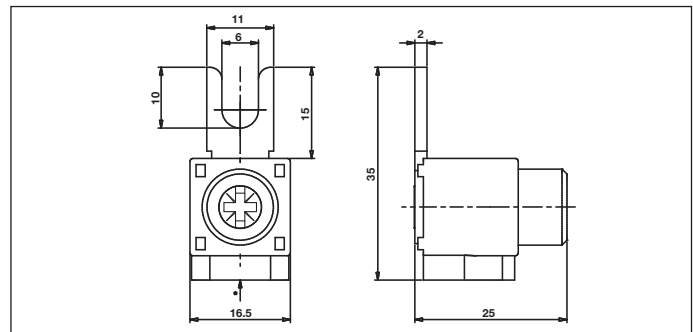
RM625FK



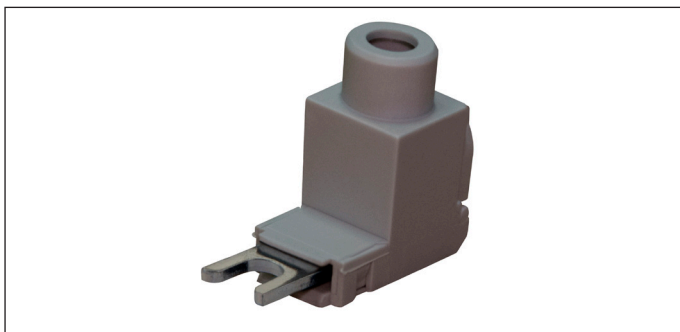
Dimensions in mm



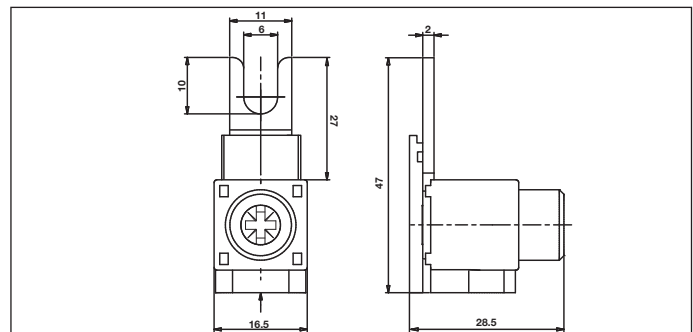
RM635FK



Dimensions in mm



RM635FKP



Dimensions in mm

# Terminal Adaptors



## General Specifications

Housing	RM625FK, RM635FK RM635FKP	Cycloy 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 <sup>2</sup> (AWG 10) 4-4,5 Nm (35.40 - 39.82 lb-in), 10-16mm <sup>2</sup> (AWG 8-6) 5-5,5 Nm (44.25 - 48.68 lb-in), 25-50mm <sup>2</sup> (AWG 4-1)
Wire acceptance		
Solid Cu conductor	RM625FK RM635FK RM635FKP	6 - 25mm <sup>2</sup> (AWG 10 - 4) 6 - 50mm <sup>2</sup> (AWG 10 - 1) 6 - 50mm <sup>2</sup> (AWG 10 - 1)
Flexible Cu conductor	RM625FK RM635FK RM635FKP	6 - 16mm <sup>2</sup> (AWG 10 - 6) 6 - 35mm <sup>2</sup> (AWG 10 - 3) 6 - 35mm <sup>2</sup> (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.

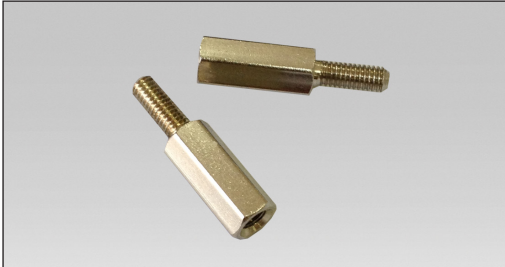
## Selection Guide

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

# Terminal Adaptors



## Hex Spacers



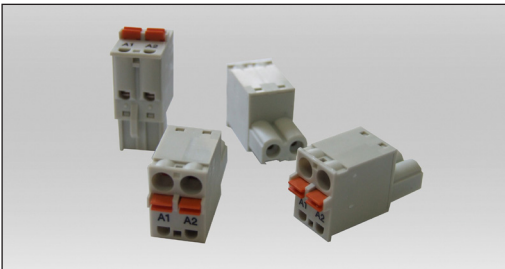
### Ordering Key

**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.

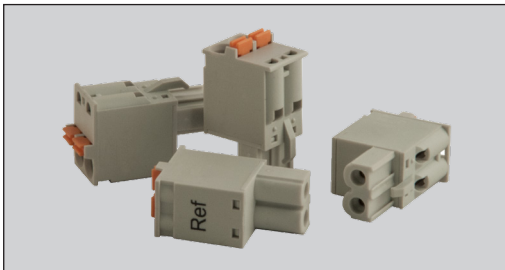
## Plug Terminals



### Ordering Key

**RGM25**

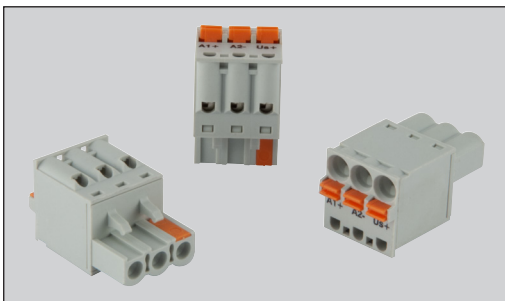
- Spring loaded plug terminal for RG series
- 2 pole, 1x 0.2-2.5mm<sup>2</sup> (24 - 12 AWG)
- Packing qty. 10 pcs.



### Ordering Key

**RGMREF**

- Spring loaded plug terminal for NRG system
- 2 pole, 1x 0.2-2.5mm<sup>2</sup> (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 mm<sup>2</sup> (26 - 12 AWG)
- Packing qty. 10 pcs.



### Ordering Key

**RG3G25**

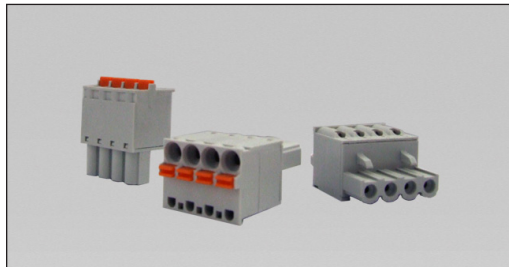
- Box clamp plug terminal for RGCM series
- 3 way 2 pole, 1x 0.2-2.5mm<sup>2</sup> (24 - 12 AWG)
- Packing qty. 10 pcs.



# Terminal Adaptors



## Plug Terminals

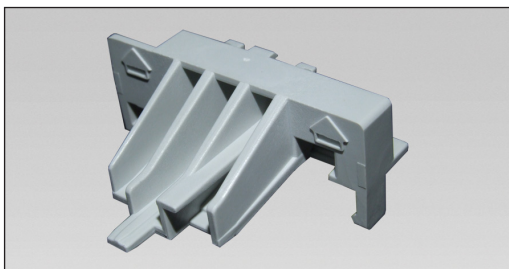


### Ordering Key

**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.

## Motor Overload Relay Adaptor



### Ordering Key

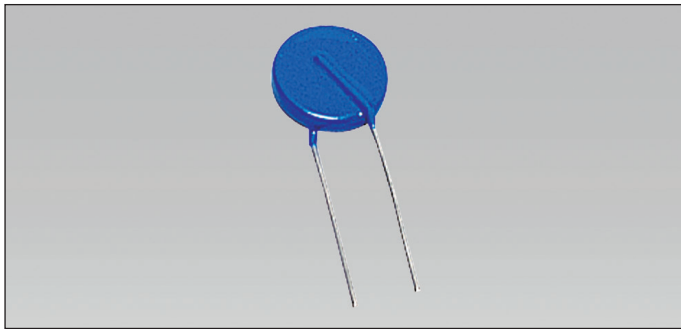
**REC3ADAPTOR**

This plastic adaptor can be fitted to the RGCM housing cover to facilitate mounting of overload protection relays. This adaptor is compatible with:

Manufacturers	Series	Example
ABB	TA	TA25DU-8.5
Siemens	3RU11	3RU1126-1FB0

Packing qty. 5 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.

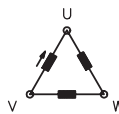
## Ordering Key

**RV 04**

Solid State Relay \_\_\_\_\_  
Varistor \_\_\_\_\_  
Varistor voltage \_\_\_\_\_

## Type Selection

### 3-phase mains without neutral

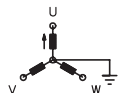


Mains	Uc *	Carlo Gavazzi**	Epcos	AVX	Nippon Chemi-Con	ACPA/Song Long
230 V	710	<b>RV 02</b>	SIOV-S20K275	VF20M10431K	TND 20V-431	431KD20
400 V	1120	<b>RV 04</b>	SIOV-S20K420	VF20M10681K	TND 20V-681	681KD20
480 V	1355	<b>RV 05</b>	SIOV-S20K510	VF20M10821K	TND 20V-821	821KD20
600 V	1650	<b>RV 06</b>	SIOV-S20K625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

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

\*\* Pack of 10 pieces

### 3-phase mains without neutral

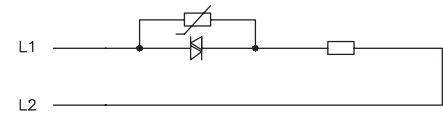
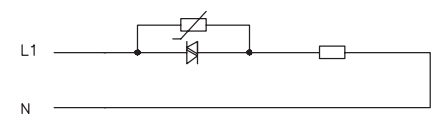
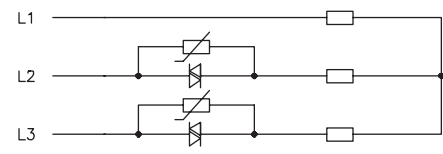
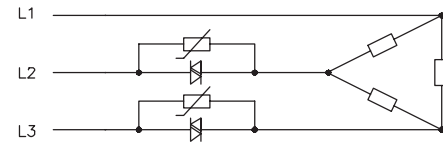
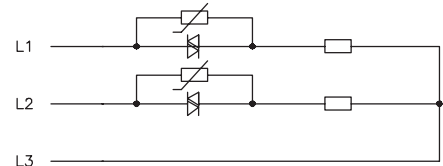


Mains	Uc *	Carlo Gavazzi**	Epcos	AVX	Nippon Chemi-Con	ACPA/Song Long
120/240	710	<b>RV 02</b>	SIOV-S20K275	VF20M10431K	TND 20V-431	431KD20
230/400	710	<b>RV 02</b>	SIOV-S20K275	VF20M10431K	TND 20V-431	631KD20
400/690	1120	<b>RV 04</b>	SIOV-S20K420	VF20M10681K	TND 20V-681	681KD20

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

\*\* Pack of 10 pieces

## Wiring Diagrams

	Mains without neutral	Mains with neutral
<b>1-phase</b>		
<b>2-phase</b>	  	
<b>3-phase</b>	