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Solid State Relays
Accessories

CARLO GAVAZZI

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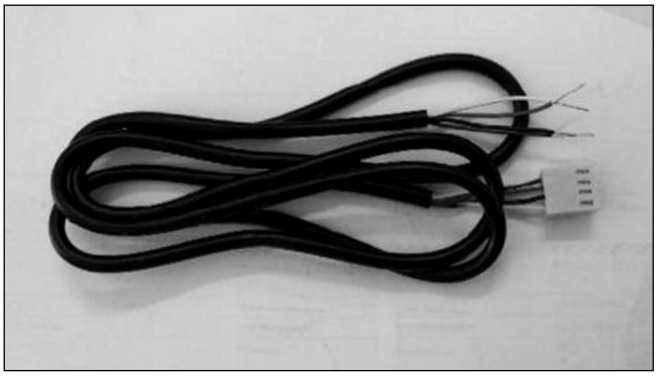
Solid State Relays
Accessories, Cables
Types RCS..



Ordering Key

RCS 3 -100 -1

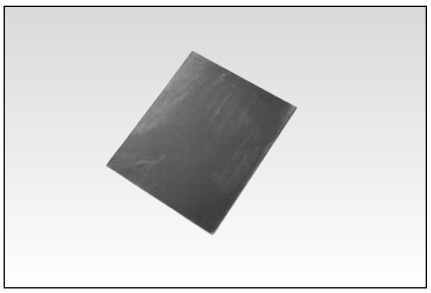
- **R-System cable**
- **No. of wires**
- **Cable length in cm**
- **Termination at one end**

Selection Guide

Part No.	No. of wires	Cable length (cm)	Type	Cable size	Termination
RCS3-100-1	3	100	UL style 2547	0.14mm²	3-pin socket to mate with RM1E..V..
RCS4-100-1	4	100	UL style 2464	0.14mm²	4-pin socket to mate with RA2A..C
RCS4-400-1	4	400	UL style 2464	0.14mm²	4-pin socket to mate with RA2A..C
RCS5-200-1	5	200	UL style 2464	0.25mm²	5-pin socket to mate with RA..S

Solid State Relays
Accessories, Thermal Interface

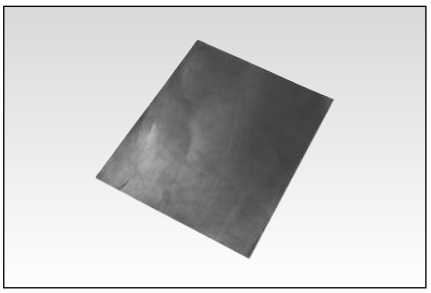
Thermal pads



Ordering Key

KK071CUT

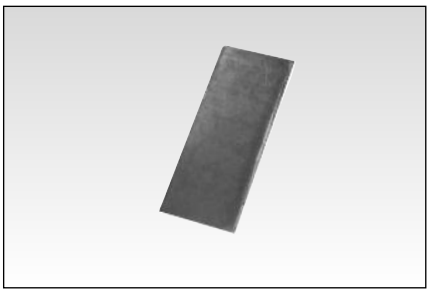
- Graphite thermal pad for RA, RD, RM, RAM and RS series with adhesive on one side
- Width x Height x Thickness = 35 x 43 x 0.25 mm
- Packing qty. 50 pcs.



Ordering Key

RZHT

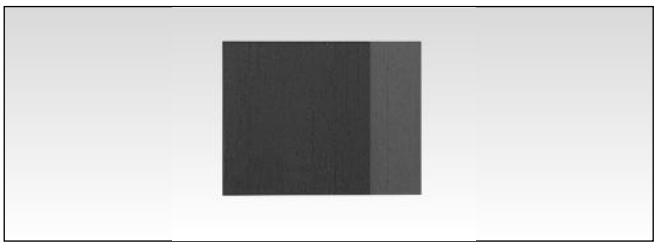
- Graphite thermal pad for RZ3 series with adhesive on one side
- Width x Height x Thickness = 70 x 77 x 0.25 mm
- Packing qty. 10 pcs.



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.

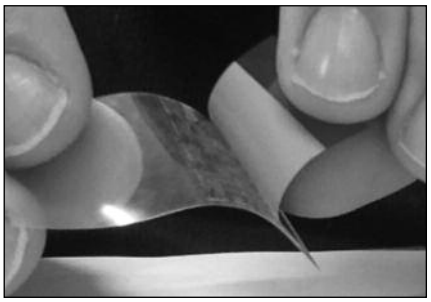


Ordering Key

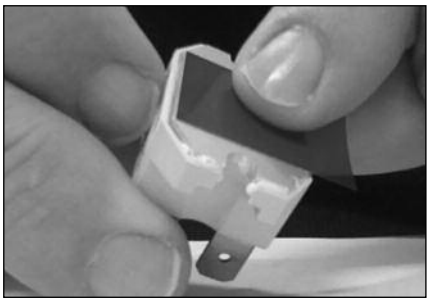
RFHT

- Phase change thermal pad for RF1
- Width x Height x Thickness = 19 x 21 x 0.13 mm
- Packing qty. 10 pcs.

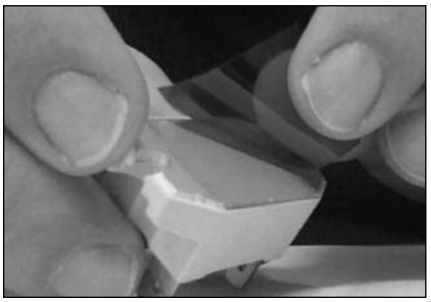
Mounting of RFHT on SSR



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 syringe
- Volume = 2ml
- Packing qty. 1 pc.

Specifications are subject to change without notice (11.02.2015)

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

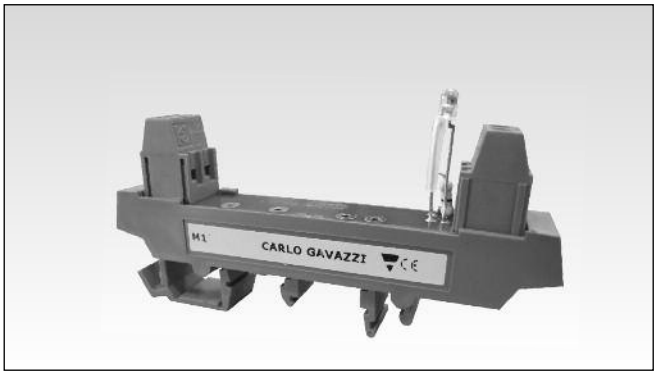
RPM 1 -

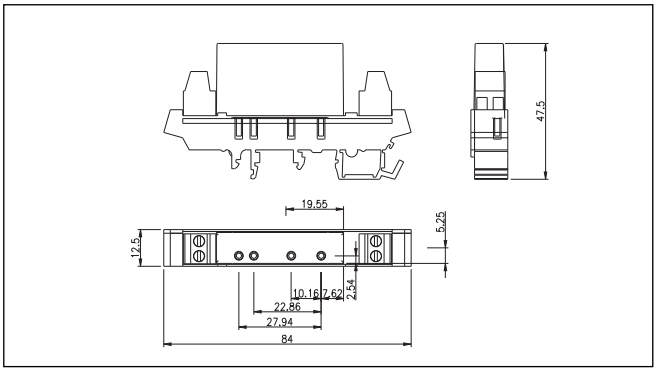
RP DIN rail adaptor module
Module size
Options

Selection Guide

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

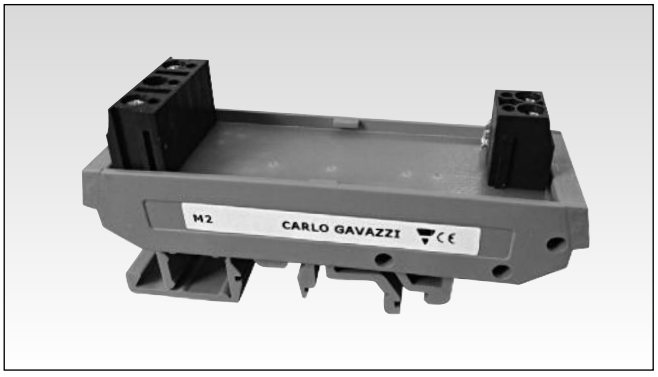
RPM1

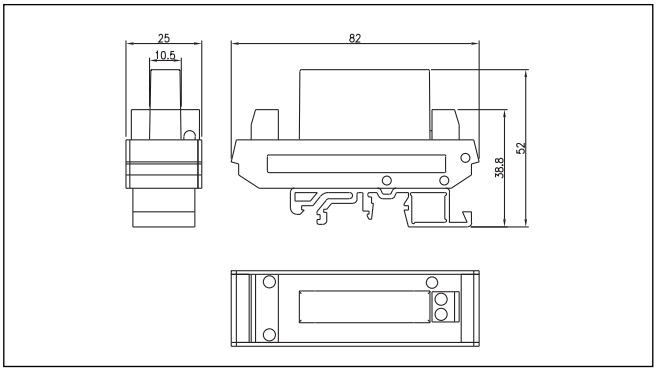




Dimensions in mm including SSR

RPM2





Dimensions in mm including SSR

Specifications are subject to change without notice (11.02.2015)

Housing Specifications

Housing material	PA, green, UL94 V0		Mounting torque max.	0.5 Nm
Weight	RPM1 RPM2	approx. 15g approx. 20g	Operating temperature	-20° to + 70°C [-4 to +158°F]
Terminal screws	M3		Storage temperature	-40° to + 100°C [-40° to +212°F]
Terminal cable size max. (stranded)	1.5mm^2		DIN rail guide	DIN EN 50022, 50035

DIN Adaptor for 1-phase SSRs

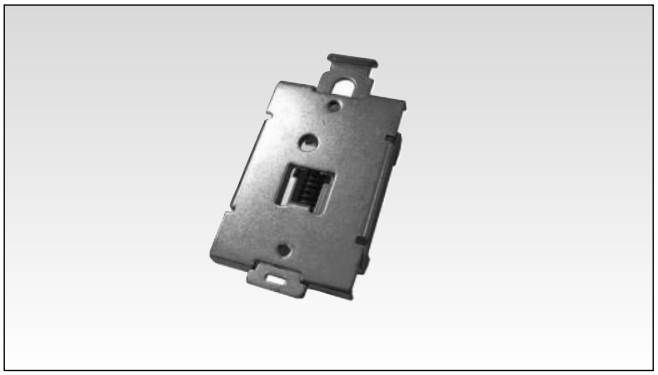
DIN rail adaptor module for mounting the 1-phase SSR series RA, RD, RM, RS and RAM directly on DIN rail.

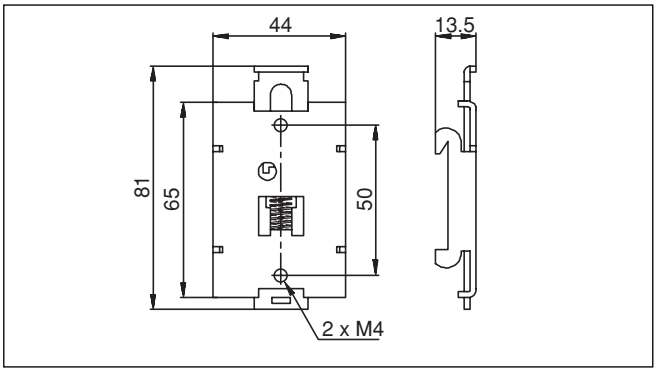
Suffix H8 added to SSR part no. refers to factory mounted DIN clip. Conditions apply. Please ask your Sales representative for further details.

Ordering Key

RHS00

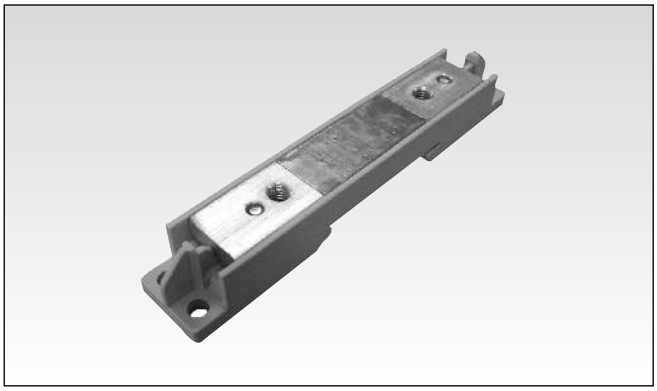
Material	Electroplated steel
Thermal resistance	12.3 °C/W (>10W)





Dimensions in mm

DIN Adaptor for RGS SSRs



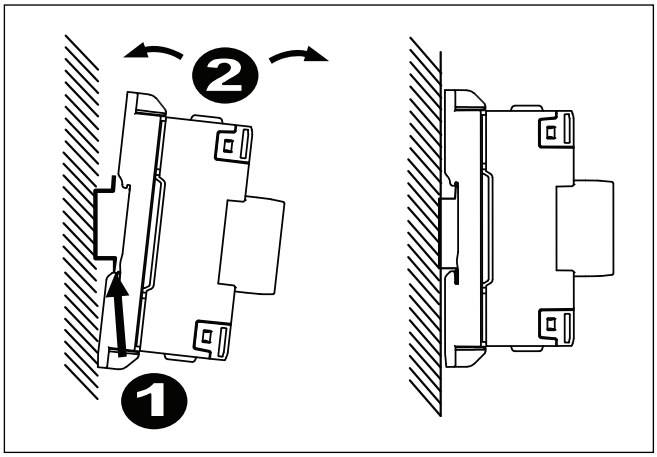
Ordering Key

RGS1DIN

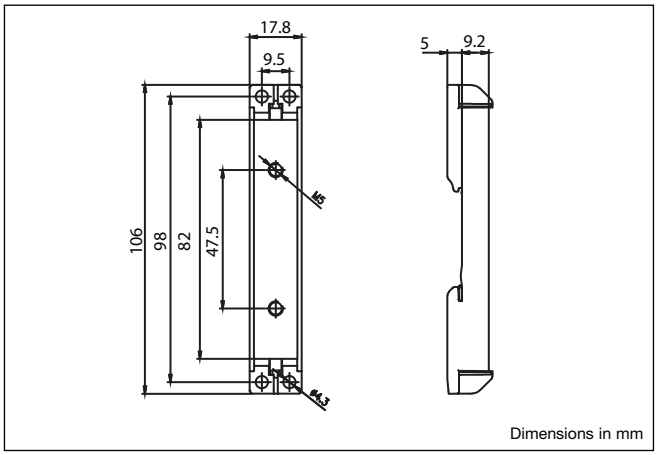
DIN rail adaptor module for mounting the RGS series on DIN rail.

This adaptor integrates an aluminium plate 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

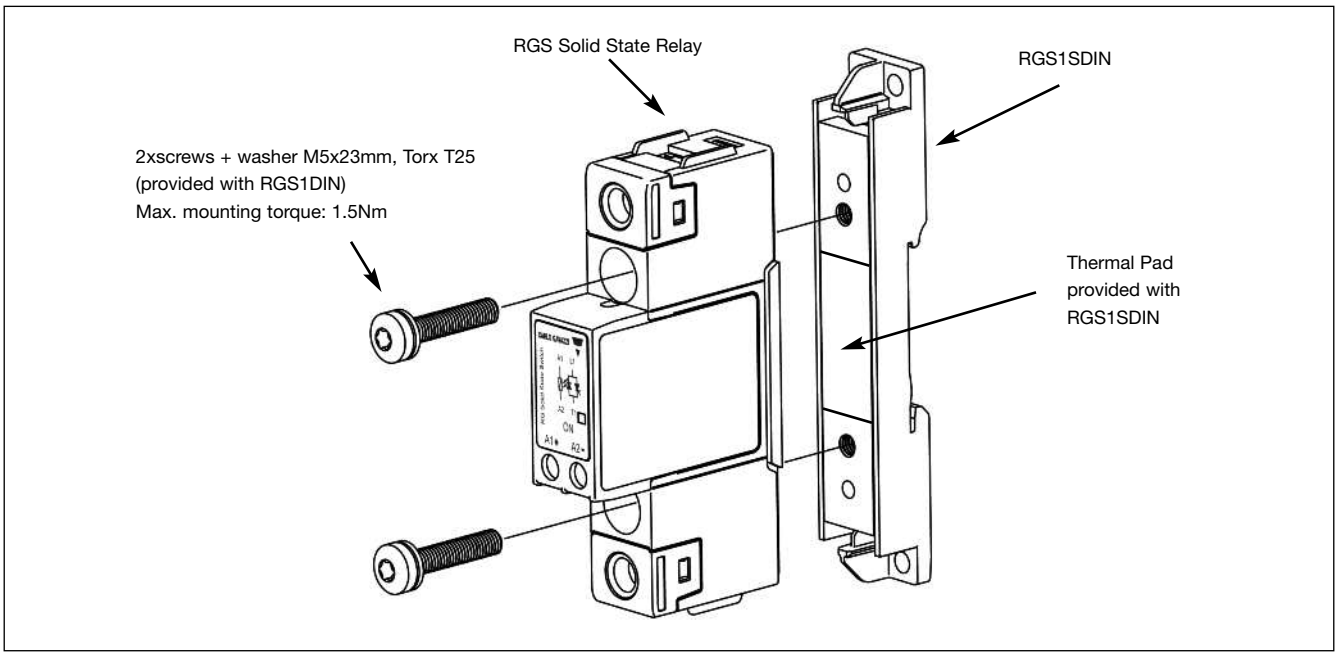


Dimensions

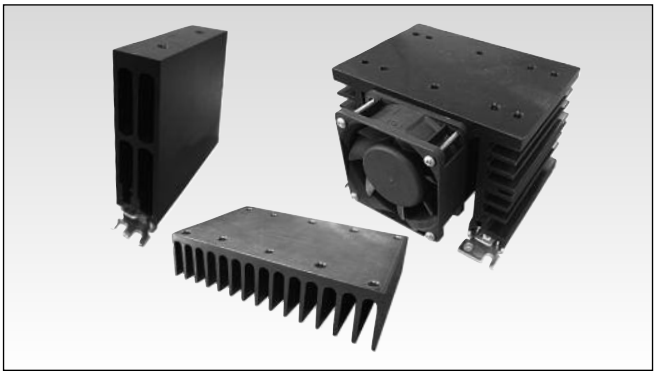


Dimensions in mm

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 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.. RM1.. RAM1.. RS1..	RGS1..	RGS1S..E.	RGS1S..U.	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 29	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	-
RHS542, RHS542D	-	1.85 °C/W (>60W)	54 x 110 x 51	-	2	2	-	-
RHS703, RHS703D	-	1.10 °C/W (>60W)	72 x 110 x 75	1	3	2	2	-
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	2	3	3	2	1
RHS540F40-24	24VDC	0.65 °C/W	54 x 135 x 51	1	3	1	1	-
RHS542F40-24	24VDC	0.65 °C/W	54 x 135 x 51	-	2	2	-	-
RHS703F60-24	24VDC	0.37 °C/W	72 x 141 x 75	1	3	2	2	-
RHS703F60-230	220-240VAC	0.37 °C/W	72 x 141 x 75	1	3	2	2	-
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	-
RHS28011F80-24P	24VDC	0.12 °C/W	280 x 87 x 122	3	11	6	5	-

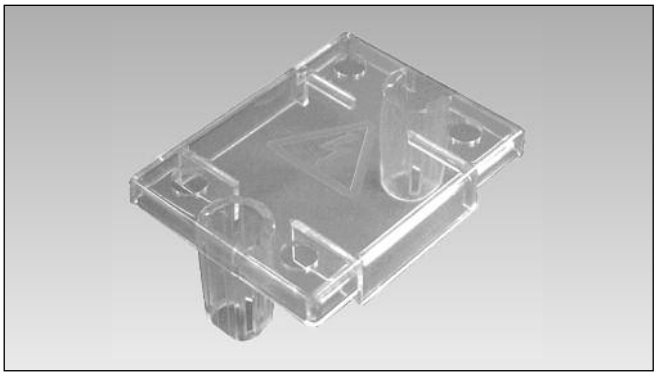
Thru wall mount heatsinks

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				
				RA.. RD.. RM1.. RAM1.. RS1..	RGS1..	RGS1S..E.	RGS1S..U.	RZ3..
RHS10025D	-	1.85 °C/W (>60W)	100 x 100 x 25	1	3	2	1	-
RHS16225D	-	1.30 °C/W (>90W)	162 x 100 x 25	3	3	3	3	1
RHS16225LD	-	0.84 °C/W (>120W)	162 x 250 x 25	3	3	3	3	1
RHS11267D	-	0.54 °C/W (>150W)	112 x 125 x 67	1	3	2	2	-
RHS30040D	-	0.40 °C/W (>180W)	300 x 200 x 40	8	12	12	5	-

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				
				RA.. RD.. RM1.. RAM1.. RS1..	RGS1..	RGS1S..E.	RGS1S..U.	RZ3..
RHS5050D	-	3.50 °C/W (>25W)	80 x 50 x 51	1	-	-	-	-
RHS38AD	-	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	-
RHS5840D	-	1.80 °C/W (>60W)	81 x 100 x 40	1	3	2	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	1
RHS10067LD	-	0.88 °C/W (>80W)	121 x 140 x 67	2	2	-	-	-
RHS16225LD	-	0.84 °C/W (>120W)	162 x 250 x 25	3	3	3	3	1
RHS320	-	0.40 °C/W (>120W)	240 x 100 x 93	3	3	3	3	1

Specifications are subject to change without notice (11.02.2015)

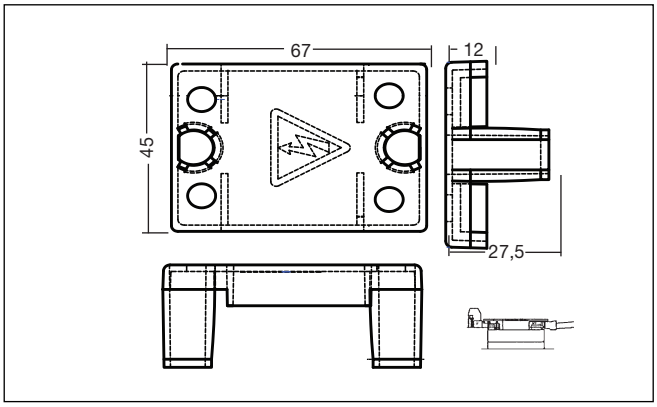


Ordering Key **BBR**

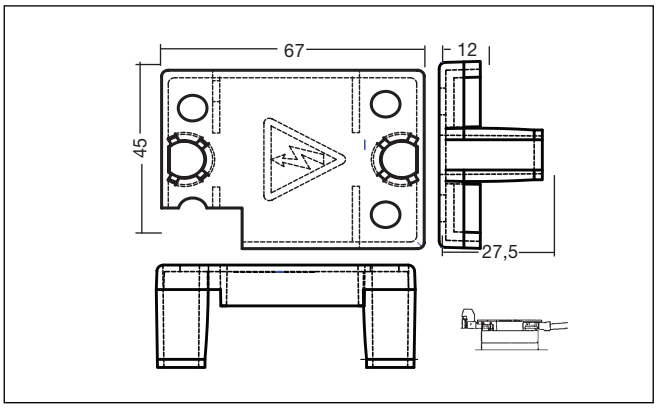
- IP20 touch protection cover for RA & RD series
- Packing qty. 25 pcs.

Ordering Key **BBR-S**

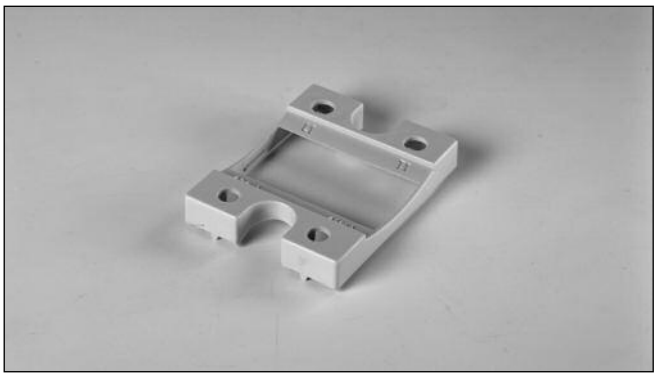
- IP20 touch protection cover for RA..S series
- Packing qty. 25 pcs.



BBR Dimensions in mm

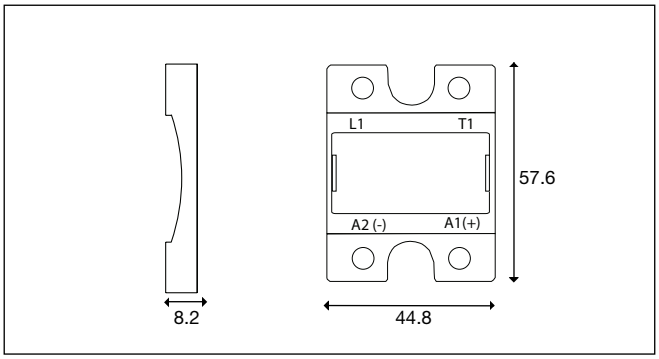


BBR-S Dimensions in mm



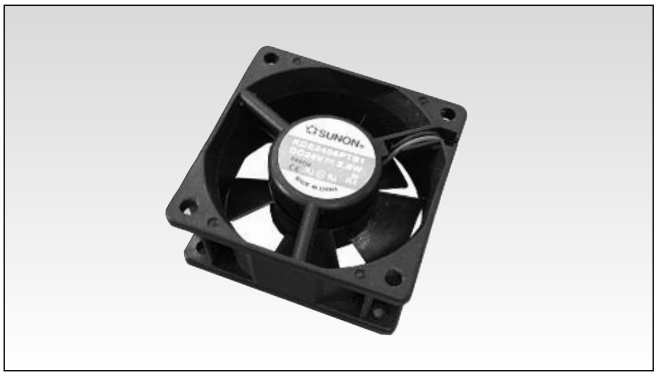
Ordering Key **RMIP20**

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



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)	Voltage rating	Power consumption	Suitable for mounting to heatsink
RHSF40-24	40 x 40 x 20	24 VDC	0.92 Watts	RHS45C, RHS45B, RHS540, RHS542
RHSF60-24	60 x 60 x 20	24 VDC	1.8 Watts	RHS90A, RHS112A, RHS703
RHSF60-230	60 x 60 x 20	220 - 240 VAC, 50/60Hz	4.1 / 4.4 Watts	RHS90A, RHS112A, RHS703
RHS301F115	120 x 120 x 38 (plus bracket)	115 VAC 50/60Hz	20 / 18 Watts	RHS301
RHS301F230	120 x 120 x 38 (plus bracket)	220 - 240 VAC, 50/60Hz	20 / 19 Watts	RHS301

Specifications are subject to change without notice (11.02.2015)

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.

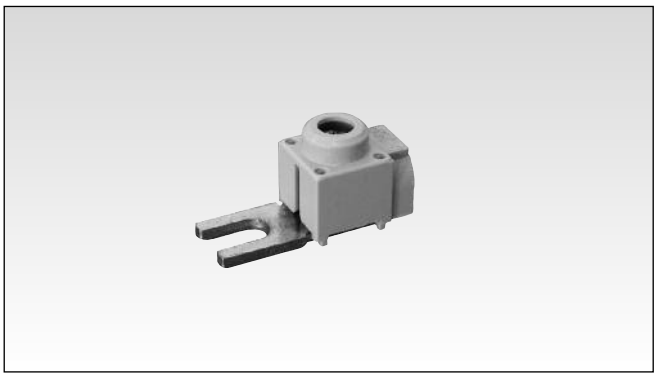
Ordering Key

RM 635 FK _

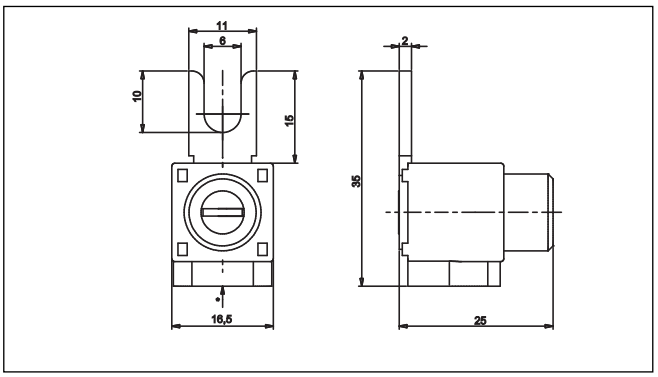
- **RM, RAM, RS solid state relay**
- **Size**
- **Fork terminal**
- **Options**

Selection Guide

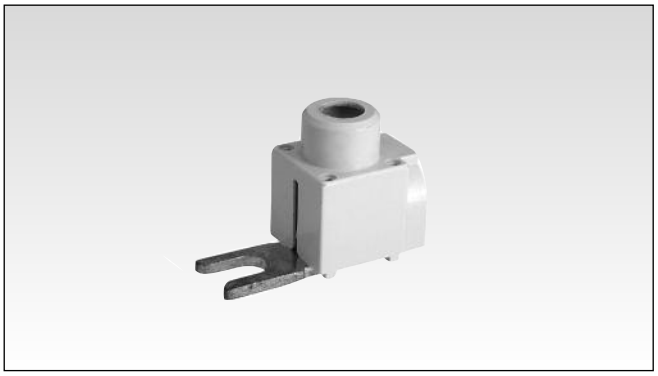
Part No.	Max. cross sectional area (flexible conductor)	Touch protection	Packing qty.
RM625FK	16mm²	No	10
RM635FK	35mm²	No	10
RM635FKP	35mm²	Yes	10



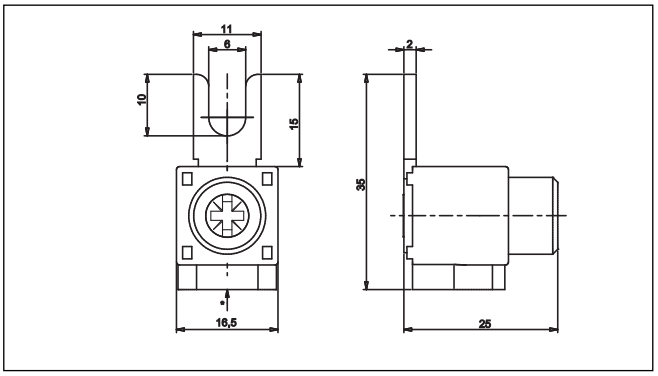
RM625FK



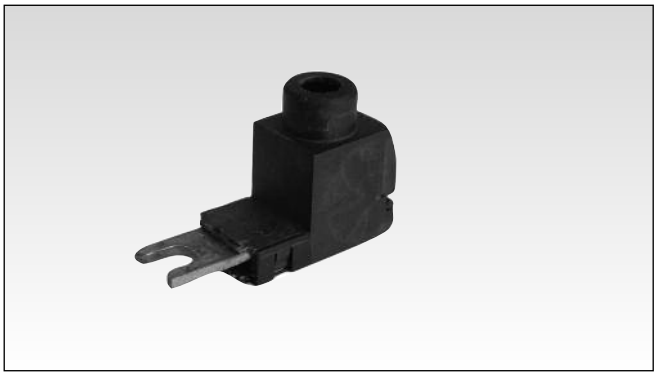
Dimensions in mm



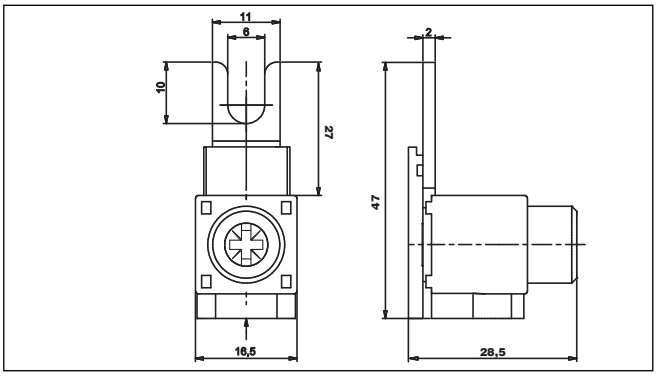
RM635FK



Dimensions in mm



RM635FKP

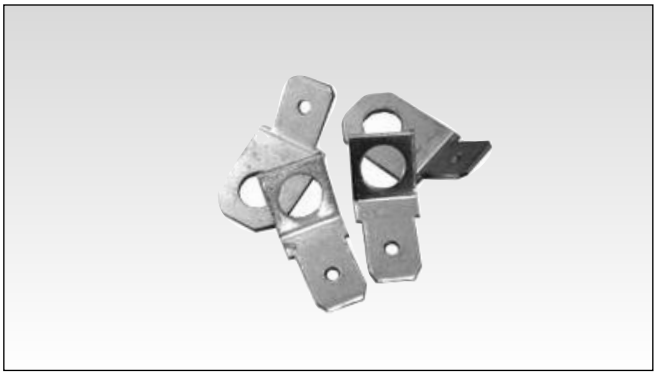


Dimensions in mm

General Specifications

Housing	RM625FK, RM635FK	Cycoloy UL94 V0
	RM635FKP	Latamid UL94 V0
Connection lug		CuZn37 with surface Zn4ymcA
Max. fastening torque		2Nm (17.7 lb-in)
Wire acceptance		
Solid Cu conductor	RM635FK.	6 - 50mm² (AWG 10 - 1)
	RM625FK	6 - 25mm² (AWG 10 - 4)
Flexible Cu conductor	RM635FK.	6 - 35mm² (AWG 10 - 3)
	RM625FK	6 - 16mm² (AWG 10 - 6)
Connection diameter	RM635FK.	10mm
	RM625FK	6.5mm
Max. handling current	RM635FK.	100 A
	RM625FK	63 A
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

Specifications are subject to change without notice (11.02.2015)

Hex Spacers

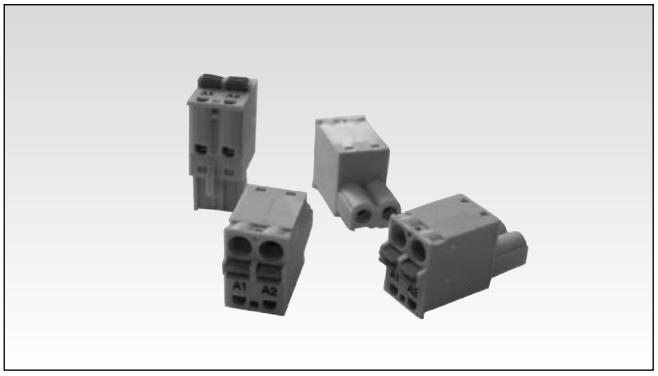
Ordering Key

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

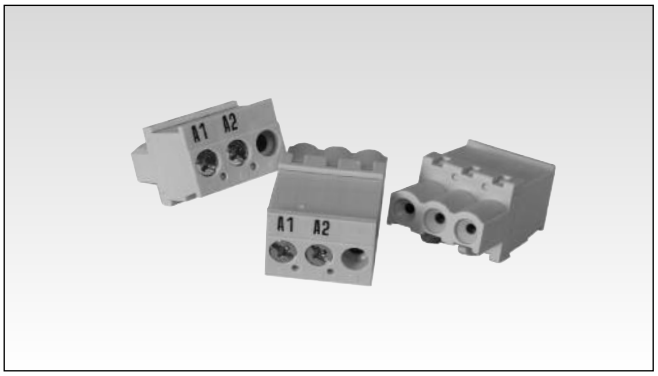
Plug Terminals



Ordering Key

RGM25

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

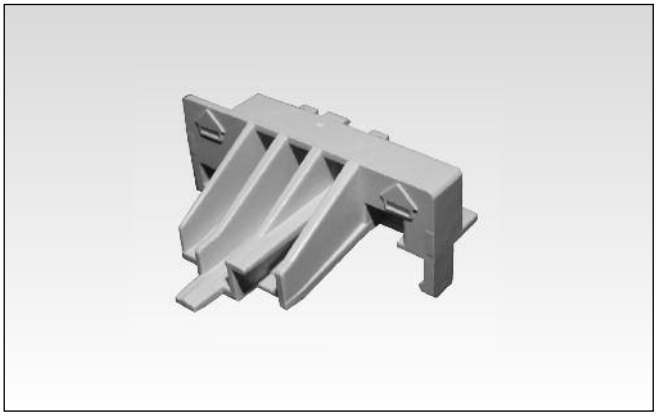


Ordering Key

RG3G25

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

Motor Overload Relay Adaptor



Ordering Key

REC3ADAPTOR

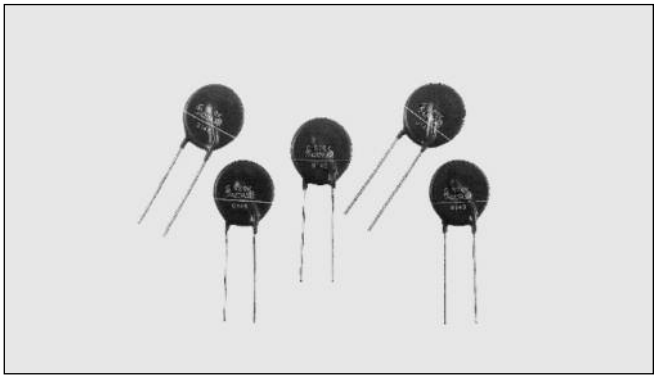
This plastic adaptor can be fitted to the RGCM housing cover to facilitate mounting of overload protection relays. This adaptor is compatible with:

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

Packing qty. 5 pcs.

Specifications are subject to change without notice (11.02.2015)

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

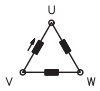
Ordering Key

RV 04

Solid State Relay
Varistor
Varistor voltage

Type Selection

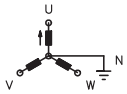
3-phase mains without neutral



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 A_p (SIOV-S20K...)
** Pack of 10 pieces

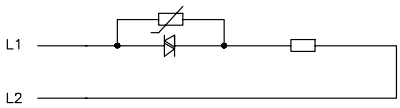
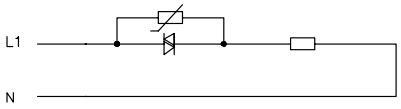
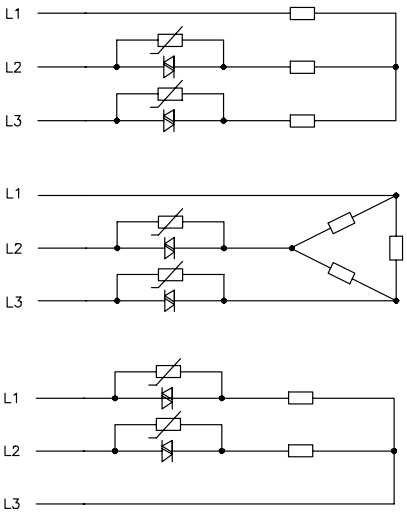
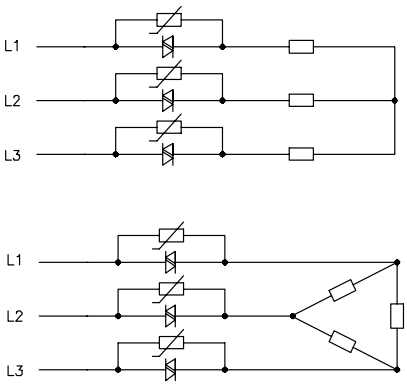
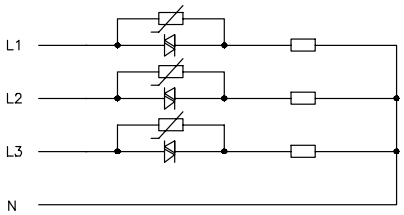
1-phase and 3-phase mains with neutral



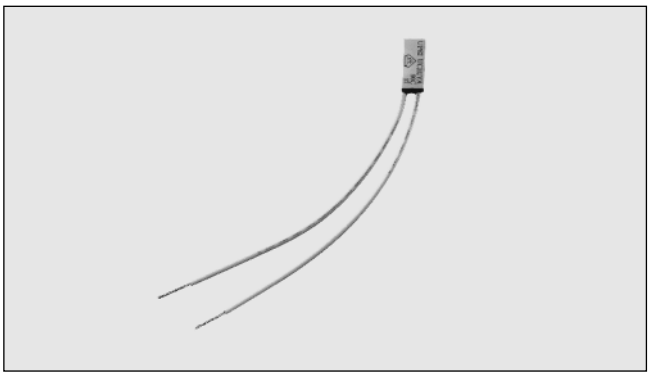
Mains	Uc *	Carlo Gavazzi**	Epcos	AVX	Nippon Chemi-Con	ACPA/ Song Long
120/240	710	**RV 02**	SIOV-S20K275	VF20M10431K	TND20V-431	431KD20
230/400	710	**RV 02**	SIOV-S20K275	VF20M10431K	TND20V-431	431KD20
400/690	1120	**RV 04**	SIOV-S20K420	VF20M10681K	TND20V-681	681KD20

* Uc @ 100 A_p (SIOV-S20K...)
** Pack of 10 pieces

Wiring Diagrams

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

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



- **Temperature limit switch for overheat protection of small assemblies.**

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

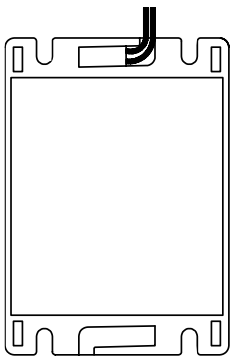
Thermostat type
Switch temperature

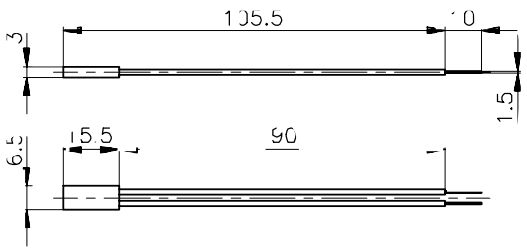
Type Selection

Switch 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