

RSR58

two channel AC output



- Zero-crossing switching • DC control input
- SCR output (thyristors) • Load current 25...75 A
- Max. load voltage 280, 530, 660 V AC (dual-phase)
- Dielectric strength 4 000 Vrms (opto-isolation)
- LED indicators (red) • Screw terminals
- Mounting on panel or on heatsinks
- Recognitions, certifications, directives: RoHS, REACH,   

Applications

Temperature chamber, plastics machinery, food processing machinery, glass machinery, incubator, oiling machines, HVAC, lighting controller, and etc.



Basic technical data

Load voltage: 24...280 V AC, 24...530 V AC, 24...660 V AC
Control input: DC
Load current: 25 A, 50 A, 75 A

Type		zero-crossing	zero-crossing	zero-crossing
Load voltage	Control voltage	Load current		
		25 A	50 A	75 A
24...280 V AC	4...32 V DC	RSR58-24D25	RSR58-24D50	RSR58-24D75
24...530 V AC		RSR58-48D25	RSR58-48D50	RSR58-48D75
24...660 V AC		RSR58-60D25	RSR58-60D50	RSR58-60D75

Load voltage

	RSR58-24...	RSR58-48...	RSR58-60...
Rated load voltage	240 V AC	480 V AC	600 V AC
Rated range of load voltage	24...280 V AC	24...530 V AC	24...660 V AC
Blocking voltage	600 Vpk	1 200 Vpk	1 200 Vpk
Rated frequency	47...63 Hz	47...63 Hz	47...63 Hz
Min. power factor	0,5	0,5	0,5

RSR58

two chanel AC output

Control input

zero-crossing

	RSR58-...D...
Control voltage range	4...32 V DC
Must turn-on voltage	4 V DC
Must turn-off voltage	1 V DC
Maximum input current	25 mA 32 V DC
Response time pick-up	10 ms
Response time drop-out	10 ms

Output circuit ❶

	RSR58-...25...	RSR58-...50...	RSR58-...75...
Rated load current	25 A	50 A	75 A
Maximum surge current	300 A 10 ms	500 A 10 ms	750 A 10 ms
I ² t for fusing	450 A ² s 10 ms	1 250 A ² s 10 ms	2 812 A ² s 10 ms
Max. operational current AC-51 rating	25 A	50 A	75 A
Max. operational current AC-53 rating	5 A	10 A	15 A
Min. operational current	100 mA	100 mA	100 mA
Maximum off-state leakage current (at rated load voltage)	5 mA	5 mA	5 mA
Maximum on-state voltage drop (at rated current)	1,5 Vrms	1,5 Vrms	1,5 Vrms
Minimum off-state dV/dt (at max. rated voltage)	500 V/μs	500 V/μs	500 V/μs

General data ❶

	RSR58-...
Dielectric strength	input - output: 4 000 Vrms 50/60 Hz input, output - base: 2 500 Vrms 50/60 Hz
Minimum insulation resistance	1 000 MΩ 500 V DC
Ambient temperature (non-condensation and/or icing)	storage: -30...+100 °C operating: -30...+80 °C

Mechanical data

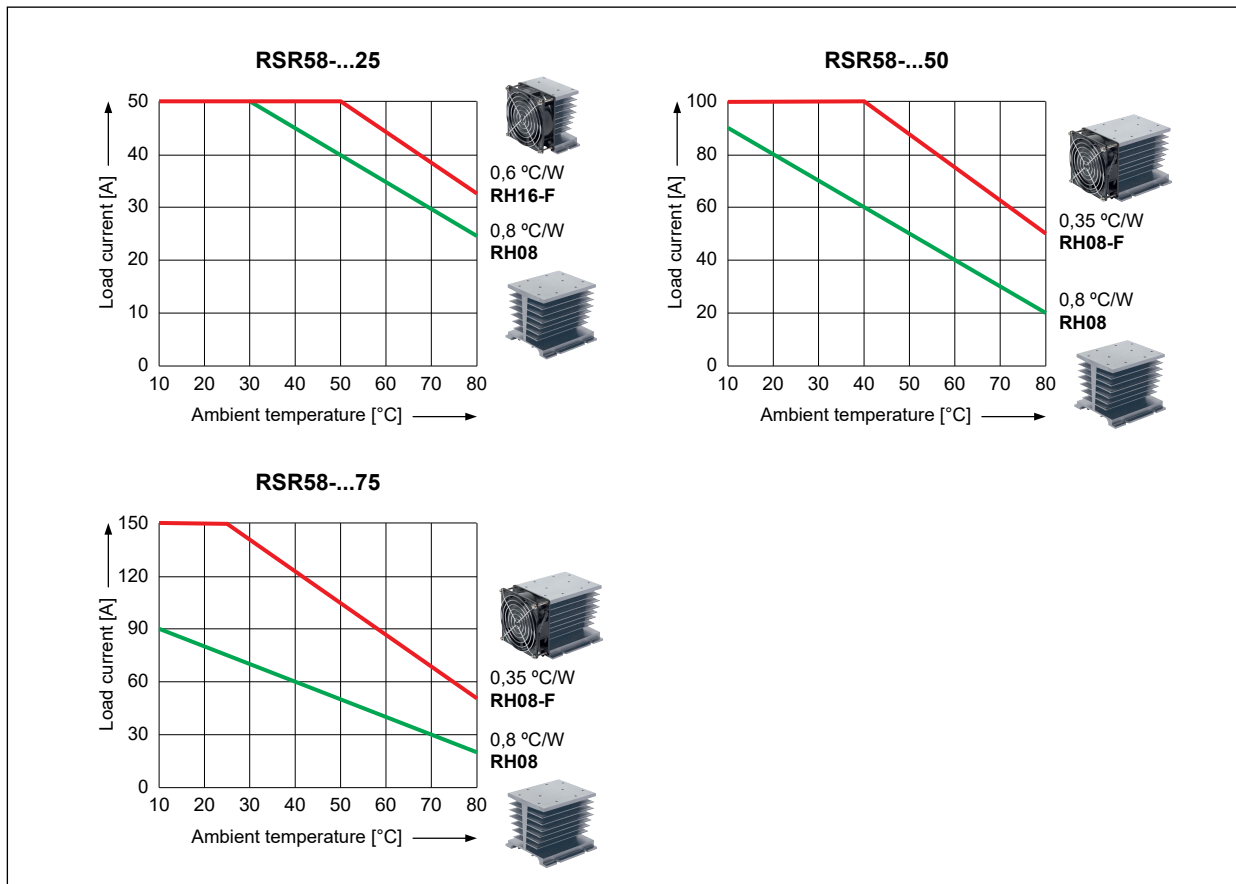
	RSR58-...25...	RSR58-...50... RSR58-...75...
Dimensions (L x W x H)	58,4 x 45,7 x 46 mm	58,4 x 45,7 x 46 mm
Weight (typical)	150 g	185 g
Protection category EN 60529	IP 20	IP 20
Connection mode	input: screws M3 (plugable connector) ❷ tightening moment: 0,58...0,98 N•m output: screws M4 ❷ tightening moment: 0,98...1,37 N•m	input: screws M3 (plugable connector) ❷ tightening moment: 0,58...0,98 N•m output: screws M4 ❷ tightening moment: 0,98...1,37 N•m
Mounting on panel or heatsink ❸	screws M4 tightening moment: 0,98...1,37 N•m	screws M4 tightening moment: 0,98...1,37 N•m

❶ Data given for ambient temperature ≤ 25 °C. Above 25 °C the maximum current decreases - see "Thermal derating curves", page 3.

❷ When connection cables to relay: please ensure, screws are torqued down properly.

❸ Relay must be mounted to proper sized heatsink, based on "Thermal derating curves". Between relay and heatsink must be used thermal pad.

Thermal derating curves

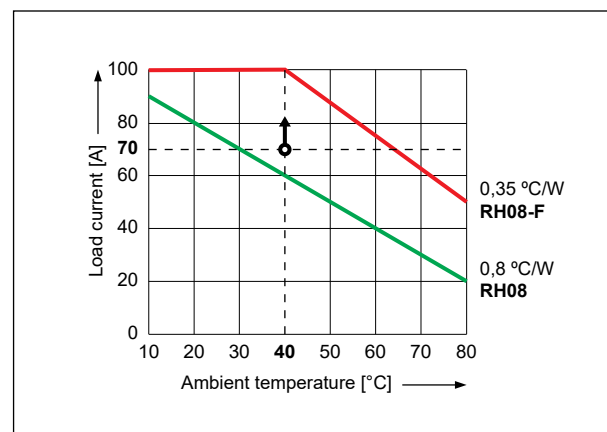


To select the proper sized heatsink:

- determine the load current and the maximum ambient temperature the relay will be exposed to,
- use the "Thermal derating curves" (see above).

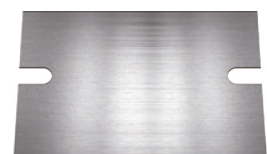
Example: for a dual-phase **RSR58** 50 A, at 70 A load current and ambient temperature at 40 °C:

- on the Y axis we find the current value for which we draw a line perpendicular to Y,
- on the X axis we find the ambient temperature for which we draw a line perpendicular to X,
- we determine the intersection of both lines,
- read the heatsink rating – **always choose the rating above your point**: we need a 0,35 °C/W sized heatsink, since the 0,8 °C/W heatsink will not ensure sufficient cooling of the solid state relay.



Mounting, accessories for relays

Relays **RSR58** are designed for: • direct mounting on panel • mounting on heatsinks **RH**.
For **RSR58** relays we offer thermal pads **RTP-10**.



Thermal pad **RTP-10**

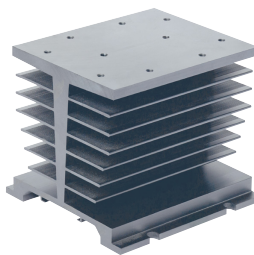
RSR58

two chanel AC output

RH16-F



RH08

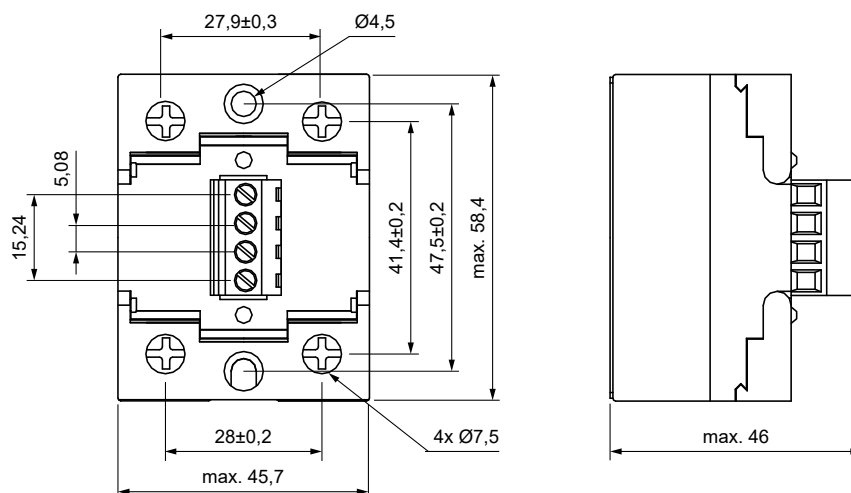


RH08-F

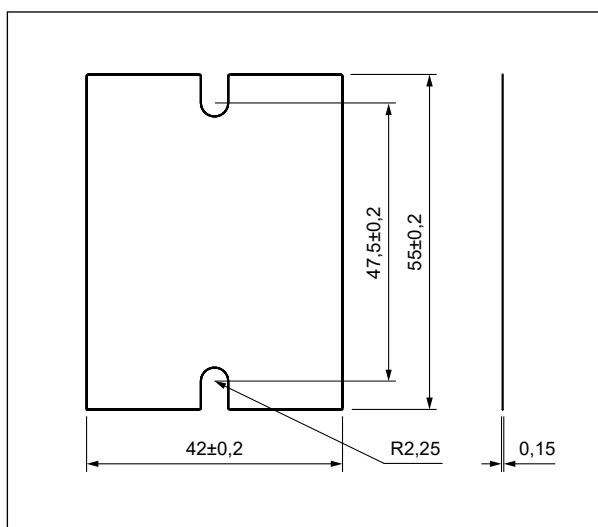


Material	aluminum	aluminum	aluminum
Dimensions (L x W x H)	106 x 80 x 96 mm	106 x 110 x 96 mm	106 x 140 x 96 mm
Weight (typical)	645 g	825 g	1 095 g
Thermal resistance	0,6 °C/W	0,8 °C/W	0,35 °C/W
Additional equipment	built-in fan	—	built-in fan
Mounting	on panel, on 35 mm rail mount	on panel, on 35 mm rail mount	on panel, on 35 mm rail mount

Dimensions

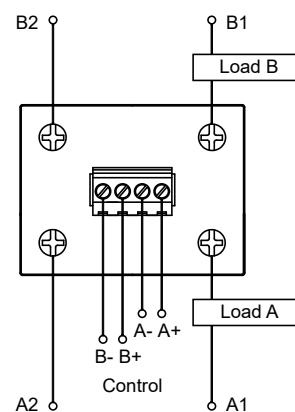


Solid state relay **RSR58**



Thermal pad **RTP-10**

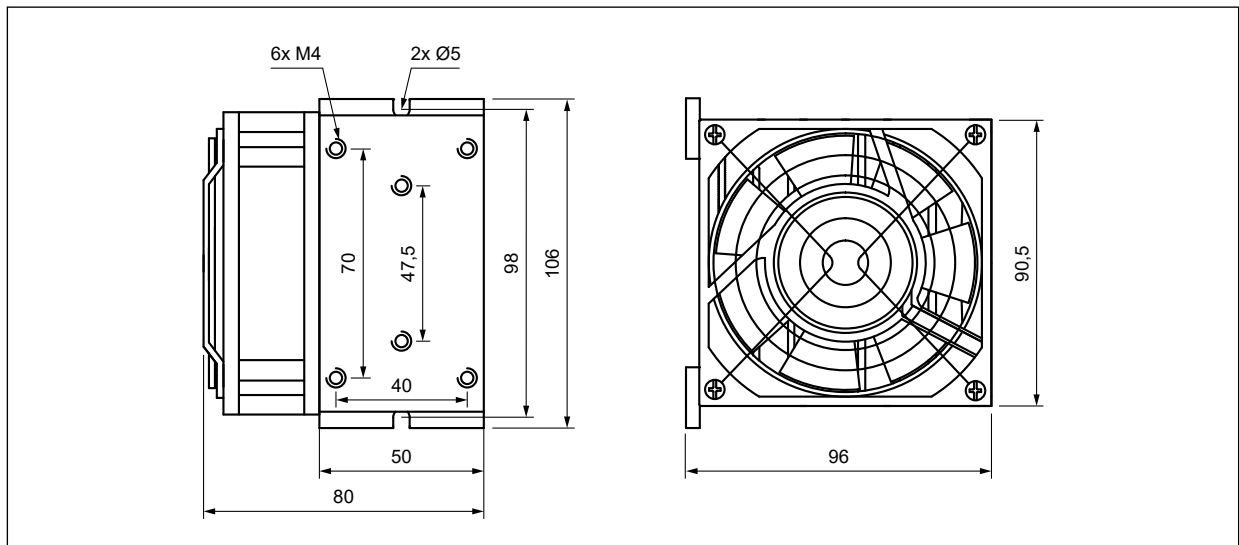
Connection diagram



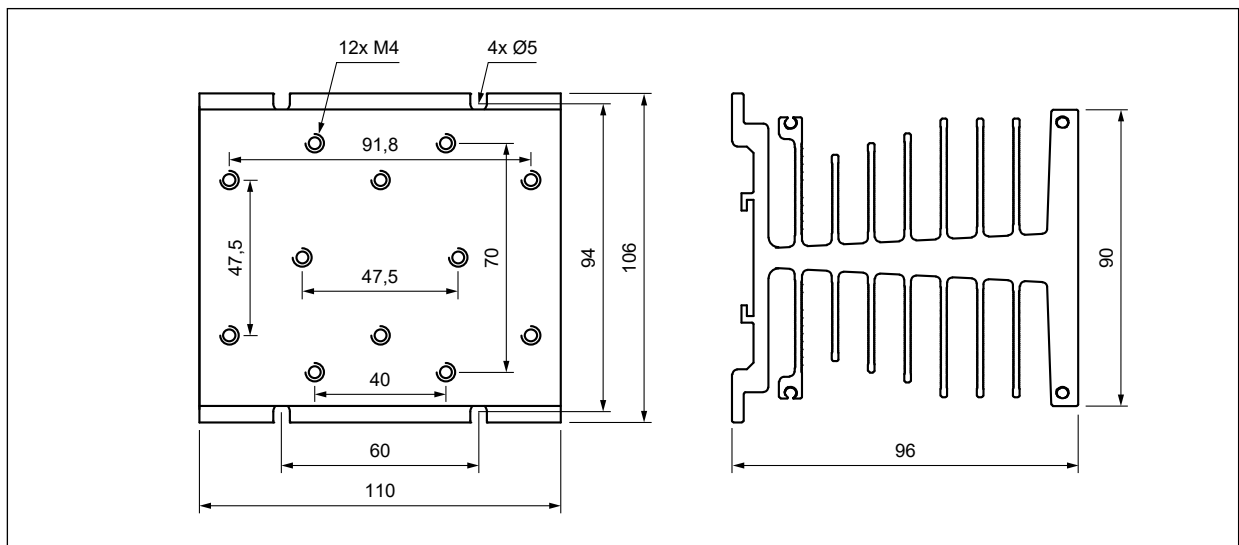
RSR58

two chanel AC output

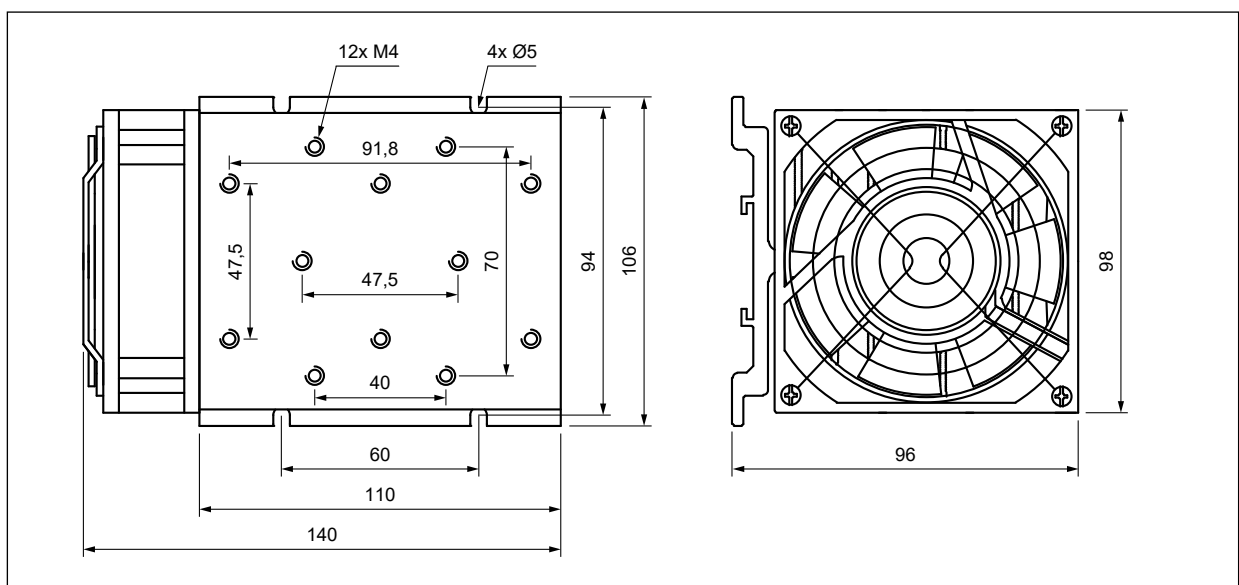
Dimensions



Heatsink RH16-F



Heatsink RH08

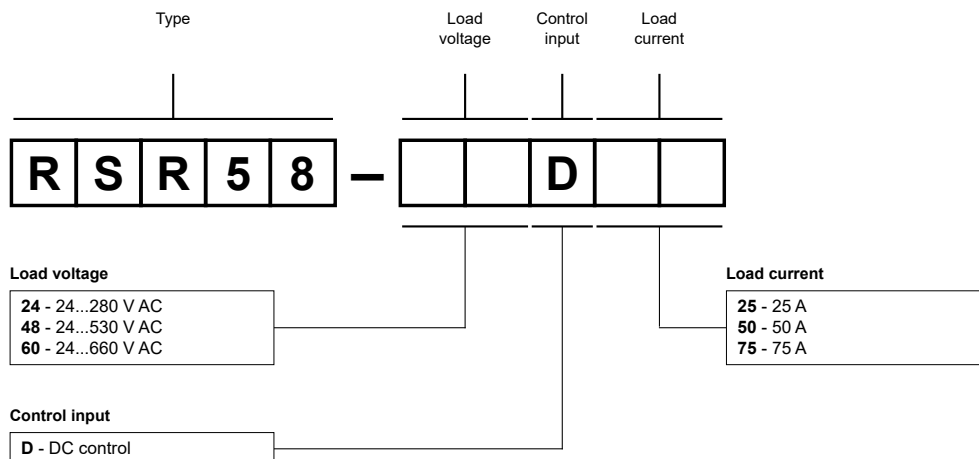


Heatsink RH08-F

RSR58

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Ordering codes



Examples of ordering codes ④:

- RSR58-24D25** relay **RSR58**, zero-crossing switching, DC control, load voltage 24...280 V AC (dual-phase), load current 25 A
- RSR58-48D50** relay **RSR58**, zero-crossing switching, DC control, load voltage 24...530 V AC (dual-phase), load current 50 A
- RSR58-60D75** relay **RSR58**, zero-crossing switching, DC control, load voltage 24...660 V AC (dual-phase), load current 75 A

④ Ordering codes **RSR58** are specified in table "Type" on page 1.