




RSR72

single-phase solid state relays, with heatsinks



- Zero-crossing or random-on switching • AC or DC control input
- SCR output (thyristors) • Load current 10...75 A
- Max. load voltage 280, 530, 660 V AC (single-phase)
- Dielectric strength 4 000 Vrms (opto-isolation)
- MOV protection (varistor)
- LED indicator (red) • Screw terminals
- Mounting on 35 mm rail mount acc. to EN 60715 (integrated with heatsink)
- Recognitions, certifications, directives: RoHS, REACH,   

Applications

Temperature chamber, injection molding machine, packaging machine.



Basic technical data

Load voltage: 24...280 V AC, 24...530 V AC, 24...660 V AC

Control input: AC, DC

Load current: 10 A, 20 A, 30 A, 40 A, 75 A

Type		zero-crossing	random-on	zero-crossing
Load voltage	Control voltage	Load current		
		10 A	10 A	20 A
24...280 V AC	90...280 V AC	RSR72-28A10-H		
	4...32 V DC	RSR72-24D10-H		
24...530 V AC	90...280 V AC	RSR72-48A10-H		
	4...32 V DC	RSR72-48D10-H	RSR72-48D10-RH	RSR72-48D20-H
24...660 V AC	4...32 V DC			RSR72-60D20-H

Type		random-on	zero-crossing	random-on
Load voltage	Control voltage	Load current		
		20 A	30 A	30 A
24...280 V AC	90...280 V AC		RSR72-28A30-H	
	4...32 V DC		RSR72-24D30-H	
24...530 V AC	90...280 V AC		RSR72-48A30-H	
	4...32 V DC	RSR72-48D20-RH	RSR72-48D30-H	RSR72-48D30-RH
24...660 V AC	4...32 V DC	RSR72-60D20-RH	RSR72-60D30-H	RSR72-60D30-RH

RSR72

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Type		zero-crossing	random-on
Load voltage	Control voltage	Load current	
24...280 V AC	90...280 V AC	40 A	40 A
	4...32 V DC	RSR72-28A40-H	
		RSR72-24D40-H	
24...530 V AC	90...280 V AC	RSR72-48A40-H	
	4...32 V DC	RSR72-48D40-H	RSR72-48D40-RH
24...660 V AC	4...32 V DC	RSR72-60D40-H	RSR72-60D40-RH

Type		zero-crossing	random-on
Load voltage	Control voltage	Load current	
24...280 V AC	90...280 V AC	75 A	75 A
	4...32 V DC	RSR72-28A75-H	
		RSR72-24D75-H	
24...530 V AC	90...280 V AC	RSR72-48A75-H	
	4...32 V DC	RSR72-48D75-H	
24...660 V AC	4...32 V DC	RSR72-60D75-H	RSR72-60D75-RH

Load voltage

	RSR72-24... RSR72-28...	RSR72-48...	RSR72-60...
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 V _{pk}	1 200 V _{pk}	1 600 V _{pk}
Rated frequency	47...63 Hz	47...63 Hz	47...63 Hz
Power factor	0,5	0,5	0,5

Control input

	zero-crossing RSR72-..A...	zero-crossing RSR72-..D...	random-on RSR72-..D..-R.
Control voltage range	90...280 V AC 50 Hz	4...32 V DC	4...32 V DC
Must turn-on voltage	90 V AC	4 V DC	4 V DC
Must turn-off voltage	15 V AC	1 V DC	1 V DC
Maximum input current	25 mA 280 V AC	25 mA 32 V DC	25 mA 32 V DC
Response time pick-up	≤ 40 ms	≤ 1/2 cycle + 1 ms	≤ 1 ms
Response time drop-out	≤ 40 ms	≤ 1/2 cycle + 1 ms	≤ 1/2 cycle + 1 ms

RSR72

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Output circuit ①

	RSR72-...10...	RSR72-...20...	RSR72-...30...
Rated load current	10 A	20 A	30 A
Maximum surge current	200 A 10 ms	300 A 10 ms	500 A 10 ms
I ² t for fusing	200 A ² s 10 ms	450 A ² s 10 ms	1 250 A ² s 10 ms
Max. operational current AC-51 rating	10 A	20 A	30 A
Max. operational current AC-53 rating	2 A	4 A	6 A
Min. operational current	100 mA	100 mA	100 mA
Maximum off-state leakage current (at rated load voltage)	10 mA	10 mA	10 mA
Maximum on-state voltage drop (at rated current)	1,6 Vrms	1,6 Vrms	1,6 Vrms
Minimum off-state dV/dt (at max. rated voltage)	500 V/μs	500 V/μs	500 V/μs

Output circuit ①

	RSR72-...40...	RSR72-...75...
Rated load current	40 A	75 A
Maximum surge current	600 A 10 ms	800 A 10 ms
I ² t for fusing	1 800 A ² s 10 ms	3 200 A ² s 10 ms
Max. operational current AC-51 rating	40 A	75 A
Max. operational current AC-53 rating	8 A	15 A
Min. operational current	100 mA	100 mA
Maximum off-state leakage current (at rated load voltage)	10 mA	10 mA
Maximum on-state voltage drop (at rated current)	1,6 Vrms	1,6 Vrms
Minimum off-state dV/dt (at max. rated voltage)	500 V/μs	500 V/μs

General data ①

	RSR72-...
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

① Data given for ambient temperature ≤ 25 °C. Above 25 °C the maximum current decreases - see "Thermal derating curves", page 5.

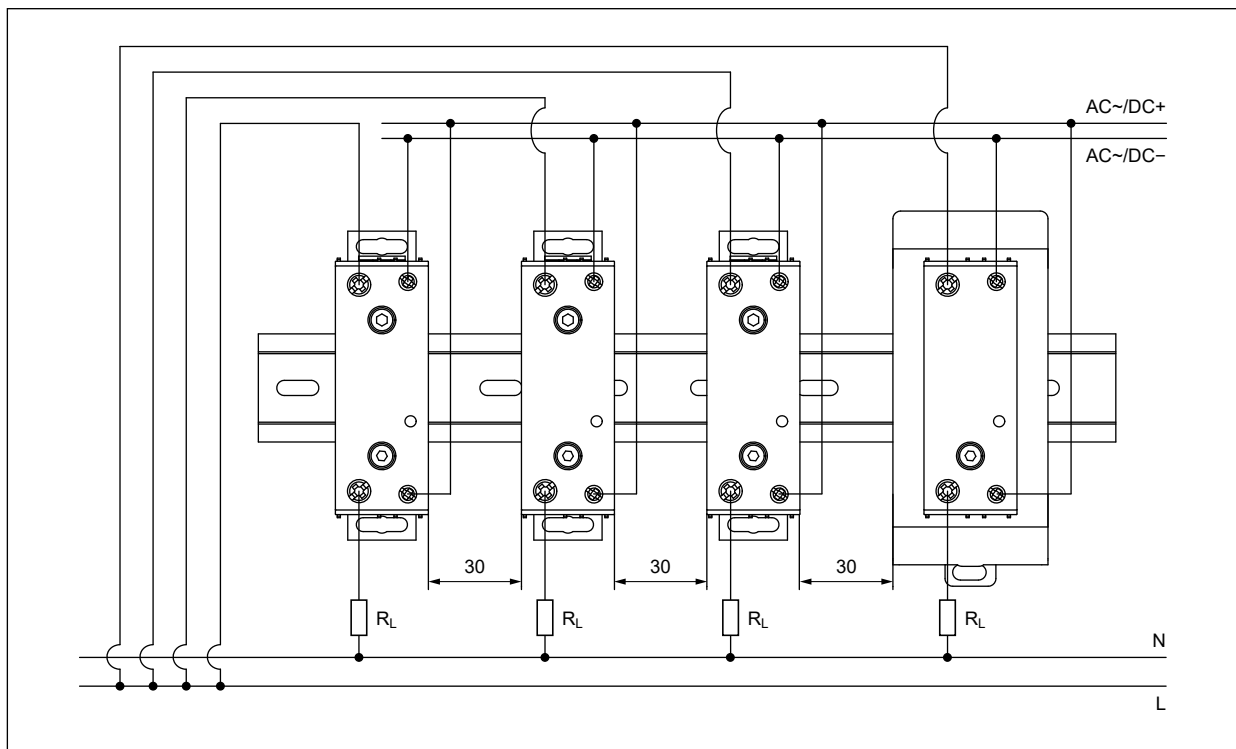
Mechanical data

	RSR72-...10... RSR72-...20... RSR72-...30...	RSR72-...40...	RSR72-...75...
Dimensions (L x W x H)	100 x 30,5 x 112,5 mm	122 x 50,5 x 110 mm	153 x 105 x 122 mm
Weight (typical)	355 g	540 g	1 062 g
Protection category EN 60529	IP 20	IP 20	IP 20
Connection mode	input: screws M3 Ⓜ tightening moment: 0,6 N•m output: screws M4 Ⓜ tightening moment: 1 N•m	input: screws M3 Ⓜ tightening moment: 0,6 N•m output: screws M4 Ⓜ tightening moment: 1 N•m	input: screws M3 Ⓜ tightening moment: 0,6 N•m output: screws M4 Ⓜ tightening moment: 1 N•m
Mounting on 35 mm rail mount	integrated with heatsink	integrated with heatsink	integrated with heatsink

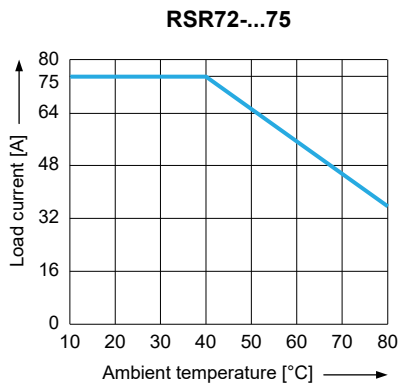
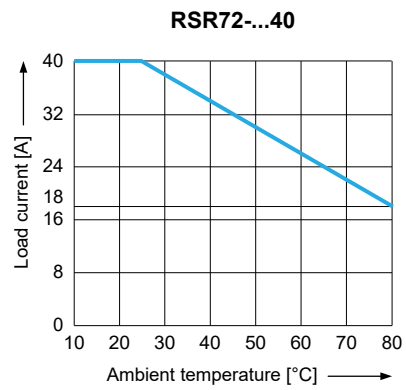
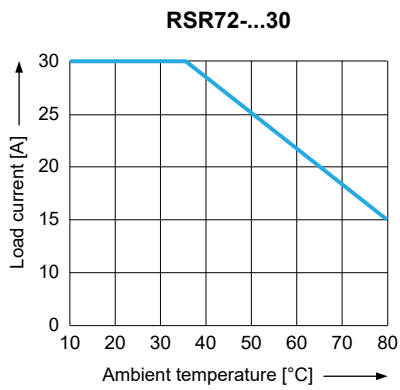
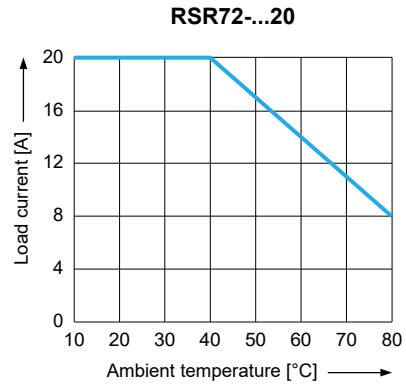
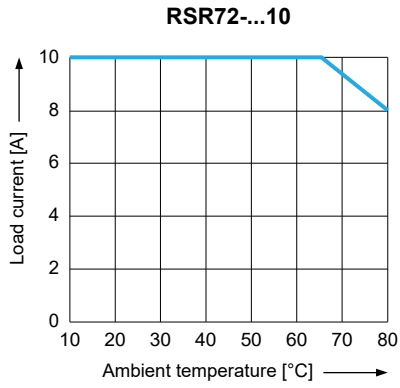
Ⓜ When connection cables to relay: please ensure, screws are torqued down properly.

Mounting, accessories for relays

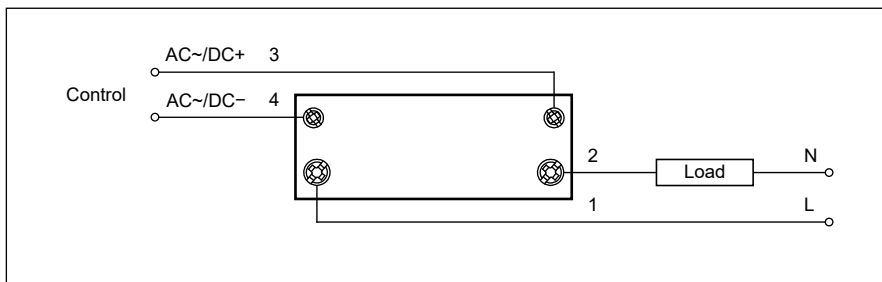
Relays **RSR72** integrated with heatsinks are designed for direct mounting on 35 mm rail mount acc. to EN 60715. For relays mounted side by side, the recommended minimum distance is 30 mm.



Thermal derating curves



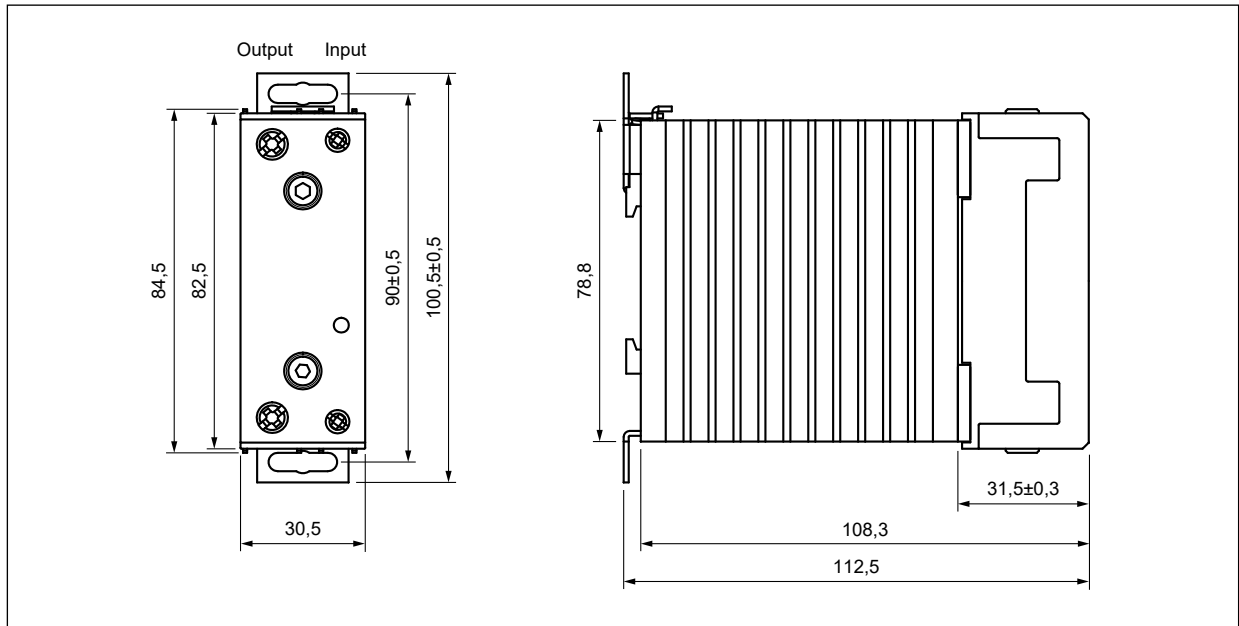
Connection diagram



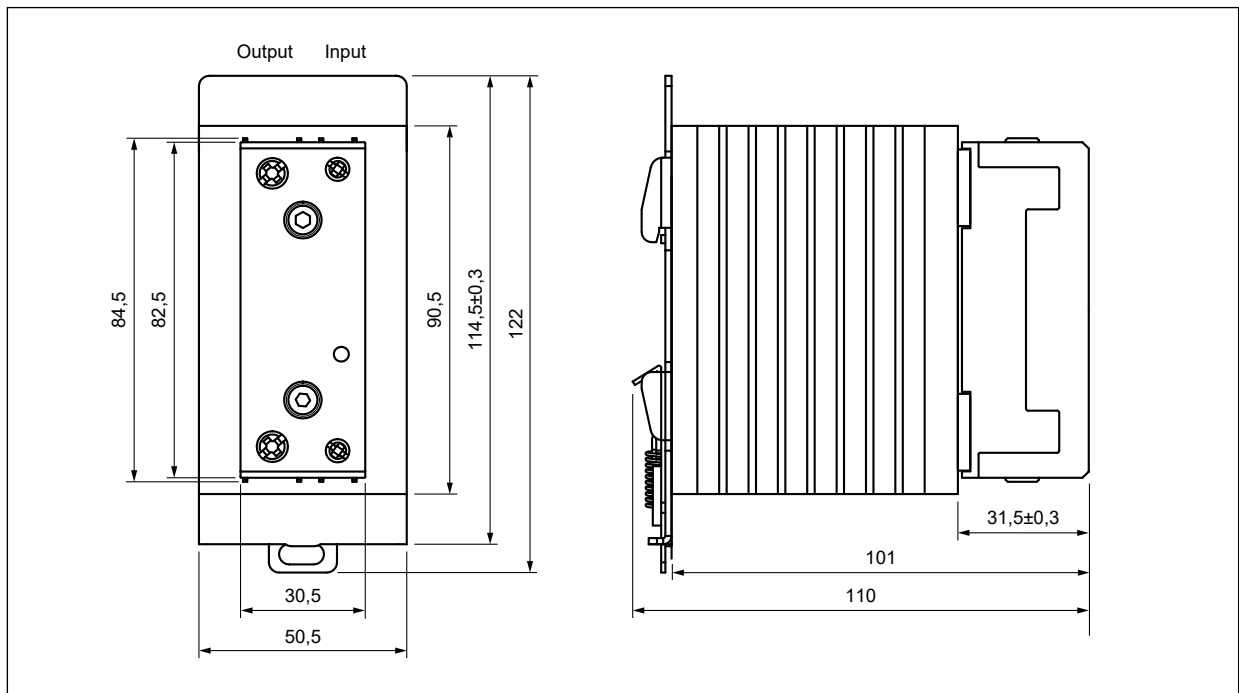
RSR72

single-phase solid state relays, with heatsinks

Dimensions



Solid state relay **RSR72-...10/20/30-.H**

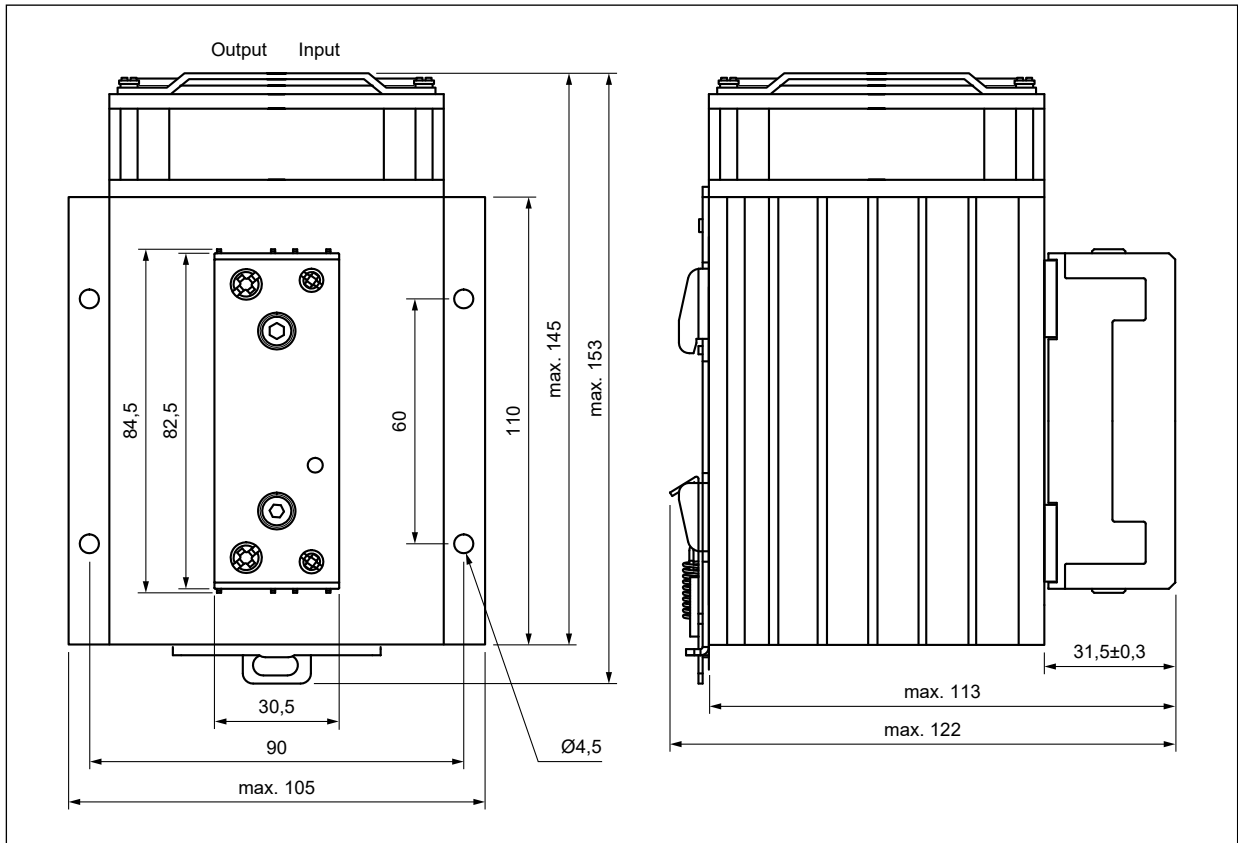


Solid state relay **RSR72-...40-.H**

RSR72

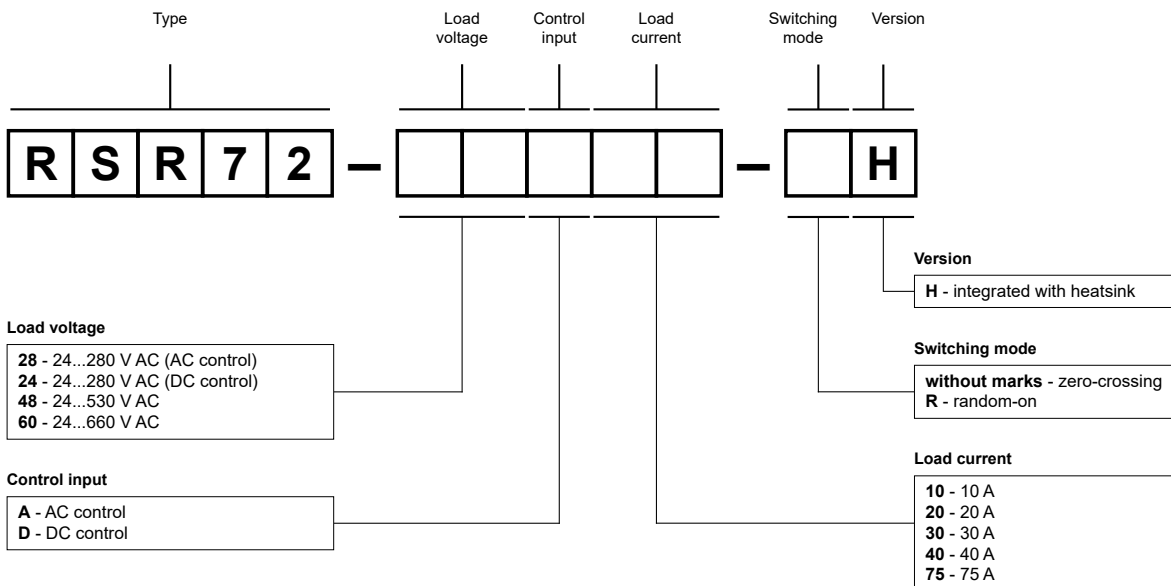
single-phase solid state relays, with heatsinks

Dimensions



Solid state relay **RSR72-...75-H**

Ordering codes



Examples of ordering codes ☉:

RSR72-28A10-H relay **RSR72**, integrated with heatsink, zero-crossing switching, AC control, load voltage 24...280 V AC (single-phase), load current 10 A

RSR72-60D75-RH relay **RSR72**, integrated with heatsink, random-on switching, DC control, load voltage 24...660 V AC (single-phase), load current 75 A

☉ Ordering codes **RSR72** are specified in table "Type" on pages 1, 2.