





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
- Load voltage 240, 480, 600 V AC (single-phase)
- Dielectric strength 4 000 Vrms (opto-isolation)
- RC/MOV protection (built-in resistor, capacitor, varistor)
- LED indicator (red) • Screw terminals
- Mounting on 35 mm rail mount acc. to EN 60715 (integrated with heatsink)
- Applications: temperature chamber, injection molding machine, packaging machine
- Recognitions, certifications, directives: RoHS, REACH,    

Input data

| | | | |
|-----------------------|---------------|-------------------------------------|-----------------------|
| Control voltage range | RSR72-...A... | AC control | 90...280 V AC (50 Hz) |
| | RSR72-...D... | DC control | 4...32 V DC |
| Must turn-on voltage | | AC control | 90 V AC |
| | | DC control | 4 V DC |
| Must turn-off voltage | | AC control | 15 V AC |
| | | DC control | 1 V DC |
| Maximum input current | | 25 mA (@ 280 V AC, 50 Hz / 32 V DC) | |

Output data

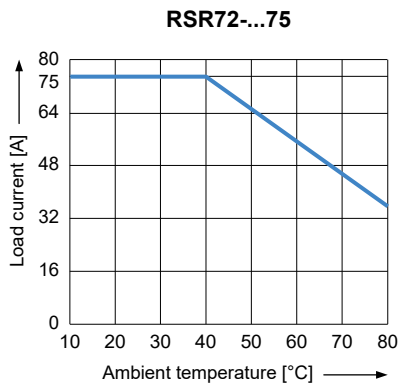
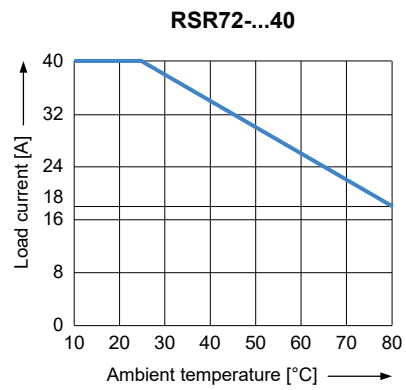
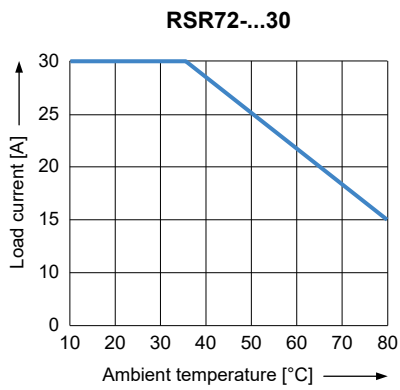
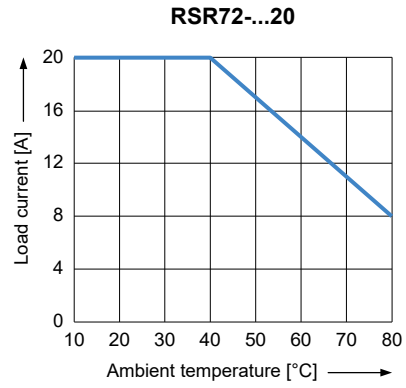
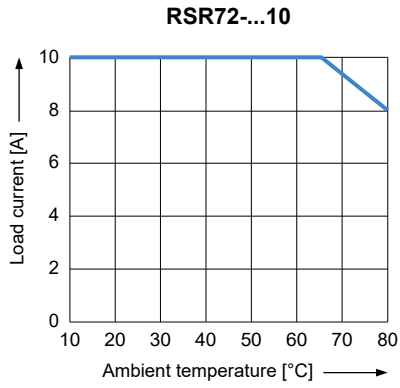
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|--|-------------|----------------------------|------------------------|
| Operational voltage range | RSR72-28... | 240 V AC (AC control) | 24...280 V AC |
| | RSR72-24... | 240 V AC (DC control) | |
| | RSR72-48... | 480 V AC | 24...530 V AC |
| | RSR72-60... | 600 V AC | 24...660 V AC |
| Blocking voltage | | 240 V AC | 600 Vpk |
| | | 480 V AC | 1 200 Vpk |
| | | 600 V AC | 1 600 Vpk |
| Response time pick-up | | AC control | ≤ 40 ms |
| | | DC control (zero-crossing) | ≤ 1/2 cycle + 1 ms |
| | | DC control (random-on) | ≤ 1 ms |
| Response time drop-out | | AC control | ≤ 40 ms |
| | | DC control | ≤ 1/2 cycle + 1 ms |
| Maximum surge current (@ 10 ms) | RSR72-...10 | 10 A | 200 A |
| | RSR72-...20 | 20 A | 300 A |
| | RSR72-...30 | 30 A | 500 A |
| | RSR72-...40 | 40 A | 600 A |
| | RSR72-...75 | 75 A | 800 A |
| Maximum I ² t for fusing (@ 10 ms) | | 10 A | 200 A ² s |
| | | 20 A | 450 A ² s |
| | | 30 A | 1 250 A ² s |
| | | 40 A | 1 800 A ² s |
| | | 75 A | 3 200 A ² s |
| Maximum off-state leakage current (@ rated load voltage) | | 10 mA | |
| Maximum on-state voltage drop (@ rated current) | | 1,6 Vrms | |
| Minimum off-state dV/dt (@ maximum rated voltage) | | 500 V/μs | |

General data

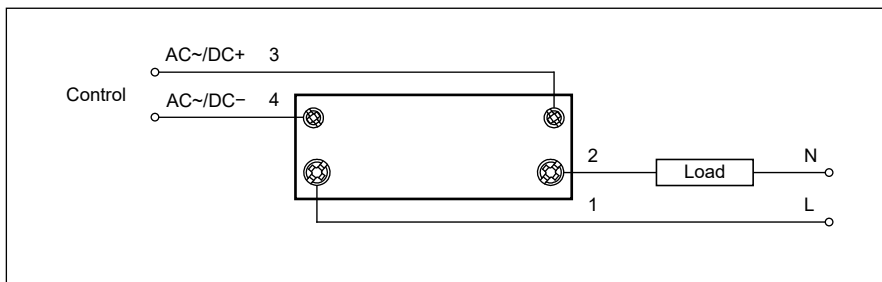
| | | |
|---|----------------------|-----------------------|
| Dielectric strength (50/60 Hz) | input - output | 4 000 Vrms |
| | input, output - base | 2 500 Vrms |
| Minimum insulation resistance (@ 500 V DC) | 1 000 MΩ | |
| Dimensions (L x W x H) | 10 A, 20 A, 30 A | 100 x 30,5 x 112,5 mm |
| | 40 A | 122 x 50,5 x 110 mm |
| | 75 A | 153 x 105 x 122 mm |
| Weight (typical) | 10 A, 20 A, 30 A | 355 g |
| | 40 A | 540 g |
| | 75 A | 1 062 g |
| Ambient temperature (non-condensation and/or icing) | storage | -30...+100 °C |
| | operating | -30...+80 °C |
| Cover protection category | IP 20 (EN 60529) | |

❶ Data are given for ambient temperature +25 °C. When temperature is above +25 °C the maximum load current decreases - see "Thermal derating curves", page 2.

Thermal derating curves



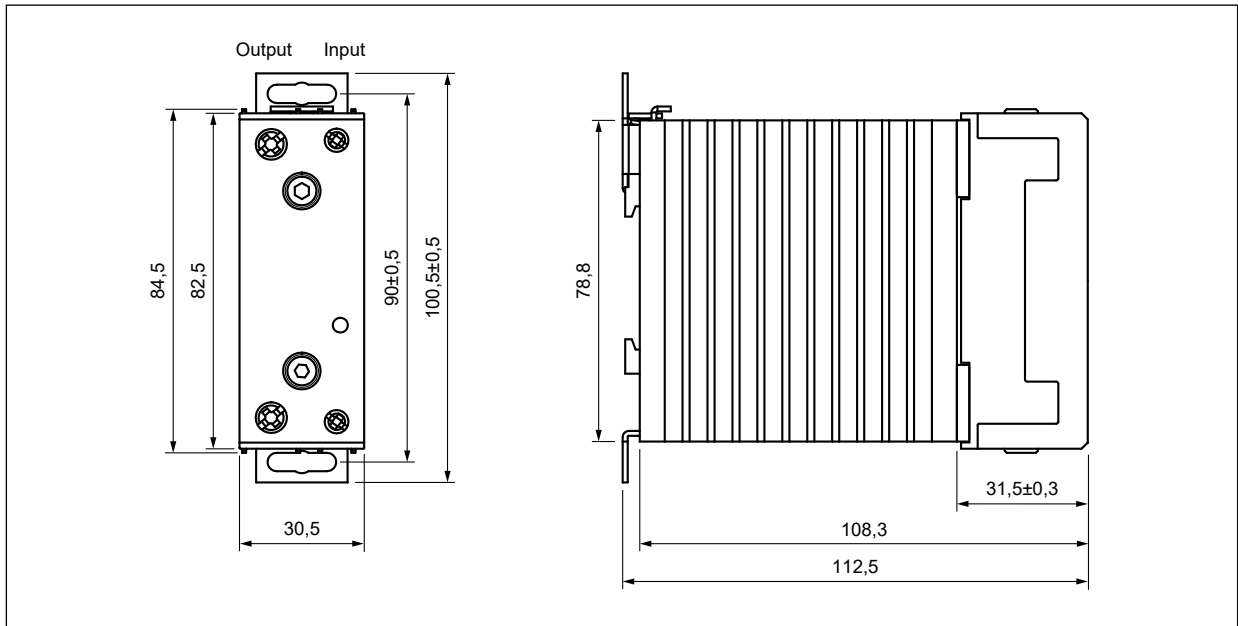
Connection diagram



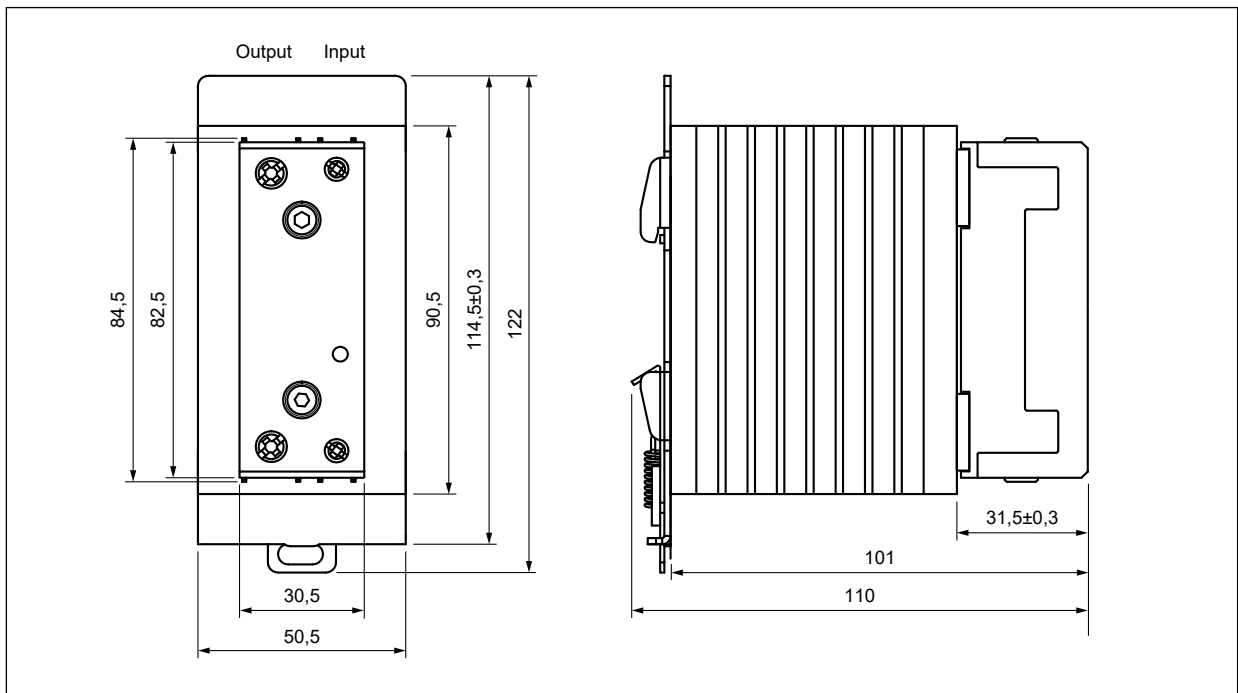
RSR72

single-phase solid state relays, with heatsinks

Dimensions



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

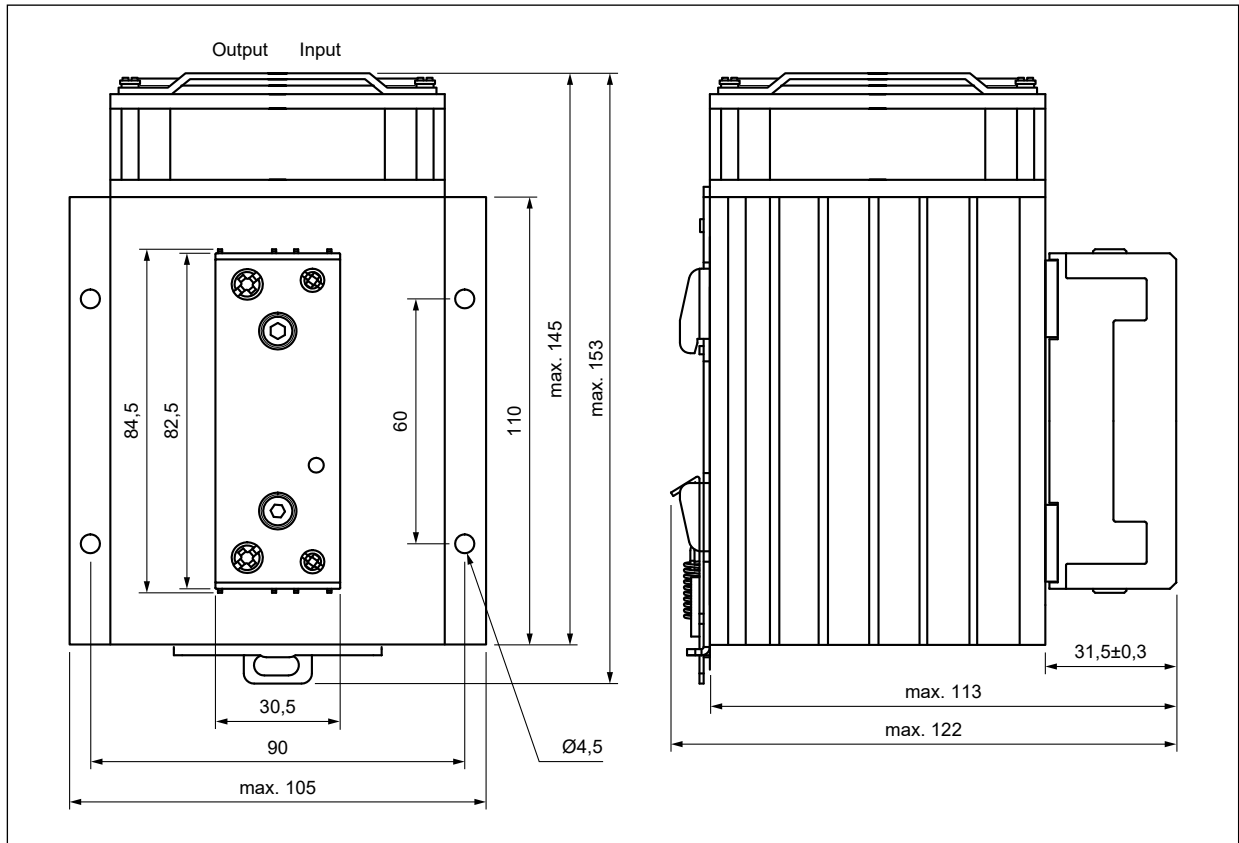


Solid state relay **RSR72-...40-.H**

RSR72

single-phase solid state relays, with heatsinks

Dimensions



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

RSR72

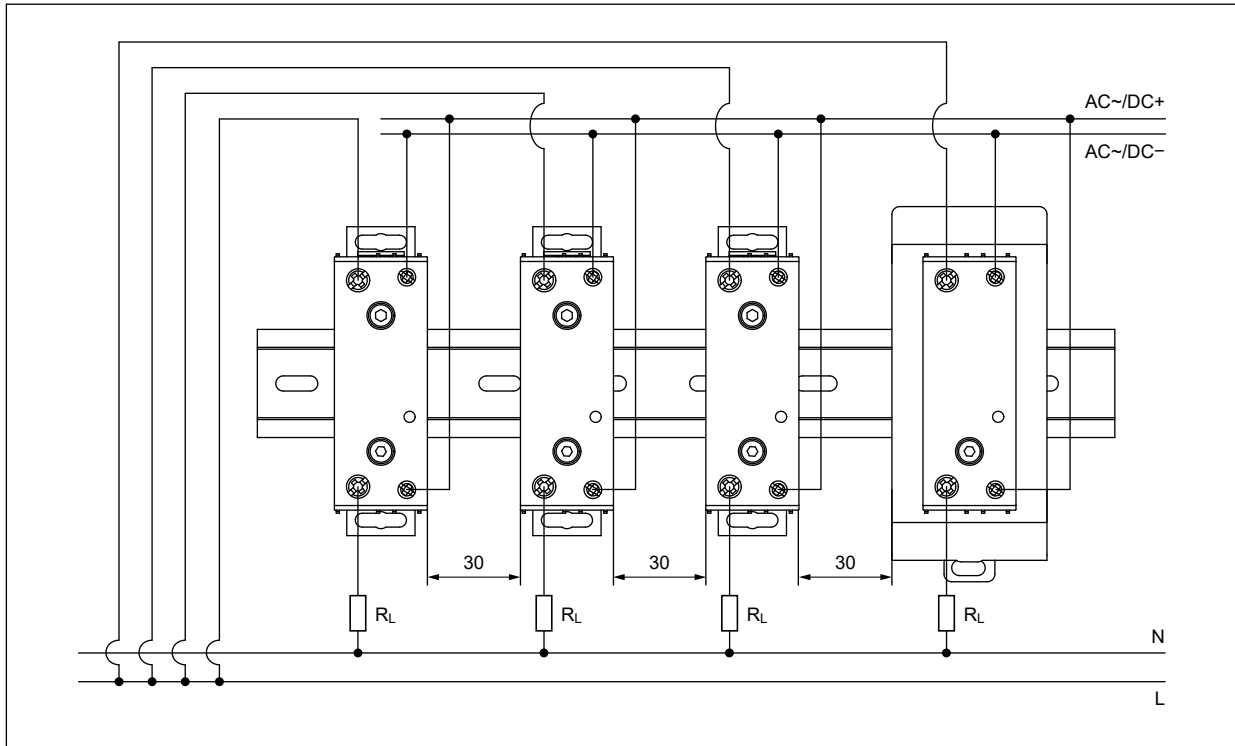
Solid state relays
with integrated
heatsinks

NEW



Mounting, accessories for relays

Relays **RSR72** integrated with heatsink 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.



| Mounting on heatsink ② | | | |
|---------------------------------|---|--|--|
| Screws | ⊕ | M4 | |
| Tightening moment | | 0,98...1,37 N•m | |
| Screw length | ⊕ | 12 mm | |
| Switching terminals ③ | | | |
| Screws | ⊕ | Input | Output |
| Tightening moment | | M3 | M4 |
| Stripping length | ⊕ | 0,6 N•m | 1 N•m |
| Aperture for termination lug | ⊕ | 7 mm | 10 mm |
| | | 6,5 mm | 11,5 mm |
| Cross section of the cables | | | |
| | | Input | Output |
| Single core cable | – | 1 x 0,5...2,5 mm ² (1 x 18...12 AWG) 2 x 0,5...1 mm ² (2 x 18...17 AWG) | 2 x 1,5...6 mm ² (2 x 16...10 AWG) |
| Multi-core cable (with ferrule) | – | 1 x 0,5...2,5 mm ² (1 x 18...12 AWG) 2 x 0,5...1 mm ² (2 x 18...17 AWG) | 1 x 1,5...10 mm ² (1 x 16...8 AWG) 2 x 1,5...6 mm ² (2 x 16...10 AWG) |

② Relay is mounted to heatsink, based on "Thermal derating curves".

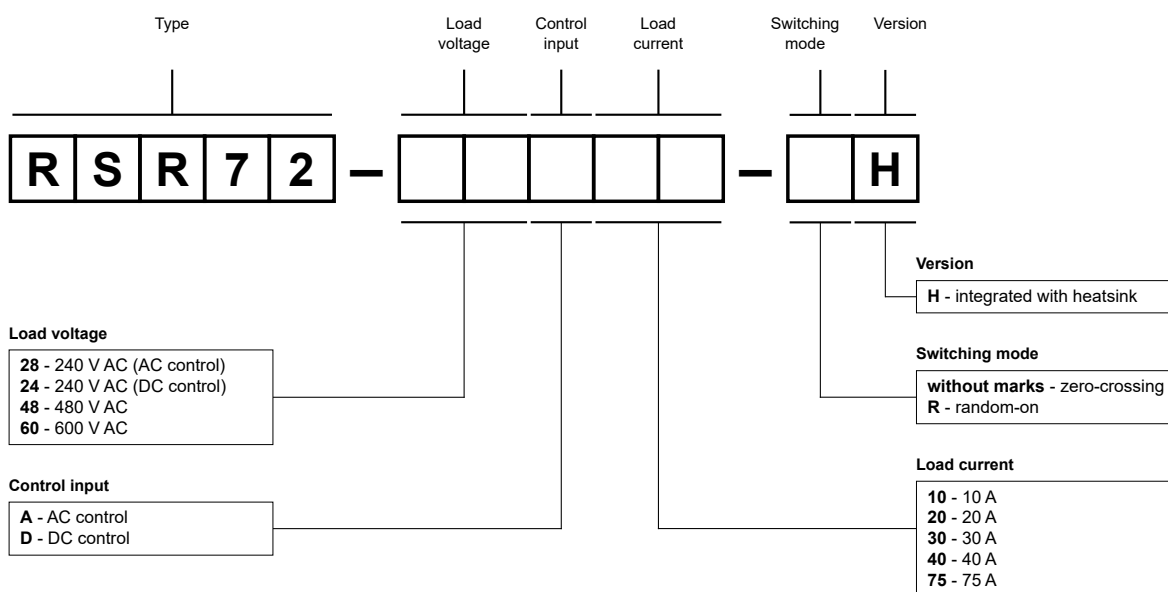
③ When connection cables to relay: please ensure, screws are torqued down properly.

Table of codes

Table 1

| Solid state relay code | | | Heatsink width |
|-------------------------------------|-------------------------------------|---------------------------------|----------------|
| zero-crossing switching, AC control | zero-crossing switching, DC control | random-on switching, DC control | |
| RSR72-28A10-H | RSR72-24D10-H | – | 30,5 mm |
| RSR72-28A20-H | RSR72-24D20-H | – | 30,5 mm |
| RSR72-28A30-H | RSR72-24D30-H | – | 30,5 mm |
| RSR72-28A40-H | RSR72-24D40-H | – | 50,5 mm |
| RSR72-28A75-H | RSR72-24D75-H | – | 105 mm |
| RSR72-48A10-H | RSR72-48D10-H | RSR72-48D10-RH | 30,5 mm |
| RSR72-48A20-H | RSR72-48D20-H | RSR72-48D20-RH | 30,5 mm |
| RSR72-48A30-H | RSR72-48D30-H | RSR72-48D30-RH | 30,5 mm |
| RSR72-48A40-H | RSR72-48D40-H | RSR72-48D40-RH | 50,5 mm |
| RSR72-48A75-H | RSR72-48D75-H | – | 105 mm |
| – | RSR72-60D20-H | RSR72-60D20-RH | 30,5 mm |
| – | RSR72-60D30-H | RSR72-60D30-RH | 30,5 mm |
| – | RSR72-60D40-H | RSR72-60D40-RH | 50,5 mm |
| – | RSR72-60D75-H | RSR72-60D75-RH | 105 mm |

Ordering codes



Examples of ordering codes ⑥:

- RSR72-28A10-H** relay **RSR72**, integrated with heatsink, zero-crossing switching, AC control, load voltage 240 V AC (single-phase), load current 10 A
- RSR72-24D30-H** relay **RSR72**, integrated with heatsink, zero-crossing switching, DC control, load voltage 240 V AC (single-phase), load current 30 A
- RSR72-48A40-H** relay **RSR72**, integrated with heatsink, zero-crossing switching, AC control, load voltage 480 V AC (single-phase), load current 40 A
- RSR72-60D75-RH** relay **RSR72**, integrated with heatsink, random-on switching, DC control, load voltage 600 V AC (single-phase), load current 75 A

⑥ Ordering codes **RSR72** are specified in Table 1.