

Overload Relays Ex9R



- Overload thermal relays according to IEC / EN 60947-4-1
- Three frame sizes with rated current up to 100 A at 690 V AC-3
- 3-pole versions
- Tripping class 10A
- For direct mounting onto Ex9C(S) contactors series or as a stand-alone device
- Suitable mainly for motor protection against overload or phase lost
- Mounting onto connected contactor or onto device rail (DIN) 35 mm by means of AD5. adaptor

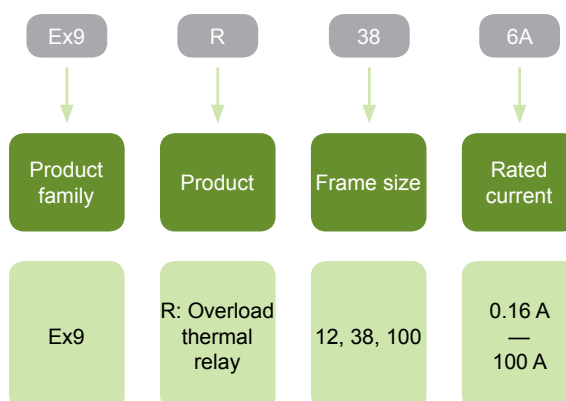
Rated operational voltage 690 V AC, rated frequency 50/60 Hz

Ex9R overload thermal relays contactors are designed for protection of motors mainly. These relays can be either combined directly with Contactors of Ex9CS and Ex9C series or used as a stand-alone device with AD5. adaptor. Relays are available in three frame sizes for rated non-reduced currents from 0.16 — 100 A.

Size Ex9R12 is designed to match Miniature Contactors Ex9CS. Version Ex9R38 can be mounted onto Contactors Ex9C18 and with spacer (in the scope of delivery of the relay) also with size Ex9C38. The last size Ex9R100 can be combined with Ex9C65 and Ex9C100 (with spacer).

Ex9R relays are equipped with 1 NO and 1 NC auxiliary contacts.

Type Key



Certification marks



Overload Relays Ex9R

Design



Ex9R12
Frame size 12



Ex9R38
Frame size 38



Ex9R100
Frame size 100

Mounting



Direct mounting onto
Contactor Ex9C..



Adaptor AD5.



Stand-alone device with
adaptor AD5.

Overload Relays Ex9R

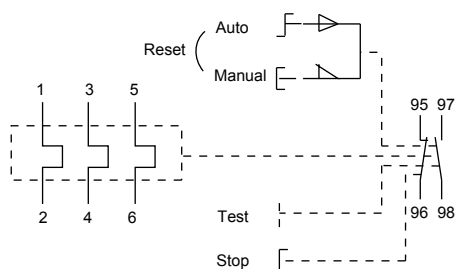
Frame size 12

- Overload thermal relay
- For direct mounting onto Miniature Contactors Ex9CS
- Stand-alone device for mounting onto device (DIN) rail 35 mm by means of combination with adaptor AD51
- Automatic and manual reset function
- Tripping class 10A



Current setting range I_n	For contactor frame size	Poles	Auxiliary contacts	Article No.	Type	Packing
0.1 - 0.16 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101359	Ex9R12 0.16A	1/80
0.16 - 0.25 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101360	Ex9R12 0.25A	1/80
0.25 - 0.4 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101361	Ex9R12 0.4A	1/80
0.4 - 0.63 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101362	Ex9R12 0.63A	1/80
0.63 - 1 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101363	Ex9R12 1A	1/80
1 - 1.6 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101364	Ex9R12 1.6A	1/80
1.6 - 2.5 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101365	Ex9R12 2.5A	1/80
2.5 - 4 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101366	Ex9R12 4A	1/80
4 - 6 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101367	Ex9R12 6A	1/80
5.5 - 8 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101368	Ex9R12 8A	1/80
7 - 10 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101369	Ex9R12 10A	1/80
9 - 12 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101370	Ex9R12 12A	1/80

Wiring diagram



Ex9R12

Overload Relays Ex9R

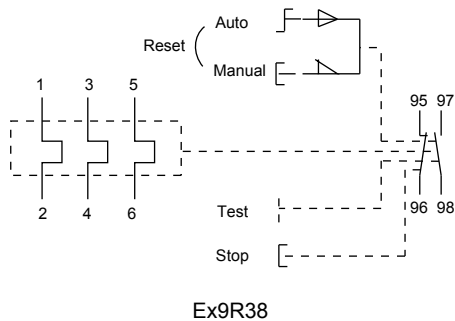
Frame size 38

- Overload thermal relay
- For direct mounting onto Contactors Ex9C18 and Ex9C38 (with included spacer)
- Stand-alone device for mounting onto device (DIN) rail 35 mm by means of combination with adaptor AD52
- Automatic and manual reset function
- Tripping class 10A



Current setting range I_e	For contactor frame size	Poles	Auxiliary contacts	Article No.	Type	Packing
2.5 - 4 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	101371	Ex9R38 4A	1/80
4 - 6 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	101372	Ex9R38 6A	1/80
5.5 - 8 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	101373	Ex9R38 8A	1/80
7 - 10 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	101374	Ex9R38 10A	1/80
9 - 13 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	101375	Ex9R38 13A	1/80
12 - 18 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	101376	Ex9R38 18A	1/80
16 - 24 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	101377	Ex9R38 24A	1/80
23 - 32 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	101378	Ex9R38 32A	1/80
30 - 38 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	101379	Ex9R38 38A	1/80

Wiring diagram



Overload Relays Ex9R

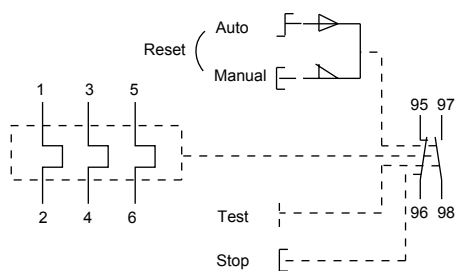
Frame size 100

- Overload thermal relay
- For direct mounting onto Contactors Ex9C65 and Ex9C100 (with included spacer)
- Stand-alone device for mounting onto device (DIN) rail 35 mm by means of combination with adaptor AD53
- Automatic and manual reset function
- Tripping class 10A



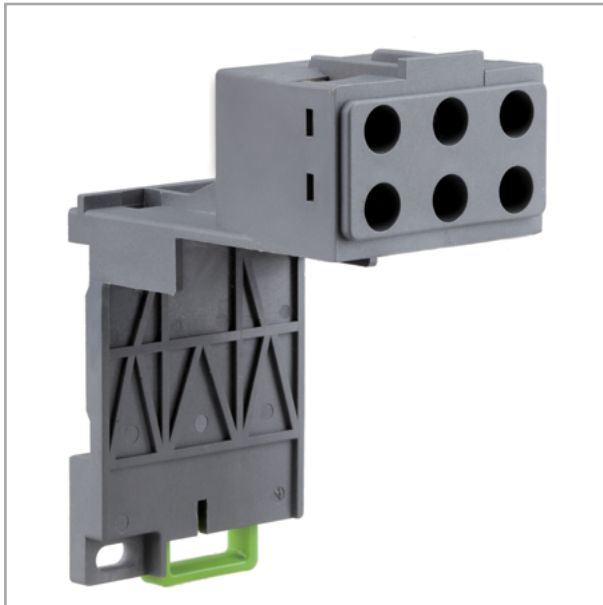
Current setting range I_n	For contactor frame size	Poles	Auxiliary contacts	Article No.	Type	Packing
23 - 32 A	65 (40, 50, 65), 100 (80, 100)	3	1 NO + 1 NC	101380	Ex9R100 32A	1/24
30 - 40 A	65 (40, 50, 65), 100 (80, 100)	3	1 NO + 1 NC	101381	Ex9R100 40A	1/24
37 - 50 A	65 (40, 50, 65), 100 (80, 100)	3	1 NO + 1 NC	101382	Ex9R100 50A	1/24
48 - 65 A	65 (40, 50, 65), 100 (80, 100)	3	1 NO + 1 NC	101383	Ex9R100 65A	1/24
55 - 70 A	65 (40, 50, 65), 100 (80, 100)	3	1 NO + 1 NC	101384	Ex9R100 70A	1/24
63 - 80 A	65 (40, 50, 65), 100 (80, 100)	3	1 NO + 1 NC	101385	Ex9R100 80A	1/24
80 - 100 A	65 (40, 50, 65), 100 (80, 100)	3	1 NO + 1 NC	101386	Ex9R100 100A	1/24

Wiring diagram



Ex9R100

Accessories for Overload Relays Ex9R

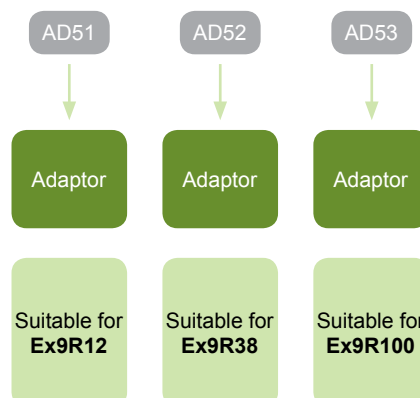


- Accessories for Overload Relays Ex9R
- Adaptors for stand-alone applications of the relays
- Enable mounting of the overload relay onto 35 mm device rail
- Equipped with a set of terminals for wire connection of the relay at both sides

AD5. adaptors are designed in order to allow a use of Overload Relays Ex9R separately without a Contactor of Ex9C(S) series.

Adaptor AD51 fits to Overload Relays Ex9R12. For Relays Ex9R38, the Adaptor AD52 is intended. Overload Relays Ex9R100 can be combined with AD53.

Type Key



Accessories for Overload Relays Ex9R

Mounting



Ex9R
Basic relay



AD5.
Adaptor



Ex9R + AD5.
For stand-alone applications

Accessories for Overload Relays Ex9R

Adaptors for stand-alone applications

- Enable use of Overload Relay separately without a Contactor
- For direct mounting onto 35 mm device rail



Description	Suitable for	Article No.	Type	Packing
Adaptor	Ex9R12	101436	AD51	2/72
Adaptor	Ex9R38	101437	AD52	2/72
Adaptor	Ex9R100	101438	AD53	2/24

Technical Data Overload Relays Ex9R

Overload Relays Ex9R12, Ex9R38, Ex9R100

General parameters

Thermal overload relays		
Ex9R12 for direct mounting onto Contactors frame size Ex9CS		
Ex9R38 for direct mounting onto Contactors frame size Ex9C18, Ex9C38 (with spacer)		
Ex9R38 for direct mounting onto Contactors frame size Ex9C65, Ex9C100 (with spacer)		
For stand-alone applications by means of adaptor AD5.		
Suitable mainly for motor protection against overload or phase lost		
With built-in auxiliary contacts 1 NO + 1 NC		
Accessories		
Adaptors for stand-alone use	AD51, AD52, AD53	101436 — 101438

Electrical parameters

	Ex9R12	Ex9R38	Ex9R100
Tested according to	IEC/EN 60947-4-1		
Rated op. voltage U_e	690 V AC		
Rated insulating voltage U_i	690 V AC		
Rated impulse withstand voltage U_{imp}	6 kV	6 kV	6 kV
Rated frequency	50/60 Hz		
Tripping Class	10A	10A	10A
Current setting range (per frame size)	0.1 — 12 A	2.5 — 38 A	23 — 100 A
Tripping treshold	$1.14 \pm 0.06 \times I_n$		
Phase failure detection	30 % in a phase		
Maximum short circuit protection fuse	25 A gG/gL	80 A gG/gL	160 A gG/gL
Reset	Manual or Auto		
Min. op. voltage per AX contact U_{min}	17 V AC, 3 V DC		
Rated thermal current I_{th} of AX cont.	5 A		
Rated op. current I_e , AC-15 of AX	1.64 A / 230 V, 0.95 A / 400 V		
Rated op. current I_e , DC-13 of AX	0.13 A / 220 V		
Min. operational current I_{min} of AX	5 mA AC, 5 mA DC		
Max. back-up fuse of AX	6 A gG/gL, 6 A MCB char. B		
Conditional short circuit current I_k with max. back-up fuse of AX	1 kA		

Mechanical parameters

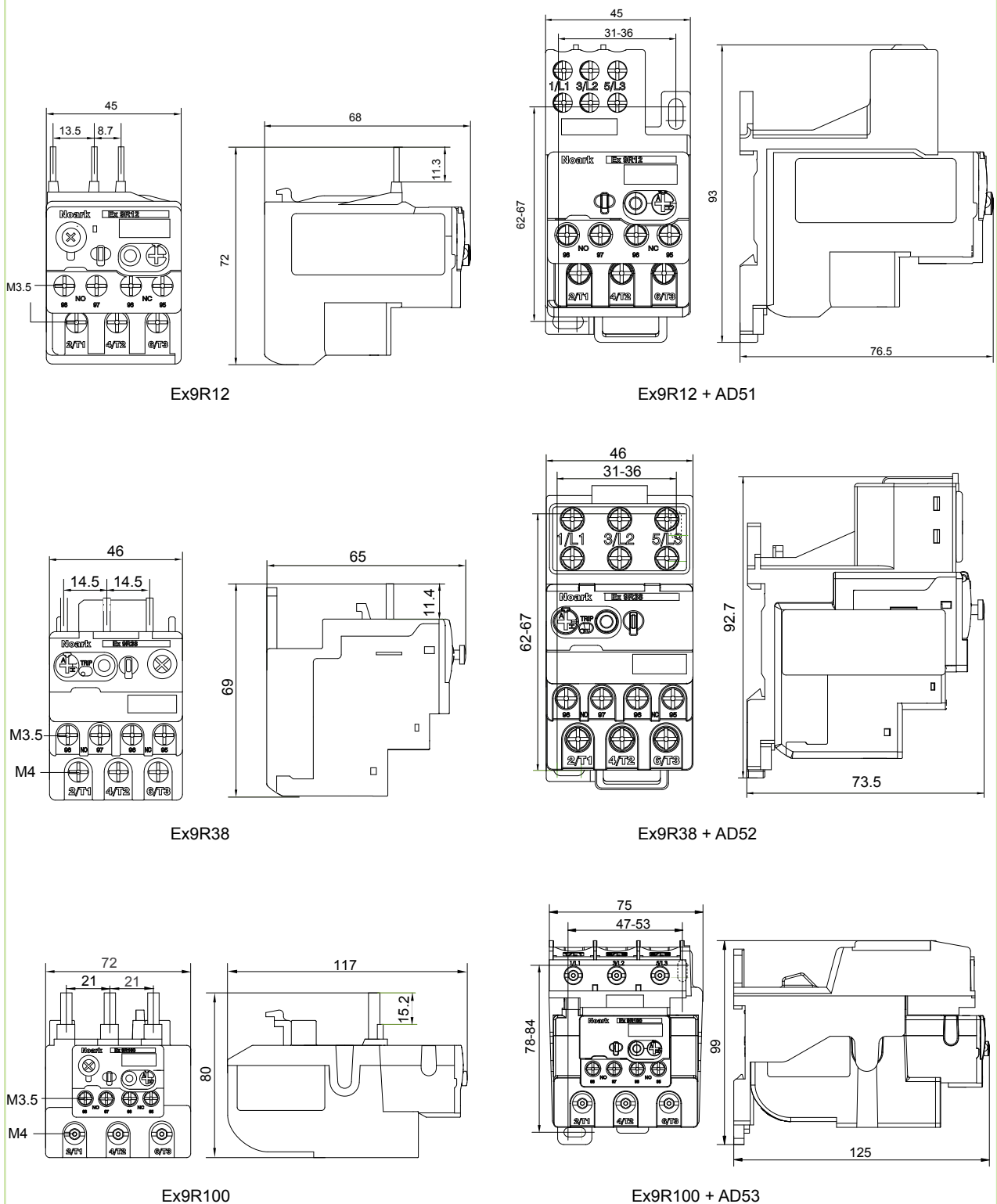
	Ex9R12	Ex9R38	Ex9R100
Tripping indicator	blank-yellow	blank-yellow	blank-yellow
Device width	45 mm	46 mm	72 mm
Device height	72 mm	69 mm	80 mm
Device depth	68 mm	65 mm	117 mm
Mounting onto	Ex9CS, AD51	Ex9C09 — 38, AD52	Ex9C40 — 100, AD53
Degree of protection	IP20		
Terminals	lift		
Terminal capacity	1 — 4 mm ²	1 — 10 mm ²	4 — 35 mm ²
Fastening torque of terminals	1.7 Nm	2.5 Nm	9 Nm
Weight	0.16 kg	0.14 kg	0.51 kg
Vibration resistance IEC 68-2-6	2 g, 5 — 300 Hz		
Shock resistance IEC 68-2-27	15 g, 11 ms		

Ordering data p. 3

Technical Data Overload Relays Ex9R

Overload Relays Ex9R12, Ex9R38, Ex9R100

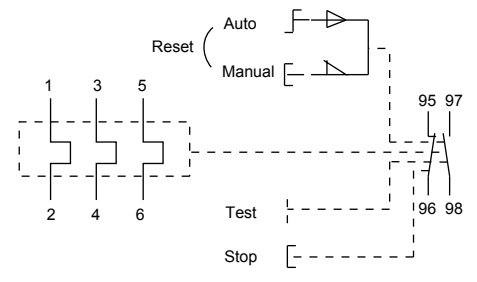
Dimensions



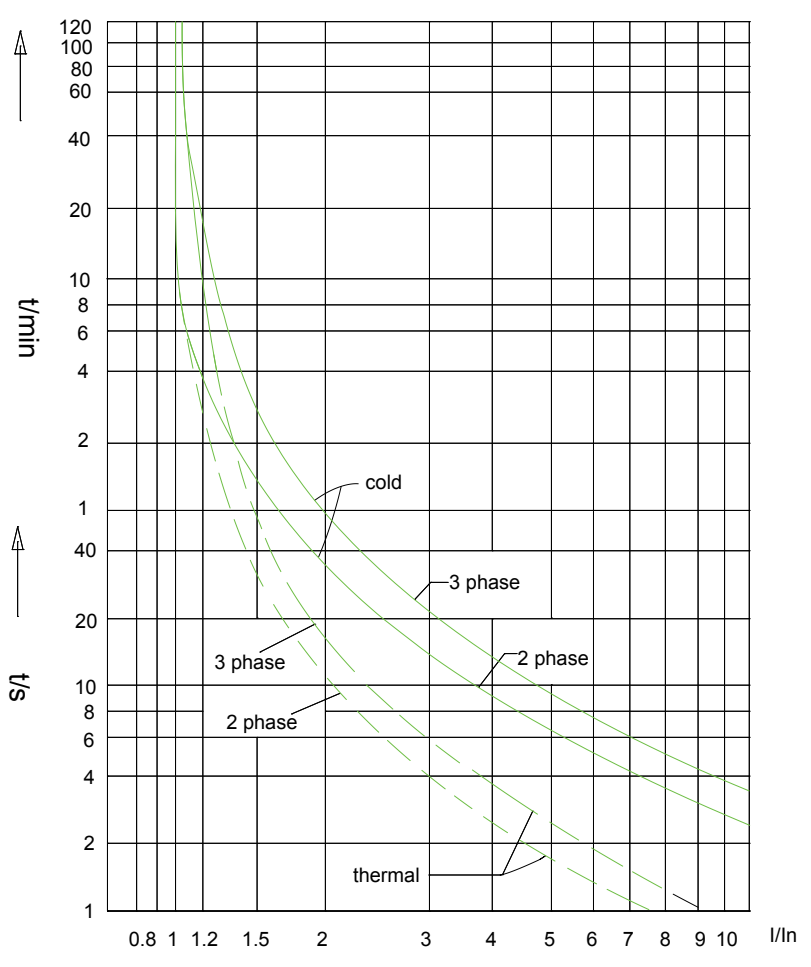
Technical Data Overload Relays Ex9R

Overload Relays Ex9R12, Ex9R38, Ex9R100

Wiring diagrams



Tripping characteristics



Ordering data p. 3