

Overload thermal relays Ex9R



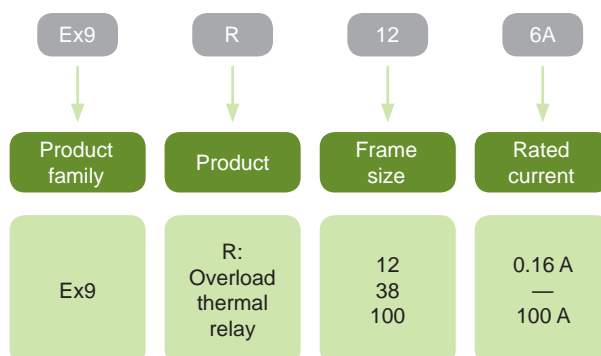
- Overload thermal relays according to IEC / EN 60947-4-1
- Three frame sizes with rated current up to 100 A at 690 V AC-3
- 3-pole versions
- Tripping class 10A
- For direct mounting onto Ex9C(S) contactors series or as a stand-alone device
- Suitable mainly for motor protection against overload or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

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 directly.

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

Type Key



Certification marks



Overload thermal relays Ex9R

Design



Ex9R12
Frame size 12



Ex9R38
Frame size 38



Ex9R100
Frame size 100

Mounting



Direct mounting
onto contactor



Adaptor AD5.



Stand-alone device
with adaptor AD5.

Overload thermal relays Ex9R

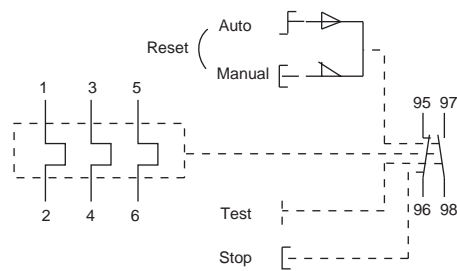
Frame size 12

- Overload thermal relays
- 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

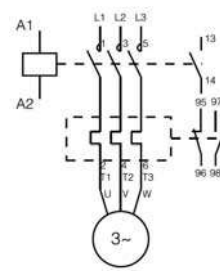


Current setting range I_n	For contactor frame size	Poles	Auxiliary contacts	Article No.	Type	Packing
0.1 - 0.16 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101359	Ex9R12 0.16A	1/80
0.16 - 0.25 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101360	Ex9R12 0.25A	1/80
0.25 - 0.4 A	Mini (S06, S09, S12)	3	1 NO + 1 NC	101361	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



Ex9R12

Overload thermal relays Ex9R

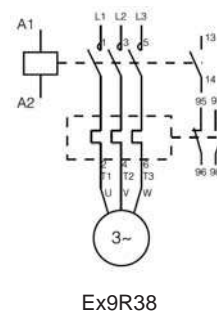
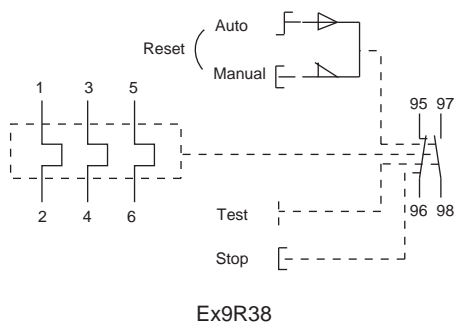
Frame size 38

- Overload thermal relays
- For direct mounting onto Contactors Ex9C09 to Ex9C38 (with included spacer)
- Stand-alone device for mounting onto device (DIN) rail 35 mm by means of combination with adaptor AD56
- Automatic and manual reset function
- Tripping class 10A



Current setting range I_n	For contactor frame size	Poles	Auxiliary contacts	Article No.	Type	Packing
0.63 - 1A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	110327	Ex9R38B 1A	1/60
1 - 1.6A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	110328	Ex9R38B 1.6A	1/60
1.6 - 2.5A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	110329	Ex9R38B 2.5A	1/60
2.5 - 4 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	110330	Ex9R38B 4A	1/60
4 - 6 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	110331	Ex9R38B 6A	1/60
5.5 - 8 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	110332	Ex9R38B 8A	1/60
7 - 10 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	110333	Ex9R38B 10A	1/60
9 - 13 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	110334	Ex9R38B 13A	1/60
12 - 18 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	110335	Ex9R38B 18A	1/60
16 - 24 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	110336	Ex9R38B 24A	1/60
23 - 32 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	110337	Ex9R38B 32A	1/60
30 - 38 A	18 (09, 12, 18), 38 (25, 32, 38)	3	1 NO + 1 NC	110338	Ex9R38B 38A	1/60

Wiring diagram



Overload thermal relays Ex9R

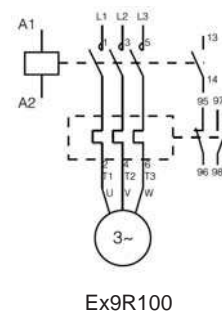
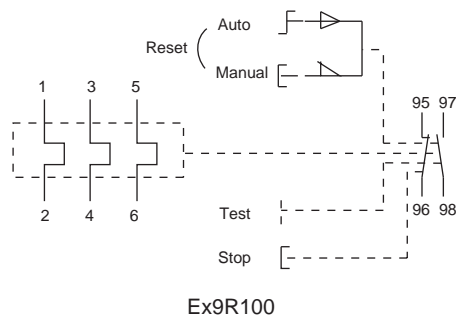
Frame size 100

- Overload thermal relays
- 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



Accessories for overload thermal relays

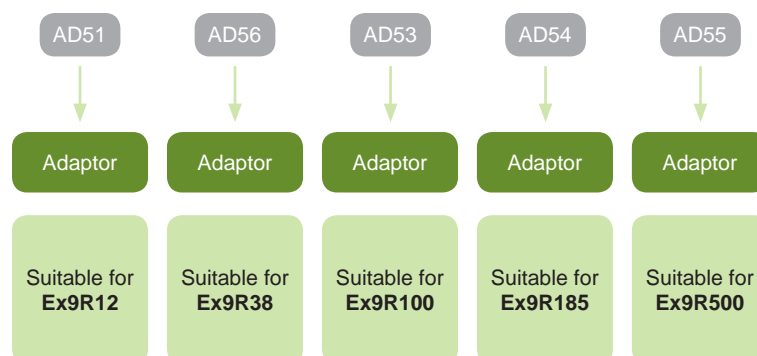


- Accessories for Overload thermal relays Ex9R
- Adaptors for stand-alone applications of the relays
- Enable mounting of the overload relay onto 35 mm device rail or panel
- Equipped with a set of terminals for wire connection of the relay at both sides

AD5. adaptors are designed in order to allow a use of overload thermal relays Ex9R separately without a contactor of Ex9C(S) series.

Adaptor AD51 fits to overload thermal relays Ex9R12. For relays Ex9R38, the adaptor AD56 is intended. Overload thermal relays type Ex9R100 can be combined with AD53, the size R185 with AD54 and the biggest type size R500 with AD55 adaptor.

Type Key



Accessories for overload thermal relays

Mounting



Ex9R
Basic relay



AD5.
Adaptor



Ex9R + AD5.
For stand-alone applications

Accessories for overload thermal relays

Adaptors for stand-alone applications of Ex9R relays up to 100 A

- 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	2/80
Adaptor	Ex9R38	110339	AD56	2/80
Adaptor	Ex9R100	101438	AD53	2/24

Adaptors for stand-alone applications of Ex9R185/500 relays

- Enable use of overload relay separately without a contactor
- For direct mounting onto panel with screws



Description	Suitable for	Article No.	Type	Packing
Adaptor	Ex9R185	107968	AD54	1/12
Adaptor	Ex9R500	107969	AD55	1/12

Technical Data Ex9R

Overload thermal relays Ex9R12, Ex9R38, Ex9R100

General parameters

Thermal overload relays		
Ex9R12 for direct mounting onto Contactors Ex9CS		
Ex9R38B for direct mounting onto Contactors frame size 18, 38 (with spacer)		
Ex9R100 for direct mounting onto Contactors frame size 65, 100		
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, AD56, AD53	101436, 110339, 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	1 — 38 A	23 — 100 A
Tripping threshold	$1.14 \pm 0.06 \times I_n$		
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 600 V AC, 1 A 300 V DC		
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		

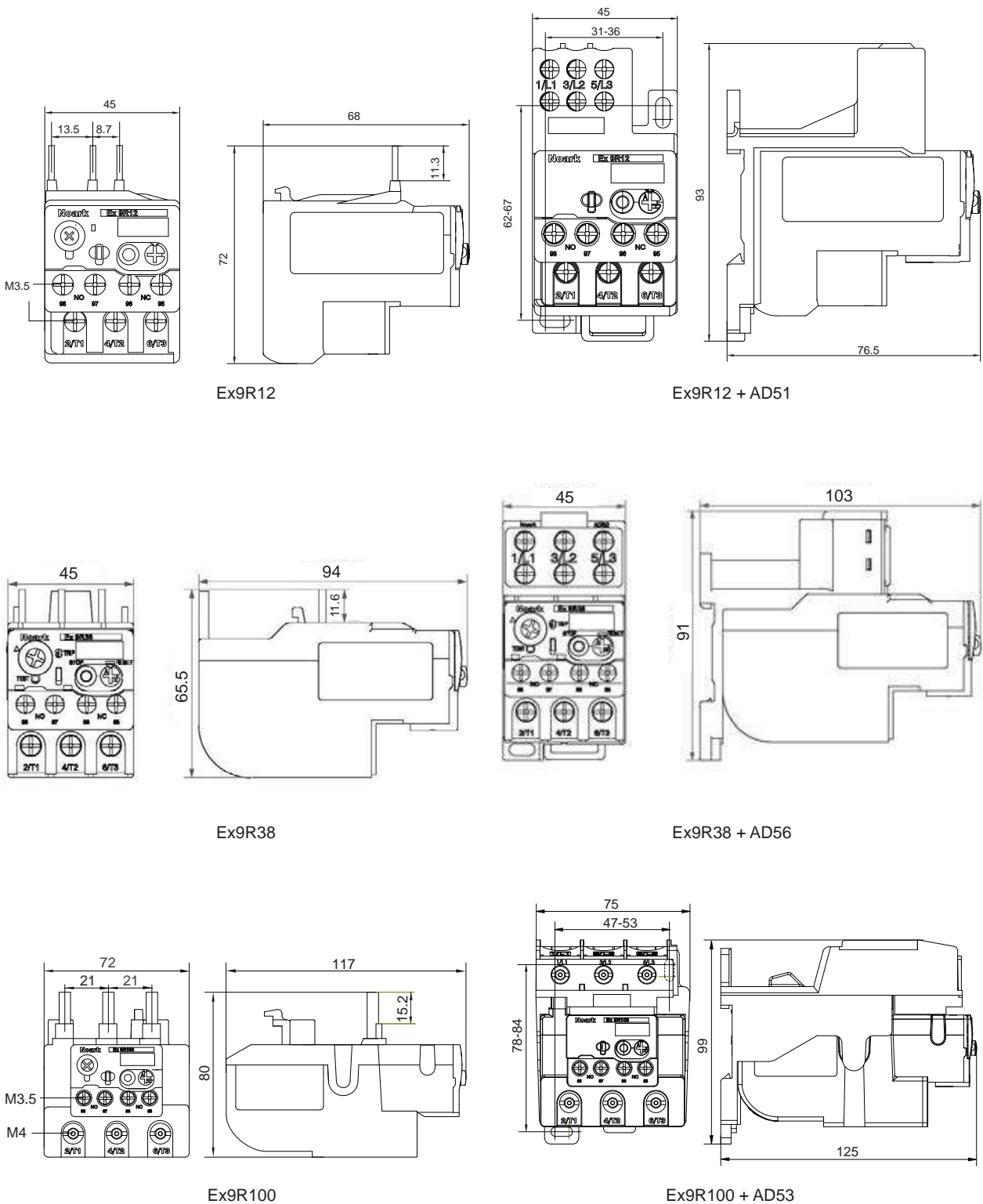
Mechanical parameters

	Ex9R12	Ex9R38	Ex9R100
Tripping indicator	yellow	yellow	yellow
Device width	45 mm	45 mm	72 mm
Device height	72 mm	65.5 mm	80 mm
Device depth	68 mm	94 mm	117 mm
Mounting onto	Ex9CS, AD51	Ex9C09 — 38, AD56	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		

Technical Data Ex9R

Overload thermal relays Ex9R12, Ex9R38, Ex9R100

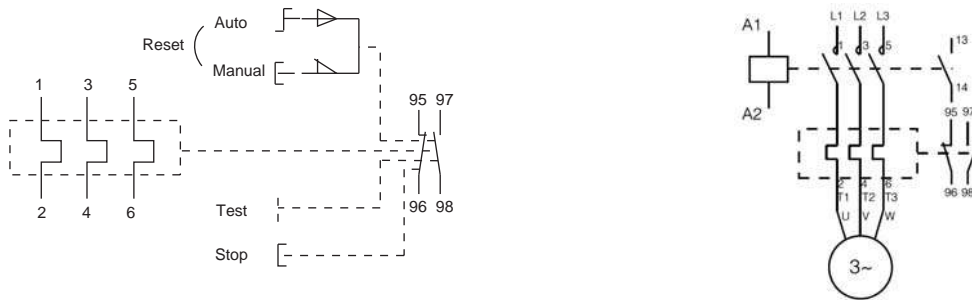
Dimensions



Technical Data Ex9R

Overload thermal relays Ex9R12, Ex9R38, Ex9R100

Wiring diagrams



Tripping characteristics

