

# Overload thermal relays Ex9R up to 500 A



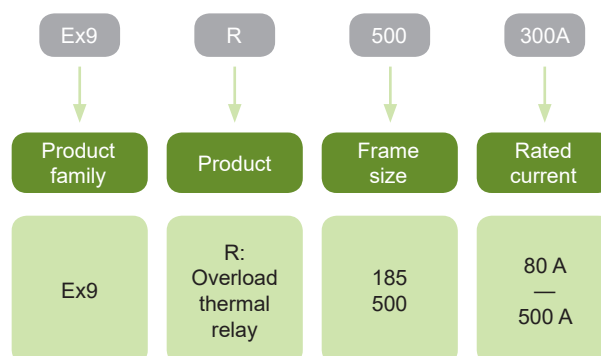
- Overload thermal relays according to IEC / EN 60947-4-1
- Two frame sizes with rated current up to 500 A at 690 V AC-3
- 3-pole versions
- Tripping class 10A
- For direct mounting onto Ex9C contactors or as a stand-alone device with AD adaptor
- Suitable mainly for motor protection against overload or phase lost

Ex9R overload thermal relays contactors are designed for protection of motors mainly. These relays can be either combined directly with contactors of Ex9C115-500 series or used as a stand-alone device with AD5 adaptor. Relays are available in two frame sizes for rated non-reduced currents from 80 — 500 A.

Size Ex9R185 is designed to match contactors of frame size 185 (Ex9C115-185). Version Ex9R500 can be mounted onto contactors of 300 (Ex9C225-300) frame size and also with size 500 (Ex9C400-500).

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

## Type Key



## Certification marks



# Overload thermal relays Ex9R up to 500 A

## Design



**Ex9R185**  
Frame size 185



**Ex9R500**  
Frame size 500

## Mounting



Direct mounting  
onto Ex9C contactor



Stand-alone device  
with adaptor AD5.

# Overload thermal relays Ex9R up to 500 A

## Frame size 185

- Overload thermal relays
- For direct mounting onto Ex9C115-185 contactors
- Stand-alone device for mounting onto panel by means of combination with adaptor AD54
- Automatic and manual reset function
- Tripping class 10A



Current setting range $I_n$	For contactors of frame size	Poles	Auxiliary contacts	Article No.	Type	Packing
80 - 115 A	185 (115, 165, 185)	3P	1 NO + 1 NC	106326	Ex9R185 115A	1/8
110 - 150 A	185 (115, 165, 185)	3P	1 NO + 1 NC	106327	Ex9R185 150A	1/8
140 - 185 A	185 (115, 165, 185)	3P	1 NO + 1 NC	106328	Ex9R185 185A	1/8

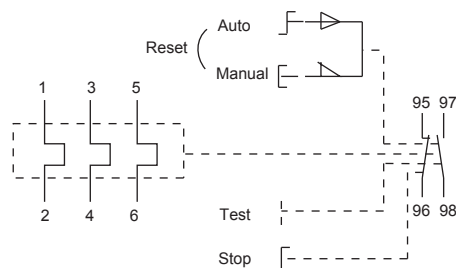
## Frame size 500

- Overload thermal relays
- For direct mounting onto Ex9C225-500 contactors
- Stand-alone device for mounting onto panel by means of combination with adaptor AD55
- Automatic and manual reset function
- Tripping class 10A



Current setting range $I_n$	For contactors of frame size	Poles	Auxiliary contacts	Article No.	Type	Packing
160 - 225 A	300 (225, 265, 300) 500 (400, 500)	3P	1 NO + 1 NC	106329	Ex9R500 225A	1/8
210 - 300 A	300 (225, 265, 300) 500 (400, 500)	3P	1 NO + 1 NC	106330	Ex9R500 300A	1/8
280 - 400 A	300 (225, 265, 300) 500 (400, 500)	3P	1 NO + 1 NC	106331	Ex9R500 400A	1/8
380 - 500 A	300 (225, 265, 300) 500 (400, 500)	3P	1 NO + 1 NC	106332	Ex9R500 500A	1/8

### Wiring diagram



# Technical Data Ex9R

## Overload thermal relays Ex9R185, Ex9R500

### General parameters

Overload thermal relays		
Ex9R185 for direct mounting onto contactors of frame size Ex9C185		
Ex9R500 for direct mounting onto contactors of frame size Ex9C300, Ex9C500		
For stand-alone applications by means of adaptor AD5		
Suitable mainly for motor protection against overload or phase lost		
With built-in auxiliary contacts 1NO + 1NC		
Accessories		
Adaptors for stand-alone use	AD54, AD55	107968, 107969

### Electrical parameters

	Ex9R185	Ex9R500
Tested according to	IEC/EN 60947-4-1	
Rated operating voltage $U_e$	690 V AC	
Rated insulating voltage $U_i$	690 V AC	
Rated impulse withstand voltage $U_{imp}$	6 kV	6 kV
Rated frequency	50/60 Hz	
Tripping Class	10A	10A
Current setting range $I_r$ (per frame size)	80 — 185 A	160 — 500 A
Tripping threshold	$1.14 \pm 0.06 \times I_r$	
Phase failure detection	30 % in a phase	
Maximum short circuit protection fuse	315 A gG/gL	800 A gG/gL
Reset	Manual or Auto	
Minimum operating voltage $U_{min}$ of AX	17 V AC / 3 V DC	
Rated thermal current $I_{th}$ of AX	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	

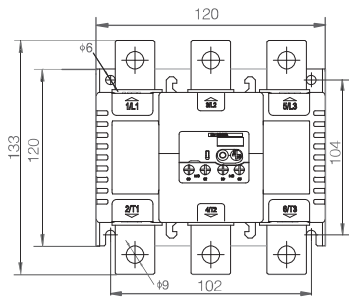
### Mechanical parameters

	Ex9R185	Ex9R500
Tripping indicator	blank-yellow	blank-yellow
Device width	120 mm	145 mm
Device height	133 mm	149 mm
Device depth	136 mm	146 mm
Mounting onto	Ex9C115 — 185, AD54	Ex9C225 — 500, AD55
Degree of protection	IP20	
Terminals	connection plates for M8 screw	connection plates for M10 screw
Terminal capacity	25 — 95 mm <sup>2</sup>	50 — 240 mm <sup>2</sup>
Fastening torque of terminals	18 Nm	35 Nm
Altitude	≤ 2000 m	
Relative humidity	≤ 90 %	
Ambient temperature	-20 — +55 °C	
Weight	1.5 kg	1.9 kg
Vibration resistance IEC 68-2-6	2 g, 5 — 300 Hz	
Shock resistance IEC 68-2-27	15 g, 11 ms	

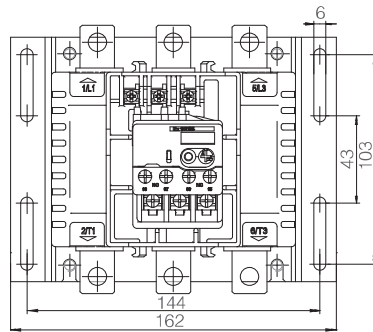
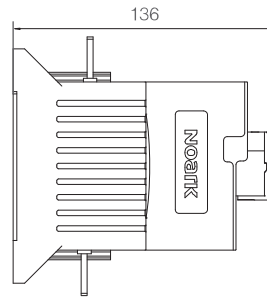
# Technical Data Ex9R

## Overload thermal relays Ex9R185, Ex9R500

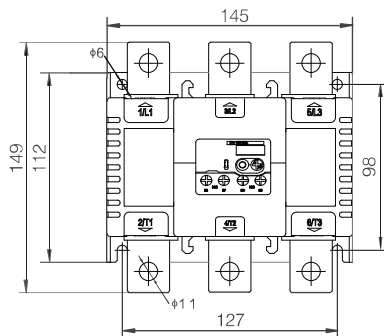
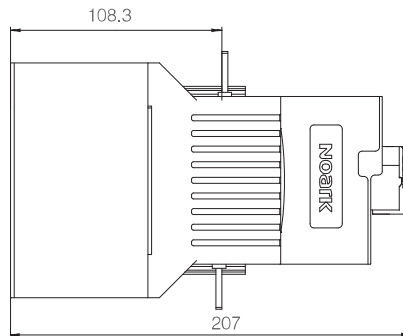
### Dimensions



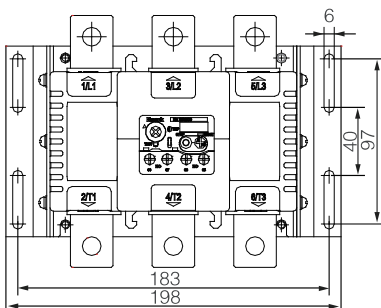
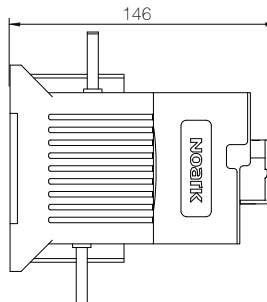
**Ex9R185**



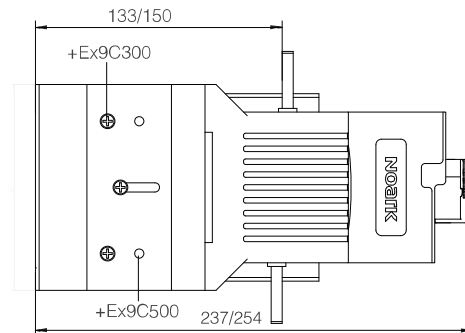
**Ex9R185 + AD54**



**Ex9R500**



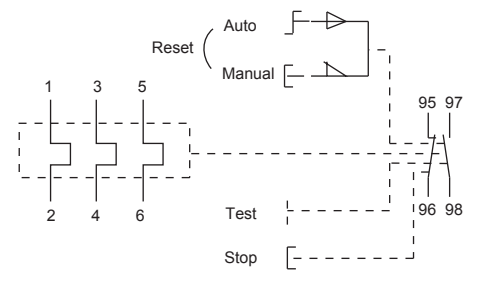
**Ex9R500 + AD55**



# Technical Data Ex9R

## Overload thermal relays Ex9R185, Ex9R500

### Wiring diagrams



### Tripping characteristics

