

## Description

The EXR20 (Electronic eXtra Relay) has specially been designed for the control of electric motors. It combines two relay outputs with a micro-controller and additional overcurrent protection.

In combination with two mechanical change-over contacts, the micro-controller allows clockwise and anti-clockwise rotation of the motor. For each sense of rotation, the EXR20 offers a separate control input (L, R).

If both control inputs are activated simultaneously in the event of a failure, the motor stops. As soon as no control signal is available any longer, the EXR20 will short out the motor armature so that the motor stops very quickly.

The EXR20 additionally offers overcurrent protection. The overload threshold can be adjusted between 1 A and 10 A by means of a screw on the housing top. If the set maximum overcurrent is exceeded, the motor is stopped per armature short circuit. As soon as both input signals are deactivated, there will be a reset.

## Applications

The EXR20 special relay is available for DC 12 V and 24 V applications.

### Scope of applications:

- Trucks and buses
- Agricultural vehicles and forestry equipment
- Construction machinery
- Special vehicles and emergency cars
- Watercraft (ships, motor yachts etc.)

### Typical applications:

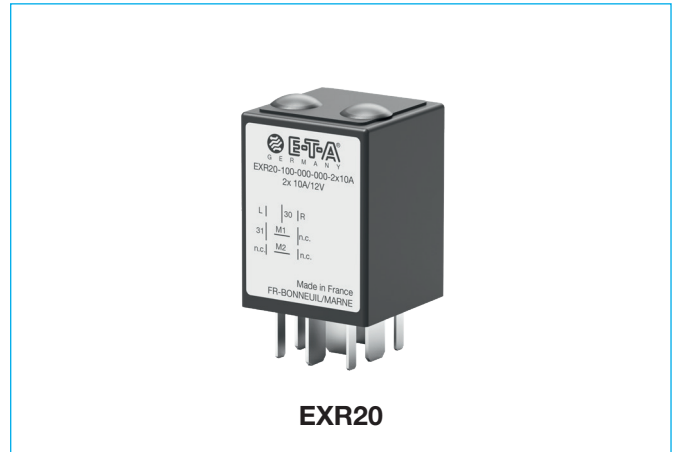
- The EXR20 motor control relay was especially designed for electric motors.

## Benefits

- Two signal outputs are sufficient to control an electric motor conveniently and reliably with the EXR20.
- The integral adjustable overcurrent protection additionally protects the application.

## Qualifications

<b>Degree of protection</b>	IP52
<b>Noise immunity</b>	EMC DIN 40839
<b>E1 number</b>	on demand



## Technical data

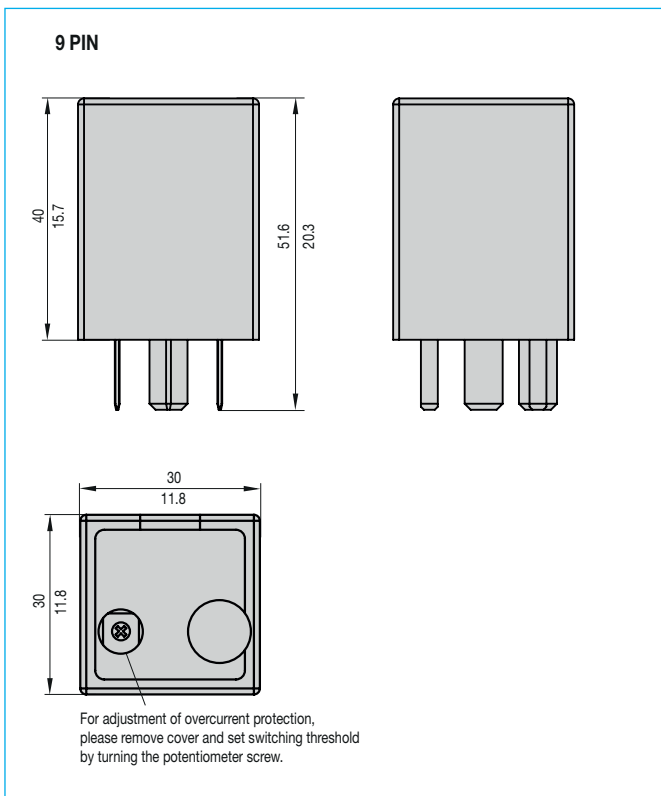
Voltage ratings	12 V	24 V
Overcurrent limitation	10.1 A...10 A	
Operating voltage	9 V...15 V	18 V...30 V
Power consumption	10 mA...100 mA	
Number of cycles	100,000	
Max. output current at 12 V	10 A	
Max. output power at 25° C	240 W	
Operating temperature	-40° C...+85° C	
Mass	34 g	
<b>Inputs</b>		
L/R	OFF 0 V...9 V	0 V...18 V
	ON 9 V...15 V	18 V...30 V
<b>Outputs</b>		
M1	5 A or 10 A	
M2	5 A or 10 A	
<b>Materials</b>		
Blade terminals	DIN 46244 – A6.3 x 0.8 DIN 46244 – A2.8x0.8 CuZn 37 F37	
Contact material	AgSnO <sub>2</sub>	
Housing material	PA66-GF30	

## Order numbering code

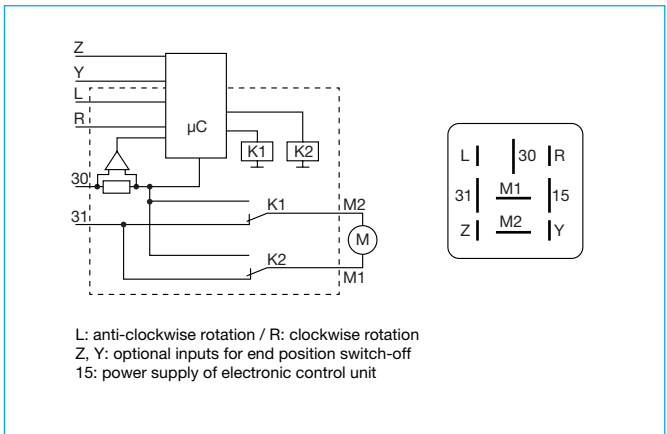
Type No.	EXR20	special relay
Operating voltage	1	12 V
	2	24 V
Control	0	positive activation
	1	negative activation
Current measurement	0	no
	1	yes
Additional inputs (end position switch-off Z, Y)	0	no
	1	yes
Option	00-000	without
Current ratings		2 x 5 A
		2 x 10 A

EXR20 - 1 0 0 - 0 - 00-000 - 2 x 5 A ordering example

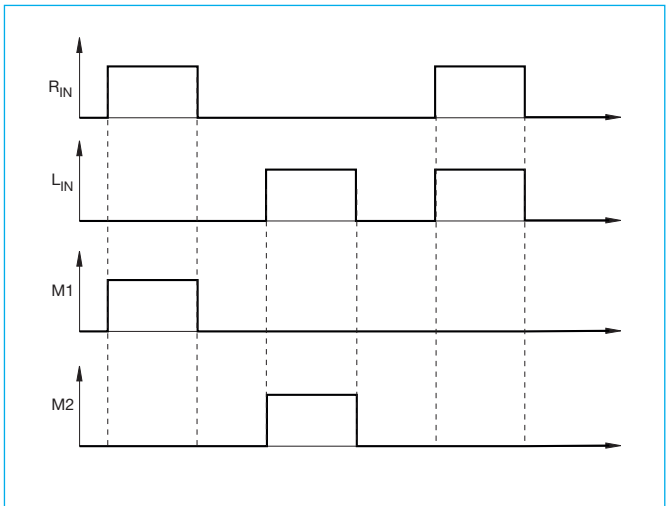
## Dimensions



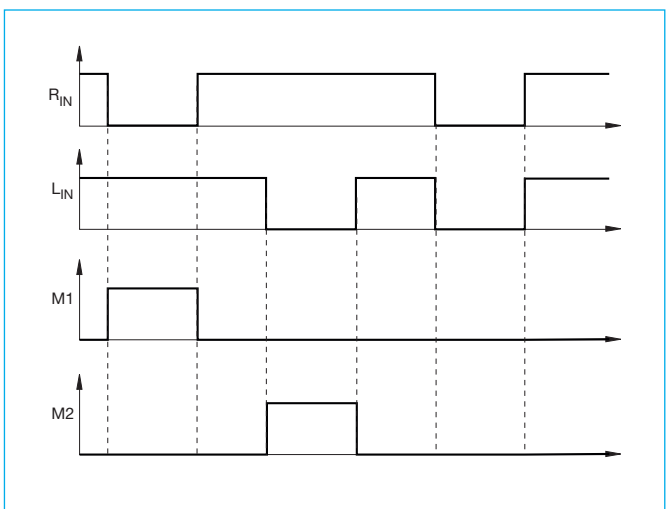
## Schematic diagram / pin assignment



## Functional diagram - positive activation



## Functional diagram - negative activation



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