



# MSR

## Multifunctional Relay



## Features

/ Protects your sensor elements

/ Practical time response

/ Additional DC voltage output

## Description:

The MSR series includes the range of multifunctional relays MSR 10, MSR 11 and MSR 20 that cover all commonly known applications. Thus, the MSR 10 and the MSR 20 are purely contact protecting relays for one or two control signals which protect the contacts in measuring devices against overload due to high switching operations especially in inductive or capacitive loads. In these units, a smartly selected drop-out delay ensures that highly frequent switching of sensor contacts is disregarded and, therefore, the switching points are unambiguously defined. The MSR 11 has a highly qualified bistable interval relay with self-preservation that is capable of controlling the pump completely in combination with two fill level switches.

## Application:

Naturally, this unit also protects the contacts of the switch connected to it against overloads. The MSR series of devices is designed for a standard supply voltage of 230 V AC, but they possess also a 24 V DC DC voltage output. Optionally, they are available for connecting to 115 V AC, 24 V AC and 24 V DC. On request, the MSR 10, MSR 11 and MSR 20 can be provided with 24 V DC PNP electronic outputs. The polyamide housing has a housing of type IP 20 protection; however, it can be equipped with an outer housing in IP 65 available as accessory. The device can be assembled on a standard mounting rail as per DIN 50022 or by means of an adapter for individual mounting through screw fitting.



## Versions:

### MSR Multifunctional Relay

**Type: MSR10**

monostable contact protective relay for single contacts

**Type: MSR11**

bistable interval relay with locking feature

**Type: MSR20**

monostable contact protective relay for double contacts

**Supply voltage:**

standard 230 VAC;

optional 115 VAC, 24 VAC or 24 VDC

## Electrical Specifications:

**Standards /**

EN 50 178:	electrical safety
EN 61 000-6-2:	stability
EN 61 000-6-3:	fault reporting
EN 60 947-5-1:	low voltage switch-gear

**Auxiliary power /**

**Supply voltage /** 230 VAC (standard),  
50 to 60 Hz

**Consumption /** MSR 10 typ. 6 VA  
MSR 11 typ. 6 VA  
MSR 20 typ. 6 VA

**Control signals /**

Control voltage:	35 to 40 VDC Pulse
Pulse-Pause ratio:	0.5 ms / 50 ms (+/-20%)
Switching threshold:	9.7 VDC (+/-10%)
Input impedance:	3300 Ohm, 100 nF (+/-20%)
Line and contact resistance:	max. 4700 Ohm, 47 nF

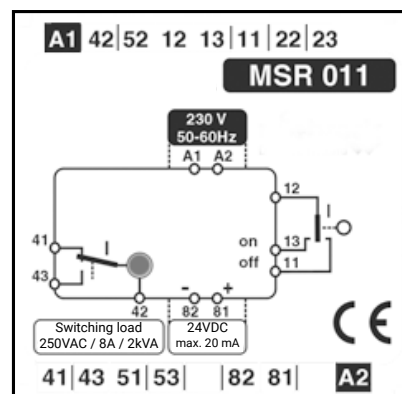
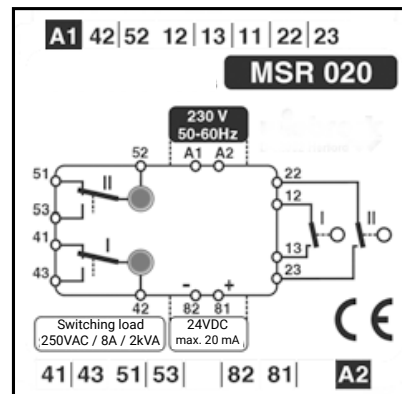
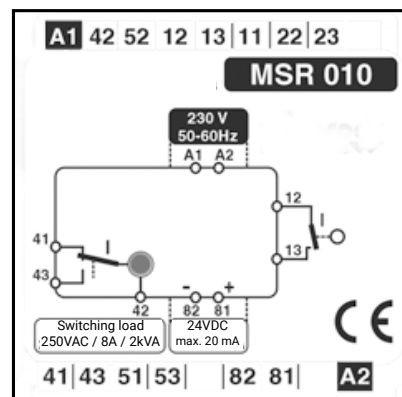
**Output /**

Relay output.:	1 or 2 potential-free change-over
Draw-up and drop-out delay:	10 ms / 450 ms +/- 20% + 50 ms
Contact material:	AgCdO or AgNi+Au
Switching load:	max. 250 VAC; 8 A min. 24 VDC; 100 mA
Short-circuit fuse element:	F 10 A (max. short-circuit current < 100 A)
Voltage output:	(cond. short-circuit protected)
Voltage:	24 VDC (+/-10%)
Load:	max. 20 mA

## Technical Specifications:

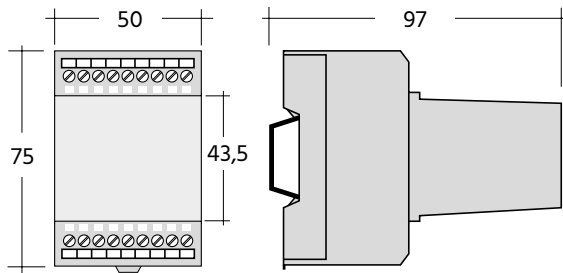
<b>max. Ambient temp. /</b>	0°C to 70°C
<b>Protection class /</b>	IP 20
<b>Assessed insulation voltage /</b>	250 VAC
<b>Housing /</b>	polyamide 6.6
<b>Fixture /</b>	standard rail 35 x 7.5 DIN50022
<b>Connection cross-sections /</b>	0.5 bis 2.5 mm <sup>2</sup> (single or fine-wire)

(for individual fixture an adapter is provided)





## Dimensions in mm:



## Ordering Codes:

<b>Order number</b>	<b>MSR.</b>	<b>10.</b>	<b>2</b>
<b>MSR Multifunctional Relay</b>			
<b>Type /</b>			
10 = monostable contact protective relay for single contacts			
11 = bistable interval relay with locking feature			
20 = monostable contact protective relay for double contacts			
<b>Supply voltage /</b>			
1 = 230 VAC standard			
2 = 115 VAC			
3 = 24 VAC			
4 = 24 VDC			

