

Impulse-controlled Multifunctional Relays

MSR-I

For limit switch contact assemblies, with inductive limit switch assemblies with additional direct voltage output - not intrinsically safe -

Application

Multifunctional relays model MSR-I are contact protecting relays for the connection of limit switch contact assemblies with inductive limit switch assemblies with 1 and 2 limit values.

Inductive limit switch assemblies are wear resistant (contactless switching) and corrosion-free (all electrical parts are moulded water-proof in cast resin in a plastic case).

Therefore they are suitable for each industrial application. They are more and more frequently used in industrial plants for which an Ex-protection with cost-intensive switch amplifiers is not required.

The relays are provided with an additional direct voltage output. All instruments have an LED-switching status display.

Advice: switch amplifiers (intrinsically safe) models KF.-SR2.. see data sheet **9532**.

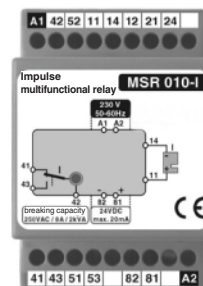
Regulations

MSR multifunctional relays meet the following requirements:

EN 50178	- Electrical safety
EN 61000-6-2	- Stability
EN 61000-6-3	- Interference emission
EN 60947-5-1	- Low voltage switchgears

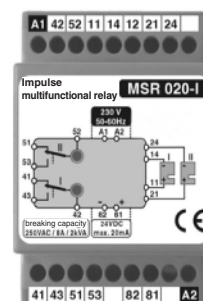


Standard Version



MSR 010-I

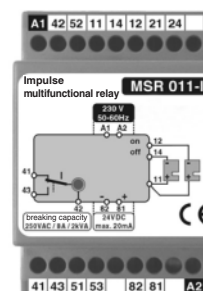
Monostable version for 1 limit value
I1 or I2



MSR 020-I

Monostable version for 2 limit values, e.g.
I11 or I22

or two 1-fold limit values



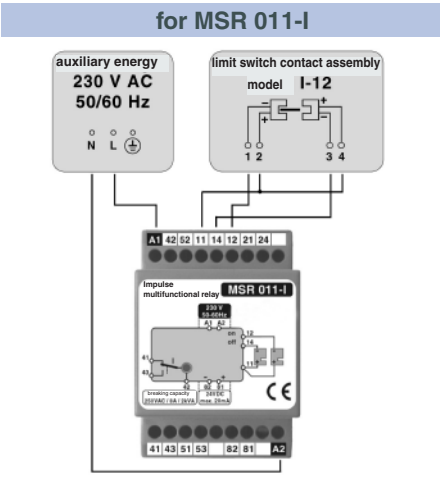
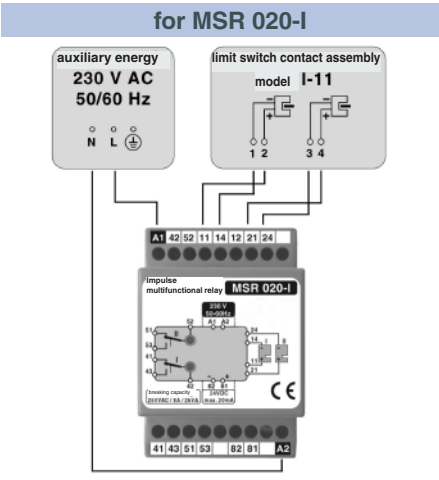
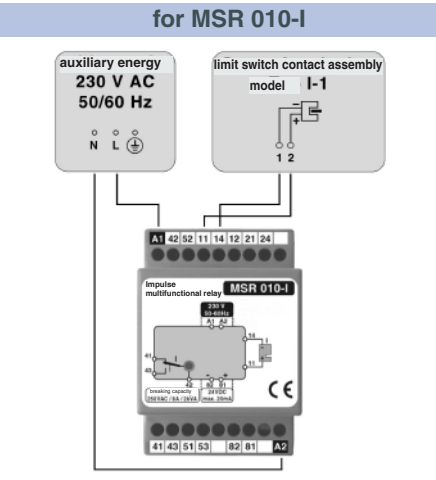
MSR 011-I

Bistable version for 2 limit values in interval-operation
I21

The switching status of the limit value is being buffered up to the confirmation of the other limit value (interval operation, no permanent storage)

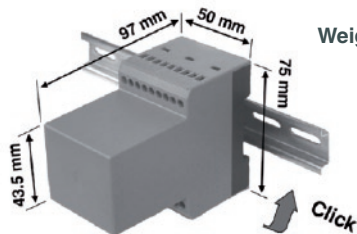
Connecting Examples, Technical Data, Drawing and Weight

Connecting Examples



Technical Data		
Auxiliary energy	Auxiliary energy:	230 VAC, + 6...-10%, 50 – 60 Hz
	Special version:	auxiliary energy 24 V DC others upon request
Control signal	Power consumption:	typ. 6 VA
	Open circuit voltage:	10 VDC
	Short circuit current:	4.5 mA
	Switching treshold:	1.8 mA
	Terminating impedance	2.2kΩ, 100 nF
Outputs	Relay outputs	potential-free change over contact / output
	On-delay:	10 ms
	Delayed release:	20 ms
	Contact material:	AgCdO resp. AgNi+Au
	Rated operational current Ie according to utilisation category:	AC 1: 250 V/8A
		DC 1: 250 V/0.3A
		AC13: 250 V/3A
	Breaking capacity:	max. 250 VAC/8A
		min. 24 V/ VDC; 100 mA
	Short circuit device:	F10A (max. Kurzschlussstrom < 100 A)
	Electrical durability for Ie:	10 ⁵ switching cycles for 6 switches / min.
	Mechanical durability :	10 ⁷ switching cycles (without load)
LED-switching status display	Voltage output	
	for external instruments e.g. transmitter, LED-display	
		24 VDC ± 10%
Application field		I _{max} 20 mA
		conditionally short circuit proof
		LED red
Application field	Rated insulation voltage:	250 VAC
	Overvoltage category:	III
	Pollution degree:	2 / EN 50 178
	Protection type:	IP 20 / EN 60 529
	Temperature range:	0 – 70 °C
	Case material:	polyamide 6.6, colour red/black
	Mounting suitable for :	standard mounting bar DIN EN 60 715, 35 x 7.5 mm and 35x15 mm
Application field	Connection cross section:	0.5 - 2.5 mm ²

Drawing



Weight (kg): approx. 0.220kg