

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**.

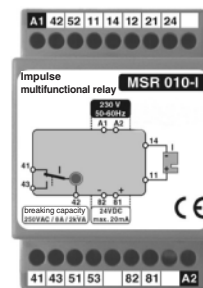
Regulations

MSR multifunctional relays meet the following requirements:

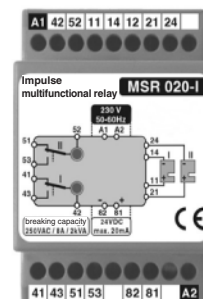
- EN 50178 - Electrical safety
- EN 61000-6-2 - Stability
- EN 61000-6-3 - Interference emission
- EN 60947-5-1 - Low voltage switchgears



Standard Version

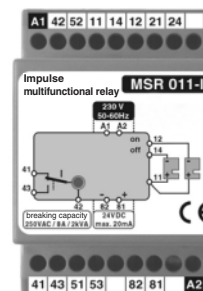


MSR 010-I
Monostable version for
1 limit value
I1 or I2



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)



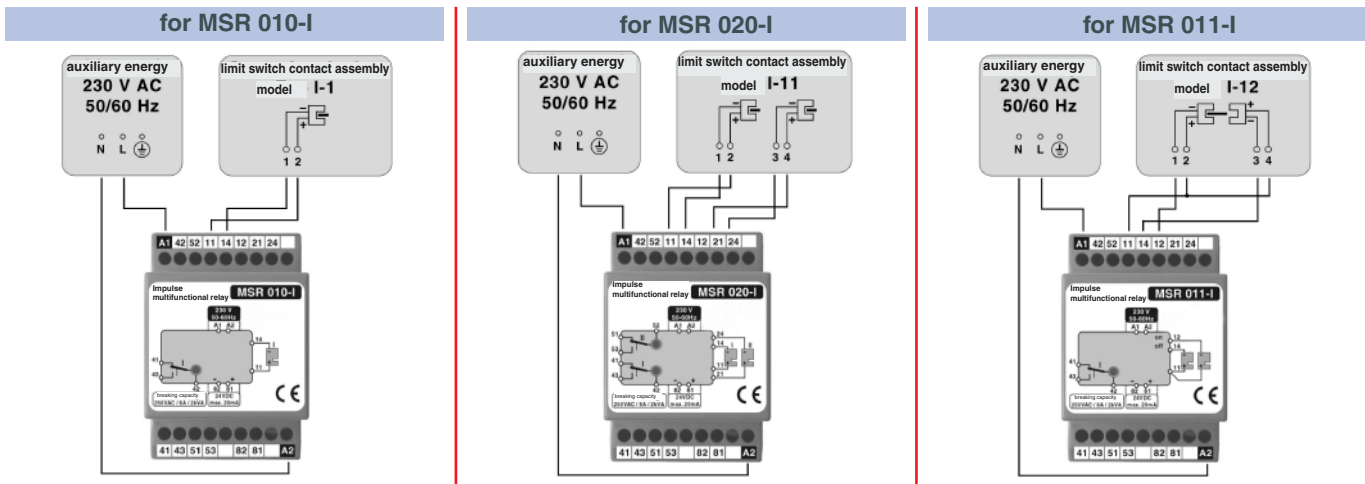
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Connecting Examples, Technical Data, Drawing and Weight

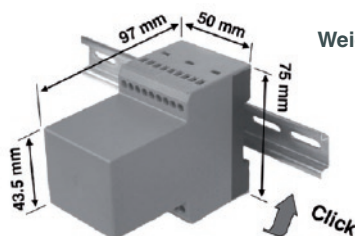
Connecting Examples



Technical Data

Auxiliary energy	Auxiliary energy:	230 VAC, + 6...-10%, 50 – 60 Hz
	Special version:	auxiliary energy 24 V DC others upon request
	Power consumption:	typ. 6 VA
Control signal	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 I_e according to utilisation category:	AC 1: 250 V/8A
		DC 1: 250 V/0.3A
		AC13: 250 V/3A
		DC13: 250 V/0.1A
	Breaking capacity:	max. 250 VAC/8A min. 24 V/VDC; 100 mA
	Short circuit device:	F10A (max. Kurzschlussstrom < 100 A)
	Electrical durability for I_e :	10^5 switching cycles for 6 switches / min.
	Mechanical durability :	10^7 switching cycles (without load)
	Voltage output	
	for external instruments e.g. transmitter, LED-display	
		24 VDC \pm 10%
		I_{max} 20 mA
		conditionally short circuit proof
LED-switching status display		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
	Connection cross section:	0.5 - 2.5 mm ²

Drawing



Weight (kg): approx. 0.220kg

Technical changes, replacement of materials and errors excepted.