

MM 5011

Intrinsically safe relay (isolation amplifier)
single-channel; output - 1x potential-free relay.

INTRINSICALLY
SAFE
SECURITY SYSTEMS

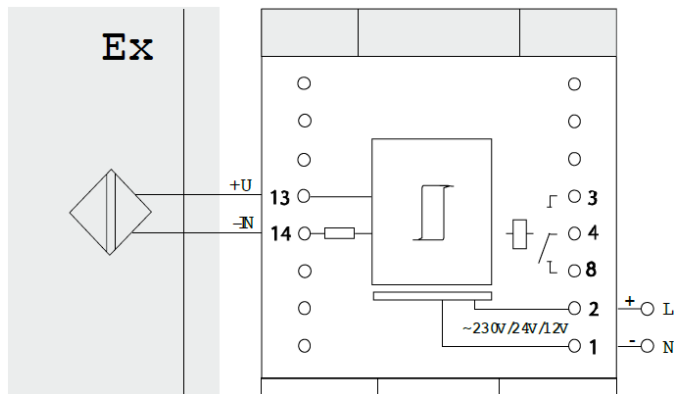


DESCRIPTION:

Devices of type MM 5011 are single-channel isolating amplifiers with input circuits compliant with DIN 19234 (NAMUR). The amplifiers are designed for connecting magnetic, inductive, or capacitive sensors. This also applies to resistors and voltage-free mechanical relays. When a sensor is connected according to the diagram located on the side of the product, the output relay activates when powered. If relay activation in a voltage-free mode is required, this must be specified when ordering. Power supply is indicated by a green LED, while the activation of the output relay is signaled by a yellow LED.

PRODUCT FEATURES:

- 1x intrinsically safe input;
- single-channel isolation amplifier;
- input circuit according to DIN 19234 (NAMUR);
- galvanically isolated input circuits from output circuits;
- galvanically isolated input voltage circuits from the output;
- output - 1x potential-free relay.



CONNECTION:

- 1 - Power supply -Ucc/N
- 2 - Power supply +Ucc/L
- 3,4,8 - Relay 1
- 13,14 - Input 1

Supply voltage:

- DC 12 - 80 V_{ss};
- AC 120 - 253 V/50 Hz.

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TECHNICAL PARAMETERS:

Type designation:	MM 5011 AC (230 V)	MM 5011 DC (24 V)	MM 5011 DC (12 V)
Identification code			
Relay in operation mode - shorted contacts:	5011 230 01	5011 024 01	5011 012 01
Relay in the idle mode – shorted contacts:	5011 230 00	5011 024 00	5011 012 00
Relay in operation mode - open contacts:	5011 230 03	5011 024 03	5011 012 03
Relay in the idle mode – open contacts:	5011 230 04	5011 024 04	5011 012 04
Power supply			
Voltage:	196 - 253 V AC	19 - 28 V DC	11 - 15 V DC
Frequency:	48 - 52 Hz	-----	-----
Power:	1,3 VA	0,9 W	0,9 W
Galvanic separation:	input from output and power supply	input from output and power supply	input from output and power supply
Relays			
Safe zone output:	1x change-over relay	1x change-over relay	1x change-over relay
Rated voltage:	250 V AC/120 V DC	250 V AC/120 V DC	250 V AC/120 V DC
Rated current:	10 A	10 A	10 A
Rated power:	100 VA/60 W	100 VA/60 W	100 VA/60 W
Crosstalk:	10 Hz	10 Hz	10 Hz
Contact material:	Ag + 3 µm Au	Ag + 3 µm Au	Ag + 3 µm Au
Input from hazardous zone:	NAMUR 19234	NAMUR 19234	NAMUR 19234
Operation parameters			
Voltage:	8 V	8 V	8 V
Current:	8 mA	8 mA	8 mA
Relay thresholds			
Pull-in current/resistance:	$I_{in} > 2,1 \text{ mA}$ or $R_{in} < 2 \text{ k}\Omega$	$I_{in} > 2,1 \text{ mA}$ or $R_{in} < 2 \text{ k}\Omega$	$I_{in} > 2,1 \text{ mA}$ or $R_{in} < 2 \text{ k}\Omega$
Pull-out current/resistance:	$I_{in} < 1,2 \text{ mA}$ or $R_{in} > 10 \text{ k}\Omega$	$I_{in} > 1,2 \text{ mA}$ or $R_{in} > 10 \text{ k}\Omega$	$I_{in} > 1,2 \text{ mA}$ or $R_{in} > 10 \text{ k}\Omega$
Hysteresis:	$250 \pm 100 \mu\text{A}$	$250 \pm 100 \mu\text{A}$	$250 \pm 100 \mu\text{A}$
LED indication			
Power supply:	green	green	green
Output state:	yellow	yellow	yellow
Fault:	red	red	red
Line Fault Detection control (LFD):	no	no	no
LFD control input impedance:	no	no	no
LFD output:	no	no	no
Environmental class:	II 2 G [EEx ia] IIC, II 1 G [EEx ia] IIC, I M1 [EEx ia] I	II 2 G [EEx ia] IIC, II 1 G [EEx ia] IIC, I M1 [EEx ia] I	II 2 G [EEx ia] IIC, II 1 G [EEx ia] IIC, I M1 [EEx ia] I
Housing			
Housing type:	16-contacts	16-contacts	16-contacts
Dimensions (height x width x depth):	99 mm x 22,5 mm x 114,5 mm	99 mm x 22,5 mm x 114,5 mm	99 mm x 22,5 mm x 114,5 mm
Material:	polycarbonate/ABS	polycarbonate/ABS	polycarbonate/ABS
Flammability class:	V-0 according to UL94	V-0 according to UL94	V-0 according to UL94
Mounting:	DIN 35 rail	DIN 35 rail	DIN 35 rail
Fixing:	screws, contacts	screws, contacts	screws, contacts
Wire cross-section:	max. 2x 2,5 mm ²	max. 2x 2,5 mm ²	max. 2x 2,5 mm ²
IP class:	IP20	IP20	IP20
Temperature range:	-25 - 60°C	-25 - 60°C	-25 - 60°C