

# MM 5011

## Intrinsically Safe Relay (Isolation Amplifier)

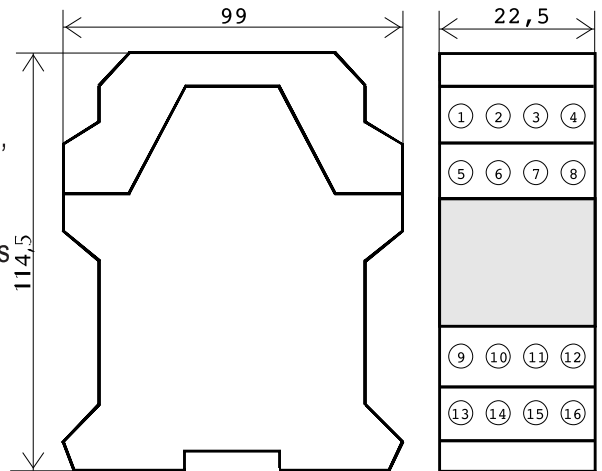
### 1 x Potential-Free Output Relay

INTRINSICALLY  
SAFE  
SECURITY SYSTEMS



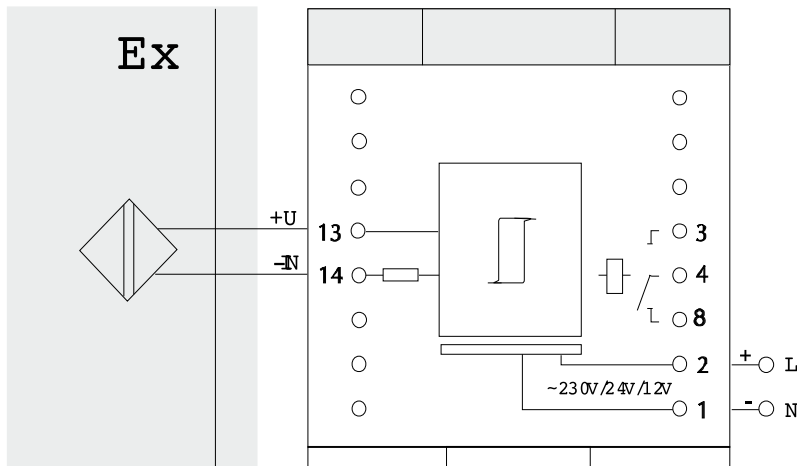
#### DESCRIPTION:

The MM 5011 amplifiers are one-channel amplifiers switches with single relay outputs. The input circuits comply with DIN19234 (NAMUR) for connecting magnetic, inductive and capacitive sensors, variable resistors or voltage-free mechanical relays. The amplifier output has one relay output. When sensor is connected according to the diagram shown on the side of the product, the output relay closes in operation mode (the power supply must be active). If the opposite case is required, where the relay is closed in the idle mode (no power supply) - it is necessary to provide this information with the order. The power supply status is indicated by a green LED. A short circuit of the output transistor is indicated by a yellow LED.



#### KEY POINTS:

- Intrinsically Safe Input
- One-channel Isolation Amplifier
- Input Circuit According to DIN 19234 (NAMUR)
- Galvanically Separated Output Circuit from Input Circuit
- Galvanically Separated Output Voltage Circuit from The Input
- 1 x Potential Free Output Relays



#### CONNECTION:

- 1 - Power Supply -Ucc/N
- 2 - Power Supply +Ucc/L
- 3,4,8 - Relay 1
- 13,14 - In 1 (vstup)

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### 1 x Potential-Free Output Relay

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#### TECHNICAL DATA:

Exemplary Marking	MM 5011 AC (230 V)	MM 5011 DC (24 V)	MM 5011 DC (12 V)
<b>Identification Code</b>			
Relay Closed In the Operation Mode	5011 230 01 00	5011 024 01 00	5011 012 01 00
Relay Closed In the Idle Mode	5011 230 00 00	5011 024 00 00	5011 012 00 00
<b>Power Supply</b>			
Voltage	196 - 253 V AC	19 - 28 V DC	11 - 15 V DC
Frequency	48 - 52 Hz	N/A	N/A
Power	1.3 VA	0.9 W	0.9 W
Galvanic separation	Input from output and PS	Input from output and PS	Input from output and PS
<b>Contacts</b>			
Safe Zone Output	1x change-over relay	1x change-over relay	1x change-over relay
Rated Voltage	250 V AC/120V DC	250 V AC/120V DC	250 V AC/120V DC
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 um Au	Ag + 3 um Au	Ag + 3 um Au
<b>Input From Hazardous Zone</b>	NAMUR 19234	NAMUR 19234	NAMUR 19234
<b>Operation Parameters</b>			
Voltage	8 V	8 V	8 V
Current	8 mA	8 mA	8 mA
<b>Relay Thresholds</b>			
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	$250 \pm 100 \mu\text{A}$	$250 \pm 100 \mu\text{A}$	$250 \pm 100 \mu\text{A}$
<b>LED Indication</b>			
Power Supply	Green	Green	Green
Output State	Yellow	Yellow	Yellow
Fault	Red	Red	Red
<b>Environmental Class</b>	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
<b>Housing</b>			
Dimensions	99 mm x 22,5 mm x 114,5 mm (HxWxD)	99 mm x 22,5 mm x 114,5 mm (HxWxD)	99 mm x 22,5 mm x 114,5 mm (HxWxD)
Housing Type	16 Contacts	16 Contacts	16 Contacts
Material	polycarbonate/ABS	polycarbonate/ABS	polycarbonate/ABS
Flammability Standard	V-0 according to UL94	V-0 according to UL94	V-0 according to UL94
Mounting	DIN 35	DIN 35	DIN 35
Fixing	Screws/Contacts	Screws/Contacts	Screws/Contacts
Max. Wire Diameter	2 x 2,5 mm <sup>2</sup>	2 x 2,5 mm <sup>2</sup>	2 x 2,5 mm <sup>2</sup>
IP Rating	IP20	IP20	IP20
Temperature Range	-25 - 60°C	-25 - 60°C	-25 - 60°C