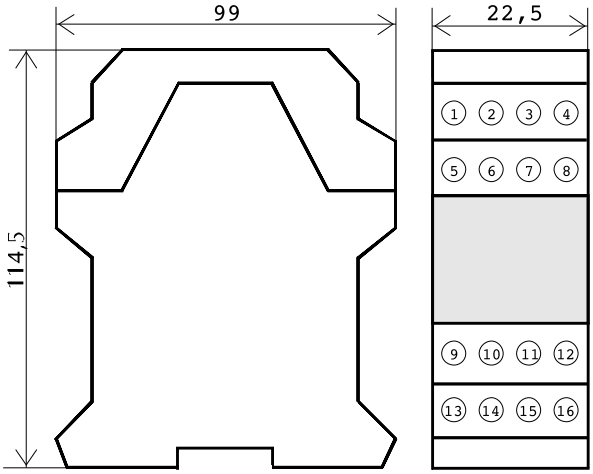
MM 5016

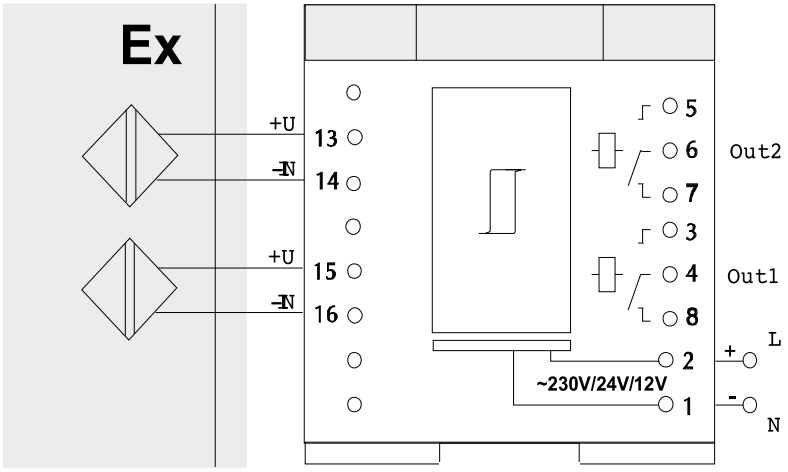
Two-channel Intrinsically Safe Relay (Isolation Amplifier)
2 x Potential-Free Output Relays

INTRINSICALLY SAFE SECURITY SYSTEMS

DESCRIPTION:
The MM 5016 amplifiers are two-channel amplifiers switches with two 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 two relay outputs. 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
- Two-channel Separation Amplifier
- Input Circuit According to DIN 19234 (NAMUR)
- Galvanically Separated Output Circuit from Input Circuit
- Galvanically Separated Output Voltage Circuit from The Input
- x Potential Free Output Relays



CONNECTION:
1 - Power Supply -Ucc/N
2 - Power Supply +Ucc/L
3,4,8 - Relay 1
5,6,7 - Relay 2
13,14 - In 1 (vstup)
15,16 - In 2 (vstup)

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MM GROUP CZECH REPUBLIC

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INTRINSICALLY SAFE SECURITY SYSTEMS

TECHNICAL DATA:

Exemplary Marking	MM 5016 AC (230 V)	MM 5016 DC (24 V)	MM 5016 DC (12 V)
Identyfication Code			
Relay Closed In the Operation Mode	5016 230 01 00	5016 024 01 00	5016 012 01 00
Relay Closed In the Idle Mode	5016 230 00 00	5016 024 00 00	5016 012 00 00
Power Supply			
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	1.3 W	1.3 W
Galvanic separation	Input from output and PS	Input from output and PS	Input from output and PS
Contacts			
Safe Zone Output	2x change-over relays	2x change-over relays	2x change-over relays
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
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 mA or R_{in} < 2 kΩ	I_{in} > 2.1 mA or R_{in} < 2 kΩ	I_{in} > 2.1 mA or R_{in} < 2 kΩ
Pull-out Current/Resistance	I_{in} < 1.2 mA or R_{in} > 10 kΩ	I_{in} > 1.2 mA or R_{in} > 10 kΩ	I_{in} > 1.2 mA or R_{in} > 10 kΩ
Hysteresis	250 ± 100 µA	250 ± 100 µA	250 ± 100 µA
LED Indication			
Power Supply	Green	Green	Green
Output State	Yellow	Yellow	Yellow
Fault	Red	Red	Red
Line Fault Detection Control (LFD)	Yes	Yes	Yes
LFD Control Input Impedance	With 500 Contact (in Line) - 1 kΩ / With 20 Contact (Pararell) - 25kΩ		
LFD Output - Open Collector	N/A		
Enviromental 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			
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
Flammibility Standard	V-0 according to UL94	V-0 according to UL94	V-0 according to UL94
Maounting	DIN 35	DIN 35	DIN 35
Fixing	Screws/Contacts	Screws/Contacts	Screws/Contacts
Max. Wire Diameter	2 x 2,5 mm^2	2 x 2,5 mm^2	2 x 2,5 mm^2
IP Rating	IP20	IP20	IP20
Temperature Range	-25 - 60°C	-25 - 60°C	-25 - 60°C

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