

MM 5015

Intrinsically safe
SAFETY SYSTEMS

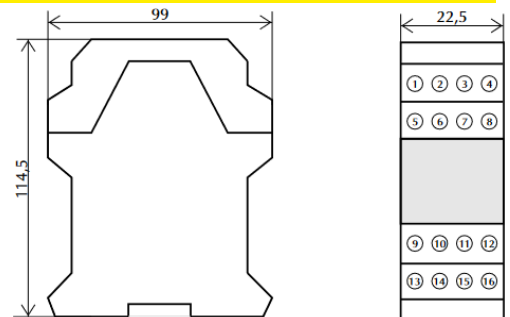


Intrinsically safe relay (switching amplifier)

Dual-channel, 2x open-collector output

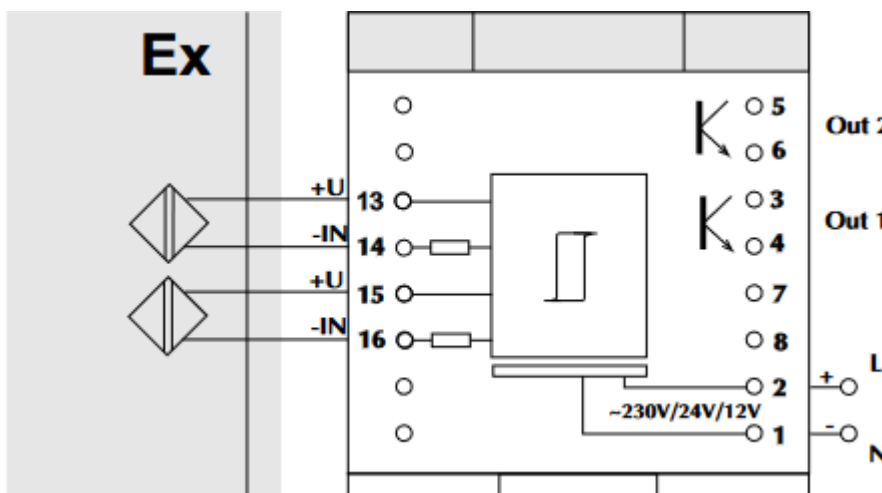
DESCRIPTION:

"The MM5015 amplifiers are two-channel switching amplifiers with an open collector output. The input circuits comply with DIN 19234 (NAMUR) for the connection of magnetic, inductive, capacitive, variable resistor or voltage-free mechanical contacts. The amplifier output is equipped with two output transistors and an LFD function with LED for signaling." Connecting the sensor according to the diagram on the side of the product switches the output relay to the operating current sensor mode. If the output relay is requested to be switched on in the sensor's quiescent current mode, it is necessary to provide the corresponding code when ordering (see technical data). The presence of the supply voltage is indicated by a green LED, the activation of the output relay is signaled by a yellow LED. An emergency status is indicated by a red LED



PRODUCT FEATURES

- Single Channel Switching Amplifier
- intrinsically safe entrance
- input circuit according to DIN 19234 (NAMUR)
- galvanic separation of input and output circuits
- galvanic separation of the supply voltage from the input and output circuits
- output – 2x open collector
- forward fault detection with LED indicator, output relay deactivation possible
- Output - 2 x relay contact



CONNECT:
1 - -UCC/N
2 - +UCC/L
3 - collector 1
4 - emitter 1
5 - Collector 2
6 - emitter 2
13 - + Input 1
14 - - Input 1
15 - + Input 2

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Dual-channel, 2x open-collector output

Technical parameters:

IP20	MM 5015 AC (230 V)	MM 5015 DC (24 V)	MM 5015 DC (12 V)
Identification code			
Relay in operation of current	5015 230 01 00	5015 024 01 00	5015 012 01 00
Relay at rest	5015 230 00 00	5015 024 00 00	5015 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	0.6 VA	0.6 watts	0.6 watts
Galvanic isolation	Input from output and power	Input from output and power	Input from output and power
Contacts			
Exit to the safe zone	2x open collector	2x open collector	2x open collector
Switchable current	35 V DC	35 V DC	35 V DC
Switchable voltage	20 mA	20 mA	20 mA
Switchable power	0.7 watts	0.7 watts	0.7 watts
Contact frequency	50 kHz	50 kHz	50 kHz
Input From Hazardous Zone	NAMUR 19234	NAMUR 19234	NAMUR 19234
Operating parameters			
Voltage	8 V	8 V	8 V
Current	8 mA	8 mA	8 mA
Threshold Relay Short Circuit Level			
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	$250 \pm 100 \mu\text{A}$	$250 \pm 100 \mu\text{A}$	$250 \pm 100 \mu\text{A}$
Control Failure Detection (LFD):	YES	YES	YES
LFD Control Input Impedance:	Series: 500 to 1000 Ω , Parallel: 20 to 25k Ω	Series: 500 to 1000 Ω , Parallel: 20 to 25k Ω	Series: 500 to 1000 Ω , Parallel: 20 to 25k Ω
LED indication			
Power Supply	Green	Green	Green
Output Status	Yellow	Yellow	Yellow
Fault	Red	Red	Red
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			
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-Jumper	16-Jumper	16-Jumper
Material	polycarbonate/ABS	polycarbonate/ABS	polycarbonate/ABS
Flammability class	V-0 according to UL94	V-0 according to UL94	V-0 according to UL94
Mount	DIN 35	DIN 35	DIN 35
Connect	Screws/Jumpers	Screws/Jumpers	Screws/Jumpers
Max. Cable diameter	2 x 2.5 mm ²	2 x 2.5 mm ²	2 x 2.5 mm ²
IP Rating	IP20	IP20	IP20