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## Signal isolator - MACX MCR-EX-SL-NAM-NAM-SP - 2924883

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Ex i NAMUR signal conditioners. For operating Ex i proximity sensors and switches in hazardous areas. Passive transistor output (resistive according to EN 60947-5-6), line fault transparency, up to SIL 2 according to IEC 61508; Push-in connection

### Product Features

- Signal input: intrinsically safe [Ex ia]; for NAMUR proximity sensors (EN 60947-5-6) or switch contacts
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- Direction of operation can be selected
- Line fault detection (LFD) can be enabled and disabled
- SIL 2 according to IEC 61508/EN 61508
- 3-way electrical isolation
- Power supply and error indication possible via DIN rail connector
- Plug-in connection terminals, push-in connection technology
- Installation in zone 2 permitted
- Housing width: 12.5 mm

### Key Commercial Data

Packing unit	1 pc
Custom tariff number	85437090
Country of origin	Germany

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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#### Dimensions

Width	12.5 mm
Height	99 mm
Depth	114.5 mm

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## Technical data

### Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Maximum altitude	≤ 2000 m
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Noise immunity	EN 61000-6-2
Degree of protection	IP20

### Input data

Non-load voltage	8 V DC ±10 %
Switching points (attenuated)	< 1.2 mA (blocking)
Switching points (unattenuated)	> 2.1 mA (conductive)

### Output data

Switching output	Resistive (transistor, passive)
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### Power supply

Nominal supply voltage	24 V DC
Supply voltage range	9.6 V DC ... 30 V DC (12 V DC ... 24 V DC (-20 % ... +25 %))
Power consumption	< 0.6 W
	< 600 mW

### Connection data

Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm
Connection method	Push-in connection

### General

No. of channels	1
Status display	Green LED (supply voltage) LED yellow (switching state) Red LED (line errors)
Flammability rating according to UL 94	V0
Degree of pollution	2
Overvoltage category	II
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC

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## Technical data

### General

Emitted interference	EN 61000-6-4
Housing material	PA 66-FR
Color	green
Designation	Input/output
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
Designation	Input/output/supply, DIN rail connector
Electrical isolation	300 V <sub>rms</sub> (Rated insulation voltage (overvoltage category II; degree of pollution 2, safe isolation as per EN 61010-1))
	2.5 kV (50 Hz, 1 min., test voltage)
Designation	Input/supply, DIN rail connector
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
Conformance	CE-compliant, additionally EN 61326
ATEX	# II (1) G [Ex ia Ga] IIC
	# II (1) D [Ex ia Da] IIIC
	# II 3G Ex nA IIC T4 Gc X
IECEX	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex nA IIC T4 Gc
UL, USA / Canada	UL 61010 Listed
Functional Safety (SIL)	SIL 2

### Safety data

Max. internal inductance $L_i$	negligible
Max. internal capacitance $C_i$	negligible
Max. output voltage $U_o$	9.6 V
Max. output current $I_o$	10 mA
Max. output power $P_o$	25 mW
Group	IIC
Max. external inductivity $L_o$	100 mH
Max. external capacity $C_o$	3.6 $\mu$ F
Group	IIB/IIIC
Max. external inductivity $L_o$	100 mH
Max. external capacity $C_o$	26 $\mu$ F
Safety-related maximum voltage $U_m$	253 V AC/DC

### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise emission	EN 61000-6-4



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## Technical data

### Standards and Regulations

Flammability rating according to UL 94	V0
Conformance	CE-compliant, additionally EN 61326
ATEX	# II (1) G [Ex ia Ga] IIC
	# II (1) D [Ex ia Da] IIIC
	# II 3G Ex nA IIC T4 Gc X
IECEX	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex nA IIC T4 Gc
UL, USA / Canada	UL 61010 Listed
Group	IIC
	IIB/IIIC

## Classifications

### eCl@ss

eCl@ss 4.0	27210121
eCl@ss 4.1	27210121
eCl@ss 5.0	27210121
eCl@ss 5.1	27210121
eCl@ss 6.0	27210121
eCl@ss 7.0	27210121
eCl@ss 8.0	27210121

### ETIM

ETIM 3.0	EC001599
ETIM 4.0	EC001485
ETIM 5.0	EC001485

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	39121008

## Approvals

### Approvals

# Signal isolator - MACX MCR-EX-SL-NAM-NAM-SP - 2924883

## Approvals

### Approvals

UL Listed / cUL Listed / GL / cULus Listed

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### Ex Approvals


IECEEx / EAC Ex / UL Listed / cUL Listed / cULus Listed


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### Approvals submitted

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## Approval details

UL Listed 

cUL Listed 

GL

cULus Listed 

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