

## Signal isolator - MACX MCR-EX-SL-SD-23-48-LFD-SP - 2924870

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Ex i solenoid driver for controlling Ex i solenoid valves in the Ex area, current limitation at 48 mA, logic input, line fault transparency, and with error message output up to SIL 3 according to IEC 61508; spring-cage connection

### Product Features



### 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

#### 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 When being exposed to interference, there may be minimal deviations.
Degree of protection	IP20

#### Output data

Output characteristic curve: Output resistor	≥ 269 Ω (Internal resistance R <sub>i</sub> )
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## Technical data

### Output data

Response time	< 30 ms
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### Power supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (24 V DC (-20% ... +25%))
Power consumption	< 1.8 W

### 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

Status display	Green LED (supply voltage)
	LED yellow (switching state)
	Red LED (line errors)
Inflammability class according to UL 94	V0
Pollution degree	2
Surge voltage category	II
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Emitted interference	EN 61000-6-4
Housing material	PA 66-FR
Color	green
Designation	Input/output, supply, error message output
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
	300 V <sub>rms</sub> (Rated insulation voltage (surge voltage category II; pollution degree 2, safe isolation as per EN 61010-1))
	2.5 kV (50 Hz, 1 min., test voltage)
Designation	Output/input
Electrical isolation	630 V (U <sub>DC</sub> according to EN 60079-15)
Designation	Output/supply, DIN rail connector
Electrical isolation	375 V (Peak value in accordance with EN 60079-11)
	300 V <sub>rms</sub> (Rated insulation voltage (surge voltage category II; pollution degree 2, safe isolation as per EN 61010-1))

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## Technical data

### General

	2.5 kV (50 Hz, 1 min., test voltage)
Designation	Output/supply
Electrical isolation	630 V ( $U_{DC}$ according to EN 60079-15)
Designation	Input/error message output/supply
Electrical isolation	1.5 kV (50 Hz, 1 min., test voltage)
Conformance	CE-compliant, additionally EN 61326
ATEX	# II (1) G [Ex ia Ga] IIC/IIB
	# II (1) D [Ex ia Da] IIIC
	# II 3(1) G Ex nA [ia Ga] IIC T4 Gc X
IECEX	[Ex ia Ga] IIC/IIB
	[Ex ia Da] IIIC
	Ex nA [ia Ga] IIC T4 Gc
UL, USA / Canada	UL 61010 Listed
Functional Safety (SIL)	SIL 3

### Safety data

Max. internal inductance $L_i$	negligible
Max. internal capacitance $C_i$	11 nF
Max. output voltage $U_o$	25.3 V
Max. output current $I_o$	94 mA
Max. output power $P_o$	595 mW
Group	IIC
Max. external inductivity $L_o$	3 mH
Max. external capacity $C_o$	95 nF
Group	IIB
Max. external inductivity $L_o$	12 mH
Max. external capacity $C_o$	810 nF
Group	IIA
Max. external inductivity $L_o$	24 mH
Max. external capacity $C_o$	2750 nF
Safety-related maximum voltage $U_m$	253 V AC/DC

## Classifications

### eCl@ss

eCl@ss 4.0	27210121
eCl@ss 4.1	27210121

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## Classifications

### eCl@ss

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	EC001599
ETIM 5.0	EC001599

### UNSPSC

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

## Approvals

### Approvals

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#### Approvals

UL Listed / cUL Listed / Functional Safety / cULus Listed

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#### Ex Approvals

IECEX / ATEX / UL Listed / cUL Listed / EAC Ex / cULus Listed

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#### Approvals submitted

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### Approval details

UL Listed
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### Approvals

