

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 _i)
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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 ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
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 _{rms} (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 _{DC} 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 _{rms} (Rated insulation voltage (surge voltage category II; pollution degree 2, safe isolation as per EN 61010-1))

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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

Approvals

UL Listed / cUL Listed / Functional Safety / cULus Listed

Ex Approvals

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

Approvals submitted

Approval details

UL Listed 

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

Approvals

cUL Listed



Functional Safety

cULus Listed

