

Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD-SP - 2905674

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)




Ex i solenoid driver for controlling Ex i solenoid valves in hazardous areas, logic input, off-load voltage 21.1 V, current limitation at 25.1 mA, line fault transparency, error message output, up to SIL 3 according to IEC 61508; Push-in connection.

Your advantages

- ✓ Input: logic
- ✓ Output: intrinsically safe [Ex ia]; off-load voltage > 21.1 V DC; current limitation > 25.1 mA
- ✓ Line fault detection (can be enabled/disabled), via the signal circuit or via a separate error message output
- ✓ Transparent for test pulses
- ✓ Up to SIL 3 according to IEC/EN 61508
- ✓ Safe electrical isolation between output, input, supply, and error message output
- ✓ 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
GTIN	 4 0 4 6 3 5 6 9 8 5 3 4 5
GTIN	4046356985345

Technical data

Note

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

Dimensions

Width	12.5 mm
Height	116 mm
Depth	113.7 mm

Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD-SP - 2905674

Technical data

Dimensions

	114.5 mm (Snapped onto DIN rail NS 35/7,5 in accordance with EN 60715)
--	--

Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C (Any mounting position)
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Degree of protection	IP20 (not assessed by UL)
Noise immunity	EN 61000-6-2 When being exposed to interference, there may be minimal deviations.
Altitude	≤ 2000 m (For use at altitudes ≥2000 m above sea level, see data sheet.)
Ambient temperature (operation)	-20 °C ... 60 °C
Rated insulation voltage	253 V AC (Power supply, input / output)
	125 V DC (Power supply, input / output)
Altitude	≤ 3000 m
Ambient temperature (operation)	-20 °C ... 54 °C
Rated insulation voltage	190 V AC (Power supply, input / output)
	110 V DC (Power supply, input / output)
Altitude	≤ 4000 m
Ambient temperature (operation)	-20 °C ... 48 °C
Rated insulation voltage	60 V AC/DC (Power supply, input / output)
Altitude	≤ 5000 m
Ambient temperature (operation)	-20 °C ... 42 °C
Rated insulation voltage	60 V AC/DC (Power supply, input / output)

Input data

Signal input	Signal input
--------------	--------------

Output data

Output characteristic curve: Output resistor	≥ 641 Ω (Internal resistance R _i)
Response time	< 30 ms

Power supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (24 V DC -20%...+25%)
Power dissipation	< 0.8 W

Connection data

Connection method	Push-in connection
Stripping length	8 mm
Conductor cross section solid	0.2 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross section AWG	24 ... 16

Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD-SP - 2905674

Technical data

Connection data 2

Connection name	Test socket
Max. diameter	2.3 mm

General

Status display	Green LED (supply voltage)
	LED yellow (switching state)
	Red LED (line errors)
Degree of pollution	2
Overvoltage category	II
Electromagnetic compatibility	Conformance with EMC directive
Interference emission	EN 61000-6-4
Housing material	PA 6.6-FR
Color	gray
Designation	Output/input, error message output
Electrical isolation	375 V (Peak value in accordance with IEC/EN 60079-11)
Rated insulation voltage	300 V _{rms}
Test voltage	2.5 kV AC (50 Hz, 1 min.)
Insulation	Safe isolation in accordance with IEC/EN 61010-1
Designation	Output/supply, DIN rail connector
Electrical isolation	375 V (Peak value in accordance with IEC/EN 60079-11)
Rated insulation voltage	300 V _{rms}
Test voltage	2.5 kV AC (50 Hz, 1 min.)
Insulation	Safe isolation in accordance with IEC/EN 61010-1
Designation	Input/error message output/supply
Test voltage	1.5 kV AC (50 Hz, 1 min.)

Safety data

Max. internal inductance L _i	negligible
Max. internal capacitance C _i	11 nF
Max. output voltage U _o	23.98 V
Max. output current I _o	37.4 mA
Max. output power P _o	224 mW
Group	IIC
Max. external inductivity L _o	22 mH
Max. external capacitance C _o	110 nF
Group	IIB/IIIC
Max. external inductivity L _o	100 mH
Max. external capacitance C _o	910 nF
Group	IIA/I
Max. external inductivity L _o	200 mH
Max. external capacitance C _o	3330 nF

Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD-SP - 2905674

Technical data

Safety data

Safety-related maximum voltage U_m	253 V AC
--------------------------------------	----------

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC directive
Noise emission	EN 61000-6-4
Designation	GB Standard
Standards/regulations	GB 3626.20
	GB 3836.1
	GB 3836.4
	GB 3836.8
	GB 12476.1
	GB 12476.4
Group	IIC
	IIB/IIIC
	IIA/I

Conformance/approvals

Designation	CE
Certificate	CE-compliant
Additional text	and EN 61326
Designation	ATEX
Identification	# I (M1) [Ex ia Ma] I
	# II (1) G [Ex ia Ga] IIC
	# II (1) D [Ex ia Da] IIIC
	# II 3(1) G Ex ec [ia Ga] IIC T4 Gc X
Certificate	IBExU 13 ATEX1045X
Designation	IECEX
Identification	[Ex ia Ma] I
	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex ec [ia Ga] IIC T4 Gc
Certificate	IECEX IBE 13.0014X
Designation	CCC / China-Ex
Identification	[Ex ia Ga] IIC
	[Ex iaD]
	Ex nA [ia Ga] IIC T4 Gc
Certificate	NEPSI GYJ20.1315X
Designation	UL, USA/Canada
Identification	UL 61010 Listed
Certificate	#, C.D.-No 83104549
Designation	Shipbuilding approval
Certificate	DNV GL TAA000020C

Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD-SP - 2905674

Technical data

Conformance/approvals

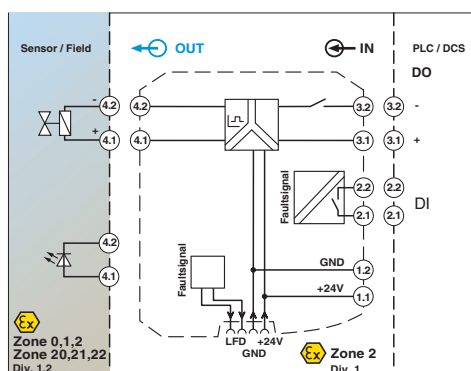
Designation	Safety Integrity Level (SIL, IEC 61508)
Identification	3
Designation	EAC Ex
Identification	# [Ex ia Ga] IIC
	# [Ex ia Da] IIIC
Certificate	RU C-DE.AB72.B.00093/19
Designation	INMETRO
Identification	[Ex ia Ma] I
	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex ec [ia Ga] IIC T4 Gc
Certificate	DNV 18.0145 X
Temperature	B
Humidity	B
Vibration	A
EMC	A
Enclosure	Required protection according to the Rules shall be provided upon installation on board

Environmental Product Compliance

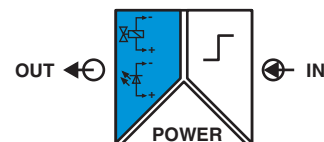
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Block diagram



Pictogram



Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD-SP - 2905674

Classifications

eCl@ss

eCl@ss 10.0.1	27243101
eCl@ss 11.0	27243101
eCl@ss 4.0	27210100
eCl@ss 4.1	27210100
eCl@ss 5.0	27210100
eCl@ss 5.1	27210100
eCl@ss 6.0	27243100
eCl@ss 7.0	27243101
eCl@ss 9.0	27243101

ETIM

ETIM 6.0	EC002538
ETIM 7.0	EC002538

UNSPSC

UNSPSC 13.2	32151802
UNSPSC 18.0	32151802
UNSPSC 19.0	32151802
UNSPSC 20.0	32151802
UNSPSC 21.0	32151802

Approvals

Approvals

Approvals

Functional Safety / DNV GL / CCC

Ex Approvals

EAC Ex / ATEX

Approval details

Functional Safety	BVS Pb 11/13
-------------------	--------------

DNV GL		https://approvalfinder.dnvgl.com/	TAA000020C
--------	---	---	------------

Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD-SP - 2905674

Approvals

CCC		2020322 316001582
-----	--	-------------------

Accessories

Accessories

Device marking

Plastic label - UC-EMLP (11X9) - 0819291



Plastic label, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10

Plastic label - UC-EMLP (11X9) YE - 0822602



Plastic label, Sheet, yellow, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10

Plastic label - UC-EMLP (11X9) SR - 0828094



Plastic label, Sheet, silver, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10

Plastic label - US-EMLP (11X9) - 0828789



Plastic label, Card, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 135

Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD-SP - 2905674

Accessories

Plastic label - US-EMLP (11X9) YE - 0828871



Plastic label, Card, yellow, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 135

Plastic label - US-EMLP (11X9) SR - 0828872



Plastic label, Card, silver, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 135

Device marker - LS-EMLP (11X9) WH - 0831678



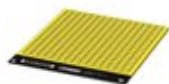
Device marker, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 255

Device marker - LS-EMLP (11X9) SR - 0831705



Device marker, Sheet, silver, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 255

Device marker - LS-EMLP (11X9) YE - 0831732



Device marker, Sheet, yellow, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 255

DIN rail connector

Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD-SP - 2905674

Accessories

DIN rail bus connectors - ME 6,2 TBUS-2 1,5/5-ST-3,81 GY - 2695439



DIN rail connector (TBUS), 5-pos., for bridging the supply voltage, can be snapped onto NS 35/... DIN rails according to EN 60715

Insulating sleeve

Insulating sleeve - MPS-IH WH - 0201663

Insulating sleeve, color: white



Insulating sleeve - MPS-IH RD - 0201676

Insulating sleeve, color: red



Insulating sleeve - MPS-IH BU - 0201689

Insulating sleeve, color: blue



Insulating sleeve - MPS-IH YE - 0201692

Insulating sleeve, color: yellow



Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD-SP - 2905674

Accessories

Insulating sleeve - MPS-IH GN - 0201702

Insulating sleeve, color: green



Insulating sleeve - MPS-IH GY - 0201728

Insulating sleeve, color: gray



Insulating sleeve - MPS-IH BK - 0201731

Insulating sleeve, color: black



Labeled device marker

Plastic label - UC-EMLP (11X9) CUS - 0824547



Plastic label, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: adhesive, lettering field size: 11 x 9 mm

Plastic label - UC-EMLP (11X9) YE CUS - 0824548



Plastic label, can be ordered: by sheet, yellow, labeled according to customer specifications, mounting type: adhesive, lettering field size: 11 x 9 mm

Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD-SP - 2905674

Accessories

Plastic label - UC-EMLP (11X9) SR CUS - 0828098



Plastic label, can be ordered: by sheet, silver, labeled according to customer specifications, mounting type: adhesive, lettering field size: 11 x 9 mm, Number of individual labels: 10

Module carrier

Module carrier - TC-D37SUB-AIO16-EX-PS-UNI - 2902932



Universal termination carrier for connecting 16 MACX Analog Ex i signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection), with HART multiplexer connection

Module carrier - TC-D37SUB-ADIO16-EX-P-UNI - 2924854



Universal termination carrier for connecting 16 MACX Analog Ex i signal conditioners to digital or analog I/O cards, via D-SUB connector, 37-pos. (1:1 connection)

Power module

Power and error message module - MACX MCR-PTB - 2865625



Power and fault signaling module with screw connection, including corresponding ME 17,5 TBUS 1,5/ 5-ST-3,81 GY DIN rail connector

Power and error message module - MACX MCR-PTB-SP - 2924184



Power and fault signaling module with Push-in connection, including corresponding ME 17,5 TBUS 1,5/ 5-ST-3,81 GY DIN rail connector

Test plug terminal block

Solenoid driver - MACX MCR-EX-SL-SD-21-25-LFD-SP - 2905674

Accessories

Test plugs - MPS-MT - 0201744



Test plugs, with solder connection up to 1 mm² conductor cross section, color: gray

Phoenix Contact 2021 © - all rights reserved
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>