

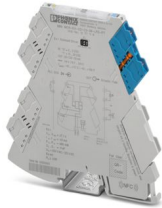
MINI MCR-EX-SD-23-38-LFD-PT - Solenoid driver



1277119

<https://www.phoenixcontact.com/us/products/1277119>

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 documentation. Our general terms of use for downloads are valid.



Ex i-Solenoid driver for controlling Ex i solenoid valves in the Ex area. number of channels: 1, open-circuit voltage: 23 V DC, current limitation: 38 mA, Standard configuration, 3-way isolation, Line fault detection, Safety Integrity Level (SIL, IEC 61508): 3, Push-in connection

Commercial data

Item number	1277119
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C430
Product key	DK1224
GTIN	4063151471712
Weight per piece (including packing)	118.5 g
Weight per piece (excluding packing)	88 g
Customs tariff number	85437090
Country of origin	DE

1277119

<https://www.phoenixcontact.com/us/products/1277119>

Technical data

Product properties

Product type	Solenoid driver
Product family	MINI Analog Pro
No. of channels	1

Electrical properties

Switch-on time	< 50 ms
Electrical isolation	3-way isolation
Electrical isolation between input and output	yes
Line monitoring	Line fault detection

Electrical isolation

Overvoltage category	II (≤ 5000 m)
Pollution degree	2 (≤ 5000 m)

Electrical isolation Input/power supply IEC/EN 61010-1

Standards/regulations	IEC/EN 61010-1
Rated insulation voltage	250 V_{rms}
Test voltage	2.5 kV AC (50 Hz, 60 s)
Insulation	Double/reinforced insulation

Electrical isolation Output/power supply, input IEC/EN 61010-1

Standards/regulations	IEC/EN 61010-1
Rated insulation voltage	300 V_{rms}
Test voltage	2.5 kV AC (50 Hz, 60 s)
Insulation	Double/reinforced insulation

Electrical isolation Output/input, power supply IEC/EN 60079-11

Standards/regulations	IEC/EN 60079-11
Rated insulation voltage	265 V_{rms}

Electrical isolation Output/input, power supply IEC/EN 60079-7

Standards/regulations	IEC/EN 60079-7
Rated insulation voltage	251 V_{rms}

Supply

Nominal supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (24 V DC, -20 % ... +25 %)
Power consumption	< 1.5 W

Input data

Signal: Logic

Number of inputs	1
Switching level "0" signal	0 V DC ... 5 V DC

MINI MCR-EX-SD-23-38-LFD-PT - Solenoid driver



1277119

<https://www.phoenixcontact.com/us/products/1277119>

Switching level "1" signal	15 V DC ... 30 V DC
Input current	< 3 mA
Input impedance	> 1 MΩ (high-resistance in the event of a line fault at the output)
Line fault detection	< 25 Ω (Short circuit)
	> 10 kΩ (Line break)

Output data

Signal: Error message output

Type of output signal	Transistor output via T-BUS
-----------------------	-----------------------------

Signal: Voltage

Output description	intrinsically safe
Number of outputs	1
Output voltage	≥ 12.5 V DC (38 mA)
Output resistor	≥ 270 Ω (Internal resistance R _i)
Current limitation	> 38 mA (with line fault detection)
Response time	< 20 ms
Open-circuit voltage	> 23 V DC
Short-circuit-proof	yes
Line fault detection	> 10 kΩ (Line break)
	< 25 Ω (Short circuit)
	Activated /deactivated via DIP switch

Connection data

Connection method	Push-in connection
Stripping length	10 mm
Conductor cross-section rigid	0.2 mm ² ... 2.5 mm ² (with ferrule)
	0.14 mm ² ... 2.5 mm ² (without ferrule)
Conductor cross-section flexible	0.14 mm ² ... 2.5 mm ²
Conductor cross-section AWG	24 ... 12 (flexible)

Ex data

Ex installation (EPL)	Gc
	Div. 2
Ex i circuits (EPL)	[Ga]
	[Da]
	[Ma]
	[Div. 1]

Safety data

Max. internal inductance L _i	negligible
Max. internal capacitance C _i	11 nF
Max. output voltage U _o	27.1 V
Max. output current I _o	101 mA
Max. output power P _o	685 mW

MINI MCR-EX-SD-23-38-LFD-PT - Solenoid driver



1277119

<https://www.phoenixcontact.com/us/products/1277119>

Safety-related maximum voltage U_m	253 V AC (≤ 2000 m)
	125 V DC (≤ 2000 m)
	121 V AC (> 2000 m ... 3000 m)
	110 V DC (> 2000 m ... 3000 m)
	33 V AC/DC (> 3000 m ... 4000 m)
	33 V AC/DC (> 4000 m ... 5000 m)
I/A (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	23 mH / 2.3 μ F
IIB/IIC (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	12 mH / 686 nF
IIC (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	3 mH / 78 nF
I (simple circuit): Max. external inductivity L_o / Max. external capacitance C_o	30 mH / 4.1 μ F

Signaling

Error indication	Red LED
------------------	---------

Dimensions

Width	6.2 mm
Height	109.81 mm
Depth	119.2 mm

Material specifications

Color	gray (RAL 7042)
-------	-----------------

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)

Altitude range (IEC/EN 61010-1)

Height range	> 2000 m ... 3000 m
Ambient temperature (operation)	-40 °C ... 63 °C
Rated insulation voltage	300 V_{rms} (Output/supply, input)
	250 V_{rms} (Input/supply)
Insulation	Double/reinforced insulation

Altitude range (IEC/EN 61010-1)

Height range	> 3000 m ... 4000 m
Ambient temperature (operation)	-40 °C ... 56 °C
Rated insulation voltage	300 V_{rms} (Output/supply, input)
	250 V_{rms} (Input/supply)
Insulation	Double/reinforced insulation

MINI MCR-EX-SD-23-38-LFD-PT - Solenoid driver



1277119

<https://www.phoenixcontact.com/us/products/1277119>

Altitude range (IEC/EN 61010-1)

Height range	> 4000 m ... 5000 m
Ambient temperature (operation)	-40 °C ... 49 °C
Rated insulation voltage	150 V _{rms} (Input/output/power supply)
Insulation	Double/reinforced insulation

Altitude range (IEC/EN 60079-11)

Height range	> 2000 m ... 3000 m
Ambient temperature (operation)	-40 °C ... 63 °C
Rated insulation voltage	150 V _{rms} (Output/input, power supply)

Altitude range (IEC/EN 60079-11)

Height range	> 3000 m ... 4000 m
Ambient temperature (operation)	-40 °C ... 56 °C
Rated insulation voltage	60 V _{rms} (Output/input, power supply)

Altitude range (IEC/EN 60079-11)

Height range	> 4000 m ... 5000 m
Ambient temperature (operation)	-40 °C ... 49 °C
Rated insulation voltage	60 V _{rms} (Output/input, power supply)

Altitude range (IEC/EN 60079-7)

Height range	> 2000 m ... 3000 m
Ambient temperature (operation)	-40 °C ... 63 °C
Rated insulation voltage	162 V _{rms} (Output/input, power supply)

Altitude range (IEC/EN 60079-7)

Height range	> 3000 m ... 4000 m
Ambient temperature (operation)	-40 °C ... 56 °C
Rated insulation voltage	60 V _{rms} (Output/input, power supply)

Altitude range (IEC/EN 60079-7)

Height range	> 4000 m ... 5000 m
Ambient temperature (operation)	-40 °C ... 49 °C
Rated insulation voltage	60 V _{rms} (Output/input, power supply)

Approvals

CE

Certificate	CE-compliant
-------------	--------------

ATEX

Identification	⊕ 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
	⊕ I (M1) [Ex ia Ma] I
Certificate	TÜV 21 ATEX 8651 X

MINI MCR-EX-SD-23-38-LFD-PT - Solenoid driver



1277119

<https://www.phoenixcontact.com/us/products/1277119>

IECEX

Identification	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex ec [ia Ga] IIC T4 Gc
	[Ex ia Ma] I
Certificate	IECEX TUR 21.0043 X

CCC / China-Ex

Identification	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex ec [ia Ga] IIC T4 Gc
Certificate	2023122310116238

UL, USA/Canada

Identification	UL 61010-2-201 Listed
	Class I, Div. 1, Groups A, B, C, D
	Class II, Div. 1, Groups E, F, G
	Class III, Div. 1
	Class I, Zone 0, 1, 2, Groups IIC, IIB, IIA
	Class I, Div. 2, Groups A, B, C, D T4
	Class I, Zone 2
	AEx ec [ia Ga] IIC T4 Gc; AEx ec [ia IIIC Da] IIC T4 Gc
	Ex ec [ia Ga] IIC T4 Gc X; Ex ec [ia IIIC Da] IIC T4 Gc X
	Class I, Zone 0, [AEx ia Ga] IIC, [Ex ia Ga] IIC X
Class I, Zone 20, [AEx ia Da] IIIC, [Ex ia Da] IIIC X	
Certificate	UL C.D.-No 097285872

Shipbuilding approval

Certificate	DNV TAA00003FZ
-------------	----------------

Safety Integrity Level (SIL, IEC 61508)

Identification	3
----------------	---

INMETRO

Identification	[Ex ia Ma] I
	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex ec [ia Ga] IIC T4 Gc
Certificate	DNV 23.0189 X

Shipbuilding data

Temperature	B
Humidity	B
Vibration	A
EMC	A
Enclosure	Required protection according to the Rules shall be provided

MINI MCR-EX-SD-23-38-LFD-PT - Solenoid driver



1277119

<https://www.phoenixcontact.com/us/products/1277119>

	upon installation on board
--	----------------------------

EMC data

Electromagnetic compatibility	Tested in accordance with the following standards and regulations: EN 61326-1 For industrial use, NAMUR NE 21
Noise immunity	IEC/EN 61000-6-2
Noise immunity	IEC/EN 61326-3-2

Noise emission

Standards/regulations	IEC/EN 61000-6-4
-----------------------	------------------

Standards and regulations

Electrical isolation	3-way isolation
----------------------	-----------------

GB Standard

Standards/regulations	GB/T 3836.1
	GB/T 3836.3
	GB/T 3836.4

MINI MCR-EX-SD-23-38-LFD-PT - Solenoid driver

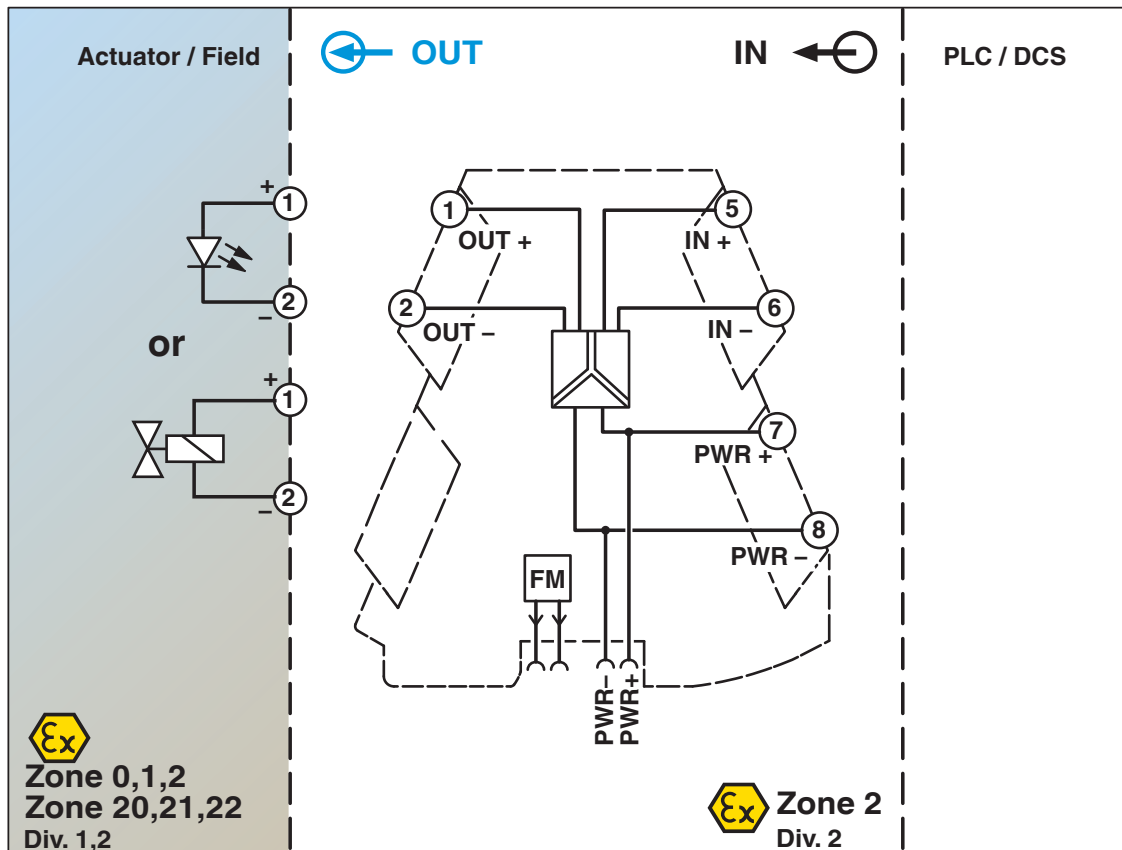


1277119

<https://www.phoenixcontact.com/us/products/1277119>

Drawings

Block diagram





1277119

<https://www.phoenixcontact.com/us/products/1277119>


Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1277119>


 **Functional Safety**
Approval ID: 1435.IM.131623/19


 **cULus Listed**
Approval ID: E238705

DNV
Approval ID: TAA00003FZ

 **cULus Listed**
Approval ID: E238705

 **IECEx**
Approval ID: IECEx TUR 21.0043X

 **ATEX**
Approval ID: TUV 21 ATEX 8651 X

 **CCC**
Approval ID: 2023122316116237

 **cULus Listed**
Approval ID: E196811

 **cULus Listed**
Approval ID: E196811

INMETRO
Approval ID: DNV 23.0189 X

MINI MCR-EX-SD-23-38-LFD-PT - Solenoid driver



1277119

<https://www.phoenixcontact.com/us/products/1277119>

Classifications

ECLASS

ECLASS-13.0	27210120
ECLASS-15.0	27210120

ETIM

ETIM 10.0	EC002653
-----------	----------

UNSPSC

UNSPSC 21.0	39121008
-------------	----------

1277119

<https://www.phoenixcontact.com/us/products/1277119>

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	3ab41d40-8c6b-47c3-9f45-36a3940b1d84

Phoenix Contact 2026 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com