

# MINI MCR-EX-SD-20-25-LP - Solenoid driver



1157867

<https://www.phoenixcontact.com/us/products/1157867>

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: 20 V DC, current limitation: 25 mA, Standard configuration, Loop-powered, 2-way isolation, Safety Integrity Level (SIL, IEC 61508): 3, Screw connection

## Commercial data

Item number	1157867
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C430
Product key	DK1224
GTIN	4063151161996
Weight per piece (including packing)	121 g
Weight per piece (excluding packing)	118.5 g
Customs tariff number	85437090
Country of origin	DE

## Technical data

### Product properties

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

### Electrical properties

Electrical isolation	2-way isolation
Electrical isolation between input and output	yes

#### Electrical isolation

Overvoltage category	II ( $\leq 5000$ m)
Pollution degree	2 ( $\leq 5000$ m)

#### Electrical isolation Input/output IEC/EN 61010-1

Standards/regulations	IEC/EN 61010-1
Rated insulation voltage	300 V <sub>rms</sub>
Test voltage	2.5 kV AC (50 Hz, 60 s)
Insulation	Double/reinforced insulation

#### Electrical isolation Input/output IEC/EN 60079-11

Standards/regulations	IEC/EN 60079-11
Rated insulation voltage	265 V <sub>rms</sub>

#### Electrical isolation Input/output IEC/EN 60079-7

Standards/regulations	IEC/EN 60079-7
Rated insulation voltage	251 V <sub>rms</sub>

#### Supply

Supply voltage range	loop-powered, no external supply necessary
Power consumption	< 1 W

### Input data

#### Signal: Voltage

Number of inputs	1
Voltage input signal	19.2 V DC ... 30 V DC (24 V DC, -20 % ... +25 %)

### Output data

#### Signal: Voltage

Number of outputs	1
Output voltage	$\geq 9.6$ V DC (25 mA)
Output resistor	$\geq 413 \Omega$ (Internal resistance R <sub>i</sub> )
Current limitation	> 25 mA
Response time	< 50 ms

# MINI MCR-EX-SD-20-25-LP - Solenoid driver



1157867

<https://www.phoenixcontact.com/us/products/1157867>

Open-circuit voltage	> 20 V DC
Short-circuit-proof	yes

## Connection data

Connection method	Screw connection
Stripping length	10 mm
Screw thread	M3
Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (with ferrule) 0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> (without ferrule)
Conductor cross-section flexible	0.14 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 12 (flexible)
Tightening torque	0.5 Nm ... 0.6 Nm

## 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 $U_o$	24 V
Max. output current $I_o$	59 mA
Max. output power $P_o$	354 mW
Safety-related maximum voltage $U_m$	253 V AC ( $\leq 2000$ m)
	125 V DC ( $\leq 2000$ 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)
IIA (simple circuit): Max. external inductivity $L_o$ / Max. external capacitance $C_o$	70 mH / 3.33 $\mu$ F
IIB/IIIC (simple circuit): Max. external inductivity $L_o$ / Max. external capacitance $C_o$	30 mH / 919 nF
IIC (simple circuit): Max. external inductivity $L_o$ / Max. external capacitance $C_o$	10 mH / 114 nF
I (simple circuit): Max. external inductivity $L_o$ / Max. external capacitance $C_o$	90 mH / 5.23 $\mu$ F

## Dimensions

Width	6.2 mm
Height	109.81 mm
Depth	119.2 mm

# MINI MCR-EX-SD-20-25-LP - Solenoid driver



1157867

<https://www.phoenixcontact.com/us/products/1157867>

## 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 <sub>rms</sub> (Input/output)
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 <sub>rms</sub> (Input/output)
Insulation	Double/reinforced insulation

### Altitude range (IEC/EN 61010-1)

Height range	> 4000 m ... 5000 m
Ambient temperature (operation)	-40 °C ... 49 °C
Rated insulation voltage	150 V <sub>rms</sub> (Input/output)
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 <sub>rms</sub> (Input/output)

### Altitude range (IEC/EN 60079-11)

Height range	> 3000 m ... 4000 m
Ambient temperature (operation)	-40 °C ... 56 °C
Rated insulation voltage	60 V <sub>rms</sub> (Input/output)

### Altitude range (IEC/EN 60079-11)

Height range	> 4000 m ... 5000 m
Ambient temperature (operation)	-40 °C ... 49 °C
Rated insulation voltage	60 V <sub>rms</sub> (Input/output)

### Altitude range (IEC/EN 60079-7)

Height range	> 2000 m ... 3000 m
Ambient temperature (operation)	-40 °C ... 63 °C

# MINI MCR-EX-SD-20-25-LP - Solenoid driver



1157867

<https://www.phoenixcontact.com/us/products/1157867>

Rated insulation voltage	162 V <sub>rms</sub> (Input/output)
--------------------------	-------------------------------------

## Altitude range (IEC/EN 60079-7)

Height range	> 3000 m ... 4000 m
Ambient temperature (operation)	-40 °C ... 56 °C
Rated insulation voltage	60 V <sub>rms</sub> (Input/output)

## Altitude range (IEC/EN 60079-7)

Height range	> 4000 m ... 5000 m
Ambient temperature (operation)	-40 °C ... 49 °C
Rated insulation voltage	60 V <sub>rms</sub> (Input/output)

## 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

### 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

# MINI MCR-EX-SD-20-25-LP - Solenoid driver



1157867

<https://www.phoenixcontact.com/us/products/1157867>

	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	ⓈⓂⓂ 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 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	2-way isolation
----------------------	-----------------

## GB Standard

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

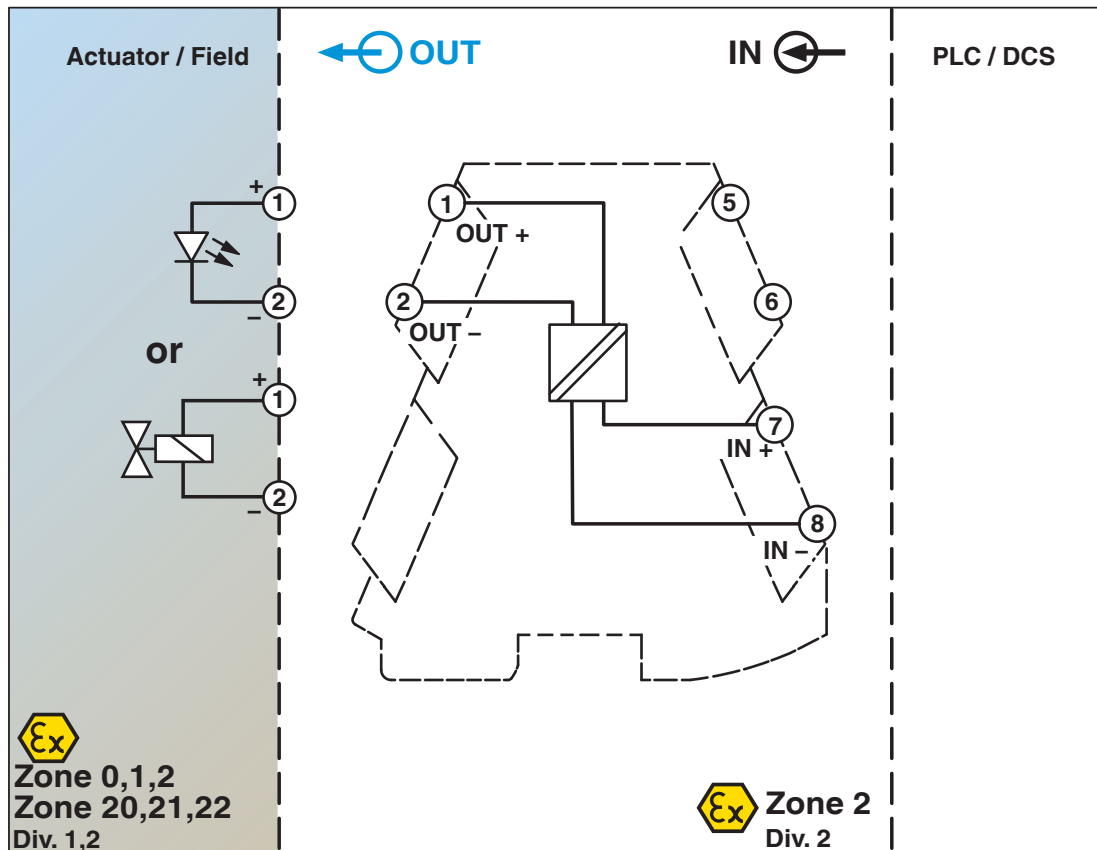
# MINI MCR-EX-SD-20-25-LP - Solenoid driver

1157867

<https://www.phoenixcontact.com/us/products/1157867>

## Drawings

Block diagram



1157867

<https://www.phoenixcontact.com/us/products/1157867>

## Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1157867>



### 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-20-25-LP - Solenoid driver



1157867

<https://www.phoenixcontact.com/us/products/1157867>

## Classifications

### ECLASS

ECLASS-13.0	27210120
ECLASS-14.0 ASSET	27250101
ECLASS-15.0	27210120
ECLASS-15.0 ASSET	27250101

### ETIM

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

### UNSPSC

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

1157867

<https://www.phoenixcontact.com/us/products/1157867>

## 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	fbeb2a8d-0752-4690-81b0-ca6f3a3921cf

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](mailto:info@phoenixcon.com)