

# Solenoid driver - PI-EX-SD-21-60 - 2865188


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Ex i solenoid driver, pluggable. To control intrinsically safe solenoid valves, alarm modules as well as simple electric equipment installed in Ex areas. For Group IIB gases, loop-powered. Electrical isolation.



## Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 134828
GTIN	4046356134828

## Technical data

### Note

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

Width	12.4 mm
Height	145 mm
Depth	147 mm

### Ambient conditions

Ambient temperature (operation)	-20 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (relative humidity, non-condensing)

### Output data

Output characteristic curve: Output resistor	136 Ω (Internal resistance R <sub>i</sub> )
Response time	< 30 ms

### Compatible valves

Note	This is an extract of possible combinations of valves and solenoid drivers.
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## Technical data

### Compatible valves

Compatible valve	ASCO Coil 302 (12 V)
	ASCO Coil 302 (24 V)
	FESTO Coil MFH-...IA-SA-EX GBXE022AIAD03
	FESTO Coil (J)MFH-...BIA-SA-EX GBXE022AIAD03
	Norgren Herion Coil 2050
	Norgren Herion Coil 2051
	Norgren Herion Coil 2052
	Norgren Herion Coil 2053
	Parker Coil VZ95 482160.01 EEx ia IIB T6

### Power supply

Max. current consumption	< 110 mA (at 24 V)
Power dissipation	max. 1.5 W (at 24 V)

### General

Maximum temperature coefficient	0.01 %/K
Status display	Yellow LED (status display)
	Red LED (line errors)
Flammability rating according to UL 94	V0
Housing material	PBT and polyamide PA non-reinforced
Color	green
Designation	Input/output
Electrical isolation	375 V (Peak value as per EN 50020 / EN 60079-11)
	2.5 kV (50 Hz, 1 min., test voltage)
Conformance	CE-compliant
ATEX	# II (1) GD [Ex ia] IIB / IIA
	# II 3 G Ex nA II T4 X
Functional Safety (SIL)	SIL 3
SIL	3

### Safety characteristic data

Integrity requirement	IEC 61508 - Low demand
Equipment type	Type A
Safety Integrity Level (SIL)	3
Safe Failure Fraction (SFF)	100 %
$\lambda_{SU}$	$2.84 \times 10^{-7}$ (284 FIT)
$\lambda_{SD}$	0
$\lambda_{DU}$	0
$\lambda_{DD}$	0
Probability of a hazardous failure on demand (PFD <sub>AVG</sub> )	0 (1 year)
	0 (5 years)
	0 (10 years)

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## Technical data

### Safety characteristic data

Diagnostic coverage (DC)	DC <sub>S</sub> =0 %, DC <sub>0</sub> =0 %
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### Safety data

Max. output voltage U <sub>o</sub>	25.1 V
Max. output current I <sub>o</sub>	188 mA
Max. output power P <sub>o</sub>	1180 mW
Group	IIA
Max. external inductivity L <sub>o</sub>	5.2 mH
Max. external capacity C <sub>o</sub>	0.51 µF
Group	IIB
Max. external inductivity L <sub>o</sub>	2.7 mH
Max. external capacity C <sub>o</sub>	0.28 µF
Safety-related maximum voltage U <sub>m</sub>	250 V AC (125 V DC)

### Standards and Regulations

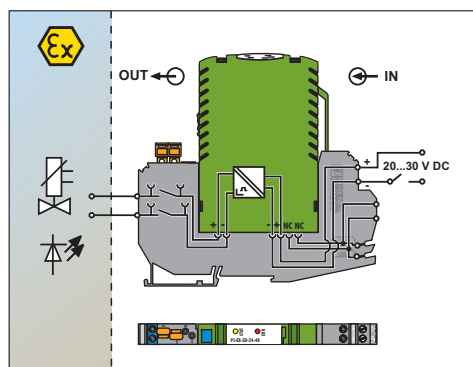
Flammability rating according to UL 94	V0
Conformance	CE-compliant
ATEX	# II (1) GD [Ex ia] IIB / IIA
	# II 3 G Ex nA II T4 X
Group	IIA
	IIB

### Environmental Product Compliance

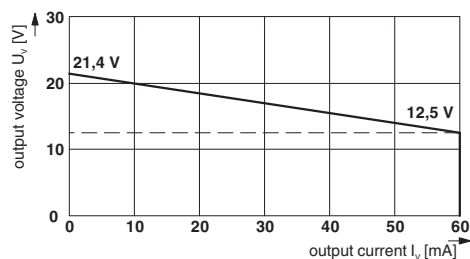
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Block diagram

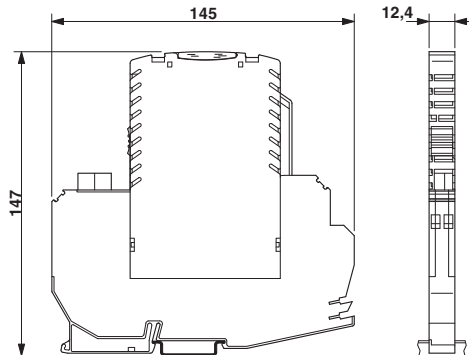


Diagram



# Solenoid driver - PI-EX-SD-21-60 - 2865188

Dimensional drawing



## Approvals

Approvals

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Approvals

Functional Safety

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Ex Approvals

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## Approval details

Functional Safety	06/06-05 R004 V2R0
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