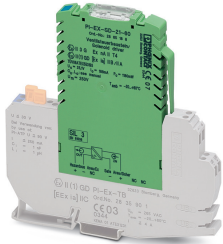


Solenoid driver - PI-EX-SD-21-60 - 2865188


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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 |
| Weight per Piece (excluding packing) | 90.000 g |
| 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 |
|-------------------------|---|

Dimensions

| | |
|--------|----------|
| Width | 12.4 mm |
| Height | 79 mm |
| Depth | 118.4 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) |

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Technical data

Output data

| | |
|--|--|
| Output characteristic curve: Output resistor | 136 Ω (Internal resistance R _i) |
| Response time | < 30 ms |

Compatible valves

| | |
|------------------|---|
| Note | This is an extract of possible combinations of valves and solenoid drivers. |
| 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) |
| 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) |
| Test voltage | 2.5 kV AC (50 Hz, 1 min.) |

Safety characteristic data

| | |
|--|---------------------------------|
| Integrity requirement | IEC 61508 - Low demand |
| Equipment type | Type A |
| Safety Integrity Level (SIL) | 3 |
| Safe Failure Fraction (SFF) | 100 % |
| λ_{SU} | 2.84×10^{-7} (284 FIT) |
| λ_{SD} | 0 |
| λ_{DU} | 0 |
| λ_{DD} | 0 |
| Probability of a hazardous failure on demand (PFD _{AVG}) | 0 (1 year) |

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

Technical data

Safety characteristic data

| | |
|--------------------------|--|
| | 0 (5 years) |
| | 0 (10 years) |
| Diagnostic coverage (DC) | DC _S =0 %, DC _D =0 % |

Safety data

| | |
|---|---------------------|
| Max. output voltage U _o | 25.1 V |
| Max. output current I _o | 188 mA |
| Max. output power P _o | 1180 mW |
| Group | IIA |
| Max. external inductivity L _o | 5.2 mH |
| Max. external capacitance C _o | 0.51 µF |
| Group | IIB |
| Max. external inductivity L _o | 2.7 mH |
| Max. external capacitance C _o | 0.28 µF |
| Safety-related maximum voltage U _m | 250 V AC (125 V DC) |

Standards and Regulations

| | |
|-------------|-------------------------------|
| Conformance | CE-compliant |
| ATEX | # II (1) GD [Ex ia] IIB / IIA |
| | # II 3 G Ex nA II T4 X |
| Group | IIA |
| | IIB |

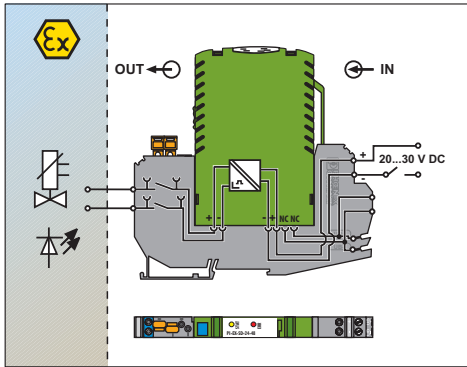
Environmental Product Compliance

| | |
|------------|---|
| 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" |

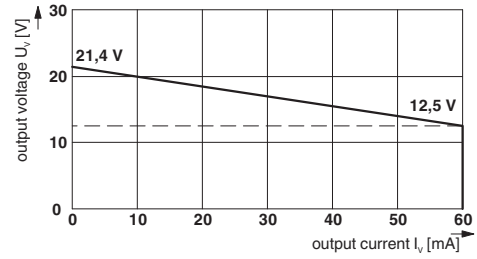
Drawings

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

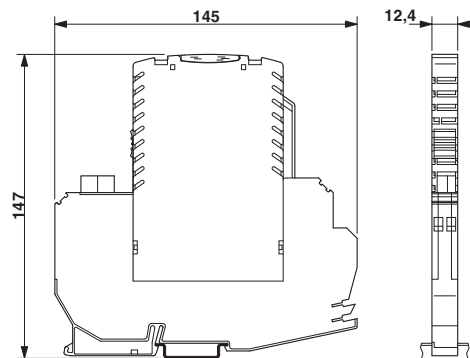
Block diagram



Diagram



Dimensional drawing



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27210120 |
| eCl@ss 11.0 | 27210120 |
| eCl@ss 4.0 | 27210100 |
| eCl@ss 4.1 | 27210100 |
| eCl@ss 5.0 | 27210100 |
| eCl@ss 5.1 | 27210100 |
| eCl@ss 6.0 | 27210100 |
| eCl@ss 7.0 | 27210120 |
| eCl@ss 9.0 | 27210120 |

ETIM

| | |
|----------|----------|
| ETIM 4.0 | EC002653 |
| ETIM 6.0 | EC002653 |
| ETIM 7.0 | EC002653 |

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

Classifications

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211506 |
| UNSPSC 7.0901 | 39121008 |
| UNSPSC 11 | 39121008 |
| UNSPSC 12.01 | 39121008 |
| UNSPSC 13.2 | 39121008 |
| UNSPSC 18.0 | 39121008 |
| UNSPSC 19.0 | 39121008 |
| UNSPSC 20.0 | 39121008 |
| UNSPSC 21.0 | 39121008 |

Approvals

Approvals

Approvals

Functional Safety

Ex Approvals

EAC Ex / ATEX / ATEX

Approval details

| | |
|-------------------|--------------------|
| Functional Safety | 06/06-05 R004 V2R0 |
|-------------------|--------------------|
