

AXL SE FSDI8/3 - Safety module



1090203

<https://www.phoenixcontact.com/us/products/1090203>

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Axioline Smart Elements, Digital input module, Functional safety, Failsafe over EtherCAT®, Safe digital inputs: 4 (2-channel assignment), 8 (1-channel assignment), 24 V DC, connection technology: 3-conductor, degree of protection: IP20

Your advantages

- Up to SIL 3 in accordance with EN 61508
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SIL 3 in accordance with EN IEC 62061
- 8 safe inputs for 1-channel assignment
- 4 safe inputs for 2-channel assignment

Commercial data

Item number	1090203
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN03
Product key	DNA821
GTIN	4055626899268
Weight per piece (including packing)	48.43 g
Weight per piece (excluding packing)	36 g
Customs tariff number	85389091
Country of origin	DE

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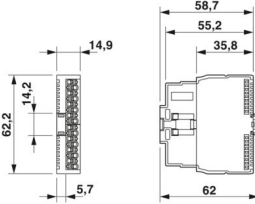
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Technical data

Dimensions

Dimensional drawing		
Width		14.9 mm
Height		62.2 mm
Depth		62 mm

Notes

Note on application

Note on application	Only for industrial use
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Interfaces

FSoE

Number of interfaces	1
Connection method	Card edge connector
Transmission speed	See system in which you use the Smart Element.

System properties

Module

Input address area	6 Byte (FSoE)
Output address area	6 Byte (FSoE)
Required configuration data	6 Byte

Input data

Digital:

Input name	Safe digital inputs
Description of the input	EN 61131-2, type 3
Number of inputs	4 (2-channel assignment)
	8 (1-channel assignment)
Cable length	max. 200 m (200 m from the clock output to the safe input (total based on forward and return path))
Connection method	Push-in connection
Connection technology	3-conductor
Input voltage range "0" signal	-3 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC

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Nominal input voltage U_{IN}	24 V DC
Nominal input current at U_{IN}	typ. 2.7 mA
Input filter time	1.5 ms
	3 ms (Default)
	5 ms
	15 ms
Protective circuit	Polarity reversal protection of the inputs; Diode

Product properties

Product type	I/O component
Product family	Axioline Smart Elements
Application	Functional safety
	Failsafe over EtherCAT®
Type	modular
Mounting position	any
Operating mode	FSOE

Insulation characteristics

Overvoltage category	II (IEC 60664-1)
Pollution degree	2 (EN 60664-1)

Electrical properties

Maximum power dissipation for nominal condition	typ. 520 mW
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Potentials

Protection	external fusing via the system in which the Smart Element is used
Protective circuit	Surge protection of the supply voltage; electronic (35 V, 0.5 s)
	Polarity reversal protection of the supply voltage; via the system in which the Smart Element is used

Potentials: Axioline F local bus supply (U_{BUS})

Supply voltage	5 V DC (via bus base module)
Current draw	max. 140 mA (at U_{BUS} 5 V DC)
	typ. 101 mA (at U_{BUS} 5 V DC)

Potentials: Communications power supply of the Smart Elements (U_{SE})

Supply voltage	using card edge connectors
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Potentials: I/O supply (U_P)

Supply voltage	24 V DC (using card edge connectors)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 12 mA (Power supply from U_P with 30 V DC, all inputs set, without power supply to the sensors via clock supplies OUT_T1 and OUT_T2)
	typ. 9 mA (Power supply from U_P with 24 V DC, all inputs set, without power supply to the sensors via clock supplies OUT_T1 and OUT_T2)

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Power consumption	min. 154 mW
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Connection data

Connection technology

Connection name	I/O
Note on the connection method	Note the specification in the section Conductor cross-sections, and stripping and insertion lengths.

Conductor connection

Connection method	Push-in connection
Conductor cross-section rigid	0.25 mm ² ... 1.5 mm ²
Conductor cross-section flexible	0.25 mm ² ... 1.5 mm ²
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

I/O

Connection method	Push-in connection
Note on the connection method	Note the specification in the section Conductor cross-sections, and stripping and insertion lengths.
Conductor cross-section, rigid	0.25 mm ² ... 1.5 mm ²
Conductor cross-section, flexible	0.25 mm ² ... 1.5 mm ²
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Degree of protection	IP20
Degree of protection at installation location	min. IP54
Air pressure (operation)	70 kPa ... 108 kPa
Air pressure (storage/transport)	66 kPa ... 108 kPa
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)

Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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Air clearances and creepage distances

Air clearances and creepage distances	IEC 60664-1
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Mounting

Mounting type	Plug-in mounting (Smart Element slot)
Mounting position	any

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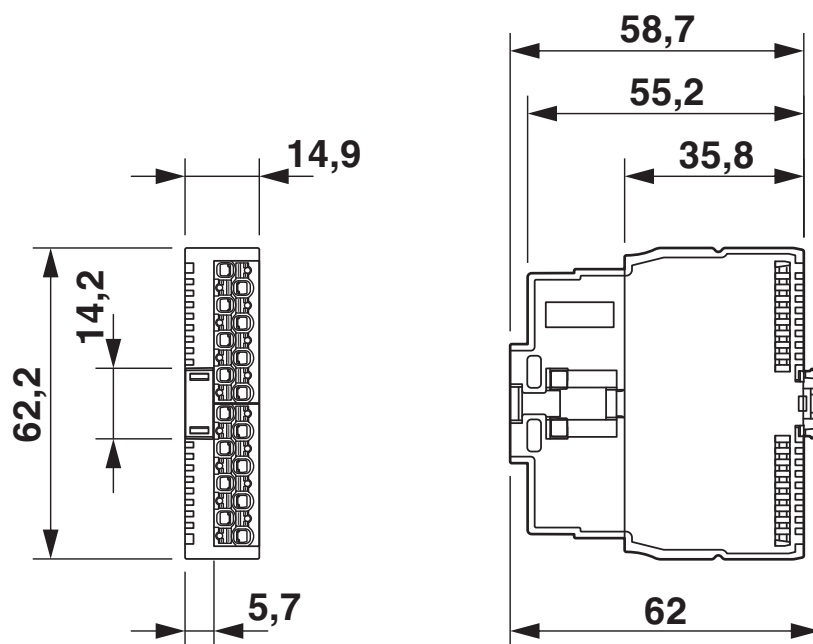
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Drawings

Dimensional drawing



Dimensions

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Approvals

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cULus Listed

Approval ID: E238705



Functional Safety

Approval ID: 968/FSP 2625.00/23

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Classifications

ECLASS

ECLASS-13.0	27242604
ECLASS-15.0	27242604
ECLASS-15.0 ASSET	27250101

ETIM

ETIM 9.0	EC001599
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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	516adb35-dc51-421d-9d13-63526f047090