

AXL SE PSDI8/3 - Safety module



1079241

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Axioline Smart Elements, Digital input module, Functional safety, PROFIsafe, only for connection to Phoenix Contact or Siemens controller, Safe digital inputs: 4 (2-channel assignment), 8 (1-channel assignment), 24 V DC, connection technology: 3-conductor, degree of protection: IP20

Product description

You can integrate Axioline Smart Elements into systems with the Smart Element interface. This Smart Element is a safe input module for use in a PROFIsafe system.

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	1079241
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN03
Product key	DNA821
GTIN	4055626798127
Weight per piece (including packing)	58.43 g
Weight per piece (excluding packing)	36 g
Customs tariff number	85389091
Country of origin	DE

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Technical data

Dimensions

Dimensional drawing		
Width		14.9 mm
Height		62.2 mm
Depth		62 mm

Interfaces

Smart Element interface		
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 (PROFIsafe 2.6.1)
Output address area		5 Byte (PROFIsafe 2.6.1)

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
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

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	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
	PROFIsafe
	only for connection to Phoenix Contact or Siemens controller
Type	modular
Mounting position	any
Operating mode	PROFIsafe 2.4, PROFIsafe 2.6.1

Insulation characteristics

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

Electrical properties

Transmission medium	Copper
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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)
Current consumption	min. 8 mA (Power supply from U_P with 19.2 V DC, all inputs set, without power supply to the sensors via clock supplies OUT_T1 and OUT_T2)
Power consumption	max. 360 mW
	min. 154 mW

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 mm² ... 1.5 mm²
Conductor cross section flexible	0.25 mm² ... 1.5 mm²
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 mm² ... 1.5 mm²
Conductor cross section, flexible	0.25 mm² ... 1.5 mm²
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	Smart Element slot
Mounting position	any

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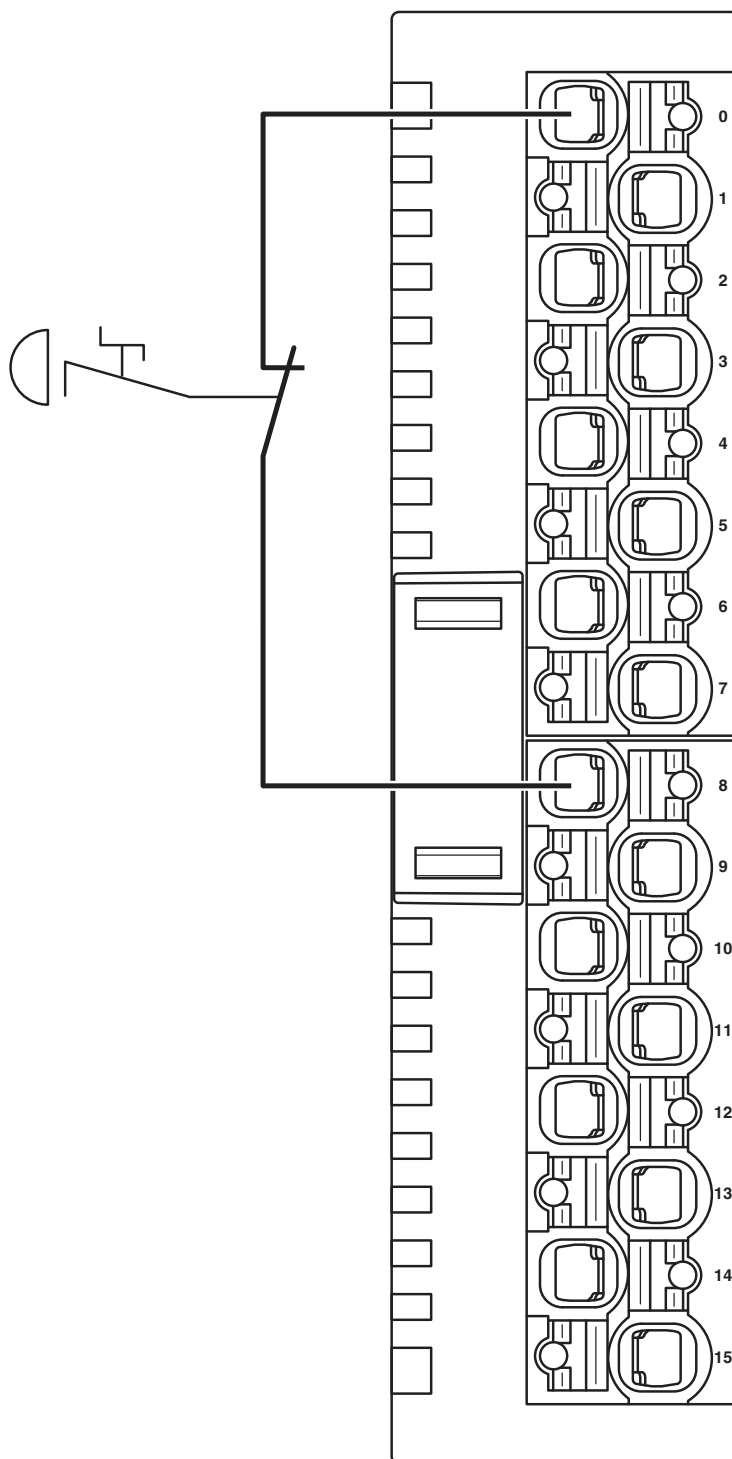
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Drawings

Connection diagram



Connection example for an emergency stop circuit

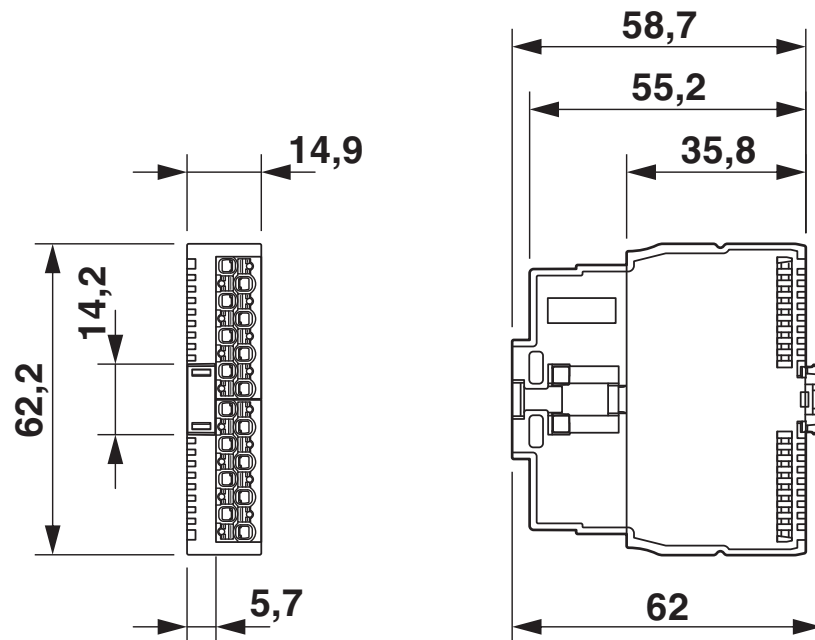
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Dimensional drawing



Dimensions

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Approvals

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UL Listed

Approval ID: E238705

PROFIsafe

Approval ID: Z20276



Functional Safety

Approval ID: 968/EZ 650.04/20



Functional Safety

Approval ID: 968/EZ 650.04/20



cUL Listed

Approval ID: E238705



LR

Approval ID: LR23402057TA

DNV

Approval ID: TAA00003B0



RINA

Approval ID: ELE263623XG

ABS

Approval ID: 24-2510075-PDA

cULus Listed

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Classifications

ECLASS

ECLASS-11.0	27242604
ECLASS-12.0	27242604
ECLASS-13.0	27242604

ETIM

ETIM 9.0	EC001599
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UNSPSC

UNSPSC 21.0	32151600
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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	68161f6b-01b3-4dd6-8b35-82a051a51224

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Mandatory accessories

AXL F BP SE4 - Module carrier

1088135

<https://www.phoenixcontact.com/us/products/1088135>

Axioline F, Backplane, 4 slots for Axioline Smart Elements, transmission speed in the local bus: 100 Mbps, degree of protection: IP20



AXL F BP SE6 - Module carrier

1088136

<https://www.phoenixcontact.com/us/products/1088136>

Axioline F, Backplane, 6 slots for Axioline Smart Elements, transmission speed in the local bus: 100 Mbps, degree of protection: IP20



Accessories

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SZS 0,4X2,5 VDE - Screwdriver

1205037

<https://www.phoenixcontact.com/us/products/1205037>



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

CRIMPFOX 6 - Crimping pliers

1212034

<https://www.phoenixcontact.com/us/products/1212034>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

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CRIMPFOX DUO 10 - Crimping pliers

1031721

<https://www.phoenixcontact.com/us/products/1031721>



Crimping pliers, contact connection type: Insulated and uninsulated ferrules, standards/specifications: DIN 46228-1, DIN 46228-4, UL 486F, form A, E, F, min. cross section: 0.14 mm², max. cross section: 10 mm², for TWIN ferrules up to 2 x 4 mm², automatic cross section adjustment, rotating die, lateral and frontal insertion, compression: Trapezoidal crimp, black/green

CRIMPFOX 10T-F - Crimping pliers

1134913

<https://www.phoenixcontact.com/us/products/1134913>



Crimping pliers, contact connection type: Insulated and uninsulated ferrules, standards/specifications: DIN 46228-1, DIN 46228-4, min. cross section: 0.14 mm², max. cross section: 10 mm², For TWIN ferrules up to 2 x 4 mm², automatic cross section adjustment, frontal insertion, compression: Trapezoidal crimp, black

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MM-TML (EX4,2)R C1 TR/BK - Label

0803979

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Label, Roll, transparent/black, unlabeled, can be labeled with: THERMOFOX, THERMOMARK GO, THERMOMARK GO.K, mounting type: adhesive, lettering field size: continuous x 3.2 mm, Number of individual labels: 1

SK 5,0 WH:REEL - Marker strip

0805221

<https://www.phoenixcontact.com/us/products/0805221>



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 5 mm, Number of individual labels: 10

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UM6M-TM (5X12) - Marker for terminal blocks

0830928

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Marker for terminal blocks, Strip, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 5 mm, lettering field size: 5 x 12 mm, Number of individual labels: 24

UCT6M-TM 5 - Marker for terminal blocks

0830756

<https://www.phoenixcontact.com/us/products/0830756>



Marker for terminal blocks, for marking ABB terminal blocks from the SNK series, Sheet, white, unlabeled, can be labeled with: THERMOMARK CARD, THERMOMARK CARD 2.0, THERMOMARK PRIME, BLUEMARK ID, BLUEMARK ID COLOR, TOPMARK LASER, TOPMARK NEO, mounting type: snapped, for terminal block width: 5.2 mm, lettering field size: 4.17 x 11.3 mm

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