

Safety module - AXL SE SSDO4/2 2A - 1190017

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Axioline Smart Elements, Digital output module, SafetyBridge technology, Safe digital outputs: 4 (1-channel assignment), 2 (2-channel assignment), 24 V DC, 2 A, connection technology: 2-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 output module for use in a SafetyBridge system.

Your advantages

- ✓ Up to Cat. 4/PL e according to EN ISO 13849-1, SIL 3 according to EN 62061, SIL 3 according to IEC 61508
- ✓ 4 safe outputs for 1-channel assignment
- ✓ 2 safe outputs for 2-channel assignment
- ✓ 24 V DC, 2 A



Key Commercial Data

Packing unit	1 pc
GTIN	 4 063151 238285
GTIN	4063151238285
Weight per Piece (excluding packing)	40.000 g
Custom tariff number	85389091
Country of origin	Germany

Technical data

Dimensions

Caption	Dimensions
Width	14.9 mm
Height	62.2 mm

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Technical data

Dimensions

Depth	62 mm
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Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
Air pressure (operation)	70 kPa ... 108 kPa
Air pressure (storage/transport)	66 kPa ... 108 kPa
Maximum altitude	≤ 3000 m (Above sea level)
Degree of protection	IP20
Degree of protection at installation location	min. IP54

Connection data

Designation	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 solid min.	0.25 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.25 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	8 mm

Interfaces

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

Digital outputs

Output name	Safe digital outputs
Output description	EN 61131-2
Number of outputs	4 (1-channel assignment) 2 (2-channel assignment)
Connection method	Push-in connection
Connection technology	2-conductor
Protective circuit	Short-circuit protection, overload protection of the outputs electronic

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Technical data

Digital outputs

Output voltage	24 V DC
Nominal output voltage	24 V DC
Output current per channel	2 A
Output current of the device	4 A
Output current	max. 2 A (per output)
Nominal load, inductive	48 VA (1 H; 12 Ω; at nominal voltage)
Nominal load, ohmic	48 W (12 Ω, at nominal voltage)
Max. capacitive load	10 μF (for ZVEI class 0)
	2 μF (for ZVEI class 1)
	1 μF (for ZVEI class 2)
Switching frequency	1 Hz (0.2 Hz at > 1 A)
Load min.	1.5 kΩ (at nominal voltage)
Limitation of the voltage induced on circuit interruption	-15 V
Derating	up to 40°C: 4 A total current from 40°C: 100 mA/°C derating
Output voltage when switched off	< 5 V
Output current when switched off	< 2 mA
Holding voltage	> 5 V (min. holding voltage of the connected load)
Holding current	> 2 mA (min. holding current of the connected load)
Behavior with overload	Switch-off of the relevant output, restart upon acknowledgment
Behavior with inductive overload	Output can be destroyed
Reverse voltage resistance to short pulses	no
Test pulses	Configurable switch-on impulses, fixed shut-off impulses

General

Mounting type	Smart Element slot
Color	zinc yellow RAL 1018
Net weight	36 g
Operating mode	SafetyBridge
Degree of pollution	2 (EN 60664-1)
Mounting position	any
Maximum altitude	≤ 3000 m (Above sea level)

Axioline potentials

Designation	Axioline F local bus supply (U_{Bus})
Supply voltage	5 V DC (via bus base module)
Current consumption	typ. 93 mA (at U_{Bus} 5 V DC)
	max. 120 mA (at U_{Bus} 5 V DC)

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Axioline potentials

Designation	Communications power supply of the Smart Elements (U_{SE})
Additional text	using card edge connectors
Current consumption	max. 117 mA (at U_{SE} 3.3 V DC)
Designation	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 consumption	min. 21 mA ((Supply from U_P with 19.2 V DC, all outputs set, without supply to the actuators))
	typ. 25 mA ((Supply from U_P with 24 V DC, all outputs set, without supply to the actuators))
	max. 30 mA ((Supply from U_P with 30 V DC, all outputs set, without supply to the actuators))
Power consumption	min. 403 mW
	typ. 600 mW
	max. 900 mW

Safety-related characteristic data

Stop category in accordance with IEC 60204	0
	1 (in error-free state)
Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	2 (1-channel assignment)
	3 (2-channel assignment)
Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	2 (1-channel assignment)
	3 (2-channel assignment)
Designation	EN ISO 13849-1
Performance level (PL)	d (1-channel assignment)
	e (2-channel assignment)
Category	3 (1-channel assignment)
	4 (2-channel assignment)
Designation	EN 62061
Safety Integrity Level (SIL)	2 (1-channel assignment)
	3 (2-channel assignment)

Standards and Regulations

Immunity to ESD	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2 Criterion A, 6 kV contact discharge, 8 kV air discharge
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Standards and Regulations

Immunity to EF	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to burst	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion A, 2 kV
Immunity to surge	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Test intensity 2, Criterion A Power supply: 0.5 kV/0.5 kV (symmetrical/unsymmetrical) Signal lines: 1.0 kV/2.0 kV (symmetrical/unsymmetrical)
Immunity to conducted interference	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test in accordance with EN 61000-6-4/IEC 61000-6-4 Class A (industrial applications)
Air clearances and creepage distances	IEC 60664-1
Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 30g
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II (IEC 60664-1)

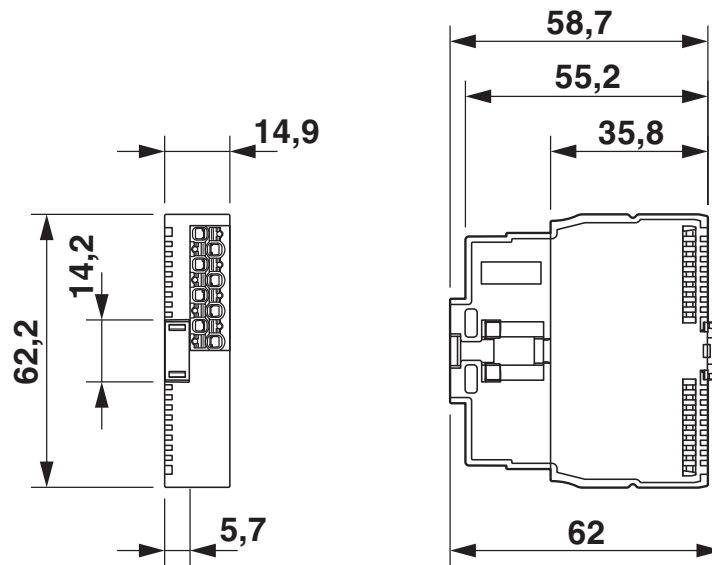
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Drawings

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Dimensional drawing



Dimensions

Classifications

eCl@ss

eCl@ss 10.0.1	27242604
eCl@ss 11.0	27242604
eCl@ss 9.0	27242604

ETIM

ETIM 7.0	EC001599
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Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

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Approvals

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cULus Listed			
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Accessories

Accessories

Crimping tool

Crimping pliers - CRIMPFOX 6 - 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

Crimping pliers - CRIMPFOX DUO 10 - 1031721



Crimping pliers, type of contact: Insulated and uninsulated ferrules, 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

Crimping pliers - CRIMPFOX 10T-F - 1134913



Crimping pliers, type of contact: 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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Accessories

I/O component

Module carrier - AXL F BP SE4 - 1088135



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

Module carrier - AXL F BP SE6 - 1088136



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

Screwdriver tools

Screwdriver - SZS 0,4X2,5 VDE - 1205037



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

Terminal marking

Label - MM-TML (EX4,2)R C1 TR/BK - 0803979



Label, Roll, transparent, unlabeled, can be labeled with: THERMOFOX, THERMOMARK GO, THERMOMARK GO.K, mounting type: adhesive, for terminal block width: 8000 mm, lettering field size: continuous x 3.2 mm

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Accessories

Marker strip - SK 5,0 WH:REEL - 0805221



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: continuous x 5 mm, Number of individual labels: 90000

Marker for terminal blocks - UM6M-TM (5X12) - 0830928



Markers for marking terminal blocks from ABB/Entelec, 24-section, unmarked, can be marked with THERMOMARK CARD and BLUEMARK, color: white

Marker for terminal blocks from the SNK series from ABB - UCT6M-TM 5 - 0830756



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