

IB IL 24 PSDO 8-PAC - Safety module



2985631

<https://www.phoenixcontact.com/au/products/2985631>

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Safety-related digital output module, IP20 degree of protection, for SafetyBridge, INTERBUS-Safety, and PROFIsafe systems. The module has four safe digital outputs for two-channel assignment or eight safe digital outputs for single-channel assignment

Product description

The safety module is an output module from the Inline product range designed for use at any point within a SafetyBridge, INTERBUS-Safety or PROFIsafe system. The transmission speed of the safety module can be set to 500 kBaud or 2 Mbaud using a switch. One transmission speed must be used consistently within a station. The module has four safe digital outputs for two-channel assignment or eight digital outputs for single-channel assignment.

Your advantages

- SIL 3 according to IEC/EN 61508
- SIL 3 in accordance with EN IEC 62061
- PL e in accordance with EN ISO 13849-1

Commercial data

Item number	2985631
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNA431
Product key	DNA431
Catalog page	Page 267 (C-6-2019)
GTIN	4046356131605
Weight per piece (including packing)	350.8 g
Weight per piece (excluding packing)	245.6 g
Customs tariff number	85389091
Country of origin	DE

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Technical data

Dimensions

Dimensional drawing	
	
Width	48.8 mm
Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

Notes

Note on application	
Note on application	Only for industrial use

Interfaces

Inline local bus	
No. of channels	2
Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (can be switched)

System properties

Module	
ID code (dec.)	167
ID code (hex)	A7
Length code (hex)	04
Length code (dec)	04
Process data channel	8 Byte
Input address area	8 Byte ((Operating mode: SafetyBridge))
Output address area	8 Byte ((Operating mode: SafetyBridge))
Register length	8 Byte
Required parameter data	1 Byte ((Operating mode: SafetyBridge))
Required configuration data	5 Byte ((Operating mode: SafetyBridge))

Output data

Digital:	
Output name	Digital outputs
Connection method	Spring-cage connection

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Connection technology	2-, 3-conductor
Number of outputs	4 (for 2-channel assignment)
	8 (for 1-channel assignment)
	8
Protective circuit	Overload protection, short-circuit protection of outputs
Output voltage	24 V DC ($U_S - 1 \text{ V}$)
Output current	max. 6 A (Total current of all outputs, $-25 \text{ °C} \dots 50 \text{ °C}$)
	max. 4 A (Total current of all outputs, $>50 \text{ °C} \dots 55 \text{ °C}$)
Maximum output current per group	3 A
Maximum output current per channel	2 A
Maximum output current per module	3 A (See technical data)
Nominal output voltage	24 V DC
Nominal load, inductive	see safety data
Nominal load, lamp	see safety data
Nominal load, ohmic	see safety data
Behavior with inductive overload	Output can be destroyed

Product properties

Product type	I/O component
Product family	Inline
Application	Functional safety
Type	modular
Diagnostics messages	Short-circuit or overload of the digital outputs Error message in diagnostics code (bus) and display by means of the LED on the motor

Electrical properties

Maximum power dissipation for nominal condition	144 W
Transmission medium	Copper

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC (see safety data)
Current draw	max. 230 mA (see safety data)

Potentials: Main circuit supply (U_M)

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 6.03 A
	typ. 30 mA (all outputs set including actuator current)

Supply: Module electronics

Supply voltage	24 V DC (via voltage jumper)
Supply voltage range	19.2 V DC ... 30 V DC

Electrical isolation/isolation of the voltage ranges

Test voltage: 5 V supply, incoming remote bus/7.5 V supply (bus logics)	500 V AC, 50 Hz, 1 min
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Test voltage: 5 V supply, outgoing remote bus/7.5 V supply (bus logics)	500 V AC, 50 Hz, 1 min
Test voltage: 7.5 V supply (bus logics)/24 V supply (I/O)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (I/O) / functional ground	500 V AC, 50 Hz, 1 min

Connection data

Connection technology

Connection name	Inline connector
pluggable	yes

Conductor connection

Connection method	Spring-cage connection
Conductor cross section rigid	0.2 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross section AWG	24 ... 16

Inline connector

Connection method	Spring-cage connection
Conductor cross section, rigid	0.2 mm ² ... 1.5 mm ²
Conductor cross section, flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross section AWG	24 ... 16

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C
Degree of protection	IP20
Air pressure (operation)	80 kPa ... 108 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (up to 3500 m above sea level)
Ambient temperature (storage/transport)	-25 °C ... 70 °C
Permissible humidity (operation)	10 % ... 85 % (Take suitable measures against increased air humidity within the permitted temperature range.)
Permissible humidity (storage/transport)	10 % ... 85 % (Take suitable measures against increased air humidity within the permitted temperature range.)

Standards and regulations

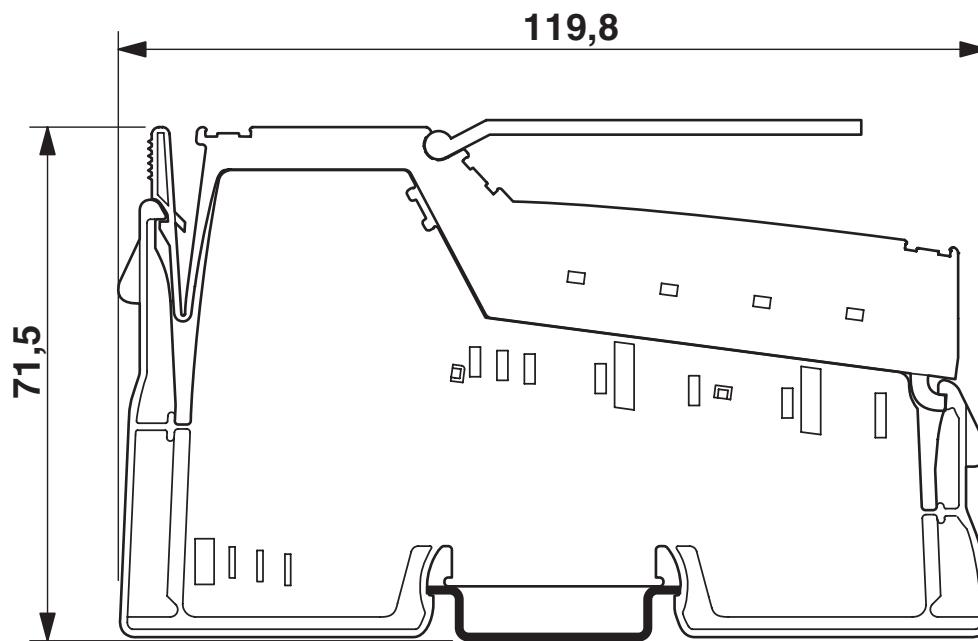
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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Mounting

Mounting type	DIN rail mounting
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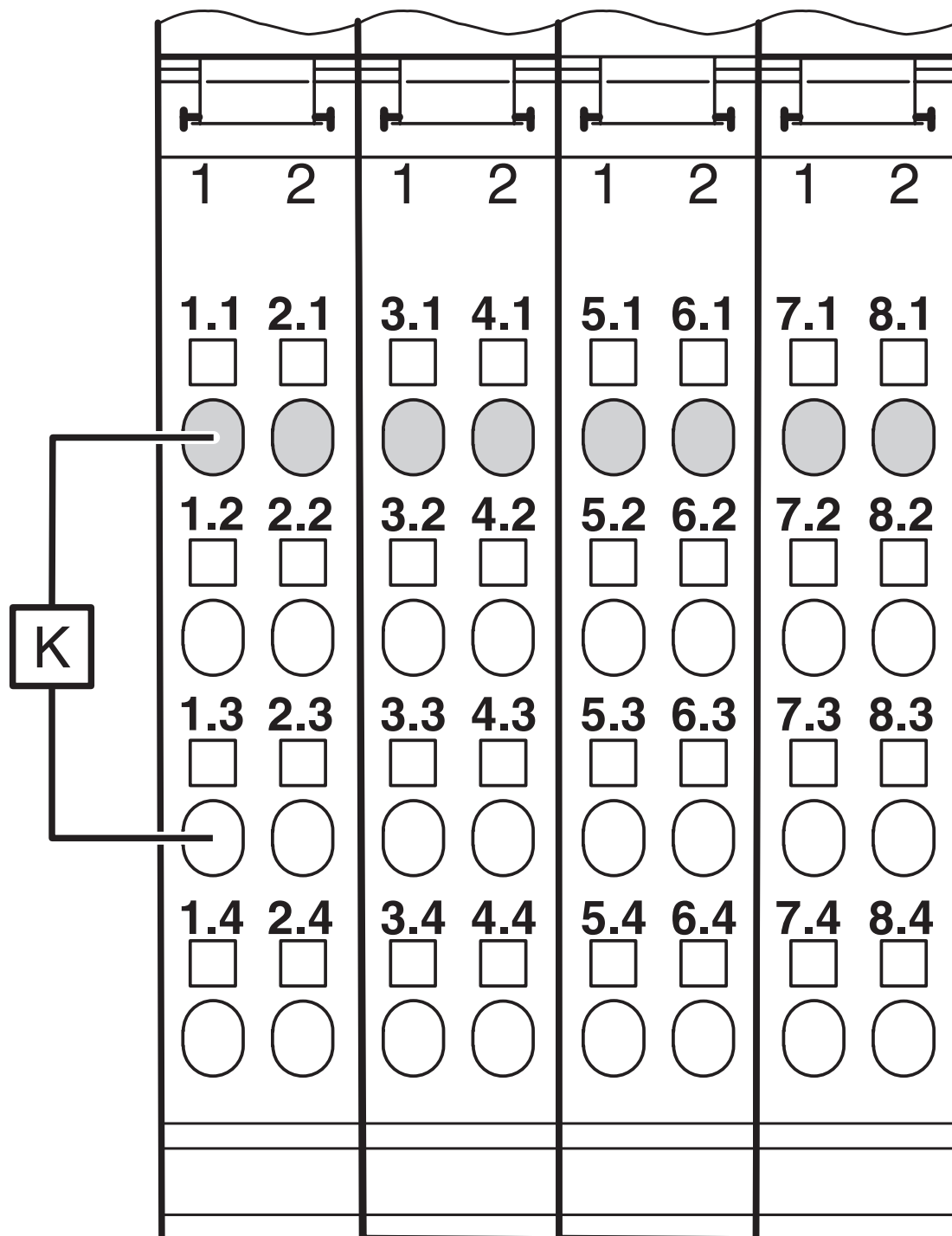
Drawings

Dimensional drawing



Dimensions (in mm)

Connection diagram



Example connection of a contactor

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Approvals

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Functional Safety

Approval ID: 968/FSP 2449.00/22

PROFIsafe

Approval ID: Z20081



cULus Listed

Approval ID: E140324

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Classifications

ECLASS

ECLASS-13.0	27242604
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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	90c06790-7b35-4495-a1c9-40ab602f2746

EF3.0 Climate Change

CO2e kg	16.5 kg CO2e
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