IB IL 24 DO 2-2A-2MBD-PAC - Digital module

2861700

https://www.phoenixcontact.com/us/products/2861700

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The figure shows the version IB IL 24 DO 2-2A-PAC

Inline, Digital output terminal, Digital outputs: 2, 24 V DC, 2 A, connection technology: 4-conductor, transmission speed in the local bus: 2 Mbps, degree of protection: IP20, including Inline connector and labeling field

Product description

Inline terminals with “2 MBD” added to their item designation work with a transmission speed of 2 Mbps. These terminal blocks are discontinued or no longer in the range. If you require this transmission speed, please ask your local Phoenix Contact representative. If you can work with a transmission speed of 500 kbps, select as a replacement the corresponding variant that does not have “2MBD” added to its item designation. Please note that a uniform transmission speed must always be used within one inline station. The terminal is designed for use within an Inline station. It is used to output digital signals.

Your advantages

- 2 digital outputs
- Connection of actuators in 2-, 3-, and 4-conductor technology
- Nominal current per output: 2 A
- Total current of the terminal: 4 A
- Short-circuit and overload-protected outputs
- Approved for use in a safety-related segment circuit

ELEKTROGERÄTE RÜCKNAHME

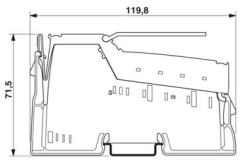
Commercial data

Item number	2861700
Packing unit	1 pc
Minimum order quantity	1 pc

Sales key	DR01
Product key	DRI132
GTIN	4017918974602
Weight per piece (including packing)	86.95 g
Weight per piece (excluding packing)	42 g
Customs tariff number	85389099
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	12.2 mm
Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

Notes

Note on application	Only for industrial use

Mounting

Mounting type	DIN rail mounting

Material specifications

Color (Housing)	green (RAL 6021)

Interfaces

Inline local bus

Number of interfaces	2
Connection method	Inline data jumper
Transmission speed	2 Mbps

System properties

Programming data

Length code (hex)	C2
ID code (dec.)	189
Length code (dec)	194
Process data channel	2 bit
Input address area	0 Byte
Output address area	2 bit
Parameter channel (PCP)	0 bit
Register length (bus)	2 bit

Fieldbus data telegram (PROFIBUS)

Required parameter data	3 Byte
Required configuration data	4 Byte

Output data

Digital:

Output name	Digital outputs
Design of digital output	Semiconductor
Connection method	Spring-cage connection
Connection technology	4-conductor
Number of outputs	2
Protective circuit	Overload protection, short-circuit protection of outputs
Output voltage	24 V DC (U_S - 1 V)
Limitation of the voltage induced on circuit interruption	approx. -0.7 V
Output current	max. 2 A (per channel)
	max. 4 A (per device)
Maximum output current per channel	2 A
Maximum output current per module	4 A
Nominal output voltage	24 V DC
Nominal load, inductive	48 VA (1,2 H, 12 Ω)
Nominal load, lamp	48 W
Nominal load, ohmic	48 W (12 Ω)
Signal delay when switching off an inductive nominal load	approx. 250 ms (1,2 H, 12 Ω)
Signal delay when switching off a lamp nominal load	approx. 200 µs
Signal delay when switching off an ohmic nominal load	approx. 200 µs
Signal delay when switching on an inductive nominal load	approx. 250 ms (1,2 H, 12 Ω)
Signal delay when switching on a lamp nominal load	typ. 200 ms (for switching frequencies up to 8 Hz, above this frequency, the lamp load behaves like an ohmic load)
Signal delay when switching on an ohmic nominal load	approx. 200 µs
Maximum operating frequency with inductive nominal load	max. 0.5 Hz (1,2 H, 12 Ω)
Maximum operating frequency with lamp nominal load	max. 300 Hz (this switching frequency is limited by the number of bus devices, the structure of the bus, the software used and the control or computer system used)
Maximum operating frequency with ohmic nominal load	max. 300 Hz (this switching frequency is limited by the number of bus devices, the structure of the bus, the software used and the control or computer system used)
Behavior with overload	Auto restart
Behavior with inductive overload	Output can be destroyed
Behavior at voltage switch-off	The output follows the power supply without delay
Reverse voltage resistance to short pulses	Reverse voltage proof
Resistance to permanent reverse voltage	to 2 A DC

Product properties

Product type	I/O component
Product family	Inline
Type	modular
Scope of supply	including Inline connector and labeling field
No. of channels	2

Operating mode	Process data mode with 2 bits
Diagnostics messages	Short-circuit or overload of the digital outputs Error message in the diagnostic code (bus) and display (2 Hz) via the LED (D) on the module

Insulation characteristics

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

Electrical properties

Maximum power dissipation for nominal condition	1.05 W

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 60 mA

Potentials: Segment circuit supply (U_S)

Supply voltage	24 V DC (via voltage jumper)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 4 A

Electrical isolation/isolation of the voltage ranges

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

Inline connector

Connection method	Spring-cage connection
Conductor cross-section, rigid	0.08 mm² ... 1.5 mm²
Conductor cross-section, flexible	0.08 mm² ... 1.5 mm²
Conductor cross-section AWG	28 ... 16
Stripping length	8 mm

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C
Degree of protection	IP20
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

Mechanical test

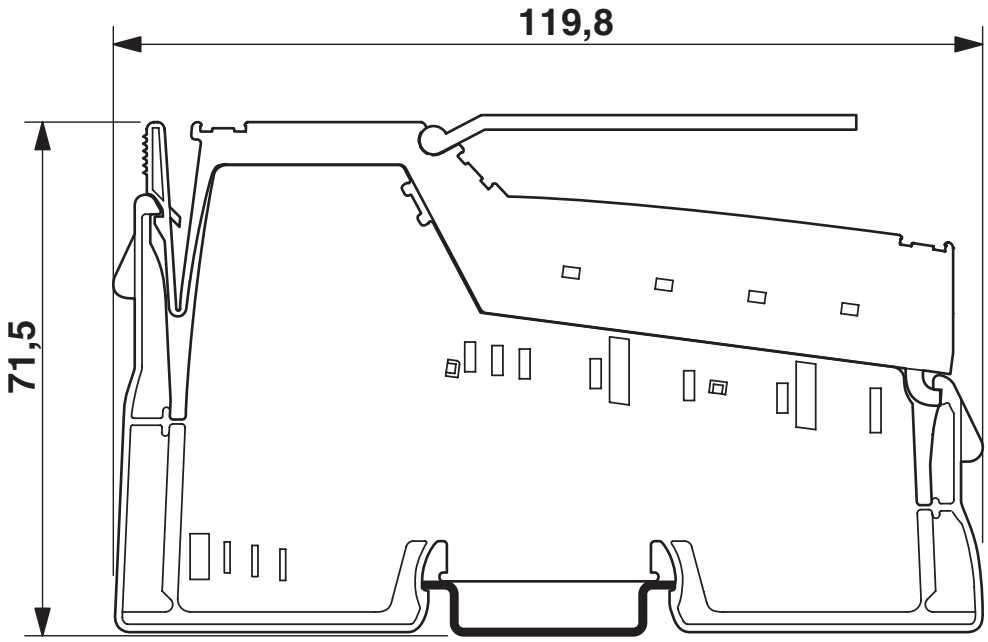
Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	25g

Standards and regulations

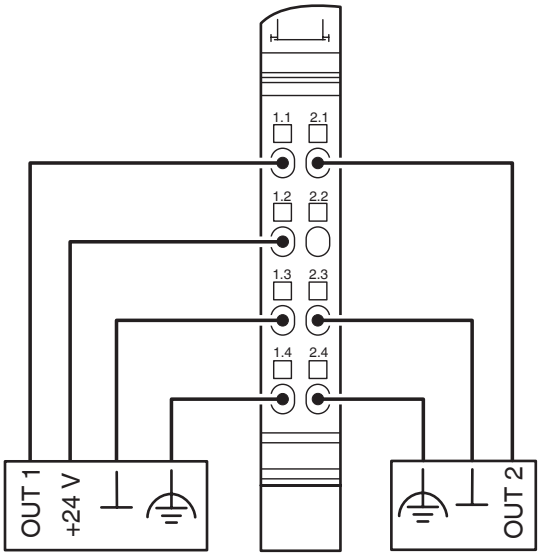
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

Drawings

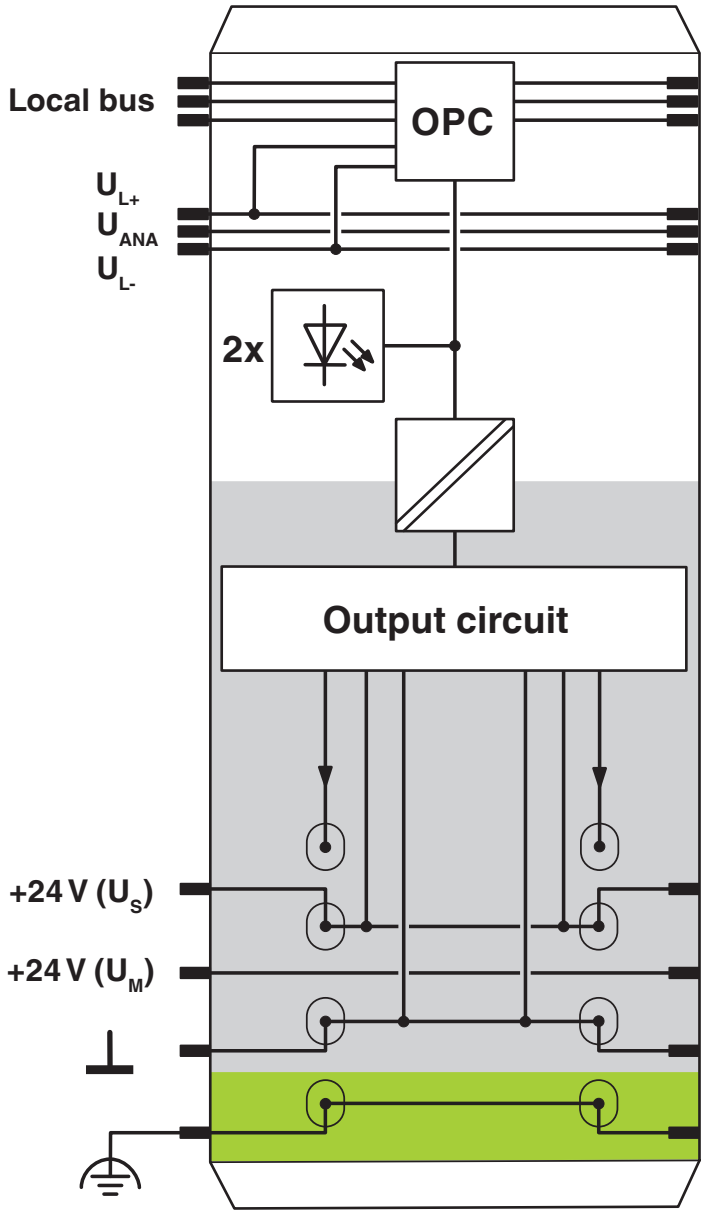
Dimensional drawing



Connection diagram



Block diagram



Internal wiring of the terminal points

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2861700

cULus Listed
Approval ID: E140324

Functional Safety
Approval ID: 968/EL 711.08/23

Classifications

ECLASS

ECLASS-13.0	27242604
ECLASS-15.0	27242604

ETIM

ETIM 10.0	EC001599

UNSPSC

UNSPSC 21.0	32151600

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	18e63add-9855-4603-9466-f9511ddd1a65

EF3.1 Climate Change

CO2e kg	2.358 kg CO2e

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