IL PN BK-PAC - Bus coupler

2403696

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CRA-READY



Inline, Bus coupler, PROFINET, RJ45 jack, transmission speed in the local bus: 500 kbps / 2 Mbps, degree of protection: IP20, including Inline connector; The product is being prepared for compliance with the Cyber Resilience Act (CRA).

Product description

The bus coupler is intended for use within a PROFINET network. The bus coupler creates the link to the Inline I/O system and the industrial I/O signals connected to it. Up to 63 Inline devices can be connected to the bus coupler. Device descriptions for Phoenix Contact controllers are integral parts of the engineering tools PC Worx and PLCnext Engineer. Corresponding GSDML files are available for integrating the Inline station into other programming systems. These files can be downloaded at: www.phoenixcontact.net/product/2403696.

Your advantages

- 2 Ethernet ports (with integrated switch)
- Conformance with PROFINET specification V2.3
- Supports PROFIsafe (firmware version 1.10 or later)
- Supports PROFINET S2 system redundancy (firmware version 1.10 or later)
- PROFINET RT and IRT
- Minimum cycle time of PROFINET for RT and IRT is 250 µs
- Automatic detection of the transmission speed in the local bus (500 kbps or 2 Mbps)
- Support for three branch terminals as a remote bus branch (32 remote bus devices in total)
- Web-based management

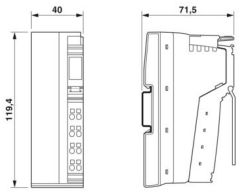


Commercial data

Item number	2403696
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI11A
GTIN	4055626346137
Weight per piece (including packing)	171.7 g
Weight per piece (excluding packing)	168.5 g
Customs tariff number	85176200
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	40 mm
Height	119.4 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

Notes

Note on application	Only for industrial use
Note on application	As things stand now, we are preparing the product so that, as of December 11, 2027, it will comply with the requirements of the EU Cyber Resilience Act (CRA) based on the information currently available regarding the CRA.

Mounting

Mounting type	DIN rail mounting
Mounting position	any

Material specifications

Color (Housing)	green (RAL 6021)

Interfaces

Supported protocols	PROFINET
	TFTP
	PTCP
	LLDP
	SNMP
	MRP
	DCP

PROFINET

Number of interfaces	2
Connection method	RJ45 jack
Note on the connection method	Auto negotiation and autocrossing
Transmission speed	100 Mbps (acc. to PROFINET standard)
Transmission physics	Ethernet in RJ45 twisted pair

Inline local bus

Number of interfaces	1
Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (automatic detection, no combined system)

System properties

System limits

Amount of process data (Input data)	max. 1012 Byte
Amount of process data (Output data)	max. 1012 Byte
Number of supported devices	max. 63 (per station)
Number of local bus devices that can be connected	max. 63
Number of devices with parameter channel	max. 16
Number of supported branch terminals with remote bus branch	3

PROFINET

Device function	PROFINET device
Specification	Version 2.3
Conformance Class	Conformance Class C
Device ID	0140_{hex}
Vendor ID	$00B0_{hex}$

Programming data

Register length (bus)	16 bit
Register length (master)	512 Byte

Product properties

Product type	I/O component
Product family	Inline
Type	modular
Mounting position	any
Scope of supply	including Inline connector
No. of channels	12
Special properties	The product is being prepared for compliance with the Cyber Resilience Act (CRA)

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	3.8 W

Potentials: Bus coupler supply U_{BK}; Communications power U_L (7.5 V) and the analog supply U_{ANA} (24 V) are generated from the bus coupler supply.

Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 0.91 A DC (with max. number of connected I/O terminal blocks)

	typ. 85 mA (no local bus devices connected)

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC
Power supply	max. 0.8 A DC

Potentials: Supply of analog modules (U_{ANA})

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply	max. 0.5 A DC

Potentials: Main circuit supply (U_M)

Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply	max. 8 A DC (sum of U_M + U_S)

Potentials: Segment circuit supply (U_S)

Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply	max. 8 A DC (sum of U_M + U_S)

Electrical isolation/isolation of the voltage ranges

Test voltage: PROFINET interface 1 / PROFINET interface 2	1500 V AC, 50 Hz, 1 min
Test voltage: PROFINET interface 1 / communications power (U_{BK}, U_L, U_{ANA})	1500 V AC, 50 Hz, 1 min
Test voltage: PROFINET interface 1 / I/O (U_M, U_S)	1500 V AC, 50 Hz, 1 min
Test voltage: PROFINET interface 1 / functional ground	1500 V AC, 50 Hz, 1 min
Test voltage: PROFINET interface 2 / communications power (U_{BK}, U_L, U_{ANA})	1500 V AC, 50 Hz, 1 min
Test voltage: PROFINET interface 2 / I/O (U_M, U_S)	1500 V AC, 50 Hz, 1 min
Test voltage: PROFINET interface 2 / functional ground	1500 V AC, 50 Hz, 1 min
Test voltage: Communications power (U_{BK}, U_L, U_{ANA}) / I/O (U_M, U_S)	500 V AC, 50 Hz, 1 min
Test voltage: Communications power (U_{BK}, U_L, U_{ANA}) / functional ground	500 V AC, 50 Hz, 1 min
Test voltage: I/O (U_M, U_S) / 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)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

Mechanical test

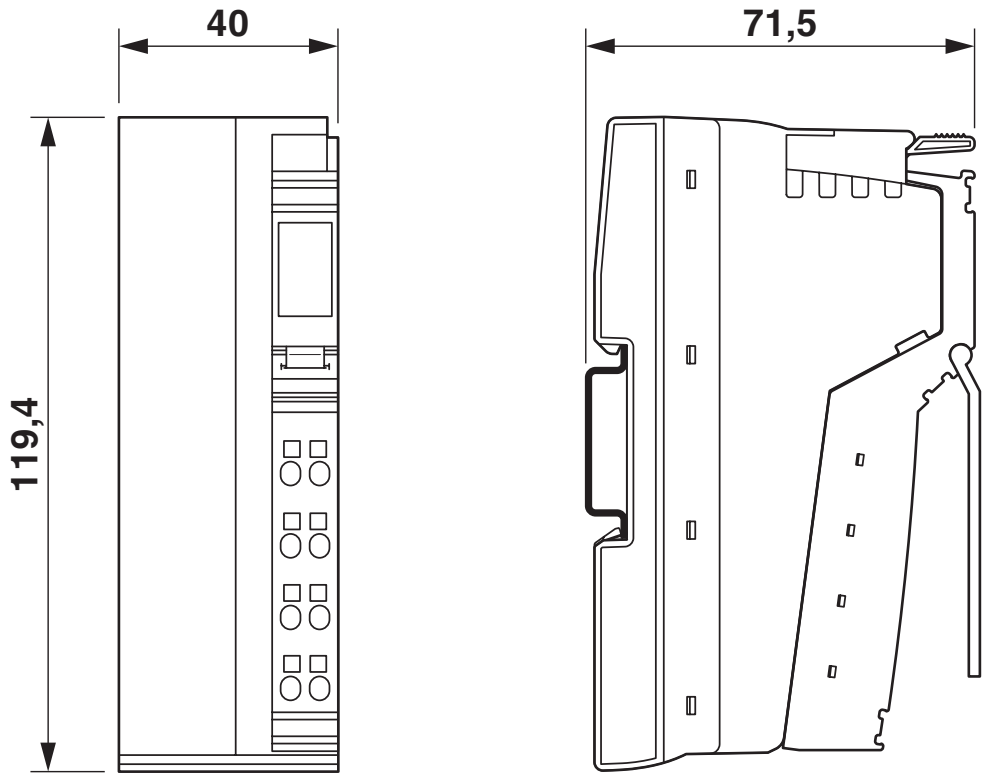
Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	25g

Standards and regulations

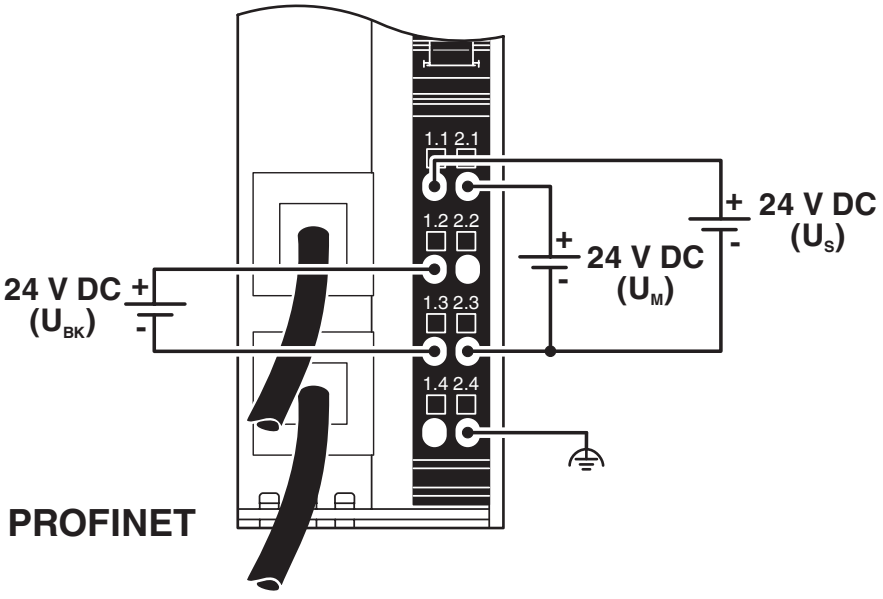
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

Drawings

Dimensional drawing

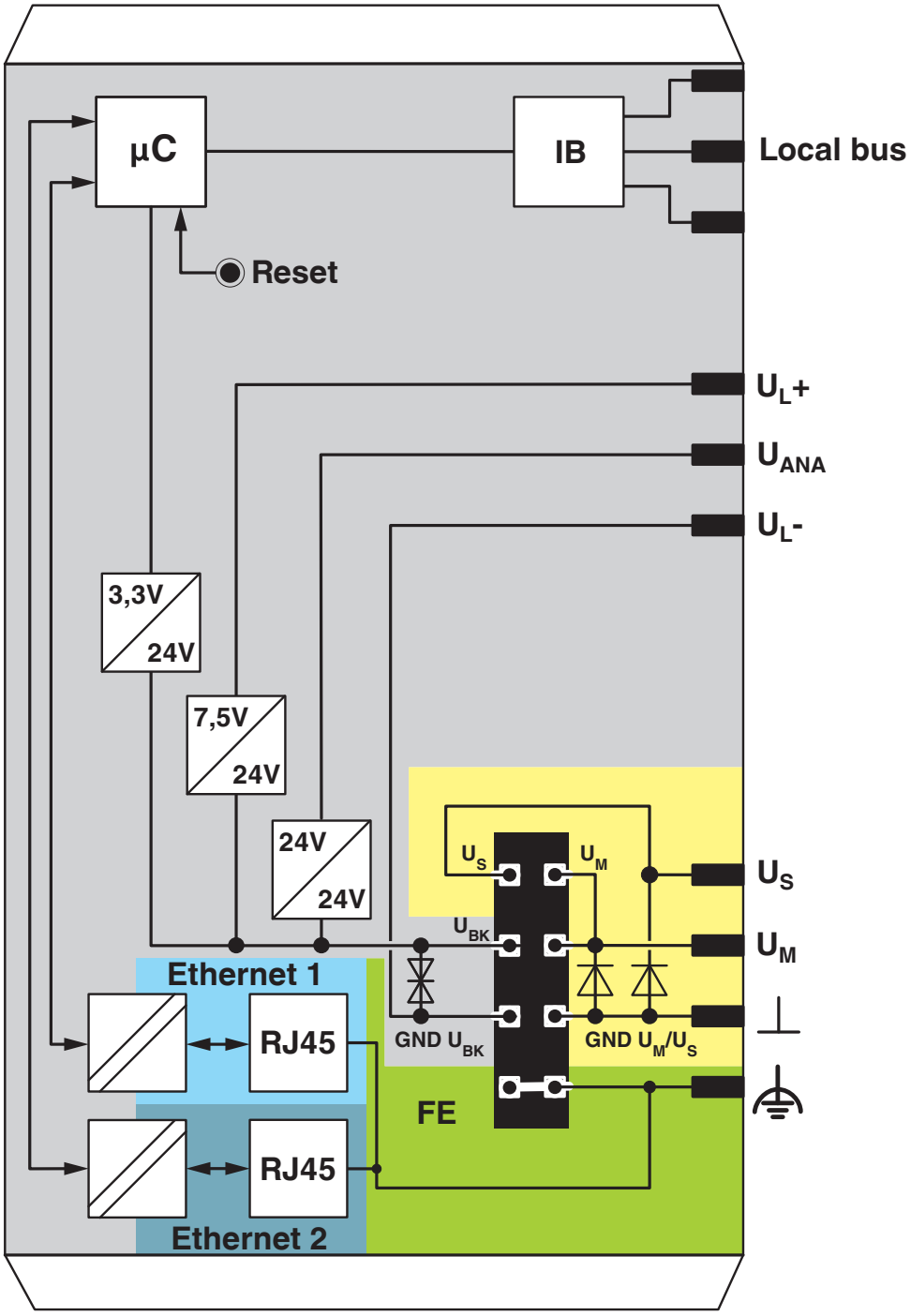


Connection diagram



Connection of the cables

Block diagram



Internal wiring of connections

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2403696

BV
Approval ID: 20989_C1 BV

BSH
Approval ID: 658a

ABS
Approval ID: 22-2226444-PDA

PROFINET
Approval ID: Z13114

cULus Listed
Approval ID: E238705

Classifications

ECLASS

ECLASS-13.0	27242608
ECLASS-15.0	27242608

ETIM

ETIM 10.0	EC001604

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	f8789c3f-1261-4bb4-8c3d-0a1d68580b3e

EF3.1 Climate Change

CO2e kg	7.379 kg CO2e

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