

Bus coupler - IL PN BK-PAC - 2403696

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Inline, Bus coupler, PROFINET, RJ45 socket, auto negotiation, transmission speed in the local bus: 500 kbps / 2 Mbps, degree of protection: IP20

Product Description

The bus coupler is the link between a PROFINET network and the Inline installation system. In addition, it is used to acquire and output digital signals. Up to 63 Inline devices can be connected at any point to an existing PROFINET network using the bus coupler.

Your advantages

- ✓ Compact station structure, thanks to 40 mm housing width, saves space in the control cabinet
- ✓ Conformance with PROFINET specification V2.3
- ✓ 2 RJ45 connections
- ✓ IP parameters adjustable via PROFINET controller
- ✓ Electrical isolation between Ethernet interface and logic
- ✓ Automatic baud rate detection on the local bus (500 kbps or 2 Mbps)
- ✓ Diagnostic and status indicators
- ✓ Support of three branch terminals as remote bus branch (32 remote bus devices in total)
- ✓ Automatic speed detection of the system bus
- ✓ The PROFI-safe function is supported by firmware version 1.10 or later
- ✓ Up to 63 terminals (16 PCP devices) can be connected



Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 346137
GTIN	4055626346137

Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Technical data

Dimensions

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

Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C (observe derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	10 % ... 95 % (according to DIN EN 61131-2)
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)
Degree of protection	IP20

General

Mounting type	DIN rail mounting
Color	green
Net weight	168.5 g
Note on weight specifications	with connectors
Diagnostics messages	Short-circuit or overload of the digital outputs Yes
	Sensor supply failure Yes
	Failure of the actuator supply Yes
Mounting type	DIN rail mounting

Interfaces

Designation	PROFINET
Number	2
Connection method	RJ45 socket, auto negotiation
Transmission speed	100 Mbps (acc. to PROFINET standard)
Transmission physics	Ethernet in RJ45 twisted pair
Designation	Inline local bus
Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (automatic detection, no combined system)

Network/bus system

Amount of process data	max. 2024 Byte (max. 1012 Byte IN - max. 1012 Byte OUT)
	max. 1012 Byte (Input)
	max. 1012 Byte (Output)
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	4

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Technical data

Power supply for module electronics

Connection method	Spring-cage connection
Designation	Bus coupler supply U_{BC} ; 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 consumption	typ. 138 mA (from U_{BK})
	max. 0.91 A DC (from U_{BK})
Power dissipation	typ. 3 W (entire device)

Inline potentials

Designation	Bus coupler supply U_{BC} ; 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
Supply voltage range	19.2 V DC ... 30 V DC (via Inline connector)
Current consumption	typ. 51 mA (No local bus devices connected)
	typ. 138 mA
	max. 0.91 A DC
Designation	Communications power (U_L)
Supply voltage	7.5 V DC $\pm 5\%$
Power supply unit	max. 0.8 A DC
Power consumption	typ. 3 W (entire device)
Designation	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 unit	max. 0.5 A DC
Designation	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)
Power supply unit	max. 8 A DC (sum of $U_M + U_S$)
Designation	Segment circuit supply (U_S)
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply unit	max. 8 A DC (sum of $U_M + U_S$)
Power consumption	typ. 3 W (entire device)

Standards and Regulations

Immunity to ESD	Noise immunity test in accordance with EN 61000-6-2 Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2 Criterion B, 6 kV contact discharge, 8 kV air discharge
Immunity to EF	Noise immunity test in accordance with EN 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m

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Technical data

Standards and Regulations

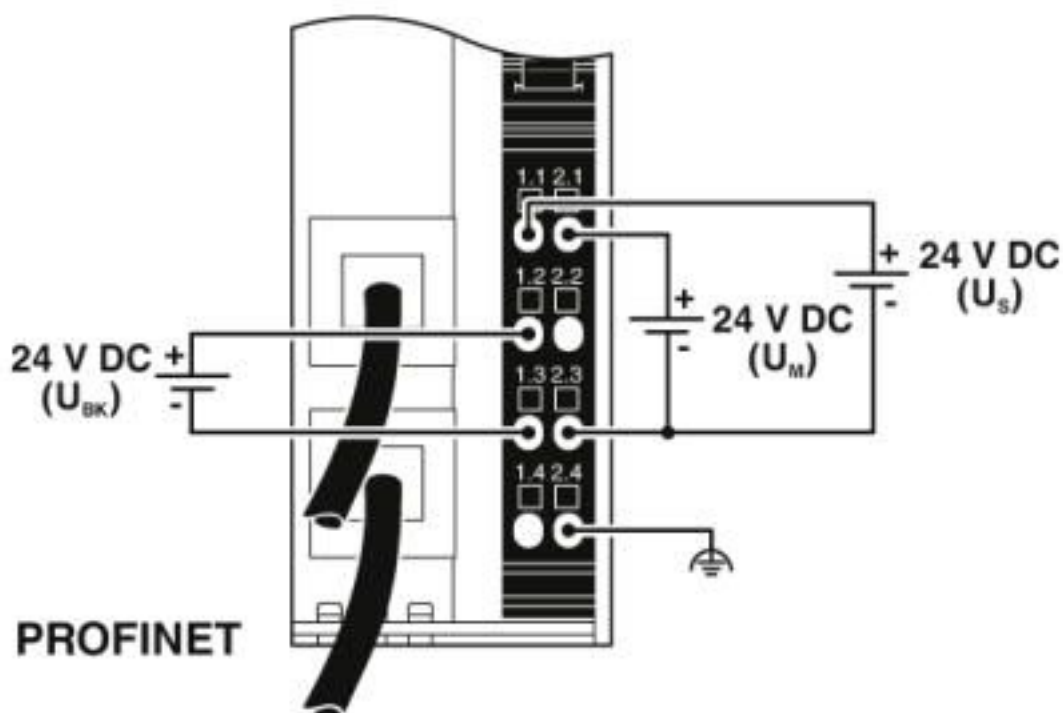
Immunity to burst	Noise immunity test in accordance with EN 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion A, all interfaces 1 kV Criterion B, all interfaces 2 kV
Immunity to surge	Noise immunity test in accordance with EN 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion B, supply lines DC: 0.5 kV/0.5 kV (symmetrical/asymmetrical), fieldbus cable shield 1 kV
Immunity to conducted interference	Noise immunity test in accordance with EN 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test according to EN 61000-6-3 Class B
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 Operation: 25g, 11 ms duration, semi-sinusoidal shock impulse
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

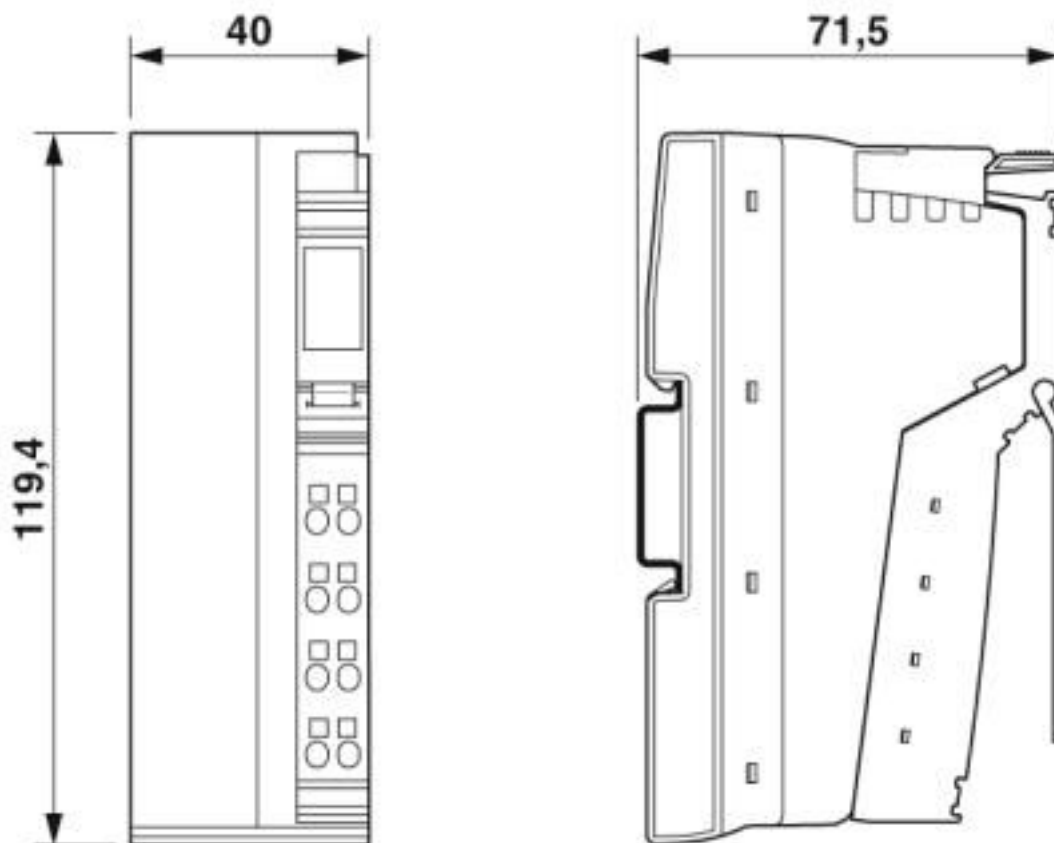
Drawings

Connection diagram



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Dimensional drawing



Classifications

eCl@ss

eCl@ss 10.0.1	27242608
eCl@ss 11.0	27242608
eCl@ss 6.0	27242600
eCl@ss 7.0	27242608
eCl@ss 8.0	27242608
eCl@ss 9.0	27242608

ETIM

ETIM 5.0	EC001604
ETIM 6.0	EC001604
ETIM 7.0	EC001604

Approvals

Approvals

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Approvals

Approvals

PROFINET / DNV GL / ABS / UL Listed / cUL Listed / LR / cULus Listed

Ex Approvals

Approval details

PROFINET	Z12377
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DNV GL		https://approvalfinder.dnvgl.com/	TAA00000BN
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ABS	http://www.eagle.org/eagleExternalPortalWEB/	17-HG1621871-PDA
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UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
Nominal voltage UN		125 V	
Nominal current IN		1 A	

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
Nominal voltage UN		125 V	
Nominal current IN		1 A	

LR		http://www.lr.org/en	08/20033
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cULus Listed			
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Accessories

Accessories

Data cable by the meter

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Accessories

Network cable - FL CAT5 HEAVY - 2744814



CAT5-SF/UTP cable (J-02YS(ST)C HP 2 x 2 x 24 AWG), heavy-duty installation cable, 2 x 2 x 0.22 mm², solid conductor, shielded, outer sheath: 7.8 mm diameter, inner sheath: 5.75 mm ± 0.15 mm diameter

Installation cable - FL CAT5 FLEX - 2744830



By the meter, Installation cable, Ethernet CAT5 (100 Mbps), shielded, PUR halogen-free, water blue RAL 5021, 4-wire (2x2xAWG26/7; SF/UTP), color single wire: white/orange-orange, white/green-green, cable length: Free entry (1.0 ... 1000.0 m)

Data plug

Assembly tool - FL CRIMPTOOL - 2744869



Crimping pliers, for assembling the RJ45 plugs FL PLUG RJ45..., for assembly on site

Plug

RJ45 connector - FL PLUG RJ45 GR/2 - 2744856



RJ45 connector, shielded, with bend protection sleeve, 2 pieces, gray for straight cables, for assembly on site. For connections that are not crossed, it is recommended that you use the connector set with gray bend protection sleeve.

RJ45 connector - FL PLUG RJ45 GN/2 - 2744571



RJ45 connector, shielded, with bend protection sleeve, 2 pieces, green for crossed cables, for assembly on site. For connections that are crossed, it is recommended that the connector set with green bend protection sleeves is used.

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PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>