

# Bus coupler - IL CO BK-PAC

2702230

<https://www.phoenixcontact.com/gb/products/2702230>



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Inline, Bus coupler, CANopen<sup>®</sup>, MINI COMBICON, transmission speed in the local bus: 500 kbps / 2 Mbps, degree of protection: IP20, including network connector, Inline connector, and marking field

## Product Description

The bus coupler is intended for use within a CANopen<sup>®</sup> network. It is the link to the Inline I/O system. Up to 63 Inline devices can be connected to the bus coupler. A corresponding EDS file is available for integrating the Inline station into the programming system. This file can be downloaded via the product at [phoenixcontact.net/products](https://www.phoenixcontact.net/products).

## Your advantages

- Automatic detection of the baud rate in the CANopen<sup>®</sup> network
- Programmable modes for behavior in the event of an error
- Emergency messages
- Integrated termination resistor can be switched on or off via DIP switch
- Supports two SDO servers simultaneously
- Trigger modes: event, timer, remote request
- Node and life guarding
- Heartbeat
- Connection to CANopen<sup>®</sup> with 5-pos. MINI COMBICON connector

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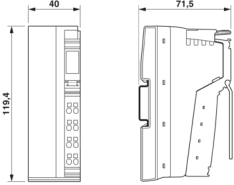


## Commercial Data

Order Key	2702230
Packing unit	1 pc
Minimum order quantity	1 pc
Sales Key	DRI113
Product Key	DRI113
Catalog Page	Page 106 (C-6-2019)
GTIN	4055626134949
Weight per Piece (including packing)	177 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

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

### Material specifications

Color	green
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### Interfaces

CANopen®		
No. of channels	1	
Connection method	MINI COMBICON	
Number of positions	5	
Transmission speed	1 Mbps, 800 kbps, 500 kbps, 250 kbps, 125 kbps, 50 kbps, 20 kbps, 10 kbps (Can be set via DIP switch or automatic detection)	

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

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Transmission speed	500 kbps / 2 Mbps (automatic detection, no combined system)
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## System properties

### System limits

Amount of process data	max. 512 Byte (Sum of the inputs and outputs for 64 PDOs with 8 bytes each)
	max. 256 Byte (Input)
	max. 256 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	0

### Module

ID code (hex)	none
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## Product properties

Type	modular
Scope of delivery	including network connector, Inline connector, and marking field
Diagnostics messages	CRC error Message about the emergency object
	I/O error Message about the emergency object
	Power error Message about the emergency object
	Module change errors Message about the emergency object
	Inactive local bus Message about the emergency object
	Inline connection error Message about the emergency object
	Faulty Inline cycles Message about the emergency object

## Electrical properties

### Potentials

Power consumption	typ. 1.3 W (entire device)
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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. 0.9 A (with max. number of connected I/O terminal blocks)
	typ. 51 mA (No local bus devices connected)

### Potentials: Communications power ( $U_L$ )

Supply voltage	7.5 V DC
	max. 0.8 A

### 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)
	max. 0.5 A DC

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## 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)
	max. 8 A (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)
	max. 8 A (sum of $U_M + U_S$ )

## Connection data

### Connection technology

Connection name	Inline connector
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### Conductor connection

Connection method	Spring-cage connection
Conductor cross section solid	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	28 ... 16
Stripping length	8 mm

### Inline connector

Connection method	Spring-cage connection
Conductor cross section, rigid	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	28 ... 16
Stripping length	8 mm

## 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)

## Standards and regulations

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

Mounting type	DIN rail
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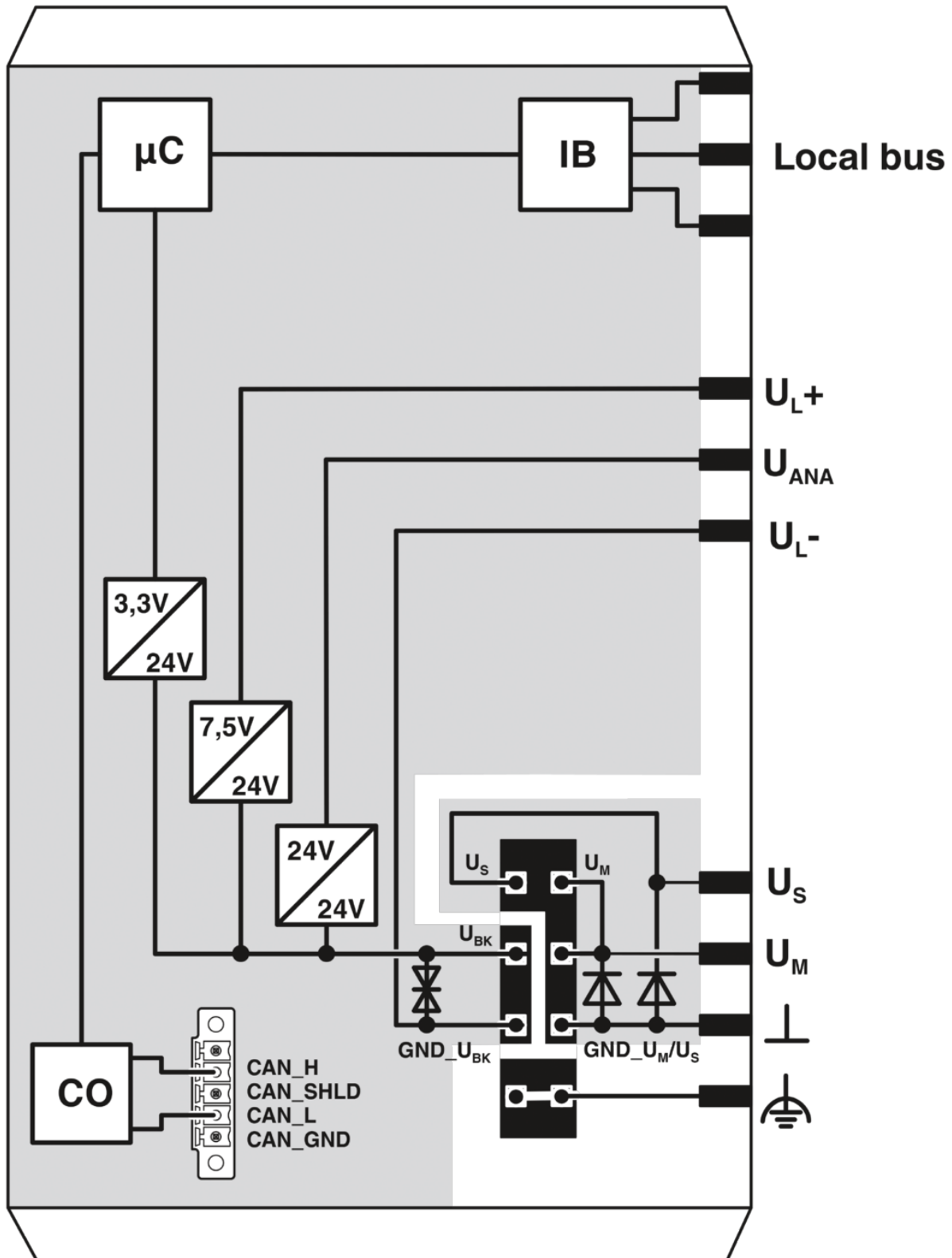
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## Drawings

Block diagram



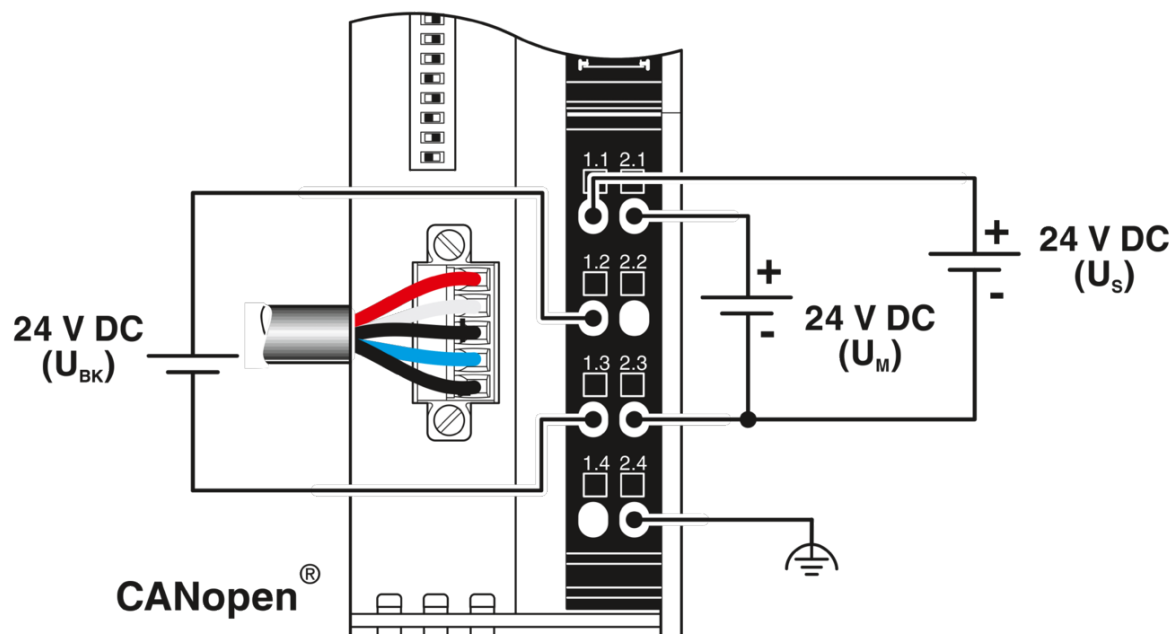
# Bus coupler - IL CO BK-PAC

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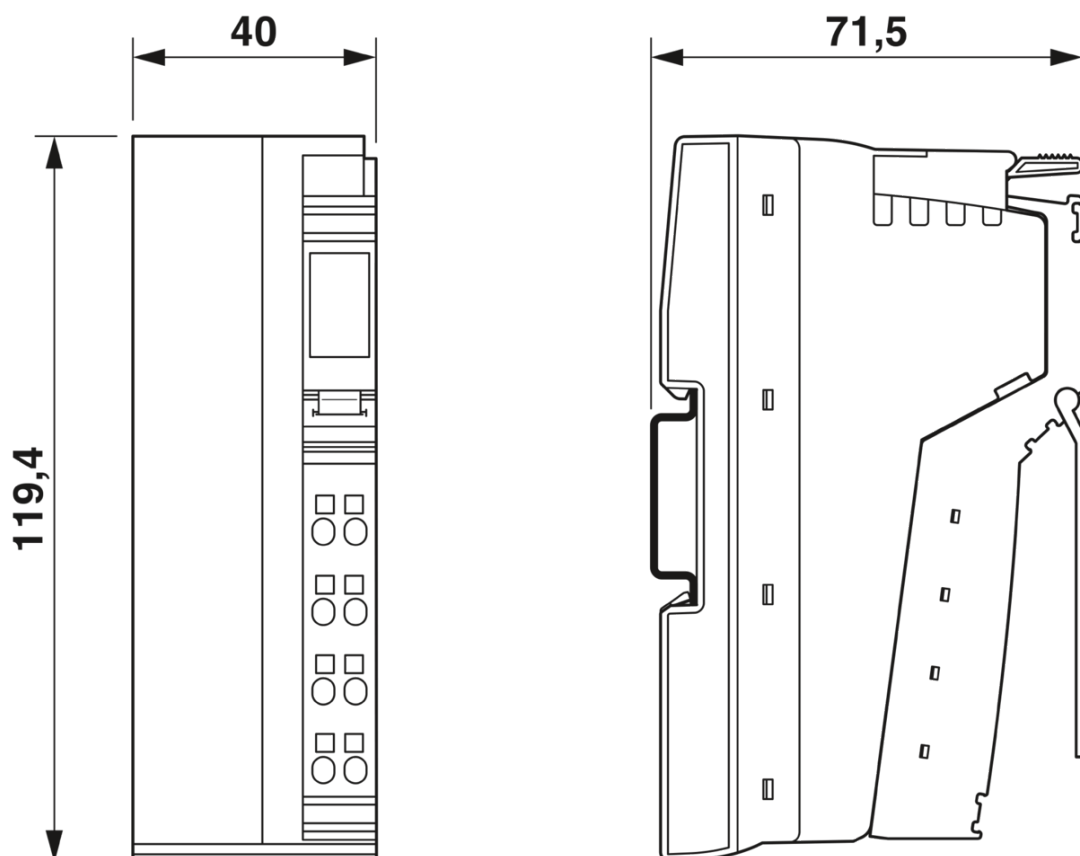
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Connection diagram



Dimensional drawing



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## Approvals

UL Listed 

cUL Listed 

cULus Listed



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## Classifications

### ECLASS

ECLASS-9.0	27242608
ECLASS-10.0.1	27242608
ECLASS-11.0	27242608

### ETIM

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### UNSPSC

UNSPSC 21.0	32151602
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## 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"

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## Accessories

### End clamp

End clamp - CLIPFIX 35-5 - 3022276



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, with parking option for FBS...5, FBS...6, KSS 5, KSS 6, width: 5.15 mm, color: gray

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### End clamp

End clamp - CLIPFIX 35 - 3022218



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, width: 9.5 mm, color: gray

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## Insert strip

Insert strip - ESL 62X10 - 0809492

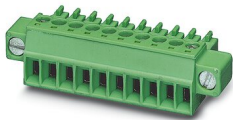
Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems: Laser printer, mounting type: snap in, lettering field size: 62 x 10 mm, Number of individual labels: 72



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## Printed-circuit board connector

Printed-circuit board connector - MC 1,5/ 5-STF-3,5 - 1847084



PCB connector, nominal cross section: 1.5 mm<sup>2</sup>, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: MC 1,5/..-STF, pitch: 3.5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, number of solder pins per potential: 1, plug-in system: MINI COMBICON, Locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

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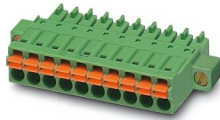


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## Printed-circuit board connector

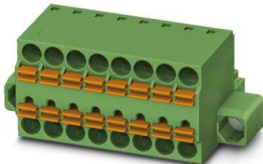
Printed-circuit board connector - FMC 1,5/ 5-STF-3,5 - 1966127



PCB connector, nominal cross section: 1.5 mm<sup>2</sup>, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: FMC 1,5/...-STF, pitch: 3.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, number of solder pins per potential: 1, plug-in system: MINI COMBICON, Locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

## Printed-circuit board connector

Printed-circuit board connector - TFMC 1,5/ 5-STF-3,5 - 1772731



PCB connector, nominal cross section: 1.5 mm<sup>2</sup>, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 10, product range: TFMC 1,5/...-STF, pitch: 3.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: MINI COMBICON, Locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

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Labeling field

Labeling field - IB IL FIELD 2 - 2727501

Labeling field, width: 12.2 mm



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