

# IBS IL 24 BK-T/U-PAC - Bus coupler



2861580

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Inline, Bus coupler, INTERBUS, Inline shield connector, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connectors and marking fields

## Product description

The bus coupler connects an Inline station to the INTERBUS remote bus and provides the supply voltages for the connected devices.

## Your advantages

- Remote bus connections using copper technology
- An Inline station can be supplied with all of the required 24 V voltages for low-level signals
- Automatic configuration of the outgoing interface as a remote bus or local bus interface
- Up to 15 connected terminals with remote bus branch supported
- Electrical isolation of the remote bus segments

## Commercial data

Item number	2861580
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI111
GTIN	4017918894436
Weight per piece (including packing)	264 g
Weight per piece (excluding packing)	214 g
Customs tariff number	85389099
Country of origin	DE

# IBS IL 24 BK-T/U-PAC - Bus coupler

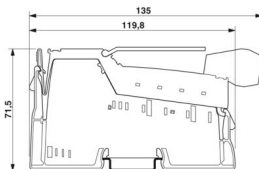
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## Technical data

### Dimensions

Dimensional drawing		
Width		48.8 mm
Height		135 mm
Depth		71.5 mm

### Notes

#### Note on application

Note on application	Only for industrial use
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#### Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
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### Interfaces

#### INTERBUS

Number of interfaces	2
Connection method	Inline shield connector
Transmission speed	500 kbps
Transmission physics	Copper

#### Remote bus branch / Inline local bus

Number of interfaces	1
Connection method	Inline data jumper
Transmission speed	500 kbps

### System properties

#### System limits

Number of supported devices	max. 63
Number of local bus devices that can be connected	max. 63
Number of devices with parameter channel	max. 62
Number of supported branch terminals with remote bus branch	max. 15

#### Module

ID code (dec.)	04
ID code (hex)	04
Length code (hex)	00

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2861580

<https://www.phoenixcontact.com/us/products/2861580>

Length code (dec)	00
Process data channel	0 bit
Input address area	0 bit
Output address area	0 bit
Register length	0 bit

## Product properties

Product type	I/O component
Product family	Inline
Type	modular
Scope of supply	including Inline connectors and marking fields
Diagnostics messages	I/O error yes, if the segment voltage $U_S$ is not present

## 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 W
Protective circuit	Short-circuit protection of the communications power; electronic
	Short-circuit protection of the analog supply; electronic
	Surge protection (segment supply, main supply, bus coupler supply); Input protective diodes (can be destroyed by permanent overload)Pulse loads up to 1500 W are short circuited by the input protective diode.
	Protection against polarity reversal (segment supply/main supply); Parallel diodes for protection against polarity reversal; in the event of an error the high current flowing through the diodes causes the fuse connected upstream to blow.
	Protection against polarity reversal (bus coupler supply); Serial diode in the lead path of the power supply unit; in the event of an error only a low current flows. In the event of an error, no fuse trips within the external power supply unit.

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. 1.25 A (with max. number of connected I/O terminal blocks)
	typ. 100 mA (without connected I/O terminal blocks)

Potentials: Communications power ( $U_L$ )

Supply voltage	7.5 V DC
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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)

Potentials: Main circuit supply ( $U_M$ )

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Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)

## 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)

## Electrical isolation/isolation of the voltage ranges

Test voltage: 5 V supply, incoming remote bus / 5 V supply outgoing remote bus	500 V AC, 50 Hz, 1 min
Test voltage: 5 V supply incoming remote bus / 7.5 V communications power, 24 V analog supply, 24 V bus coupler supply	500 V AC, 50 Hz, 1 min
Test voltage: 5 V supply, incoming remote bus / 24 V main supply, 24 V segment supply	500 V AC, 50 Hz, 1 min
Test voltage: 5 V supply incoming remote bus / functional ground	500 V AC, 50 Hz, 1 min
Test voltage: 5 V supply outgoing remote bus / I/O ( $U_M$ , $U_S$ )	500 V AC, 50 Hz, 1 min
Test voltage: 5 V supply outgoing remote bus / communications power ( $U_{BK}$ , $U_L$ , $U_{ANA}$ )	500 V AC, 50 Hz, 1 min
Test voltage: 5 V supply outgoing remote bus / functional ground	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: Communications power ( $U_{BK}$ , $U_L$ , $U_{ANA}$ ) / I/O ( $U_M$ , $U_S$ )	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
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### Conductor connection

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

### 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

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C
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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)

## 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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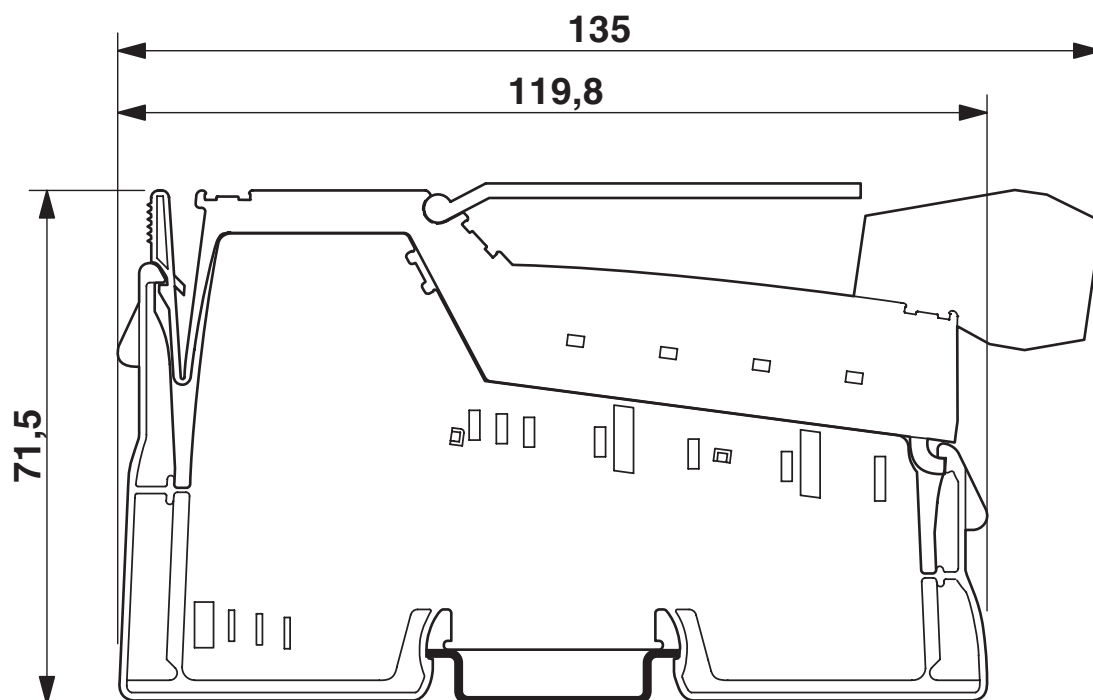
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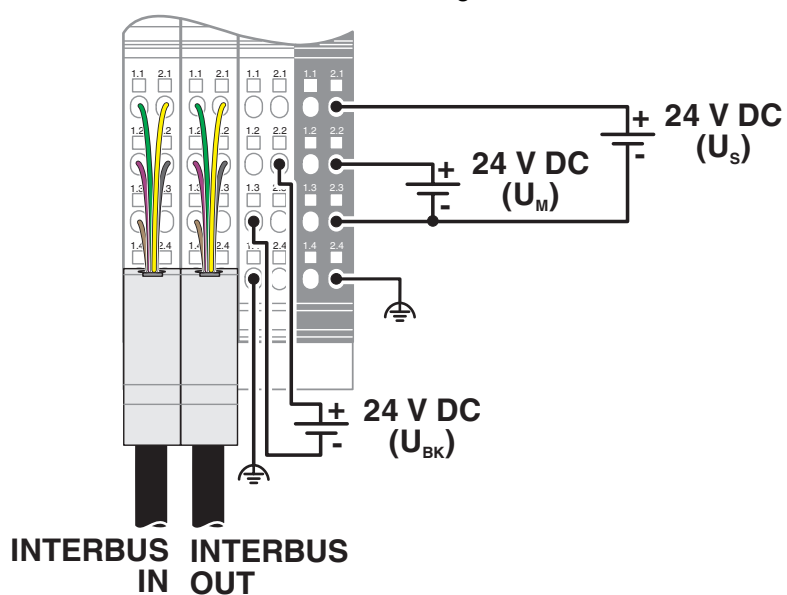


## Drawings

Dimensional drawing



Connection diagram



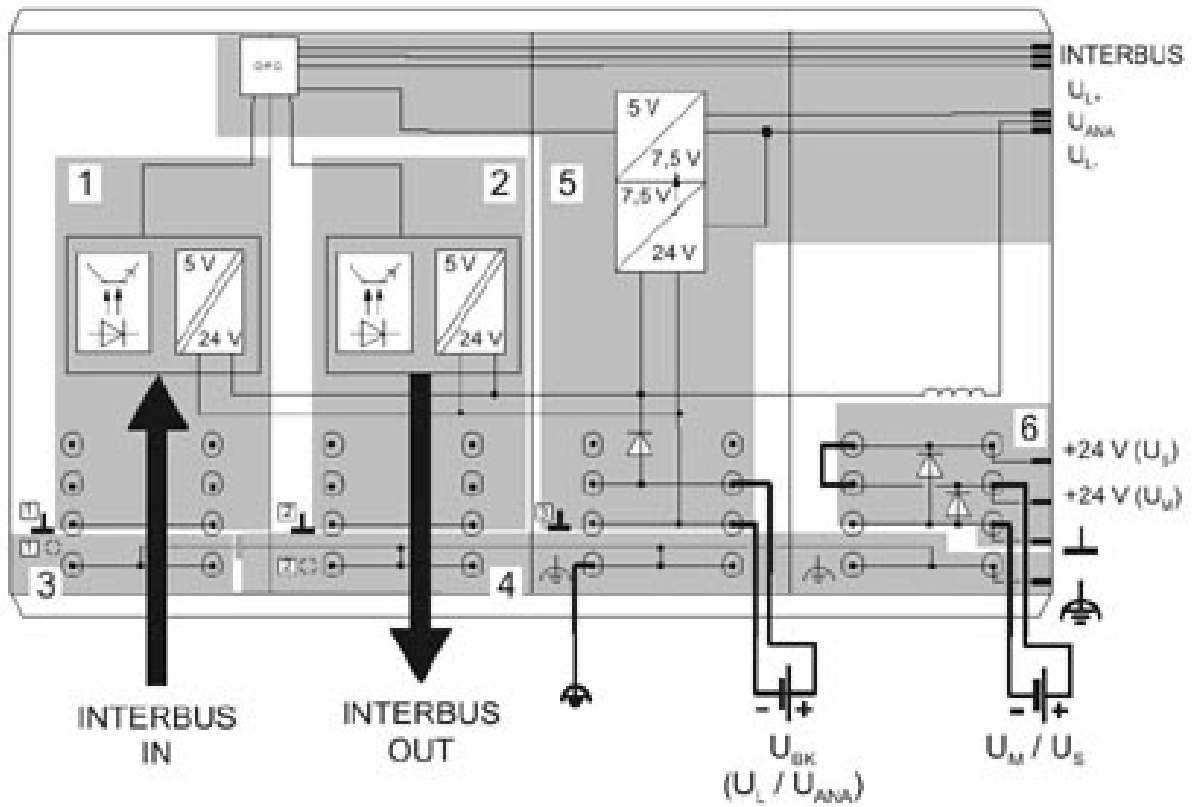
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### Block diagram



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## Approvals

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**EAC**

Approval ID: TR TS\_S\_03508-21



**DNV GL**

Approval ID: TAA00001KV



**BV**

Approval ID: 20977/C1 BV

**BSH**

Approval ID: 658a



**RINA**

Approval ID: ELE121121XG

**ABS**

Approval ID: 22-2226444-PDA



**cULus Recognized**

Approval ID: E140324



**LR**

Approval ID: LR23398855TA



**cULus Listed**

Approval ID: E199827



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## Classifications

### ECLASS

ECLASS-13.0	27242608
ECLASS-15.0	27242608

### ETIM

ETIM 9.0	EC001604
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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	f063e663-09ff-4353-9f8d-0418b40ec074

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