

Bus coupler - IL DN BK DI8 DO4-PAC - 2897211

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DeviceNet™ bus coupler, 8 inputs, 24 V DC, 4 outputs, 24 V DC, 500 mA, complete with I/O connectors



Product description

The bus coupler for the DeviceNet™ has 4 digital outputs and 8 digital inputs. This package contains all the necessary Inline plugs for connecting the supply and the I/Os.

For project planning, the corresponding EDS (device master data) file for the product is provided in the download center.

The Inline terminals can be labeled using pull-out labeling fields. The fields have insert cards that can be labeled individually to suit the application. Additionally, there is the ZBFM-6... Zack marker strip for labeling the terminal points.

Product Features

- ✓ DeviceNet™ connection using TWIN-COMBICON plug
- ✓ 62 terminals can be connected
- ✓ Automatic speed detection of the system bus
- ✓ Address can be set via DIP switches or software
- ✓ Slave function in DeviceNet™ network



Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	352.4 GRM
Custom tariff number	85176200
Country of origin	Germany

Technical data

Note:

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

Width	80 mm
Height	119.8 mm

Bus coupler - IL DN BK DI8 DO4-PAC - 2897211

Technical data

Dimensions

Depth	71.5 mm
Note on dimensions	Specifications with male connectors

Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C
Ambient temperature (storage/transport)	-45 °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

Weight	320 g
Note on weight specifications	with male connectors
Mounting type	DIN rail
Protection class	III, IEC 61140, EN 61140, VDE 0140-1
Conformance with EMC directives	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
	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
	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
	Noise immunity test in accordance with EN 61000-6-2 Transient surge voltage (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
	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
	Noise emission test as per EN 61000-6-4 EN 55011 Class A
Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5 g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 Operation: 25 g, 11 ms duration, semi-sinusoidal shock impulse
Diagnostics messages	Short-circuit / overload of the digital outputs Yes
	Sensor supply failure Yes
	Failure of the actuator supply Yes

Interfaces

Fieldbus system	DeviceNet™
Name	DeviceNet™
Connection method	2x 5-pos. TWIN-COMBICON connectors

Bus coupler - IL DN BK DI8 DO4-PAC - 2897211

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Interfaces

Transmission speed	500 kBit/s, 250 kBit/s, 125 kBit/s (Can be set via DIP switch or programmed)
Number of positions	10
Fieldbus system	Lokalbus
Name	Inline local bus
Connection method	Inline data jumper
Transmission speed	500 kBit/s / 2 MBit/s (Automatic detection, no combined system)

System limits of the bus coupler

Number of supported devices	max. 63 (per station)
Number of local bus devices that can be connected	max. 61 (On board I/Os are two devices)
Number of devices with parameter channel	max. 8
Number of branch terminals with remote bus branch	0

Power supply for module electronics

Connection method	Spring-cage connection
Name	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 plug)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Supply current	typ. 70 mA
Current consumption	max. 0.9 A (from U_{BK})
Power loss	max. 3.5 W (Entire device)
Communications power U_L	7.5 V DC
Current consumption	0.8 A
Power consumption	typ. 1.7 W

Inline potentials

Communications power U_L	7.5 V DC $\pm 5\%$
Power supply at U_L	max. 0.8 A DC
Main circuit supply U_M	24 V DC
Supply voltage range U_M	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply at U_M	max. 8 A DC (Sum of $U_M + U_S$)
Current consumption from U_M	max. 8 A DC
Segment supply voltage U_S	24 V DC
Supply voltage range U_S	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply at U_S	max. 8 A DC (Sum of $U_M + U_S$)
Current consumption from U_S	max. 8 A DC
I/O supply voltage U_{ANA}	24 V DC

Bus coupler - IL DN BK DI8 DO4-PAC - 2897211

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Inline potentials

Supply voltage range U_{ANA}	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply at U_{ANA}	max. 0.5 A DC

Digital inputs

Input name	Digital inputs
Connection method	Inline plugs
	2, 3-wire
Number of inputs	8 (EN 61131-2 type 1)
Typical response time	approx. 500 μ s
Protective circuit	Protection against polarity reversal Polarity protection diode
Input voltage	24 V DC
Input voltage range "0" signal	-30 V DC ... 5 V DC
Input voltage range "1" signal	15 V DC ... 30 V DC
Nominal input current at U_{IN}	typ. 3 mA
Typical input current per channel	typ. 3 mA
Delay at signal change from 0 to 1	1.2 ms
Delay at signal change from 1 to 0	1.2 ms

Digital outputs

Output name	Digital outputs
Connection method	Inline plugs
	2, 3-wire
Number of outputs	4
Protective circuit	Short-circuit and overload protection Free running circuit
Output voltage	24 V DC -1 V (At nominal current)
Nominal output voltage	24 V DC
Maximum output current per channel	500 mA
Maximum output current per module / terminal block	2 A
Maximum output current per module	4 A
Nominal load, inductive	12 VA (1.2 H; 48 Ω)
Nominal load, lamp	12 W
Nominal load, ohmic	12 W

Classifications

eCl@ss

eCl@ss 4.0	27250203
eCl@ss 4.1	27250203

Bus coupler - IL DN BK DI8 DO4-PAC - 2897211

Classifications

eCl@ss

eCl@ss 5.0	27250203
eCl@ss 5.1	27242608
eCl@ss 6.0	27242608
eCl@ss 7.0	27242608
eCl@ss 8.0	27242608

ETIM

ETIM 2.0	EC001434
ETIM 3.0	EC001604
ETIM 4.0	EC001604
ETIM 5.0	EC001604

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201404
UNSPSC 13.2	43201404

Approvals

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UL Recognized / cUL Recognized / cULus Recognized

Ex Approvals

UL Listed / cUL Listed / cULus Listed


Approvals submitted


Approval details

UL Recognized 

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Approvals

cUL Recognized 

cULus Recognized 

Accessories

Accessories

Connector set

Connector set - IL BKDIO-PLSET - 2878599



Connector set, for Inline bus coupler with I/Os mounted in rows

End block

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

Labeling panel

Labeling field - IB IL FIELD 8 - 2727515

Labeling field, width: 48.8 mm



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Accessories

Labeling field - IB IL FIELD 2 - 2727501

Labeling field, width: 12.2 mm



Plug

Plug - TMSTBP 2,5/ 5-STF-5,08 GNAU CP - 2862576



TWIN-COMBICON Stecker für CANopen und DeviceNet™ Anschluss

Terminal marking

Insert strip - ESL 62X46 - 0809502



Insert strip, Sheet, white, Unlabeled, Can be labeled with: Office printing systems, Plotter: Laser printer, Mounting type: Insert, Lettering field: 62 x 46 mm

Insert strip - ESL 62X10 - 0809492

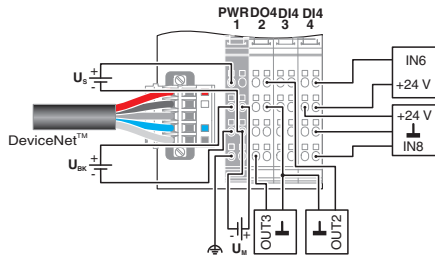


Insert strip, Sheet, white, Unlabeled, Can be labeled with: Office printing systems, Plotter: Laser printer, Mounting type: Insert, Lettering field: 62 x 10 mm

Drawings

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Connection diagram



Dimensioned drawing

