

## IL PN BK DI8 DO4 2TX-PAC

Order No.: 2703994



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



### Commercial data

GTIN (EAN)	 4 046356 041164
Note	Made-to-order
sales group	K410
Pack	1 pcs.
Customs tariff	85176200
Catalog page information	Page 242 (AX-2009)

### Product notes

WEEE/RoHS-compliant since:  
03/27/2008



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### Product description

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

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.

## Technical data

### Interface

Fieldbus system	Lokalbus
Name	Inline local bus
Type of connection	Inline data jumper
Transmission speed	500 Kbit / 2 MBaud
	500 kBit/s, 2 MBit/s (Automatic detection, no combined system)
Fieldbus system	PROFINET
Name	PROFINET
Type of connection	RJ45 female connector, auto negotiation
Transmission speed	100 MBit/s (acc. to PROFINET standard)
Transmission physics	Ethernet in RJ45 twisted pair

### Digital inputs

Input name	Digital inputs
Description of the input	EN 61131-2 type 1
Type of connection	Inline connectors
Connection method	2, 3-wire
Number of inputs	8
Typical response time	Approx. 500 µs
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	5 ms
Delay at signal change from 1 to 0	5 ms

### Digital outputs

Output name	Digital outputs
Type of connection	Inline connectors
Connection method	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
Nominal load, inductive	12 VA (1.2 H; 48 Ω)
Nominal load, lamp	12 W
Nominal load, ohmic	12 W

#### Power supply for module electronics

Type of connection	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 connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	max. 0.91 A (from $U_{BK}$ )

#### General data

Width	80 mm
Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Specifications with male connectors
Weight	375 g
Note on weight specifications	with male connectors
Mounting type	DIN rail
Ambient temperature (operation)	-25 °C ... 55 °C (observe derating)
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
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 IEC 60068-2-6 5 g
	Shock test in acc. with 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
<b>Inline potential routing</b>	
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 $U_M + U_S$ ; 4 A, maximum, when used in potentially explosive areas.)
Current consumption from $U_M$	max. 8 A DC (US-consumer project+)
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 $U_M + U_S$ ; 4 A, maximum, when used in potentially explosive areas.)
Current consumption from $U_S$	max. 8 A DC (US-consumer project+)
I/O supply voltage $U_{ANA}$	24 V DC
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

**Certificates / Approvals**



Certification ABS, BV, CUL Listed, DNV, GL, LR, UL Listed

Certification Ex: PxC-EX

**Accessories**

Item	Designation	Description
<b>Assembly</b>		
3022218	CLIPFIX 35	Snap-on end bracket, for 35 mm NS 35/7.5 or NS 35/15 DIN rail, can be fitted with Zack strip ZB 8 and ZB 8/27, terminal strip marker KLM 2 and KLM, width: 9.5 mm, color: gray
1201442	E/UK	End clamp, for assembly on NS 32 or NS 35/7.5 DIN rail
<b>Cable/conductor</b>		
2744830	FL CAT5 FLEX	CAT5-SF/UTP cable (J-LI02YS(ST)C H 2 x 2 x 26 AWG), light-duty, flexible installation cable 2 x 2 x 0.14 mm <sup>2</sup> , stranded, shielded, outer sheath: 5.75 mm ± 0.15 mm diameter
2744814	FL CAT5 HEAVY	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 mm <sup>2</sup> , solid conductor, shielded, outer sheath: 7.8 mm diameter, inner sheath: 5.75 mm ± 0.15 mm diameter
<b>Marking</b>		
0809492	ESL 62X10	Insert strip for laser printer, lettering field: 62 x 10 mm
0809502	ESL 62X46	Insert strip for laser printer, lettering field: 62 x 46 mm
2727501	IB IL FIELD 2	Labeling field, width: 12.2 mm
2727515	IB IL FIELD 8	Labeling field, width: 48.8 mm
<b>Plug/Adapter</b>		
2744571	FL PLUG RJ45 GN/2	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.

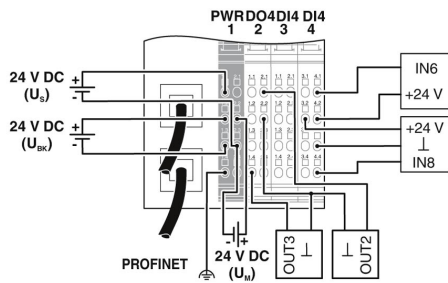
2744856	FL PLUG RJ45 GR/2	RJ45 connector, shielded, with bend protection sleeve, 2 pieces, gray for straight cables, for assembly on site. For connections that are not crossed, it is recommended that you use the connector set with gray bend protection sleeve.
2878599	IL BKDIO-PLSET	Connector set, for Inline bus coupler with I/Os mounted in rows

**Tools**

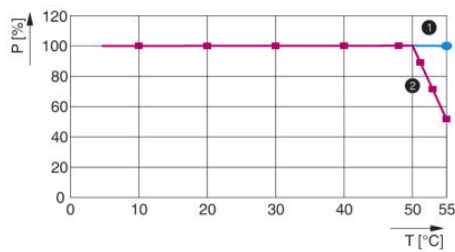
2744869	FL CRIMPTOOL	Crimping pliers, for assembling the RJ45 connectors FL PLUG RJ45..., for assembly on site
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**Diagrams/Drawings**

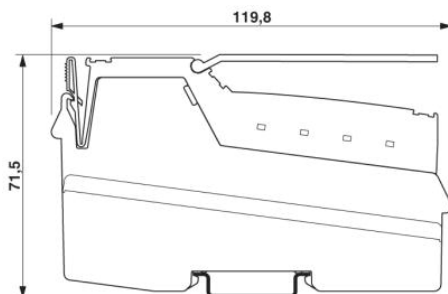
Connection diagram



Diagram



Dimensioned drawing



**Address**

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