IL ETH BK DI8 DO4 2TX-PAC - Bus coupler

2703981

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Inline, Bus coupler, Modbus/TCP(UDP), RJ45 jack, Digital inputs: 8, 24 V DC, connection technology: 3-conductor, Digital outputs: 4, 24 V DC, 500 mA, connection technology: 3-conductor, transmission speed in the local bus: 500 kbps / 2 Mbps, degree of protection: IP20, including Inline connectors and marking fields

Product description

The bus coupler with integrated I/Os is intended for use within a Modbus/TCP (UDP) network and represents the link to the Inline I/O system. Up to 61 Inline devices can be connected to the bus coupler. The bus coupler supports a maximum of 16 PCP devices.

Your advantages

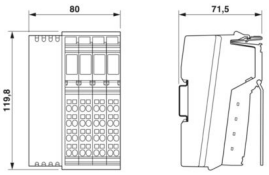
- 2 Ethernet ports (with integrated switch)
- Auto negotiation
- Autocrossing
- Transmission speed of 10 Mbps and 100 Mbps
- Automatic detection of the transmission speed in the local bus (500 kbps or 2 Mbps)
- 8 digital inputs, 4 digital outputs (on-board)
- Data exchange via OPC server supported
- Software interfaces for access via TCP/IP: Device Driver Interface (DDI) and High-Level Language Fieldbus Interface (HFI)
- Web-based management

Commercial data

Item number	2703981
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI11B
Catalog page	Page 103 (C-6-2019)
GTIN	4046356041157
Weight per piece (including packing)	331.3 g
Weight per piece (excluding packing)	341.14 g
Customs tariff number	85176200
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	80 mm
Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Specfications with connectors

Notes

Utilization restriction

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

Interfaces

Modbus/TCP (UDP)

Number of interfaces	2
Connection method	RJ45 jack
Note on the connection method	Auto negotiation and autocrossing
Transmission speed	10/100 Mbps
Transmission physics	Ethernet in RJ45 twisted pair

Inline local bus

Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (automatic detection, no combined system)

System properties

System limits

Number of supported devices	max. 63 (per station)
Number of local bus devices that can be connected	max. 61 (The on-board I/Os are two devices)
Number of devices with parameter channel	max. 16
Number of supported branch terminals with remote bus branch	0

Module

ID code (hex)	none
Input address area	8 bit
Output address area	4 bit
Register length	16 bit

Input data

Digital

Input name	Digital inputs
Description of the input	EN 61131-2 type 1
Number of inputs	8
Connection method	Inline connector
Connection technology	3-conductor
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 voltage U_{IN}	24 V DC
Nominal input current at U_{IN}	typ. 3 mA
Typical input current per channel	typ. 3 mA
Typical response time	approx. 500 µs
Delay at signal change from 0 to 1	1.2 ms
Delay at signal change from 1 to 0	1.2 ms

Output data

Digital

Output name	Digital outputs
Connection method	Inline connector
Connection technology	3-conductor
Number of outputs	4
Protective circuit	Short-circuit and overload protection; Freewheeling circuit in the output driver
Output voltage	24 V DC -1 V (At nominal current)
Maximum output current per module	max. 2 A
Nominal output voltage	24 V DC
Output current when switched off	max. 10 µA (When not loaded, a voltage can be measured even at an output that is not set.)
Nominal load, inductive	12 VA (1.2 H, 48 Ω)
Nominal load, lamp	12 W
Nominal load, ohmic	12 W
Reverse voltage resistance to short pulses	Reverse voltage proof
Behavior with overload	Auto restart
Behavior with inductive overload	Output can be destroyed
Behavior at voltage switch-off	The output follows the power supply without delay
Signal delay	typ. 1.2 ms
Overcurrent shut-down	min. 0.7 A
Output name	Digital outputs
Connection method	Inline connector
Connection technology	3-conductor
Number of outputs	4

Protective circuit	Short-circuit and overload protection; Freewheeling circuit in the output driver
Output voltage	24 V DC -1 V (At nominal current)
Maximum output current per module	max. 2 A
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Reverse voltage resistance to short pulses	Reverse voltage proof
Behavior with overload	Auto restart
Behavior with inductive overload	Output can be destroyed
Behavior at voltage switch-off	The output follows the power supply without delay
Signal delay	typ. 1.2 ms
Overcurrent shut-down	min. 0.7 A

Product properties

Type	modular
Product type	I/O component
Product family	Inline
Scope of delivery	including Inline connectors and marking fields
No. of channels	12
Diagnostics messages	Short-circuit or overload of the digital outputs yes
	Sensor supply failure yes
	Failure of the actuator supply yes

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	23.5 W

Potentials

Power consumption	typ. 3 W (entire device)
Protective circuit	Surge protection (segment supply, main supply, bus coupler supply); Suppressor diode, 35 V DC
	Reverse polarity protection (segment supply, main supply, bus coupler supply); Suppressor diode, 35 V DC

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. 0.98 A (with max. number of connected I/O terminal blocks)
	min. 80 mA (without connected I/O terminal blocks)

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC

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)

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. 8 A DC
	min. 3 mA (without connected peripherals)

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)
Current draw	max. 8 A DC
	min. 3 mA (without connected peripherals)

Electrical isolation/isolation of the voltage ranges

Test voltage: Ethernet interface 1 / Ethernet interface 2	500 V AC, 50 Hz, 1 min.
Test voltage: Ethernet interface 1 / logic (U_{BK}, U_L, U_{ANA})	500 V AC, 50 Hz, 1 min.
Test voltage: Ethernet interface 1 / I/O (U_M, U_S)	500 V AC, 50 Hz, 1 min.
Test voltage: Ethernet interface 1 / functional ground	500 V AC, 50 Hz, 1 min.
Test voltage: Ethernet interface 2 / logic (U_{BK}, U_L, U_{ANA})	500 V AC, 50 Hz, 1 min.
Test voltage: Ethernet interface 2 / I/O (U_M, U_S)	500 V AC, 50 Hz, 1 min.
Test voltage: Ethernet interface 2 / 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: Communications power (U_{BK}, U_L, U_{ANA}) / functional ground	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

Conductor connection

Connection method	Spring-cage connection
Conductor cross section rigid	0.08 mm² ... 1.5 mm²
Conductor cross section flexible	0.08 mm² ... 1.5 mm²
Conductor cross section AWG	28 ... 16
Stripping length	8 mm

Inline connector

Connection method	Spring-cage connection

Conductor cross section, rigid	0.08 mm² ... 1.5 mm²
Conductor cross section, flexible	0.08 mm² ... 1.5 mm²
Conductor cross section AWG	28 ... 16
Stripping length	8 mm

Environmental and real-life conditions

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)

Mounting

Mounting type	DIN rail mounting

Classifications

ECLASS

ECLASS-11.0	27242608
ECLASS-12.0	27242608
ECLASS-13.0	27242608

ETIM

ETIM 9.0	EC001604

UNSPSC

UNSPSC 21.0	32151600

Environmental product compliance

REACh SVHC	Lead 7439-92-1

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