

ILB PN 24 DI16 DIO16-EF - I/O module



2702289

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The figure shows the standard item

Inline, Block IO, PROFINET, RJ45 jack, Digital inputs: 32 (16 fixed and 16 freely selectable), 24 V DC, connection technology: 3-conductor, Digital outputs: 16, 24 V DC, connection technology: 2-conductor, PROFINET, -IRT, -MRP, -Fast Startup, degree of protection: IP20, including Inline connector

Product description

The module is designed for use within a PROFINET network. It is used to acquire and output digital signals.

Your advantages

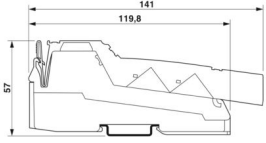
- 16/32 inputs, 24 V DC
- 16 outputs, 24 V DC, 500 mA
- 2 RJ45 jacks at a 45° angle

Commercial data

Item number	2702289
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI1AA
GTIN	4055626073323
Weight per piece (including packing)	563.9 g
Weight per piece (excluding packing)	563.9 g
Customs tariff number	85389091
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	156 mm
Height	141 mm
Depth	57 mm
Note on dimensions	Specifications with connectors

Interfaces

PROFINET

No. of channels	2
Connection method	RJ45 jack
Note on the connection method	Autonegotiation and autocrossing, X2: internally crossed to enable "Fast Startup" with patch cable
Designation connection point	X1, X2
Transmission speed	100 Mbps (acc. to PROFINET standard)
Transmission physics	Ethernet in RJ45 twisted pair

System properties

PROFINET

Device function	PROFINET device
Specification	Version 2.3
Update rate	min. 1 ms (up to max. 512 ms, adjustable)
Conformance Class	C

Input data

Digital:

Input name	Digital inputs
Description of the input	IEC 61131-2 types 1 and 3
Number of inputs	32 (16 fixed and 16 freely selectable)
Connection method	Inline connector
Connection technology	3-conductor
Input voltage	24 V DC
Input voltage range "0" signal	-3 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC
Nominal input voltage U_{IN}	24 V DC

Nominal input current at U_{IN}	approx. 2.4 mA
Current flow	linear until nominal current is reached, then constantly approx. 2.4 mA
Typical input current per channel	typ. 5 mA
Typical response time	approx. 500 μ s

Output data

Digital:

Output name	Digital outputs
Connection method	Inline connector
Connection technology	2-conductor
Number of outputs	16
Protective circuit	Short-circuit and overload protection; Free-wheeling diode, integrated per channel
Output voltage	24 V DC -1 V (At nominal current)
Limitation of the voltage induced on circuit interruption	-25.8 V ... -15 V
Maximum output current per channel	500 mA
Maximum output current per module	8 A
Nominal output voltage	24 V DC
Output current when switched off	max. 300 μ A (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 (48 Ω)
Reverse voltage resistance to short pulses	limited protection up to 0.5 A for 1 s
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
Overcurrent shut-down	as of 0.7 A

Product properties

Product type	I/O component
Product family	Inline
Type	Block design
Scope of supply	including Inline connector
Special properties	PROFINET, -IRT, -MRP, -Fast Startup
Diagnostics messages	Short-circuit or overload of the digital outputs Message in the diagnostics register
	Short circuit sensor supply U_{S1} or U_{S2} Message in the diagnostics register
	Sensor supply U_{S1} not present Message in the diagnostics register
	Sensor supply U_{S2} not present Message in the diagnostics register

Insulation characteristics

Overvoltage category	II
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Electrical properties

Supply:

Designation	Logic (U_L)
Connection method	Inline connector
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	max. 75 mA

Supply:

Designation	Sensor supply (U_{S1} , U_{S2})
Connection method	Inline connector
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	max. 4 A (max. 2 A from U_{S1} and 2 A from U_{S2})

Supply:

Designation	Actuator supply (U_{A1} , U_{A2})
Connection method	Inline connector
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	max. 8 A (max. 4 A from U_{A1} and 4 A from U_{A2})

Electrical isolation/isolation of the voltage ranges

Test voltage: I/Os / logic	500 V AC, 50 Hz, 1 min
Test voltage: I/O/functional ground	500 V AC, 50 Hz, 1 min
Test voltage: Logic/functional ground	500 V AC, 50 Hz, 1 min
Test voltage: Ethernet interface signals / logic	1500 V AC, 50 Hz, 1 min

Connection data

Connection technology

Connection name	Inline connector
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Inline connector

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

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Degree of protection	IP20

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Air pressure (operation)	80 kPa ... 108 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (up to 3500 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)

Mechanical test

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	Operation: 25g, 11 ms duration, semi-sinusoidal shock impulse

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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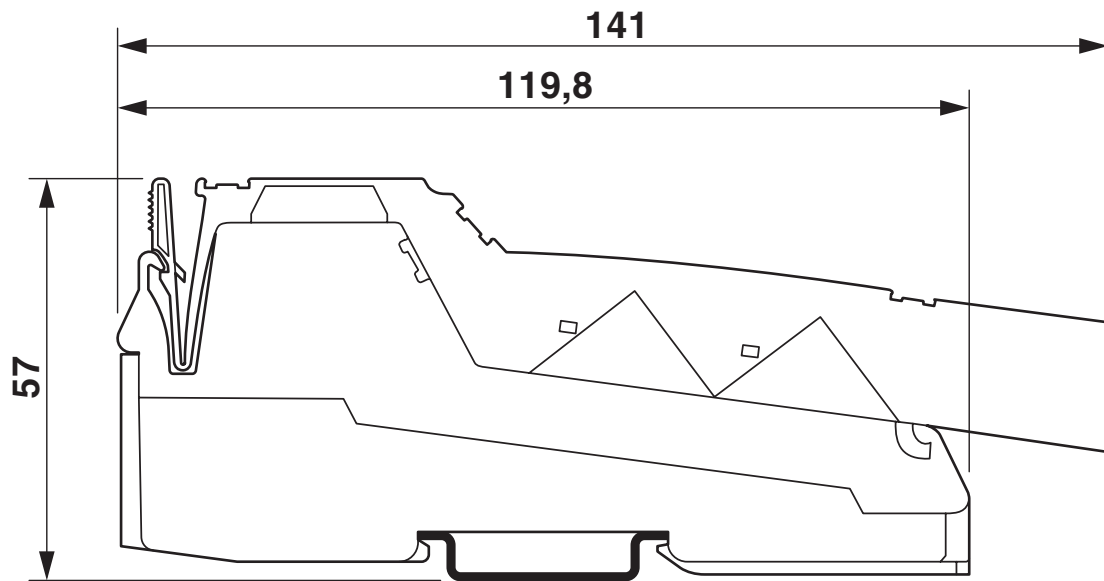
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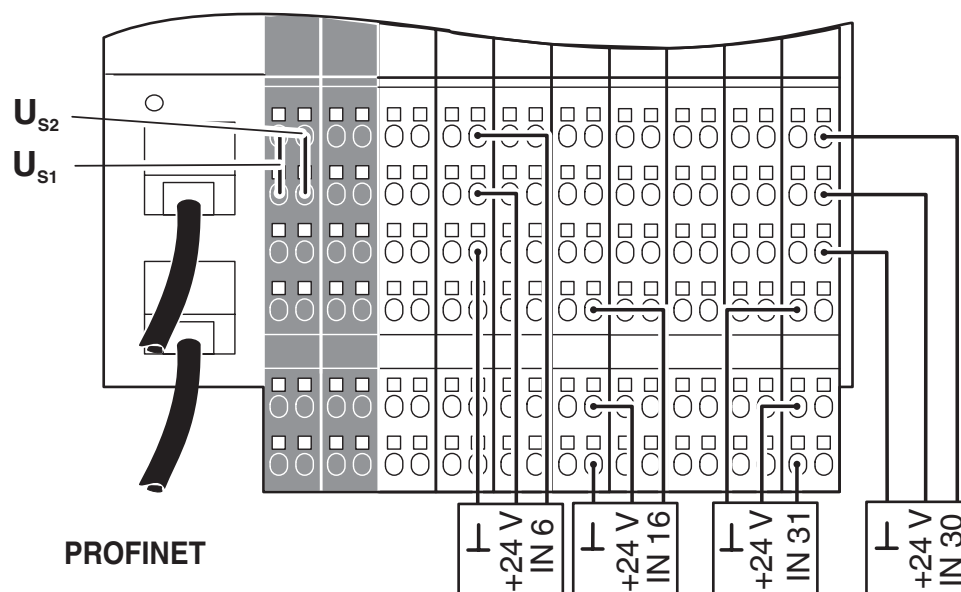
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Drawings

Dimensional drawing



Connection diagram



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Classifications

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-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
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