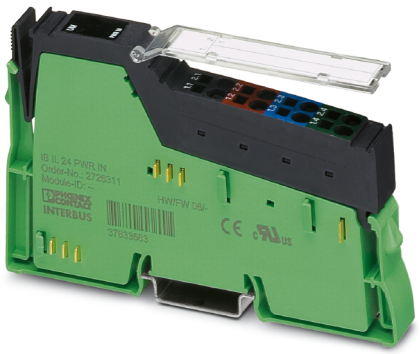
IB IL 24 PWR IN-PAC

Inline power terminal, 24 V DC, without fuse



Data sheet
5567_en_09

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1 Description

The terminal is designed for use within an Inline station.
It enables the 24 V supply voltage to be fed into the main circuit (U_M).
In addition, this terminal can be used to supply power for a 24 V segment circuit (U_S).

This terminal does not have a protocol chip and, therefore, is not a bus device.

Features

- Supply of the 24 V main voltage U_M
- Feed-in or provision of the 24 V segment voltage U_S
- Main circuit protected by an external fuse
- Segment circuit can be protected by an external fuse
- Approved for use as a power terminal in connection with a safety-related segment circuit

When using the terminal in a safety-related segment circuit, pay attention to the corresponding notes!

This data sheet is only valid in association with the IL SYS INST UM E user manual.

Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/2861331

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3 Ordering data

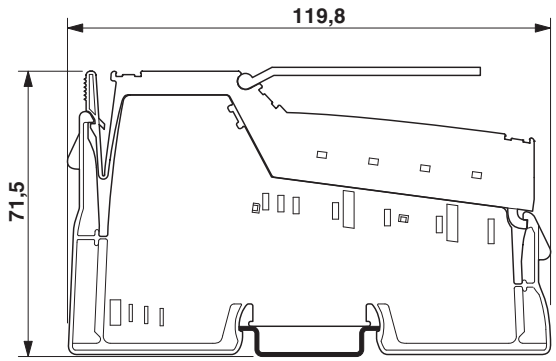
Description	Type	Item no.	Pcs./Pkt.
Inline power terminal, complete with accessories (connector and labeling field), 24 V DC, without fuse	IB IL 24 PWR IN-PAC	2861331	1

Accessories	Type	Item no.	Pcs./Pkt.
Connector, colored, for Inline power and segment terminal blocks (Connector/Adapter)	IB IL SCN-PWR IN-CP	2727637	10
Connector, for Inline power and segment terminal blocks (Connector/Adapter)	IB IL SCN-PWR IN	2727462	10
Labeling field, width: 12.2 mm (Marking)	IB IL FIELD 2	2727501	10
Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems: Laser printer, mounting type: insert, lettering field size: 62 x 10 mm, Number of individual labels: 72 (Marking)	ESL 62X10	0809492	1

Documentation	Type	Item no.	Pcs./Pkt.
User manual, English, Automation terminals of the Inline product range	IL SYS INST UM E	-	-
Application note, English, Inline terminals for use in zone 2 potentially explosive areas	AH EN IL EX ZONE 2	-	-

4 Technical data

Dimensions (nominal sizes in mm)



Width	12.2 mm
Height	119.8 mm
Depth	71.5 mm

General data	
Color	green
Weight	59 g (with connector)
Ambient temperature (operation)	-25 °C ... 55 °C
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
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)
Mounting type	DIN rail mounting

Connection data: 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

Connection data for UL approvals: Inline connector	
Connection method	Spring-cage connection
Conductor cross section, rigid	0.2 mm² ... 1.5 mm²
Conductor cross section, flexible	0.2 mm² ... 1.5 mm²
Conductor cross section [AWG]	24 ... 16
Stripping length	8 mm

Interface: Inline local bus	
Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (Can be used in Inline stations with these transmission speeds)

Main circuit supply (U_M)	
Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V ... 30 V (including all tolerances, including ripple)
Power supply unit	max. 8 A (sum of $U_M + U_S$)

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)
Power supply unit	max. 8 A (sum of $U_M + U_S$)

Protection

NOTE: Electronics may be damaged when overloaded

Provide external fuses for each 24 V area.

If you use a fuse, the power supply unit must be capable of supplying four times the nominal current of the fuse. This ensures that the fuse trips reliably in the event of a fault.

Configuration and parameter data in a PROFIBUS system	
Required parameter data	0 Byte
Required configuration data	0 Byte

Electrical isolation/isolation of the voltage areas	
Test section	**Test voltage**
7.5 V supply (bus logics)/24 V supply (I/O)	500 V AC , 50 Hz , 1 min.
24 V supply (I/O) / functional ground	500 V AC , 50 Hz , 1 min.
7.5 V supply (bus logic)/functional ground	500 V AC , 50 Hz , 1 min.

To achieve electrical isolation between the logic level and the I/O area, supply these areas from separate power supply units. Interconnection of the power supply units in the 24 V area is not permitted (see IL SYS INST UM E user manual).

When supply voltages U_M/U_S are supplied separately from the supply voltage U_{24V}, they are electrically isolated from one another. This is only ensured if two separate power supply units are used.

Error messages to the higher level control or computer system
None

Protective circuit	
Surge protection	Suppressor diode
Reverse polarity protection	Parallel polarity protection diode
Overload protection, short-circuit protection in the segment circuit	No

Approvals	
For the current approvals, go to:	www.phoenixcontact.net/product/2861331

Items manufactured **until the start of 2023** comply with directive 2014/34/EU (ATEX). You may use these items in potentially explosive areas of category 3.

Items manufactured **afterwards** do **not** meet the requirements of directive 2014/34/EU. Use in potentially explosive areas of category 3 is **not permitted**.

If you use an item with ATEX-relevant printing in a potentially explosive area, please observe the associated documentation.

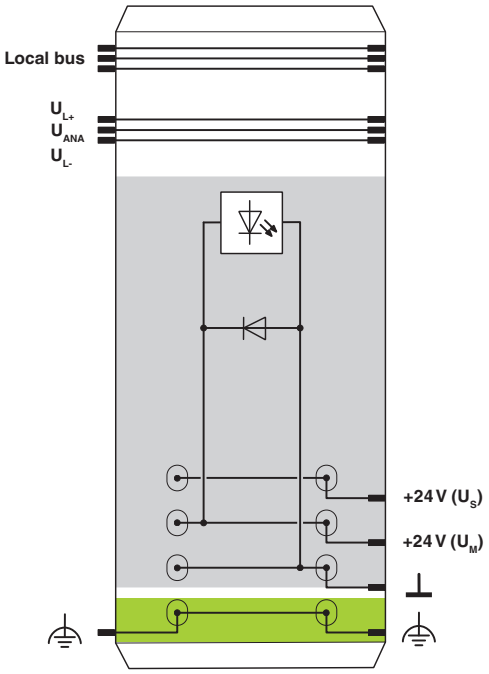
Please also observe the specifications in the AH DE IL EX ZONE 2 (German) or AH EN IL EX ZONE 2 (English) application note.

If the item used by you does not feature ATEX-relevant identification, use in potentially explosive areas is not permitted.

Manufacturer's declarations	
For the current manufacturer’s declarations, go to:	www.phoenixcontact.net/product/2861331

5 Internal circuit diagram

Figure 1 Internal wiring of the terminal points



Key:



LED



Diode

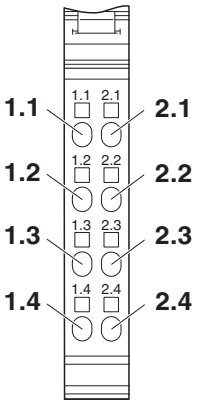


Electrically isolated areas

Other symbols used are explained in the IL SYS INST UM E user manual.

6 Terminal point assignment

Figure 2 Terminal point assignment



Terminal point	Assignment		
1.1, 2.1	24 V DC	U_S	Supply point for the segment voltage U_S (24 V DC); Connection of a bridge or a switch
1.2, 2.2	24 V DC	U_M	24 V supply for main circuit Connection of a switch or a jumper on the segmentation level. These terminal points are connected with each other and with the potential jumper of the unprotected main supply U_M.
1.3, 2.3	GND	Reference potential of the I/O supply	The reference potential is routed directly to the potential jumper and simultaneously functions as reference ground for the main and segment supplies.
1.4, 2.4	FE	Functional ground	Functional ground of the power terminal and, therefore, of the Inline station. The contacts are connected directly to the potential jumper and the functional ground spring on the bottom of the housing.
Terminal points 1.1, 1.2, and 1.3 are connected with a capacitor to FE.			

NOTE: Electronics may be damaged when overloaded

Ensure that the maximum permissible current of 8 A flowing through potential jumpers U_M and U_S (total current) is not exceeded.

7 Connection example

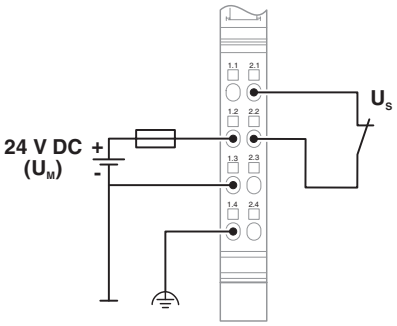
NOTE: Electronics may be damaged when overloaded

Protect the 24 V supply with an external fuse.

NOTE: Electronics may be damaged when overloaded

Use the intended power connector for supplying the voltage.
The full current carrying capacity is ensured by internal bridging of the terminal points (see connection assignment).

Figure 3 Example connection of the U_M supply voltage and of an external switch for providing the U_S segment voltage



Most I/O terminals draw their supply voltage from the segment circuit.

The switch can be used to create a switched segment circuit.

If this is not needed for your application, you can provide the segment voltage in one of the following ways:

1 Jumper connections 1.1 and 1.2 or 2.1 and 2.2.
2 Supply the segment voltage separately.
3 Use an additional segment terminal.

8 Notes on using the terminal in connection with a safety-related segment circuit

As of hardware Version 00, the terminal is approved for supplying the supply voltage directly after a safety-related segment circuit.

The requirements in the current documentation for the safety terminal that opens the safety-related segment circuit must be observed in order to ensure that the function of the safe segment circuit is not adversely affected.

The documentation can be found on the Internet at phoenixcontact.net/products.

9 Local diagnostic indicator

Figure 4 Local diagnostic indicator



LED	Color	Meaning
UM	Green	24 V voltage (in the main circuit U_M)

Function identification

Black