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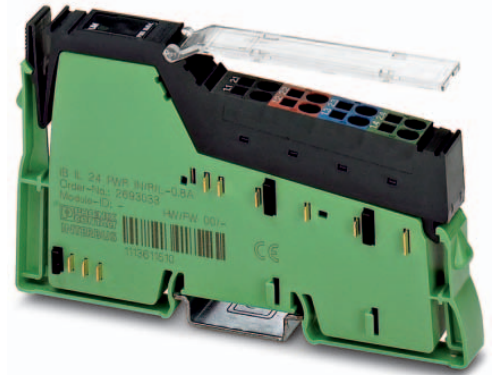


IB IL 24 PWR IN/R/L-0.8A-PAC

**Inline boost terminal
for the communications power U_L of 0.8 A**

Data sheet
7914_en_02

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1 Description

The terminal is designed for use within an Inline station. If the maximum load of the bus coupler for the communications power (U_L) is reached, this terminal can be used to provide this voltage again. To do this, apply a 24 V DC voltage (U_{24V}) to the terminal. The communications power (U_L) is generated from this voltage.

Features

- Supply of the 24 V voltage for generating the communications power (U_L) up to 0.8 A
- From hardware version 00, approved for use in potentially explosive areas of zone 2



WARNING: Explosion hazard when used in potentially explosive areas

When using the terminal in potentially explosive areas, observe 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 from the product at phoenixcontact.net/products.

2 Table of contents

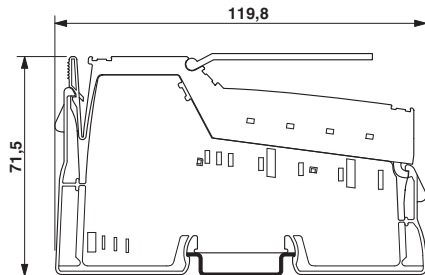
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3 Ordering data

Description	Type	Order No.	Pcs./Pkt.
Inline boost terminal for the communications power U_L of 0.8 A, complete with accessories (connectors and labeling field)	IB IL 24 PWR IN/R/L-0.8A-PAC	2693020	1
Accessories	Type	Order No.	Pcs./Pkt.
Connector, colored, for Inline power and segment terminal blocks (Connector/Adapter)	IB IL SCN-PWR IN-CP	2727637	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: 62 x 10 mm (Marking)	ESL 62X10	0809492	1
Documentation	Type	Order No.	Pcs./Pkt.
User manual, English, Automation terminals of the Inline product range	IL SYS INST UM E	-	-

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	65 g (with connector)
Mounting type	DIN rail
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)

General data	
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
Connection data	
Designation	Inline connector
Connection method	Spring-cage connection
Conductor cross section solid / stranded	0.08 mm ² ... 1.5 mm ² / 0.08 mm ² ... 1.5 mm ²
Conductor cross section [AWG]	28 ... 16
Stripping length	8 mm
Connection data for UL approvals	
Designation	Inline connector
Connection method	Spring-cage connection
Conductor cross section solid / stranded	0.2 mm ² ... 1.5 mm ² / 0.2 mm ² ... 1.5 mm ²
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)
Power consumption	
	NOTE: Electronics may be damaged when overloaded Provide external fuses for the 24 V area. The power supply unit must be able to supply four times the nominal current of the external fuse, to ensure that it blows in the event of an error.
	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.
24 V supply (U_{24V}) for generating U_L	24 V DC
Supply voltage range U_{24V}	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current consumption	min. 13 mA DC (from U_{24V} , at nominal voltage) max. 274 mA DC (from U_{24V} , at nominal voltage)
Communications power U_L	7.5 V DC
Power supply at U_L	max. 0.8 A DC
Power consumption	max. 6.58 W (from U_{24V})
Power dissipation	max. 0.6 W (entire device)
Configuration and parameter data in a PROFIBUS system	
Required parameter data	0 Byte
Need for configuration data	0 Byte

Electrical isolation/isolation of the voltage areas

Test section	Test voltage
7.5 V logics supply, 24 V analog supply/functional earth ground	500 V AC , 50 Hz , 1 min.
7.5 V logics supply, 24 V analog supply, 24 V main supply, 24 V segment supply	500 V AC , 50 Hz , 1 min.
24 V main supply, 24 V segment supply / functional earth ground	500 V AC , 50 Hz , 1 min.

Error messages to the higher level control or computer system

None

Protective circuit

Surge protection	Input protective diodes (can be destroyed by permanent overload) Pulse loads up to 1500 W are short circuited by the input protective diode.
Protection against polarity reversal (segment supply/main supply)	Serial diode in the lead path of the power supply unit; in the event of an error only a low current flows. In the event of an error, no fuse trips within the external power supply unit.

Approvals

For the latest approvals, please visit phoenixcontact.net/products.

5 Electrical isolation/isolation of the voltage areas

Common potentials	
When providing the 24 V supply for generating U_L separately from the 24 V main supply/24 V segment supply	Main and segment supply have the same potential. From the power terminal onwards, common ground is led through the potential jumper to the devices as reference ground GND. 24 V supply for generating U_L , 24 V analog supply U_{ANA} , and 7.5 V communications power U_L have the same potential. From the bus coupler onwards, common ground is led through the potential jumper to the devices as the reference ground "Logical GND" (U_{L-}).
When providing the 24 V supply for generating U_L by jumpering the 24 V main supply/24 V segment supply	Main supply, segment supply, 24 V analog supply, and 7.5 V communications power have the same potential. From the power terminal onwards, common ground is led through the potential jumper to the devices as the reference ground "Logical GND" (U_{L-}) for the communications power and analog supply and separately as reference ground GND for the supply and segment level.
Separate potentials	
When providing the 24 V supply for generating U_L separately from the 24 V main supply/24 V segment supply	The 24 V supply for generating U_L is physically and therefore electrically isolated from the main supply and the segment supply.
When providing the 24 V supply for generating U_L by jumpering the 24 V main supply/24 V segment supply	None

6 Internal circuit diagram

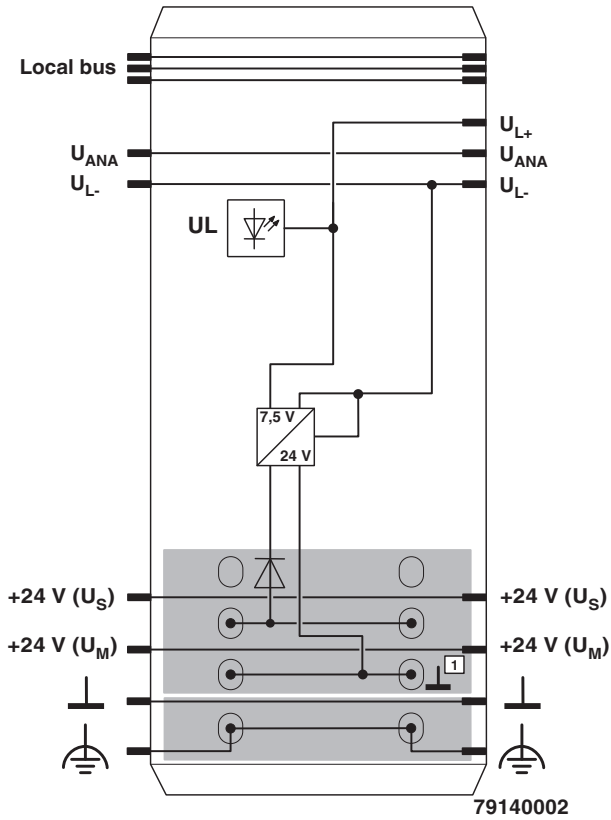


Figure 1 Internal wiring of the terminal points

Key:



LED



Electrically isolated area



Power supply unit



Diode



Reference potential GND (24 V supply)



Explanation for other used symbols has been provided in the IL SYS INST UM E user manual.

7 Terminal point assignment

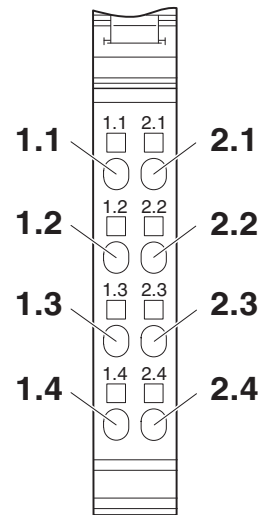


Figure 2 Terminal point assignment

Terminal point	Designation	Assignment
Voltage supply for generating the communications power		
1.1 / 2.1	Not used	
1.2 / 2.2	24 V DC	For generating communications power U_L
1.3 / 2.3	GND	Ground
1.4 / 2.4	FE	Functional earth ground

8 Instructions for connection



NOTE: Electronics may be damaged when overloaded
Protect the 24 V supply with an external fuse.



NOTE: Malfunction
Supply the bus coupler of the Inline station (U_{BK}) and the power terminal IB IL 24 PWR IN/R/L-0.8A-PAC from the same power supply.
Make sure that there is at least one common GND as reference potential.
This will prevent potential shifts, which can have undesirable effects on the station's operation.

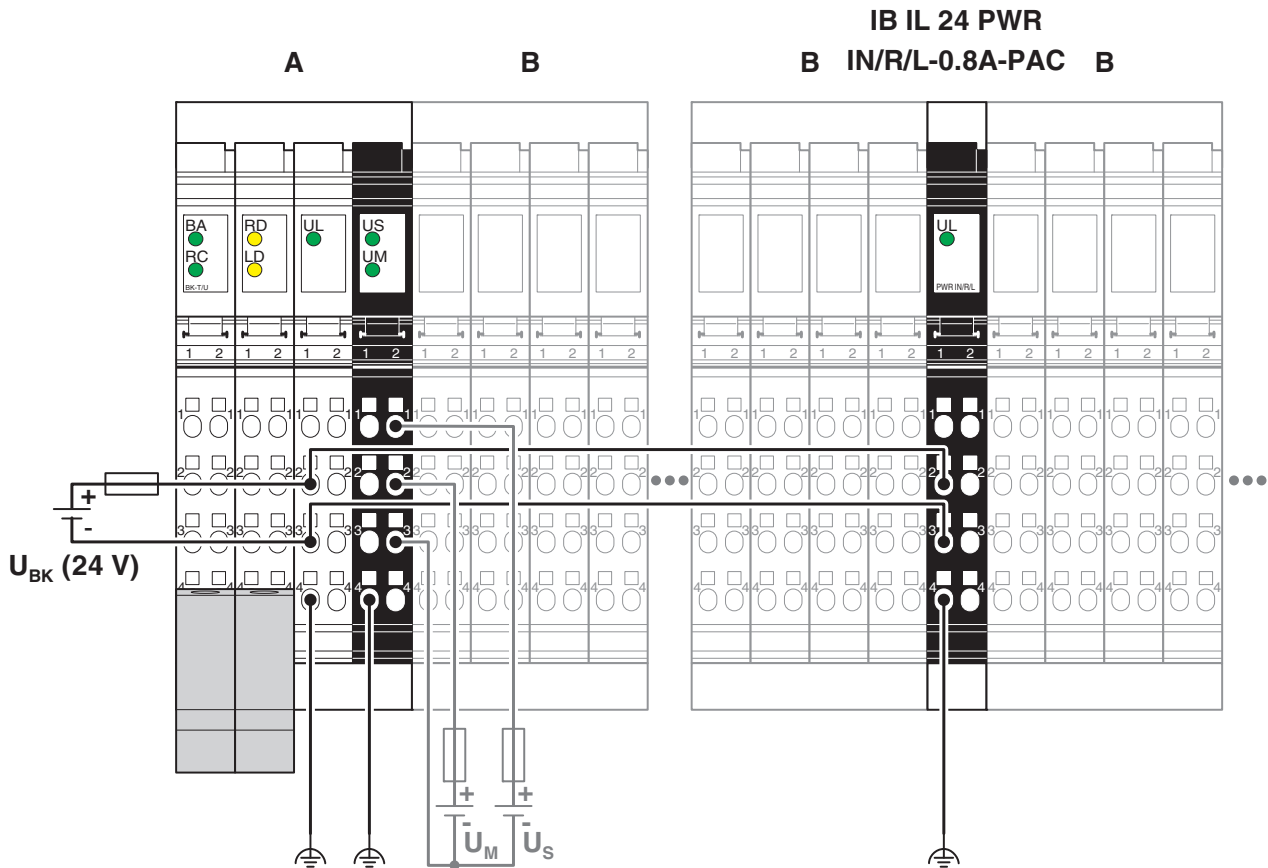


Figure 3 Example of implementation of the connection instructions

- A Head of the Inline station, in the figure e.g. IBS IL 24 BK-T/U-PAC
- B Inline terminals corresponding to your application

9 Local diagnostic indicators



Figure 4 Local diagnostic indicators

LED	Color	Meaning
UL	Green	7.5 V communications power

Function identification

Black

10 Notes on using the terminal block in potentially explosive areas



WARNING: Explosion hazard

Please make sure that the following notes and instructions are observed.

Approval according to ATEX Directive 2014/34/EU

Ⓜ II 3 G Ex nA IIC T4 Gc X

Installation notes

The category 3 device is designed for installation in zone 2 potentially explosive areas.

The device meets the requirements of EN 60079–0:2012 + A11:2013 and EN 60079–15:2010.

- Observe the specified conditions for use in potentially explosive areas.
- At the time of installation, use an approved housing (minimum protection IP54), which meets the requirements of EN 60079-15. Within this context, observe the requirements of IEC 60079-14/EN 60079-14.
- The following work is only permitted in potentially explosive areas when the power is disconnected:
 - Snapping the device onto the DIN rail
 - Removing the device from the DIN rail
 - Connection and disconnection of cables
- Connect the DIN rail to the protective earth ground.
- Only devices that are designed for operation in Ex Zone 2 and the conditions at the installation location may be connected to the circuits in Zone 2.
- The maximum permissible current for each tension spring contact is **2 A**.
- When using the device in potentially explosive areas, observe the specifications in the application note AH DE IL EX ZONE 2 (German) / AH EN IL EX ZONE 2 (English).