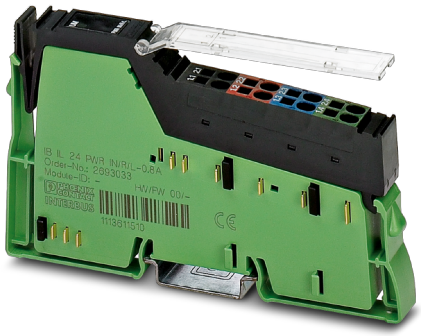
IB IL 24 PWR IN/R/L-0.8A-PAC



Inline boost terminal
for the communications power U_L of 0.8 A

Data sheet
7914_en_03

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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.

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

Features

– Supply of the 24 V voltage for generating the communications power (UL) up to 0.8 A

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/2693020

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3 Ordering data

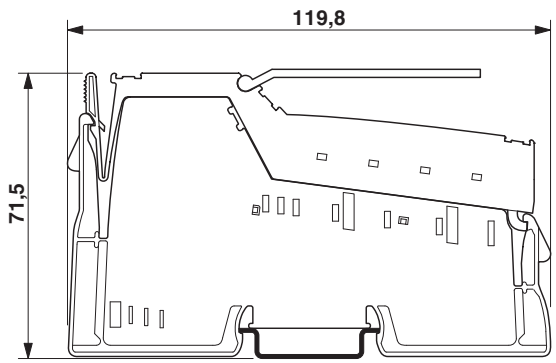
Description	Type	Item no.	Pcs./Pkt.
Inline boost terminal for the communications power U_L of 0.8 A, complete with accessories (connectors and labeling field)	IB IL 24 PWR IN/R/L-0.8A-PAC	2693020	1

Accessories	Type	Item 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 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	65 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)
24 V supply (U_{24V}) for generating U_L	
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	min. 13 mA DC (at nominal voltage) max. 274 mA DC (at nominal voltage)
Power consumption	max. 6.58 W
Communications power (U_L)	
Supply voltage	7.5 V DC (via voltage jumper)
Power supply unit	max. 0.8 A DC
Power consumption	
Power consumption	max. 0.6 W (entire device)

Protection

NOTE: Electronics may be damaged when overloaded

Provide external fuses for the 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 communications power, 24 V analog supply/ functional 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 ground	500 V AC , 50 Hz , 1 min.

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	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 current approvals, go to: www.phoenixcontact.net/product/2693020

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

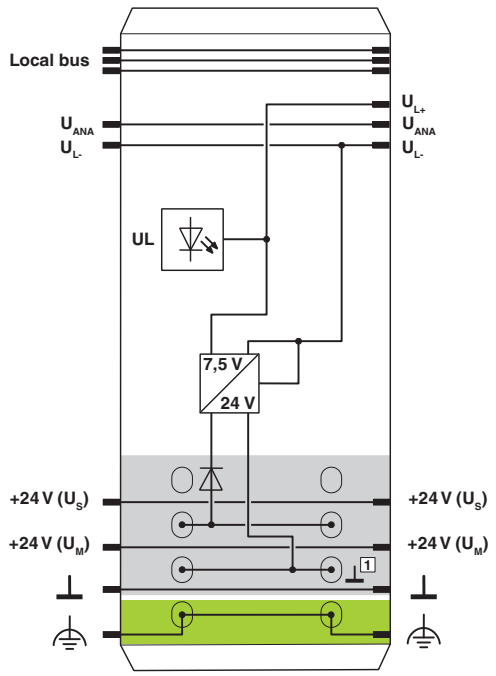
For the current manufacturer’s declarations, go to: www.phoenixcontact.net/product/2693020

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

Power supply unit

Diode

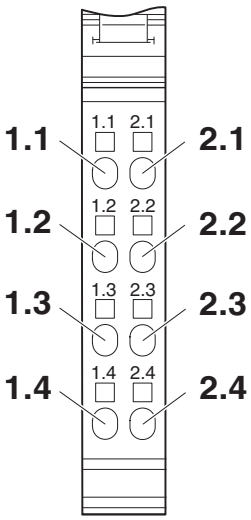
Reference potential GND (24 V supply)

Electrically isolated areas

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

7 Terminal point assignment

Figure 2 Terminal point assignment



Terminal point	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 ground

8 Instructions for connection

NOTE: Electronics may be damaged when overloaded

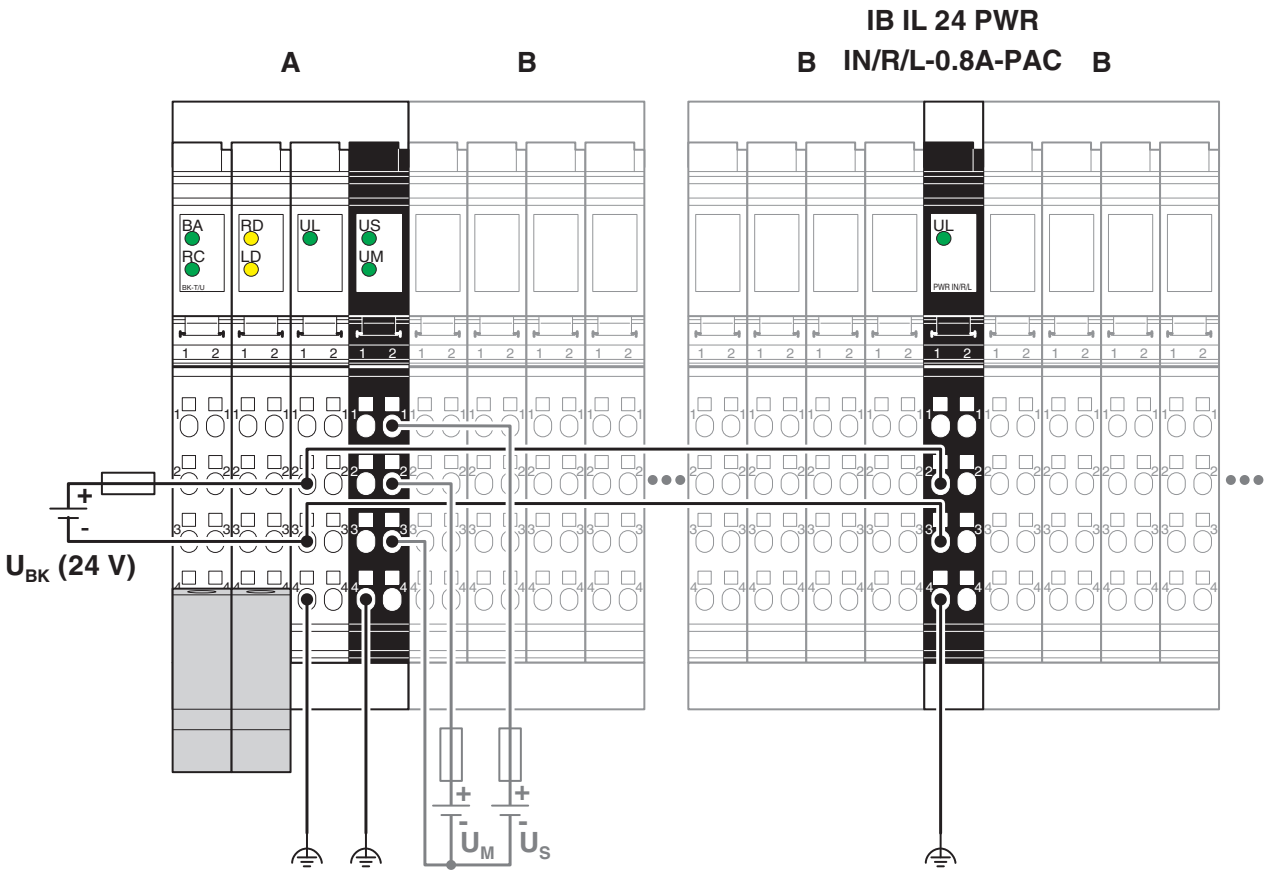
Protect the 24 V supply with an external fuse.

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 indicator



LED	Color	Meaning
UL	Green	7.5 V communications power

Function identification

Black