

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

R911336659

Edition 01

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

24 V DC

09 / 2013



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 this end, a 24 V DC voltage (U_{24V}) is applied to the terminal from which the communications power (U_L) is generated.

Features

- Supply of the 24 V voltage for generating the communications power
- Diagnostic indicators



This data sheet is only valid in association with the "Automation terminals of the Rexroth Inline product range" application description (DOK-CTRL-ILSYS-INS***-AW..-EN-P, MNR R911317021).



Make sure you always use the latest documentation.

It can be downloaded under www.boschrexroth.com/electric.



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

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3 Ordering data

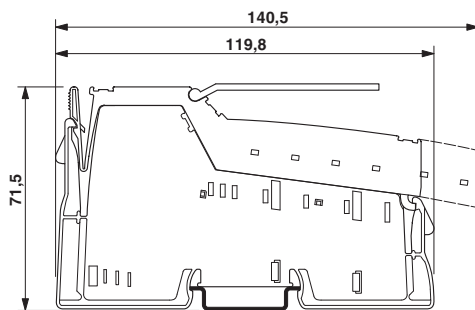
Description	Type	MNR	Pcs. / Pkt.
Rexroth Inline power terminal for boosting the communications power U_L of 0.8 A, complete with accessories	R-IB IL 24 PWR IN/R/L-0.8A-PAC	R911172896	1
Documentation	Type	MNR	Pcs. / Pkt.
Application description Automation terminals of the Rexroth Inline product range	DOK-CONTRL-ILSYSINS***- AW...-EN-P	R911317021	1

Additional ordering data

For additional ordering data (accessories), please refer to the product catalog at www.boschrexroth.com/electrics.

4 Technical data

Dimensions (nominal sizes in mm)



Width	12.2 mm
Height	119.8 mm
Depth	71.5 mm

General data

Color	gray
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 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	10 % ... 95 % (according to DIN EN 61131-2)
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

Name	Inline connectors
Connection method	Spring-cage connection
Conductor cross section solid / stranded	0.08 mm ² ... 1.5 mm ²
Conductor cross section [AWG]	28 ... 16

Interface Inline local bus

Transmission speed	500 kBit/s / 2 MBit/s
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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 $\pm 5\%$ (via voltage jumper)
Power supply at U_L	max. 0.8 A DC

Power loss

Power loss	max. 0.6 W (Entire device)
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PROFIBUS telegram data

Required parameter data	0 Byte
Need for configuration data	0 Byte

Electrical isolation/isolation of the voltage areas

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.
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. If you want to protect the 24 V supply, use a 2 A medium-blow fuse.

Approvals

For the latest approvals, please visit www.boschrexroth.com.

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

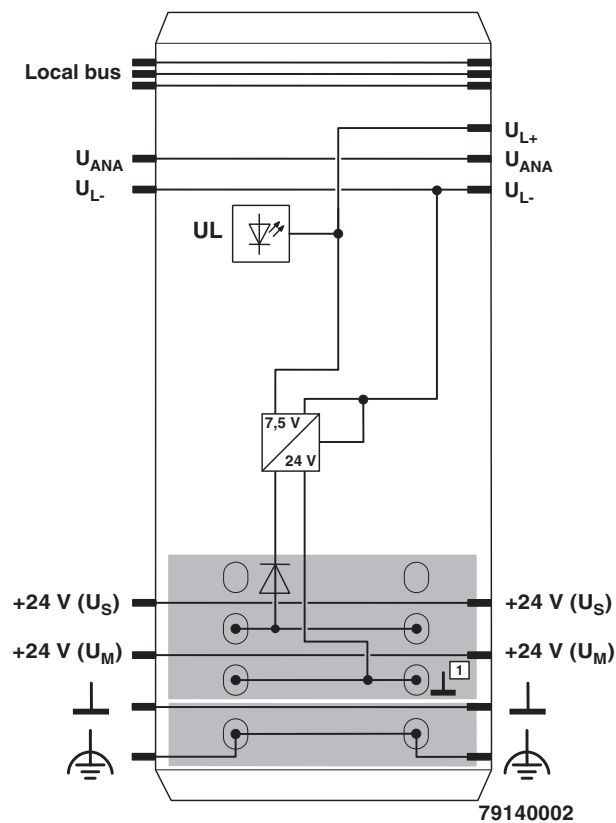


Fig. 1 Internal wiring of the terminal points

Key:



LED



Electrically isolated area



Power supply unit



Diode



Reference potential GND (24 V supply)



For an explanation of the other symbols used, please refer to the “Automation terminals of the Rexroth Inline product range” application description (DOK-CONTRL-ILSYSINS***-AW..-EN-P, MNR R911317021).

7 Local diagnostic indicators



Fig. 2 Local diagnostic indicators

LED	Color	Meaning
UL	Green	7.5 V communications power

Function identification

Black

8 Terminal point assignment

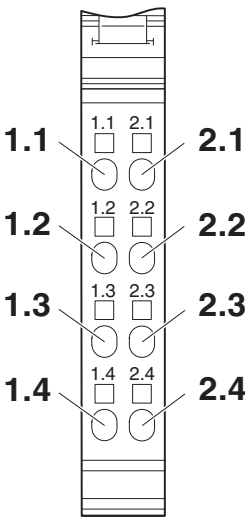


Fig. 3 Terminal point assignment

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

9 Instructions for connection

NOTE Electronics may be damaged when overloaded

Protect the 24 V supply with an external fuse.

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.

NOTE Malfunction

Supply the bus coupler of the Inline station (U_{BK}) and the R-IB IL 24 PWR IN/R/L-0.8A-PAC power terminal 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.

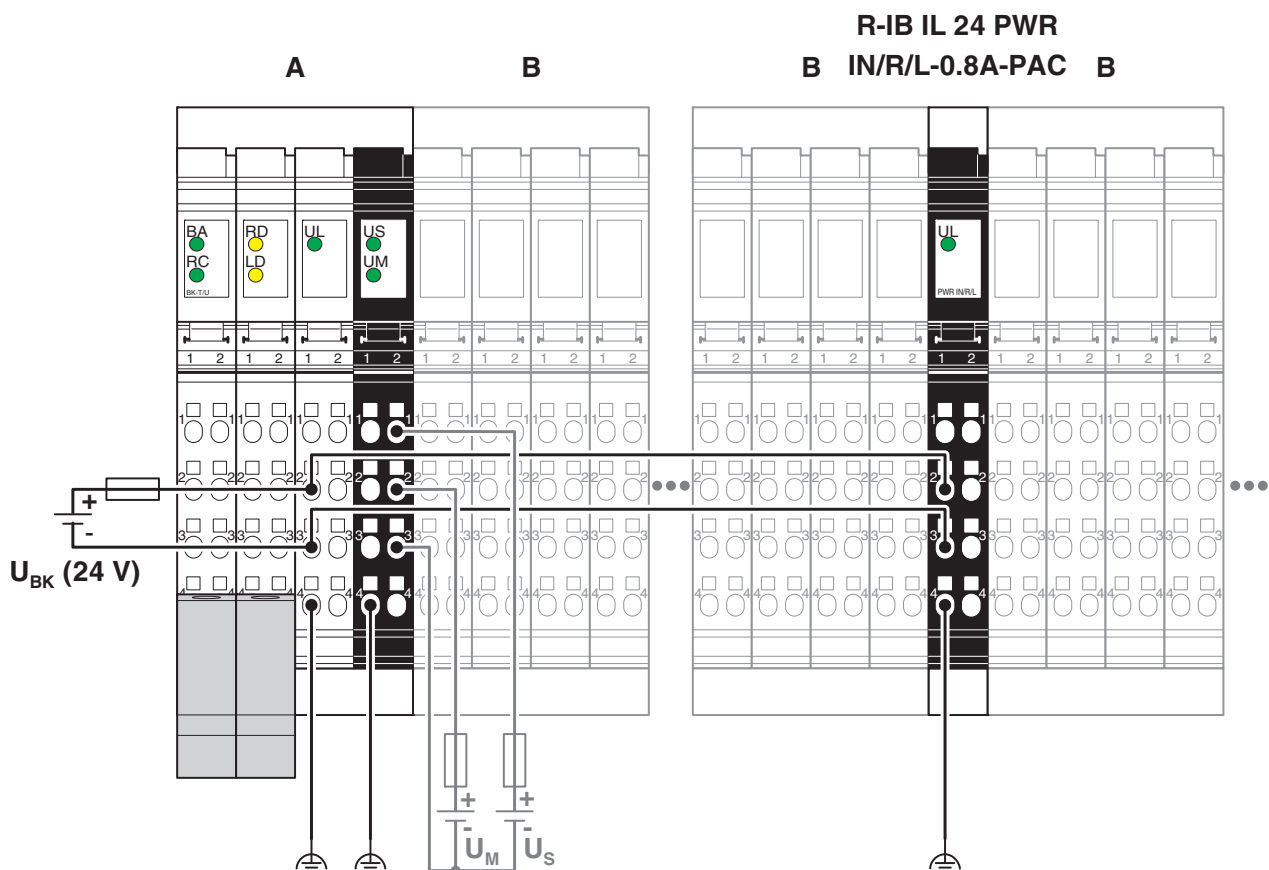


Fig. 4 Example of implementation of the connection instructions

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