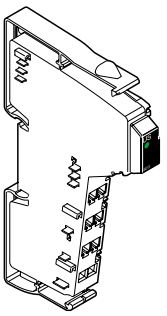
IB IL 24 SEG

INTERBUS Inline
Segment Terminal Without Fuse



Data Sheet 5566C 01/2001 55663001

This data sheet is only valid in associaton with the “Configuring and Installing the INTERBUS Inline Product Range” User Manual IB IL SYS PRO UM E.

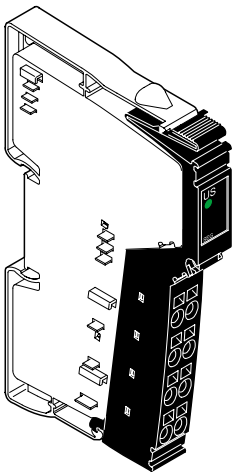
Function

The segment terminal is intended for use in an INTERBUS Inline station. It is used to create a partial circuit (segment circuit) within the main 24 V circuit.

Features

This terminal does not have an INTERBUS protocol chip and is not a bus device.

– Creation of a partial circuit in the main 24 V circuit using an external jumper or switch
– Diagnostic indicator



5566A005

Figure 1 IB IL 24 SEG terminal with the connector plugged in

Please note that the connector is not supplied with the terminal. Refer to the “Ordering Data” Table at page 6 to choose the appropriate connector for your application.

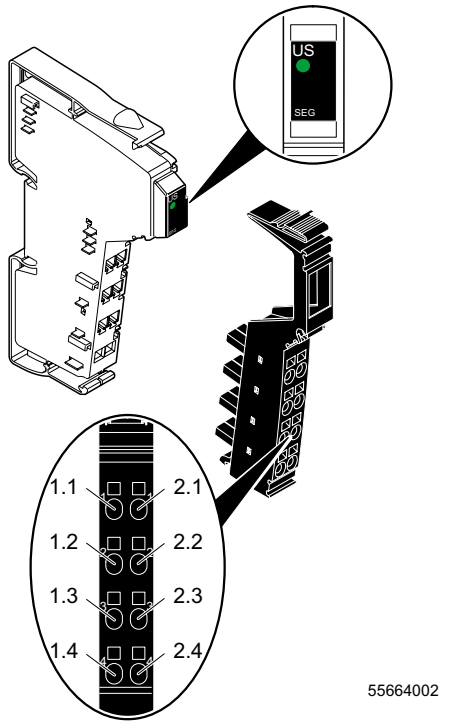


Figure 2 IB IL 24 SEG with the appropriate connector

Function Identification

Black

Local Diagnostic Indicator

Des.	Color	Meaning
US	Green	24 V voltage (in segment circuit U_S)

Terminal Assignment

The terminal points 1.1, 2.1, 1.2, and 2.2 are meant for the following purposes **only**: measuring purposes, and the connection of a switch or a jumper on the segmentation level! They must never be used to provide a supply voltage.

Terminal point	Assignment
1.1, 2.1	Segment voltage U_S Connection of a switch or a jumper in the segmentation level
1.2, 2.2	Main voltage U_M Connection of a switch or a jumper in the segmentation level
1.3, 2.3	GND of the supply voltages
1.4, 2.4	FE connection

Internal Circuit Diagram

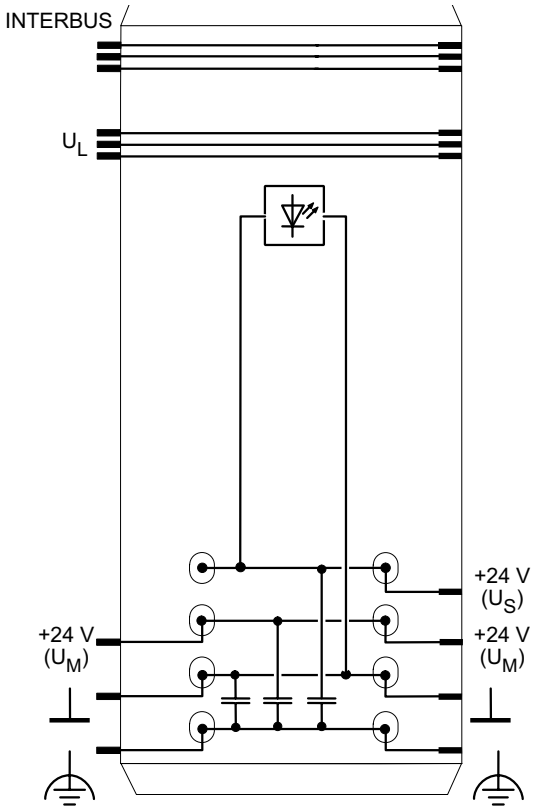


Figure 3 Internal wiring of the terminal points

Key:

LED

Capacitive connection to earth ground (FE)

Other symbols are explained in the IB IL SYS PRO UM E User Manual.

Connection Example

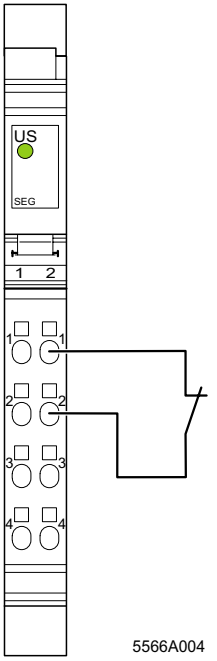


Figure 4 Connection example of a switch

The switch can be used to set up a switched segment circuit.

If this is not needed for your application, you must jumper connections 1.1 and 1.2 or 2.1 and 2.2 to ensure that the segment circuit is supplied from the main circuit.

Technical Data

General Data	
Housing dimensions (width x height x depth)	12.2 mm x 120 mm x 71.5 mm (0.480 in. x 4.724 in. x 2.795 in.)
Weight	42 g (without connector)
Permissible temperature (operation)	-25°C to +55°C (-13°F to +131°F)
Permissible temperature (storage/transport)	-25°C to +85°C (-13°F to +185°F)
Permissible humidity (operation)	75%, on average, 85%, occasionally
 Ranging from -25°C to +55°C (-13°F to +131°F). Appropriate measures against increased humidity (> 85%) must be taken.	
Permissible humidity (storage/transport)	75%, on average, 85%, occasionally
 For a short period, slight condensation may appear on the housing if, for example, the terminal is brought into a closed room from a vehicle.	
Permissible air pressure (operation)	80 kPa to 106 kPa (up to 2000 m [6562 ft.] above sea level)
Permissible air pressure (storage/transport)	70 kPa to 106 kPa (up to 3000 m [9843 ft.] above sea level)
Degree of protection	IP 20 according to IEC 60529
Class of protection	Class 3 according to VDE 0106, IEC 60536

Power Consumption	
Communications power U_L	–
Current consumption U_L	–
Power consumption U_L	–
Main power U_M	24 V DC (nominal value)
Nominal current consumption at U_M	8.0 A (maximum permissible total current in the voltage jumpers U_M and U_S)

Supply of the I/O through the bus terminal module and the power terminal (U_M)	
Connection method	Through potential routing

24 V I/O Supply (U_M, U_S)

The main voltage U_M is supplied through a bus terminal or a power terminal. At this segment terminal, the segment voltage U_S is provided by the connection of a switch or a jumper on the segmentation level.

No connections for a supply voltage are required on the segment terminal. The terminal points 1.1, 2.1, 1.2, 2.2 are meant for the following purposes **only**: measuring purposes, and the connection of a switch or a jumper on the segmentation level!. They must never be used to provide supply voltage.

Safety Devices	
Overload/short circuit in segment circuit	No
Surge voltage	Components in the power terminal or the bus terminal module
Polarity reversal	Components in the power terminal or the bus terminal module

Electrical Isolation

To provide electrical isolation between the logic level and the I/O area, it is necessary to supply these areas of the bus terminal, or the bus terminal and a power terminal from separate power supplies. Interconnection of power supply units in the 24 V range is not allowed! Please pay attention to the GND-PE connections on the power supply units. (For detailed information refer to the User Manual.)

Common potentials

24 V main power, 24 V segment voltage, and GND have the same potential. FE (functional earth ground) is a separate potential area.

Separate system potentials consisting of bus terminal/power terminal and I/O terminal

- Test distance	- Test voltage
5 V supply incoming remote bus / 7.5 V supply (bus logic)	500 V AC, 50 Hz, 1 min.
5 V supply outgoing remote bus / 7.5 V supply (bus logic)	500 V AC, 50 Hz, 1 min.
7.5 V supply (bus logic) / 24 V supply (I/O)	500 V AC, 50 Hz, 1 min.
24 V supply (I/O) / functional earth ground	500 V AC, 50 Hz, 1 min.

Error Messages to the Higher-Level Control or Computer System	
None	

Ordering Data

Meaning	Order Designation	Order No.
Segment terminal without fuse	IB IL 24 SEG	27 26 32 4
You need 1 connector for the 24 SEG terminal.		
Connector (black, w/o color print) pack of 10	IB IL SCN-PWR-IN	27 27 46 2
Connector (black, with color print) pack of 10	IB IL SCN-PWR-IN-CP	27 27 63 7
“Configuring and Installing the INTERBUS Inline Product Range“ User Manual	IB IL SYS PRO UM E	27 43 04 8

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