

DIAS power supply and BUS coupling module

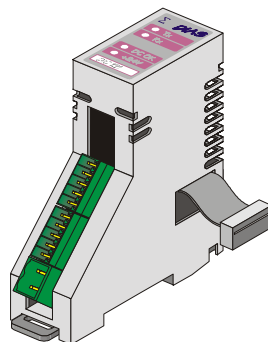
DIC 121

for the power supply of decentralised DIAS modules,
2 x electrical connections (DIAS bus)

The DIC 121 DIAS module is used for the communication of decentralised DIAS modules with the central unit via electrical bus connections.

A bus output can be used for connection to a further decentralised module group. The signal for this bus output is processed internally via a "repeater", i.e. the signal distortion which has arisen is removed.

In addition this module provides the supply voltage (+ 5 V) to the DIAS module connected to the module group.



Technical data

Electrical requirements

Supply voltage	18 – 30 V DC	
Supply voltage current consumption	The current drawn depends on the connected load (max. 1 A)	
Output voltage (DIAS bus supply)	min. + 5.0 V	max. +5.35 V
Total current to the connected DIAS modules	max. 1.5 A	
Status display	+ 24 V OK: green LED DC OK: green LED RX: green LED TX: yellow LED	

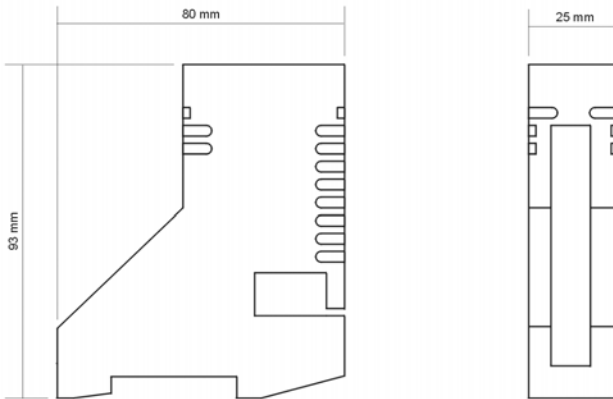
Miscellaneous

Article number	05-003-121
Hardware version	1.x
Standardization	UL (E247993)

Environmental conditions

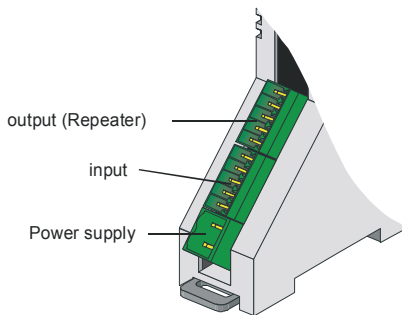
Storage temperature	- 20 – + 85 °C	
Operating temperature	0 – + 60 °C	
Humidity	0 – 95 %, without condensation	
EMV stability	In accordance with EN 61000-6-2 (Industrial area)	
Resistance to shocks	EN 60068-2-27	150 m/s ²

Mechanical dimensions

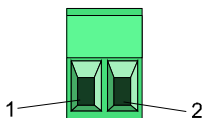


Connections

On the front of the module the following connections are found:



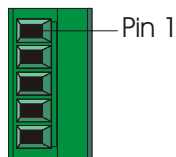
The connection to the current supply is made via a 2-pole plug wired as follows:



Pin	Function
1	+ 24V supply
2	GND

The connection to each of the bus connections is made via a 5-pole plug wired as follows:

Pin	Function
1	MBUS+
2	MBUS-
3	SBUS+
4	SBUS-
5	GND



Status displays

4 LEDs on the top of the module indicate the status of the module.

- + 24 V OK ... green LED 24 V supply to the module is available
- DC OK ... green LED Output voltage (+ 5 V DC) is okay

- Rx ... green LED Data are being received
- Tx ... yellow LED Data are being sent

Wiring instructions

In order to guarantee a good bus connection, it is necessary to pay attention to certain rules:

- It is absolutely necessary to make sure that the cable used is suitable for the transmission rate:

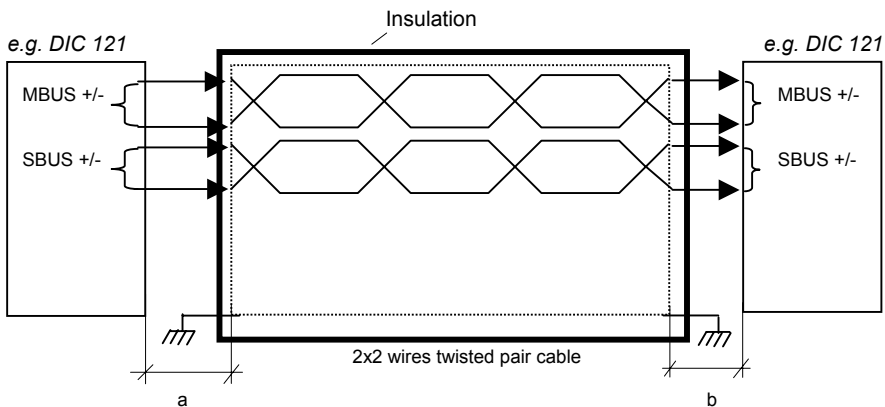
*Data cable (10Mbit 2 x 2 TWISTED PAIR leads, screened)
e.g.: LAPPKABEL / UNITRONIC BUS LEADS FD P LD*

- The impedance of the cable should be 100 Ohm on account of the termination resistances within the module.
- With the cable (twisted pair), it is absolutely necessary to also make sure that correct pairs are correctly connected to each other: cable 2x2 pairs:

Pair 1	MBUS+
	MBUS-
Pair 2	SBUS+
	SBUS-
- The screening must be properly connected to GND.
- In order to be able to screw the individual wires onto the plug, the cable has to be stripped and the screening at this position pushed out of the way. However, only as much as absolutely necessary of the insulation and the screening should be removed.
- It is absolutely necessary to make sure that the transmitting and receiving modules are connected to the same GND potential.

**The maximum wire length with a twisted pair cable is 20 m
(when using UNITRONIC BUS FD P LD / Fa. LAPPKABEL)**

Example



a, b These distances are to be kept as small as possible

Put screening on both sides and extensive on shortest way to GND

