

Digital optical transmission system DOtech Type LIN26 for LINBUS diagnosis

Operating instructions



Principle of transmission

The transmission system consists of two identical transceiver circuits. The supply is done by an external battery U_{bat} . The system serves for the bi-directional optical transmission of digital LINBUS signals in harsh electromagnetic environments and for bus simulations during emission tests.

Operating instructions

The transceiver circuits are interconnected to each other via two optical fibres. The RX-input of transceiver 1 is connected to the TX-output of transceiver 2 and the RX-input of transceiver 2 is connected to the TX-output of transceiver 1.

First, the power supply U_{bat} (red female connector) and the ground (black female connector) have to be connected to the transceiver circuits. Rectifiers to protect against reversed voltages are provided at the supply connector. The housing is directly connected to ground. Take care not to short circuit U_{bat} against the housing. The given upper and lower maximum ratings of the supply voltage may not be exceeded. Next, the LINBUS signal (green female connector) is connected.

After connecting the supply voltage, the LEDs blink several times. Then the „Error-LED“ is switched off and one of the LEDs at the housing of the transceiver shows, if the system is used in MASTER or SLAVE mode, depending on the position of the mode switch. The switching of the internal pull-up resistors is carried out automatically by an internal μ C-circuit that falls into sleep mode after initialisation. The μ C can only be waked up by changing the mode or by completely removing and reconnecting the supply voltage (re-initialisation). After switching the pull-up resistors, the μ C falls asleep once again.

The optical fibres have to be connected carefully to the sensitive FSMA connectors of RX-input and TX-output.

If a bi-directional transmission of data is not necessary, the transceivers can also be used as a uni-directional digital fibre optic link (for baud rates up to 20 kBaud). For this use, only one RX-TX-pair is connected.

If the digital optical transmission system DOtech Type LIN26 is used for BCI-measurements, additional filtering should be used for the protection of all inputs above currents of 200 mA. An additional external BCI-filter is available on request as an option for severity levels up to 400 mA.