

EMCtools

Fiber optic CAN / LIN transceiver
Type Canbox Highspeed / Mix



EMCtools

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Introduction and use

Functional tests e.g. in test-labs often require insulated CAN- (Controller Area Network) and LIN-busses (Local Interconnect Network) to control the device under test. For this purpose, the *EMCtools* Canbox provides 5 independent bidirectional fiber optic bus connections.

EMCtools Microbox fiber optic CAN-/LIN transceivers are well-established in EMC-labs all over the world. These transceivers have been designed for emission and susceptibility tests. Using multilayer technology and sophisticated circuit design, full CAN/LIN compatibility and the ability to perform tests at electromagnetic field levels of 270 V/m and above could be achieved.

Usually to identical transceivers are used both in- and outside the shielded enclosure. We designed the *EMCtools* CanBox as a reliable substitute when high susceptibility of bus transceivers is not needed (e.g. outside shielded rooms). It replaces up to 5 single transceivers and allows easy and direct connection of the electrical bus (e.g. CAN-/LIN-Cab) via standard 9-pin Sub-D.

Versions

Based on an analysis of commonly used bus systems in automotive tests, *EMCtools* provides two different Canbox versions:

- *EMCtools* Canbox Highspeed 5 x High-Speed CAN
- *EMCtools* Canbox MIX 1 x High-Speed CAN, 2 x Low-Speed CAN, 2 x LIN-Bus

Technical data

max. Bitrate:

HS-CAN: 1 MBit/s (fiber-optic cable length max. 20 m)

LS-CAN: 125 kBit/s

LIN: 20 kBit/s

signal delay:

HS-CAN: approx. 45 ns (*EMCtools* Canbox)

215ns – complete setup:

20m fiber optic cable, 1xOPTOCAN (SonTec electronic), 1xCANBox (*EMCtools*)

power supply: wall power supply 9V DC / 2A

fiber optic: F-SMA, standard multimode optical fiber 62,5/125µm

BUS-connector: 9-pin Sub-D (female) for High-Speed CAN, Low-Speed CAN und LIN

Bus-impedance: HS-CAN: 120Ohm

LS-CAN: 560Ohm

LIN: configured as LIN-master (pull-up 1kOhm)

ambient temperature: -10°C – 50°C

compatibility: *EMCtools* Canbox High-Speed CAN can be combined with:

- *EMCtools* Microbox - High Speed CAN
- SonTec electronic OPTOCAN 2000 V2.0 High Speed CAN

EMCtools Canbox Low-Speed CAN can be combined with:

- *EMCtools* Microbox - Low Speed CAN
- SonTec electronic OPTOCAN 2000 Low Speed CAN

EMCtools Canbox-LIN can be combined with:

- *EMCtools* Microbox - LIN
- SonTec electronic OPTOLIN 2000 V1.0

Delivered devices of the system and accessories:

One *EMCtools* Canbox Highspeed or *EMCtools* Canbox Mix

One wall power supply

One printed manual