

EMCtools

**Fiber optic CAN / LIN transceiver
Type Canbox Highspeed / Mix**



EMCtools

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EMCtools — lab life made easy

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

EMCtools provides three different Canbox versions:

- | | |
|---|--|
| - <i>EMCtools</i> Canbox Highspeed | 5 x High-Speed CAN |
| - <i>EMCtools</i> Canbox MIX | 1 x High-Speed CAN, 2 x Low-Speed CAN, 2 x LIN-Bus |
| - <i>EMCtools</i> Canbox MIX (customer specified) | 5 field bus transceivers acc customers specification |

Technical data

max. Bitrate:

HS-CAN:	1 MBit/s (fiber-optic cable length max. 20 m)
LS-CAN:	125 kBit/s
SW LS-CAN:	33 kbit as per J2411 / 100kBis/s in High Speed mode
LIN:	20 kBit/s

signal delay:

HS-CAN:	approx. 45 ns (<i>EMCtools</i> Canbox)
	215ns – complete setup:
	20m fiber optic cable, 1 x CANBox – 1 x Microbox (<i>EMCtools</i>)

power supply: wall power supply 9V DC

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
	SW LS-CAN:	120Ohm
	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 Single Wire Low-Speed CAN can be combined with:

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

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