

**Digital optical transmission system  
DOtech Type M  
Submodules “CAN-H2” and “CAN-H4”:  
Operating instructions**

## Principle of transmission

The digital optical transmission system DOtech Type M consists of two pairs of transceiver circuits interconnected by two optical fibres. Each of these transceivers consists of a basic module (power supply, optics and control logic) and a submodule that transforms the incoming and outgoing data into an adequate form. The power supply is provided by an internal, rechargeable battery inside the basic module. The system serves for the unidirectional or bidirectional, non-reactive and potential free optical transmission of analogue and digital signals in harsh electromagnetic environments.

It is usable both for emission and susceptibility tests.

## Operating instructions

The basic modules are interconnected to each other via two optical fibres. The RX-input of basic module 1 is connected to the TX-output of basic module 2, and the RX-input of basic module 2 is connected to the TX-output of basic module 1. The optical fibres have to be connected carefully to the sensitive FSMA connectors of the RX-input and the TX-output.

After connecting the optical fibres, adapt the submodules (CAN-H2 or CAN-H4) to the corresponding basic modules via the DATCON-SUBD25 connector (don't touch the pins: danger of ESD-discharges and damage of the CAN-module!) and fix the CAN-modules with the screws on the ground plate of the basic modules.

Next, turn the power switch of both basic modules on (battery status LED's on the base modules and the ON-LED's on the CAN-modules are lighted). If the battery status is low, the optical transmission between the two CAN-modules is switched off. A low battery status is also indicated by a switched off "ON-LED" at the CAN-module.

If the battery status is low, please charge the basic module with the specified charger ACS410P traveller.

Select the appropriate bus impedance for any of the used CAN-signals of the CAN-modules (on both sides of the digital optical transmission system) via the switches at the front side of the CAN-modules.

The signals to be transmitted can now be connected. (CAN-High: green 2mm-plug, CAN-Low: yellow 2mm-plug at the different CAN-outlets. The CAN-Low connector of the Single-Wire-CAN is connected to chassis ground of the module.) Up to two (CAN-H2) respective four bus-signals (CAN-H4) may be transmitted simultaneously and totally independent of each other.

After use, switch off the power of both basic modules after disconnecting the bus signals to be transmitted.

If a bi-directional transmission of data is not necessary, the transceivers can also be used as a unidirectional digital fibre optic link. For this use, only one RX-TX-pair is connected.

The digital optical transmission system may not be used for ESD-measurements, unlike this special option is ordered. Only with this option, any input may be susceptible with up to 8 kV contact discharge and up to 15 kV air discharge (both polarities, with any automotive discharge network).