

**Digital optical transmission system  
DOtech Type M  
Submodules AD2 and DA2:  
Technical specification**

## 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.

## Submodule "AD2" 2 x analogue inputs

2 input channels, fits together with module DA2. Usable for susceptibility and emission tests as well.

Digital resolution:	16 Bit
Cut off frequency:	30 kHz
Input voltage range:	$\pm 14.0$ V, extendable by additional filters/ dividers up to $\pm 100$ V
Input impedance:	$ Z  > 50$ kOhm ( $f > 2 \times f_{\text{cutoff}}$ ); $ Z  > 500$ kOhm ( $f < f_{\text{cutoff}}$ )
Signal connectors (2):	BNC
Housing:	aluminium, nickel plated
Ambient temperature:	0°C – 70°C
Storage temperature:	-20°C – 85°C
„On“-indication:	LED
Applicable for:	Immunity tests according to ISO 11452-x, ESD according to DIN EN-61000-4-2, ISO 10605 Emission tests according CISPR 25, 22

## Submodule "DA2"

### 2 x analogue outputs

2 output channels, fits together with module AD2. Usable for susceptibility and emission tests as well.

Resolution nominal:	16 Bit
Cut off frequency:	30 kHz
Output voltage range:	$\pm 14.0$ V
Input impedance:	$ Z $ approximately. 800 Ohm
Output:	short circuit proof
Output impedance:	$ Z  > 800$ Ohm
Signal connectors (2):	BNC
Housing:	aluminium, nickel plated
Ambient temperature:	0°C – 70°C
Storage temperature:	-20°C – 85°C
„On“-indication:	LED
Applicable for:	Immunity tests according to ISO 11452-x, ESD according to DIN EN-61000-4-2, ISO 10605 Emission tests according CISPR 25, 22
Guaranteed accuracy:	$\leq 2\text{mV} @ \hat{E} < 300 \text{ V/m} @ f_{\text{Susceptibility}} \geq 1 \text{ MHz}$ $\leq 2\text{mV} @ \hat{I} < 200 \text{ mA} @ f_{\text{Susceptibility}} \geq 1 \text{ MHz}$