

# OLT 880



## Automatic Testing of Fiber Optic Cables

Fiber optic cables are being increasingly used in automobiles and in mechanical engineering. Plastic fiber optics (POF - Polymer Optical Fiber) are becoming predominant in these areas. During final test of cables and wire harnesses, the testing of fiber optic cables is required in addition to electrical testing. The OLT 880 test box, in connection with adaptronic wiring test systems, allows the simultaneous testing of several fiber optic cables in wire harnesses.

## Multi-Channel Test Unit with High Precision

This multi-channel test unit has optical transmitters (LEDs) and precise power-measurement units integrated into one housing. 8 transmitting and receiving channels are available. If more than 8 channels are required, additional OLT boxes can be cascaded. Special characteristics of OLT 880 are the high measurement precision and simultaneous high test speed.

## Programming the Test Sequence with NT Control and the Optical Link Editor

The Windows® application, NT Control, manages and controls the OLT boxes and the fiber optic adapters connected to the test system.

In programming mode, the Optical Link Editor allows the simple editing of fiber optic connections. The measurement channels and limits of optical attenuation can be programmed individually for each fiber optic cable.

In test mode, NT Control controls the automatic test of the fiber optics. On this occasion, the fiber optics are tested for observance of the programmed attenuation limits. The measurement method corresponds to the insertion procedure of IEC 874-1.

## Visualization of the Test Results

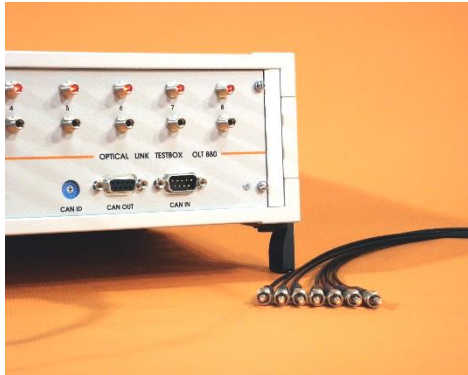
The display of test results is clear and extensive. The graphical fault display makes an important contribution to the fast location and systematic elimination of faults. Report printing and label printing are also available.

## System Calibration

NT Control supports suitable calibration procedures allowing the traceability of the calibration of the optical channels. Not only the optical channels of the OLT box but also the fiber-optic patch cables to the adapters are taken into account during calibration.

The fiber-optic patch cables support homogeneous energy distribution into the light modules (EMD- Equilibrium Mode Distribution) and offer high flexibility in the design of the fiber optic adapter. After changing fiber-optic adapters or service activities on the optical test pins, the test system can simply and quickly be re-calibrated.

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The connection of the fiber optic connectors is done via our well known AT4000 adaption system. This adaption system can be used for purely optical as well as for hybrid connectors (electrical and optical contacts).

The electrical and optical test pins are spring-loaded and can be changed individually. The connection between the optical test pins and the OLT box is made with fiber-optic patch cables (POF). The attenuation of the individual fiber-optic patch cables is taken into account during system calibration.

## Technical features

### Optical interface

Transmission channels 8 (FSMA connector)

Receiving channels 8 (FSMA connector)

### Channel specifications

Transmission channels

- Plastic Fiber Transmitter Diode (LED)
- Peak wave length 650 nm
- Spectral width 25 nm
- Output power -7 dBm, CW operation, temperature compensated

Receiving channels

- Large area silicon PIN photo diode
- Active sensor surface 7 mm<sup>2</sup>

### Measurement of optical attenuation

- Measurement method: insertion procedure according to IEC 874-1, IEC 793-1
- Dynamic range 45 dB (-5 dBm ... - 50 dBm)
- Absolute measurement precision ± 0.3 dB
- Relative measurement precision ± 0.1 dB
- Linearity 0,1 dB (-5 dBm ... - 40 dBm)
- Repeatable precision 0.2 dB
- Measurement time 3 ms / measurement
- Traceability NIST standard (National Institute of Standards and Technology)

### Electrical interface

- POWER LINE, test box input voltage 24 VDC, MiniDIN 3-way
- CAN IN, for connection to the wiring tester
- CAN OUT, for connection of other OLT test boxes (expandable up to 16 test boxes)

### General

Power supply External power supply, input voltage 100 VAC - 240 VAC, 50/60 Hz, 27 W, included

Dimensions (W x H x DT), weight 320 mm x 110 mm x 270 mm, approx. 2 kg incl. power supply

Environmental conditions

- Temperature range operation +10° C up to +40° C  
storage +10° C up to +60° C
- Humidity operation 30 % - 70 %, non-condensing