

# MELOPEE - T 2001

## Fiber Optic Link Micro-Transmitter

### 5 kHz to 5 GHz Bandwidth



The MELOPEE T 2001 system is designed to optically transmit an analog signal within the **5 kHz to 5 GHz** frequency range. It consists of a compact battery powered **modem-sensor**, a 100 m long **fiber optic** cable and a broad bandwidth remote **receiver unit**. The T2001 system can transmit low level voltages, for example the output signals from **passive sensors** such as THALES E-3602.

The **modem-sensor** T2001 is contained within a very low volume of about **50 cm<sup>3</sup>**. Therefore it allows the measurement of parameters in **very limited spaces** and close to equipments subjected to an electromagnetic field, without interference of this field.

The **optic cable** includes a single-mode fiber for analog signal and a multi-mode fiber for remote control of the sensor power supply.

The **P5003 receiver** converts the optical signal to an electrical signal. It accommodates up to three T2001 (and thus up to three passive sensors or antennas). It can be controlled by a PC using an **IEEE connection** and can be linked to a spectrum analyzer, a EMI receiver or an oscilloscope.

## P5003



# MELOPEE - T 2001

## Fiber Optic Link Micro-Transmitter

### 5 kHz to 5 GHz Bandwidth

#### Applications

- Measurements inside equipments operating in severe electromagnetic environment
- Non-disturbed and good quality link between antennas and receivers (EMC applications)
- Transmission of analog signal without distortion (high voltage and high frequency applications)

#### Electrical characteristics (typical data)

Nominal input level	$\pm 100 \text{ mV}_p$ (-10 dBm)
CW voltage allowed	10 dBm
Input impedance	50 ohms
Input ROS	<1,25 for $f < 1,5 \text{ GHz}$
Low cutoff frequency	5 kHz
High cutoff frequency *	4,5 GHz
Flatness within 20 kHz - 1,5 GHz	$\pm 1 \text{ dB}$
Rise time	140 ps
P-P signal to rms noise ratio in 3 GHz	40 dB
Mean noise within 100 KHz	20 db $\mu$ V
Sensitivity (equivalent input noise)	< 2 mV <sub>RMS</sub>
Nominal output level	$\pm 200 \text{ mV}_p$

\* 5 GHz on request.

#### Operating and Environmental Characteristics

Power supply of receiver unit	110/230 V - 50/60 Hz
Power supply of T2001 (batteries)	2 x AAA
Operating time (with NiMH batteries)	> 2h
Length of the optic cable	100 m (standard)
Operating temperature range	+ 10 / +40°C
Storage temperature range	-10°C / + 50°C
EMI rejection (10 KV/m)	> 36 dB
Dimensions of transmitter	47 x 75 x 14 mm

January 2002



*Device hardening, Instrumentation and Safe Systems Domain*

160, boulevard de Valmy - B.P.82 - 92704 COLOMBES Cedex - FRANCE - Tel : (33) 01 41 30 48 14 - Fax : (33) 01 41 30 36 51  
technical contact : fernand.rodriguez@fr.thalesgroup.com – commercial contact : christian.burtaux@fr.thalesgroup.com  
<http://www.thales-communications.com>