

Temperature Sensors

**Model
150D/T
151D/T
155D/T**

- **High Measuring Accuracy**
- **In-Dummy Application**
- **TEDS Sensor Identification⁽¹⁾**
- **Glue and Screw Fixing**

Application

The temperature sensors were developed for the temperature monitoring of dummies and dummy parts as well as for the application in vehicles and at test stands.

The possible mounting locations are wide-spread inside the dummy: From the spine to the ribs and from the cervical vertebra to the head skin. These different measuring locations require several sensor models:

- 150D/T: Miniature temperature sensor
Adhesion in the dummy neck, at the ribs or inside of dummy flesh parts
- 151D/T: Standard temperature sensor
Screwing at the dummy spinebox, inside the head or at larger dummy metal parts
- 155D/T: Miniature temperature sensor
Razor-thin sensor with 0,05mm thickness, strain gage-like adhesion under or on the dummy skin

Using the Temperature- & Humidity Datalogger models 452D/TFD or 453D/TFD⁽²⁾ you can apply an ideal measuring system to record and to store the temperature data before the crash test. You may as well join the sensors listed above to the environmental data recorder 460D/EDR⁽³⁾.

The MSC datalogger systems identify all sensors, joined at the 1 Wire sensor bus, by their TEDS. The measuring values are read-out and displayed via the Digital Transducer Adapter 620C/DTA and a PDA (or PC) or via the MDDAS⁽⁴⁾. For the configuration of the system you need a 620C/DTA and a PDA (or PC) with installed user software MoST-TH (or SySt-TH).

Functional Concept

The sensors are comprised of semiconductor units. The signals are conditioned inside the sensors and afterwards they are digitally transmitted. Thus the transmission is independent from the cable length and other noise sources.

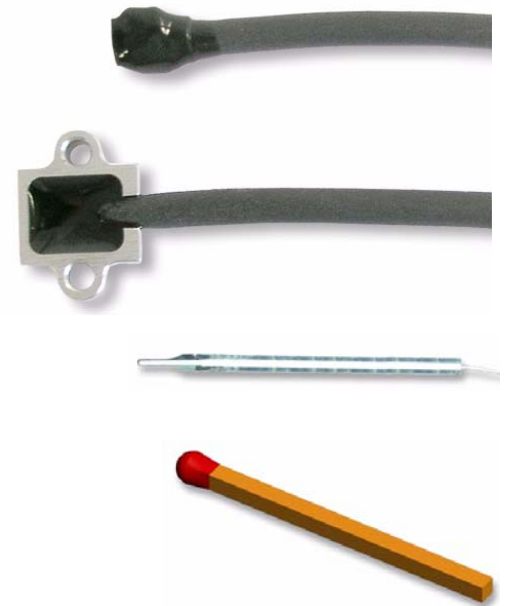
We recommend the annual calibration of the temperature sensors to maintain their high accuracy. The measuring accuracy is independent from the datalogger. It is only determined by the applied sensor.

⁽¹⁾ TransducerElectronicDataSheet

⁽²⁾ See TD-452D/TFD and TD-453D/TFD Temperature & Humidity Dataloggers

⁽³⁾ See TD-460D/EDR Environmental Data Recorder

⁽⁴⁾ MiniatureDigitalDataAcquisitionSystem, MSC measuring system



Options

Customized cable lengths and connectors with specific customer pin assignment, customer-specific measuring range adjustment.

Accessories

- Mounting screw for 151D/T*) Article N^o: 320277 (2 units)
- 452D/TFD Temperature & Humidity Datalogger (for in-dummy)
- 453D/TFD Temperature & Humidity Datalogger (for test stand)
- 460D/EDR Environmental Data Recorder
- 620C/DTA Digital Transducer Adapter
- PDA, iPAQ model (please ask our sales dep. for the proper type)
- 677A/MoST-TH User software for the PDA
- 677A/SYST-TH User software for the PC

For further details please see accessories catalog

*) included in scope of delivery

Technical Specifications

**150D/T
151D/T
155D/T**

All specifications are typical at 25°C and rated at 10V sensor supply voltage, unless otherwise specified.

	Units	Value	Remark
Measurement range	°C	-55...+85	
Calibrated measurement range ⁽¹⁾	°C	10 ... 40	
Calibrated measurement accuracy ⁽¹⁾	°C	±0,26 ±0,15	150D/T, 151D/T 155D/T ⁽²⁾
Supply voltage	V DC	5	
Sensor current consumption	mA	0,1	during the measurement
Sensor sampling rate		10 seconds to 255 minutes, adjustable via datalogger	
Working temperature	°C	-20...+80	
Storage temperature		-30...+90	
Dimensions (L x W x H)	mm	5,5 x 5,5 x 2,5 14 x 10 x 4 10 x 2,5 x 0,05	150D/T 151D/T 155D/T ⁽³⁾
Mounting screws	M2 x 6 DIN912	2	151D/T
Weight without cable	g	1 2 0,5	150D/T 151D/T 155D/T ⁽⁴⁾

(1) MSC factory calibration, other measurement ranges on request

(2) In development, enhanced accuracy

(3) Dimensions of the cold-spot compensation 6 x 6 x 2 mm

(4) Weight of the cold-spot compensation 2 g

Model/Option Code: 15xD/T-###-ST

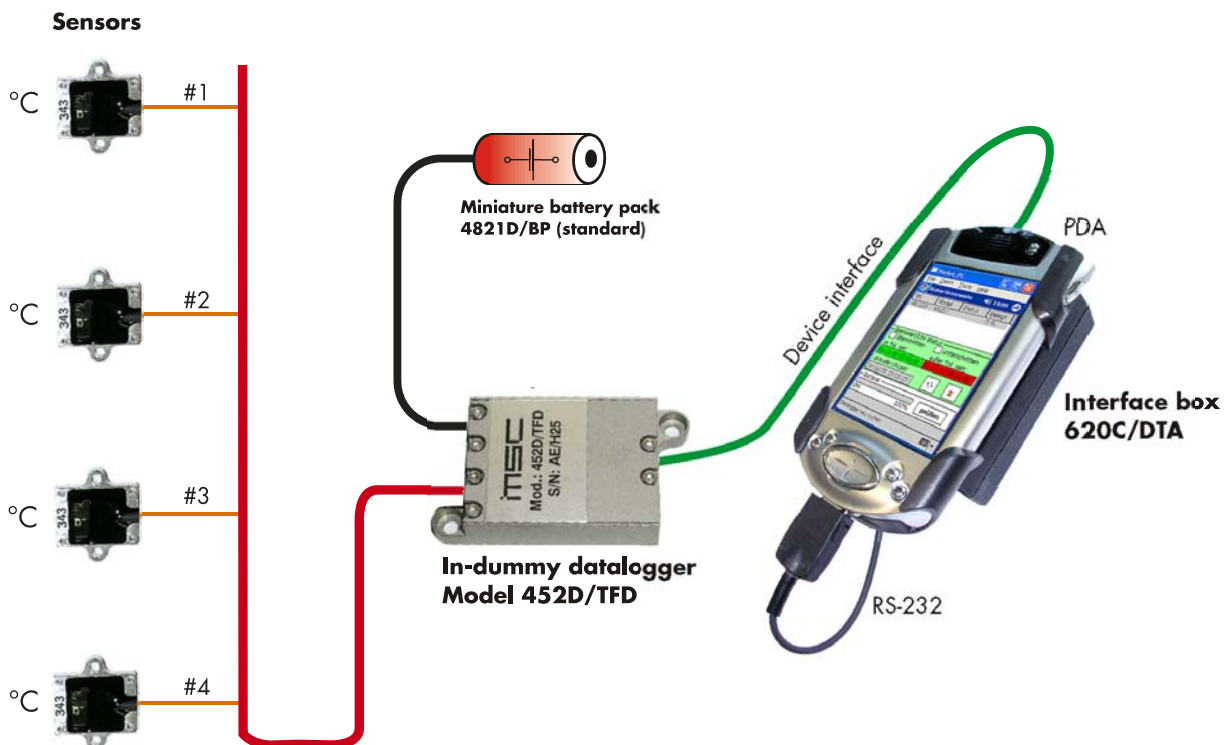
150D/T: Model declaration

151D/T: - " -

155D/T: - " -

###: Cable length in cm

-ST: Connector type



Application example with 4 temperature sensors, in-dummy datalogger 452D/TFD, digital transducer adapter 620C/DTA and Compaq handheld PDA with installed user software „MoST-TH“.