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DIGITAL THERMOMETER DTM3000SPEZIAL OPERATING INSTRUCTIONS

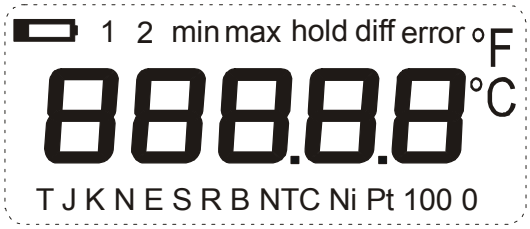
The digital thermometer, controlled by a microcontroller, is characterised by high accuracy, low power consumption, simplicity of operation, and low weight.
The unit provides rapid high-precision measurements within a narrowly defined temperature range. It is supplied with a rapid sensor with dimensions of 120 x 2 mm. Sensors to meet customers' specific requirements can also be supplied.

TECHNICAL DATA

Measurement range:	*-20..110°C*	
Resolution:	*0.01°C*	
Accuracy:	*≤ 0.03°C ± 1 Digit*	
Measurement rate:	*maximum 1 per sec*	*can be configured via software*
Battery:	*9V block 6F22*	
Battery life:	*>500 hours at 1 per sec*	
Sensor:	*Pt100*	
Sensor connection:	*permanently connected to the unit*	
Functions:	*Min/Max, Hold*	
Interface:	*USB*	*cable and software must be obtained separately*

DESCRIPTION OF THE UNIT

Figure 1
Symbols in the LCD display



The unit is switched on by actuating the on/off button. First of all a segment check is carried out for approx. 2 secs. Here the display must look like Figure 1. If segments are missing or the display appears very weak the battery should firstly be checked. If this is OK, the unit should be sent to the manufacturer for inspection. During this period of time a self-test is carried out in the unit. If a defective function is detected, the error symbol appears on the display . If the test has been completed successfully, the current measured value is displayed, if the temperature is located within the specified measurement range.
The maximum and minimum measured values for a measurement period are retrieved using the max/min button. When the max/min button is actuated the max symbol and the maximum measured value firstly appear in the display. With a further actuation the minimum value and the min symbol appear. Alternation between these two states can be carried out as often as required. If the button is pressed for approx 3 seconds, the memory is cleared. 0.00 appears on the display as confirmation of this. If no button is actuated for approx 5 seconds the unit program reverts into the normal measuring mode. If the measurement range is exceeded at the top end Err2 appears on the display. If the measurement moves out of range at the bottom end Err1 is displayed.

BATTERY MANAGEMENT

Attention is drawn to a flat battery in 2 stages. If the battery symbol appears on the display the battery should be replaced soon. However, measurements can still be made, and the accuracy of these is still guaranteed. If the battery voltage drops further, Err4 appears on the display. Measurements are then no longer possible and the battery must be replaced as a matter of urgency. The battery compartment is located on the rear face of the housing. It is opened by pressing lightly with the thumbs on the hatched surface and pulling the cover rearward.

ADVICE REGARDING ACCURATE MEASUREMENTS

The Pt100 sensor that is used is characterised by its high speed of measurement. The unit should be switched on approx. 10 minutes before starting measurements. For measurements in liquids the sensor must be immersed to a length that corresponds to 10 times its diameter.

The unit should be checked every 2 years. To satisfy this requirement we are happy to provide you with an inexpensive works calibration certificate.

POSSIBLE FAULTS

Symptoms	*Possible cause*
Err4 display	*Battery flat*
Err even within specified measurement range	*Sensor defective*
Read-out too high or too low, and strongly fluctuating	*Moisture is in the sensor or has penetrated into the unit*