DIGISTANT® Pocket Temperature Calibration and Measurement Unit

Type 4415

Code:	4415 E
Manufacturer:	burster
Delivery:	ex stock
Warranty:	12 months
Issue:	1.7.2001

4415-E

- **Calibration and measurement of 7 thermocouple types (K, T, J, R, S, E, N)**
- **Internal and external reference junction**
- **2 progammable alarm functions and acoustic alarm**
- **Storage of 50 measured values**
- **Averaging of min./max values**
- **Analog output**
- **Hold function**

Application

This portable and extremely handy temperature and process calibrator is ideal for use on location. Whether during servicing, commissioning or brief checks of measurement sequences on the test floor, the type 4415 always provides an economical solution for measurement and temperature calibration.

The DIGISTANT® type 4415 measures and simulates thermocouples of the types K, T, J, R, S, E and N in accordance with DIN EN 60584.

Measured and simulated values are indicated in °C or °F.

The functions "Hold", "Memory", "Statistical" and "Alarm" make the quality test easy.

The excellent stability of the output signal allows an effective test of the reliability on the controlled tools.

Description

The LCD display and the clearly arranged keypad allow easy programming (SET-UP) and operation of the DIGISTANT® type 4415 . Operator prompting takes place in English.

Measured values can be "frozen" with the hold function. Up to 50 measured values can be stored.

The maximum, minimum and average values can be called-up with the statistics function.

Two alarms high and low can be programmed.

The additional background lighting of the display and the automatic disconnection function render the DIGISTANT® type 4415 a versatile measuring instrument.

The pocket is powered by a 9 V dry-cell battery and the operating time is > 100 h.

Technical Data

Accuracy:

Type	Thermocouple	Measurement/Simulation	Accuracy * over 1 year measurement	simulation
K	Ni Cr - Ni Al	- 250 °C ... +1 372 °C - 418 °F ... +2 502 °F		
T	CU - Cu Ni	- 250 °C ... + 400 °C - 418 °F ... + 752 °F	-250 °C ... -100 °C ± (1 % +2 °C)	-250 °C ...-100 °C ± (0.5 % +2 °C)
J	Fe - Cu Ni	- 210 °C ... +1 200 °C - 346 °F ... +2 192 °F	-100 °C ... 300 °C ± (0.2 % +0.2 °C)	
E	Ni Cr - Cu Ni	- 250 °C ... + 1 000 °C - 418 °F ... + 1 832 °F	> 300 ° C ± (0.2 % +2 °C)	> - 100 ° C ± (0.1 % +0.2 °C)
N	NiCrSi - NiSi	- 250 °C ... +1 300 °C - 418 °F ... +2 372 °F		
R	Pt13 Rh - Pt	- 50 °C ... +1 769 °C - 58 °F ... +3 216 °F	± (0.2 % +2 °C)	± (0.1 % +2 °C)
S	Pt10 Rh - Pt	- 50 °C ... +1 769 °C - 58 °F ... +3 216 °F		

***** Accuracy is determined as follows : ±(in % + constant factor), either as fixed value in °C or as a number of one reading volume e.g. the last digit of reading /1°C or 0,1 °C, depending on range).

Measurement/Simulation Range: - 250 °C ... + 1760 °C

Reference Junction:

For an internal junction, use a compensated plug, T, S, K or J or a copper plug when using an external reference junction.

General Specifications of the Simulation Function:

Internal resistance: < 0.1 Ω
Output current: 400 µA
Settling time: ≤ 0.1 sec. on resistive load
Temperature coefficient: < 10 % of accuracy/°C
Max. permissible voltage on OUT terminals: 5 V DC or AC peak

General Specifications of the Measurement Function:

Normal mode rejection: (10 mV, 50 Hz), thermocouple K: < 0.8 °C
Common mode max. permissible voltage: 60 V AC or 85 V peak
Common mode rejection: (10 V DC or 50 Hz), thermocouple K: < 0.3 °C
Temperature coefficient: < 10 % of accuracy/°C
Max. permissible voltage on IN terminals: 100 V DC or AC

Analog Output:

Generation on the OUT terminals of a voltage V_0 representing the measured value in relation to V_0 = (1 mV/°C) x value measured in °C.
Output current: 400 µA max.

Hold Measurement:

To hold a measurement on the display, press the HOLD key. This function is indicated on the display by an H symbol. Pressing HOLD a second time returns the instrument to normal operation.

Memory Function:

Once the value to be stored appears on the display, press MEM. Up to 50 measurement values can be stored.

Statistical Function:

This function gives access to minimum, maximum and average values for all measurements made since last power-up.

Alarm Function:

Two alarms A1 and A2 can be programmed.

Display Lighting:

To light the display, press the ✱ key.

Environmental Conditions:

Reference range: 23 °C ± 1 °C, relative humidity 45 % to 75 %
Operating limit range: -10 °C to +55 °C,
Relative humidity: 10 % to 80 % (70 % at 55 °C)
The unit is designed to operate at altitude: ≤ 2 200 m

Mechanical Conditions:

In accordance with IEC publication 529, harmonized standard HD 365 S3 (national standard NF 20-010): IP 50
Vibration shock in accordance with: IEC publication 348
Power requirements: 9 V dry-cell battery, type 6 LR 61
Dimensions: 182 mm long x 75 mm wide x 43 mm thick
Weight: 0.25 kg approx.

Order Information

Thermometer Calibrator DIGISTANT® **type 4415**

Accessories (not part of delivery)

Type K, rigid general purpose sensor, -100 ... +500 °C **type 4415-Z001**
Type K, rigid general purpose sensor, -100 ... +1 000 °C **type 4415-Z002**
Male K, type compensated plug **type 4415-Z003**
Copper plug **type 4415-Z004**
Protective holder for pocket units **type 4499-Z001**
Male J type compensated plug **type 4415-Z009**

Options

DKD/Proprietary Calibration Certificate

With 2 measuring points, simulating points for each of the thermocouples. **Type 44WKS-4415** **Type 44DKD-4415**