

## P700 series

-200 °C...+1760 °C

Pt100

Typ J, K, L, N, R, S, T

RS 232

m/s

% rF

Pa

MAX-MIN-HOLD

DIF-AVG

### Application profile

The universally applicable, micro-processor-controlled hand-held instruments, Series P700, are ideal for measuring operations in which high accuracy counts or the possibility of online documentation is demanded.

### Areas of application

- Measurements for quality assurance according to ISO 9000
- As a reference instrument for checking production
- For taking comparison measurements in service and repair
- For registration of humidity and temperature in air conditioning and environmental engineering
- Long-term monitoring of temperature and/or relative humidity with online documentation



#### Example

P755 with connected Pt100 probe (6000-1018)



High precise measurements in laboratories



Pressure-tight moisture probe for measuring in compressed air



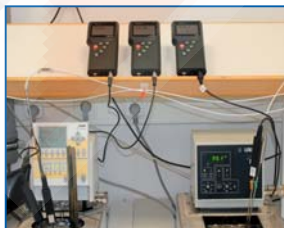
Quality control of climatic cabinets



Protection cover, rubberboot (5600-0092)



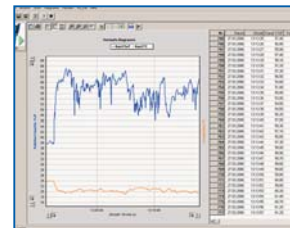
Measures equilibrium moisture in masonry, cement, plastic granulate



P750 as a standard in a laboratory



Climate control in greenhouses, during production and storage of food and sensitive goods



Windows Software DE-Graph (online measurements and calibration)

## P700 series

### Product features

- USB interface
- Optional DE-Graph Windows Software for graphic and tabular documentation
- High measuring accuracy (P750/P755  $\pm 0,03^{\circ}\text{C}$ )
- Integrated calibration function for simple compensation of sensor tolerances
- Physical 1-point, 2-point or 3-point calibration function
- Measuring channels are freely assignable
- Recording maximum, minimum, hold and average values
- Integrated sensor holder for one hand operation
- Mains operation possible
- Simultaneous display of two measured values
- Differential temperature display (2 channel instruments only)
- All Pt100-inputs in 4-wire-layout
- $^{\circ}\text{C}/^{\circ}\text{F}$ -switchable

-200 °C...+1760 °C

Pt100

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USB

m/s

% rF

Pa

MAX-MIN-HOLD

DIF-AVG



**Example**

P755 with connected vane probe (6050-1003)



**Example**

P770 with connected combination probe (6020-1001)



### Technical data P700 series

#### For all instruments

<b>Output:</b>	USB-interface
<b>Connector:</b>	DIN 45326 8-pole
<b>Working temp.:</b>	0°C ... +40°C
<b>Display:</b>	2-line LCD
<b>Housing:</b>	plastic (ABS)
<b>Dimensions:</b>	200 x 93 x 44 mm (L x W x H)
<b>Weight:</b>	350 g
<b>Power supply:</b>	9 V battery
<b>Battery life:</b>	appr. 20 h



P700 / P705

**Application profile**

The all-round talent for temperature measurements with Pt100 sensor over a range of -200°C to +850°C and thermocouple (type J, K, L, N, R, S, T) to +1760°C with a resolution of 0,1°C over the full measuring range.

**Areas of application**

Ideal for quality assurance, service and production.  
Also available as explosion-proof version page 27.

-200 °C...+1760 °C

Pt100

Typ J, K, L, N, R, S, T

USB

MAX-MIN-HOLD

DIF-AVG



Accessories and probes  
page 32 and up.

**Example**

P700 with connected Pt100 probe (6000-1001)



5000-0700

5000-0705

**Technical data**

<b>Input:</b>	Pt100, 4-wire Thermocouple type K, J, L, N, R, S, T
<b>Measuring range:</b>	
<b>Pt100:</b>	-200°C...+850°C (EN 60751)
<b>Thermocouple:</b>	-200°C...+1760°C (EN 60584-1)
<b>Resolution:</b>	0.1 °C
<b>Accuracy:</b>	
<b>Pt100:</b>	±0.1°C from -100°C...+200°C 0.1% remaining range
<b>Thermocouple:</b>	±1.0°C +0.1% (Type R, S) ±0.2°C from 0°C...+200°C (Type K, J, L, N, T) ±0.5°C to 1000°C ±1.0°C remaining range

<b>5000-0700</b>	P700 hand-held instrument, 1-channel, Pt100, thermocouple type J, K, L, N, R, S, T without probe and software
<b>5000-0705</b>	P705 hand-held instrument, 2-channel, Pt100, thermocouple type J, K, L, N, R, S, T without probe and software

P710 / P715

-200 °C...+1370 °C

Typ J, K, L, N, T

USB

MAX-MIN-HOLD

DIF-AVG

**Application profile**

The economically priced solution for precision measurements on a wide range of use. By using the thermocouple type J, K, L, N, T for a range of -200°C to +1370°C these instruments can be used for many application.

**Areas of application**

Industrial furnace control, taking surface measurements or differential temperature on heating systems.



Accessories and probes page 32 and up.

**Example**  
P710 with connected type K probe (6010-1010)



5000-0710

5000-0715

**Technical data**

**Input:** Thermocouple type K, J, L, N, T  
**Measuring range:** -200°C...+1370°C (EN 60584-1)  
**Resolution:** 0.1 °C  
**Accuracy:** ±0.2°C from -40°C...+200°C  
 ±0.5°C to 1000°C  
 ±1.0°C remaining range

- 5000-0710** P710 hand-held instrument, 1-channel, thermocouple type K, J, L, N, T without probe and software
- 5000-0715** P715 hand-held instrument, 2-channel, thermocouple type K, J, L, N, T without probe and software

P750 / P755 / P755-LOG

**Application profile**

The multi-function-instruments are outstanding for their high accuracy of  $\pm 0,03^{\circ}\text{C}$ . You can optional plug in Pt100 or thermocouple (type J, K, L, N, R, S, T), as well as probes for humidity and flow. The high precision makes them eminently suitable as reference instruments.

**Areas of application**

For testing subordinate measuring instruments in quality assurance laboratories or for checking temperature-critical processes. These instruments are frequently provided with a DKD calibration certificate.

Also available as explosion-proof version page 27.



**Example**

P755 with connected Pt100 probe (6000-1018)



5000-0750

5000-0755

Accessories and probes page 32 and up.

**Technical data**

<b>Input:</b>	Pt100, 4-wire Thermocouple type K, J, L, N, R, S, T rel. humidity, flow
<b>Measuring range:</b>	
<b>Pt100:</b>	-200°C...+850°C (EN 60751)
<b>Thermocouple:</b>	-200°C...+1760°C (EN 60584-1)
<b>Humidity:</b>	0 %...100 %rF
<b>Flow:</b>	0 ... 40 m/s
<b>Differential pressure:</b>	0 ... 3500 Pa
<b>Resolution:</b>	0.01°C from -200°C...+200°C otherwise 0.1°C, 0.1%, 0.01 m/s
<b>Accuracy:</b>	
<b>Pt100:</b>	$\pm 0.03^{\circ}\text{C}$ from -50°C...+199.99°C $\pm 0.05^{\circ}\text{C}$ from -200°C...-50.01°C otherwise $\pm 0.05\%$ of reading
<b>Thermocouple:</b>	$\pm 1.0^{\circ}\text{C} + 0.1\%$ (Type R, S) of reading $\pm 0.2^{\circ}\text{C}$ from 0°C...+200°C (Type K, J, L, N, T) $\pm 0.5^{\circ}\text{C}$ to 1,000°C $\pm 1.0^{\circ}\text{C}$ remaining range
<b>Humidity:</b>	$\pm 1.5\%$ rH (2...98%)
<b>Flow:</b>	1% of end of value
<b>Differential pressure:</b>	$\pm 1\%$ , +1Pa
<b>Memory:</b>	6,000 measurements (P755-LOG only)
<b>5000-0750</b>	P750 hand-held instrument, 1-channel, Pt100, thermocouple, rel. humidity, dew point, flow without probe and software
<b>5000-0755</b>	P755 hand-held instrument, 2-channel, Pt100, thermocouple, rel. humidity, dew point, flow without probe and software
<b>5000-0755L</b>	P755-LOG hand-held instrument, as P755, with memory for 6,000 measurements

-200 °C...+1760 °C

Pt100

Typ J, K, L, N, R, S, T

USB

m/s

% rF

Pa

MAX-MIN-HOLD

DIF-AVG

## P770 / P770-LOG

-200 °C...+1370 °C

### Application profile

The allrounder of the P700-series for temperature, humidity, dew point and flow measurements.

### Areas of application

This instrument is especially suitable for climatic applications.



Accessories and probes  
page 32 and up.



% rF

Pa

MAX-MIN-HOLD

5000-0770

### Example

P770 with connected with dew point probe (6020-1009)

### Technical data

<b>Input:</b>	Pt100, 4-wire Thermocouple type K, J, L, N, T rel. humidity, flow, dew point
<b>Measuring range:</b>	
<b>Pt100:</b>	-200°C...+850°C (EN 60751)
<b>Thermocouple:</b>	-200°C...+1370°C (EN 60584-1)
<b>Humidity:</b>	0 %...100 %rF
<b>Flow:</b>	0 ... 40 m/s
<b>Differential pressure:</b>	0 ... 3500 Pa
<b>Resolution:</b>	0.1°C, 0.1%, 0.01 m/s
<b>Accuracy:</b>	
<b>Pt100:</b>	±0.1°C from -100°C...+200°C otherwise 0.1%
<b>Thermocouple:</b>	±0.2°C from 0°C...+200°C (Type K, J, L, N, T) ±0.5°C to 1,000°C ±1.0°C remaining range
<b>Humidity:</b>	±1,5%rH (2...98%)
<b>Flow:</b>	1% of end of value
<b>Differential pressure:</b>	±1%, +1Pa
<b>Memory:</b>	6,000 measurements (P770-LOG only)

<b>5000-0770</b>	P770 hand-held instrument, 2-channel, Pt100, thermocouple, rel. humidity, dew point, flow without probe, without software
<b>5000-0770L</b>	P770-LOG hand-held instrument, as P770, with memory for 6,000 measurements

**P600-EX / P605-EX  
P650-EX / P655-EX  
P655-LOG-EX**

EEx ib IIB T4

-200 °C...+850 °C

Pt100

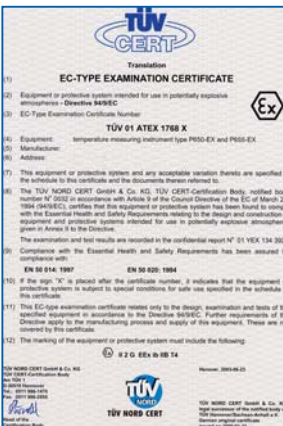
RS 232

MAX-MIN-HOLD

DIF-AVG

### Areas of application

Instruments for measuring in explosion hazard areas (temperature range -200°C...+850°C), EX-mark: EEx ib IIB T4.



5000-X600

5000-X605

5000-X650

5000-X655

5000-X655L

**Accessories and probes**  
page 32 and up.

### Technical data

**Input:** Pt100, 4-wire  
**Measuring range:** -200°C...+850°C (EN 60751)  
**Resolution:**  
**P600-EX / P605-EX:** 0.1°C  
**P650-EX / P655-EX / P655-LOG-EX:** 0.01°C from -200°C...+200°C otherwise 0,1°C

**Accuracy:**  
**P600-EX / P605-EX:** ±0.1°C from -100°C...+200°C  
 0,1% remaining range  
**P650-EX / P655-EX / P655-LOG-EX:** ±0,03°C from -50°C...+199,99°C  
 ±0,05°C from -200°C...-50.01°C  
 otherwise 0,05%

**EX-mark:** EEx ib IIB T4  
**Memory:** 6,000 measurements (P655-LOG-EX only)

**5000-X600**

P600-EX hand-held instrument, Pt100  
 1-channel, without probe and software

**5000-X605**

P605-EX hand-held instrument, Pt100,  
 2-channel, without probe and software

**5000-X650**

P650-EX hand-held instrument, Pt100,  
 1-channel, without probe and software

**5000-X655**

P655-EX hand-held instrument, Pt100,  
 2-channel, without probe and software

**5000-X655L**

P655-LOG-EX hand-held instrument,  
 Pt100, 2-channel, Pt100, with memory,  
 without probe and software

## T900 series

-200 °C...+1760 °C

Pt100

Typ J, K, L, N, R, S, T

RS 232

m/s

% rF

Pa

MAX-MIN-HOLD

DIF-AVG

Output 0-1 volt

### Application profile

Useable for a wide range of applications the T900 bench instrument contains two measuring channel for temperature (pt100 + thermocouple, humidity, dew point and flow. The measuring range is whichever probe is connected: -200°C...+1760°C, 0..40m/s and 0..100%rH. Via a menu function the user is able to configurate displayed units (°C/°F, td...), calibration options, measuring channel and two scalable analoge output signals (each per channel).

### Areas of application

The universally applicable micro-processor-controlled instruments are ideal for measuring operations in which high accuracy counts or the possibility of online documentation via PC, Printer or Pen recorder is demanded.

The central issue for all instruments is the traceability of the measurement results to the national standards. DKD certified test equipment is recognized, without any further specifications, as an instrument of traceability in Europe and in many other non-European countries. As a service, certification for existing test equipment can be provided at any time.

- Reference System for your laboratory
- Service-Area
- Calibration lab
- Quality insurance
- Accurate longterm monitoring



Accessories and probes  
page 32 and up.



### Technical data T900 series

#### For all instruments

<b>Output:</b>	RS232-interface (serial printer can be connected), 2 analog outputs 0-1 Volt (11-bit scaleable)
<b>Connector:</b>	DIN 45326 8-pole
<b>Working temp.:</b>	0°C ... +40°C
<b>Display:</b>	2-line LCD
<b>Housing:</b>	plastic (ABS)
<b>Dimensions:</b>	200 x 200 x 80 mm (L x W x H)
<b>Weight:</b>	950 g
<b>Power supply:</b>	230 VAC





T905 / T955

-200 °C...+1760 °C

Pt100

Typ J, K, L, N, R, S, T

RS 232

m/s

% rF

Pa

MAX-MIN-HOLD

DIF-AVG

Output 0-1 volt

**Product features**

- 2-channel-instruments, for Pt100 according EN 60751, thermocouple according EN 60584-1 type J, K, L, N, R, S, T, relative humidity, dew point, air velocity (m/s)
- Simultaneous display of two measured values or differential measurement display
- Recording maximum, minimum, hold and average (average over free selectable time)
- Integrated calibration function (options: 1-point, 2-point or 3-point adjustment)
- High measuring accuracy (T955  $\pm 0,03$  °C)
- Scalable analog output 0-1V (resolution up to 0,01)
- Password protection for calibration function
- Optional DE-Graph Windows software for graphical and tabular documentation



5000-0905

5000-0955

**Technical data**

- Input:** Pt100, 4-wire  
Thermocouple type K, J, L, N, R, S, T  
T955 only: rel. humidity, flow, dew point
- Measuring range:**
  - Pt100:** -200°C...+850°C (EN 60751)
  - Thermocouple:** -200°C...+1760°C (EN 60584-1)
  - Humidity:** 0 %...100 %rF (T955 only)
  - Flow:** 0 ... 40 m/s (T955 only)
- Resolution T905:** 0.1°C
- Resolution T955:** 0.01°C from -200°C...+200°C  
otherwise 0.1°C, 0.1%, 0.01 m/s
- Accuracy:**
  - Pt100 T905:**  $\pm 0.1$ °C from -100°C...+200°C,  
otherwise 0,1%
  - Pt100 T955:**  $\pm 0.03$ °C from -50°C...+199.99°C  
 $\pm 0.05$ °C from -200°C...-50.01°C  
otherwise 0.05%
- Thermocouple:**
  - $\pm 1.0$ °C +0.1% (Type R, S)
  - $\pm 0.2$ °C from 0°C...+200°C (Type K, J, L, N, T)
  - $\pm 0.5$ °C to 1,000°C
  - $\pm 1.0$ °C remaining range
- Humidity:**  $\pm 1.5$ %rH (T955 only)
- Flow:** 1% of end of value (T955 only)

5000-0905

5000-0955

- T905 bench instrument, 2-channel, Pt100, thermocouple without probe, without software
- T955 bench instrument, 2-channel, Pt100, thermocouple, rel. humidity, dew point, air flow without probe, without software

## Accurate measurements at any time through integrated calibration function

To minimise measurement uncertainty of the complete system (instrument and sensor) the P700 series and T900 series measuring instruments have a special calibration function which compensates the sensor tolerances when a sensor is replaced.

To this end all our measuring sensors are tolerance calibrated in our laboratory. The determined deviation is converted into a number code which is marked on the sensor.

This code contains information on the sensor deviation at zero point and the increase in relation to the respective DIN Standard on which it is based.

The number code is simply entered in the measuring instrument and is stored by means of the instrument control panel or the software and interface. The instrument processor corrects the tolerance of the measuring sensor defined by the number code and corrects the measuring error resulting out of this. The corrected measured value is displayed in the LCD.

The measuring instruments can be calibrated to uncoded measuring sensors through a further instrument function by simple physical compensation (comparison measurement). At the same time this function can be used to easily correct any possible drift error caused by ageing of the sensor, for example. For the physical calibration you can select either a 1, 2, or 3-point-calibration. To implement this function the measuring sensors to be calibrated are immersed, for example, in two reference temperature points (optional 1 or 3 points) one after the other and the values entered into the instrument through the keyboard.

The instruments monitor the calibration process automatically so that the operation is automatically broken off in the case of references which are unstable, for example, in order to be able to continue to use the previously valued correction values in the processor.

To achieve good results only such references should be used for calibration the maximum error of which are lower than the specific error limits for the respective instruments by the factor 3.

The DE-Graph software offered for the measuring instruments permits simple, efficient administration of the various measuring sensors and pertinent number codes and the transfer for read-out of the appropriate code on the measuring instrument.

As a result the above-described calibration function eliminates the influence of the sensor error to a great extent and permits system accuracy which is about the same as the accuracy of the measuring instrument itself.

The resulting high system measuring accuracy predestines the measuring instruments for applications in quality assurance and laboratory.

### Typical system accuracy of P700/T900-series

with our Pt100-probes by using the sensor calibration code. (class A and class B according EN 60751)

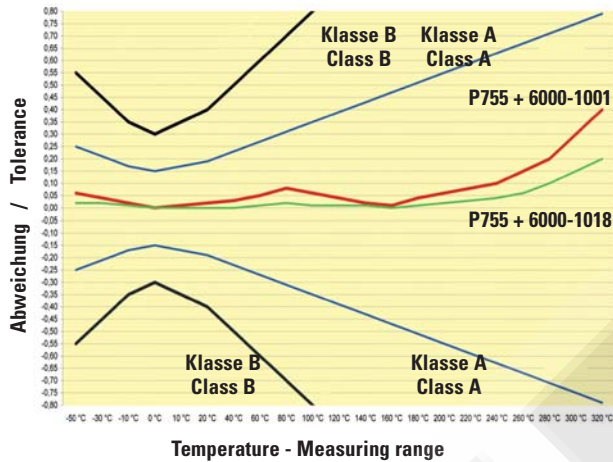
For example:

P755 with Pt100 probe 6000-1001 (red line)

P755 with Pt100 probe 6000-1018 (green line)

Class A (blue line)

Class B (black line)



#### P700-display during "switch on"



- ① Calibration option: 1
- ② Calibration code (gradient)
- ③ P = Pt100 Selected probe
- ④ Calibration code (Offset)

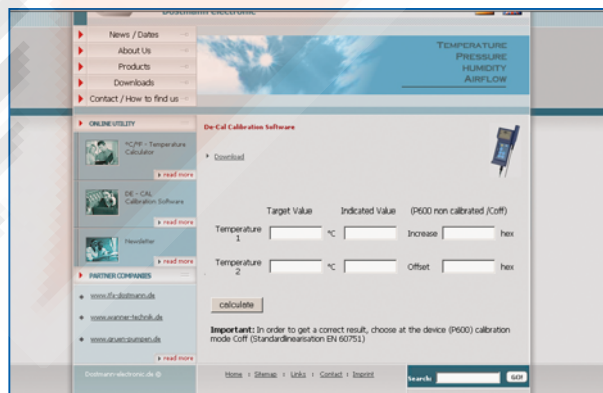
#### Important!

To reach the specified measuring uncertainty it is absolutely necessary to enter the sensor calibration code into the instrument.

To be sure of using the correct calibration code the instrument is showing for 3 seconds the last saved sensor calibration code after switching on.

### Calibration software on the internet

Via our webpage you are able to calculate your own sensor calibration codes. Therefore you will need the appropriate references and a reliable temperature source (calibration bath or thermowell).



For using your own probes you will find a connector layout in our manual. The suitable connectors you will find on our accessories page 33. (5920-0072)

### Product features

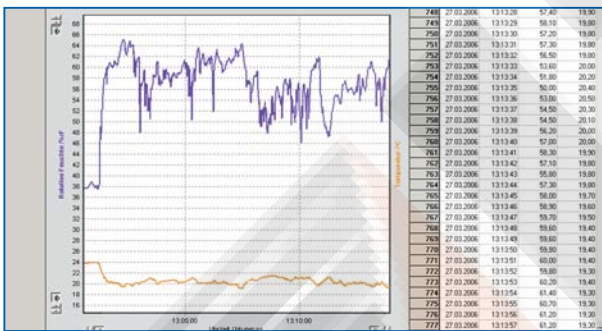
- Automatic instrument and PC-port identification
- Online-documentation during measuring via PC
- Simple memory download (DBF-file format allows an easy data export to excel)
- Graphic- and table-visualisation of the data
- User friendly graphic functions (drag & zoom, auto scale...)
- Administration of sensor calibrations (enabling of password protection for the cal-function)
- Software language: English, German and French, incl. online-help



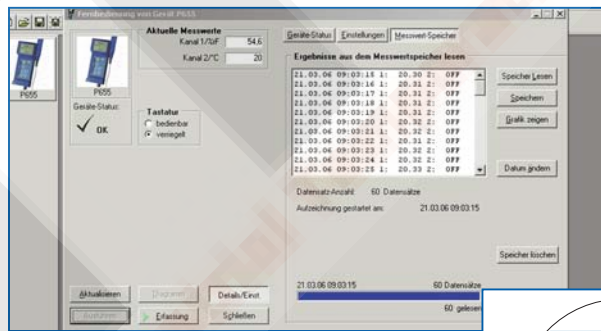
Automatic instrument- and port-identification



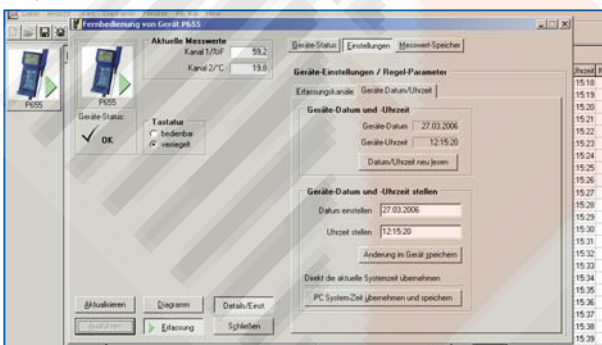
Language selection: German, English and French



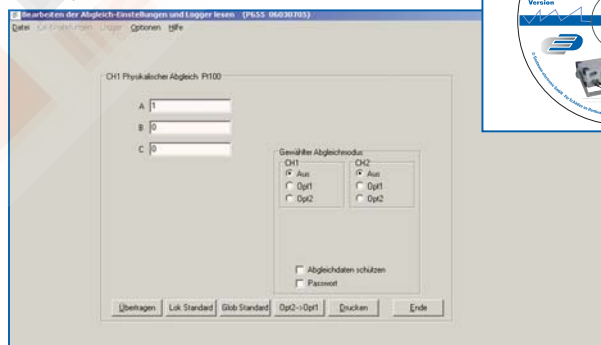
Graphic- and table-visualisation



Memory download



Real time clock: setup by PC



Administration of the sensor calibration codes



- 5090-0080 DE-Graph for P400, incl. PC-cable
- 5090-0081 DE-Graph for P700 / T900
- 5090-0002 PC-cabel for P400
- 5090-0046 PC-cabel for P700
- 5090-0004 PC-cabel for T900


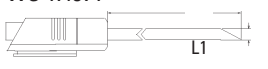
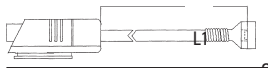

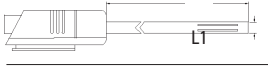





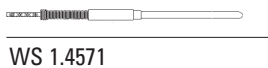
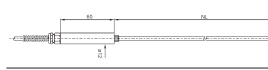
Fig.	Description	
	PC-cable (USB) for series P700	5090-0046
(1)	PC-adaptor cable for series P400	5090-0002
(2)	PC-adaptor cable for series T900	5090-0004
(3)	WINDOWS Software DE-Graph for series P700 / T900	5090-0081
(4)	Protection bag	5600-0044
(5)	Power pack 230 VAC for series P700	5990-0070
(6)	Service case with form rubber insert, suitable for P700 series, P795, with accessories	5600-0007
(7)	Battery charger for 9 V rechargeable battery	5600-0008
(8)	9 V battery	5990-0001
(9)	9 V accu	5990-0003
(10)	Adaptor plug DIN to type K - standard plug	5600-0048
(11)	Heat conducting paste - 20 g syringe for better heat transmission for measuring the surface	9905-0005
(12)	Probe connector P700/T900	5920-0072
(13)	Pt100 1/3 DIN chip sensor according to EN 60751, 2-wire, 2,2 x 2,2 mm for installation in the P700-connector for cold-junction compensation	6900-0012
(14)	USB-RS232 – adaptor to connect T900/P400 to Notebooks and PCs with USB-connectors only	5090-0035
(15)	Probe cable extension for Pt100-probes (P700/T900-series & P400), 5 meter	5090-0074
(16)	Protection cover, rubberboot (P700-series)	5600-0092



## Resistance temperature probes

Pt100, EN 60751, 4-wire and PVC/PVC cable 1000 mm


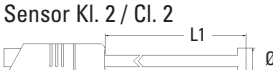










suitable for P700 / P705 / P750 / P755 / P770 / P600-EX / P605-EX / P650-EX / P655-EX / P755-LOG / P655-LOG-EX / P770-LOG / P795 / T905 / T955

Description	Measuring range	L1 x Ø mm	t90	
Sensor Kl. B / Cl. B WS 1.4571 	Immersion probe, with handle, mineral insulated -50 °C ... +350 °C	150 x 3,0 300 x 3,0 500 x 3,0	8 8 8	<a href="#">6000-1001</a> <a href="#">6000-1002</a> <a href="#">6000-1005</a>
Sensor Kl. B / Cl. B WS 1.4571 	Insertion probe, with handle, mineral insulated -50 °C ... +350 °C -50 °C ... +350 °C	150 x 4,0 300 x 4,0	10 10	<a href="#">6000-1006</a> <a href="#">6000-1007</a>
Sensor Kl. B / Cl. B WS 1.4571 	Surface probe with buffer-block -40 °C ... +300 °C	150 x 6,0	45	<a href="#">6000-1059</a>
Sensor Kl. B / Cl. B (Chip-Widerstand) 	Surface probe, self adhesive, bendable silicone patch, 35 x 13 x 2 mm -20 °C ... +250 °C		<3	<a href="#">6000-1075</a>
Sensor Kl. B / Cl. B WS 1.4571 	Air probe for fast measurements of air or gas temperature, WS 1.4571 -50 °C ... +250 °C	250 x 4,0	7	<a href="#">6000-1055</a>
Sensor Kl. B / Cl. B 	High temperature probe with handle, inonel tube with handle, nickel tube -50 °C ... +600 °C -200 °C ... +650 °C	300 x 6,0 300 x 6,0	20 20	<a href="#">6000-1056</a> <a href="#">6000-1079</a>
Sensor Kl. B / Cl. B 	Immersion probe for tanks, with weight petroleum proof cable (10 m cable length) -30 °C ... +150 °C	80 x 4,0	8	<a href="#">6000-1082</a>
Sensor Kl. A / Cl. A 	Screw in probe, WS 1.4301, M8-thread -100 °C ... +450 °C	50 x 3,0	8	<a href="#">6000-1083</a>
<b>High precision probes ±0,03°C (-30°C ... +200°C) siehe Grafik Systemgenauigkeit Seite 31 / see table system accuracy on page 31</b>				
Sensor Kl. 1/3 DIN / Cl. 1/3 DIN WS 1.4571 	Immersion probe, with handle, mineral insulated -200 °C ... +450 °C	150 x 3,0 300 x 3,0 300 x 1,5 300 x 6,0	12 12 5 20	<a href="#">6000-1018</a> <a href="#">6000-1019</a> <a href="#">6000-1023</a> <a href="#">6000-1078</a>
Sensor Kl. 1/10 DIN Cl. 1/10 DIN WS 1.4571 	Immersion probe, with handle, mineral insulated -200 °C ... +450 °C	150 x 3,0 300 x 3,0 300 x 6,0	12 12 20	<a href="#">6000-1073</a> <a href="#">6000-1074</a> <a href="#">6000-1084</a>
Sensor Kl. 1/10 DIN Cl. 1/10 DIN WS 1.4571 	Immersion probe, without handle, mineral insulated Silicone cable 1500 mm, bent protection spring -200 °C ... +450 °C	400 x 3,0 400 x 6,0	12 20	<a href="#">6000-1090</a> <a href="#">6000-1091</a>
WS 1.4571 	Reference standard with stainless steel handle -40 °C ... +500 °C	300 x 4,0	15	<a href="#">6000-1080</a>

**Thermocouple temperature probes**

Type K, NiCr-Ni, EN 60584-1 and PVC/PVC cable 1000 mm









suitable for P700 / P705 / P710 / P715 / P750 / P755 / P755-LOG / P770 / P770-LOG / T905 / T955

Description	Measuring range	L1 x Ø mm	t90	
 <p>Sensor Kl. 2 / Cl. 2</p> <p>Immersion probe/insertion probe for measuring in liquid and powdered or semi-solid materials, stainless steel</p>	-40 °C ... +400 °C	120 x 3,5	8	<b>6010-1016</b>
 <p>Sensor Kl. 2 / Cl. 2</p> <p>Surface probe, with handle</p>	-100 °C ... +1100 °C	300 x 6,0	4	<b>6010-1003</b>
 <p>Sensor Kl. 1 / Cl. 1</p> <p>Surface probe, with spring thermocouple strip</p>	-40 °C ... +900 °C	130 x 8,0	3	<b>6010-1014</b>
 <p>Sensor Kl. 1 / Cl. 1</p> <p>Surface probe, 90° bend, with spring thermocouple strip</p>	-40 °C ... +900 °C	130 x 8,0	3	<b>6010-1020</b>
 <p>Sensor Kl. 1 / Cl. 1</p> <p>Surface probe with thermocouple strip</p>	-65 °C ... +400 °C	120 x 6,0	4	<b>6010-1071</b>
 <p>Sensor Kl. 1 / Cl. 1</p> <p>Magnetic surface probe</p>	-50 °C ... +200 °C	16 x 25	5	<b>6010-1070</b>
 <p>Sensor Kl. 1 / Cl. 1</p> <p>Clamp probes for measurements on pipes (max. Ø 35 mm)</p>	-40 °C ... +200 °C		15	<b>6010-1024</b>
 <p>Sensor Kl. 1 / Cl. 1 WS 2.4816</p> <p>Immersion probe, with handle, mineral insulated</p>	-100 °C ... +1100 °C	300 x 1,5 500 x 1,5 300 x 3,0 500 x 3,0	8 4 6 6	<b>6010-1006</b> <b>6010-1005</b> <b>6010-1010</b> <b>6010-1007</b>
 <p>Sensor Kl. 1 / Cl. 1 WS 2.4816</p> <p>Immersion probe, without handle, mineral insulated</p>	-100 °C ... +800 °C	100 x 0,5	1	<b>6010-1011</b>
 <p>Sensor Kl. 1 / Cl. 1 WS 1.4571</p> <p>Insertion probe with handle, mineral insulated</p>	-100 °C ... +1100 °C	300 x 4,0	8	<b>6010-1037</b>
 <p>Sensor Kl. 1 / Cl. 1</p> <p>Globe thermometer for measuring radiant heat</p>	bis / up to +250 °C	Ø 80 mm		<b>6010-1035</b>
 <p>Sensor Kl. 1 / Cl. 1</p> <p>High temperature probe type S, with ceramic tube (not suitable for P710/P715)</p>	0 °C ... +1500 °C	500 x 10,0	4	<b>6010-1068</b>

**Note:** Other sizes and designs available upon request.

## Combination probes

for temperature (Pt100 1/3 DIN), relative humidity, absolute humidity, dew point and PVC/PVC cable 1000 mm suitable for P750 / P755 / P755-LOG / P770 / P770-LOG / T955

Description	Measuring range	L1 x Ø mm	t90	
Combination probe (POM)  with slot cover (ABS)	0% ... 100 %rF / rH -30 °C ... +80 °C	120 x 20	3 10	<b>6020-1001</b>
Combination probe (Alu)  aluminium tube with a sintered cover tip is heat resistant up to 140°C	0% ... 100 %rF / rH -30 °C ... +100 °C	230 x 12	3 10	<b>6020-1009</b>
Humidity sword  for measuring humidity, between paper or in bulk material	0% ... 100 %rF / rH -30 °C ... +80 °C	300 x 20 x 5 (L x B x H)	3 10	<b>6020-1003</b>
Flexible humidity probe  mini module for measuring equilibrium moisture, e.g. on granulate, flexible cable	0% ... 100 %rF / rH -30 °C ... +80 °C	19 x 21	3 10	<b>6020-1004</b>
Pressure dew point probe  Pressure-tight humidity / dew point probe for measurements in compressed air systems pressure-tight up to 20 bar	0% ... 100 %rF / rH -30 °C ... +80 °C	120 x 20	120 30	<b>6020-1007</b>
 Measuring chamber with quick-connection for compressed air systems	-30 °C ... +30 °C			<b>6020-1008</b>
Sintered cover (bronze)  for 6020-1001				<b>6020-0051</b>
Sintered cover with a tip  for 6020-1009				<b>6020-0061</b>
Humidity testing kit with testing cap and 5 ampoules for 6020-1001	25 %rF – 50 %rF – 80 %rF –		Accuracy ±2 %rH Accuracy ±2 %rH Accuracy ±2 %rH	<b>5600-0014</b> <b>5600-0018</b> <b>5600-0015</b>

**Note:** Other sizes and designs available upon request.




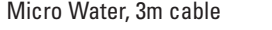

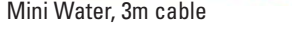






m/s

Pa

## Flow sensors

for gases and fluids

suitable for P750 / P755 / P755-LOG / P770 / P770-LOG / T955

Description	Working temperature	Measuring range	L1 x Ø mm	
 Micro Air, 3m cable for gases -10°C ... +80 °C 0,5 ... 20 m/s 165 x 11 <b>6050-1001</b>				
 Micro Water, 3m cable for fluids 0°C ... +70 °C 0,7 ... 40 m/s 165 x 11 <b>6050-1002</b>				
 Mini Air, 3m cable for gases -10°C ... +80 °C 0,3 ... 20 m/s 175 x 22 <b>6050-1003</b>				
 Mini Water, 3m cable for fluids 0°C ... +70 °C 0,5 ... 40 m/s 175 x 22 <b>6050-1004</b>				
 Macro Air for gases -10°C ... +80 °C 0,02 ... 5 m/s 175 x 22 <b>6050-1008</b>				
 5m cable -10°C ... +80 °C 0,15 ... 20 m/s 225 x 80 <b>6050-1005</b>				
 Replacement turbine for Micro Air 0,5 ... 20 m/s <b>6050-0056</b>				
for Micro Water 0,7 ... 40 m/s <b>6050-0057</b>				
0,04 ... 5 m/s <b>6050-0066</b>				
 Replacement turbine for Mini Air 0,3 ... 20 m/s <b>6050-0054</b>				
for Mini Water 0,5 ... 40 m/s <b>6050-0055</b>				
0,02 ... 5 m/s <b>6050-0067</b>				
 Replacement turbine for Macro Air 0,15 ... 20 m/s <b>6050-0068</b>				
Telescope extension for turbine sensor max. 1000 mm 300...1000 x 23 <b>6050-0052</b>				
 Differential pressure probe to measure differential pressure and flow speeds (with pitot tube), incl. probe holder for P700-series 0°C ... +50 °C 0 ... 3500 Pa (±1%) 60 x 65 x 40 <b>6060-1012</b>				

Replacement turbine: By ordering with a new sensor half price)

**Note:** Other sizes and designs available upon request.

P795

-200 °C...+850 °C

Pt100

USB

MAX-MIN-HOLD

DIF-AVG

SMART-PROBE

± 0,01°C

### Application profile

An instrument which meets the highest demands. The 2-channel-resistance thermometer automatically detects our Pt100-smartprobes with integrated EEPROM. Thereby the calibration characteristic of each probe is transferred automatically to the instrument. The thermometer will achieve a system accuracy of ± 0,015K (instrument + probe). Both measuring channels can be easily seen on the large LCD display. The instrument contains numerous functions for the measurement visualization. Various integrated calibration functions, including the intelligent EEPROM-probes, takes this compact instrument to a high performance class, making it ideally suitable as a primary reference standard.

### Areas of application

The key issue for all instruments is the traceability of measurement to a recognised national standards laboratory. DKD (German UKAS equivalent) certified test equipment is recognized, without any further specifications, as an instrument of traceability in Europe and in many other non-European countries. As a service, certification for existing test equipment can be provided at any time.

- Reference system for your laboratory
- Service-Area
- Quality insurance
- Accurate longterm monitoring measurements for quality assurance according to ISO 9000

5000-0795



#### Example

P795 with two connected Pt100 probes (6000-1718)



#### Example

P795 with one connected Pt100 probe (6000-1718)



**P795**

-200 °C...+850 °C

Pt100

USB

MAX-MIN-HOLD

DIF-AVG

SMART-PROBE

± 0,01°C

**Product features**

- 2-channel-instruments, for Pt100 according EN 60751,
- Simultaneous display of two measured values or differential measurement
- Recording maximum, minimum, hold and average values (average over user selectable time)
- Integrated calibration function (acc. EN60751 up to 14 points)
- High measuring accuracy (+ 0,010 °C)
- Password protection for calibration function
- USB interface, incl. USB-cable
- Manufacturers test certificate included
- Data Logger function for up to 6,000 measurements
- Optional DKD or ISO-system calibration certification

**Technical data (P795 with Eprom-probes)**

**Measuring channel 1/2:** Pt100 (EN 60751)  
**Measuring range:** -200 °C ... +850 °C  
**Accuracy:** ±0.015 °C  
 from -50 °C ... +199.99 °C,  
 otherwise ±0.025 %  
**Resolution:** 0.001 °C  
 0.01 °C remaining range  
**Memory:** appr. 6,000 measurements  
**Clock:** Realtime clock, Quarz,  
 battery-powered (via PC adjustable)  
**Working temp.:** 0 °C ... +40 °C  
**Display:** 2-lines LCD  
**Housing:** plastic (ABS)  
**Dimensions:** 200 x 93 x 44 mm (L x W x H)  
**Weight:** 350 g  
**Power supply:** 9 V battery  
 (optional Power supply 230 VAC)

**5000-0795** P795 instrument, 2-channel, Pt100  
 -200 °C ... +850°C, 0,001°C resolution

**Accessories**

USB-cable (replacemant cable)	<b>5090-0046</b>
WINDOWS Software DE-Graph for Online-documentation & Download	<b>5090-0081</b>
Instrument case	<b>5600-0007</b>
USB-Power pack for P700 series	<b>5990-0070</b>
9 Volt Block battery for replacement	<b>5990-0001</b>
9 Volt Block-Accu	<b>5990-0003</b>
Probe cable extension, 5 m	<b>5090-0074</b>

**Probes**

Resistance probe, Pt100, with Eprom for the linearization polynom, Platinum-ceramic sensor EN60751, 4-wire, silicon cable 1000mm (R0ABC-Coefficients at 0 °C / 75 °C and 150 °C)

Immersion probe, with handle, mineral-insulated WS 1.4571, -200 °C... +450 °C,	150 x Ø 3,0 mm	<b>6000-1773</b>
mmersion probe as 6000-1773	300 x Ø 3,0 mm	<b>6000-1774</b>
Immersion probe as 6000-1773	300 x Ø 6,0 mm	<b>6000-1784</b>

Smart-adaptor, with integrated EEprom for saving the probe calibration on standard-Pt100 **5600-0700**

**Note:** Further probes on page 34.