



LUDWIG
SCHNEIDER



DIGITAL THERMOMETERS AND MEASURING SYSTEMS

TABLE OF CONTENTS



UNIVERSAL PUSH-IN THERMOMETERS	4
DIGITAL MONITORING THERMOMETERS	8
DIGITAL HANDHELD MEASURING DEVICES	12
TEMPERATURE PROBES FOR DIGITAL HANDHELD MEASURING DEVICES	13
PHYSICS - DIGITAL MEASURING DEVICES	16
TEMPERATURE PROBES FOR PHYSICS - DIGITAL MEASURING DEVICES	20
ACCESSORIES FOR PHYSICS - DIGITAL MEASURING DEVICES	22
ACCREDITED DAkkS-CALIBRATION LAB	23

THE FUTURE IS HIGHLY PRECISE

THE TEMPERATURE PROFESSIONALS

Ludwig Schneider GmbH & Co. KG ranks among the world's foremost manufacturers of high-precision temperature and density measuring instruments. Our product variety ranges from push-in thermometers for universal use through to high-precision measuring systems.








These, in combination with a traceable DAkkS calibration certificate – from our own calibration laboratory Ludwig Schneider Messtechnik GmbH – fulfill highest quality standards.

DIGITAL THERMOMETERS FROM -200 °C TO +1370 °C

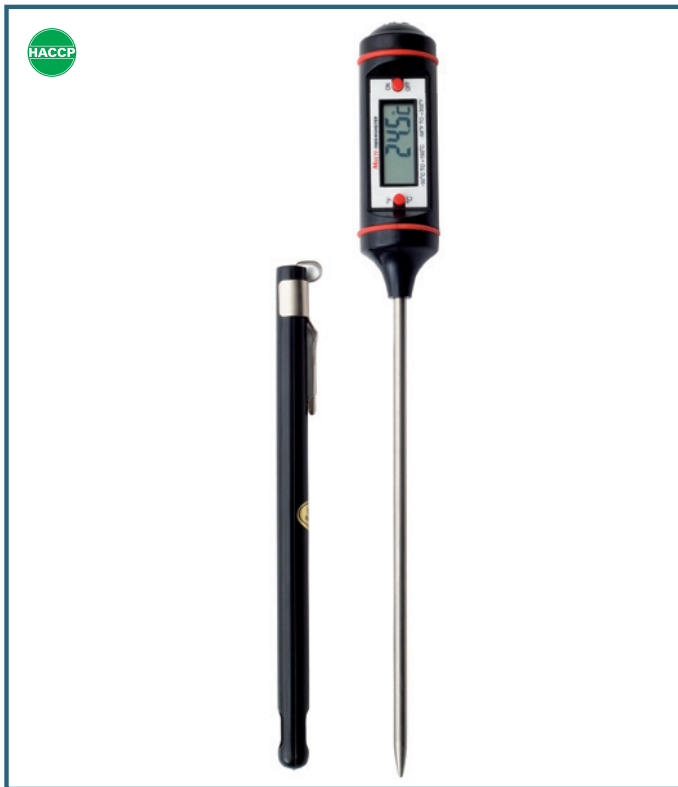
The high-precision digital instruments are designed for the mains-independent measurement of temperatures e.g. in quality control as well as process and production control and are used in the chemical, pharmaceutical and food industry as well in R&D facilities. On request individual marking (e.g. logos, product marks, labels etc.) is possible.

- + PRECISE MEASURING
- + QUICK RESPONSE TIMES
- + EXCELLENT READING LCD DISPLAYS
- + VARIOUS TYPE-DEPENDENT MEMORY FUNCTIONS AVAILABLE (E.G. HOLD, MAX./MIN., TEMPERATURE LIMIT ALARM, TIME/DATE ETC.)
- + A CHOICE OF DIGITAL THERMOMETERS IS AVAILABLE WITH WORKS CALIBRATION CERTIFICATE OR DAkkS CALIBRATION CERTIFICATE

COLOUR SYMBOLS

	AVAILABLE WITH TRACEABLE DAkkS CALIBRATION CERTIFICATE
	AVAILABLE WITH WORKS CALIBRATION CERTIFICATE
	WITH MAGNET (FOR THE ATTACHMENT AT REFRIDGERATORS ETC.)
	WITH INTEGRATED ALARM FUNCTION
	WATERPROOF (IP 67)
	FULFILLS HAACP FOOD REGULATIONS
	AVAILABLE WITH INDIVIDUAL SENSORS

UNIVERSAL PUSH-IN THERMOMETERS



**DIGITAL PUSH-IN THERMOMETER
WITH PLASTIC SLEEVE INCLUSIVE CLIP
TYPE 12050**

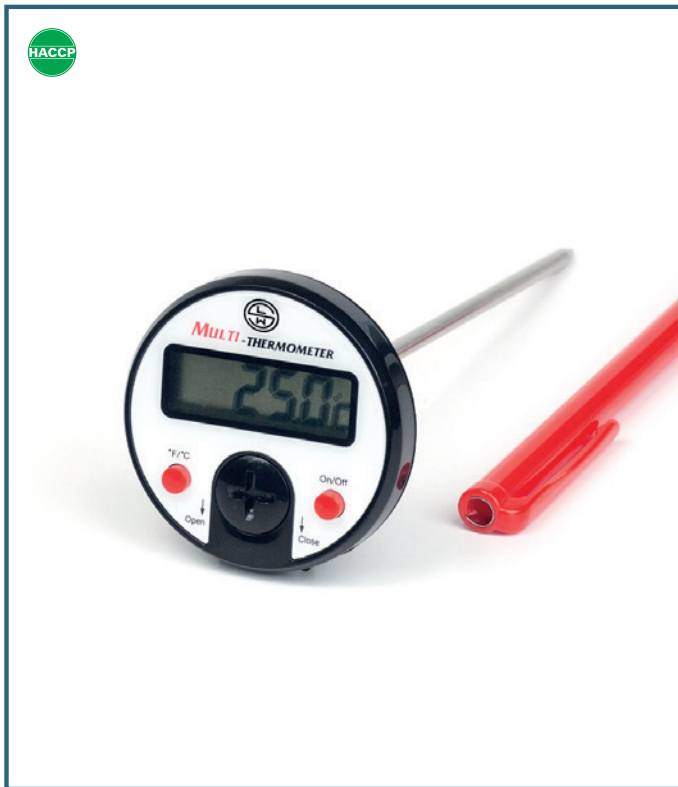
General Specifications	
Measuring range	-50 °C to +150 °C / -58 °F to +302 °F
Accuracy	±1 °C (-30 °C to +150 °C), < ±2 °C
Resolution	0.1 °C (-19.9 °C to +150 °C), 1 °C (< -19.9 °C)
Battery	1x 1.5 V (LR44 button cell)
Casing	75 x 20 mm, plastic, black
Ambient temperature	-10 °C to +50 °C
Temperature probe	125 x 3.5 mm, stainless steel, with push-in tip
Response time	T 90 = 8 sec
Function	°C/°F selection, automatic deactivation after 60 min
Order-No.	55685



**DIGITAL PUSH-IN THERMOMETER
WITH PLASTIC SLEEVE INCLUSIVE CLIP
WITH 90° TURNABLE CASING
TYPE 12070**

General Specifications	
Measuring range	-50 °C to +300 °C
Accuracy	±1 °C (-30 °C to +150 °C), < ±2 °C
Resolution	0.1 °C (-19.9 °C to +150 °C), 1 °C (< -19.9 °C)
Battery	1x 1.5 V (LR44 button cell)
Casing	75 x 20 mm, plastic, black, turnable by 90°
Ambient temperature	-10 °C to +50 °C
Temperature probe	200 x 3.5 mm, stainless steel, with push-in tip
Response time	T 90 = 10 sec
Function	Hold, automatic deactivation after 60 min
Order-No.	55681

UNIVERSAL PUSH-IN THERMOMETERS



**DIGITAL PUSH-IN THERMOMETER
WITH PLASTIC SLEEVE INCLUSIVE CLIP
TYPE 13020**

General Specifications	
Measuring range	-50 °C to +150 °C / -58 °F to +302 °F
Accuracy	±1 °C (-30 °C to +150 °C), ±1.8 °F (-22 °F to +302 °F), < > ±2 °C / ±4 °F
Resolution	0.1 °C (-19.9 °C to +150 °C), 1 °C (< -19.9 °C)
Battery	1x 1.5 V (LR44 button cell)
Casing	Ø 54 mm, plastic, black
Ambient temperature	-10 °C to +50 °C
Temperature probe	135 x 4 mm, stainless steel, with push-in tip
Response time	T 90 = 10 sec
Function	°C/°F selection, automatic deactivation after 60 min
Order-No.	64726



**DIGITAL PUSH-IN THERMOMETER
WITH TEMPERATURE PROBE
TYPE 13010**

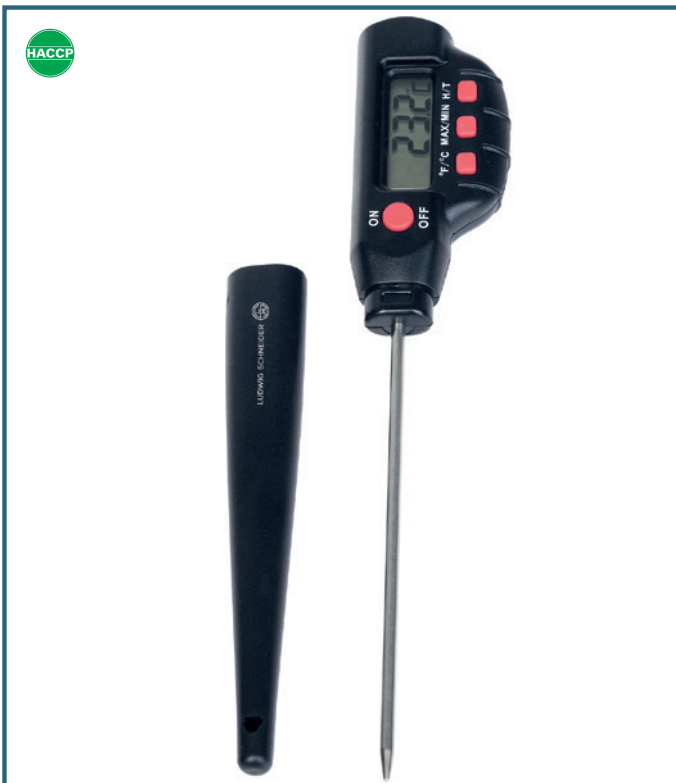
General Specifications	
Measuring range	-50 °C to +300 °C / -58 °F to +572 °F
Accuracy	±1 °C (-30 °C to +150 °C) ±1.8 °F (-22 °F to +302 °F), < > ±2 °C / ±4 °F
Resolution	0.1 °C (-19.9 °C to +199.9 °C), 1 °C (< -19.9 °C, > +199.9 °C)
Battery	1x 1.5 V (LR44 button cell)
Casing	Ø 54 mm, plastic, black
Ambient temperature	-10 °C to +50 °C
Temperature probe	120 x 3,5 mm, stainless steel, with push-in tip
Cable length	1 m
Response time	T 90 = 10 sec
Equipment	Clip and magnet
Function	°C/°F selection, automatic deactivation after 60 min
Order-No.	64725

UNIVERSAL PUSH-IN THERMOMETERS



**DIGITAL POCKET THERMOMETER
WITH PLASTIC SLEEVE AND CLIP
TYPE 12060**

General Specifications	
Measuring range	-50 °C to +150 °C
Accuracy	±1 °C (-30 °C to +150 °C), < ±2 °C
Resolution	0.1 °C (-19.9 °C to +150 °C), 1 °C (< -19.9 °C)
Battery	1x 1.5 V (LR44 button cell)
Casing	58 x 20 mm, plastic, black
Ambient temperature	-10 °C to +50 °C
Temperature probe	125 x 3,5 mm, stainless steel, with push-in tip
Response time	T 90 = 4 sec
Function	Hold, automatic deactivation after 60 min
Order-No.	55680



**DIGITAL POCKET THERMOMETER
WITH PLASTIC SLEEVE
TYPE 12080**

General Specifications	
Measuring range	-50 °C to +300 °C/-58 °F to +572 °F
Accuracy	±1 °C (-30 °C to +150 °C), < > ±2 °C ±1.8 °F (-22 °F to +302 °F), < > ±4 °F
Resolution	0.1 °C (-19.9 °C to +199.9 °C) 1 °C (< -19.9 °C, > +199.9 °C)
Battery	1x 1.5 V (LR44 button cell)
Casing	215 x 40/20 mm, plastic, black
Ambient temperature	-10 °C to +50 °C
Temperature probe	120 x 3,5 mm, stainless steel, with push-in tip
Response time	T 90 = 8 sec
Function	°C/°F selection, hold, min/max memory, automatic deactivation after 60 min
Order-No.	55682

UNIVERSAL PUSH-IN THERMOMETERS



WATERPROOF POCKET THERMOMETER WITH PLASTIC SLEEVE TYPE 12090

General Specifications	
Measuring range	-50 °C to +150 °C / -58 °F to +302 °F
Accuracy	±1 °C (-30 °C to +150 °C), < ±2 °C ±1.8 °F (-22 °F to +302 °F), < ±4 °F
Resolution	0.1 °C (-19.9 °C to +150 °C), 1 °C (< -19.9 °C)
Battery	1x 1.5 V (LR44 button cell)
Casing	188 x 24 x 20 mm, plastic, white
Ambient temperature	-10 °C to +50 °C
Degree of protection	IP 67 (waterproof)
Temperature probe	85 x 3.5 mm, stainless steel, with push-in tip
Response time	T 90 = 6 sec
Function	°C/°F selection, hold, automatic deactivation after 60 min
Order-No.	55686

DIGITAL MONITORING THERMOMETERS



DIGITAL MIN/MAX-ALARM-THERMOMETER WITH DATALOGGING FUNCTION AND USB INTERFACE, TYPE 15010

General Specifications	
Measuring range	-50 °C to +70 °C/-58 °F to +158 °F
Accuracy	±0.5 °C/±0.9 °F
Resolution	0.1 °C/0.1 °F
Battery	2x 1.5 V (alkaline AAA)
Casing	94 x 110 x 25 mm, plastic, white
Memory	removable 2GB Micro SD card (max: 4GB)
Memory capacity	24 million recordings
External temperature probe*	Plug-in probe in 5 ml plastic bottle, filled with ethylene glycol mixture for measuring delay/alarm lag during opened door
Cable length	2 m
Features	Tilt stand
Function	°C/°F selection, min/max memory, high/low alarm, date/time display, reset
Order-No.	68260



DIGITAL MIN/MAX-ALARM-THERMOMETER WITH DATE/TIME SETTING, TYPE 13030

General Specifications	
Measuring range	-50 °C to +70 °C/-58 °F to +158 °F
Accuracy	±0.3 °C/±0.5 °F
Resolution	0.1 °C/0.1 °F
Battery	2x 1.5 V (alkaline AAA)
Casing	75 x 124 x 19 mm, plastic, white
Ambient temperature	0 °C to +40 °C
External temperature probe*	Plug-in probe in 5 ml plastic bottle, filled with ethylene glycol mixture for measuring delay/alarm lag during opened door
Cable length	3 m
Certificate	Certificate of conformity acc. to table
Equipment	Tilt stand
Function	°C/°F selection, min/max memory, high/low alarm, date/time display
Order-No. (standard)	65809

Application	Measuring range (°C)	Certified temperature (°C)	Bottle filling	Order-No.
Freezers	-50 °C to +70 °C	-20 °C	ethylene glycol mixture	65809/-20C
Refrigerators	-50 °C to +70 °C	+4 °C	ethylene glycol mixture	65809/+4C
Incubators	-50 °C to +70 °C	+37 °C	ethylene glycol mixture	65809/+37C

Calibration	Measuring range (°C)	Certified temperature (°C)	Bottle filling	Order-No.
Works calibration certificate	-50 °C to +70 °C	-10 °C and +40 °C	ethylene glycol mixture	65809/03/2P
DAkkS calibration certificate	-50 °C to +70 °C	-10 °C and +40 °C	ethylene glycol mixture	65809/04/2P

* A calibration can only be made for the external temperature sensor.

DIGITAL MONITORING THERMOMETERS



DIGITAL MIN/MAX-ALARM-THERMOMETER TYPE 13000

General Specifications	
Measuring range int. probe	0 °C to +50 °C / +32 °F to +122 °F
Measuring range ext. probe	-50 °C to +70 °C / -58 °F to +158 °F
Accuracy	±1 °C / ±2 °F
Resolution	0.1 °C
Battery	1x 1.5 V (alkaline AAA)
Casing	98 x 110 x 21 mm, plastic, black
Ambient temperature	0 °C to +50 °C
Cable length	3 m
Response time	T 90 = 10 sec
Equipment	Tilt stand
Function	Min/max memory, high/low alarm
Order-No.	63800



TYPE 13000, VERSION WITH BOTTLE (30 ml)

	Freezers	Refrigerators	Incubators
Measuring range (°C)	-50 °C to +70 °C	-50 °C to +70 °C	-50 °C to +70 °C
Certified temperature (°C)	-20 °C	+4 °C	+37 °C
Bottle filling	Ethylene glycol mixture	Ethylene glycol mixture	Ethylene glycol mixture
Order-No.	63927	63893	63894

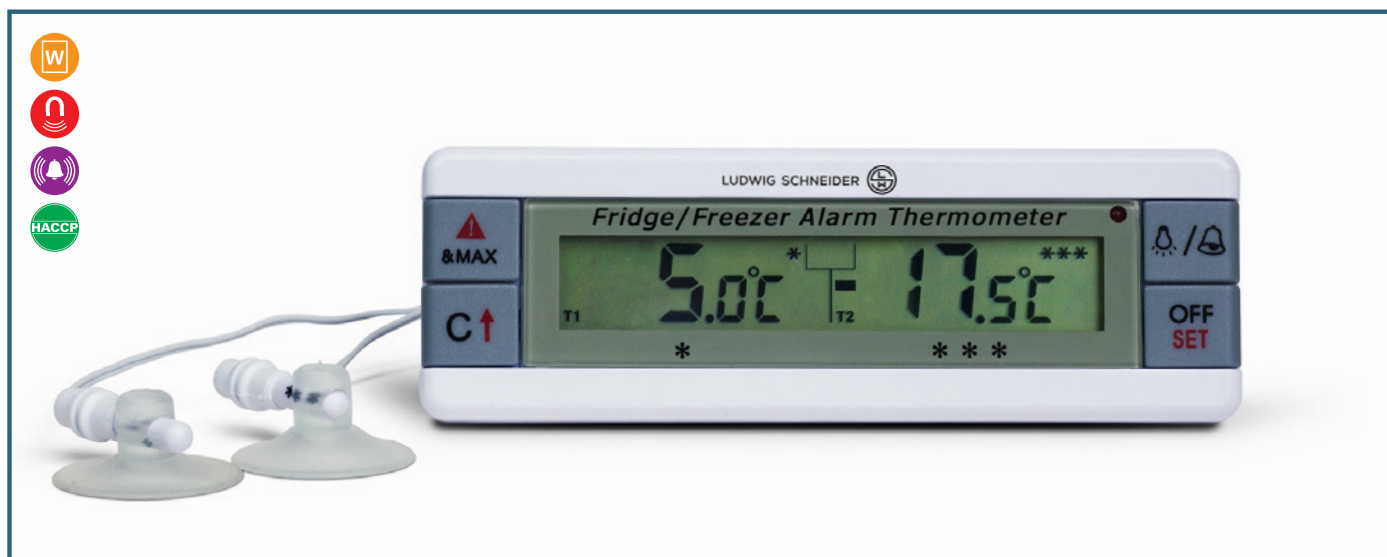


HYGRO-THERMOMETER CLOCK TYPE 15020

General Specifications	
Measuring range	1 to 99 %, 0 to 50 °C / 32 to 122 °F (internal), -50 to 70 °C / -58 to 158 °F (external)
Accuracy humidity	±4 % 35 to 75 %, otherwise ±5 %
Accuracy temperature	±1 °C / ±2 °F
Resolution	1 %, 0.1°, 1 minute
Alarm duration	2 minutes
Display size	79 x 66 mm
Product size	98 x 110 x 22 mm
Accessories	Probe holder, external probe with a 3 meter cable, 2x 1.5 volt battery size AAA
Function	°C/°F selection, min/max memory, ice point alert, interior and exterior display
Order-No.	68263

DIGITAL MONITORING THERMOMETERS

DIGITAL THERMOMETER FOR SIMULTANEOUS MONITORING OF FREEZERS AND REFRIGERATORS TYPE 13040



General Specifications	
Measuring range	-40 °C to +70 °C/-40 °F to +158 °F
Accuracy	±1 °C/±2 °F
Resolution	0.1 °C/0.1 °F
Battery	2x 1.5 V (alkaline AAA)
Casing	135 x 45 x 23 mm, plastic, white
Ambient temperature	0 °C to +50 °C
Temperature probes	2 pieces with suckers
Cable length	3 m
Response time	T 90 = 10 sec
Certification	Certified at 0 °C, accuracy: ±1 °C
Equipment	Tilt stand and two magnets
Function	°C/°F selection, min/max memory
Display	Backlight
Order-No.	65810

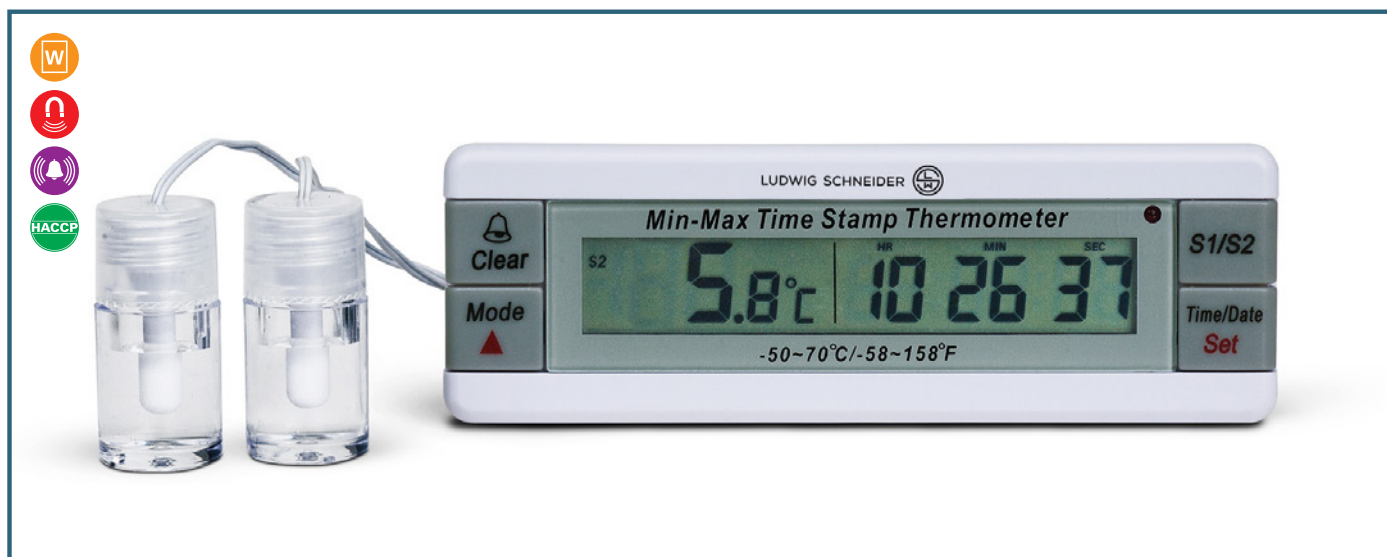
OPTIONALLY AVAILABLE WITH BOTTLES 5 ml



General Specifications	Order-No.
Type 13041 With 2 temperature probes, attached in 5 ml plastic bottles, filled with ethylene glycol/water (for measuring delay/alarm lag at opened door) cable: 3 m	65811

DIGITAL MONITORING THERMOMETERS

DIGITAL THERMOMETER FOR SIMULTANEOUS MONITORING OF FREEZERS AND REFRIGERATORS WITH DATE/TIME SETTING
TYPE 13050



General Specifications	
Measuring range	-50 °C to +70 °C/-58 °F to +158 °F
Accuracy	±1 °C/±2 °F
Resolution	0.1 °C/0.1 °F
Battery	2x 1.5 V (alkaline AAA)
Casing	135 x 45 x 23 mm, plastic, white
Ambient temperature	0 °C to +50 °C
Temperature probes	2 pieces, plug-in probes in 5 ml plastic bottle, filled with ethylene glycol/water for measuring delay/alarm lag during opened door
Cable length	3 m
Certification	Certified at 0 °C, accuracy: ±1 °C
Equipment	Tilt stand and two magnets
Function	°C/°F selection, min/max memory
Display	Time display: 24 hours, date display: day/month/year
Order-No.	65812

DIGITAL HANDHELD MEASURING DEVICES



DIGITAL TEMPERATURE MEASURING DEVICE WITH 2 INPUT CHANNELS

TYPE 13100

For thermocouples Type K (NiCr-Ni)

General Specifications	
Measuring range	-200 °C to +1370 °C / -328 °F to +2498 °F
Accuracy	±0.1 % of displayed value + (+0.7 °C / +1.3 °F)
Resolution	0.1 °C / 0.1 °F
Battery	1x 9 V Block
Casing	184 x 64 x 30 mm, plastic, anthracite
Ambient temperature	0 °C to +50 °C
Temperature probe	1 probe with blade terminal
Cable length	3 m
Features	PC interface and bag
Function	°C/°F selection, min/max memory, average value memory, automatic deactivation after 60 min
Order-No.	65625

Available accessories	Order-No.
Mains adapter (100-240 V, 0.3 A, 50-60 Hz, Output: 9 V, 0.2 A)	65627
Software/USB-Set (cable, driver and German software)	65826
Software/USB-Set (cable, driver and English software)	65827



4-CHANNEL DATALOGGER FOR TEMPERATURE TYPE 15210

Suitable for thermocouples types K, J, E, T, N, R, S

General Specifications	
Measuring range	-200 °C to +1370 °C (Type K) / -328 °F to +2498 °F (Type K)
Resolution	0.1 °C / 0.1 °F from 600 °C 1 °C / 1 °F
Accuracy	±0.1 % of displayed value + (+0.7 °C / +1.3 °F)
Casing	187 x 75 x 29 mm, plastic, black
Memory	32 000 data logger records each channel
Function	hold, °C/°F selection, min/max memory, average value memory
Display	4 channels simultaneous, battery indication, backlight
Data transfer	wireless via bluetooth or USB
Order-No.	70538

THERMOCOUPLES FOR DIGITAL MEASURING DEVICES TYPES 13100 AND 15210

TYPE K THERMOCOUPLE TO IMMERSE (NICR-NI)

Assembly: TE-MI-303, with miniature plug yellow (THERM 2)

General Specifications

Mineral-insulated thermocouple 1 x NiCr-Ni type K acc. to DIN EN 60584 Class 1, sheath made of Inconel, compensating line fix connected through transition casing made of stainless steel, silicon/teflon insulated, cable length 2 m, cable outlet secured by means of heat-shrink tubing.



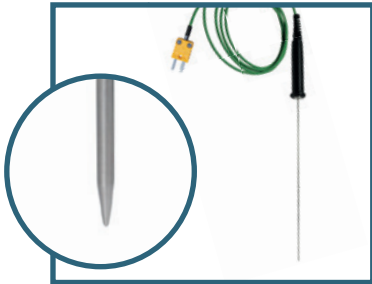
Sheat Ø	Nominal length	Range of application	Order-No.
3 mm	150 mm	-50 °C to +200 °C	71110
3 mm	250 mm	-100 °C to +400 °C	57499
3 mm	400 mm	-100 °C to +800 °C	71111
3 mm	600 mm	-100 °C to +1 000 °C	71112
1 mm	150 mm	-50 °C to +200 °C	71113
1 mm	250 mm	-100 °C to +400 °C	71114
1 mm	400 mm	-100 °C to +800 °C	71115
0.5 mm	150 mm	-50 °C to +200 °C	71116
0.5 mm	250 mm	-100 °C to +400 °C	71117
0.5 mm	400 mm	-100 °C to +800 °C	71118

TYPE K THERMOCOUPLE TO INSERT OR IMMERSE WITH HANDLE (NICR-NI)

Assembly: TE-MI-303-HG, with miniature plug yellow (THERM 2)

General Specifications

Mineral-insulated thermocouple 1 x NiCr-Ni type K acc. to DIN EN 60584 Class 2, made of Inconel, compensating line fix connected through handle made of plastic, silicon/teflon insulated, cable length 2 m, cable outlet secured by means of bend protection.



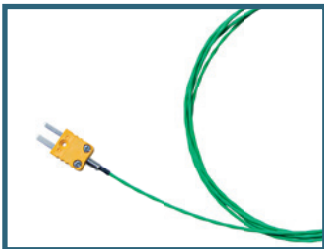
Sheat Ø	Nominal length	Range of application	Version	Order-No.
3 mm	150 mm	-100 °C to +200 °C	to immerse	65899
3 mm	250 mm	-100 °C to +400 °C	to immerse	66269
3 mm	400 mm	-100 °C to +800 °C	to immerse	71119
3 mm	150 mm	-100 °C to +200 °C	with insertion tip	71120
3 mm	250 mm	-100 °C to +250 °C	with insertion tip	71121
3 mm	400 mm	-100 °C to +250 °C	with insertion tip	71122
3.8 mm	150 mm	-50 °C to +200 °C	with insertion tip	65861

TYPE K THERMOELECTRIC LEAD

Assembly: TE-GL-314, with miniature plug yellow (THERM 2)

General Specifications

Thermocouple type K acc. to DIN EN 60584 Class 2, thermocouple wire Ø 0.5 mm separately and jointly, insulated with glass silk, thermocouple junctions 2 mm free.



Length	Range of application	Order-No.
500 mm	-100 °C to +300 °C	71123
1 000 mm	-100 °C to +300 °C	71124
2 000 mm	-100 °C to +300 °C	71125
3 000 mm	-100 °C to +300 °C	71126
5 000 mm	-100 °C to +300 °C	71127
10 000 mm	-100 °C to +300 °C	71128

TYPE K THERMOCOUPLE FOR SPECIAL APPLICATIONS with handle, with miniature plug yellow (THERM 2)



General Specifications

Surface probe with handle acc. to DIN EN 60584 Class 2, cable length: 2 m.

Head Ø:	Range of application	Version	Order-No.
15 mm	-50 °C to +400 °C	straight	65860
15 mm	-50 °C to +400 °C	90° angled	65862

DIGITAL HANDHELD MEASURING DEVICES



DIGITAL TEMPERATURE MEASURING DEVICE WITH TEMPERATURE PROBE TYPE 12200

General Specifications	
Measuring range	-50 °C to +300 °C / -58 °F to +572 °F
Accuracy	±1 °C (-30 °C to +150 °C), < > ±2 °C ±1.8 °F (-22 °F to +302 °F), < > ± 4 °F
Resolution	0.1 °C (-19.9 °C to +199.9 °C) 1 °C (< -19.9 °C, > +199.9 °C)
Battery	2x 1.5 V (alkaline AAA)
Casing	140 x 75 x 27 mm, grey, splashproof
Ambient temperature	-10 °C to +50 °C
Temperature probe	140 x 3,5 mm, stainless steel, with handle and push-in tip
Cable length	1 m
Response time	T 90 = 10 sec
Function	°C/°F selection min/max memory, high/low alarm, hold,
Order-No.	55684



PRECISION DIGITAL HANDHELD MEASURING DEVICE WITH PT100, IEC 751 TYPE 13750

General Specifications	
Measuring range	-100 °C to +400 °C / -148 °F to +752 °F
Resolution	0.01 °C / 0.02 °F
Battery	1x 9 V
Casing	185 x 65 x 36 mm, plastic, black
Memory	for 99 values
Probe	changeable
Function	hold, °C/°F selection, min/max memory, time display
Relative function	by press the REL-button the device memorize the present reading and show the difference to the next measured values
Display	backlight
Incl. Pt100 Probe, 4-Wire, Class A, IEC 751	
Accuracy Measuring system	±0.2 °C in range of: -50 °C to +150 °C
Nominal length	230 mm, Ø 5 mm
Cable length	1.5 m
Order-No.	70542



**PRECISION DIGITAL HANDHELD MEASURING
DEVICE WITH Pt100
WITH DATA LOGGING FUNCTION
TYPE 13760**

General Specifications	
Measuring range	-100 °C to +400 °C / -37 °F to +93 °F
Resolution	0.01 °C / 0.02 °F
Battery	1x 9 V
Casing	185 x 65 x 36 mm, plastic, black
Memory	for 16 000 values
Probe	Changeable
Function	°C/°F selection, hold, min/max memory
Logging function	Data recording, setting of measuring interval, data evaluation
Relative function	The device memorize the present reading and show the difference to the next measured values
Display	Backlight
Incl. Pt100 Probe, 4-Wire, Class A, IEC 751	
Accuracy measuring system	±0.2 °C in range of: -50 °C to +150 °C
Nominal length	230 mm, Ø 5 mm
Cable length	1.5 m
Order-No.	70541

INFRARED THERMOMETER



**HANDHELD INFRARED THERMOMETER
WITH LASER SPOT
TYPE 23520**

General Specifications	
Measuring range	-20 °C to +500 °C / -4 °F to +932 °F
Accuracy	±2 °C / ±4 °F of displayed value
Resolution	0.1 °C / 0.2 °F
Field of view	12:1
Casing	157 x 115 x 36 mm, plastic, black
Operation temperature	0 °C to +40 °C
Response time	0,5 sec
Function	°C/°F selection
Display	Temperature hold indication, low battery indication, backlight
Symbol	Laser on
Order-No.	70539

PHYSICS – DIGITAL PRECISION MEASURING DEVICES

For highest precision we provide our PHYSICS measuring devices for precise measurements in meteorology, chemical, biotechnology, food industries, water analytics, science and research as well as for quality assurance or inspection equipment monitoring in the industrial sector. By means of real-time recording or logger function it is furthermore possible to make rapid and precise temperature recordings directly on site.

GENERAL TECHNICAL DATA

- + 2 output channels
- + 2 lines, statically 7/16 segments
- + Display illumination: 2 LEDs, white
- + 7 silicone keys
- + Batteries: 3 Mignon alkaline
- + ABS casing (max. 70 °C), light grey
- + Degree of protection: IP54, dust- and splash-proof
- + Dimensions and weight: L 127 x W 83 x H 42 mm, 290 g

Calibration for sensors and measuring devices on request.

FURTHER GENERAL FEATURES

- + Test functions: segment monitoring, range monitoring, probe error check, battery check
- + Interfaces: USB, RS232, Ethernet, Bluetooth, analogue
- + Language selection: German, English, French



PHYSICS 51

Digital measuring device for thermocouples, NTC resistance thermometers, infrared temperature probes, digital humidity probes.

General Specifications	
Probes	Thermocouples, NTC, humidity, air pressure and more
Measuring input	1 input channel
Measuring range	See sensor list page 20/21
Galvanic isolation	Semiconductor relays (50 V)
Channels	4 function channels e.g. for dual probes
AD converter	Delta-Sigma 15 bit, 2.5 M/s
Resolution	0.1 °C
Order-No.	59235

FURTHER FEATURES

- + **Measuring functions:** measuring value, zero-setting, max./min. value documentation, 2-step adjustment, scaling (optional: multi-point calibration for temperature values)

PHYSICS – DIGITAL PRECISION MEASURING DEVICES

PHYSICS 100

Digital measuring device for precise measurements with a wide range of measuring units and sensor technologies, e.g. temperature (Pt100, thermocouples, NTC, infrared), air humidity, air flow, pressure, flow rate, electrical values etc. Beside the PHYSICS 100-1 type with one input channel we offer also Type 100-2 with 2 input channels (both input channels or measuring points can be covered simultaneously).



General Specifications	
Probes	Thermocouples, resistance thermometers, NTC, humidity, pressure, and more
Measuring input	100-1: 1 input channel 100-2: 2 input channels
Input channels	For more than 65 measuring ranges
Galvanic isolation	Semiconductor relays (50 V)
Channels	4 function channels e.g. for dual probes 4 internal functions (e.g. difference)
AD converter	Delta-Sigma 16 bit, 2.5 or 10 M/s
Probe voltage	Battery operation: 9 V, max. 150 mA Mains operation: 12 V, max. 150 mA
Resolution	0.01 °C
Order-No.	63731 PHYSICS 100-1 (1 input channel) 63874 PHYSICS 100-2 (2 input channels)

FURTHER FEATURES

- + Intelligent probe display with probe specific functions (cold-junction compensation etc.)
- + Measuring functions: measuring value, zero-setting, max./min. value documentation, 2-step adjustment, scaling (optional: multi-point calibration for temperature values)
- + Function menu: min/max values, average value of time, individual values or measuring points

PHYSICS – DIGITAL PRECISION MEASURING DEVICES

PHYSICS 300

Complex digital measuring device with data logger function* for precise measurements with a wide range of measuring units and sensor technologies, e.g. temperature (Pt100, thermocouples, NTC, infrared), air humidity, air flow, pressure, flow rate, electrical values etc.

Subject to type of probe 2, 3 or 4 input channels or measuring points can be covered simultaneously.



General Specifications	
Probes	Thermocouples, resistance thermometers, humidity, pressure, NTC, and more.
Measuring input	300-2: 2 input channels 300-4: 4 input channels*
Input channels	For more than 65 measuring ranges
Galvanic isolation	Semiconductor relays (50 V)
Channels	4 function channels e.g. for dual probes 4 internal functions (e.g. difference)
AD converter	Delta-Sigma 16 bit, 2.5 or 10 M/s
Probe voltage	Battery operation: 9 V, max. 150 mA Mains operation: 12 V, max. 150 mA
Internal memory	*only model 300-4: approx. 12.000 measured values
Resolution	0.01 °C
Order-No.	63884 PHYSICS 300-2 (2 input channels) 63885 PHYSICS 300-4 (4 input channels and datalogging function)

FURTHER FEATURES

- + Intelligent probe display with probe specific functions (cold-junction compensation etc.)
- + Measuring functions: measuring value, zero-setting, max./min. value documentation, 2-step adjustment, scaling (optional: multi-point calibration for temperature values)
- + Function menu: min/max values, average value of time, individual values or measuring points
- + Display free configurable (numeric or graphic design)
- + Sleep mode for long-term documentations

PHYSICS – DIGITAL PRECISION MEASURING DEVICES

PHYSICS 1000

Ludwig Schneider's high-precise digital measuring device PHYSICS 1000 offers highest resolution, accuracy and linearity for mains independent measurements.

With its ultra high resolution of 0.001 °C this digital measuring device provides dependable and reproducible results of mobile temperature measurements in quality assurance, process monitoring and production control in the chemical, pharmaceutical and food industries as well as for research and development.



General Specifications	
Probes	Resistance thermometers Pt100
Measuring input	2 input channels
Galvanic isolation	Semiconductor relais (50 V)
Measuring range	-200 °C to +400 °C
Self calibration	Zero point, measuring current
Accuracy	0.01 % of value ±3 digits
Temperature drift	0.003 %/°C
AD converter	Delta-Sigma 24 bit, 2,5 M/s
Internal RAM memory	99 measured values, memory stick for over 25 000 measured values optional
Resolution	0.001 °C
Order-No.	66637

FURTHER FEATURES

- + Measuring functions: measuring value, zero-setting, max./min. value documentation, 2-step adjustment, scaling (optional: multi-point calibration for temperature values)
- + Function menu: min/max values, average value of time, individual values or measuring points

THERMOCOUPLES FOR PHYSICS - DIGITAL MEASURING DEVICES

SUITABLE TO PHYSICS MEASUREMENT DEVICES



Pt100 RESISTANCE THERMOMETER TO IMMERSE, Assembly: WT-MI-303

General Specifications

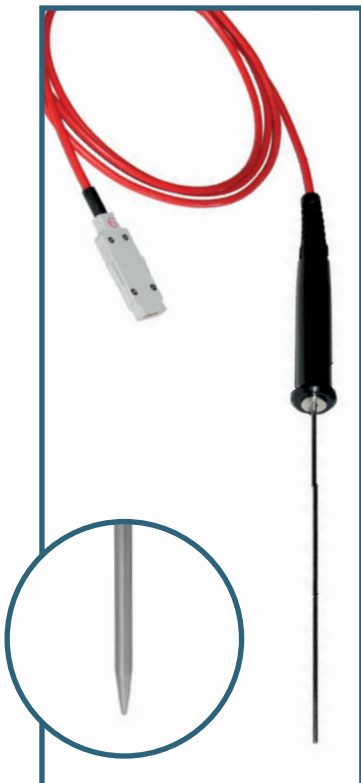
Immersion resistance thermometer Pt100, acc. to DIN EN 60751 Class A or AA, 4-wire connection, with sheathed cable made of stainless steel, compensating line fix connected through transition casing made of stainless steel, teflon/silicone insulated, cable length: 2 m, cable outlet secured by means of heat-shrink tubing.

PLUG PHYSICS RESOLUTION 0.01 °C (CLASS A)

Sheat Ø	Nominal length	Range of application	PHYSICS 51	PHYSICS 100	PHYSICS 300	PHYSICS 1000	Order-No.
3 mm	150 mm	-50 °C to +200 °C		x	x		70133
3 mm	300 mm	-90 °C to +350 °C		x	x		70136
3 mm	400 mm	-90 °C to +350 °C		x	x		70139
4 mm	150 mm	-50 °C to +200 °C		x	x		70127
4 mm	300 mm	-90 °C to +350 °C		x	x		70112
4 mm	400 mm	-90 °C to +350 °C		x	x		70130

PLUG PHYSICS RESOLUTION 0.001 °C (CLASS AA)

Sheat Ø	Nominal length	Range of application	PHYSICS 51	PHYSICS 100	PHYSICS 300	PHYSICS 1000	Order-No.
3 mm	250 mm	-50 °C to +250 °C				x	70969



Pt100 RESISTANCE THERMOMETER TO IMMERSE OR INSERT WITH HANDLE ASSEMBLY: WT-MI-303-HG

General Specifications

Resistance thermometer Pt100, acc. to DIN EN 60751 Class A, 4-wire connection, with sheathed cable made of stainless steel, compensating line fix connected through handle made of plastic, teflon/silicone insulated, cable length: 2 m, cable outlet secured by means of bend protection.

TO IMMERSE,

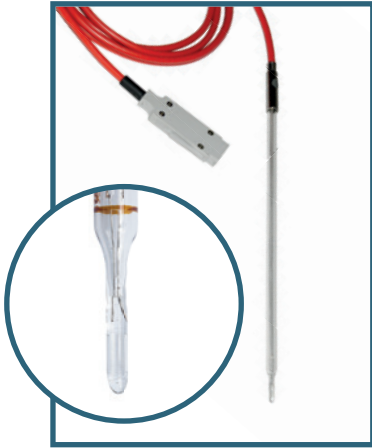
With plug PHYSICS resolution 0.01 °C (Class A)

Sheat Ø	Nominal length	Range of application	PHYSICS 51	PHYSICS 100	PHYSICS 300	PHYSICS 1000	Order-No.
3 mm	150 mm	-50 °C to +200 °C		x	x		70094
3 mm	250 mm	-90 °C to +350 °C		x	x		59954
3 mm	300 mm	-90 °C to +350 °C		x	x		70097
3 mm	400 mm	-90 °C to +350 °C		x	x		70100
4 mm	150 mm	-50 °C to +200 °C		x	x		70103
4 mm	300 mm	-90 °C to +350 °C		x	x		70106
4 mm	400 mm	-90 °C to +350 °C		x	x		70109

TO INSERT,

With plug PHYSICS resolution 0.001 °C (Class AA)

Sheat Ø	Nominal length	Range of application	PHYSICS 51	PHYSICS 100	PHYSICS 300	PHYSICS 1000	Order-No.
4 mm	150 mm	-50 °C to +200 °C		x	x		59966



**Pt100 RESISTANCE THERMOMETER OF GLASS (N16B),
Assembly: WT-GL-3/6-303**

General Specifications

Labor resistance thermometer of glass Pt100, acc. to DIN EN 60751 Class A, 4-wire connection, with glass shaft \varnothing 6 mm, narrowed at sensor to \varnothing 3 mm, compensating line fix connected through transition casing made of stainless steel, teflon/silicone insulated, cable length: 2 m, cable outlet secured by means of heat-shrink tubing.

PLUG PHYSICS RESOLUTION 0.01 °C (CLASS A)

glass shaft \varnothing	Nominal length	Range of application	PHYSICS 51	PHYSICS 100	PHYSICS 300	PHYSICS 1000	Order-No.
3/6 mm	150 mm	-50 °C to +250 °C		x	x		70148
3/6 mm	200 mm	-50 °C to +250 °C		x	x		70152
3/6 mm	250 mm	-50 °C to +250 °C		x	x		70145*
3/6 mm	300 mm	-50 °C to +250 °C		x	x		70155
3/6 mm	350 mm	-50 °C to +250 °C		x	x		70158

PLUG PHYSICS RESOLUTION 0.001 °C (CLASS AA)

Glass shaft \varnothing	Nominal length	Range of application	PHYSICS 51	PHYSICS 100	PHYSICS 300	PHYSICS 1000	Order-No.
3/6 mm	250 mm	-50 °C to +250 °C				x	67056*

* With ring marks on the glass shaft according to the immersion depths of standardized precision glass thermometers.



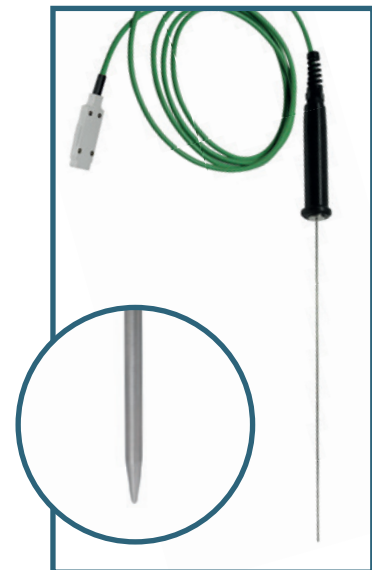
**Pt100 RESISTANCE THERMOMETER PTFE COATED,
Assembly: WT-K-6**

General Specifications

Cable resistance thermometer Pt100, acc. to DIN EN 60751 Class A, 4-wire connection, compensating line directly connected with protective conduit made of stainless steel, VA-wire netting/teflon insulated, cable length: 2 m, with PTFE coating from measuring tip to +20 mm connection cable.

WITH PLUG PHYSICS RESOLUTION 0.01 °C (CLASS A)

Protective conduit \varnothing	Nominal length	Range of application	PHYSICS 51	PHYSICS 100	PHYSICS 300	PHYSICS 1000	Order-No.
6 mm	70 mm	-50 °C to +200 °C		x	x		70171
6 mm	100 mm	-50 °C to +200 °C		x	x		70175
6 mm	150 mm	-50 °C to +200 °C		x	x		70178
6 mm	200 mm	-50 °C to +200 °C		x	x		70181



**THERMOCOUPLE TO IMMERSE OR INSERT WITH HANDLE
TYPE K (NICR NI),**

Assembly: TE-MI-303-HG, plug PHYSICS resolution 0.1 °C

General Specifications

Thermocouple with handle type k NiCr-Ni, acc. to DIN EN 60584 Class 2, made of Inconel, compensating line fix connected through handle made of plastic, teflon/silicone insulated, cable length: 2 m, cable outlet secured by means of bend protection.

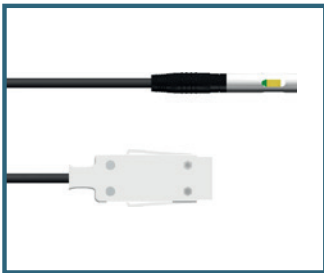
TO IMMERSE

Sheat \varnothing	Nominal length	Range of application	PHYSICS 51	PHYSICS 100	PHYSICS 300	PHYSICS 1000	Order-No.
1.5 mm	250 mm	-100 to +400°C	x	x	x		59961
3 mm	250 mm	-100 to +400°C	x	x	x		59962

TO INSERT

Sheat \varnothing	Nominal length	Range of application	PHYSICS 51	PHYSICS 100	PHYSICS 300	PHYSICS 1000	Order-No.
3 mm	150 mm	-50 to +200°C	x	x	x		59963

THERMOCOUPLES FOR PHYSICS - DIGITAL MEASURING DEVICES



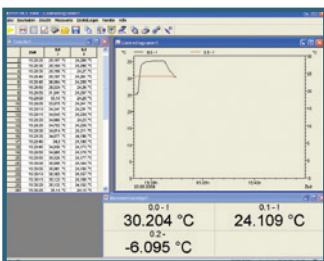
HUMIDITY PROBE, DIGITAL, WITH AIR PRESSURE MEASURING

Digital probe for humidity, temperature and air pressure.

General Specifications	
Diameter	9 x 65 mm
Cable length	2 m
Measuring range	5 to 98 % r.H. / -20 °C to 60 °C, 700 to 1100 mbar, not condensing
Order No.	63953

ACCESSORIES FOR PHYSICS DIGITAL MEASURING DEVICES

General Specifications	Order No.
Mains adapter 230 V, 200 mA	57090
Mains adapter 115 V, 300 mA (US)	58802
USB cable (galvanically isolated, max. 115.2 kB)	57091
Bluetooth adapter plug, Class 2	63953
Memory plug with MM card for further measuring values	57733
Software PHYSICS View, annual license	58306
Case	61972
Rubber protection sleeve	58804



SOFTWARE PHYSICS VIEW

PHYSICS View is a software package that can be used to evaluate and display measured data on PHYSICS devices (with 2 measuring inputs). PHYSICS View runs under MS-Windows and can be used to drive a PHYSICS device with up to four measuring points. As soon as the connection between the computer and the measuring instrument has been established the program detects and lists these measuring points automatically. The measured values are then read at a sampling rate selected by the user.



CASE FOR PHYSICS DEVICE AND ACCESSORIES

Hard protective case with foam inserts (picture may differ from original product)



RUBBER PROTECTION SLEEVE FOR DIGITAL MEASURING DEVICE (GREY)

With combi-bracket for standing/hanging

ACCREDITED DAkkS-CALIBRATION LAB FOR TEMPERATURE & DENSITY

More than ever before today's products must provide reliably precise results. Through our DAkkS-calibration laboratory for temperature and density we provide the required reliability – now and in the future.

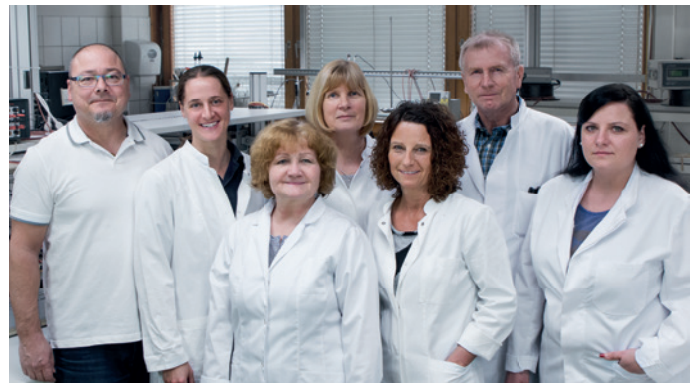
We measure temperatures from -196 °C to 1850 °C and vouch for highest precision to all international standards. We document and certify measuring instruments in accordance with the individual requirements of our customers.



CERTIFIED PRECISION MADE BY LUDWIG SCHNEIDER MESSTECHNIK

In our modern calibration laboratory we offer our clients a wide variety of measurements including documentation:

- + **CALIBRATION TO FIXED POINTS**
Resistance thermometers
- + **ADJUSTMENT OF**
digital and analog measured-value
detection systems
- + **COMPARISON MEASUREMENTS OF**
Resistance thermometers
Thermocouples
Liquid-in-glass thermometers
Mechanical thermometers
Block calibrators
Calibration baths and simulators
Hydrometers and alcoholimeters



BEYOND THE USUAL OUR SERVICE PERFORMANCE

From consulting, through calibration, documentation and training up to the development and manufacturing of customized calibration systems we offer you a wide range of services.

Please enter our website for further information:
www.kalibrierlabor.org



LUDWIG
SCHNEIDER

PRODUCT SUMMARY

- Catalogue PRECISION LABORATORY THERMOMETERS /
GROUND JOINT THERMOMETERS
- Catalogue PRECISION THERMOMETERS FOR MATERIAL TESTING ASTM, ETC.
- Catalogue GENERAL PURPOSE THERMOMETERS /
THERMOMETERS FOR SPECIAL APPLICATION
- Catalogue TEMPERATURE PROBES
- Catalogue THERMOCOUPLES AND RESISTANCE THERMOMETERS
- Catalogue RESISTANCE THERMOMETERS
- Catalogue THERMOCOUPLES
- Catalogue ACCU-SAFE
- Catalogue PRECISION THERMOMETERS FOR METEOROLOGY
- Catalogue ENGINE THERMOMETERS
- Catalogue PRECISION HYDROMETERS
- Catalogue DIGITAL THERMOMETERS AND MEASURING SYSTEMS

LUDWIG SCHNEIDER
GMBH & CO. KG

Am Eichamt 4-6
D-97877 Wertheim
T +49 9342 8560-0
F +49 9342 84671

info@ludwig-schneider.de
www.ludwig-schneider.com