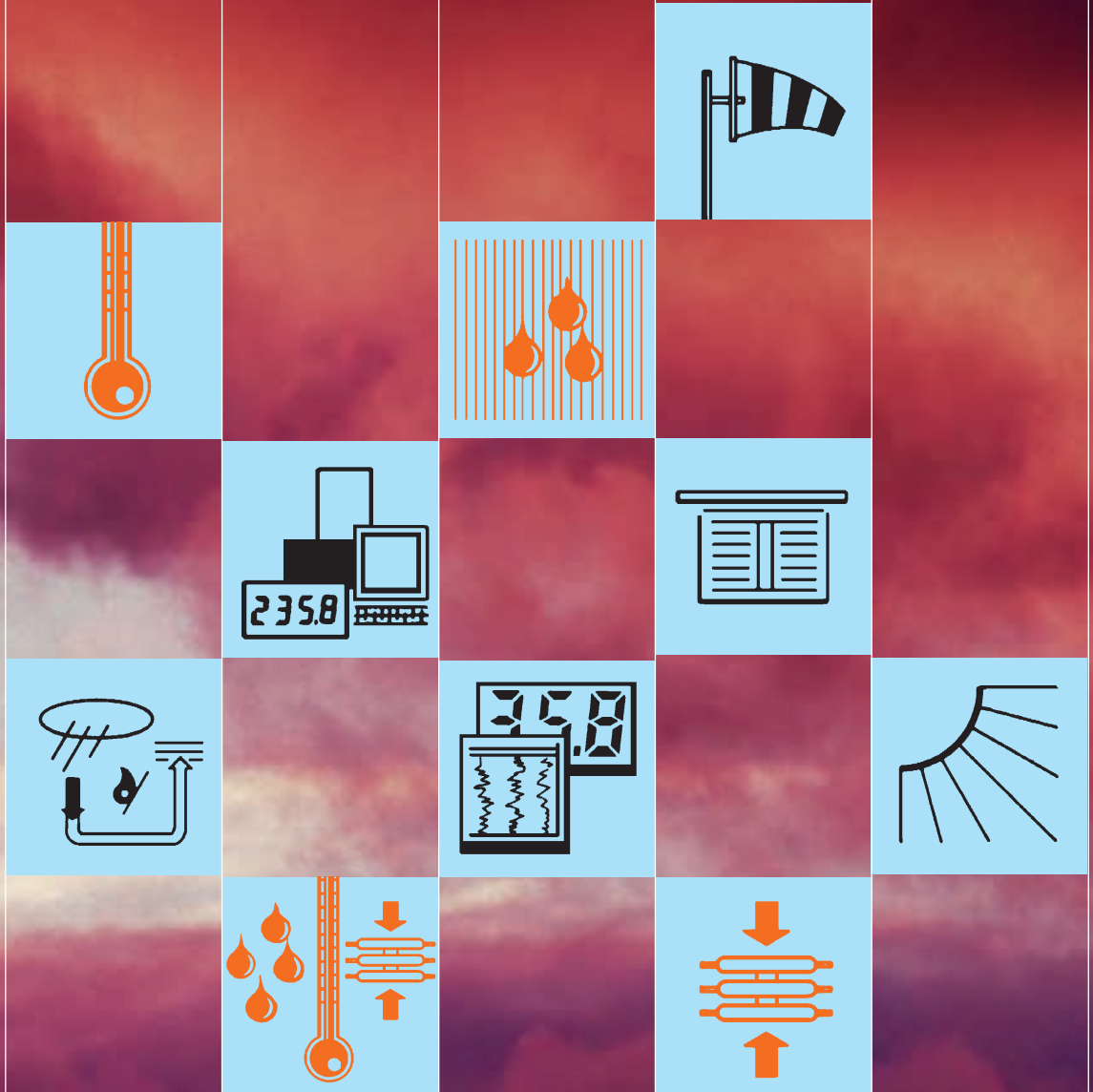


Humidity · Temperature · Pressure



THE WORLD OF WEATHER DATA

Measurement and Documentation: Our range of service for meteorology, environmental protection and industry

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For more than 50 years, we have been developing, producing and supplying practical instruments and systems for the analysis of weather data. Today we are one of the world's largest suppliers of such equipment.

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Our instruments and systems fulfill in all respects both to the requirements of national weather services as well as those of the World Meteorological Organization in Geneva.

Meteorological observations without computer-aided measurement and documentation systems are unthinkable today.

Enercorp is pleased to support and sell these fine meteorological instruments designed and built by Thies Clima in Germany.





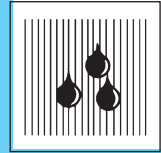
Beyond the meteorology the measurement and regulation of air humidity is an essential element of the climatic technology. Humidity control in closed rooms as for example swimming baths, offices or living-rooms creates a comfortable atmosphere for man and helps considerably to save energy. The right humidity determines also the ideal climate for delicate goods in storerooms and dehumidifying plants, and improves by this the product quality and durability.

In the rural meteorology and environmental technique humidity measurements in the open field are undeniable for the planning of irrigation and humidifying, for the determination of the optimum seed and planting as well as for the control of micro climate.

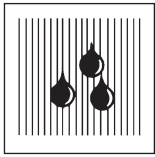


Glossary

Humidity



Absolute Humidity	Indicates the amount of water vapor present in the atmosphere, defined in the number of grams of water per m ³ of air.
Capacitive measurement element	An arrangement in which a change in the relative humidity leads to a change in the electrical capacity. For example the capacity of a polymer film on a carrier material changes when water vapor is absorbed.
Dew point	A measure of the absolute humidity of the atmosphere. The temperature at which the saturation point is reached under cooling i.e. dew begins to form.
Dry bulb temperature	The ambient temperature measured on the dry ventilated thermometer of a psychrometer.
Humidity hose	Fabric hose which is drawn over the thermometer of a psychrometer. The hose is moistened and is used to measure the wet bulb temperature.
Hygro-Transmitter	General term for humidity measurement instruments with an electrical measured value output.
Hygrograph	Measurement instrument which mechanically records the relative humidity as a function of time.
Hygrometer	General term for humidity measurement instruments.
Hygrostat	Humidity-dependent switching instrument to regulate moistening or dehydrating devices or to trigger warning signals indicating too little or too much moisture in moisture-sensitive installations.
Measurement element H	Specially prepared human hairs expand under the influence of humidity, thus changing in length. This change in length is a measure of relative humidity. The range of application lies between 10 and 100 % rel. humidity in temperatures ranging from – 60 to + 70 °C. Hair measurement elements must be regenerated.
Measurement element K	Under the influence of humidity, specially prepared synthetic fibers change in length. This change in length is a measure of relative humidity. The range of application lies between 0 and 100 % rel. humidity in temperatures ranging from 0 to + 100 °C.
Psychrometer	A measurement instrument with which the humidity of the atmosphere can be measured by measuring the dry bulb temperature and the wet bulb temperature and applying the psychrometric equation. Owing to the good measurement accuracy attainable, it is also used as a reference instrument.
Pt 100 Resistance-Thermometer	The temperature-dependent change in resistance of a measurement coil made of platinum wire is used as a measure of temperature. 100 Ω for 0 °C is usually used as the basic value (Pt 100). The standardized resistance values as a function of time are found in IEC 751.
Relative Humidity	The ratio of the absolute humidity to the amount of saturation of the water vapor in the atmosphere at the current temperature, expressed in percentage.
Tensiometer	Measurement instrument to measure the saturation potential of the soil (water requirement of soils). Important to determine irrigation requirements.
Wet bulb temperature	The temperature measured on the moistened ventilated thermometer of a psychrometer.



Humidity

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Model Brief
Description

Order No.

Technical Data

Indicators

Round Hygrometer

Indicating instrument to measure the ambient humidity.
Different models available.



1.0070.xx.000
1.0074.xx.000

Model

Console

Meas. element
H
K

Case with flange
Measuring range
10 ... 100% rel. h.
0 ... 100% rel. h

Scale range
Accuracy
Graduation
Scale
Ambient temp.

0 ... 100% rel. h.
 ± 3 % rel. h.
1 % rel. h.
 \varnothing 100 mm
- 60 ... + 70°C (H)
0 ... + 70°C (K)

Depth of case
Weight

34 mm resp. 36 mm
0,25 kg

In-Stream type Hygrometer

Round hygrometer with the measuring element in an immersion shaft attached axially to the back of the case. The instrument is designed to be fastened horizontally to a wall. The shaft protrudes through a bore hole into a neighbouring room



1.0153.xx.000
1.0154.xx.000

Immersion depth

100 mm
250 mm

.00.
.02.

Meas. element
H
K

Measuring range
10 ... 100% rel. h.
0 ... 100% rel. h.

Scale range
Accuracy
Graduation
Scale
Ambient temp.

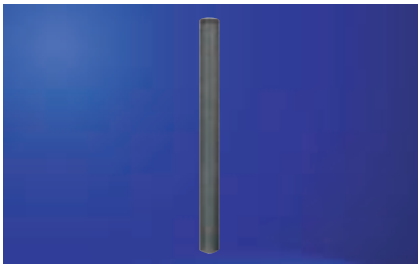
0...100% rel. h.
 ± 3 % rel. h.
1% rel. h.
 \varnothing 100 mm
- 60 ... + 70°C (H)
0 ... + 70°C (K)

Flange
Stem
Mounting thread
Weight

\varnothing 120 mm
 \varnothing 16 mm
R 1/2"
approx. 0,45 kg

Wind Protection Device

Consists of a protective gauze and a wind shield. Is put onto the shaft of the in-stream type hygrometer and protects the measuring element from coarse dust and error measurements in case of wind velocities > 3 m/s.



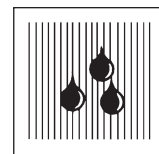
1.0509.85.001
.002

Immersion depth

100 mm
250 mm

Mesh aperture
Material
Diameter
Total length
Weight

0,32 mm for Gaze
stainless steel
18 mm
200 mm
0,022 kg



Model Brief
Description

Order No.

Technical Data

Psychrometers

Aspiration Psychrometer Model Assmann

Portable, handy, sturdy standard instrument for psychrometric humidity measurements. Used as a control instrument for humidity measuring instruments. The thermometers acc. to DIN 58661 can be calibrated. The thermometer capillary has a blue background and a clearly printed scale. The instrument is equipped with a moistening device and a psychrometer-table. Supplied in a case.

1.0400.00.010	Measuring range	- 10 ... + 60 °C
	Accuracy	± 0,2 K (thermometer)
	Graduation	0,2°C
	Aspirator	spring-wound drive
	Measuring time	approx. 8 min (4 ... 2 m/s)
Dimension	Ø 90 x 420 mm	
Weight	3,5 kg	

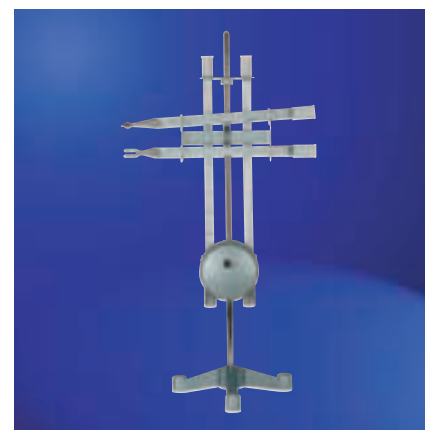


Standard Psychrometer Model August

Standard instrument for use in weather huts and thermometer huts. The instrument consists of the following:

- 2 Psychrometric thermometers acc. to DIN 58660
- 1 Maximum thermometer acc. to DIN 58654
- 1 Minimum thermometer acc. to DIN 58653
- 1 Aspirator with spring-wound drive
- 1 Psychrometer table
- 1 Moistening device as well as a foot with stand and holder.

1.0444.10.002	Type of thermometer	Psychrometer	Measuring range	- 30 ... + 50°C (± 0,2 K)
	Max.-Thermometer			- 30 ... + 50°C (± 0,2 K)
	Min.-Thermometer			- 40 ... + 40°C (± 0,3 K)
	Graduation			0,2°C / 0,5°C
	Total height			550 mm
	Weight			2,6 kg



Sling Psychrometer

Simple, sturdy measuring instrument. The air ventilation required is attained by rotary centrifugal movement. The instrument is supplied with the required moistening device along with a psychrometric table.

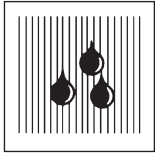
1.0450.00.010	Measuring range	- 10 ... + 60 °C
	Accuracy	± 0,2 K
	Graduation	0,2°C
	Dimension	305 x 60 x 22 mm
	Weight	0,42 kg



Instrument Case

Black synthetic material case, lined with foam material for the above instrument including accessories.

1.0452.10.000	Colour	black
	Dimension	350 x 230 x 70 mm
	Weight	0,25 kg



Humidity

- 7 -

Model Brief
Description

Order No.

Technical Data

Tensiometers, Tensio Transmitters



Tensiometer Model Czeratzki

Indicating instrument to determine the saturation potential of the soil. Employed to determine the water requirements of plants.

1.0226.17.000

Measuring range	0 ... -1 bar
Scale graduation	0,02 bar
Class	1,6
Ambient temp.	0 ... + 50°C
Tube length	500 mm
Protection	IP 65
Total length	680 mm
Weight	0,4 kg

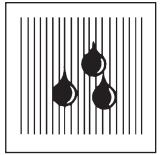


Tensio Transmitter

Electrical instrument for the continuous measurement of the saturation potential of the soil which results from the pressure balance between tensiometer liquid and the ambient soil by means of a diaphragm (ceramic cell). A pressure sensor measures the pressure of the water tension in the soil.

1.0226.51.073

Measuring range	0 ... - 85 kPa
Electr. output	0 ... 5 V DC
Non-linearity	< 0,5 %/K
Response time	< 3 s
Ambient temp.	0 ... + 40°C
Operating voltage	12 ... 24 V DC / 0,5 VA
Tube length	600 mm
Protection	IP 65
Cable	5 m long
Weight	0,45 kg



Model Brief
Description

Order No.

Technical Data

Recording Instruments

Hygrograph

To measure and record the ambient humidity. The measurement results are recorded on a strip chart which is situated on a drum clockwork with a manual winding mechanism acc. to DIN 8300 and DIN 58658 or a Quartz clockwork (1 / 7 / 31 days). Equipment includes a set of recording charts and fibre recording pens.

Accessories

Felt pen

Recording charts

(100 pcs.)

Console

To attach the hygrograph to a wall.

1.0610.xx.xxx
1.0614.xx.xxx
1.0615.xx.xxx

.10.
.12.
.000
.900

500847

205079
205077
205082
205083
205080
205078

1.0598.10.000

Recording time
1 day / 7 days
14 days / 31 days
1 / 7 / 31 days
Meas. range
10 ... 100% rel.h.
0 ... 100% rel.h.
non lockable
lockable
Scale range
Accuracy

Recording width
Graduation
Ambient temp.

Dimension
Weight
Colour

Meas. element
H
H
H
H
K
K

Thrust
11,45 mm/h , 40 mm/day
20 mm/day , 9 mm/day
s. above
Measuring element
H (- 35 ... + 70 °C)
K (0 ... + 80 °C)

0 ... 100% rel. h.
± 2 % rel. h. (H)
± 3 % rel. h. (K)
82 mm
5 % rel. h.
-35 ... +80 °C
(spring-wound clockwork)
-20...+60 °C (quartz clockwork)

280 x 140 x 214 mm

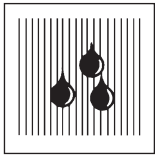
2,2 kg

violet

Recording
1 day
7 days
14 days
31 days
1 day
7 days

Varnished aluminium
280 x 140 mm
0,8 kg





Humidity

- 9 -

Model Brief
Description

Order No.

Technical Data

Control Instruments



Room Hygrostat

Moisture control instrument for humidifier and dehumidifier. The desired value can be set by means of a rotary knob.

1.0509.xx.000
.40.
.42.

Meas. element	H K
Control range	30 ... 90 % rel. h.
Switch difference	± 3% rel. h.
Contact	1 change over
Contact load	250 V AC / 15 A 24 V DC / 2 A
Dimension	130 x 65 x 33 mm
Weight	0,22 kg



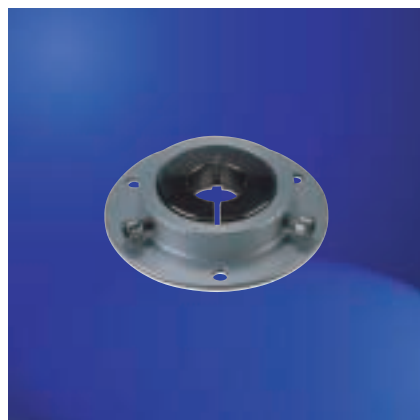
Hygrostat

(for use in ducts)

Moisture control instrument for humidifier and dehumidifier. The instrument is mounted to the wall of a duct. The immersion stem protrudes through this wall into the measuring space. The model with 2 switches is equipped with an adjustable switch differential of 5 ... 25% rel. h.

1.0509.xx.000
.60.
.70.

Type of contact	1 change over double change over
Control range	30 ... 90 % rel. h.
Switch difference	± 3 % rel. h.
Measuring element	K
Stem	Ø 16 mm
Stem length	270 mm
Contact load	max. 250 V AC max. 10 A max. 1000 VA
Dimension	134 x 67 x 70 mm
Weight	0,6 kg



Mounting Flange

To mount duct hygrostats 1.0509.60 / 70. The flange clamps the hygrostat to the stem and allows a variable immersion depth.

1.0509.80.000

Material	Al, Brass
Weight	0,1 kg

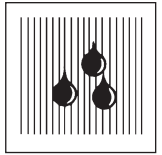
Wind Protection

(not depicted)

A device to protect the humidity measuring element from coarse dust (> 0,32 mm) and error measurements in case of wind velocities > 3 m/s.. Suitable for above duct hygrostat.

1.0509.85.002

Diameter	18 mm
Length	200 mm
Mesh aperture	0,32 mm
Material	Niro, Brass
Weight	0,022 kg



Model Brief
Description

Order No.

Technical Data

Electrical Transmitters

Hygro-Transmitter

Measures and indicates humidity. Equipped with electrical output for long-range transmission. Sturdy construction. The exposed parts such as the case head and the immersion stem are made of stainless steel.

1.1000.50.xxx .015 .515	Electr. output	Connecting
	200 Ω linear	Lemosia plug
	200 Ω linear	3 m cable
	Measuring range	10 ... 100 % rel. h.
	Accuracy	± 2 % rel. h.
	Ambient temp.	- 35 ... + 70°C
	Scale graduation	1% rel. h. , non-linear
	Measuring element	H
	Scale length	94 mm (90°)
	Stem	Ø 22 mm
	Stem length	250 mm
	Protection	IP 65, case
	Total length	350 mm
	Weight	0,45 kg



Wind Protection

Gauze- and wind protection protects the humidity measuring element from coarse dust (> 0,32 mm) and error measurements in case of wind velocities > 3 m/s. Suitable for above hygro transmitter.

1.0509.85.006	Diameter	24 mm
	Length	200 mm
	Mesh aperture	0,32 mm
	Material	Niro, Brass
	Weight	0,022 kg



Weather and Thermal Radiation Shield

Protective covering for the preceding hygro-transmitters out-of-doors. Helps to prevent atmospheric influences and radiation errors from influencing the measured results.

1.1025.51.000	Installation pin	Ø 22 x 27 mm
	Material	Al, galvanised and varnished
	Dimension	Ø 170 x 450 mm
	Weight	2,5 kg

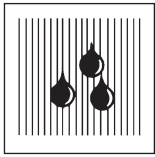


Psychro-Transmitters

Measuring instrument to determine the air humidity values based on the dry and moist temperature. An attached water container provides for the moistening of the psychro sensor. The double-walled protection tubes protect the sensor from radiation.

1.1130.xx.000 .20.	Operating voltage	12 V AC / 6 VA
		24 V AC / 11 VA
		24 V DC / 8 W
.22.	Operating voltage	12 V DC
	Measuring range	0 ... + 60 °C
	Measuring elements	2 x Pt 100, acc to. IEC 751
	Accuracy	(± 0,15 K); class A
	Time constant	17 s (90 %)
	Air stream	4 ... 6 m/s
	Water container	250 ml
	Electr. connection	4-lead circuit
	Connection	4 pole plug
	Dimension	Ø 160 x 465 mm
	Weight	3,7 kg





Humidity

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Model Brief
Description

Order No.

Technical Data

Leaf Wetness

Leaf Wetness Transmitter

Model Dr. Weihofen

Instrument to be connected to the THIES-datalogger. The leaf wetness is determined by means of the electrical conductivity of natural substances. The wetness period is shown as leading value with the information "dry" or "wet". Each instrument has its separate scaling parameter, which is already integrated in the software program of the THIES-dataloggers.



1.0225.00.xxx
.000
.001

Meas. element
Hemp
Cotton

Application
Potatoes, Rapeseeds, Trees
Grain

Measuring range
Resolution
Leaf wetness

0 ... 100 %
10 %-points
< 20 % "dry"
> 80 % "wet"
LiYCY 2 x 0,5 mm²
100 x 50 x 50 mm
0,7 kg

Cable 20 m
Dimension
Weight

Preamplifier

The instrument serves to convert the small measuring value signals of the Leaf Wetness Transmitter into a standardized signal, which can be transmitted also over a long distance afterwards.



1.1415.00.100

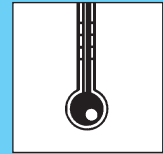
Electrical input
Electrical output
Ambient temp.
Operating voltage
Protection
Cable 3 m
Dimension
Weight

Resistor
0 - 5 V (0 - 100 %)
- 30 - + 50 °C
6 - 18 V DC
IP 65
LiYCY 3 x 0,25 mm²
58 x 35 x 64 mm
0,18 kg



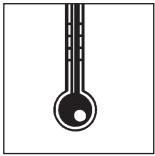
Temperature measurements are fundamentally important in the different fields of science, industry and environmental technique. The legal requirements e.g. for the storing of food, get constantly stricter, and meanwhile lay down also official controls of climatic data. Our instruments with calibration certificate meet these requirements. Reliable measurements and documentation of extreme temperature ranges and temperature fluctuations as well as high-precise measurements are problem-free possible with the different instrument components. Exactly acquired and recorded temperature values form the basis for effective energy optimising and energy saving.





Glossary

<i>Bimetallic Measurement Element</i>	A strip composed of two different metals which are welded together. The two different heat expansion coefficients of these metals lead to a temperature-dependent curvature of the welded metal. This curvature respectively deflection is a measure of the temperature.	
<i>Extreme Thermometer</i>	Combination of a min.- and a max. thermometer to measure the current, the lowest and the highest temperature of the preceding measurement period.	
<i>Max.-Thermometer</i>	Mercury thermometer to measure the current temperature and the highest temperature of the preceding measurement period. When the temperature drops, the highest temperature reached is indicated by a mark.	
<i>Min.-Thermometer</i>	Alcohol thermometer to measure the current temperature and the lowest temperature of the preceding measurement period. A dark pin in the alcohol thread is pushed back by the surface tension of the alcohol and remains stationary when the temperature increases. The thermometer is used in a horizontal position.	
<i>Perceived Temperatur</i>	The ambient temperature as perceived by the human body by the wind and calculated from the windchill factor.	
<i>Pt 100 Resistance Thermometer</i>	The temperature-dependent change in resistance of a measurement coil made of platinum is used as a measure of temperature. 100 Ω for 0 °C is usually taken as the basic value (Pt 100). The standardized resistance values as a function of time are found in IEC 751.	
<i>Soil Thermometer</i>	Measurement instrument to measure the air temperature in soil at different depths.	
<i>Soil Surface Thermometer</i>	Measurement instrument to measure the temperature above the soil, preferably at a height of 5 cm. The German Weather Service uses sensors without radiation protection only to measure the minimum temperature.	
<i>Temperature Transmitter</i>	Electrical temperature measurement instrument with an electrical measured value output.	
<i>Thermograph</i>	Measurement instrument which mechanically records the temperature as a function of time.	
<i>Thermometer</i>	General term for a temperature measurement instrument.	
<i>Windchill</i>	The loss of heat by the human body [W/m ²] through the wind. The „perceived temperature“ is derived from this factor.	
<i>Units</i>	<p>Kelvin [K] Used since 1976 as the legal unit of temperature. It starts at -273.15 °C</p> <p>Celsius [°C] Common temperature degree scale in which the melting point of ice is 0°C and the boiling point of water is 100 °C on a thermometer at an air pressure of 1013.2 mbar.</p> <p>Fahrenheit [°F] Temperature scale frequently used in Anglo-Saxon countries. On this scale, the melting point of ice is 32 °F</p> <p>Conversions °C = K -273,15 K K = °C +273,15 °C</p> <p> °C = $\frac{5}{9}$ (°F -32) °F = 32 + $\frac{9}{5}$ °C</p>	



Temperature

- 14 -

Model Brief
Description

Order No.

Technical Data

Thermometers

Maximum Thermometer

A mercury glass thermometer, can be calibrated. Employed to determine the highest air temperature.

Minimum Thermometer

A alcohol glass thermometer, can be calibrated. Employed to determine the lowest air temperature.

Standard Thermometer

A mercury glass thermometer, can be calibrated. Designed for measuring the current ambient temperature. Also used as a spare thermometer for psychrometers Model August.

Soil Thermometer

A mercury glass thermometer, can be calibrated. Designed for measuring the soil temperature. Supplied with a holder. The immersion depth governs the depth of the measuring point in the soil.

Soil Depth Thermometer

Consists of a mercury glass thermometer with a holder and a plastic guide tube. The immersion depth governs the depth of the measuring point in the soil.

Soil Borer not depicted

To pre-bore holes for the soil depth thermometer as described in the preceding.

2.0445.00.002	Measuring range	- 30 ... + 50 °C
	Accuracy	± 0,2 K
	Graduation	0,5 °C
	Type	acc. with DIN 58654
	Dimension	Ø 19 x 300 mm
	Weight	0,075 kg

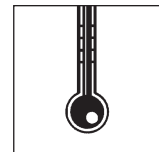
2.0446.00.001	Measuring range	- 40 ... + 40 °C
	Accuracy	± 0,3 K
	Graduation	0,5 K
	Type	acc. with DIN 58653
	Dimension	Ø 19 x 300 mm
	Weight	0,06 kg

2.0447.00.001 .002	Measuring range	- 40 ... + 40 °C - 30 ... + 50 °C
	Accuracy	± 0,2 K
	Graduation	0,2 °C
	Model	acc. with DIN 58660
	Dimension	Ø 16 x 370 mm
	Weight	0,06 kg

2.2110.02.003	Meas. range	- 25 - + 60 °C	Immersion depth	20 mm
.03.003	- 25 - + 60 °C		30 mm	
.06.004	- 25 - + 45 °C		60 mm	
.11.006	- 22 - + 40 °C		110 mm	
.16.008	- 15 - + 40 °C		160 mm	
.21.009	- 15 - + 35 °C		210 mm	
.31.009	- 15 - + 35 °C		310 mm	
	Accuracy	± 0,4 K (< 0°C)		
		± 0,2 K (0 - 50 °C)		
		± 0,3 K (> + 50 °C)		
	Graduation	0,2 °C		
	Type	acc. with DIN 58655		
	Bending	150°		
	Weight	ca. 0,95 kg		

2.2115.03.013	Immersion depth	500 mm
2.2116.03.013	Immersion depth	1000 mm
	Measuring range	- 10 ... + 30 °C
	Accuracy	± 0,3 K (- 10 ... - 5°C)
		± 0,15 K (- 5 ... - 30°C)
	Graduation	0,1 °C
	Type	acc. with DIN 58664
	Guide tube	Ø 40 mm
	Weight	0,9 kg resp. 1,4 kg

2.2118.03.000	Bore diameter	approx. 40 mm
	Depth of bore	max. 1 m
	Total length	ca. 1,1 m
	Weight	1,2 kg



Model Brief
Description

Order No.

Technical Data

Extreme Thermometer for use in Soil

Consists of a mercury glass thermometer with a bent immersion stem, determines the lowest and highest temperature of the soil. The immersion depth governs the depth of the measuring point in the soil.

Thermometer Stand

not depicted

Holds the extreme thermometer for use in soil, described in the preceding.

Extreme Thermometer

Determines the lowest and highest ambient temperature. Consists of a maximum thermometer and a minimum thermometer with stand.

Max.- and Min.- Thermometer

Model Six

Thermometer determines the current temperature as well as the lowest and the highest temperatures of the measuring period.

There is a magnet included in the delivery to set back the markers for extreme value identification. Instrument is installed onto a plane wall.

Max.- and Min.- Thermometer

Thermometer determines the current temperature as well as the lowest and the highest temperatures of the measuring period.

There is an adjustment knob to set back the marker threads for extreme value identification.

2.2121.xx.002
2.2122.xx.002
.02.
.05.
.10.
.20.

Type
Immersion length
Measuring range
Accuracy
Graduation
Bending
Weight

Min.-Thermometer
Max.-Thermometer
20 mm
50 mm
100 mm
200 mm
- 25 ... + 50 °C
± 0,4 K / ± 0,3 K
0,2 °C
95°
0,12 kg

2.2123.00.000

Material
Dimension
Weight

Stainless steel
340 x 320 x 20 mm
0,7 kg

2.2135.00.000

Techn. data
Total height
Weight

see instrument no.:
2.0445.00.002 and
2.0446.00.001 (page 14)
320 mm
1,5 kg

2.2000.00.002
2.2002.00.002

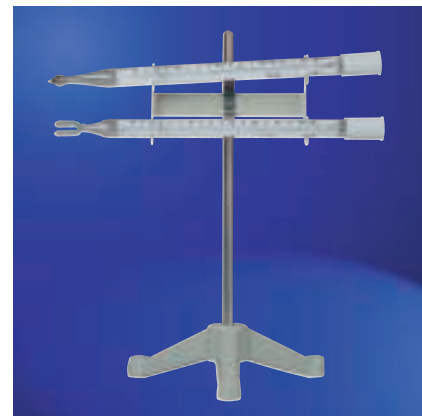
Model
Measuring range
Graduation
Fluid
Instrument colour
Dimension
Weight

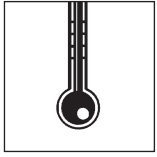
Glass base plate
Sheet metal case
- 30 ... + 50°C
1 °C
Mercury
white
200 x 55 x 10 mm , resp.
240 x 60 x 35 mm
0,15 kg , resp. 0,2 kg

2.2004.00.079

Measuring range
Graduation
Fluid
Material of case
Length of scale
Dimension
Weight

- 38 ... + 50°C
1 °C
Mercury
white synthetic
110 mm
220 x 66 x 35 mm
0,17 kg





Temperature

- 16 -



Model Brief
Description

Water Thermometer

Thermometer determines the water temperature.

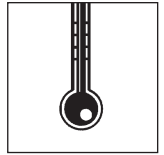
A glass mercury thermometer in a metal tube with a large perforated water container.

Order No.

2.2141.00.064

Technical Data

Measuring range	- 5 ... + 40 °C
Accuracy	± 0,2 K
Graduation	0,5 °C
Fluid	Mercury
Container	Brass, nickel plated
Dimension	Ø 28 x 300 mm
Weight	0,4 kg



Model Brief
Description

Order No.

Technical Data

Recording Instruments

Thermograph

Measures and registers the ambient temperature. The results are recorded on a strip which is put on a drum clockwork mechanism with hand winding acc. to DIN 8300 and DIN 58658 or Quartz clockwork (1 / 7 / 31 days).
A set of recording charts and fibre pens is included in the shipment.

2.0600.10.xxx	Recording time	1 day / 7 days
2.0604.10.xxx	Recording time	14 days / 31 days
2.0605.10.xxx	Recording time	1 / 7 / 31 days
.0xx		non-lockable
.9xx		lockable
.x00	Meas. range	- 35 ... + 45°C
.x05	Meas. range	- 20 ... + 60°C
.x11	Meas. range	- 10 ... + 50°C
.x14	Meas. range	0 ... + 40°C
.x17	Meas. range	0 ... + 80°C

Thrust
11,45 mm/h, 40 mm/day
20 mm/day , 9 mm/day
see preceding

Graduation
1 °C
1 °C
1 °C
0,5 °C
1 °C

Accuracy ± 1 % of mr.
Measuring element Bimetal
Recording width 82 mm
Dimension 280 x 138 x 214 mm
Weight 2,2 kg

Console

Instrument for wall mounting of the thermograph described in the preceding .

1.0598.10.000	Material	Aluminium, varnished
	Surface	280 x 140 mm
	Weight	0,8 kg



Thermograph

(official calibration certification on request)

To measure and record the ambient temperature. The results are recorded on a recording chart. Similar to thermographs 2.0600... but with additional liquid thermometer, a closed measuring area and a lockable case. Certificate of calibration license under no. 14.53.

2.0600.50.000	Measuring range	- 35 ... + 45°C
	Recording time	1 day / 7 days
	Thrust	11,45 mm/hour resp. 40 mm/day
	Accuracy	± 1 % of mr.
	Graduation	1 °C
	Measuring element	Bimetal
	Recording width	82 mm
	Dimension	280 x 138 x 190 mm
	Weight	2,8 kg



Accessories

Felt pen

500847	Colour	violet
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Recording charts

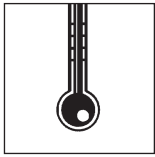
(100 pcs.)
For Thermograph

temp. range	1 day	7 days	14 days	31 days
-35 ... +45 °C	205060	205046	205063	205069
-20 ... +60 °C	205050	205036		205075
-10 ... +50 °C	205052	205038		205068
0 ... +40 °C	205054	205040	205064	205076
0 ... +80 °C	205057	205043		

Recording charts

(100 pcs.)
For Thermograph 2.0600.50.000

205174	Recording time	1 day
205175	Recording time	7 days
	pieces	100



Temperature

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Model Brief
Description

Order No.

Technical Data

Electronic Hand Instruments



Temperature Measuring Instrument 925

Digital hand measuring instrument to be connected to the following measurement sensors. The instrument is battery-operated. There is a hold key to hold the indicated measured value. The instrument is supplied with a sensor.

2.2925.00.255	Measuring range	- 50 ... + 1000°C
	Resolution	0,1°C (< 200 °C) 1 °C (> 200 °C)
	Accuracy	± 1K resp. ±0,5 % of mv at range - 40 ... + 900 °C Rest: ±2K resp. ±1% of mv.
	Display	LCD, 14 mm high
	Switching	°C / °F, hold-function
	Ambient temp.	0 ... + 50°C
	Operating voltage	9 V Battery
	Operating period	> 150 h
	Case	synthetic
	Dimension	190 x 57 x 42 mm
	Weight	0,3 kg incl. Battery



Temperature Measuring Instrument 935

Digital hand measurement instrument for two temperature values. Two of each of the following measurement sensors can be connected. A hold key on the instruments holds the indicated measured value, a second key displays the individual resp. the difference between the measured values of the two sensors. A third key activates an infrared interface over which the measured values can be transmitted to a printer and printed out. The instrument is battery-operated. The instrument is supplied without sensors (see sensors page 19).

2.2935.00.350	Measuring range	- 50 ... + 1000°C, see sensor type
	Resolution	0,1°C (< 200 °C) 1 °C (> 200 °C)
	Accuracy	see sensors
	Display	LCD, 2-lines 14 mm high
	Operating temp.	0 ... + 50°C
	Operating voltage	9 V Battery
	Operating period	> 150 h
	Case	synthetic
	Dimension	190 x 57 x 42 mm
	Weight	0,3 kg incl. Battery

Certificate 925/935

Test certificate for temperature measurement instruments type 925 or 935.

2.2925.35.001	ISO - Certificate
2.2925.35.071	ISO - Certificate
2.2925.35.211	DKD- Certificate



Infrared-Printer 635/935

Battery-operated printer which receives the measured values from the preceding measurement instrument over an infrared interface and prints them out on thermopaper.

1.8639.00.345	Print	2 temp. values, difference of temperature values, Date, Time
	Type of paper	thermopaper, roll
	Operating voltage	4 Mignon-Batteries
	Weight	0,5 kg

Printing Charts, 1 roll

Spare charts for infrared printer, described in the preceding.

1.8342.00.000	
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Model Brief
Description

Order No.

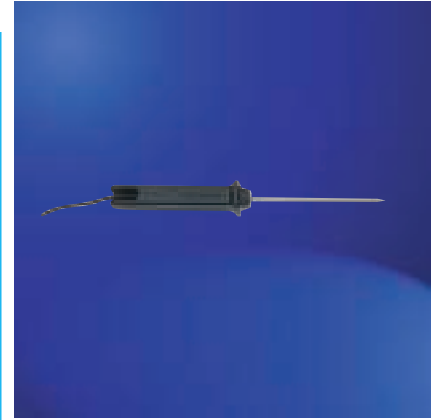
Technical Data

Sensors for Temperature Measuring Instruments 925/935

Temperature Insertion Sensor

Sturdy, waterproof stainless steel food sensor for connection to the preceding measurement instruments.

2.8635.00.292	Measuring range	- 60 ... + 400 °C
	Accuracy	± 2,5 K
	Sensor type	NiCr-Ni
	Response time (99)	10 s
	Protection	IP 65
	Cable	1,2 m long
	Dimension	point, Ø 4 x 125 mm
	Weight	0,3 kg



Temperature Surface Sensor

Ultrafast and precise measurement sensor, also suitable for non-planar surface measurements. The measurement tip consists of a flexible thermo-element strip.

2.8639.00.392	Measuring range	- 60 ... + 300 °C
	Accuracy	± 2,5 K
	Sensor type	NiCr-Ni
	Response time (99)	< 3 s
	Cable	1,2 m long
	Dimension	point, Ø 10 x 150 mm
	Weight	0,3 kg



Temperature Tonged Sensor

A tonged measurement sensor for measurements on pipes up to a diameter of 1". To take measurements, simply clamp the tongs onto the pipe.

2.8639.00.692	Measuring range	- 50 ... + 100°C
	Accuracy	± 2,5 K
	Sensor type	NiCr-Ni
	Response time (99)	5 s
	Cable	1,2 m long
	Dimension	60 x 110 mm
	Weight	0,3 kg



Temperature Surface Sensor

Sturdy, waterproof measurement sensor with a broad measurement tip for plane surfaces.

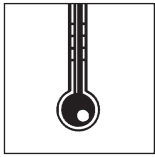
2.8639.00.992	Measuring range	- 60 ... + 400°C
	Accuracy	± 2,5 K
	Sensor type	NiCr-Ni
	Response time (99)	< 30 s
	Cable	1,2 m long
	Dimension	Ø 4 x 70 mm
	Sensor surface	Ø 10 mm
	Weight	0,3 kg



Temperature Air Sensor

Sturdy measurement sensor. The sensor is situated in a well-ventilated protective tube at the tip of the element.

2.8639.00.792	Measuring range	- 60 ... + 400°C
	Accuracy	± 2,5 K
	Sensor type	NiCr-Ni
	Response time (99)	40 s
	Cable	1,2 m long
	Dimension	point, Ø 4 x 110 mm
	Weight	0,3 kg



Temperature

- 20 -

Model Brief
Description

Order No.

Technical Data

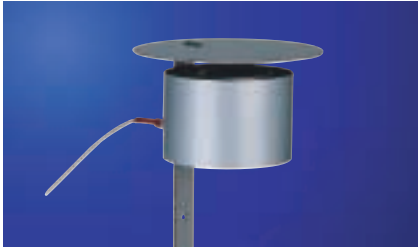
Electrical Transmitters



Temperature Transmitter Water Temperature Transmitter

The measuring element is protected by a waterproof and stainless steel tube, it has a PVC cable resp. a Teflon cable.

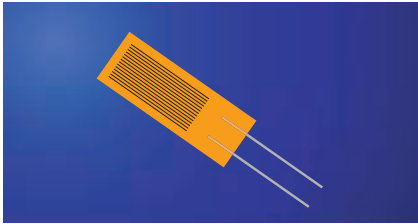
2.1235.00.xxx	Measuring range	- 30 ... + 100 °C (± 0,1 K)
2.1235.01.xxx	Measuring range	- 50 ... + 200°C (± 0,1 K)
.000	Cable length	5 m
.010	Cable length	10 m
.020	Cable length	20 m
	Measuring element	Pt 100 acc. to IEC 751
	Accuracy	1/3 class B (0,1°C at 0°C)
	Electr. connection	4-lead circuit
	Cable	LIYCY 4 x 0,25 mm ²
	Sensor dimension	Ø 6 x 70 mm
	Weight	0,3 kg; 0,6 kg; 1,2 kg



Soil Surface Temperature Transmitter

Instrument measures the temperature above the surface of the soil. The temperature sensor is protected by a well-ventilated double-walled tube with roofing plate. The instrument is inserted into the soil.

2.1241.00.000	Measuring range	- 30 ... + 50°C
	Measuring element	Pt 100 acc. to IEC 751
	Accuracy	± 0,1 K; 1/3 class B
	Electr. connection	4-lead circuit
	Cable	5 m , LIYCY 4 x 0,25 mm ²
	Protective shield	double tube , varnished
	Dimension	Ø 177 x 100 mm
	Weight	1 kg



Surface Resistance Thermometer

A foil temperature transmitter to measure temperatures on plane and curved surfaces.

The platinum measuring coil is embedded between two 0.5 mm thick polyamide (Kapton) foils.

2.1252.00.000	Measuring range	- 80 ... + 180°C
	Measuring element	Pt 100 acc. to IEC 751
	Accuracy	± 0,5 K
	Dimension	50 x 21 x 0,2 mm
	Weight	2 g



Air Temperature Transmitter with Thermal Radiation Shield

The instrument is designed to measure the temperature out-of-doors precisely. It has a specially constructed well-ventilated thermal radiation shield made of an anodized aluminium.

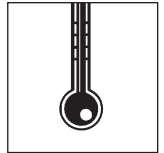
2.1260.00.000	Measuring range	- 30 ... + 50°C
	Measuring element	Pt 100 acc. to IEC 751
	Accuracy	± 0,1 K; 1/3 class B
	Electr. connection	4-lead circuit
	Connection	4-pole clamp
	Dimension	Ø 120 x 400 mm
	Weight	0,8 kg



Ventilated Air Temperature Transmitter

This instrument is designed to measure the precise air temperature with the air of a ventilated sensor. The sensor is protected by a double thermal radiation shield. A built-in ventilator provides for the necessary air flow.

2.1265.xx.000	Operating voltage	12 V AC/ 6 VA or 24 V AC/ 11 VA or 24 V DC/ 8 W
.20.	Operating voltage	12 V DC/ 4 W
.22.	Operating voltage	12 V DC/ 4 W
	Measuring element	Pt 100 acc. to IEC 751
	Accuracy	± 0,15 K; class A
	Ventilation	6 m/s
	Electr. connection	4-lead circuit
	Connection	plug
	Dimension	Ø 160 x 435 mm
	Weight	3,5 kg



Model Brief
Description

Order No.

Technical Data

Temperature-Sensor compact

Electrical measured value receiver to measure the ambient temperature. The measured value is emitted as a resistance value in accordance with IEC 751 resp. as an analogue voltage or current signal.

Protective Basket with Gauze (not depicted)

This hood is placed over the sensor and protects the measurement element from coarse dirt.

Protective Basket made of metal (not depicted)

This basket is placed over the sensor and protects the measurement element from high wind speed (> 5 m/s) and increased dust. A necessity for sensors in use in exposed areas, eg., in marine climates.

Weather and Radiation Protection Case, compact

Protective case for the preceding temperature sensor compact for installation out-of-doors. This case essentially eliminates the influence of weather and radiation errors which affect the measurement result.

2.1280.00.xxx .000 .141 .161	Electr. output Pt 100 (IEC 751) 4 ... 20 mA 0 ... 10 V Measuring range Time constant Ambient temp. Operating voltage I-output U-output (10 V) Int. power consump. Cable Dimension Weight	Accuracy ± 0,1 K; 1/3 class B ± 0,3 K ± 0,2 K - 30 ... + 70 °C 20 s (90 %) - 40 ... + 80 °C 12 - 30 V DC 24 V DC ± 10 % approx. 5 mA (10 V) 5 m long Ø 20 x 138 mm 0,35 kg
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1.1005.54.901

1.1005.54.902

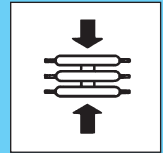
1.1025.55.00x .10x .xx0 .xx1	without Ventilator with Ventilator Clamping Material Mounting Cable Dimension Weight	12 V DC; 2,5 W Ø 35 ... 50 mm Ø 55 ... 60 mm syn. laminations, white non-corroding holder 5 m, for model ...10x Ø 120 x 270/290 mm 0,75 kg
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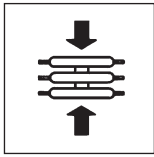
The acquisition and recording of air pressure differences and areas of low and high pressure are the main tasks of the meteorology for precise weather forecasting. But also in the field of laboratorial and environmental technique the exact determination of air pressure is very important. The THIES instruments configuration with their varied forms of calculation and representation guarantee a high precision measurement according to requirements.





Glossary

<i>Absolute</i>	The absolute barometric air pressure prevailing on the measurement instrument. It includes, in some cases, temperature and gravitational corrections.
<i>Aneroid capsule</i>	Barometric sensor consisting of evacuated (exhausted) capsules. Changes in the atmospheric pressure are reflected in corresponding changes in the geometrical dimensions of the capsules.
<i>Barograph</i>	A measurement instrument which mechanically records the barometric air pressure as a function of time.
<i>Barotransmitter</i>	General term for a barometric measurement instrument with electrical measured value output.
<i>Barometer</i>	General term for a measurement instrument for measuring atmospheric pressure.
<i>Barometric Unit of Pressure</i>	Pascal [Pa] = Newton per square meter [N/m ²] 1 hPa = 1 mbar ; 1 bar = 10 ⁵ Pa
<i>Bourdon Tube</i>	Curved tube with an oval cross section, one end of which is closed. When the pressure inside the tube changes, the radius of curvature of the metal tube changes too. This change is a measure of pressure. The Bourdon tube measuring element is used for the non-barometric measurement of higher air pressures (pressing effect).
<i>Elevation Equation</i>	Mathematical reduction of the barometric air pressure to a reference elevation, usually to sea level (QFF). Example: :pressure drops by approx. 1 hPa per 8 meters of elevation.
<i>Standard pressure</i>	The barometric standard pressure (1013,25 hPa) as defined in the German Industrial Standard DIN ISO 2533 which is taken as the base value for the terms high pressure or low pressure.
<i>Station elevation</i>	The site elevation of the measurement station in which the barometer is installed over sea level.
<i>QFF</i>	Common term used in aviation for barometric air pressure reduced to sea level (0 m). It also serves as the common basis for the comparative barometric air pressure between different weather stations with different station elevations and is the basis for the representation of isobars in weather maps.
<i>QFE</i>	The air pressure reduced to the runway of an airport.
<i>QNH</i>	Common term in aviation for the barometric pressure which has to be entered into an altimeter as the initial value so that the altimeter indicates height above sea level.



Pressure

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Model Brief
Description

Order No.

Technical Data

Aneroid Barometers

Barometer

Indicating instrument with an inner frame of polished brass and an outer frame of polished brown wood.

3.1503.00.000	Measuring range	960 ... 1070 hPa 720 ... 800 Torr
	Graduation	1 hPa ; 1 Torr
	Accuracy	± 3 % of mr.
	Above sea level	0 - 1000 m
	Meas. element	Aneroid capsule
	Scale	Ø 115 mm
	Dimension	Ø 180 x 45 mm
	Weight	0,56 kg

Barometer

Indicating instrument with a mounting flange for wall mounting. Light grey varnished.

3.1509.00.000	Measuring range	935 ... 1065 hPa 700 ... 800 Torr
	Graduation	1 hPa ; 1 Torr
	Accuracy	± 2 hPa at 980-1030 hPa
	Above sea level	0 - 1000 m
	Meas. element	Aneroid capsule
	Scale	Ø 100 mm
	Dimension	Ø 120 x 45 mm
	Weight	0,3 kg



Precision Barometer

A very accurate instrument. Test certificate enclosed. Supplied in a leather case.

3.1530.00.000	Measuring range	920 ... 1050 hPa - 6 ... + 46 °C
	Graduation	0,5 hPa ; 1 °C
	Accuracy	± 1 % of m.r.
	Above sea level	0 - 500 m
	Meas. element	Aneroid capsule Temperature compensated
	Scale	Ø 115 mm
	Dimension	Ø 150 x 75 mm
	Weight	0,72 kg



Mercury Barometers

Mercury Station Barometer

An instrument designed to measure and test atmospheric air pressure in meteorological stations, laboratories etc. The instrument is equipped with an additional thermometer.

Delivery in a wooden transport box

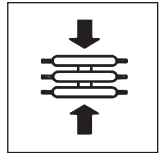
3.1550.17.000 .001	Measuring range	800 ... 1080 hPa 560 ... 1030 hPa
	Graduation	0,1 hPa , vernier scale
	Accuracy	± 0,3 hPa
	Temp. meas. range	- 15 ... + 50 °C
	Dimension	Ø 65 x 940 mm
	Weight	4,8 kg

Mounting Board

For vertical installation of the mercury station barometer.

3.1552.00.000 .001	For meas. range	800 ... 1080 hPa 560 ... 1030 hPa
	Dimension	1000 x 115 x 13 mm
	Weight	2 kg





Model Brief
Description

Order No.

Technical Data

Recording Instruments

Barograph

This instrument is used to measure and record the atmospheric air pressure. The recording is carried out by means of a hand wound clock work drum mechanism acc. to DIN 8300 and DIN 58658 (3.0800... ; 3.0804...) or with a Quartz clock work (3.0815...).

The on-site elevation can be set by means of an adjusting screw. Delivery includes a set of recording charts(100 sheets).

Accessories

Felt pen

Recording Charts

(100 pcs.)

3.0800.10.xxx	Recording time	1 / 7 days
3.0804.10.xxx	Recording time	14 / 31 days
3.0805.10.xxx	Recording time	1 / 7 / 31 days
.000		non lockable
.900		lockable

Thrust	11,45 mm/h; 40 mm/d
	20 resp. 9 mm/day
	see preceding

Measuring range	945 ... 1052 hPa
Graduation	1 hPa
Accuracy	± 0,8 hPa
Above sea level	0 ... 3000 m
Meas. element	Aneroid- capsules
	temperature compensated
Ambient temp.	- 10 ... + 45 °C
Recording width	82 mm
Dimension	280 x 138 x 214 mm
Weight	2,3 kg



Micro Barograph

A precision measuring and recording instrument to determine the atmospheric pressure. Elevation above the sea level can be set at the measuring site on a setting knob. The recording is carried out by means of a hand wound clockwork drum mechanism acc. to DIN 8300 and DIN 58658.

Accessories

Felt pen

Recording Charts

(100 pcs.)

3.0810.20.000	Recording time	1 / 7 days, switchable
	Thrust	11,45 mm/h or
		40 mm/day
	Measuring range	965 ... 1050 hPa
	Accuracy	± 0,3 hPa
	Recording width	160 mm
	Graduation	1 hPa
	Above sea level	0 ... 2000 m, adjustable
	Meas. element	2 Aneroid capsules,
		temperature compensated
	Ambient temp.	- 10 ... + 45 °C
	Dimension	280 x 138 x 285 mm
	Weight	3 kg

Colour	violet
Recording time	1 day
	7 days
	14 days
	31 days



Pressure Recorder

For measuring and recording the pressure in a closed systems. A connecting piece (R 1/2") in the base plate serves for a pressure hose. The recording is carried out by means of a hand wound clockwork drum mechanism acc. to DIN 8300. Delivery includes a set of recording charts (100 sheets). Other measuring ranges on request.

Accessories

Felt pen

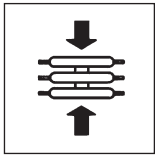
Recording Charts

(100 pcs.)

3.0900.05.000	Measuring range	0 ... 25 bar
	Graduation	0,5 bar
	Accuracy	± 0,25 bar
	Recording time	1 / 7 days, switchable
	Thrust	11,45 mm/h; 40 mm/d
	Meas. element	Bourdon tube
	Recording width	82 mm
	Dimension	280 x 140 x 200 mm
	Weight	2,7 kg

Colour	violet
Recording time	7 days
	1 day





Pressure

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Model Brief
Description

Order No.

Technical Data

Electrical Transmitter

Baro Transmitter

An electrical transmitter which indicates directly the measured values of the atmospheric air pressure. The measured value is indicated and delivered as electrical resistance value.

3.1150.10.015

Measuring range	946 ... 1053 hPa
Graduation	1 hPa
Accuracy	± 1,5 % of mr.
Electr. output	0 ... 200 Ω
Above sea level	max. 3000 m
Meas. element	Aneroid capsules temperature compensated
Ambient temp.	-20 ... +60 °C
Case material	Synthetic
Cable	1 m, LiYCY 5 x 0,5 mm ²
Dimension	122 x 120 x 85 mm
Weight	0,75 kg



Barotransmitter PTB 100 A Barotransmitter PTB 100 B

Barotransmitters measure the barometric ambient pressure and emit the measured value as an electrical voltage value. Owing to its low current consumption, It is particularly suitable for use in combination with data loggers. To be mounted preferably in data logger systems.

3.1158.00.073

Measuring range	800 ... 1060 hPa 600 ... 1060 hPa
-----------------	--------------------------------------

3.1158.10.073

PTB 100 A	
Accuracy (20°C)	± 0,3 hPa
Linearity	± 0,25 hPa
PTB 100 B	
Accuracy (20°C)	± 0,5 hPa
Linearity	± 0,45 hPa
Resolution	0,1 hPa
Hysteresis	± 0,03 hPa
Electr. output	0 ... 5 V DC
Operating voltage	10 - 30 VDC (< 4 mA)
Ambient temp.	- 40 ... + 60 °C
Dimension	59 x 88 x 21 mm
Weight	0,09 kg



Digital Barotransmitter

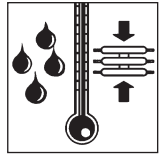
Indicating meas. instrument with analogue output to determine the atmospheric pressure. An aneroid capsule with inductive displacement pickup serves as a sensor. The sensor signal is amplified electronically and displayed on a LC display. The analogue output is available for the connection of electronic recording and control instruments. Behind the front panel is a potentiometer to reduce the measured value to sea level. The instrument is in the form of a switch cabinet for panel installation.

3.1159.00.xxx
.040
.041

Electr. output	0 ... 20 mA 4 ... 20 mA
Measuring range	913,3 ... 1113,3 hPa
Accuracy	± 0,5 hPa (at NN)
Resolution	0,1 hPa
Display	4 1/2-digit LED red
Temp. range	0 ... + 50°C
Above sea level	0 ... 850 m
Operating voltage	230 V / 50 Hz
Dimension	96 x 96 x 125 mm
Weight	0,6 kg



Humidity Temperature Pressure



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Model Brief
Description

Order No.

Technical Data

Indicators

Polymeter

Combined indicating instrument to measure the ambient temperature and rel. humidity and to determine the dew point temperature, saturation pressure, vapour pressure or saturation deficit. The values can be read direct at the scale. The temperature is measured with a mercury thermometer.

1.0101.00.003	Measuring range	
	Temperature	-30 ... +50 °C
	Dew point	-30 ... + 25 °C
	rel. humidity	0 ... 100 % rel. h.
	Saturation deficit	0,5 ... 100 hPa
	Graduation	2 % rel. h.; 1 K
	Humidity sensor	Hair
	Instrument color	anthracite
	Dimension	
	Scale	Ø 84 mm
	(length x high)	250 x 30 mm
	Weight	0,2 kg



Round Hygro-Thermometer

Combined indicating instrument designed to measure the ambient temperature and rel. humidity.

1.0165.00.006 1.0169.00.006	Model	with feet and hook with flange for wall-mounting
	Scale range	0 ... 100% rel. h. -20 ... +40°C
	Measuring element	humidity temperature
	Graduation	1% rel. h./ 1°C
	Dimension	Ø 110 x 34 mm
	Weight	0,3 kg



Hygro-Thermometer

Combined indicating instrument designed to measure the ambient temperature and rel. humidity, as well as the representation of the normal climate acc. to DIN 50014, and of a comfort range

1.0165.42.058 1.0169.42.058	Model	with feet and hook with flange for wall-mounting
	Humidity	
	Measuring range	20 ... 100 % rel. h.
	Graduation	2 % rel. h.
	Accuracy	± 3% rel. h.
	Temperature	
	Measuring range	+ 5 ... + 45°C
	Graduation	1 °C
	Accuracy	± 1 K
	Dimension	Ø 130 resp. 150 x 36 mm
	Weight	0,45 kg

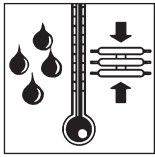


Hygro-Thermometer

A thermometer and a hygrometer are fixed on a joint base plate. Instrument for wall mounting.

1.0170.00.xxx ...006 ...017	Measuring range	-20 ... +40°C 0 ... +80°C 10 ... 100% rel. h.
	Graduation	1% rel. h./1°C
	Scale range	0 ... 100% rel. h.
	Scale	Ø 100 mm
	Model	on a base plate
	Dimension	260 x 138 x 40 mm
	Weight	1,1 kg





Humidity Temperature Pressure

- 28 -

Model Brief
Description

Order No.

Technical Data

Recording Instruments



Hygro-Thermograph

Recording instrument. The housing consists of a plastic-metal combination. The axes are supported by pivot bearing. Two different models are available regarding the drum clock-work drive:

1. Mechanical drum clockwork mechanism with hand winding for the temperature range between -35...+80°C.
2. Quartz clock work, battery-operated 1,5 V Mignon cell (LR6A) with switchable thrusts in the temperature range between -10...+60°C

Delivery includes a set of recording charts (100 pcs.).

1.0660.xx.xxx
1.0664.xx.xxx
1.0665.xx.xxx

.00.
.02.

.0xx
.9xx
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.x05
.x11
.x12
.x14
.x15
.x16
.x17

Recording time	Thrust
1 day / 7 days	11,45 mm/h; 40 mm/day
14 days / 31 days	20 mm/day, 9 mm/day
1, 7, 31 days	Quartz clock work
Hum. meas. elem.	Measuring range
H (-35 ... +70°C)	10 ... 100% rel. h.
K (0 ... +80°C)	0 ... 100% rel. h.
non lockable	
lockable	
Temp. meas. range	-35 ... +45°C (only H)
	-20 ... +60°C (only H)
	-10 ... +50°C (only H)
	-10 ... +40°C (only H)
	0 ... +40°C
	0 ... +50°C
	0 ... +60°C
	0 ... +80°C
Scale range	0 ... 100% rel. F.
Accuracy	± 2% rel. h. (H)
	± 3% rel. h. (K)
	± 1 % of mr.
Temp.	
Recording width	2 x 82 mm
Graduation	5% rel. h. / 1 resp. 0,5°C
Dimension	280 x 138 x 285 mm
Weight	2,7 kg



Hygro-Thermograph

Recording instrument with a transparent plastic case. The axes are supported by pivot bearings. Battery-operated 1,5 V Lady cell (LR1) quartz step-motor drum clockwork mechanism. The recording time is switchable.

Delivery includes a set of recording charts (100 pcs.).

1.0680.10.xxx
.011
.014

1.0680.12.014

Meas. range Hum.	10 ... 100% rel. h. (H)
Meas. range Temp.	-10 ... +50 °C
	0 ... +40 °C
Meas. range Hum.	0 ... 100% rel. h. (K)
Meas. range Temp.	0 ... +40 °C
Scale range	0 ... 100% rel. h.
Accuracy	± 2% rel. h. (H)
	± 3% rel. h. (K)
	± 1 % of mr. (temp.)
Recording time	1/7/31 days
Thrust	11,45 mm/h
	40,01 resp. 9 mm/day
Recording width	2 x 82 mm
Graduation	5 % rel. h. / 1 resp. 0,5 °C
Dimension	280 x 138 x 270 mm
Weight	2,1 kg

Accessories

Recording Charts

(100 pcs)
For Hygro-Thermograph

Attention: Pay attention to the measuring ranges !

Meas. element H	1 day	7 days	14 days	31 days
- 35 ... + 45 °C	205142	205086	205153	205169
- 20 ... + 60 °C	205143	205088	205158	205168
- 10 ... + 50 °C	205138	205092	205155	205166
- 0 ... + 40 °C	205123	205094	205150	205160
- 0 ... + 80 °C	205126	205103	205280	205281
Meas. element K	1 day	7 days	14 days	31 days
0 ... + 40 °C	205131	205097	205151	205161
0 ... + 80 °C	205134	205112	205282	205283



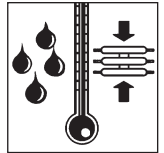
Console

For wall-mounting of the hygro-thermographs,
order-no.. 1.0660... to 1.0665...

1.0598.10.000

Material	Aluminium, varnished
Surface	280 x 140 mm
Weight	0,8 kg

Humidity Temperature Pressure



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Model Brief
Description

Meteorograph

A triple recording instrument for the most important meteorological data temperature, rel. humidity, and barometric air pressure. Reliable, sturdy model with spring-wound clockwork mechanism
White varnished metal case. The axes are supported by pivot bearings.
Delivery includes a set of recording charts (100 pcs.).

Accessories

Felt pen

Record. Charts

(100 pcs.)

For Meteorograph

Order No.

1.0840.00.xxx
.000
.005

Technical Data

Meas. range - 35 ... + 45 °C
 - 20 ... + 60 °C
 humidity
 pressure 10 ... 100% rel. h.
 945 ... 1052 hPa

Accuracy ± 2% rel. h.
 ± 0,5 K
 ± 0,8 hPa

Graduation 5% rel. h. / 1°C / 1 hPa

Recording time 1 day / 7 days

Advance 11,45 mm/h; 40 mm/day

Hum. meas.elem. H

Recording width 3 x 82 mm

Dimension 280 x 140 x 350 mm

Weight 4,5 kg

500847

colour violet

temp. range	1 day	7 days
-35 ... +45 °C	205197	205192
-20 ... +60 °C	205073	205190



Electronic Thermo-Hygrograph

Digital measurement and display instrument for air humidity and air temperature with integrated sensors in housing of synthetic material. The measured data are indicated and stored.
Delivery with reading-out software: PC-Windows software, interface cable, battery, data memory for 120.000 measurement values/channel.

1.8252.00.000

Measuring range -20 ... + 50 °C
 10 ... 95 % rel.h.

Accuracy ± 0,3 °C (0 ... 40 °C)
 ± 0,5 °C for rest.
 ± 3 % rel. h.

Resolution 0,1 °C
 0,5 % rel. h.

Temp. Sensor NTC

Humidity Sensor kapazitiv

Display 65 x 40 mm

Interface RS 232

Memory capacity 120.000 Values/Channel

Scanning interval 1; 5; 10; 60; 1440 min.

Operating time typ. 2 years

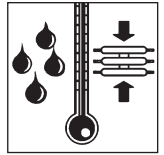
Operating voltage 3,6 V Lithium battery

Dimension 115 x 110 x 25 mm

Weight 250 g



Humidity Temperature Pressure



- 30 -

Model Brief
Description

Order No.

Technical Data

Electronic Hand Instruments

Hygro-Thermometer 615 Hygro-Thermometer 625

1.8615.00.000
1.8625.00.000

Digital hand instrument designed to measure the air humidity and temperature. Depending on the model the instrument is delivered with measuring sensor.

Instrument with battery-drive. A hold-button on the instrument serves for holding the displayed measurement value resp. for holding the display of max.- and min.- values.

Model	with integrated sensor with separate sensor
Measuring range	5 ... 95 % rel. h. 0 ... + 50 °C
Accuracy	± 3 % rel. h.(5...95 %r.h) ± 0,4 K (0...50 °C)
Resolution	0,1 % rel. h. / 0,1 °C
Display	LCD, 14 mm high
Ambient temp.	0 ... + 50 °C
Operating voltage	9 V Block-Battery
Battery operating time	approx. 100 Std.
Case	synthetic
Dimension	190 x 57 x 42 mm
Weight	0,3 kg incl. Battery



Hygro-Thermometer 635

1.8635.00.000

Digital hand instrument for the measurement of air humidity and temperature as well as dew point temperature. Each measuring sensor is connected to the indicator via a separate plug. Via infrared interface the measurement values can be documented by means of a infrared printer. Instrument with battery-drive. A hold-button on the instrument serves for holding the displayed measurement value resp. for holding the display of max.- and min.- values. Other buttons serve for the display of different temperatures, of the dew point temperature, and the data transfer to the printer.

Measuring range	0...100 % rel. h. -20...+140°C -50...+100 °C td (dew point)
temp. sensor	-50...+1000 °C (NiCr-Ni)
Accuracy	±1 digit (display) ± 3 % rel.h.(5...95 %rel.h) ± 0,4 K (0 ... 50 °C)
Resolution	0,1 % rel. h. / 0,1 °C
Display	LCD, 14 mm high
Ambient temp.	0 ... + 50°C
Operating voltage	9 V battery
Battery operating time	approx. 100 hours
Case	synthetic
Dimension	190 x 57 x 42 mm
Weight	0,3 kg incl. battery



Suitable :

Humidity/Temperature-Sensor 635

1.8635.00.161

Channel-or material sensor 0-100% rel.h. /-20..+140 °C

Humidity/Temperature-Sensor 635

1.8635.00.769

Room clima sensor 0-100% rel.h. /-20 .. +70 °C

Certificate (ISO) 635

1.8639.00.006

Charging instrument

1.8639.00.025

Accu 9 V 615/625/635

1.8639.00.125

Bag 615/625/635/925/936

1.8639.00.182

Topsafe (prot. cover) 615/625/935

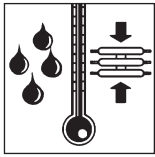
1.8639.00.183

Case 635/925/935

1.8639.00.184

Certificate (DKD) 635

1.8639.00.206



Humidity Temperature Pressure

Model Brief
Description

Order No.

Technical Data

Electrical Transmitter

Hygro-Thermo Transmitter capacitive

Instrument designed for measurement of temperature and air humidity. The data are output as electrical analogue signals. The transmitters consist of a capacitive humidity element and a Pt 100 resistance thermometer.

Model for ducts

The measuring elements are situated at the end of the immersion stem which protrudes from the back.

Room Model

The measuring elements are situated in a lateral protective cover.



1.1005.00.xxx
1.1015.00.xxx
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.041
.061

Model	Model for ducts Room model
Electr. output	2 x 0-20 mA/0-10 V 2 x 4-20 mA/0-10 V 2 x 0 ... 10 V
Meas.range humidity	0 ... 100% rel.h.
temp.	0 ... + 60 °C
Accuracy humidity	± 3% rel.h. in the range 10 ... 90% rel.h.
temp.	± 0,15 K (at 0 °C)
Meas. element	Capacitive for humidity, Pt 100 at IEC 751 1/3 DIN Class B for temperature
Characteristic	linear
Operating voltage	15 ... 24 V AC 15 ... 36 V DC
Diameter of stem	25 mm
Length of stem	250 mm
Connecting	screw clamps
Dimension	130 x 75 x 55 mm
Weight	0,2 kg

Hygro-Thermo Transmitter

Instrument designed for measurement of temperature and air humidity. The data are output as electrical analogue signals. Humidity value is displayed additionally. The transmitters consist of a hair humidity element and a Pt 100 resistance thermometer. Sturdy construction, essential external parts are made of stainless steel. For mounting out-of-doors we recommend the use of the weather- and thermal radiation shield
Order-no. 1.1025.51.000. (see p. 36)



1.1005.50.xxx
.015
.515

Electr. output	200 Ω lin./ Pt 100 200 Ω lin./ Pt 100	Electr. connection with Lemosa-plug with 3 m cable
Measuring range	10 ... 100% rel. h.	
Accuracy	± 3% rel. h. / ± 0,1 K	
Graduation	1% rel. h. not linear	
Scale length	94 mm	
Hum. meas. elem.	H	
Temp. meas. elem.	Pt 100, acc. to IEC 751 1/3 class B	
Diameter of stem.	22 mm	
Length of stem	250 mm	
Protection	IP 65, display case	
Total length	350 mm	
Weight	0,7 kg resp. 0,9 kg	

Hygro-Thermo Transmitter compact

Instrument designed for measurement of temperature and air humidity. The data are output as electrical analogue signals. The transmitters consist of a capacitive humidity element and a Pt 100 resistance thermometer. For mounting out-of-doors we recommend the use of the weather- and thermal radiation shield
Order-No.. 1.1025.55.xxx.
(see page 36)



1.1005.54.xxx
.000
.241
.161

Electr. output	Humidity 0 ... 1 V 4 ... 20 mA 0 ... 10 V	Temperature Pt 100 (± 0,1 K) 4 ... 20 mA (± 0,3 K) 0 ... 10 V (± 0,2 K)
Measuring range	0 ... 100% rel. h. - 30 ... + 70 °C	
Accuracy	± 2 % rel. F.	
Temp. Meas. elem.	Pt 100, acc. to IEC 751 1/3 class B	
Operating voltage	9 - 30 V DC (...000) 12 - 30 V DC (...241) 24 V DC (...161)	
Protection	IP 30 for sensor IP 65 for electronic	
Cable	5 m long	
Dimension	Ø 20 x 115 mm	
Weight	0,45 kg	

1.1005.54.xxx

1.1005.54.241

Protective basket with gauze

Protective basket made of metal

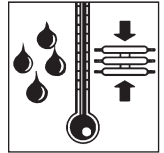
1.1005.54.901

Is put on the sensor and protects the measuring element from coarse dust.

1.1005.54.902

Protects element from high wind speeds (> 5 m/s) and coarse dust. For exposed areas (e.g. sea climate).

Humidity, Temperature Pressure, Wind Brightness



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Benennung
Kurzbeschreibung

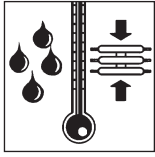
Bestell - Nr.

Technische Daten

Clima Sensor 2000

		Wind	Precipitation	Brightness	Temperature	Air-humidity
Clima Sensor 2000 WNHTF	4.9010.00.061	X	X	X	X	X
Clima Sensor 2000 WNH	4.9000.00.061	X	X	X		
Clima Sensor 2000 NHTF	4.9011.00.061		X	X	X	X
Clima Sensor 2000 NH	4.9001.00.061		X	X		
<p>The Clima Sensor 2000 serves for the measurement of important environmental data. Depending on the type of task it is available as combined measuring instrument. The analogue outputs are configured as standard signals so that they can be used for the coupling on customary bus systems.</p> <p>Wind A cup star, the revolution-no. of which is linear-proportional to the wind speed, supplies a frequency through a Reed-contact to a connected frequency-voltage-converter.</p> <p>Precipitation The detection is carried out optically ac. To the reflection-method with modulated infrared-light on precipitation particles.</p> <p>Brightness The brightness is detected by means of three independent photo-diodes which are arranged in 90°-segments. Three independent output voltages are linear to the brightness.</p> <p>Temperature The temperature sensor is a standardized resistance thermometer – Pt 100 – of longterm stability.</p> <p>Air humidity The measurement is carried out with a capacitive humidity sensor changing its capacity according to the relative humidity.</p>	Wind Speed	Meas. range Accuracy Electr. output Load	1 ... 40 m/s ≤ 0,5 m/s 0 ... 10 V (=0 ... 40 m/s) Minimum 10 kΩ			
	Precipitation-Detection	Meas. range Electr... output	Precipitation yes/no 0 V at precipitation 10 V no precipitation			
		Sensitivity Load Switch on-delay Switch off-delay	Drizzle Minimum 100 kΩ approx. 3 particles of precipitation approx. 2 min.			
	Brightness Detection	Meas. range Spectral range Accuracy Electrical output	0 ... 100 k Lux 700 ... 1050 nm ± 10% of meas. value 3 x 0 ... 10 V, Eastern, Southern and Western Direction			
		Load	Minimum 10 kΩ			
	Temperature	Meas. range Meas. element	-20 ... +60 °C Pt100 at IEC 751 1/3 DIN Class B			
		Accuracy Electr. output Load	±0,15 °C at 0°C 0 ... 10 V Minimum 10 kΩ			
Humidity	Meas. range Accuracy	0 ... 100% rel. humidity ± 3 % in the range 10 ... 90 % rel. h.				
	Electrical output Load	0 ... 10 V Minimum 10 kΩ				
General	Operating voltage	24 V AC ± 15 % 24 V DC ± 25 %				
	Current load	≤ 150 mA				
	Temperature range	-40 °C ... +60 °C				
	Connecting cable	10 m; LiYCY 12 x 0,14 mm ² , UV-resistant max. 100 m at supply with nominal 24 V				
	Mounting	Niro-holder clamp on mast or wall				
	Weight	max. 1,5 kg				





Accessories

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Model Brief Description

Order No.

Technical Data

Weather and Thermal Radiation Shield

Weather and Thermal Radiation Shield

Protective covering for the Hygro-Thermo or Hygro-Transmitters out-of-doors. Helps to prevent atmospheric influences and radiation errors from influencing the measured results.

1.1025.51.000	suitable for	1.1000.50... 1.1005.50...
	Installation pin Material	Ø 22 x 27 mm aluminium galvanised and varnished
	Dimension	Ø 170 x 450 mm
	Weight	2,5 kg



Weather and Thermal Radiation Shield, compact

Protective case for the Temperature or Hygro Thermo- Transmitter compact for installation out-of-doors. This case essentially eliminates the influence of weather and radiation errors which affect the measurement result.

1.1025.55.00x .10x .xx0 .xx1	without ventilator with ventilator Clamping range	12 V DC, 2,5 W Ø 35 ... 50 mm Ø 55 ... 60 mm
	suitable for	1.1005.54 ... or 2..1280....
	Material	synthetic lamellas white
	Mounting	stainless steel holder
	Cable	5 m for model. ...10x
	Dimension	Ø 120 x 270 / 290 mm
	Weight	0,75 kg



Weather Huts

Weather Hut

Model Wild

Protective hut to hold meteorological measurement instruments. Protects them from precipitation and eliminates radiation errors. Louvered walls guarantee good air circulation. Delivery includes a stand with three stairs made of hot galvanized steel.

1.2170.00.000	Model Material Door Height of hut Height of stairs Inner dimension Weight	in acc with DIN 58656 wood, painted white two-leafed 1,80 m 0,7 m 720 x 450 x 470 mm 60 kg
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Weather Hut

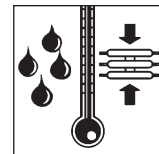
Model Wild (not depicted)

Weather Hut

Small version of the preceding huts, without stand and stairs.

1.2171.00.000	As above but without the stand and stairs.
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1.2175.00.000	Material Door Inner dimension Weight	wood, painted white one- leafed 350 x 230 x 410 mm 12,5 kg
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Model Brief
Description

Order No.

Technical Data

Measuring Transformers

Measuring Transducer FTD humidity-temperature-pressure

The resistance signal from the data transmitter is converted into current and/or voltage proportional to the measured value. This makes it possible to control subsequently added recording or switching instruments.

The measuring transducer is usually connected to humidity transmitters, temperature transmitters or baro transmitters. The wall case is mounted to a plane wall, whereas the PC-board is inserted into a 19" rack.

1.1080.xx.xxx
1.1081.xx.xxx
2.1082.xx.xxx
3.1080.xx.xxx
.00.xxx
.10.xxx
.xx.040
.xx.041
.xx.060
.xx.061

Electr. input	Measuring range
0 - 200 Ω, linear	10 - 100 % rel.h.
0 - 200 Ω, linear	0 - 100 % rel.h.
Pt 100	- 30 - + 50 °C
0 - 200 Ω	945 - 1052 hPa
Model	wall case
	PC board
Electr. output	0 - 20 mA
	4 - 20 mA
	0 - 1 V
	0 - 10 V
Ambient temp.	0 - 40 °C
Operating voltage	230 V / 50 Hz
Protection	IP 65
Dimension	
Case	200 x 120 x 75 mm
PC board	170 x 100 x 30 mm
Weight	0,65 kg. resp. 0,25 kg



Digital Indicators

Digital Indicator for panel installation

Flat-section indicator for display of humidity, temperature or pressure values. The background of the indicator is black to facilitate reading of the red digits. Preferably switch panel or front panel installation.

1.1044.00.xxx
1.1044.02.xxx
2.1044.00.xxx
3.1044.00.xxx
.000
.040
.041
.061
.073

Display range	10 ... 100 % rel. h.
	0 ... 100 % rel. h.
	- 100.0 ... + 199.9 °C
	945 ... 1053 hPa
Electr. input	Pt 100 (only temp.)
	0 ... 20 mA
	4 ... 20 mA
	0 ... + 10 V
	0 ... + 5 V (only pressure)
Resolution	± 1 digit
Display	LED, red, 13 mm high
Operating voltage	230 V / 50 Hz
Model	panel mounting
Protection	IP 20
Dimension	96 x 48 x 104 mm
Weight	0,3 kg



Digital Indicator for panel installation

with 2 adjustable limit contacts

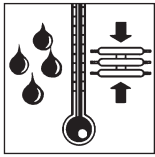
Flat-section indicator for display of humidity, temperature or pressure values.

Two setting knobs on the front panel serve for setting both the potential-free relay-contacts. The background of the indicator is black to facilitate reading of the red digits. Preferably switch panel or front panel installation.

1.1045.00.xxx
1.1045.02.xxx
2.1045.00.xxx
3.1045.00.xxx
.000
.040
.041
.061
.073

Display range	10 ... 100 % rel. h.
	0 ... 100 % rel. h.
	- 100.0 ... + 199.9 °C
	945 ... 1052 hPa
Electr. input	Pt 100 (only temp.)
	4 ... 20 mA
	0 ... 20 mA
	0 ... + 10 V
	0 ... + 5 V (only pressure)
Resolution	± 1 digit
Display	LED, red, 13 mm high
Type of contact	throw over switch
Operating voltage	230 V / 50 Hz
Model	panel mounting
Protection	IP 20
Dimension	96 x 48 x 104 mm
Weight	0,3 kg





Accessories

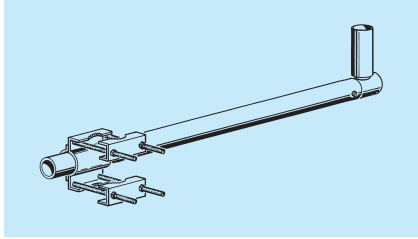
- 35 -

Model Brief
Description

Order No.

Technical Data

Hangers / Holders / Adapters



Hanger 1 m

Hangers are used to mount measuring transmitter to telescope masts. The extension is 1 m from the mast. The outer end has a holder specially designed for the respective data transmitter.

4.3185.xx.xxx.
.00.
.01.
.02.
.000
.001

Clamping range Ø 60 - 132 mm
 Ø 40 - 80 mm
 Ø 48 - 50 mm
suitable for 1.1025.51...
 2.1260...

Tube diameter 50 mm
Material Aluminium
Weight 1,8 kg



Traverse

For joint mounting of 2 measuring transmitters on a mast, partly in combination with the pins mentioned in the following.

4.3171.30.000

Clamping range Ø 48 ... 102 mm
Transmitter distance 0,8 m
Material aluminium / stainless steel
Weight 0,35 kg

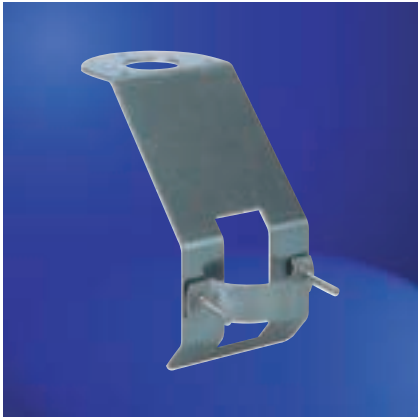


Traverse short

For mounting of a measuring transmitter on a mast, partly in combination with the adapters mentioned in the following.

4.3171.40.000

Clamping range Ø 48 ... 102 mm
Transmitter distance 0,4 m to the mast
Material aluminium / stainless steel
Weight 0,30 kg



Holder compact

The holder is used to mount a measuring transmitter to a mast tube or a wall, partly in combination with the adapters mentioned in the following.

506347

Material stainless steel
Clamping range Ø 35 ... 50 mm
Dimension 80 x 150 mm
Weight 0,35 kg



Peg complete

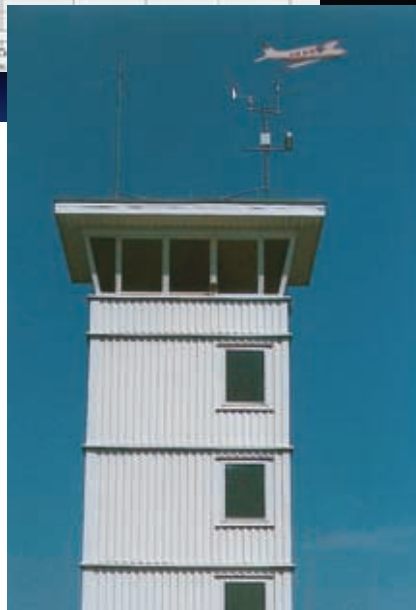
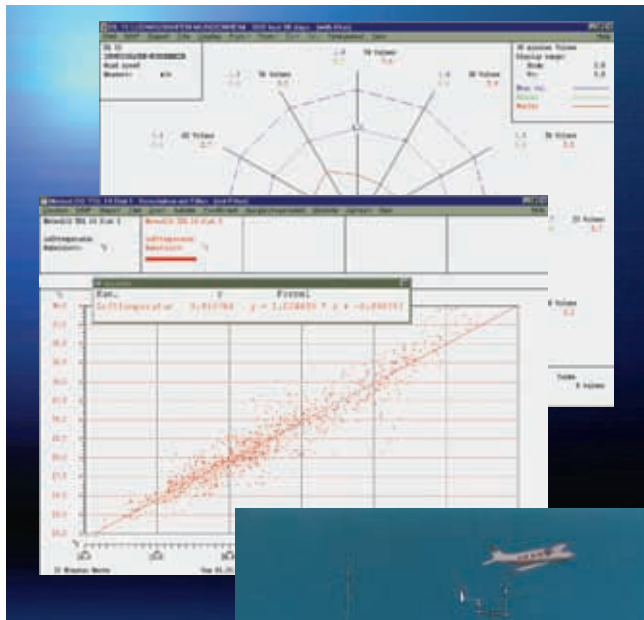
The pin is used to mount the measuring transmitter situated in the weather and thermal radiation shield, order-no.. 1.1025.55.000/100 on traverses or holders compact.

506350

Material POM
Dimension Ø 40 x 65 mm
Weight 0,1 kg

Please contact us for additional accessories such as cables and cable connections as well as supplementary mast constructions or supplementary system constructions. We will prepare an offer tailored to your individual requirements.

As versatile as required for international jobs



Worldwide weather partners

Climatic measurement and intelligent analysis are international tasks. They do not only demand a worldwide cooperation of the responsible authorities, but also a comprehensive network of sensors and analytical systems.

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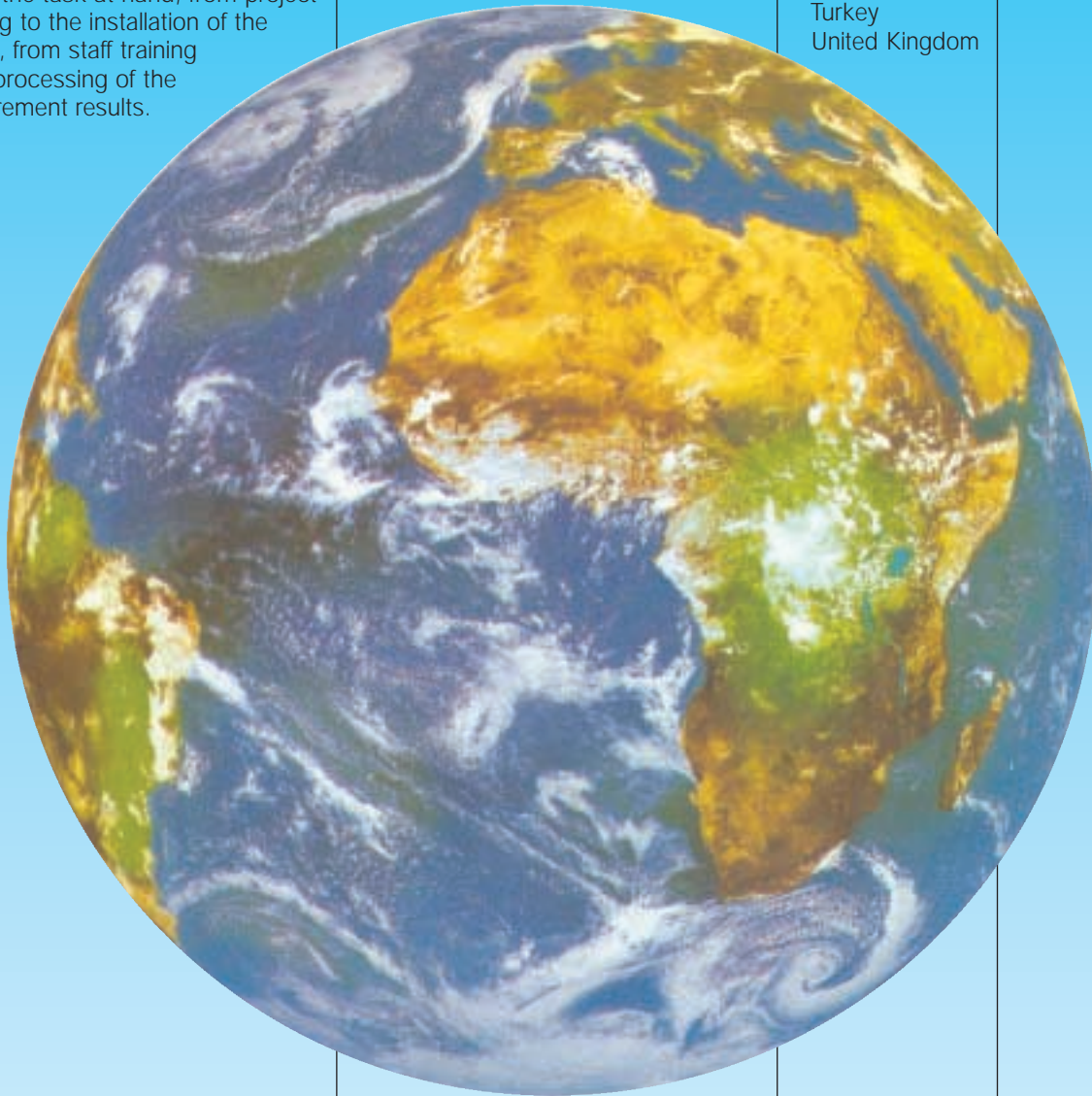
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Temperature Humidity Pressure



Part #	Description	\$Cdn	\$US
1.0070.00.000	ROUND HYGROMETER	\$232	\$174
1.0070.02.000	ROUND HYGROMETER	\$232	\$174
1.0074.00.000	ROUND HYGROMETER	\$263	\$198
1.0074.02.000	ROUND HYGROMETER	\$263	\$198
1.0101.00.003	POLYMER	\$253	\$190
1.0153.00.000	IN-STREAM TYPE HYGROMETER	\$518	\$389
1.0153.02.000	IN-STREAM TYPE HYGROMETER	\$518	\$389
1.0154.00.000	IN-STREAM TYPE HYGROMETER	\$518	\$389
1.0154.02.000	IN-STREAM TYPE HYGROMETER	\$518	\$389
1.0165.00.006	HYGRO-THERMOMETER	\$297	\$223
1.0165.42.058	HYGRO-THERMOMETER	\$184	\$138
1.0169.00.006	HYGRO-THERMOMETER	\$268	\$201
1.0169.42.058	HYGRO-THERMOMETER	\$184	\$138
1.0170.00.006	HYGRO-THERMOMETER	\$502	\$376
1.0170.00.017	HYGRO-THERMOMETER	\$502	\$376
1.0225.00.000	SURFACE WETNESS TRANSMITTER	\$504	\$378
1.0225.00.001	SURFACE WETNESS TRANSMITTER	\$504	\$378
1.0226.51.073	TENSIO TRANSMITTER	\$1,470	\$1,102
1.0400.00.010	ASPIRATION-PSYCHROMETER	\$1,835	\$1,376
1.0444.10.002	NORMAL PSYCHROMETER /STANDARD PSYCHROMETER	\$1,465	\$1,099
1.0450.00.010	SLING PSYCHROMETER	\$602	\$451
1.0452.10.000	CASE	\$88	\$66
1.0509.40.000	ROOM HYGROSTAT	\$188	\$141
1.0509.42.000	ROOM HYGROSTAT	\$188	\$141
1.0509.60.000	HYGROSTAT (FOR USE IN DUCTS)	\$391	\$293
1.0509.70.000	HYGROSTAT (FOR USE IN DUCTS)	\$508	\$381
1.0509.80.000	MOUNTING FLANGE	\$50	\$38
1.0509.85.001	WIND PROTECTION	\$59	\$44
1.0509.85.002	WIND PROTECTION	\$59	\$44
1.0509.85.003	WIND PROTECTION	\$65	\$49
1.0509.85.006	WIND PROTECTION	\$65	\$49
1.0598.10.000	CONSOLE	\$166	\$124
1.0610.10.000	HYGROGRAPH	\$1,310	\$983
1.0610.10.900	HYGROGRAPH / LOCKABLE	\$1,415	\$1,061
1.0610.12.000	HYGROGRAPH	\$1,310	\$983
1.0610.12.900	HYGROGRAPH / LOCKABLE	\$1,415	\$1,061
1.0614.10.000	HYGROGRAPH	\$1,432	\$1,074
1.0614.10.900	HYGROGRAPH / LOCKABLE	\$1,532	\$1,149
1.0614.12.000	HYGROGRAPH	\$1,432	\$1,074
1.0614.12.900	HYGROGRAPH / LOCKABLE	\$1,532	\$1,149
1.0615.10.000	HYGROGRAPH	\$1,179	\$884
1.0615.10.900	HYGROGRAPH / LOCKABLE	\$1,302	\$976
1.0615.12.000	HYGROGRAPH	\$1,179	\$884
1.0615.12.900	HYGROGRAPH / LOCKABLE	\$1,302	\$976
1.0660.00.XXX	HYGRO-THERMOGRAPH	\$1,135	\$851
1.0660.00.9XX	HYGRO-THERMOGRAPH / LOCKABLE	\$1,281	\$961

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Part # Description

1.0660.02.XXX	HYGRO-THERMOGRAPH	\$1,135	\$851
1.0660.02.9XX	HYGRO-THERMOGRAPH / LOCKABLE	\$1,281	\$961
1.0664.00.XXX	HYGRO-THERMOGRAPH	\$1,221	\$915
1.0664.00.9XX	HYGRO-THERMOGRAPH / LOCKABLE	\$1,367	\$1,025
1.0664.02.XXX	HYGRO-THERMOGRAPH	\$1,221	\$915
1.0664.02.9XX	HYGRO-THERMOGRAPH / LOCKABLE	\$1,367	\$1,025
1.0665.00.XXX	HYGRO-THERMOGRAPH	\$1,032	\$774
1.0665.00.9XX	HYGRO-THERMOGRAPH / LOCKABLE	\$1,179	\$884
1.0665.02.XXX	HYGRO-THERMOGRAPH	\$1,032	\$774
1.0665.02.9XX	HYGRO-THERMOGRAPH / LOCKABLE	\$1,179	\$884
1.0680.xx.xxx	HYGRO-THERMOGRAPH	\$842	\$631
1.0840.00.00X	METEOROGRAPH	\$3,256	\$2,442
1.1000.50.015	HYGRO-TRANSMITTER	\$1,691	\$1,268
1.1000.50.515	HYGRO-TRANSMITTER	\$1,522	\$1,141
1.1005.00.040	DUCT HYGRO-THERMO-TRANSMITTER / CAPACITANCE	\$986	\$740
1.1005.00.041	DUCT HYGRO-THERMO-TRANSMITTER / CAPACITANCE	\$986	\$740
1.1005.00.061	DUCT HYGRO-THERMO-TRANSMITTER / CAPACITANCE	\$986	\$740
1.1005.50.015	HYGRO-THERMO-TRANSMITTER / CAPACITANCE	\$1,864	\$1,398
1.1005.50.515	HYGRO-THERMO-TRANSMITTER	\$1,693	\$1,270
1.1005.54.000	HYGRO-THERMO-TRANSMITTER - COMPACT	\$686	\$514
1.1005.54.161	HYGRO-THERMO-TRANSMITTER - COMPACT	\$782	\$586
1.1005.54.241	HYGRO-THERMO-TRANSMITTER - COMPACT	\$867	\$651
1.1005.54.901	TEFLON FILTER WITH GAUZE ZE20	\$64	\$48
1.1005.54.902	SINTERED FILTER ZE 21	\$64	\$48
1.1015.00.040	ROOM HYGRO-THERMO-TRANSMITTER / CAPACITANCE	\$901	\$676
1.1015.00.041	ROOM HYGRO-THERMO-TRANSMITTER / CAPACITANCE	\$901	\$676
1.1015.00.061	ROOM HYGRO-THERMO-TRANSMITTER / CAPACITANCE	\$901	\$676
1.1025.51.000	WEATHER- AND THERMAL RADIATION SHIELD	\$1,077	\$808
1.1025.55.000	WEATHER- AND THERMAL RADIATION SHIELD	\$339	\$254
1.1025.55.001	WEATHER- AND THERMAL RADIATION SHIELD	\$339	\$254
1.1025.55.100	WEATHER- AND THERMAL RADIATION SHIELD	\$918	\$688
1.1044.00.040	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$968	\$726
1.1044.00.041	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$968	\$726
1.1044.00.061	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$968	\$726
1.1045.00.040	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$1,404	\$1,053
1.1045.00.061	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$1,404	\$1,053
1.1080.00.0XX	TRANSDUCER HTP	\$694	\$520
1.1080.10.0XX	TRANSDUCER HTP	\$623	\$467
1.1130.20.000	PSYCHRO TRANSMITTER	\$4,091	\$3,068
1.1130.22.000	PSYCHRO TRANSMITTER	\$4,091	\$3,068
1.1415.00.100	PRE AMPL. LEAF WETNESSSENSOR	\$539	\$404
1.2170.00.000	WEATHER HUT acc. TO WILD	\$5,550	\$4,163
1.2171.00.000	WEATHER HUT acc. TO WILD	\$3,847	\$2,885
1.2175.00.000	WEATHER HUT	\$2,383	\$1,787
1.8252.00.000	ELECTRONIC-THERMO-HYGROGRAPH	\$772	\$579
1.8342.00.000	PRINTER PAPER, 1 ROLL	\$39	\$29
1.8615.00.000	HYGRO-THERMOMETER 615	\$438	\$328

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Part #	Description		
1.8625.00.000	HYGRO-THERMOMETER 625	\$633	\$474
1.8635.00.000	HYGRO-THERMOMETER 635	\$566	\$424
1.8635.00.115	(6 ROLLS) 635 THERMO PAPER	\$42	\$31

1.8635.00.161	HUMIDITY-TEMPERATURE PROBE 635	\$1,338	\$1,003
1.8635.00.769	HUMIDITY-TEMPERATURE PROBE 635	\$566	\$424
1.8639.00.006	CERTIFICATE (ISO) 635	\$301	\$226
1.8639.00.025	CHARGER 615/625/635/925/935	\$59	\$44
1.8639.00.125	BATTERY 9 V 615/625/635	\$53	\$40
1.8639.00.183	(INDESTRUCTABLE PROTECTIVE CASE) 615/625/935	\$59	\$44
1.8639.00.184	CASE 635/925/935	\$123	\$92
1.8639.00.206	B16 CERTIFICATE (DKD) 635	\$761	\$571
1.8639.00.345	IINFRAED- PRINTER 635/935	\$535	\$401
2.0445.00.002	MAXIMUM - THERMOMETER	\$127	\$96
2.0446.00.001	MINIMUM - THERMOMETER	\$127	\$96
2.0447.00.002	STANDARD THERMOMETER	\$127	\$96
2.0600.10.000	THERMOGRAPH	\$1,133	\$850
2.0600.10.900	THERMOGRAPH / LOCKABLE	\$1,235	\$926
2.0600.50.000	THERMOGRAPH / OFFICIAL CALIBRATION POSSIBLE	\$2,247	\$1,685
2.0604.10.000	THERMOGRAPH	\$1,133	\$850
2.0604.10.900	THERMOGRAPH / LOCKABLE	\$1,235	\$926
2.0605.10.000	THERMOGRAPH	\$947	\$710
2.1044.00.000	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$1,119	\$839
2.1044.00.040	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$966	\$724
2.1044.00.061	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$966	\$724
2.1045.00.000	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$1,552	\$1,164
2.1045.00.040	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$1,397	\$1,048
2.1045.00.041	EINBAU-DIGITALANZEIGEGERÄT/DIGITAL INDICATOR FOR P	\$1,397	\$1,048
2.1045.00.061	EINBAU-DIGITALANZEIGEGERÄT/DIGITAL INDICATOR FOR P	\$1,397	\$1,048
2.1082.00.0XX	MEßUMFORMER FTD / TRANSDUCER HTP	\$690	\$517
2.1082.10.0XX	MEßUMFORMER FTD / TRANSDUCER HTP	\$621	\$466
2.1235.00.000	TEMPERATURGEBER / TEMPERATURE TRANSMITTER	\$169	\$127
2.1235.00.010	TEMPERATURGEBER / TEMPERATURE TRANSMITTER	\$207	\$155
2.1235.00.020	TEMPERATURE TRANSMITTER	\$259	\$194
2.1235.01.000	WATER TEMPERATURE TRANSMITTER	\$374	\$281
2.1235.01.010	WATER TEMPERATURE TRANSMITTER	\$416	\$312
2.1235.01.020	WATER TEMPERATURE TRANSMITTER	\$502	\$376
2.1241.00.000	SOIL SURFACE TEMPERATURE TRANSMITTER	\$627	\$470
2.1252.00.000	SURFACE RESISTANCE TRANSMITTER	\$163	\$122
2.1260.00.000	AIR TEMPERATURE TRANSMITTER	\$1,055	\$792
2.1265.20.000	VENTILATED AIR TEMPERATURE TRANSMITTER	\$2,824	\$2,118
2.1265.22.000	VENTILATED AIR TEMPERATURE TRANSMITTER	\$2,824	\$2,118
2.1280.00.000	TEMPERATURE SENSOR - COMPACT Pt100	\$458	\$343
2.1280.00.141	TEMPERATURE SENSOR - COMPACT 4 - 20 mA	\$556	\$417
2.1280.00.161	TEMPERATURE SENSOR - COMPACT 0 - 10 V	\$556	\$417
2.2000.00.002	MAX-. AND MIN-. THERMOMETER acc. TO SIX	\$48	\$36
2.2002.00.002	MAX-. AND MIN-. THERMOMETER acc. TO SIX	\$48	\$36
2.2004.00.079	MAX-. AND MIN-. THERMOMETER	\$48	\$36

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Temperature Humidity Pressure



Part #	Description		
2.2110.02.003	SOIL THERMOMETER	\$257	\$193
2.2110.03.003	SOIL THERMOMETER	\$257	\$193
2.2110.06.004	SOIL THERMOMETER	\$257	\$193
2.2110.11.006	SOIL THERMOMETER	\$257	\$193
2.2110.16.008	SOIL THERMOMETER	\$257	\$193
2.2110.21.009	SOIL THERMOMETER	\$257	\$193

2.2110.31.009	SOIL THERMOMETER	\$282	\$212
2.2115.03.013	SOIL DEPTH THERMOMETER	\$433	\$324
2.2116.03.013	SOIL DEPTH THERMOMETER	\$514	\$386
2.2118.03.000	SOIL BORER	\$554	\$416
2.2121.02.002	EXTREME THERMOMETER FOR USE IN SOIL	\$209	\$157
2.2121.05.002	EXTREME THERMOMETER FOR USE IN SOIL	\$217	\$163
2.2121.10.002	EXTREME THERMOMETER FOR USE IN SOIL	\$236	\$177
2.2121.20.002	EXTREME THERMOMETER FOR USE IN SOIL	\$247	\$185
2.2122.02.002	EXTREME THERMOMETER FOR USE IN SOIL	\$209	\$157
2.2122.05.002	EXTREME THERMOMETER FOR USE IN SOIL	\$217	\$163
2.2122.10.002	EXTREME THERMOMETER FOR USE IN SOIL	\$236	\$177
2.2122.20.002	EXTREME THERMOMETER FOR USE IN SOIL	\$247	\$185
2.2123.00.000	THERMOMETER STAND	\$127	\$96
2.2135.00.000	EXTREME - THERMOMETER	\$441	\$331
2.2141.00.064	WATER - THERMOMETER	\$234	\$176
2.2925.00.255	TEMPERATURE MEASURING INSTRUMENT	\$192	\$144
2.2925.35.001	(ISO) 925/935 CERTIFICATE	\$301	\$226
2.2925.35.071	(ISO) 925/935 CERTIFICATE	\$337	\$253
2.2935.00.350	TEMPERATURE MEASURING INSTRUMENT	\$457	\$343
2.8635.00.292	IMMERSION PENETRATION PROBE	\$81	\$61
2.8639.00.392	TEMPERATURE SURFACE PROBE	\$234	\$176
2.8639.00.692	TEMPERATURE CLAMP PROBE	\$134	\$100
2.8639.00.792	TEMPERATURE AIR PROBE	\$114	\$86
2.8639.00.992	TEMPERATURE SURFACE PROBE	\$114	\$86
3.0800.10.000	BAROGRAPH	\$1,785	\$1,339
3.0800.10.900	BAROGRAPH / LOCKABLE	\$1,887	\$1,415
3.0804.10.000	BAROGRAPH	\$1,877	\$1,408
3.0804.10.900	BAROGRAPH / LOCKABLE	\$1,979	\$1,484
3.0805.10.000	BAROGRAPH	\$1,666	\$1,249
3.0810.20.000	MICROBAROGRAPH	\$3,965	\$2,974
3.0900.05.000	PRESSURE RECORDER	\$2,404	\$1,803
3.1044.00.040	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$966	\$724
3.1044.00.041	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$966	\$724
3.1044.00.061	DIGITAL INDICATOR FOR PANEL INSTALLATION	\$966	\$724
3.1080.00.0XX	TRANSDUCER HTP	\$690	\$517
3.1080.10.0XX	TRANSDUCER HTP	\$621	\$466
3.1150.10.015	BARO TRANSMITTER	\$2,498	\$1,873
3.1158.00.073	BARO TRANSMITTER TYP: PTB 100 A	\$2,470	\$1,853
3.1158.10.073	BARO TRANSMITTER TYP: PTB 100 B	\$2,729	\$2,047
3.1159.00.040	DIGITAL BARO TRANSMITTER	\$1,941	\$1,456
3.1159.00.041	DIGITAL BARO TRANSMITTER	\$1,994	\$1,495

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Temperature Humidity Pressure



Part #	Description		
3.1503.00.000	BAROMETER	\$148	\$111
3.1509.00.000	BAROMETER	\$140	\$105
3.1530.00.000	PRECISION BAROMETER	\$1,633	\$1,225
3.1550.17.000	MERCURY STATION BAROMETER	\$3,112	\$2,334
3.1550.17.001	MERCURY STATION BAROMETER	\$3,440	\$2,580
3.1552.00.000	MOUNTING BOARD	\$487	\$365
3.1552.00.001	MOUNTING BOARD	\$487	\$365
4.9000.00.061	CLIMA SENSOR WNH	\$915	\$687
4.9001.00.061	CLIMA SENSOR NH	\$838	\$628

4.9010.00.061	CLIMA SENSOR WNHTF	\$1,527	\$1,146
4.9011.00.061	CLIMA SENSOR NHTF	\$1,434	\$1,076

ACCESSORIES FOR MOUNTING

4.3185.00.00X	HANGER - 1 m	\$757	\$568
4.3185.01.00X	HANGER - 1 m	\$740	\$555
4.3185.02.00X	HANGER - 1 m	\$587	\$440
4.3171.30.000	TRAVERSE - COMPACT, 0,8 m	\$159	\$119
4.3171.40.000	TRAVERSE - COMPACT, 0,4 m	\$125	\$94
506347	HOLDER - COMPACT	\$88	\$66
506350	PEG	\$48	\$36

ACCESSORIES FOR RECORDING INSTRUMENTS

RECORDING CHARTS FOR HYGRO-THERMOGRAPH 1-7-14/-31 -DAYS (PACKING UNIT = 100 SHEETS)	\$61	\$45
RECORDING CHARTS FOR HYGROGRAPH 1-7-DAYS (PACKING UNIT = 100 SHEETS)	\$44	\$33
RECORDING CHARTS FOR THERMOGRAPH 1-7-14/-31 -DAYS (PACKING UNIT = 100 SHEETS)	\$44	\$33
RECORDING CHARTS FOR METEOGRAPH 1-7-14/-31 -DAYS (PACKING UNIT = 100 SHEETS)	\$92	\$69
RECORDING CHARTS FOR BAROGRAPH 1-7-14/-31 -DAYS (PACKING UNIT = 100 SHEETS)	\$44	\$33
RECORDING CHARTS FOR PRESSURE RECORDER 1-7-14/-31 -DAYS (PACKING UNIT = 100 SHEETS)	\$44	\$33
SPARE FELT PEN	\$10	\$8