

## ORION® Temperature measuring instrument with universal sensor

With universal probe

### Application:

For simple temperature measurements in industrial applications

- Auto-off
- Switch between °C/°F
- Error limit  $\pm 1\% \pm 1^\circ\text{C}$

### Execution:

- Watertight
- HOLD function

### Notes:

Can only be used with supplied sensor up to 550°



Min./max. temperature measuring range	-64 to 1370 °C
Digit increment (measuring instrument for temperature) (°C)	0.1
Length x width x height	78 x 43 x 20 mm
46105...	Ident. No. 200

Prod. Gr. 456

## ORION® temperature measuring instruments

2-channel and 4-channel

### Application:

For measuring temperature differences

- 4 simultaneous measurements
- Configuration via software or logger keyboard
- Data logger function for storing 16,000 measurements
- Backlight
- Error limit  $\pm 0.3\% \pm 1.0^\circ\text{C}$

### Execution:

- Displays differential temperature
- USB interface
- Input for thermocouple, type K
- Digit increment 0.1°C from -199.9°..+199.9°C, otherwise 1.0°C

### Ident. No. 220:

- 2 simultaneous measurements
- Error limit  $\pm 0.1\% \pm 0.7^\circ\text{C}$

### Ident. No. 240:

### Delivery:

**Ident. No. 220:** Measuring instrument, battery, 2x type K thermocouple wire, length 90 cm, measuring range -50° to +200°, operating instructions

**Ident. No. 240:** Measuring instrument, battery, software, readout cable, 2x type K thermocouple wire, length 90 cm, measuring range -50° to +200°, operating instructions



Ident. No. 220



Ident. No. 240

Min./max. temperature measuring range			-200 to 1370 °C
Length x width x height			184 x 64 x 30 mm
46105...	2-channel	Ident. No.	220
46105...	4-channel	Ident. No.	240

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## temperature sensor

### Application:

**Ident. No. 310-320:** For measurements in liquid, gaseous and powdery materials

**Ident. No. 330-340:** For measuring surface temperatures

**Ident. No. 350:** For measuring temperatures, e.g. in furnaces

- **Ident. No. 320:** Flexible
- **Ident. No. 330:** Straight
- **Ident. No. 340:** Curved
- **Ident. No. 350:** Glass-fibre-insulated

### Execution:

- NiCr-Ni sensor
- **Ident. No. 310:** Stainless steel

### Technical data:

- Cable length: 1 m



Ident. No. 310



Ident. No. 320



Ident. No. 330



Ident. No. 340



Ident. No. 350

Min./max. temperature measuring range	-40 to 400 °C	-100 to 1100 °C	-65 to 550 °C	-40 to 900 °C	-50 to 400 °C
Length (mm)	120	300	130	130	1000
Ø (mm)	3	3	10	8	1
46105...	Ident. No. 310	Ident. No. 320	Ident. No. 330	Ident. No. 340	Ident. No. 350

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## ORION® Data logger for temperature and humidity

### Application:

For environmental monitoring, e.g. during transportation and storage

### Execution:

- Large display for current value indication and
- External temperature sensor connection
- Battery status indication
- User-friendly Windows software
- Hi-Lo visual and acoustic alarm

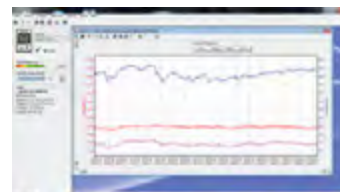
- Memory for up to 60,000 measured values with 3 variables
- Measuring interval adjustable from 1 second up to 24 hours
- High accuracy:  $\pm 0.5^{\circ}\text{C}/\pm 3\%$
- **Ident. No. 020:** Additional measurement of relative air humidity and dew point

### Delivery:

USB data cable, Windows software on CD and battery (1x 3 V lithium type CR2032)



Data logger with temperature probes



Min./max. temperature measuring range	-30 to 70 °C	-30 to 70 °C
Digit increment (measuring instrument for temperature) (°C)	0.1	0.1
Temperature error limit (residual area) (°C)	0.7	0.7
Min./max. humidity (rF) of measuring range	-	0-99 %
IP protection class	IP 65	-
<b>46200...</b>	Ident. No. <b>010</b>	<b>020</b>

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Accessories for		46200 010	46200 020
<b>46200...</b>	Temperature sensor, 40 x 3 mm, length 3 m	Ident. No. <b>103</b>	<b>103</b>
<b>46200...</b>	Temperature sensor, 40 x 3 mm, length 8 m	Ident. No. <b>108</b>	<b>108</b>

## ORION® Infrared temperature-measuring instruments

### Application:

For measuring surface temperatures of rotating or live components

### Execution:

- Error limit  $\pm 2\%$  or  $\pm 2^{\circ}\text{C}$
- **Ident. No. 021:**
  - HOLD/max./min./difference
  - HI/LO limit value alarm
  - Unit: Can be switched between  $^{\circ}\text{C}/^{\circ}\text{F}$
  - Display with backlight (optional activation)
  - Adjustable emission degree 0.10 to 1.00
  - Dot laser (Class II) sighting aid (optional activation)
  - Input for NiCr-Ni thermoelement sensor (type K)
- **Ident. No. 041:**
  - HOLD/max./min./difference, additionally with AVG (average from measurement series) and lock (continuous measurement)
  - HI/LO limit value alarm
  - Unit: Can be switched between  $^{\circ}\text{C}/^{\circ}\text{F}$

- Display with backlight (optional activation)
- Adjustable emission degree 0.10 to 1.01
- Dot laser (Class II) sighting aid (optional activation), with 2 laser beams to mark the measuring field size
- Input for NiCr-Ni thermoelement sensor (type K)
- **Ident. No. 045:**
  - IP 54 splash-proof
  - Large backlit display for simultaneous visualization of measured values, max. and limit values
  - Two laser beams for indicating the measuring field size
  - LOCK function (continuous measurement)
  - Response time < 1 second
  - HOLD /max. function
  - Battery life 18 hours in continuous operation
  - Adjustable acoustic alarm

### Delivery:

With battery in case.



Ident. No. 021



Ident. No. 041



Ident. No. 045

Min./max. temperature measuring range	-60 to 500 °C	-50 to 1000 °C	-60 to 550 °C
Digit increment (measuring instrument for temperature) (°C)	0.1	0.1	0.1
Min./max. emission ratio	-	-	0.1-1.0
Optical focus	11:1	50:1	12:1
Rechargeable battery/battery designation	1.5 V Mignon AA	9 V block	Micro AAA
<b>46135...</b>	Ident. No. <b>021</b>	<b>041</b>	<b>045</b>

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## ATORN® Infrared temperature-measuring instruments

### Application:

For measuring surface temperatures of rotating or live components

### Execution:

- Temperature display in °C and °F
- Backlit display, switchable
- Alarm functions: acoustic and visual HIGH/LOW alarm
- Target laser (class II a) for precise aiming on measured object, switchable
- Equipped with X-shaped laser for easy detection of actual measuring field size

- DFL laser function (dual-focus laser): The 75:1 standard lens can be switched over to a close focus lens (focus 62:1, spot size diameter 1 mm at a distance of 62 mm) via a lever adjustment, ideal for inspecting small electronic components, for example
- Measuring functions: Min./max./scan/Hold/OFF
- USB interface
- Error limit  $\pm 0.75\%$  or  $\pm 0.75^\circ\text{C}^*$
- Measured value memory for up to 100 values

### Delivery:

With batteries in case, incl. USB cable and Windows software

Min./max. temperature measuring range	-35 to 900 °C
Digit increment (measuring instrument for temperature) (°C)	0.1
Min./max. emission ratio	0.1-1.1
Optical focus	75:1 + DFL
Rechargeable battery/battery designation	Mignon AA
46150...	Ident. No. 030

Prod. Gr. 490



## ORION® Video infrared temperature measuring instrument with integrated humidity sensor

### Application:

For non-contact measuring of dew points and surface temperatures. Ideal for indoor climate specialists. Indoor climate measurements

### Execution:

- Double target laser
- HOLD, MAX, MIN functions
- Switch display between °C/F
- USB port
- Error limit  $\pm 2\%$  or  $\pm 2^\circ\text{C}$

### Advantage:

- Large 2.2 inch TFT colour display
- Input for thermocouple sensor NiCrNi (type K)
- Large measured value memory (micro-SD card slot)
- IR temperature measuring device with integrated humidity sensor
- Applications are displayed as JPG images with measured values and date stamps

### Delivery:

Sturdy transport case, USB cable, mains plug with USB connection, incl. temperature sensor TYP K, small camera tripod

Min./max. temperature measuring range	-50 to 1000 °C
Optical focus	50:1
46135...	Ident. No. 100

Prod. Gr. 456



## BOSCH Infrared camera GTC 400 C

### Application:

Immediate visualisation of temperature differences with intelligent documentation

### Execution:

- Large 3.5 inch TFT LCD display
- Overlay of detailed live and thermal images (19,200 pixels) thanks to intelligent picture-in-picture technology for unique localisation of temperature differences
- USB port as well as optional app control
- Flexible battery system: May be operated with a 12V Li-ion battery or standard alkaline batteries

### Advantage:

- Rapid data exchange and simple documentation of thermal images via the (optional) Bosch Measuring Master App
- Automatically displays the hottest / coldest pixels and thus helps to find vulnerabilities faster
- Direct processing of raw image data possible on the PC through GTC transfer software

### Delivery:

1x battery 12V/1.5Ah, quick charger GAL 1230 CV, micro-USB cable, hand strap; in L-BOXX

### Technical data:

- Min./max. temperature measuring range: -10 to 400 °C

75016...	Ident. No. 000
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Prod. Gr. 731



## ORION® Temperature/humidity measuring instrument

### Application:

For measuring indoor climates

### Execution:

- Running display
- Max-hold display
- Min-hold display
- Energy-saving Auto-OFF function

### Advantage:

- Handy device size and easy one-hand operation
- Automatic display illumination with brightness sensor

- Large digits for clear view of measured values

### Delivery:

Battery (1x 9 V block battery, type 6 LR 61)

### Technical data:

- Min./max. temperature measuring range: -20 to 60 °C
- Temperature error limit: 0.5 °C
- Min./max. humidity (rF) of measuring range: 0-99 %
- Humidity (rF) error limit/conditions: 5 % / from 20 to 70%
- Humidity (rF) error limit, residual area: 7 %



462 10...

Ident. No.

010

Prod. Gr. 456

## ORION® Flow meter (anemometer)

### Application:

For simple measurements of air-conditioning ventilation systems.

### Execution:

- Running display
- Max-hold display
- AVG display (average value)
- Switch between units of display: m/s, km/h, ft/min., MPH, knots
- Energy-saving Auto-OFF function

### Advantage:

- Handy device size and easy one-hand operation

- Automatic display illumination with brightness sensor
- Large digits for clear view of measured values

### Delivery:

Battery (1x 9 V block battery, type 6 LR 61)

### Technical data:

- Min./max. current of measuring range: 0.4-25 m/s
- Digit increment, current: 0.01 m/s
- Current error limit (+/-): 0.45 m/s
- Min./max. working temperature: 0 to 40 °C



462 10...

Ident. No.

020

Prod. Gr. 456

## ORION® Light intensity measuring instrument (luxmeter)

### Application:

For monitoring lighting conditions in workplaces, warehouses, industrial buildings and residential buildings.

### Execution:

- Automatic zero point calibration
- Max-hold display
- Switch between units of display: LUX Fc
- Energy-saving Auto-OFF function

### Advantage:

- Handy device size and easy one-hand operation

- Automatic display illumination with brightness sensor
- Large digits for clear view of measured values

### Delivery:

Battery (1x 9 V block battery, type 6 LR 61)

### Technical data:

- Digit increment, illumination: 0.01 lx
- Illumination error limit (+/-): 5 lx
- Min./max. working temperature: 0 to 40 °C



462 10...

Ident. No.

030

Prod. Gr. 456

## ORION® Sound level measuring instrument

### Application:

For monitoring permissible noise pollution levels, e.g. in workplaces.

### Execution:

- Running display
- Max-hold display
- Min-hold display
- Energy-saving Auto-OFF function

### Advantage:

- Handy device size and easy one-hand operation

- Automatic display illumination with brightness sensor
- Large digits for clear view of measured values

### Delivery:

Battery (1x 9 V block battery, type 6 LR 61)

### Technical data:

- Min./max. sound-pressure-level measuring range: 40-130 dB
- Digit increment, sound-pressure level: 0.1 dB
- Sound-pressure-level error limit (+/-): 3.5 dB
- Min./max. working temperature: 0 to 40 °C



462 10...

Ident. No.

040

Prod. Gr. 456