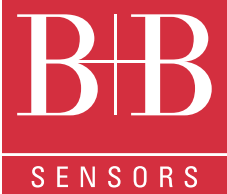


CREATING MEASUREMENT SOLUTIONS



Food technology



B+B Thermo-Technik develops and manufactures innovative product and industry solutions with the highest quality expectations for your precise measuring tasks.

B+B Thermo-Technik has been developing and manufacturing high quality temperature probes since 1984. Closely associated with temperature measurement are the fields of humidity and pressure. This resulted in the company’s programme to be expanded in 2011 to include solutions for both these specialist fields.

Simply take advantage of B+B’s extensive experience and professional knowledge. B+B Thermo-Technik is located at Donaueschingen in south west Germany, and from here, its increasingly reputable products are sold all over the world.

With the aid of the latest research, development and production technologies and coupled with the certifications in accordance to DIN EN ISO 9001 : 2015 and DIN EN 61340-5-1, we are able to manufacture our products to the highest possible standards. Of course, we also offer our customers the added service of issuing test certificates within our own calibration laboratory.

Both quality and working closely together with the customer are integral parts of B+B’s corporate philosophy. This is why B+B temperature

probes, thermocouple connectors, Humidity probes and pressure sensors are predominantly manufactured in Germany or in 100% owned subsidiaries worldwide.

This assures continual quality control, flexible reactions to both the customer’s requirements and modifications, and being able to deliver promptly.

Customer - specific construction

Please specify your application and we shall supply you the right product for measuring and controlling the temperature, pressure or humidity. Special emphasis is always placed on professional and close cooperation with you, thus allowing for the optimal development of your product. Our experience shows that this partnership also creates innovative concepts and fresh ideas, thereby providing new energy for the future, which is vital for both parties.

CERTIFICATE

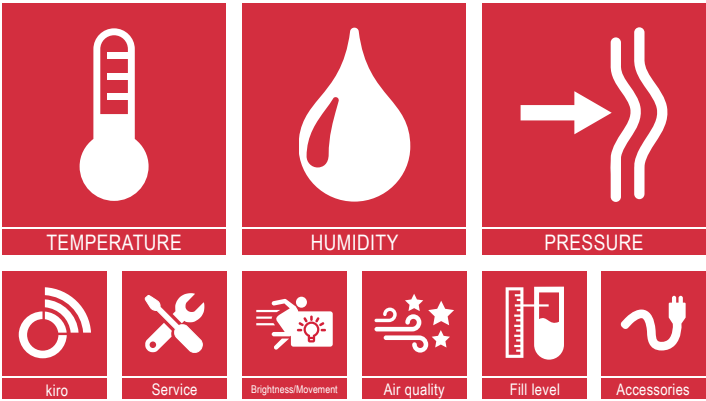


Certificate DIN EN ISO 9001 : 2015



ESD Certificate DIN EN 61340-5-1

DELIVERY PROGRAMME



TEMPERATURE | HUMIDITY | PRESSURE  
EVERYTHING FOR YOUR FOOD TECHNOLOGY  
ASSORTMENT FROM ONE SOURCE

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## Stainless Steel Screw-In Probes

For the food industry

B+B stainless steel screw-in probes are highly reliable and safe with easy to clean surfaces, which makes them ideally suited for the food technology. The surface finish meets the strictest requirements of the food industry. Screw-in probes are preferred for temperature measurements in liquid and gaseous media. They are designed to ensure vibration resistance and sealed to make them suitable for both negative and positive pressure. All B+B screw-in probes feature steam-proof encasing and are made of high-quality stainless steel. They are highly resistant to alkaline solutions, acids and oils. With protection class IP65, all B+B screw-in probes are washable and easy to clean.

- Applications:**
- Process monitoring
  - Food inspection
  - Butchers' machines
  - Chest freezers
  - Proofers
  - Automatic baking machines
  - Cooking and smoking systems

- Advantages:**
- Steam-proof encasing
  - Vibration-resistant
  - Measuring range of -30...+180 °C



## Screw-In Probes

Pt100, class A, 4-conductor connection

### Description



- Performance features:**
- Vibration-resistant
  - Washable

### Technical data

Sensor	Pt100
Measuring range	-30...+180 °C
Accuracy	Cl. F 0.3 (previously cl.B) DIN EN 60751
Measuring current	max. 1 mA
Circuit type	4-conductor connection
Nom. length	100 mm
Diameter	6 mm
Material	Stainless steel 1.4571
Process connection	G1/2"
Electrical connection	Installed M12x1 Lumberg connector, 4-pin
Protection class	IP65

Other lengths, diameters and versions with transmitter are available on request.

### Article

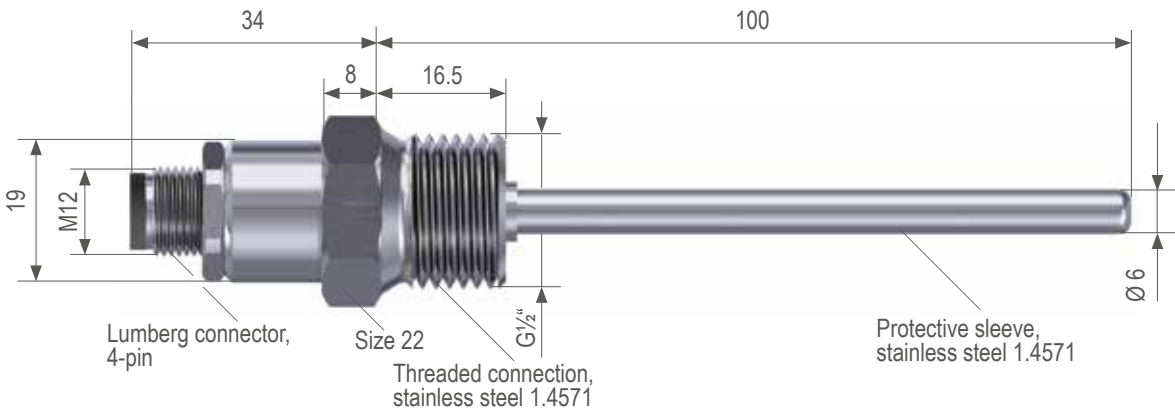
Article	Art. no.
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Screw-in probe Pt100	0627 0616-100
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### Accessories

4-pin M12 connection coupling, straight version, with injection moulded, shielded cable, with free ends	
2 m	0409 3000
5 m	0409 3000-01
10 m	0409 3002
4-pin M12 connection coupling, angled version, with injection moulded, shielded cable, with free ends	
2 m	0409 3001
5 m	0409 3001-01
10 m	0409 3001-02

### Dimensions







## Temperature Probes with BINOX Connection Head<sup>®</sup> 1

Sturdy and reliable measurement technology for the food industry

The new B+B design of the BINOX connection heads features significantly smaller and impressively compact installation dimensions. The design has been optimised for hygienic applications so that dead spaces and edges which collect dirt were largely eliminated. B+B uses only high-quality materials for the construction of temperature probes. The connection head are suitable for ambient temperatures of -50...+150 °C.

- Applications:**
- Dairies
  - Breweries
  - Beverage industry
  - Food production

- Advantages:**
- Washable
  - Easy to clean
  - Fast and maintenance-free installation



## Temperature Probes with BINOX Connection Head<sup>®</sup> 1

for clamp fastening

### Description



### Technical data

Sensor	Pt100
Measuring range	-50...+400 °C
Accuracy	Cl. F 0.3 (previously cl.B) DIN EN 60751
Measuring current	max. 1 mA
Circuit type	3-conductor connection
Nom. length	100 mm
Diameter	6 mm
Material	Stainless steel 1.4571
Process connection	Clamp blind flange, stainless steel 1.4301
Electrical connection	For cables Ø 3 - 5 mm / size13

### Article

Temperature probes with BINOX 1 connection head for clamp fastening	0628 0072-100
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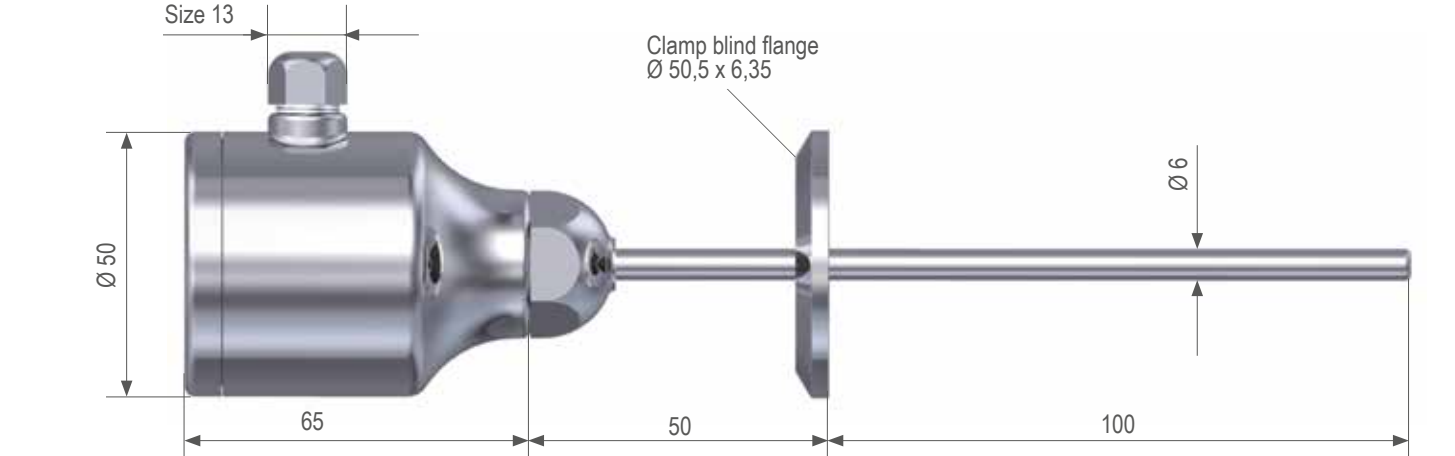
Additional sensors and dimensions are available on request.

### Accessories

Counter clamp	0170 0726-02
Clamping ring with wing nut	0170 0726-03
Sealing ring	0135 0099-01

- Performance features:**
- Head seal made of EPDM
  - Clamp blind flange for counter clamp Ø 50.5 x 6.35 mm
  - Cable gland for cables with Ø 3 mm - Ø 5 mm

### Dimensions



## Temperature Probes with BINOX Connection Head<sup>®</sup> 1 and G1/2" thread

Description



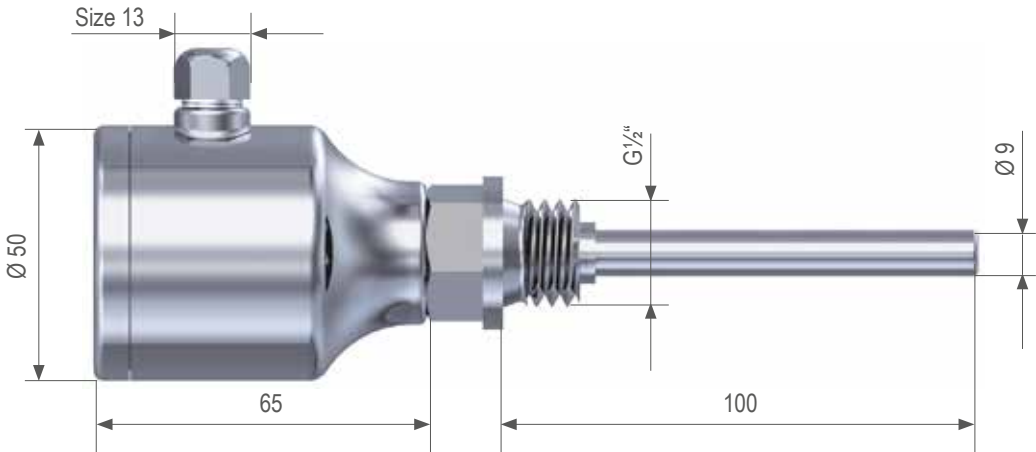
Technical data	
Sensor	Pt100
Measuring range	-50 ...+400 °C
Accuracy	Cl. F 0.3 (previously cl.B) DIN EN 60751
Measuring current	max. 1 mA
Circuit type	3-conductor connection
Nom. length	100 mm
Diameter	9 mm
Material	Stainless steel 1.4571
Process connection	G½"
Electrical connection	For cables Ø 3 - 5 mm / size 13

Article	Art. no.
Temperature probes with BINOX connection head 1	0628 0037-10

Additional sensors and dimensions are available on request.

- Performance features:**
- Head seal made of EPDM
  - Cable gland for cables with Ø 3 - 5 mm

Dimensions



## Temperature Probes with BINOX<sup>®</sup> 3 and BINOX<sup>®</sup> 4 Connection Head

Description



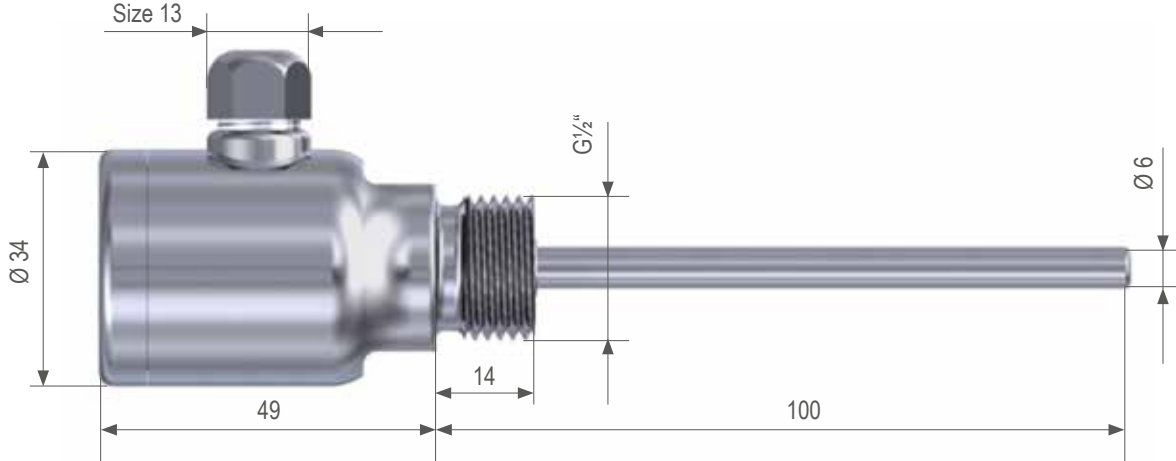
Technical data	
Sensor	Pt100
Measuring range	-50...+400 °C
Accuracy	Cl. F 0.3 (previously cl.B) DIN EN 60751
Measuring current	max. 1 mA
Circuit type	3-conductor connection
Nom. length	100 mm
Diameter	6 mm
Material	Stainless steel 1.4301
Electrical connection	For cables Ø 3 - 5 mm / size13

Article	Art. no.
Temperature probes with BINOX connection head 3	0628 0037-100
Temperature probes with BINOX 4 connection head and G½" thread	0628 0037-101

Additional sensors and dimensions are available on request.

- Performance features:**
- Head seal made of EPDM
  - Cable gland for cables with Ø 3 - 5 mm

Dimensions



## BINOX<sup>®</sup> 1 Connection Head

Description



- Performance features:**
- Head seal made of EPDM
  - All components of the connection head shape B can be used
  - Cable gland for cables with Ø 3 - 5 mm

Technical data	
Head height	65 mm
Head diameter	50 mm
Process connection	M24 x 1.5
Material	Stainless steel 1.4571
Electrical connection	For cables Ø 3 - 5 mm / size 13

Article	Art. no.
BINOX 1 connection head	0400 0128-03

Accessories	Art. no.
2-pin plug-in socket	0400 0087-50
4-pin plug-in socket	0400 0087
6-pin plug-in socket	0400 0087-60
8-pin plug-in socket	0400 0087-10

Dimensions



## BINOX<sup>®</sup> 2 Connection Head

Description



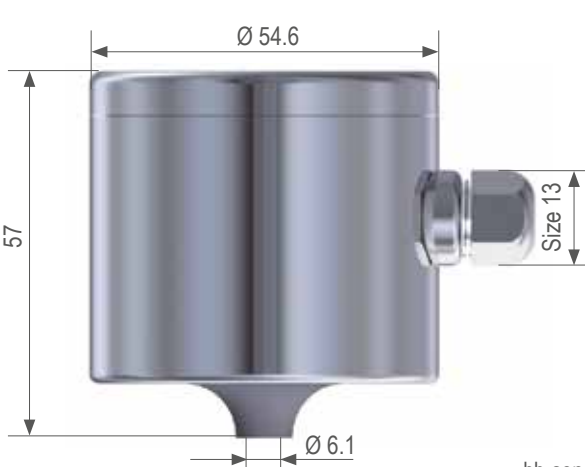
- Performance features:**
- Head seal made of NBR
  - All components of the connection head shape B can be used
  - Cable gland for cables with Ø 3 - 5 mm

Technical data	
Head height	57 mm
Head diameter	54.6 mm
Process connection	Ø 6.1
Material	Stainless steel 1.4571
Electrical connection	For cables Ø 3 - 5 mm / size 13

Article	Art. no.
BINOX 2 connection head	0400 0421-101

Accessories	Art. no.
2-pin plug-in socket	0400 0087-50
4-pin plug-in socket	0400 0087
6-pin plug-in socket	0400 0087-60
8-pin plug-in socket	0400 0087-10

Dimensions



## BINOX<sup>®</sup> 3 Connection Head

Description



- Performance features:**
- Head seal made of EPDM
  - All components of the connection head shape MA can be used
  - Cable gland for cables with Ø 3 - 5 mm

Technical data	
Head height	52 mm
Head diameter	34 mm
Internal bore hole for protective sleeve	6.1 mm
Material	Stainless steel 1.4301
Electrical connection	For cables Ø 3 - 5 mm / size13

Article	Art. no.
BINOX 3 connection head	0400 0099-11

Accessories	Art. no.
2-pin plug-in socket	0400 0090
4-pin plug-in socket	0400 0090-10

Dimensions



## BINOX<sup>®</sup> 4 Connection Head

Description



- Performance features:**
- Head seal made of EPDM
  - All components of the connection head shape MA can be used
  - Cable gland for cables with Ø 3 - 5 mm

Technical data	
Head height	63 mm
Head diameter	34 mm
Process connection	G½"
Internal bore hole for protective sleeve	6.1 mm
Material	Stainless steel 1.4301
Electrical connection	For cables Ø 3 - 5 mm / size13

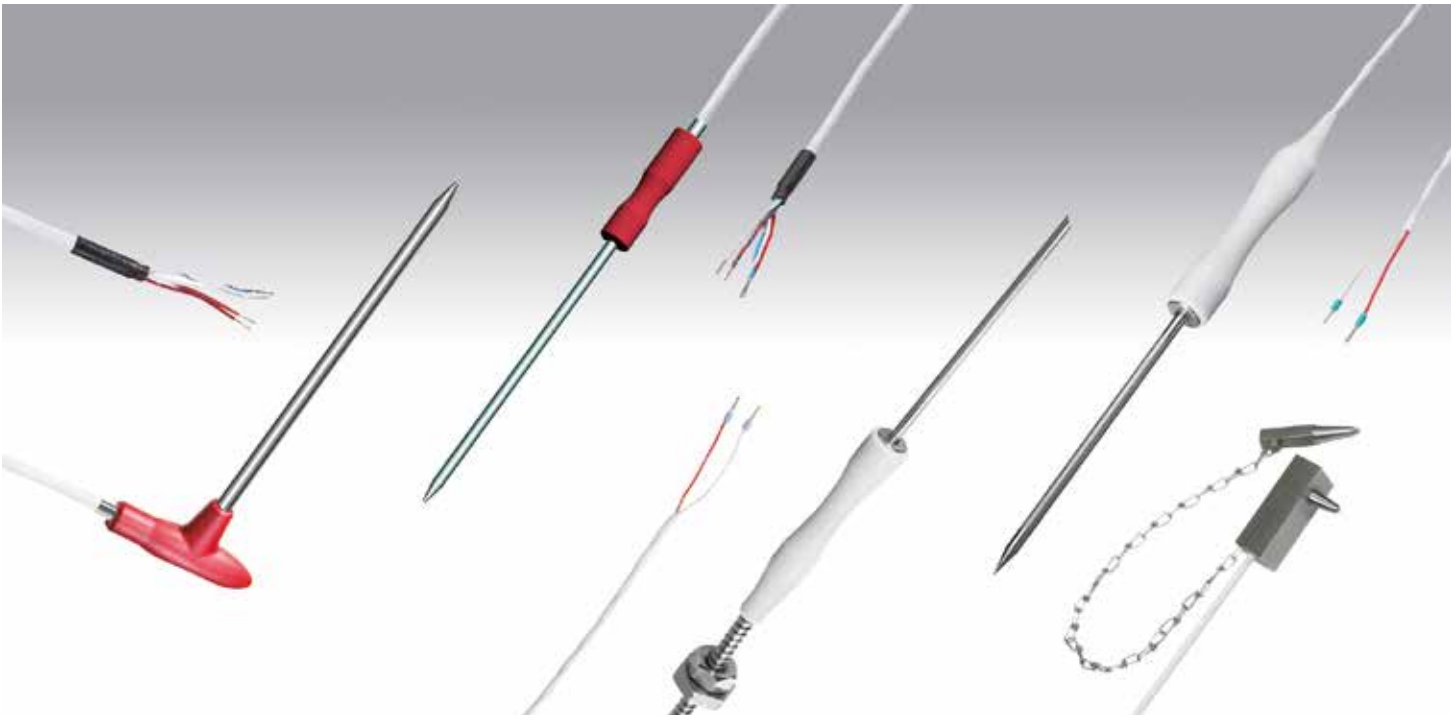
Article	Art. no.
BINOX 4 connection head	0400 0099-05

Accessories	Art. no.
2-pin plug-in socket	0400 0090
4-pin plug-in socket	0400 0090-10

Dimensions







## Penetration Temperature Probes - Temperature Measurements Made at Depth

Due to their special structure, these sturdy and steam-proof penetration temperature probes are preferred for cooking and baking processes in all areas of food processing and preservation. The protective fitting is made of stainless steel and is available with a centric or inclined measuring tip depending on the penetration temperature probe. All versions are designed vibration-resistant. The ergonomic handles made of PEEK or Teflon and the Teflon connection cables are extremely hygienic and are also resistant to acids and alkaline solutions. The probes feature high mechanical strength.

### Applications:

- Food inspection
- Butchers' machines
- Chest freezers
- Cooking appliances
- Automatic baking machines
- Cooking and smoking systems
- Quality assurance in the food industry
- In the kitchen

### Advantages:

- Steam-proof encasing
- Ergonomic handles
- Vibration-resistant
- Measuring range from -50 °C to + 260 °C
- Available with centric and inclined measuring tip



## Ice Block Probe

with 2 sensors and pre-granulating tip

### Description



### Technical data

Sensor	2 x Pt100	
Measuring range	-40...0 °C	
Accuracy	Cl. F 0.3 (previously cl.B) DIN EN 60751	
Measuring current	max. 1 mA	
Circuit type	3-conductor connection	
Probe size	15 x 20 x 50 mm	
Material	Probe	Stainless steel 1.4301
Electrical connection	Free ends, 50 mm	
Connection cable	Length	2500 mm
	Cross-section	6 x 0.14 mm²
	Insulation	PTFE/shielding/PTFE
Protection class	IP65	
Special features	Surface measurement, core measurement at depth of approx. 15 mm	

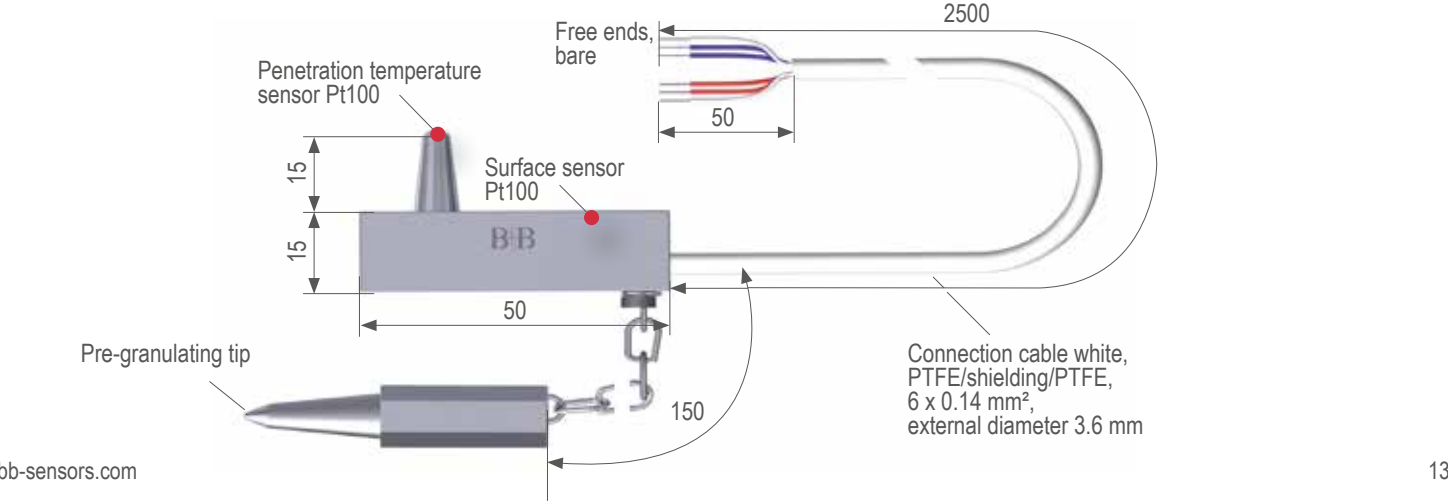
### Article

Article	Art. no.
Ice block probes	0627 0835

### Performance features:

- 2x Pt100 sensors for comparative measurements:
  - 1x surface measurement
  - 1x core measurement at a depth of 15 mm
- Incl. pre-granulating tip

### Dimensions



Penetration Temperature Probe

with inclined measuring tip and screw connection for long-term, reliable installation

Description



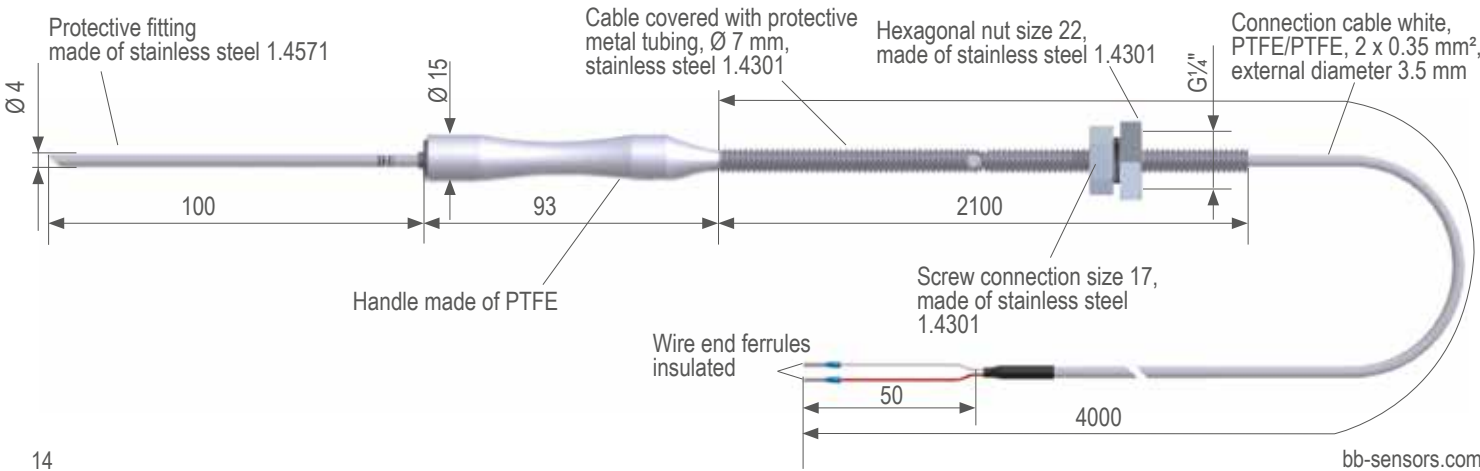
Technical data		
Sensor	Pt100	
Measuring range	-50...+260 °C	
Accuracy	Cl. F 0.3 (previously cl.B) DIN EN 60751	
Measuring current	max. 1 mA	
Circuit type	2-conductor connection	
Nom. length	100 mm	
Diameter	4 mm	
Material	Probe tube	Stainless steel 1.4571
	Handle	PTFE white
Electrical connection	Free ends 50 mm, wire end ferrules insulated	
Connection cable	Length	4000 mm.
	Cross-section	2 x 0.35 mm²
	Insulation	White, PTFE/PTFE

Article	Art. no.
Penetration temperature probe Pt100	0600 0028-10

Additional sensors and dimensions are available on request.

- Performance features:**
- Ergonomic handle made of PTFE (Teflon®)
  - Resistant to acids and alkaline solutions
  - Flexible PTFE connection cable 4000 mm long with option for permanent installation in proofing cabinets, etc. via G1/4" thread
  - Cable covered with protective metal tubing (L=2100 mm)

Dimensions



Penetration Temperature Probe

with centric measuring tip

Description



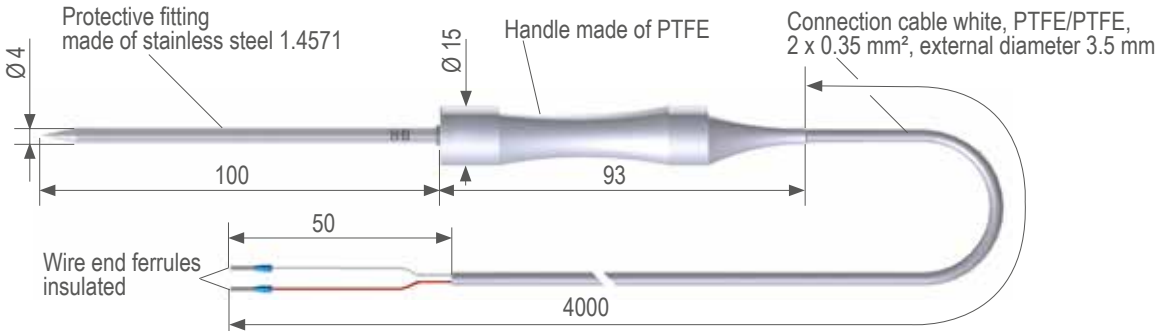
Technical data		
Sensor	Pt100	
Measuring range	-50...+260 °C	
Accuracy	Cl. F 0.3 (previously cl.B) DIN EN 60751	
Measuring current	max. 1 mA	
Circuit type	2-conductor connection	
Nom. length	100 mm	
Diameter	4 mm	
Material	Probe tube	Stainless steel 1.4571
	Handle	PTFE white
Electrical connection	Free ends 50 mm, wire end ferrules insulated	
Connection cable	Length	4000 mm
	Cross-section	2 x 0.35 mm²
	Insulation	White, PTFE/PTFE

Article	Art. no.
Penetration temperature probe Pt100	0600 0007-11

Additional sensors and dimensions are available on request.

- Performance features:**
- Ergonomic handle made of PTFE (Teflon®)
  - Resistant to acids and alkaline solutions
  - Flexible PTFE connection cable 4000 mm long

Dimensions

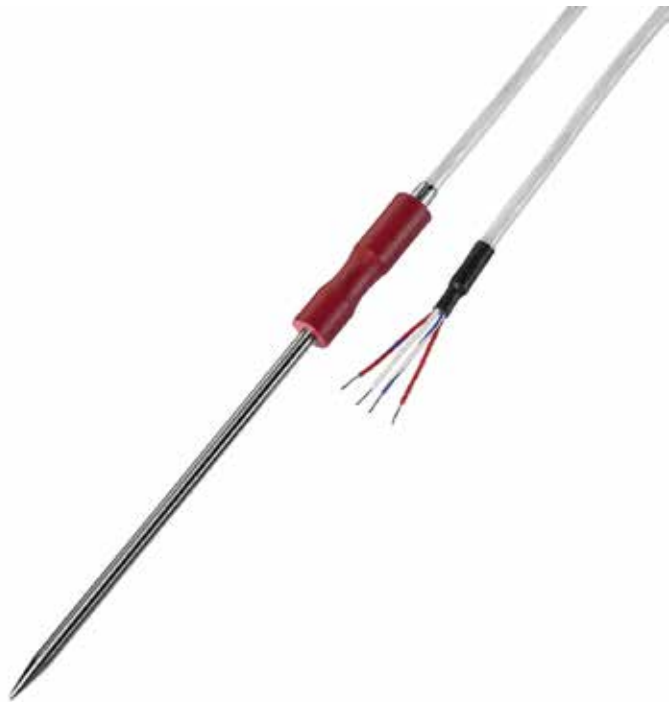




Penetration Temperature Probe

with centric measuring tip and straight handle

Description



- Areas of application:**
- Food inspection
  - Butchers' machines
  - Chest freezers
  - Cooking appliances
  - Automatic baking machines
  - Cooking and smoking systems
  - Quality assurance in the food industry
  - In the kitchen

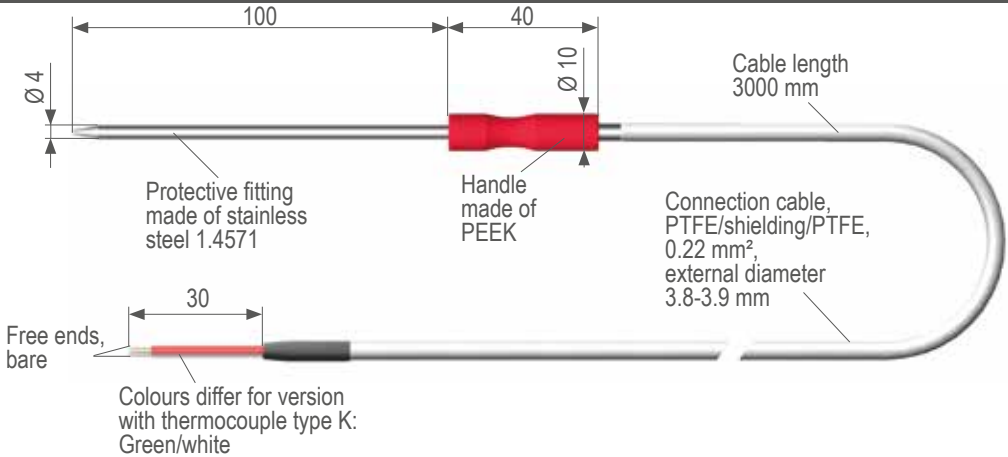
Technical data		
Sensor		Thermocouple type K, NiCr-Ni Pt1000, Pt100
Measuring range		-50...+260 °C Briefly up to +300 °C
Accuracy	NiCr-Ni Pt100/ Pt1000	Cl. 1 DIN EN 60584-01 Cl. F 0.3 (previously cl.B) DIN EN 60751
Measuring current	Pt100 Pt1000	Max. 1 mA Max. 0.3 mA
Circuit type	NiCr-Ni Pt100/ Pt1000	2-conductor connection 4-conductor connection
Nom. length		100 mm
Diameter		4 mm
Material	Probe tube Handle	Stainless steel 1.4571 PEEK
Electrical connection		Free ends 30 mm, bare
Connection cable	Length Cross-section/colour	3000 mm Thermocouple type K: 2 x 0.22 mm <sup>2</sup> / green Pt1000, Pt100: 4 x 0.22 mm <sup>2</sup> / white PTFE/shielding/PTFE
	Insulation	PTFE/shielding/PTFE
Protection class		IP67

Article	Art. no.
Penetration temperature probe, thermocouple type K, centric measuring tip	0600 1112-101
Penetration temperature probe Pt1000, centric measuring tip	0600 0066-101
Penetration temperature probe Pt100, centric measuring tip	0600 0065-101

Additional sensors and dimensions are available on request.

- Performance features:**
- Steam-proof encasing
  - Ergonomic handle made of PEEK
  - Vibration-resistant
  - Measuring range from -50 °C to +260 °C
  - Available with centric and inclined measuring tip

Dimensions



Penetration Temperature Probe

with centric measuring tip and angled handle

Description



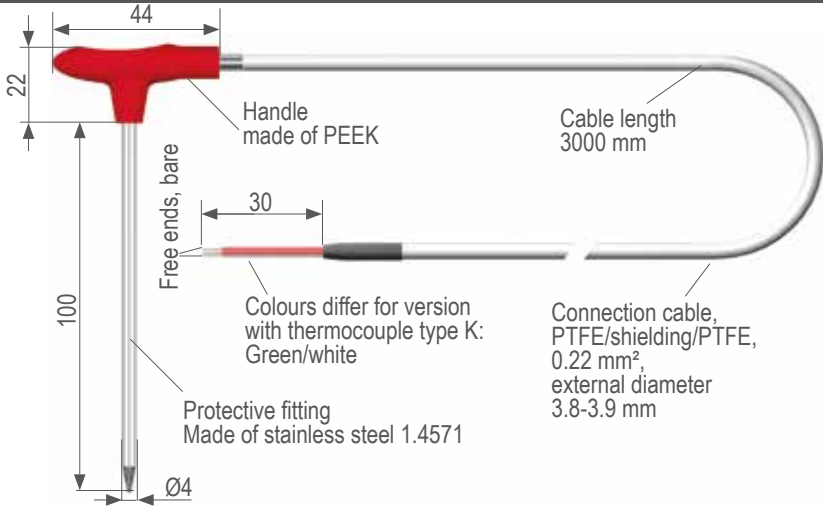
Technical data			
Sensor		Thermocouple type K, NiCr-Ni Pt1000, Pt100	
Measuring range		-50...+260 °C Briefly up to +300 °C	
Accuracy	NiCr-Ni Pt1000	Cl. 1 DIN EN 60584-1 Cl. F 0.3 (previously cl.B) DIN EN 60751	
Measuring current	Pt1000	Max. 0.3 mA	
Circuit type	NiCr-Ni Pt100/Pt1000	2-conductor connection 4-conductor connection	
Nom. length		100 mm	
Diameter		4 mm	
Material	Probe tube Handle L x W x H	Stainless steel 1.4571 PEEK 44 x 12 x 22 mm	
Electrical connection		Free ends 30 mm, bare	
Connection cable	Length Cross-section/colour	3000 mm Thermocouple type K: 2 x 0.22 mm <sup>2</sup> / green  Pt1000: 4 x 0.22 mm <sup>2</sup> / white PTFE/shielding/PTFE	
	Insulation		
Protection class		IP67	

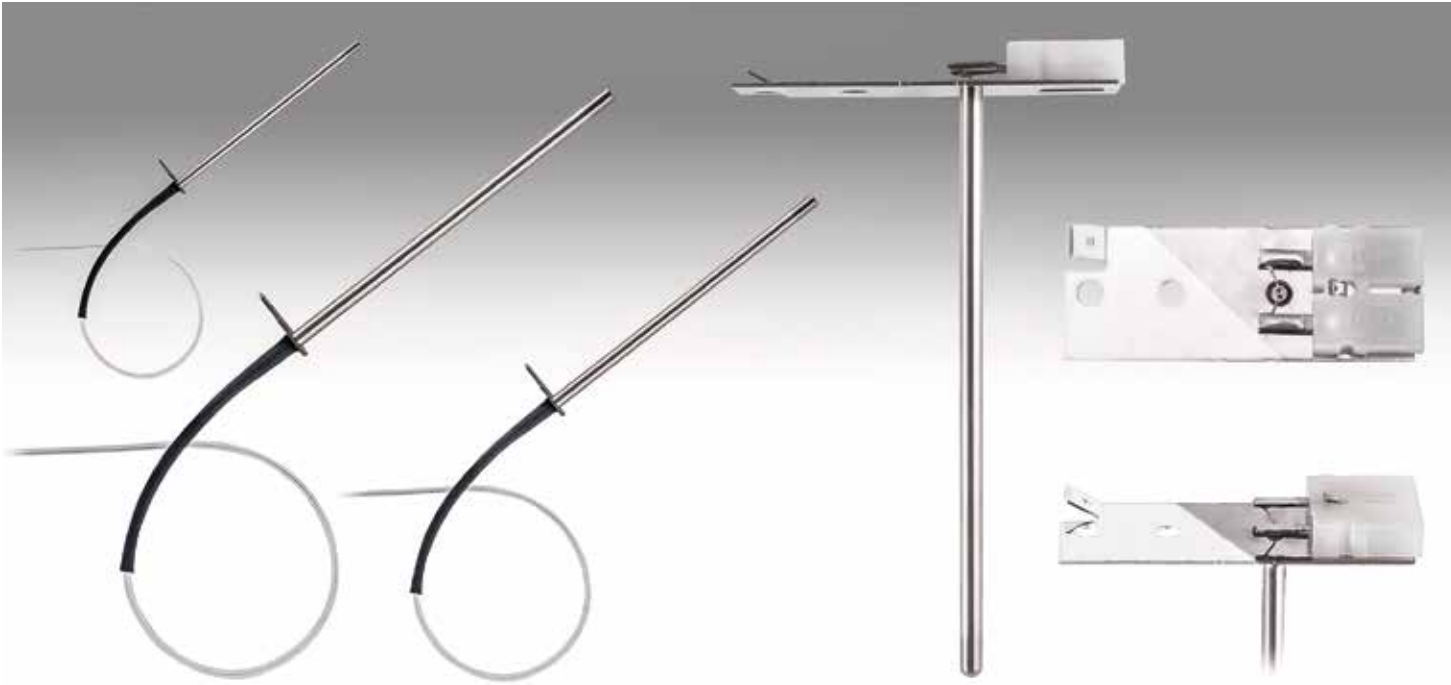
Article	Art. no.
Penetration temperature probe, thermocouple type K, centric measuring tip	0600 1114-101
Penetration temperature probe Pt1000, centric measuring tip	0600 0067-101

Additional sensors and dimensions are available on request.

- Performance features:**
- Ergonomic angled handle made of PEEK
  - For narrow or installed environments
  - Steam-proof encasing
  - Ergonomic handles
  - Vibration-resistant
  - Measuring range from -50 °C to +260 °C
  - Available with centric and inclined measuring tip

Dimensions





## Temperature Probes for Household Electronics

Temperature probes for household electronics are sturdy and easy to mount, with a long service life. These temperature probes are manufactured especially for ovens and cooking chambers. We place special emphasis on close collaboration with our customers in this area to guarantee optimum product development. Our temperature probes for household electronics are also available on request with VDE certification.

**Applications:**

- Ovens
- Cooking chambers

**Advantages:**

- Washable
- Easy to clean
- Fast and maintenance-free installation
- Suitable for pyrolysis



## Temperature Probe

Pt500, Pt1000, class B, 2-conductor connection

Description



Technical data

Sensor	Pt500, Pt1000	
Measuring range	0...+200 °C	
Accuracy	Cl. F 0.3 (previously cl.B) DIN EN 60751	
Measuring current Pt500	max. 0.5 mA	
Measuring current Pt1000	max. 0.1 mA	
Circuit type	2-conductor connection	
Nom. length	100 mm	
Diameter	4 mm	
Material	Protective sleeve, mounting plate	stainless steel 1.4301
Electrical connection	Flat plug/solder connector block, brass tin plated	

Article Art. no.

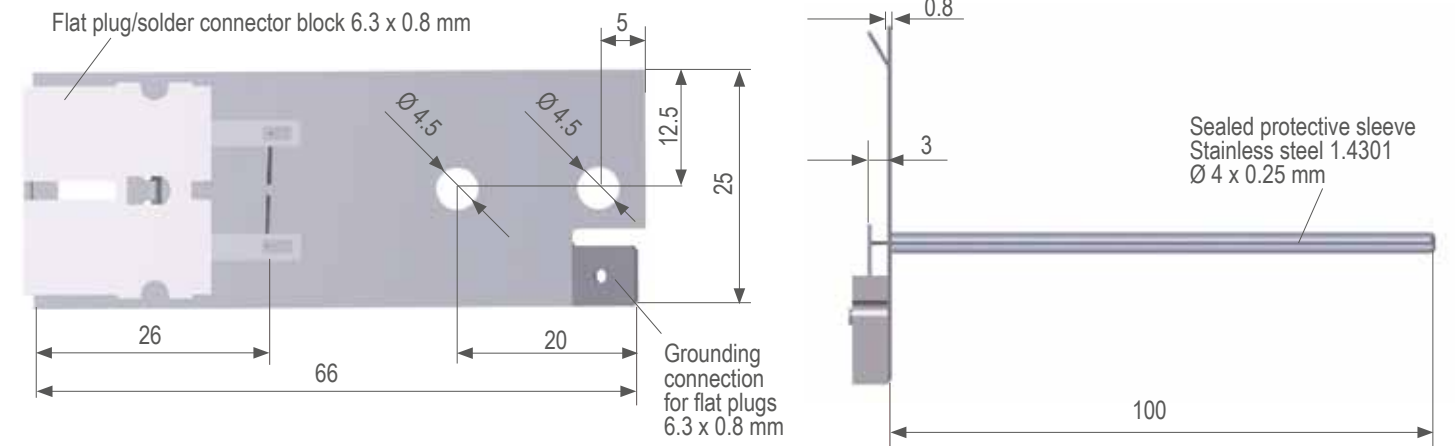
Temperature probe Pt500	0627 0472-100
Temperature probe Pt1000	0627 0472-101

Additional sensors and dimensions are available on request.

**Performance features:**

- Vibration-resistant, sturdy with long service life
- Fast electrical mounting

Dimensions



Cable Probe

Pt1000, class B, 2-conductor connection

Description

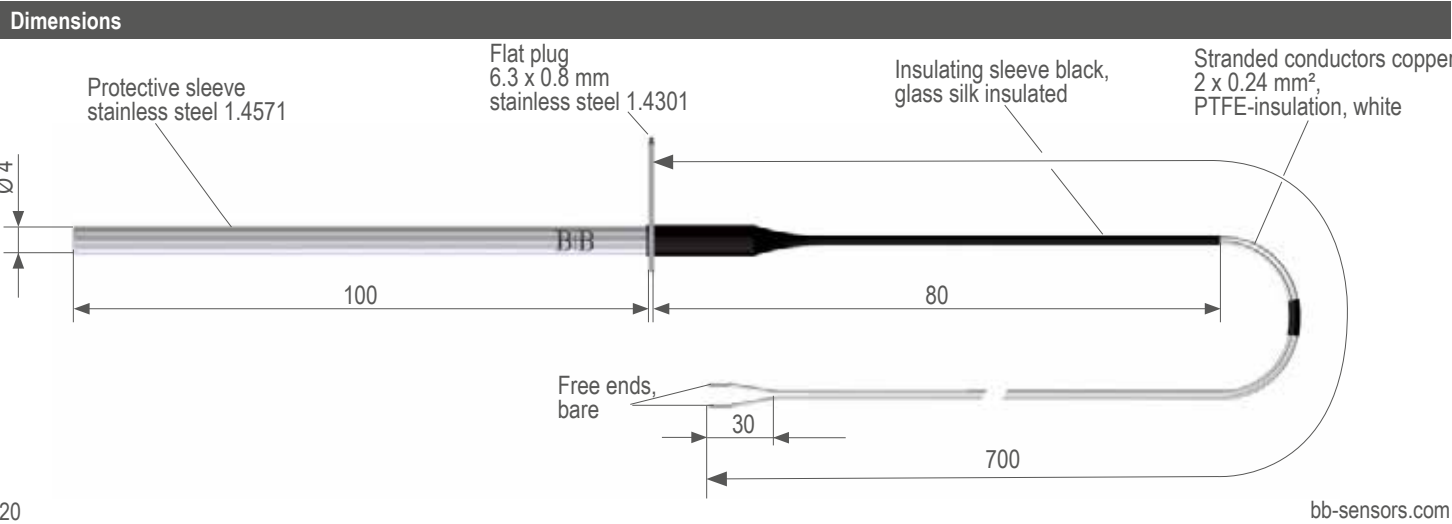


Technical data		
Sensor	Pt1000	
Measuring range	0...+550 °C	
Accuracy	Cl. F 0.3 (previously cl.B) DIN EN 60751	
Measuring current	max. 0.1 mA	
Circuit type	2-conductor connection	
Nom. length	100 mm	
Diameter	4 mm	
Material	Protective sleeve	Stainless steel 1.4571
Electrical connection	Free ends 30 mm, bare	
Connection cable	Length	700 mm
	Cross-section	2 x 0.24 mm²
	Insulation	PTFE
Protection class of probe tube	IP67	
Article		Art. no.
Cable probe Pt1000		0625 0279-100

Additional sensors and dimensions are available on request.

- Performance features:**
  - Vibration-resistant, sturdy with long service life
  - Fast electrical mounting
  - Cable probe for monitoring the self-cleaning function (pyrolysis probe)
  - Easy to clean
  - Fast and maintenance-free installation

- Areas of application:**
  - Ovens
  - Cooking chambers



Digital and Infrared Thermometers

Digital and infrared thermometer from B+B ideally suited for HACCP applications in food technology. They provide fast and exact measurement results in applications where conventional thermometers are not used.

The HACCP digital thermometer with Pt1000 penetration temperature probe is an excellent instrument for mobile measurements of temperatures. It can be used for process monitoring in laboratories, in production processes for frozen goods or to monitor chest freezers. The device features a dustproof and waterproof design and with the double display, the current measured value always remains in view when min/max and hold values are displayed.

The FoodPro and FoodPro-Plus infrared thermometers are specially adjusted for food control. Direct measuring is possible with the presetting of the emission level. The B+B FoodPro-Plus infrared thermometer combines contact-free surface measurements and measurements of the core temperature in one device. Especially worth noting is the installed timer with alarm function which makes it convenient to monitor temperature-time sequences such as processes that involve heating up, keeping hot and cooling off.

- Advantages:**
  - Fast temperature measurements with no risk of contamination
  - Makes the extensive tasks involved in HACCP checks much easier
  - Verification of the surface temperature by additional measurement of the core temperature
  - Monitoring of temperature-time sequences



Waterproof HACCP Thermometer

with Pt1000 probe

Description



- Performance features:
- Pt1000 penetration temperature probe, permanently connected with the device with PEEK handle for temperatures up to +250 °C
  - PTFE connection cable
  - Sturdy waterproof design
  - Easy-to-clean surfaces
  - High-quality measurement technology and mechanics
  - Long battery runtime
  - Easy to operate
  - High system accuracy and speed
- Areas of application:
- Quality control for food production
  - Monitoring of production processes
  - Incoming goods check
  - Transport monitoring
  - Laboratories

Technical data		
Measuring range	-200...+250 °C	
Penetration temperature probes	Pt1000, 2-conductor connection, potential-free waterproof and steam-proof, permanently connected with device, probe tube Ø 4 mm, length 100 mm with connection cable PTFE 1000 mm	
Accuracy	For -20...+100 °C ± 1 °C ± 1 digit for -70...+200 °C ± 0.1 % of meas. val. ± 2 digits Probe calibrated to the device	
Protection class	Probe	IP67
Protection class	Device	IP65 housing made of impact-resistant ABS
Response time T <sub>90</sub>	Approx. 10 s	
Display	Two 4-place LCDs (12.4 mm and 7 mm)	
Working temperature	-25...+50 °C	
Storage temperature	-30...+70 °C	
Power supply	9 V battery	
Battery operating time	> 6000 hours	
Dimensions (W x H x D)	67 x 106 x 30 mm	
Weight	245 g (incl. battery and probe)	
Scope of delivery	Measuring instrument, probe, 9 V battery and operating manual on CD	

Article	Art. no.
HACCP thermometer with Pt1000 probe	0560 2710

Accessories	Art. no.
Silicone protective sleeve for HACCP thermometer	0554 2710



FoodPro Infrared Thermometer

FoodPro infrared measuring device

Description



- Performance features:
- Laser pointer
  - Hold value function (7 seconds)
  - Short response time
  - Emission factor (0.97) adjusted for food
  - Recommended distance 25 to 250 mm
  - Measuring spot Ø 12...100 mm
  - HACCP check display
  - Protection class IP54, washable
- Areas of application:
- Quality control for food production
  - Monitoring of production processes
  - Incoming goods check
  - Transport monitoring
  - Laboratories

Technical data	
Measuring range	-30...+200 °C
Operating temperature	0...+50 °C
Device accuracy	Between -10...+65 °C ±1 °C above +65 °C ±1.5 %
Protection class	IP54, washable
Response time	< 500 ms
Resolution	0.2 °C
Ratio of distance : Measuring spot	2.5 : 1
Minimum measuring spot diameter	12 mm
Ambient temperature	0...+50 °C
Battery	9 V
Battery life (at 23 °C)	approx. 10 h
Dimensions (W x H x D)	30 x 150 x 50 mm
Weight	100 g
Scope of delivery	Infrared measuring device incl. battery and operating manual

Article	Art. no.
FoodPro infrared thermometer	0560 0030

HACCP

HACCP Check Display

(HACCP check)

An orderly and repeatable procedure is important for the HACCP check. The HACCP check helps ensure this:

green - red - green  
good - Caution - good

The "Caution" range includes the temperature range that perishable goods should only traverse briefly (+4...+60 °C). The measured temperature appears on the display.

The HACCP check display is available in the FoodPro and FoodPro-Plus infrared thermometer.

# FoodPro-Plus Infrared Thermometer

FoodPro-Plus infrared measuring device

## Description



Technical data			
	Core measurement	IR measurement	
Measuring range	-40 °C...+200 °C	-35 °C...+275 °C	
Operating temperature		0...+50 °C	
Device accuracy	0...65 °C	±0.5 °C	±1 °C
	< 0 °C	±1 °C	±1 °C
	> 65 °C	±1 %	±1.5 %
Protection class		IP54, washable	
Response time	7 - 8 sec.	< 500 ms	
Resolution		0.1 °C	
Ratio of distance : Measuring spot		2.5 : 1	
Minimum measuring spot diameter		12 mm	
Ambient temperature		0...+50 °C	
Battery		9 V	
Battery life (at 23°C)		approx. 10 h	
Dimensions (W x H x D)		32 x 165 x 50 mm	
Weight		150 g	
Scope of delivery		Infrared measuring device incl. batteries and operating manual	

Article	Art. no.
FoodPro-Plus infrared thermometer	0560 0031

- Performance features:**
- Fast temperature control of surfaces without the risk of contamination
  - Makes the extensive tasks involved in HACCP checks significantly easier
  - Monitoring of temperature-time relations
  - Surface temperature verification by measuring the core temperature
  - Protection class IP54, washable
  - Clear signalling

- Areas of application:**
- Quality control for food production
  - Monitoring of production processes
  - Incoming goods check
  - Transport monitoring
  - Laboratories

HACCP

### HACCP Check Display

(HACCP check)

An orderly and repeatable procedure is important for the HACCP check. The HACCP check helps ensure this:

green - red - green  
good - Caution - good

The "Caution" range includes the temperature range that perishable goods should only traverse briefly (+4...+60 °C). The measured temperature appears on the display.

The HACCP check display is available in the FoodPro and FoodPro-Plus infrared thermometer.



## Stationary Infrared Measurement Technology

B+B infrared measurement technology offers you optimum features for checking and monitoring your processes. The process and product temperature is an important physical measured quantity in many processing methods used for foods. Contact-free temperature measurements with infrared sensor systems are a highly efficient method for observing and controlling these processes. It supports companies in the food industry in achieving a high level of quality in their production lines.

- Applications:**
- Monitoring production processes, selectively or as a thermal image
  - Control in the production area, also with alarm function
  - Documentation

- Advantages:**
- Compact and programmable
  - Short response times
  - High precision
  - Fast and contact-free



IR-ThermoControl Camera System

for quality monitoring in the plastics industry

Description



- Performance features:
- IR thermography on moulded parts
  - Effective detection of deformed injection moulds
  - Easy and flexible installation thanks to extensive accessories
  - Outstanding price-to-performance ratio
  - High-performance, user-friendly software for Windows® computers
  - Define a practically unlimited number of critical zones on the moulded part with your limit values
  - Define different measures when limits are violated

- Areas of application:
- Quality monitoring / Protection during the injection moulding process
  - Systematic parameter setting for injection moulding tools that have just been set up

Technical data	
Optical resolution	160 x 120 px
Spectral range	7.5 to 13 µm
Measuring range	-20...+900 °C Divided into 3 ranges for better contrast -20...+100 °C, 0...+250 °C, and +150...+900 °C
Refresh rate	120 Hz
Standard lens	23° x 17° / f = 10 mm
Optional lenses	41° x 31° / f = 5.7 mm 72° x 52° / f = 3.3 mm 6° x 5° / f = 35.5 mm
Thermal sensitivity	80 mK where 23° x 17° / F = 0.8 300 mK where 6° x 5° / F = 1.6 100 mK where 41° x 31° and 72° x 2° FOV / F = 1
Accuracy	± 2 °C or ± 2 %
PC interface	USB 2.0, including shielded 5 m USB cable
Process interface (PIF)	0...10 V input, digital input, 0...10 V output including DIO55 communication module, with mains adapter for triggering recording and feedback on the injection moulding machine
Power supply	via USB
Ambient temperature	0...+50 °C
Storage temperature	-40...+70 °C
Relative humidity	20...80 %, non-condensing
Dimensions (L x W x H)	62 x 45 x 45 mm
Protective index	IP 67 (NEMA 4)
Shock / vibration	25G, IEC 68-2-29 / 2G, IEC 68-2-6
Mechanical installation	Magnetic stand ensures flexibility
Software	ThermoControl, complete, with image processing module, adjustment of process-critical parameters, AOI, temperature limits, platform WIN XP®, WIN 7®
Scope of delivery	1 x USB infrared camera ThermoCam, 160 x 120 pixels with standard lens 23° x 17° 1 x IR-ThermoControl software, basic version 1 x communication module DIO55 (digital) 1 x mains adapter for DIO55 1 x magnetic stand including threaded pin for fastening the camera, 2 x USB cables, length 1 metre standard and length 5 metres shielded 1 x Active PIF cable for process control of the camera set in aluminium case with operating manual

Article	Art. no.
IR-ThermoControl camera system	0560 0950

Accessories	Art. no.
Infrared camera thermo cam, with lens 6 ° x 5 °	0560 0904
Infrared camera thermo cam, with lens 23 ° x 17 °	0560 0905
Infrared camera thermo cam, with lens 48 ° x 37 °	0560 0906

Infrared Temperature Measuring Device

DM301 D

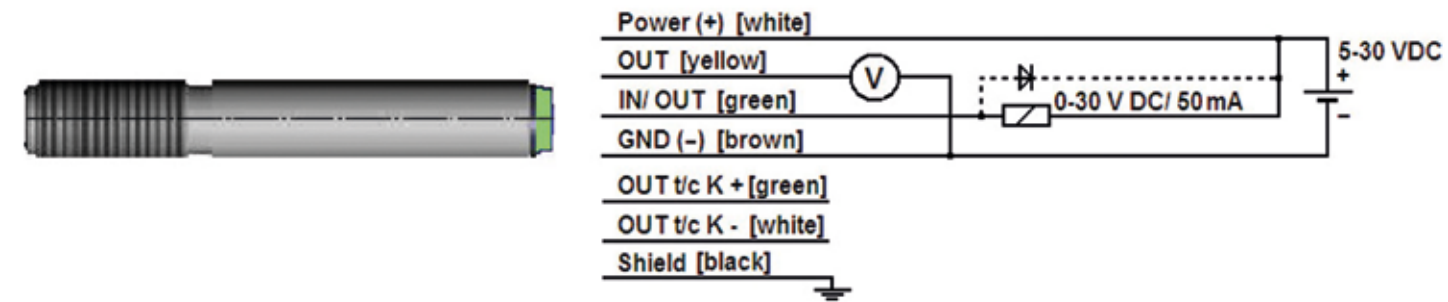
Description



Technical data	
Measuring range	-40...+350 °C via USB programming kit extendible to +1030 °C
Ambient temperature	-20...+80 °C, without cooling
Relative humidity (non-condensing)	10...95 %
Ratio of distance : Measuring spot	15 : 1
Smallest measuring spot diameter	7 mm
Accuracy (object temperature > 0 °C)	±1.5 % or ±1.5 °C
Reproducibility (at 23 °C)	±0.75 % or ±0.75 °C
Response time T95	25 ms
Heating-up time	10 min
Emission level adjustable	0.1...1.1
Transmission level	0.1...1.1
Protection class	IP63
Spectral range	8 - 14 µm
Electrical connection	/ 01 programmable as output 0-5 V, 0-10 V or as alarm I / 02 programmable as analogue input 0-10 V or as digital in / output / alarm
Alarm output	0-30 V / 50 mA (open collector)
Connection cable length	1 m, optionally 3 m, 8 m or 15 m
Power supply	5-30 V DC
Dimensions of measuring head	Ø 12 mm, M12 x 1, L= 87 mm
Programming	with optional programming kit
Scope of delivery	Sensor, operating manual on CD

Article	Art. no.
DM301 D with 1 m cable	0560 0447-20
USB programming kit with software on CD	0554 2005-10

- Performance features:
- Emission level adjustable via 0-10 V DC input or software
  - Output 0-5 V or 0-10 V freely scalable or alarm with adjustable voltage levels
  - Connection cable 1 m (standard), 3 m, 8 m or 15 m optional
  - USB programming kit, incl. plug-in socket and software on CD







## Data Loggers

For the food industry

Data loggers from B+B Thermo-Technik are electronic data recording systems. Continuous measurements made by sensors can be recorded with these systems. Many different thermocouples and sensors with standardised outputs (0 to 10 V DC, 4 to 20 mA, DC or Pt100) can be connected to the data logger for temperature measurements. Even in harsh industrial environments (up to protection class IP67), the systems record the relevant variables precisely and reliably in digital format (up to 32,000 measured values). All settings and measurements can be transferred to a PC via an interface and displayed easily with the user-friendly software, providing a clear overview in graphical or table format.

- Applications:

  - Quality assurance
  - Process monitoring
  - Room monitoring
  - Transport monitoring
  - Incoming goods check

- Advantages:

  - Compact and programmable
  - High precision
  - Reliable data recordings



## TagTemp USB Data Loggers

for measuring ambient temperature in mobile applications

Description



Technical data

<b>Temperature</b>	
Measuring range	-20...+70 °C
Accuracy (at 25 °C)	±0.5 °C, max. ±1 °C in the entire measuring range
Resolution	0.1 °C
<b>General</b>	
Storage capacity	32 k
Measurement interval	min: 5 s / max: 18 h
Power supply	3.0 V lithium battery (CR2032), internal
Protection class	IP67
Dimensions (L x W x H)	55 x 37.5 x 15 mm
Interface	PC interface via micro USB

<b>Article</b>	<b>Art. no.</b>
Data logger	0568 0037-01

- Performance features:

  - Small, portable electronic data logger for ambient temperature
  - Values are created in the internal electronic memory
  - Data can be evaluated subsequently on a PC
  - Software LogChart II included with delivery
  - Micro USB cable required
  - Measurement parameters are easy to define with software
  - Measurement data can be exported

- Areas of application:

  - Temperature monitoring
  - Goods during transport
  - Storage rooms
  - Greenhouses
  - Food industry
  - Quality assurance
  - Temperature measurements in buildings, air conditioning, meteorology

Dimensions



# LogBox AA IP67

2 channel data logger for temperature and analogue industrial sensors

Description



- Performance features:**
- Visual alarm display (LED)
  - Input channels freely selectable
  - Ring buffer/end of recording when the end of storage capacity is reached
  - 1 alarm value (min. or max.) can be programmed for each channel
  - Start of data recording: Immediately after programming or daily in the same time window (programmable)
  - Integrated real-time clock
  - Infrared interface for optional USB interface IRLink-3 (needed to configure the data logger and to read measured value memory.)

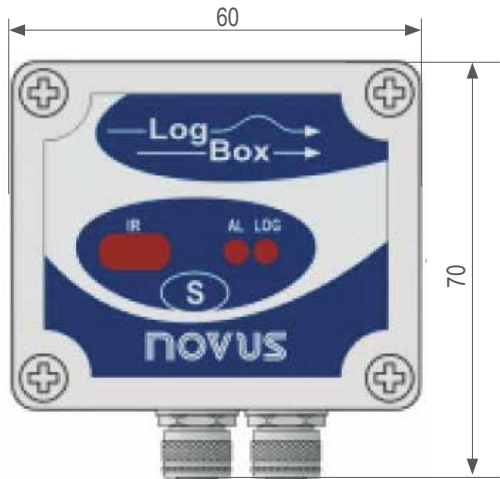
- Areas of application:**
- Temperature monitoring of goods during transport
  - In storage rooms and greenhouses
  - Food industry
  - Quality assurance
  - Temperature measurements in buildings, air conditioning, meteorology
  - Process monitoring

Technical data

Measuring ranges for thermocouple type	J K T E N R S B	-50...+760 °C -90...+1370 °C -100...+400 °C -40...+720 °C -90...+1300 °C 0...+1760 °C 0...+1760 °C +150...+1820 °C
Measuring ranges for	Pt100 DC linear/ scalable	-200...+630 °C 0...50 mV, 0...10 V 0...20 mA, 4...20 mA
Accuracy (% of measuring range) for thermocouple type	J, K, T, E N, R, S, B	0.25 % ±1 °C 0.25 % ±3 °C
Accuracy (% of measuring range) for	Pt100 DC linear	0.20 %
Ambient temperature		-40...+70 °C
Measurement rate		min. 1 s, max. 18 h
Storage capacity for measured values		32,000
Connection		2 x M8 plug connectors with connected cable
Battery		3.6 V Lithium, 1/2 AA
Battery operating time		approx. 1 year (measurement interval 5 min. and 1 data read per day)
Software language		English
Protection class		IP67
Device dimensions (W x H x D) without cable gland		70 x 60 x 35 mm
Scope of delivery		Data logger incl. battery and operating manual

Article	Art. no.
LogBox IP67	0568 0034
USB interface IRLink-3, software	0568 0036

Dimensions



# LogBox RHT with LCD

data logger with integrated temperature-humidity sensor

Description



- Performance features:**
- Integrated LCD for visual data output
  - Integrated temperature-humidity sensor
  - Manual or program-controlled start of measurement: Immediately, according to date or time entry or when a defined temperature is reached
  - Adjustable measurement rate: 1 sec. ...18 hrs.
  - Storage capacity: 32,000 measured values
  - Two adjustable alarm limit values
  - Infrared interface for optional USB interface IRLink-3

Technical data

<b>Temperature</b>	
Measuring range	-40...+80 °C
Accuracy (at +25 °C)	±0.5 °C
Measurement resolution	0.1 °C
Ambient temperature	-40...+80 °C
<b>Humidity</b>	
Measuring range	0...100 % RH
Accuracy (at +25 °C)	±3 %
Measurement resolution	0.1 % RH
<b>General</b>	
Measurement rate	min. 1 sec., max. 18 hrs.
Storage capacity for measured values	32,000
Battery	3.6 V Lithium, 1/2 AA
Battery life	> 200 days
Software language	English
Protection class	IP65
Dimensions (L x W x H)	60 x 70 x 35 mm

Article	Art. no.
LogBox RHT with LCD	0568 0038-01
USB interface IRLink-3, software	0568 0036

- Areas of application:**
- Air quality control and monitoring in storage rooms, transport containers and greenhouses
  - Food industry
  - Quality assurance
  - Humidity and temperature measurements in buildings
  - Air conditioning and meteorology

Dimensions



kiro solo WLAN Data Logger

1 x °C with display

Description



Note:  
The corresponding cloud and the temperature probe are not included with delivery and must therefore be ordered separately.

Performance features:

- Integrated LCD colour display according to CDC requirements
- Reporting and alarm function via e-mail
- Real-time query at the press of a button
- Multi-LED display
- Defined measurement interval of 15 min
- Buffer storage for up to 400 measured values
- Device-independent - no other hardware needed
- Scalable
- Lowest procurement and operating costs
- Optional power supply
- Easy export as \*.xls, \*.csv, \*.pdf for further processing
- Microsoft® Azure Cloud
- Patented firmware
- Mounting with cable ties or wall bracket

Technical data

Temperature	
Measuring range	-50...200 °C
Operating temperature	-40...75 °C, up to 95 % RH
General	
Display	1.8" TFT LCD colour display
WLAN	IEEE 802.11 b/g 54 MBit/s
Warranty	1 year warranty
Enterprise Security	PEAPv0 with EAP-MSCHAPv2 (PEAP)
Storage	On-transmitter buffer storage
Alarm	Via e-mail
Housing	ABS plastic housing with silicone seal
WLAN frequency range	2.4 to 2.497 GHz
Power supply	4 x 3.6 V AA lithium thionyl chloride batteries
Glycol vial	Sealed to insulate the temperature probe

Article	Art. no.
B+B kiro solo 1 x °C	0566 1001-20

Areas of application:

- Hospitals
- Wine cellars
- Laboratories
- Food monitoring
- Vaccine monitoring
- Clean room monitoring
- Machine monitoring
- Agriculture
- Transport monitoring
- Cold chains
- Printing industry
- Museums
- Server rooms

Dimensions



kiro solo WLAN Data Logger

2 x °C with display

Description



Note:  
The corresponding cloud and the temperature probes are not included with delivery and must therefore be ordered separately.

Performance features:

- Integrated LCD colour display according to CDC requirements
- Reporting and alarm function via e-mail
- Real-time query at the press of a button
- Multi-LED display
- Defined measurement interval of 15 min
- Buffer storage for up to 400 measured values
- Device-independent - no other hardware needed
- Scalable
- Lowest procurement and operating costs
- Optional power supply
- Easy export as \*.xls, \*.csv, \*.pdf for further processing
- Microsoft® Azure Cloud
- Patented firmware
- Mounting with cable ties or wall bracket

Technical data

Temperature	
Measuring range	-50...200 °C
Operating temperature	-40...75 °C, up to 95 % RH
General	
Display	1.8" TFT LCD colour display
WLAN	IEEE 802.11 b/g 54 MBit/s
Warranty	1 year warranty
Enterprise Security	PEAPv0 with EAP-MSCHAPv2 (PEAP)
Storage	On-transmitter buffer storage
Alarm	Via e-mail
Housing	ABS plastic housing with silicone seal
WLAN frequency range	2.4 to 2.497 GHz
Power supply	4 x 3.6 V AA lithium thionyl chloride batteries
Glycol vial	Sealed to insulate the temperature probe

Article	Art. no.
B+B kiro solo 2 x °C	0566 1002-20

Areas of application:

- Hospitals
- Wine cellars
- Laboratories
- Food monitoring
- Vaccine monitoring
- Clean room monitoring
- Machine monitoring
- Agriculture
- Transport monitoring
- Cold chains
- Printing industry
- Museums
- Server rooms

Dimensions





kiro solo WLAN Data Logger

1 x °C / % RH with display

Description



Note:  
The corresponding cloud and the temperature / humidity probe are not included with delivery and must therefore be ordered separately.

Performance features:

- Integrated LCD colour display according to CDC requirements
- Reporting and alarm function via e-mail
- Real-time query at the press of a button
- Multi-LED display
- Defined measurement interval of 15 min
- Buffer storage for up to 400 measured values
- Device-independent - no other hardware needed
- Scalable
- Lowest procurement and operating costs
- Optional power supply
- Easy export as \*.xls, \*.csv, \*.pdf for further processing
- Microsoft® Azure Cloud
- Patented firmware
- Mounting with cable ties or wall bracket

Technical data

Temperature	
Measuring range	-40...120 °C
Operating temperature	-40...75 °C, up to 95 % RH
Humidity	
Measuring range	0...100 % RH
General	
Display	1.8" TFT LCD colour display
WLAN	IEEE 802.11 b/g 54 MBit/s
Warranty	1 year warranty
Enterprise Security	PEAPv0 with EAP-MSCHAPv2 (PEAP)
Storage	On-transmitter buffer storage
Alarm	Via e-mail
Housing	ABS plastic housing with silicone seal
WLAN frequency range	2.4 to 2.497 GHz
Power supply	4 x 3.6 V AA lithium thionyl chloride batteries

Article	Art. no.
B+B kiro solo 1 x °C / % RH	0566 1003-20

Areas of application:

- Hospitals, laboratories
- Wine cellars
- Food monitoring
- Monitoring of vaccines, clean rooms, machines and transport
- Agriculture
- Cold chains
- Printing industry
- Museums
- Server rooms

Dimensions



kiro solo WLAN Data Logger

universal

Description



Note:  
The corresponding cloud and the probes are not included with delivery and must therefore be ordered separately.

Performance features:

- Reporting and alarm function via e-mail
- Real-time query at the press of a button
- Multi-LED display
- Defined measurement interval of 15 min
- Buffer storage for up to 400 measured values
- Device-independent - no other hardware needed
- Scalable
- Lowest procurement and operating costs
- Optional power supply
- Easy export as \*.xls, \*.csv, \*.pdf for further processing
- Microsoft® Azure Cloud
- Patented firmware
- Mounting with cable ties or wall bracket

Technical data

Measuring range	0...5 V, 0...10 V, 4...20 mA
WLAN	IEEE 802.11 b/g 54 MBit/s
Warranty	1 year warranty
Enterprise Security	PEAPv0 with EAP-MSCHAPv2 (PEAP)
Storage	On-transmitter buffer storage
Alarm	Via e-mail
Housing	ABS plastic housing with silicone seal
WLAN frequency range	2.4 to 2.497 GHz
Power supply	4 x 3.6 V AA lithium thionyl chloride batteries

Article	Art. no.
B+B kiro solo universal 0-5 V	0566 1004
B+B kiro solo universal 0-10 V	0566 1005
B+B kiro solo universal 4-20 V	0566 1006

Areas of application:

- Hospitals, laboratories
- Wine cellars
- Food monitoring
- Monitoring of vaccines, clean rooms, machines and transport
- Agriculture
- Cold chains
- Printing industry
- Museums
- Server rooms

Dimensions



kiro multi Sensor Nodes

temperature, humidity, air pressure and brightness

Description



Note:  
The corresponding cloud and the gateway are not included with delivery and must therefore be ordered separately.

- Performance features:
- Sensor nodes for a wireless network
  - Easy plug-and-play installation without laying any cables
  - Bidirectional signal transfer in the 868 MHz ISM band
  - Star and mesh topology can be used
  - Each device can also be used as a repeater
  - Extremely low power consumption due to proprietary wireless technology
  - Energy self-sufficient with solar cell
  - Transfer of measured values to a central point and from there to the cloud
  - Reporting and alarm function via e-mail
  - Real-time query at the press of a button
  - Measurement interval adjustable to 3 seconds or more
  - Up to 2 years rechargeable battery time
  - With micro-USB port for recharging the batteries via power bank or power supply
  - Optional locking wall bracket
  - Optional power supply
  - Easy export as \*.xls, \*.csv, \*.pdf for further processing
  - Measured values stored in Germany

Technical data	
Measuring range	
Temperature	-40...85 °C
Air humidity	0...100 % RH
Air pressure	300...1100 hPa
Brightness	0.045...188.000 Lux
Operating temperature	-20...60 °C, up to 95 % RH
General	
Warranty	1 year warranty
Alarm	Via e-mail
Housing	ABS plastic housing
Frequency range	886 MHz
Power supply	2 x 3.2 V LiFePo4 rechargeable battery, 5 V solar cell, 5 V µUSB power supply

Article	Art. no.
B+B kiro multi sensor node solar cell, brightness, RH/T/P	0566 2000-10

- Areas of application:
- Hospitals
  - Wine cellars
  - Laboratories
  - Food monitoring
  - Vaccine monitoring
  - Clean room monitoring
  - Machine monitoring
  - Agriculture
  - Transport monitoring
  - Cold chains
  - Printing industry
  - Museums
  - Server rooms

Dimensions



kiro multi Sensor Nodes

brightness, M8 for Pt1000, SMA antenna connection

Description



Note:  
The corresponding cloud and the gateway, the temperature probe and the external antenna are not included with delivery and must therefore be ordered separately.

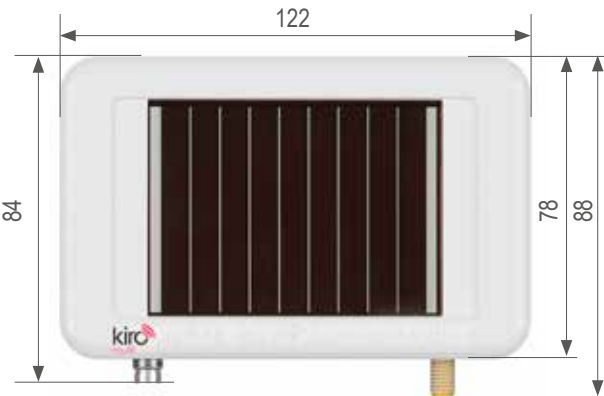
- Performance features:
- Sensor nodes for a wireless network
  - Easy plug-and-play installation without laying any cables
  - Bidirectional signal transfer in the 868 MHz ISM band
  - Star and mesh topology can be used
  - Each device can also be used as a repeater
  - Extremely low power consumption due to proprietary wireless technology
  - Energy self-sufficient with solar cell
  - Transfer of measured values to a central point and from there to the cloud
  - Reporting and alarm function via e-mail
  - Real-time query at the press of a button
  - Measurement interval adjustable to 3 seconds or more
  - Up to 2 years rechargeable battery time
  - With micro-USB port for recharging the batteries via power bank or power supply
  - Optional locking wall bracket
  - Optional power supply
  - Easy export as \*.xls, \*.csv, \*.pdf for further processing
  - Measured values stored in Germany

Technical data	
Measuring range	
Temperature	-50...200 °C
Brightness	0.045...188.000 Lux
Operating temperature	-20...60 °C, up to 95 % RH
General	
Warranty	1 year warranty
Alarm	Via e-mail
Housing	ABS plastic housing
Frequency range	886 MHz
Power supply	2 x 3.2 V LiFePo4 rechargeable battery, 5 V solar cell, 5 V µUSB power supply
Antenna	SMA antenna connection
Probe connection	M8 for Pt1000

Article	Art. no.
B+B kiro multi sensor node solar cell, brightness, M8 Pt1000, SMA	0566 2001

- Areas of application:
- Hospitals
  - Wine cellars
  - Laboratories
  - Food monitoring
  - Vaccine monitoring
  - Clean room monitoring
  - Machine monitoring
  - Agriculture
  - Transport monitoring
  - Cold chains
  - Printing industry
  - Museums
  - Server rooms

Dimensions





## Indicators and Controllers

For the food industry

Indicator N1040i-RR USB, the On/Off controller 321/322 RHT and the PID controller N1100 HC C/3 are suitable instruments for food and refrigeration technology. Multiple relay outputs and 5 programmable alarm types make the microprocessor-controlled indicators and controllers universal monitoring devices. Controller N1100 HC/C3 features a program controller function that makes it possible to assign a nominal value / time profile to the temperature.

### Applications:

- Refrigerated counters
- Refrigerated transport
- Refrigerated warehouses
- General monitoring
- Process control

### Advantages:

- Universal use
- Reliable
- Many functions



## Indicator N1040i-RR USB

for switch panel mounting

### Description



### Performance features:

- Input types: various thermocouples (linear, non-linear and analogue signals)
- Two alarm relays
- Versatile screen display

### Areas of application:

- Refrigerated counters
- Refrigerated transport
- General monitoring
- Refrigerated warehouses

### Technical data

Inputs	Types J, K, T, E, N, R, T and S or Pt100 with 3-conductor technology; 4...20 mA; 0...50 mV; 0...10 V
Input impedances	Pt100 and 0...50 mV: 10 MΩ; 0...5 mV or 0...10 mV: > 500 kΩ; 4...20 mA: 100 Ω
Measuring ranges	Type J: -1100...+950 °C Type K: -150...+1370 °C Type T: -160...+400 °C Type N: -270...+1300 °C Type R: -50...+1760 °C Type S: -50...+1760 °C Type B: 400...+1800 °C Type E: -90...+730 °C Pt100: -200...+850 °C
Accuracy for thermocouples of all types	Types J,K,T and E: ±0.25 % of the measuring range ±0.1 °C Types N,R,S and B: ±0.25 % of the measuring range ±1 °C
Accuracy for Pt100, DC linear	± 0.2 % of the measuring range
Outputs	Alarm 1: Relay SPDT; 240 VAC/ 30 VDC, 3 A Alarm 2: Relay SPST-NA; 240 VAC/ 30 VDC/ 1,5 A
Measurement rate	Up to 55 measurements per second
Power supply	0556 0115: 100...240 V AC (±10 %) 50/60 Hz max. 3,0 VA 0556 0115-01: 24 V AC/DC (±10 %)
Display	LED display with 2 rows, each with 4-places, red and green
Ambient temperature	0...+50 °C
Protection class	IP65 on front side
Dimensions (WxHxD)	48 x 48 x 80 mm
Installation depth	97 mm
Weight	75 g
Scope of delivery	Indicator with operating manual

### Article

### Art. no.

Indicator N1040i-RR USB with 100 to 240 V AC	0556 0115
Indicator N1040i-RR USB with 24 V AC/DC	0556 0115-01



## Controller N1100 HC C/3 (3-Point / Continuous)

for switch panel mounting

Description



Performance features:

- Universal input
- 4 outputs, 2 of them independent, configurable control outputs for cooling and heating circuits
- 5 alarm types
- Control response ON/OFF or PID, self-optimising
- Automatic control parameter adjustment
- Program controller function with up to 49 time segments
- Time function of the alarm outputs
- External nominal value setting

Areas of application:

- Refrigerated counters
- Refrigerated transport
- General monitoring
- Refrigerated warehouses
- Processes with separate cooling and heating circuits

Technical data		
Inputs	Thermocouple types J, K, T, N and S, Pt100/3L, DC linear: 0...50 mV, 0...10 V, 0(4)...20 mA	
Measuring ranges	Type J: -50...+760 °C Type K: -90...+1370 °C Type T: -100...+400 °C Type N: -90...+1300 °C Type S: 0...+1760 °C Pt100: -200...+530 °C	
Accuracy for thermocouples type	J, K, T N, S	± 0.25 % of measuring range ± 1 °C ± 0.25 % of measuring range ± 3 °C
Accuracy for	Pt100 DC linear	± 0.2 % of the measuring range
Output 1 + 2	SPST relay*, N/O contact max. 1.5 A, 250 V (resistive load)	
Output 3	SPDT relay*, changeover contact max. 3 A, 250 V (resistive load)	
Output (input) 5	Control output, 0 (4)...20 mA or logic output 10 V DC or actual/target value output 0 (4) to 20 mA or digital input (for external start/stop)	
Measurement rate	5 times per second (5 Hz)	
Power supply	100...240 V AC (±10 %) 50/60 Hz, max. 3 VA	
Display	LED display with 2 rows, 4 places each, red and green	
Ambient temperature	0...+55 °C	
Protection class	IP65 on front side	
Dimensions (WxHxD)	48 x 48 x 110 mm	
Weight	97 g	
Scope of delivery	Controller with operating manual	

\*Potential-free contact

Article	Art. no.
Controller N1100 HC C/3 with 100 to 240 V A	0556 0104

## PID Temperature Controller N480D-RRR

for switch panel mounting with 3 relay outputs

Description



Performance features:

- Input for thermocouples and Pt100
- Large display
- Easy configuration
- 3 relay outputs (1 control output, 2 alarm outputs)
- PID controller with automatic control parameter adjustment
- 24 V AC/DC or 100...240 V AC
- Integrated USB interface for easy configuration of the controller
- Five programmable alarm functions

Areas of application:

- Processing plants
- Packaging machines
- Test bench technology
- Machine tools
- Plastic processing machines
- Process automation
- Power plant engineering

Technical data	
Inputs	Thermocouple types J, K, T, E, N, R, S or Pt100/3-conductor
Input impedances	Thermocouples: 10 MΩ, Pt100 measuring current: 175 µA
Measuring ranges	Type J: -50...+760 °C Type K: -90...+1370 °C Type T: -100...+400 °C Type E: -30...+720 °C Type N: -90...+1300 °C Type R: 0...+1760 °C Type S: 0...+1760 °C Pt100: -20...+530 °C
Accuracy	Thermocouples: 0.25% of the full range ±1 °C, Pt100: 0.2% of the full range
Outputs	1 changeover contact relay SPDT, Max. load 3 A / 250 V AC (3 A / 30 V DC), 2 N/O contact relays SPST, Max. load 3 A / 250 V AC (3 A / 30 V DC), 1 logic output (voltage pulses) 5 V DC / 20 mA
Control response	PID, autotuning, ON/OFF
Measurement rate	10 times per second (10 Hz)
AD resolution	15000 Levels
Power supply	100...240 V AC (±10 %), 50...60 Hz or 24 V DC/AC (± 10%) max. 9 V A
Display	LED display with 2 rows, 4 places, red and green
Ambient temperature	0...+50 °C, max. 80 % RH for T < 30 %, falling linearly to 5 = % for T = 40 °C Interior installation with max. altitude of 2000 m
Protection class	IP 65 on front side
Dimensions (WxHxD)	48 x 48 x 110 mm
Scope of delivery	Controller with operating manual

Article	Art. no.
PID temperature controller N480D-RRR with 100...240 V AC	0556 0102
PID temperature controller N480D-RRR with 24 V AC/DC	0556 0102-01

2-Point Temperature Controller N321

cooling and heating controller

Description



- Performance features:
- Measuring range of -200...1000 °C depending on the sensor type
  - Accuracy  $\pm 0.5$  °C... $\pm 2$  °C depending on the sensor type
  - Adjustable hysteresis
  - Outstanding price-to-performance ratio
  - Easy programming for cooling or heating application

- Areas of application:
- Refrigerated counters
  - Refrigerated transport
  - General monitoring
  - Refrigerated warehouses

Technical data	
Inputs (depending on selected version)	Thermocouples types J, K and T Pt100 / Pt1000 NTC 10 k $\Omega$ , 2 x NTC 10 k $\Omega$
Measuring ranges	Type J: 0...+600 °C Type K: -50...+1000 °C Type T: -50...+400 °C Pt100: -50...+300 °C Pt1000: -200...+530 °C NTC 10k: -50...+120 °C
Accuracy	Thermocouples: $\pm 2$ °C Pt100/ Pt1000: $\pm 0,5$ °C $\pm 1$ digit NTC 10k: at 25 °C: $\pm 1$ %
Output	SPDT relay*, changeover contact 1 HP 250 V AC (16 A resistive load)
Measurement rate	1.5 times per second (1.5 Hz)
Measurement resolution	0.1 °C from -19.9 to +199.9 °C
Power supply	100...240 V AC ( $\pm 10$ %)
Display	3.5 place LED display red
Ambient temperature	0...+55 °C
Protection class	IP65 on front side
Dimensions (WxHxD)	75 x 33 x 75 mm
Weight	120 g
Scope of delivery	Controller with operating manual (version for NTC 10 k $\Omega$ incl. probe)

\*Potential-free contact

Article	Art. no.
Controller N321 for Pt1000	0556 0108
Controller N321 for NTC 10 k $\Omega$ incl. probe (-50...+120 °C)	0556 0108-01
Controller N321 for Pt100	0556 0108-02
Controller N321 for thermocouples J, K, T	0556 0108-03
Controller N321S 2 x NTC 10 k $\Omega$ incl. probe (-50...+120 °C)	0556 0108-04

Versions with 24 V DC / AC are available on request.

Controller N322 RHT

temperature and humidity controller

Description



Technical data		
Input		Pt1000
Measuring range	Temperature	-40...+120 °C
	Humidity	0...100 % RH
Accuracy	Temperature	±0.5 °C at +25 °C
	Humidity	±3 % at +25 °C
Measurement resolution		1 % over the entire range
Measurement rate		1.5 / sec
Output 1	SPDT relay*, changeover contact 1 HP 250 V AC / 1/3 HP 12 V AC (16 A resistive load)	
Output 2	SPST N/O contact 3 A / 250 V AC	
Display		3.5 place LED display red
Ambient temperature		0...+40 °C
Power supply		100...240 V AC (±10%)
Protection class		IP65 on front side
Device dimensions (W x H x D)		75 x 33 x 75 mm
Weight		120 g
*Potential-free contact		

Article	Art. no.
Controller N322 RHT with Pt1000 temperature and humidity probe	0556 0110

- Performance features:
- Including humidity and temperature probe
  - Input: Humidity and temperature sensor
  - Two relay outputs for control of air humidity or temperature
  - Measurement resolution: 1% over the entire range
  - Adjustable hysteresis

- Areas of application:
- Greenhouses
  - Food storage rooms
  - Air conditioning

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