

BattTemp Pt100 Thermometer

Battery powered thermometer

Front-configurable display

Input for Pt100 sensor

Measuring range -200...850°C

Ambient temperature -10...70°C

Accuracy 0.3°C

Battery lifetime approx. 3 years

IP65 - Relative humidity 98%

Demko EEx ia IIC T4/T5, ATEX II 1G

Part of the CombiTemp series



Description

BattTemp is a battery powered display with an internal Pt100 amplifier.

BattTemp shows the process data on a full 4-digit LC display, having a high readability even in faint light. The display is enclosed in a cabinet of polycarbonate plastic ensuring a high resistance to moisture, even under hard environmental conditions. The display has automatic adjustment for optimal readability in the entire working range.

Increasing or decreasing temperature is indicated with arrows in the display.

The ø80 mm housing is in stainless steel and having a high cleanability BattTemp is ideal for hygienic applications.

BattTemp is a part of the CombiTemp series and can be combined with the wide range of Pt100 tube or cable sensors available.

BattTemp is the replacement for mechanical style temperature indicators (such as mercury or alcohol), in the food and beverage industry as well as in rough environments where precise local indication of the temperature is needed.



Technical Data

Input

Measuring range	-200.0...850.0°C
Temperature sensor	Pt100, 2-wire (DIN/EN/IEC 60751)
Temperature drift	Max. 0.01°C per °C
Accuracy	
-200...-51°C:	+/- 0.6°C ± 1 digit
-50...300°C:	+/- 0.3°C ± 1 digit
301...850°C:	+/- 0.6°C ± 1 digit
Offset adjustment	Max. +/- 9.9°C (step 0.1°C)

Power supply

Battery type	1.5 V type AA
Battery lifetime	Alkaline or Lithium battery, appr. 3 years
Battery test accuracy	+/- 0.1 V
Min. supply voltage	1.1 V
"Lo Bat" indication	< 1.3 V

Display

Process value:	4 digits, 7 segment LCD
Control field:	3 digits, 14 segment LCD showing either °C or status information
Display	-9999...+9999
Digit height	11.5 mm
Measuring unit	°C

EMC data

Immunity	EN 50082-2
Emission	EN 50081-1

Approval (Demko)

EEx ia IIC T4/T5, ATEX II 1G

Temperature class

Battery: Energizer Lithium FR6 L91 AA	T1...T4: -10 < T _{amb} < 70 °C
	T1...T5: -10 < T _{amb} < 50 °C
Battery: Duracell Alkaline MN1500 LR6 AA	T1...T3: -10 < T _{amb} < 70 °C
	T1...T4: -10 < T _{amb} < 60 °C

Environmental conditions

Operating temperature	-10...70°C
Storage temperature	-40...85°C (excl. battery)
Humidity	Max. 98% RH, condensing
Vibrations	Lloyds Register, test 2
Mechanical tolerances	ISO 2768-m

Mechanical data

Dimensions	ø80 x 50 mm
Material	
Enclosure:	Polycarbonate plastic.
ø80 mm housing and retaining ring:	Stainless steel AISI 304, W.1.4301
Protection class	IP 65 (in ø80 mm housing)

Disposal of product and packing

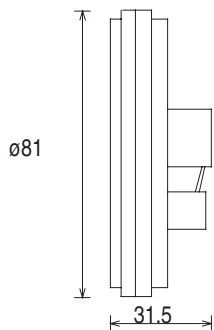
According to national laws or by returning to Bourdon-Haenni

Ordering Details - BattTemp

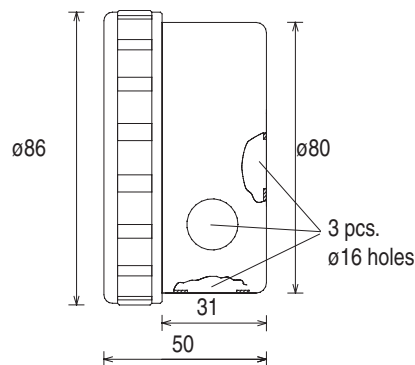
Type (incl. retaining ring)	86 30-x11(B)
Standard version (battery not included)	5' digit 5
Demko EEx ia IIC T4/T5, ATEX II 1G (battery not included)	6
Battery included	B

Dimensional Drawings

[mm]



BattTemp, side view, shown without retaining ring

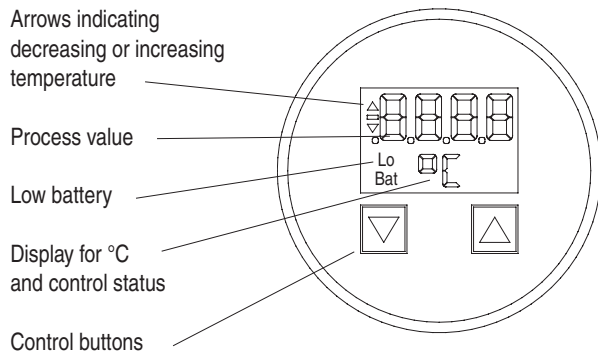


ø80 mm stainless steel housing (not included) shown with retaining ring

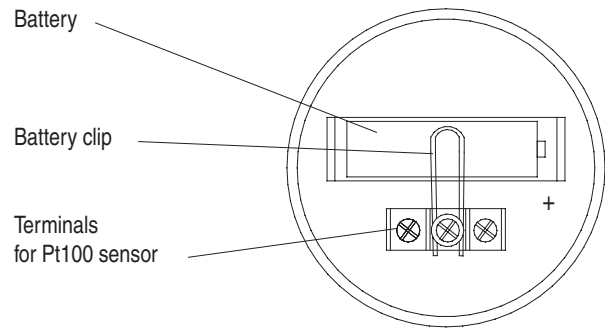
Note: The special ø80 mm housing for panel mounting (Type no. 81 46-910), can **not** be used with BattTemp.

For other accessories please refer to the data sheet „CombiTemp Accessories“.

Front View

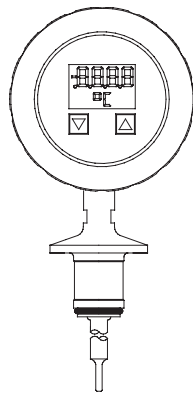


Rear View



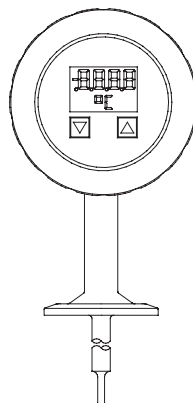
Notes: A Lithium battery must be installed and disposed of according to the guidelines from the supplier.
Bourdon-Haenni takes no responsibility for harm done to any person or property if Lithium batteries are used.

Examples of Application



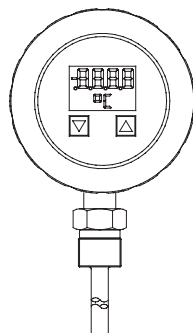
Battery operated digital thermometer
3A/DN38 hygienic, Pt100 sensor 1/6 DIN B

Sensor, fast response, 3A/DN38
Housing ø80 mm with blind plug
Extra blind plug with nut
BattTemp, standard



Battery operated digital thermometer
Clamp connection, Pt100 sensor 1/3 DIN B




Sensor, fast response, clamp
Housing ø80 mm with blind plug
Extra blind plug with nut
BattTemp, standard



Battery operated digital thermometer
G1/2A Male nipple, single Pt100 sensor, vibration tested, EEX

Sensor G1/2A, single Pt100
Housing ø80 mm with blind plug
Extra blind plug with nut
BattTemp, EEx

Configuring BattTemp

Mode	Switch1	Switch2	Seconds	Function	Upper Display	Lower Display
Normal				Temperature measuring Underrange Overrange Sensor broken Sensor shorted	Actual temperature Actual temperature Actual temperature >900.0 - 999.9	°C UNR OVR ERR ERR
Min/Max	↓	↓ ↓ ↓	3	Display minimum value Display maximum value Toggle min./max. value Reset min./max. register	Stored value Stored value Stored value Latest value	MIN MAX MIN/MAX RES
Battery	↓↓			Monitor battery voltage	Value	U
Offset	↓↓↓ ↓ Wait ↓	↓ ↓ Wait ↓	3 10	Offset adjustment Enter new offset value Step Up 0.1°C Step Down 0.1°C Wait for 10 seconds Store offset value {1}	Actual temperature Actual temperature New value New value New value	OFS Offset value New offset New offset STO OK

Description

Switch1 changes the menu item.
Switch2 changes the function.
If no switch is activated for 10 seconds, the display automatically returns to normal mode.
After replacement of the battery the min./max. register must be reset.

Note

{1} **Both switches** must be pressed simultaneously. If not, the new offset value is cancelled, BattTemp will keep the existing value and return to normal mode.

Ex-installation

BattTemp is approved by Demko for EEx ia IIC T4/T5 and ATEX II 1G in accordance with the european standards EN 50014 and EN 50020 **only for the battery types indicated under „Technical data“.**

Replacement of the battery must be done outside hazardous areas.

Application Photo



This photo shows BattTemp mounted on the ø80 mm stainless steel housing with a G1/2A connection Pt100 sensor

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