

# Working Instructions Translation

WIDOS temperature measuring device



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## After sales service:

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## Purpose of the document

These working instructions give you information about all important questions. Should questions arise, contact our service team in the factory or in our subsidiary companies. We will help you with pleasure.

According to our interest to continuously improve our products and working instructions, we kindly ask you to inform us about problems and defects which occur in exercise.

Thank you.

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# 1. Security notices



## Security notices

This device has been constructed and checked according to the security regulations for electronic measuring devices.

The faultless functioning and operational safety of the device can only be guaranteed if, during use, the generally common security measures as well as the security notices specific to that devices given in these operating instructions are adhered to.

- The faultless functioning and operational safety of the device can only be guaranteed under the climatic situation as specified in the chapter „technical data“.
- If the device is transported from a cool to a warm environment, the functioning of the device might be impaired due to condensation. In this case, the operator has to wait until the temperature of the device has adopted the temperature of the surroundings before operation is restarted.
- If it is to be expected that the device cannot be operated safely, it has to be put out of order and has to be marked accordingly before renewed start of operation.

The security of the user may be threatened e.g. if the device:

- shows visible damages
- does not operate as stipulated any more
- was stored for a relatively long time under unsuitable conditions.

*In case of any doubts, the device should generally be sent to the manufacturer for repair or maintenance.*

## 2. Designation of the product

### 2.1. Technical data:

Measuring range	- 50° to 1150° C, (temperature sensor -65°C bis +400°C)
Resolution	1° C
Accuracy	- 20° to + 550° C or 920° to 1150° C: < 1 % ± 1 digit; 550° to 920° C: < 1,5 % ± 1 digit. Exact tolerance values, see correction table
Probe	NiCr-Ni, according to ½ DIN 43710 insertable
Diving detector:	
Display	LCD display, height approximately 13 mm, 3 ½-digits
Working temperature	0 to 45° C, rapid changes of the surrounding temperature are to be avoided or if they occur, a temperature adjustment of approx. 15 minutes is to be taken into account.
Nominal temperature	25° C
Relative air moisture	0 to 80 % relative moisture (not thawing)
Power supply	9 V battery Type IEC 6F22
Service lif of battery	approx.. 700 hours
Battery change display	<b>*BAT*</b> is displayed automatically at the bottom left in the display in case battery was discharged
Dimensions	approx. 106 x 67 x 30 mm (HxWxD)
Weight	approx. 150 g (incl. battery)
EMV	The temperature measuring device corresponds to the essential protection requirements in the guidelines of the Council for the adjustment of legal regulations of the member states concerning the electromagnetic compatibility (2004 / 108 / EG). Additional error: < 1 %

## 3. Operating

### 3.1. Operational information

- If the display shows **\*BAT\***, the battery is empty and has to be replaced since if the operational voltage is too low, the measurements will be inaccurate.
- The device has to be handled carefully and has to be used according to the above-mentioned technical data (do not throw, drop etc.). The socket and the probe plug have to be protected from dirt.
- Please make sure that the device and the probe plug are always subjected to the same temperature. For this reason do not keep the probe plug in your hands too long and do not subject the device to any additional source of heat since inaccurate-measurements would be the consequence.

### 3.2. Recalibration possibility

The device has been calibrated theoretically when delivered such that each standard-exchange probe offered by us can be connected without renewed calibration. However, if you still want to calibrate the device corresponding to the existing probe, please proceed as follows: The calibration process has to be carried out in the order 0° C (ZP) and only then „Scale“ since otherwise accurate setting is not possible !

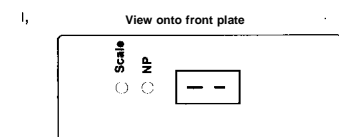
Normally, the probe adaptation with the ZP-Poti is sufficient. We do not recommend to carry out gradient compensation in order to keep with the specified accuracy of the device.

However, if you have an accurate reference temperature, the device should be calibrated at an as high as possible temperature.

#### Calibration point 0° C:

Put some ice cubes into a glass and pour cold water over them until they are just covered.

Wait for approx. 15 minutes (thermometer has to have adjusted to room temperature !) and then dip in probe, stir well and adjust zero point poti (ZP, the poti next to the sensor socket) by means of a screwdriver such that the display shows 000.



#### Calibration point Scale:

For setting the gradient (Scale) a known reference temperature, which is as high as possible, is required. Subject the probe to said temperature and set the corresponding display value according to the correction table (e.g. reference temperature: 700° C => value which is to be set: 711) by means of the gradient poti (Scale, the outer poti).

Boiling water is not suitable for calibration to 100° C since its temperature depends on the pressure of the air. However, it can be used with a reference thermometer which shows the exact temperature.

It is important that the thermometer always shows the room temperature during the calibration process. For this reason, do not subject same to any additional source of heat (heating, lamp etc.) .

### 3.2.1. Correction table

Temperature	Display	Temperature	Display	Temperature	Display	Temperature	Display
- 50	- 46	260	258	570	576	880	891
- 40	- 37	270	268	580	587	890	901
- 30	- 28	280	278	590	597	900	911
- 20	- 19	290	288	600	607	910	920
- 10	- 10	300	298	610	618	920	930
0	0	310	308	620	628	930	940
10	10	320	318	630	639	940	949
20	20	330	328	640	649	950	959
30	29	340	339	650	659	960	969
40	39	350	349	660	670	970	978
50	49	360	359	670	680	980	988
60	59	370	369	680	690	990	997
70	70	380	379	690	700	1000	1007
80	80	390	390	700	711	1010	1016
90	90	400	400	710	721	1020	1026
100	100	410	410	720	731	1030	1035
110	110	420	421	730	741	1040	1045
120	120	430	431	740	751	1050	1054
130	130	440	441	750	762	1060	1063
140	140	450	452	760	772	1070	1073
150	150	460	462	770	782	1080	1082
160	160	470	472	780	792	1090	1091
170	169	480	483	790	802	1100	1100
180	179	490	493	800	812	1110	1110
190	189	500	504	810	822	1120	1119
200	198	510	514	820	832	1130	1128
210	208	520	524	830	842	1140	1137
220	218	530	535	840	852	1150	1146
230	228	540	545	850	862	1160	1155
240	238	550	556	860	871	1170	1164
250	248	560	566	870	881	1180	1173