
Air Temperature Transmitter

with weather- and thermal radiation shield

2.1260.00.000



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1 General information

The instrument acts as a sensor for the electrical determination of the air temperature and transmits the data over long ranges. It is constructed such a way that it is protected from atmospheric influences such as precipitation or radiation – a genuine advantage compared to exposed thermometers.

The Pt 100 resistance thermometer changes its resistance in accordance with the ambient temperature.

2 Construction of the instrument

The Pt 100 resistance thermometer is situated below 2 aluminium half-shells which are mounted one on top the other. The different colouring of the exterior and surfaces and the it is double walled leads to either reflection or absorption. A rise in temperature in the interior is avoided and the prevailing wind velocity is utilised for ventilation. The Pt 100 resistance thermometer is also protected from below by two half-sells. A protective tube between the radiation protection device and the terminal case that measurements will not be unduly affected by outside influence. Electrical connection for a 4-lead circuit has been provided in order to eliminate line resistance's.

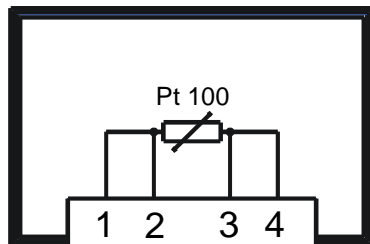
3 Installation

The air temperature sensor shall be mounted at a site which is representative for the climatic measurement.

The instrument is used in vertical position.

Insert the air temperature transmitter with its holder vertically onto a peg with a diameter of 13 mm and a length of 35 mm. Fasten it with a setscrew. For the electrical connection: Connect a flexible pilot cable (for ex. LiYCY 4x0,25 mm²) in accordance with the terminal wiring diagram to the terminal case. Connect the transmitter to a display instrument for direct Pt 100 for example. our **order no. 2.1044.00.000** connect it to a measurement transducer. **order-no. 2.1082....**

4 Connection diagram



5 Maintenance

Very little maintenance is required. Basically it only involves keeping the surface of the radiation protection device clean so that the reflection layer remains effective and no warming-up or radiation errors occur.

6 Technical Data

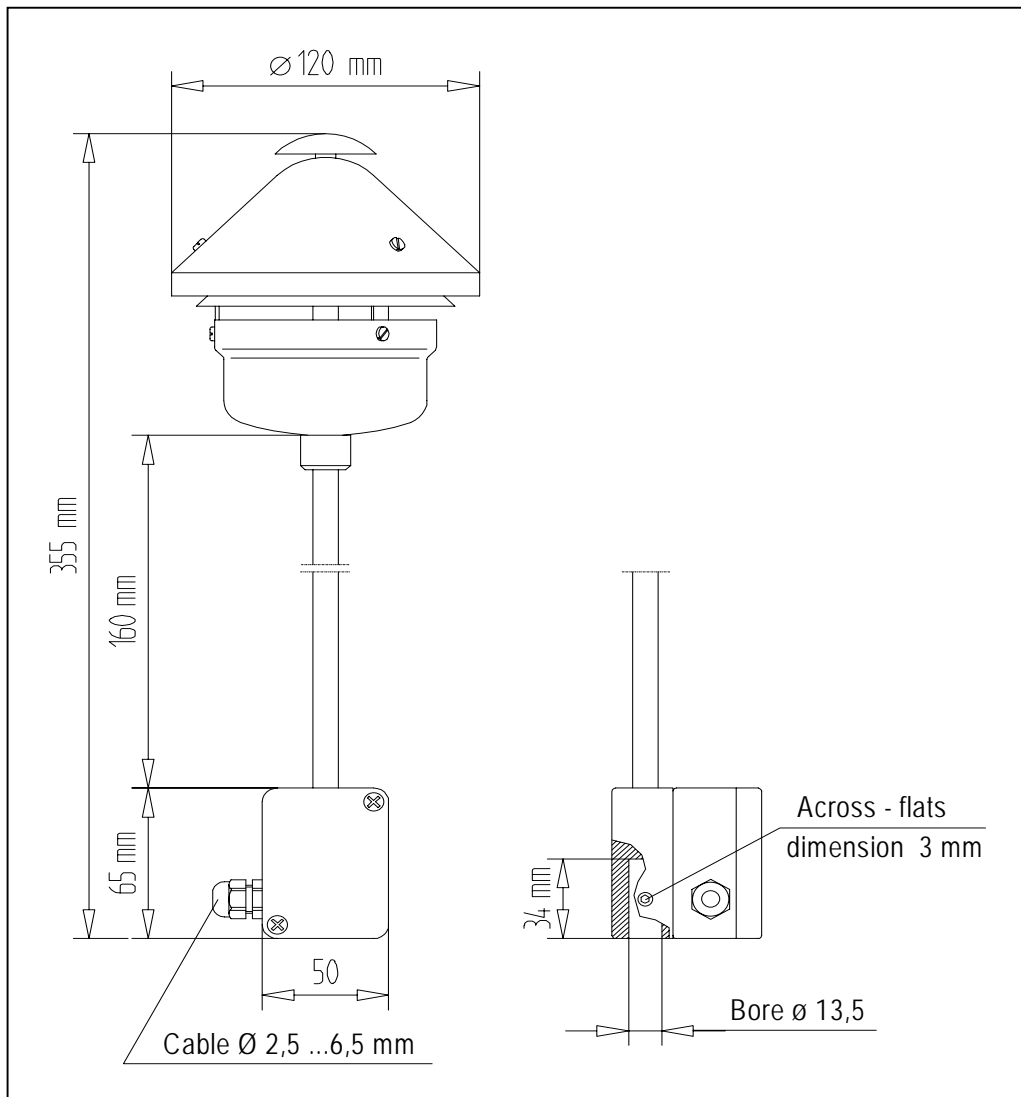
Measuring element	Pt 100 acc. to IEC 751
Accuracy	$\pm 0,1^{\circ}\text{C}$ at 0°C (1/3 DIN-Tolerance class B)
Connection	4-lead. Screw terminal, cable gland
Weight	0,8 kg
Dimensions	$\varnothing 120 \times 355 \text{ mm}$

Table: Resistance values in Ohm from 1 to 1°C for Pt 100

$^{\circ}\text{C}$	0	1	2	3	4	5	6	7	8	9
- 30	88,22	87,83	87,43	87,04	86,64	86,25	85,85	85,46	85,06	84,67
- 20	92,16	91,77	91,37	90,98	90,59	90,19	89,80	89,40	89,01	88,62
- 10	96,09	95,69	95,30	94,91	94,52	94,12	93,73	93,34	92,95	92,55
- 0	100,00	99,61	99,22	98,83	98,44	98,04	97,65	97,26	96,87	96,48

+ 0	100,00	100,39	100,78	101,17	101,56	101,95	102,34	102,73	103,12	103,51
+ 10	103,90	104,29	104,68	105,07	105,46	105,85	106,24	106,63	107,02	107,40
+ 20	107,79	108,18	108,57	108,96	109,35	109,73	110,12	110,51	110,90	111,28
+ 30	111,67	112,06	112,45	112,83	113,22	113,61	113,99	114,38	114,77	115,15
+ 40	115,54	115,93	116,31	116,70	117,08	117,47	117,85	118,24	118,62	119,01
+ 50	119,40	119,78	120,16	120,55	120,93	121,32	121,70	122,09	122,47	122,86
+ 60	123,24	123,62	124,01	124,39	124,77	125,16	125,54	125,92	126,31	126,69
+ 70	127,07	127,45	127,84	128,22	128,60	128,98	129,37	129,75	130,13	130,51
+ 80	130,89	131,27	131,66	132,04	132,42	132,80	133,18	133,56	133,94	134,32

7 Dimensional Drawing



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