

Ventilated Air Temperature Transmitter

Instruction for use 2.1265.20.000 / 2.1265.22.000



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1. General Information

Continuously ventilated temperature transmitters are especially suited to take exact measurements of the air temperature out-of-doors. Unlike thermometers which are exposed to the elements, these thermometers are not exposed to the influences of weather such as precipitation and radiation - a definite advantage. Moreover, errors which occur in measurements taken in weather huts-because of the development of a kind of "private climate"-do not occur.

2. Models

Description	Order - No.	Operating Voltage for Ventilator
Ventilated Air Temperature Transmitter	2.1265.20.000	12 V AC, 6 VA 24 V AC, 11 VA 24 V DC, 8 W
Ventilated Air Temperature Transmitter	2.1265.22.000	12 V DC, 4W

3. Instrument Construction and Mode of Operation

The air is socket in through the radiation protection element which points downwards by the ventilator head. The air then flows past the Pt 100 resistance thermometer. The exhaust opening is situated on the bottom of the ventilator head across from the suction opening. The radiation protection elements, consists of two concentric, thin-walled polished stainless steel tubes which are insulated from each other thermally by a synthetic ring. The air flows both between the resistance thermometer and the inner tube and between the inner tube and the other tube. The resistance thermometer is enclosed in a sleeve and is equipped with a water-proof plug connection on the back. Electrical connection to a 4-lead circuit has been prepared in order to eliminate circuit resistances.

4. Technical Data

Measuring range	: -30...+80°C
Measuring element	: Pt 100 acc. to DIN 43760
Accuracy	: +0,1°K; 1/3 class B
Time constant	: 17 s (90%)
Air Flow	: 6 m/s
Operating voltage	: see Connection Diagram (see chapter 7)
Cables required	: Sensor : LiYCY 4x0,25 mm ² : Ventilator : LiYY 3x0,5 mm ²
Mounting	: with bracket on vertical wall
Dimensions	: Ø 160 mm, 435 mm high
Weight	: 3,2 kg

Resistance values in ohms from 1 to 1°C for Pt 100

°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	85,85	88,22	87,83	87,43
— 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

5. Mounting

For accurate measurements, the instrument must be mounted so that vibrations cannot occur. This is necessary to protect the resistance thermometer and the ventilator from damage. Make sure that the opening of the radiation protection element faces North in order to avoid radiation influence. The temperature transmitter must be set up at least 30 cm away from reflection areas such as buildings. The enclosed bracket has been provided with 4 screws of Ø 8 mm for mounting purposes.

If the instrument is to be mounted to a mast or a traverse rod please refer to the following drawings.

Carry out electrical connection with a flexible pilot wire in accordance with the connection diagram. Make sure that the connecting cable has an external diameter large enough to seal the plug from water. The resistance thermometer can be connected to a display instrument, a datalogger resp. to instruments with direct Pt-100-input or measuring transformers.

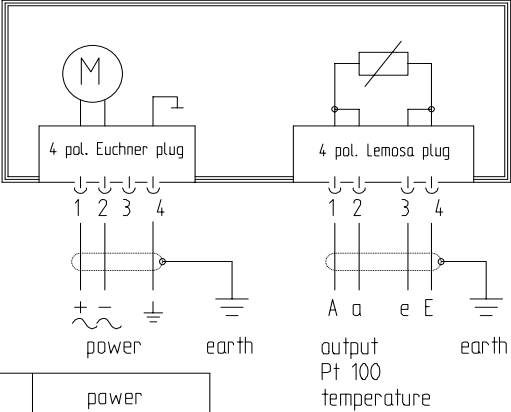
6. Maintenance

In the interests of precise measurements, it is important to make sure that the radiation protection element is reflecting perfectly. The surface must be free of dust and it must gleam. To wash it in distilled water or alcohol, remove the radiation protection element carefully (be careful that the Pt 100 doesn't shatter) and, if necessary, clean it with a cloth or a brush.

It is also possible to pull out the sensor to clean it. First pull the Lemos plug up at an angle and then unscrew the sensor in the same direction. Be especially careful, when you clean the resistance thermometer. It can easily shatter. Re-assemble in the opposite sequence. If the thermometer glass should break, it can be re-ordered under the designation "sensor 2.1266.10.001".

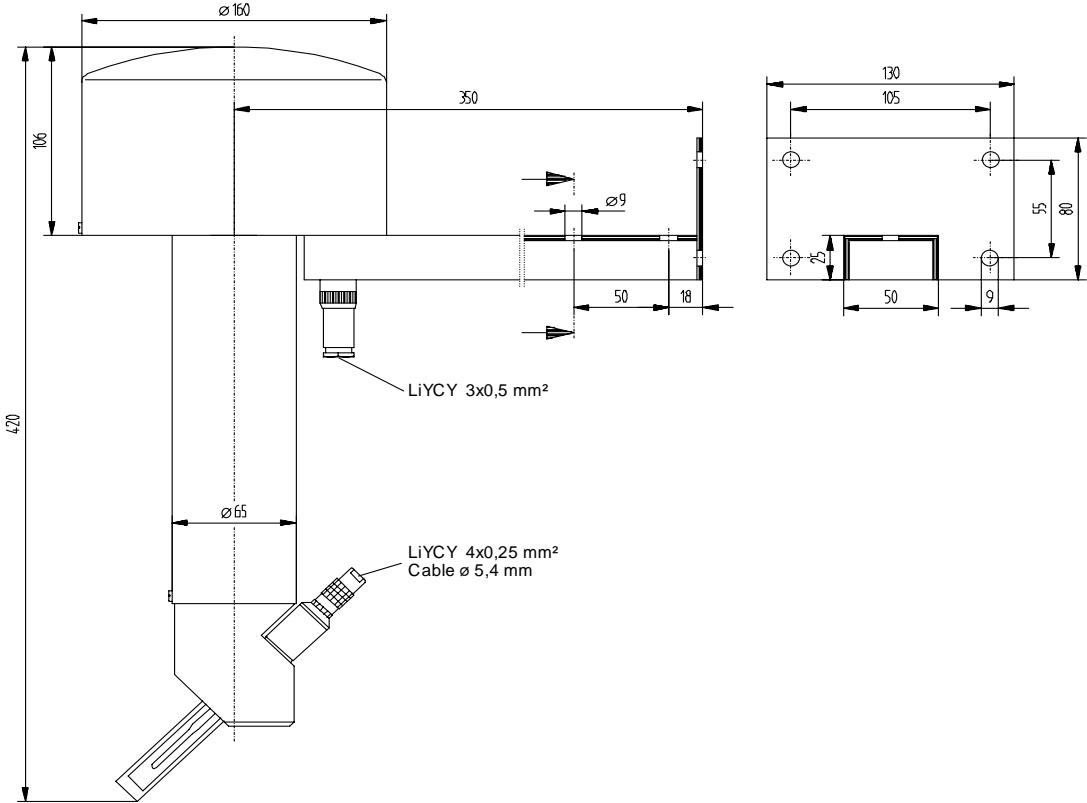
When the ventilator is switched off in winter, the humidity can lead to the formation of ice. The ventilator could block when it is switched on and the coil could melt. For such use, it is advisable to provide a series connection of an overload protection device.

7. Connection Diagram



Order-No.	power
2.1265. 20. 000	12 V AC , 6 W 24 V AC ,11 W 24 V DC , 8 W
2.1265. 22. 000	12 V DC , 4 W

8. Dimension





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