



TOSS

### Features

- IP65 housing
- Housing dimensions 72x64x39 mm
- Internal element (inside housing)
- Sensing elements  
Thermistors, Nickel and Platinum
- Simple 2-wire connection
- Economical way to measure temperature

### Application/Description

Outdoor temperature sensor TOSS is used for sensing temperature outside and indoors where IP65 is required.

The TOSS is used in heating, ventilation and air conditioning systems as reference sensor for weather-compensated control, measuring sensor, e.g. for optimization, or for measured value display, or for connection to a building management system

The TOSS is passive outdoor temperature sensor available with different sensing elements such PT100, PT1000, NI1000, NTC, PTC etc.

Passive sensing elements is a low cost alternative to measure temperature with simple 2 wire connection.

The IP 65 plastic housing is supplied with a plastic cable entry gland, connection terminal is under the cover.

The sensing element is inside the housing (internal), on request also available with sensing element placed in a probe outside housing (external).

Always install the outdoor temperature sensor on north facing wall and at least 2.5 metres above ground.

Avoid to expose the unit for direct sunlight, if mounting the unit in sunlight it is recommended to use the sensor shield TSSS.

Do not mount the unit close to heat sources such windows, doors etc.

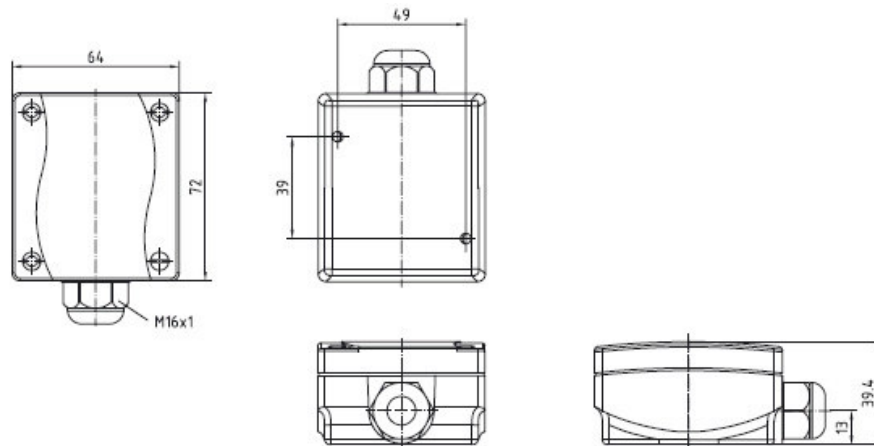
Cable entry should be pointing downwards.

### Ordering

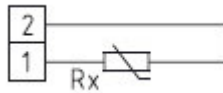
Type no.	Description
TOSS PT100	Outdoor temperature sensor
TOSS PT1000	Outdoor temperature sensor
TOSS NI1000	Outdoor temperature sensor
TOSS NTC 1.8K	Outdoor temperature sensor
TOSS NTC 10K	Outdoor temperature sensor
TOSS NTC 20K	Outdoor temperature sensor
TOSS KTY 2K	Outdoor temperature sensor
TSSS	Sensor shield

### Technical data

<b>Measuring range</b>	-50 to +90°C
<b>Sensing elements</b>	See ordering (other elements on request)
<b>Isolation resistance</b>	> 100Mohm, at 20°C (500 Vdc)
<b>Connections</b>	2-wire (on request 3 and 4-wire)
<b>Housing material</b>	Plastic
<b>Housing dimensions</b>	72x64x39 mm excluding cable entry gland
<b>Protection</b>	IP 65

**Dimensions (mm)****Connection**

1x two-wire connection



We reserve the right to make changes in our products without any notice which may effect the accuracy of the information contained in this leaflet.



### Features

- IP65 housing
- Housing dimensions 72x64x39 mm
- External element (inside probe)
- Active transmitters 0-10 Vdc or 4-20 mA, with range -50 to +50°C, other ranges on request

### Application/Description

Outdoor temperature transmitter TOTP is used for sensing temperature outside and indoors where IP65 is required.

The TOTP is used in heating, ventilation and air conditioning systems as reference sensor for weather-compensated control, measuring sensor, e.g. for optimization, or for measured value display, or for connection to a building management system

The TOTP outdoor temperature transmitters available with 4-20 mA and 0-10 Vdc output with measuring temperature range -50 to +50°C as standard, other ranges are available.

The IP 65 plastic housing is supplied with a plastic cable entry gland, connection terminal is under the cover.

The sensing element is placed in a probe outside the housing (external).

Always install the outdoor temperature sensor on north facing wall and at least 2.5 metres above ground.

Avoid to expose the unit for direct sunlight, if mounting the unit in sunlight it is recommended to use the sensor shield SS.

Do not mount the unit close to heat sources such windows, doors etc.

The cable entry should be pointing downwards.

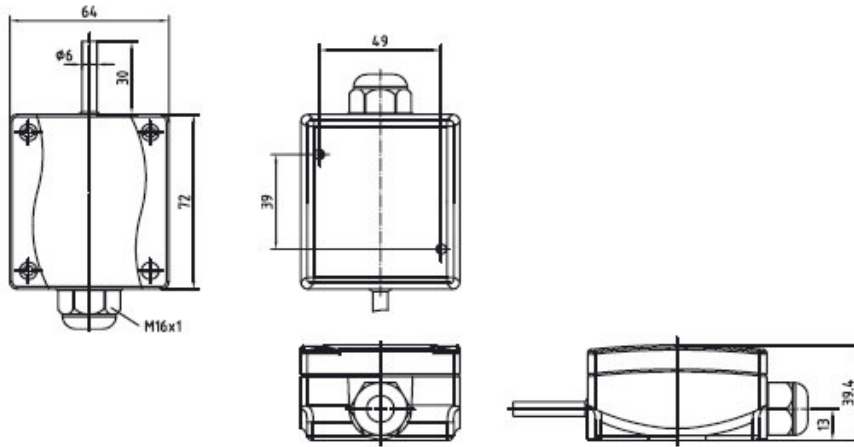
### Technical data

<b>Measuring range</b>	-50 to +50°C (several other ranges available)
<b>Power supply</b>	24 Vdc
<b>Sensing element</b>	PT100, class B
<b>Measuring current</b>	approx. 1mA
<b>Connections</b>	3-wire for 0-10 Vdc 2-wire for 4-20 mA (see electrical connection)
<b>Housing material</b>	Plastic
<b>Housing dimensions</b>	72x64x39 mm excluding cable entry gland
<b>Protection</b>	IP 65

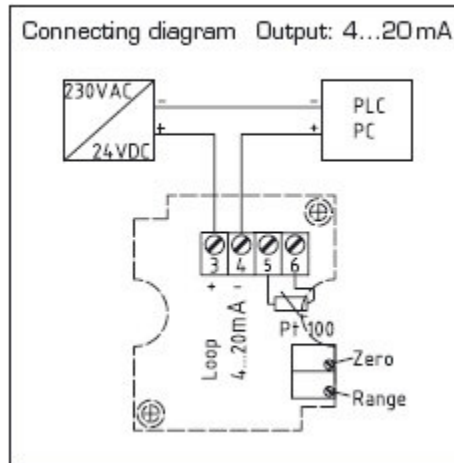
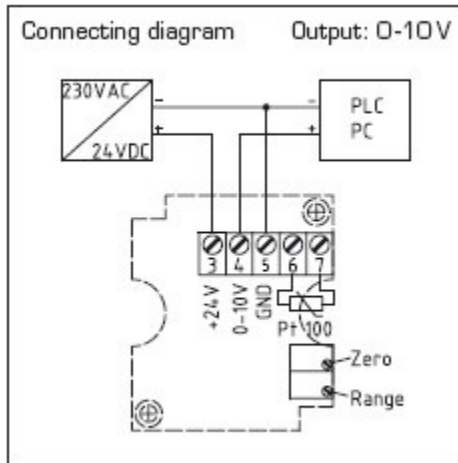
### Ordering

Type no.	Description
<b>TOTP 010</b>	Outdoor temperature transmitter 0-10 Vdc output, temperature range -50 to +50°C
<b>TOTP 420</b>	Outdoor temperature transmitter 4-20 mA output, temperature range -50 to +50°C
<b>TSSS</b>	Sensor shield

Dimensions (mm)



Electrical connection



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Temp. °C	PT 100 Ohm	PT 1000 Ohm	NI 1000 Ohm	NTC 1,8kOhm Ohm	NTC 10kOhm kOhm	NTC 20kOhm kOhm	KTY (81-210) Ohm	NTC 12kOhm kOhm
-50,00	80,31	803,10	743,00		667,83	1 667,57	1 068,65	
-40,00	84,27	842,70	791,00		335,67	813,44	1 158,95	328,18
-30,00	88,22	882,20	842,00		176,68	415,48	1 269,25	179,36
-20,00	92,16	921,60	893,00		96,97	221,30	1 385,15	101,98
-10,00	96,09	960,90	946,00	8 400,00	55,30	122,47	1 508,65	60,08
0,00	100,00	1 000,00	1 000,00	5 200,00	32,65	70,20	1 639,60	38,58
+10,00	103,90	1 039,00	1 056,00	3 330,00	19,90	41,56	1 778,10	22,96
+20,00	107,79	1 077,90	1 112,00	2 200,00	12,49	25,35	1 924,15	14,81
+25,00	109,74	1 097,40	1 141,00	1 800,00	10,00	20,00	2 000,00	12,01
+30,00	111,67	1 116,70	1 171,00	1 480,00	8,06	15,89	2 077,80	9,80
+40,00	115,54	1 155,40	1 230,00	1 040,00	5,32	10,21	2 238,90	6,64
+50,00	119,40	1 194,00	1 291,00	740,00	3,60	6,72	2 407,60	4,69
+60,00	123,24	1 232,40	1 353,00	540,00	2,49	4,52	2 583,80	3,24
+70,00	127,07	1 270,00	1 417,00	402,00	1,75	3,10	2 767,50	2,33
+80,00	130,89	1 308,90	1 483,00	306,00	1,26	2,12	2 958,80	1,70
+90,00	134,70	1 347,00	1 549,00	240,00	0,92	1,54	3 152,50	1,26
+100,00	138,50	1 385,00	1 618,00	187,00	0,68	1,12	3 363,90	0,95
+110,00	142,29	1 422,00	1 688,00	149,00	0,51	0,82	3 577,75	0,73
+120,00	146,06	1 460,60	1 760,00	118,00	0,39	0,61	3 799,10	0,56
+130,00	149,82	1 498,20	1 883,00	95,00	0,30	0,46	4 028,05	
+140,00	153,58	1 535,80	1 909,00	77,00	0,23	0,35	4 188,10	
+150,00	157,31	1 573,10	1 987,00	64,00	0,18	0,27	4 397,70	

The sensing elements in above temperature vs resistance schedule cover the standard elements in VCP passive temperature sensors series.

VCP have other sensing elements and schedules.  
Contact us for further information.