

### **Outdoor sensor Temperature**

Active sensor (0...10 V) for measuring temperature in outdoor areas. Typical applications at cold stores, greenhouses, production plants and warehouses. NEMA 4X / IP65 rated enclosure.

# Technical data sheet 22UT-52







Type	Overvi	iew
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Туре	Output signal active temperature	Additional features
22UT-52	05 V, 010 V	External Sensor

Pietrical Data   Nominal voltage   AC/DC 24 V	Technical data					
Power consumption AC Power consumption DC D. 5 W Electrical connection Pluggable spring loaded terminal block max. 2.5 mm² Cable entry Cable gland with strain relief Ø68 mm (1/2" NPT conduit adapter included)  Functional Data Sensor Technology Application Applicati	Electrical Data	Nominal voltage	AC/DC 24	AC/DC 24 V		
Power consumption DC Electrical connection Electrical connection Pluggable spring loaded terminal block max. 2.5 mm² Cable entry Cable gland with strain relief Ø68 mm (1/2" NPT conduit adapter included)  Functional Data  Sensor Technology based on Pt1000 1/3 DIN Application air Multirange 8 measuring ranges selectable Voltage output 1x 05 V, 010 V, min. load 5 kΩ Output signal active note output 05/10 V with jumper adjustable  Measuring range temperature  Measuring range temperature  Active sensor: range selectable Attention: max. measuring temperature is restricted by max. fluid temperature (see Safet data) Setting Range [°C] Range [°F] Factor setting So -5050 -30130 √ Still -10120 0250 Scill -1035 0100 Scill -10120 0250 Scill -10120 0250 Scill -10120 0250 Scill -10250 030480 Scill -1035 0100 Scill -10120 0250 Scill -10120 0250 Scill -10120 0250 Scill -10250		Nominal voltage range	AC 21.6	AC 21.626.4 V / DC 13.526.4 V		
Electrical connection Pluggable spring loaded terminal block max. 2.5 mm²  Cable entry Cable gland with strain relief Ø68 mm (1/2" NPT conduit adapter included)  Functional Data  Sensor Technology based on Pt1000 1/3 DIN  Application air  Multirange 8 measuring ranges selectable  Voltage output 1x 05 v, 010 V, min. load 5 kΩ  Output signal active note output 05/10 V with jumper adjustable  Measuring Data  Measured values Temperature  Measuring range temperature  Active sensor: range selectable Attention: max. measuring temperature is restricted by max. fluid temperature (see Safet data)  Setting Range [°C] Range [°F] Factor setting  So -5050 -30130   10250  30480  51 -10120  0250  52  050  40140  53  0250  30480  54  -1535  0100  55  0100  40240  56  -2080  4030  57  0160  0150  Accuracy temperature active ±0.9°F p.a. @ 70°F [±0.0°C ⊗ 21°C]  [±39.2°F p.a. @ 69.8°F]  Time constant τ (63%) in the room Typical 542 s		Power consumption AC	0.8 VA	0.8 VA		
Cable entry Cable gland with strain relief Ø68 mm (1/2" NPT conduit adapter included)  Functional Data  Sensor Technology Application Application Multirange Voltage output 1x 05 V, 010 V, min. load 5 kΩ Output signal active note Output 05/10 V with jumper adjustable  Measuring Pata  Measuring range temperature  Measuring range temperature  Measuring range temperature  Active sensor: range selectable Attention: max. measuring temperature is restricted by max. fluid temperature (see Safet data) Setting Range [°C] Range [°F] Factor settin S0 5050 30130 ✓ S1 -10120 0250 S2 050 40140 S3 0250 30480 S4 1-1535 0100 S5 0100 40240 S6 2080 4090 S6 2080 4090 S7 0160 0150 S8 -2080 4090 S9 -2080 50100 S9 -2080 4090 S9 -20		Power consumption DC	0.5 W			
Functional Data  Sensor Technology  Application  Application  Multirange  Voltage output  Output signal active note  Measuring Pata  Measuring range temperature  Measuring range temperature  Measuring Range [°C]  Setting  Range [°C]  Range [°F]  Factor  Setting  So  5050  30480  Setting  Range [°C]  Range [°F]  Factor  Setting  So  5050  30480  Squared  41535  0100  Sguared  Accuracy temperature active  Long-term stability  10.0°F p.a. @ 70°F [±0.04°C p.a. @ 21°C]  [±39.2°F p.a. @ 69.8°F]  Time constant τ (63%) in the room  Materials		Electrical connection		ggable spring loaded terminal block max.		
Application air  Multirange 8 measuring ranges selectable  Voltage output 1x 05 V, 010 V, min. load 5 kΩ  Output signal active note output 05/10 V with jumper adjustable  Measuring Data  Measured values Temperature  Measuring range temperature  Active sensor: range selectable Attention: max. measuring temperature is restricted by max. fluid temperature (see Safet data) Setting Range [°C] Range [°F] Factor setting S0 -5050 -30130 ✓ S1 -10120 0250 S2 050 40140 S3 0250 30480 S4 -1535 0100 S5 0100 40240 S6 -2080 4090 S7 0160 0150  Accuracy temperature active ±0.9°F @ 70°F [±0.5°C @ 21°C] Long-term stability ±0.07°F p.a. @ 70°F [±0.04°C p.a. @ 21°C] [±39.2°F p.a. @ 69.8°F] Time constant τ (63%) in the room Typical 542 s		Cable entry	•		า (1/2"	
Multirange       8 measuring ranges selectable         Voltage output       1x 05 V, 010 V, min. load 5 kΩ         Output signal active note       output 05/10 V with jumper adjustable         Measuring Data         Measuring range temperature       Active sensor: range selectable Attention: max. measuring temperature is restricted by max. fluid temperature (see Safet data)         Setting       Range [°C]       Range [°F]       Factor settin         S0       -5050       -30130       ✓         S1       -10120       0250       30480         S2       050       40140       S3       0250       30480         S4       -1535       0100       40240       S6       -2080       4090       S7       0160       0150         Accuracy temperature active       ±0.9°F @ 70°F [±0.0°C @ 21°C]       ±0.0°F p.a. @ 70°F [±0.04°C p.a. @ 21°C]       ±39.2°F p.a. @ 69.8°F]         Time constant τ (63%) in the room       Typical 542 s	Functional Data	Sensor Technology	based on	•		
Voltage output       1x 05 V, 010 V, min. load 5 kΩ         Output signal active note       output 05/10 V with jumper adjustable         Measuring Data       Measured values       Temperature         Measuring range temperature         Active sensor: range selectable Attention: max. measuring temperature is restricted by max. fluid temperature (see Safet data)         Setting Range [°C] Range [°F] Factor setting         So       -5050       -30130       ✓         51       -10120       0250       52       050       40140       53       0250       30480       54       -1535       0100       55       0100       55       0100       40240       56       -2080       4090       57       0160       0150       4090       57       0160       0150       4090       57       0160       0150       4020       4090       57       0160       0150       4020       4020       4020       4020       4020       57       0160       0150       4020       5020       4020       5020       4020       5020       4020       5020       5020 <th< td=""><td></td><td>Application</td><td>air</td><td colspan="2">air</td><td></td></th<>		Application	air	air		
Measuring Data       Measured values       Temperature         Measuring Data       Measuring range temperature         Active sensor: range selectable Attention: max. measuring temperature is restricted by max. fluid temperature (see Safet data)         Setting       Range [°C]       Range [°F]       Factor setting S0       -5050       -30130       ✓         S1       -10120       0250       S2       050       40140       S3       0250       S2       050       40140       S3       0250       30480       S4       -1535       0100       40240       S6       -2080       4090       S7       0160       0150       Accuracy temperature active       ±0.9°F@ 70°F [±0.5°C @ 21°C]       ±39.2°F p.a. @ 69.8°F]       Time constant r (63%) in the room       Typical 542 s         Materials         Cable gland       PA6, black		Multirange	8 measur	ing ranges selec	table	
Measuring Data         Measured values         Temperature           Active sensor: range selectable           Attention: max. measuring temperature is restricted by max. fluid temperature (see Safet data)           Setting         Range [°C]         Range [°F]         Factor setting           S0         -5050         -30130         ✓           S1         -10120         0250         52           S2         050         40140         53         0250         30480           S4         -1535         0100         55         0100         40240         56         -2080         4090         57         0160         0150         40240         56         -2080         4090         57         0160         0150         40240         56         -2080         4090         57         0160         0150         40240         56         -2080         4090         57         0160         0150         40240         56         -2080         4090         57         0160         0150         40240         56         -2080         4090         57         0160         0150         40240         5020         5020		Voltage output	1x 05 V,	5 V, 010 V, min. load 5 kΩ		
Measuring range temperature         Active sensor: range selectable         Attive sensor: range selectable         Attention: max. measuring temperature is restricted by max. fluid temperature (see Safet data)         Setting Range [°C] Range [°F] Factor setting         50       -5050       -30130         51       -10120       0250         52       050       40140         53       0250       30480         54       -1535       0100         55       0100       40240         56       -2080       4090         57       0160       0150         Accuracy temperature active       ±0.9°F @ 70°F [±0.5°C @ 21°C]         Long-term stability       ±0.07°F p.a. @ 70°F [±0.04°C p.a. @ 21°C]         ±39.2°F p.a. @ 69.8°F]       Time constant τ (63%) in the room       Typical 542 s		Output signal active note	output 0.	tput 05/10 V with jumper adjustable		le
Active sensor: range selectable Attention: max. measuring temperature is restricted by max. fluid temperature (see Safet data)  Setting Range [°C] Range [°F] Factor settin  S0 -5050 -30130  S1 -10120 0250  S2 050 40140  S3 0250 30480  S4 -1535 0100  S5 0100 40240  S6 -2080 4090  S7 0160 0150  Accuracy temperature active ±0.9°F p.a. @ 70°F [±0.5°C @ 21°C]  Long-term stability ±0.07°F p.a. @ 70°F [±0.04°C p.a. @ 21°C]  [±39.2°F p.a. @ 69.8°F]  Time constant τ (63%) in the room Typical 542 s	Measuring Data	Measured values	Tempera	ture		
Attention: max. measuring temperature is restricted by max. fluid temperature (see Safet data)  Setting Range [°C] Range [°F] Factor setting  S0 -5050 -30130  51 -10120 0250  52 050 40140  53 0250 30480  54 -1535 0100  55 0100 40240  56 -2080 4090  57 0160 0150  Accuracy temperature active ±0.9°F @ 70°F [±0.5°C @ 21°C]  Long-term stability ±0.07°F p.a. @ 70°F [±0.04°C p.a. @ 21°C]  [±39.2°F p.a. @ 69.8°F]  Time constant τ (63%) in the room Typical 542 s		Measuring range temperature				
restricted by max. fluid temperature (see Safet data) Setting Range [°C] Range [°F] Factor settin  S0 -5050 -30130 S1 -10120 0250 S2 050 40140 S3 0250 30480 S4 -1535 0100 S5 0100 40240 S6 -2080 4090 S7 0160 0150  Accuracy temperature active ±0.9°F @ 70°F [±0.5°C @ 21°C] Long-term stability ±0.07°F p.a. @ 70°F [±0.04°C p.a. @ 21°C] [±39.2°F p.a. @ 69.8°F]  Time constant τ (63%) in the room Typical 542 s						
data   Setting   Range [°C]   Range [°F]   Factor   Setting   S0   -5050   -30130   ✓				- ·		
Setting   Range [°C]   Range [°F]   Factor setting						
Settin   S0			•	Pango [°C]	Pango [ºE]	Eacton
S0			Setting	Kange [ C]	Kaliye [ F]	
S2			S0	-5050	-30130	<b>*</b>
S3			S1	-10120	0250	
S4			<b>S2</b>	050	40140	
S5			S3	0250	30480	
S6			S4	-1535	0100	
S7			<b>S</b> 5	0100		
Accuracy temperature active       ±0.9°F @ 70°F [±0.5°C @ 21°C]         Long-term stability       ±0.07°F p.a. @ 70°F [±0.04°C p.a. @ 21°C]         [±39.2°F p.a. @ 69.8°F]       Time constant τ (63%) in the room       Typical 542 s         Materials       Cable gland       PA6, black			S6	-2080		
Long-term stability       ±0.07°F p.a. @ 70°F [±0.04°C p.a. @ 21°C] [±39.2°F p.a. @ 69.8°F]         Time constant τ (63%) in the room       Typical 542 s         Materials       Cable gland       PA6, black			S7	0160	0150	
[±39.2°F p.a. @ 69.8°F]  Time constant τ (63%) in the room Typical 542 s  Materials  Cable gland PA6, black		Accuracy temperature active	±0.9°F @	70°F [±0.5°C @ 2	21°C]	
Materials Cable gland PA6, black		Long-term stability				
<del></del>		Time constant τ (63%) in the room	Typical 54	12 s		
Mounting plate PC, grey RAL 7001	Materials	Cable gland	PA6, blac	k		
		Mounting plate	PC, grey l	RAL 7001		



## Technical data sheet 22UT-52

Materials	Housing	Cover: PC, grey Bottom: PC, grey Seal: NBR70, black UV resistant
Safety Data	Ambient humidity	Max. 95% RH, non-o
	Ambient temperature	-30120°F [-3550
	Fluid temperature	-30 120°F [-35 50

Max. 95% RH, non-condensing
-30120°F [-3550°C]
-30120°F [-3550°C]
max. 160°F [70°C]
III, Protective Extra-Low Voltage (PELV)
Class 2 Supply
CE Marking
IEC/EN 60730-1
cULus acc. to UL60730-1A/-2-9, CAN/CSA E60730-1/-2-9
IP65
NEMA 4X
UL Enclosure Type 4X
ISO 9001
Type 1
3
0.8 kV
Independently mounted control

### **Safety Notes**



This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application. Unauthorized modifications are prohibited. The product must not be used in relation with any equipment that in case of a failure may threaten humans, animals or assets.

Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Only authorized specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.

The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

#### Remarks

#### **General Remarks Concerning Sensors**

When using lengthy connection wires (depending on the cross section used) the measuring result might be falsified due to a voltage drop at the common GND-wire (caused by the voltage current and the line resistance). In this case, 2 GND-wires must be wired to the sensor - one for supply voltage and one for the measuring current.

Sensing devices with a transducer should always be operated in the middle of the measuring range to avoid deviations at the measuring end points. The ambient temperature of transducer electronics should be kept constant. The transducers must be operated at a constant supply voltage ( $\pm 0.2$  V). When switching the supply voltage on/off, onsite power surges must be avoided.

#### Scope of delivery

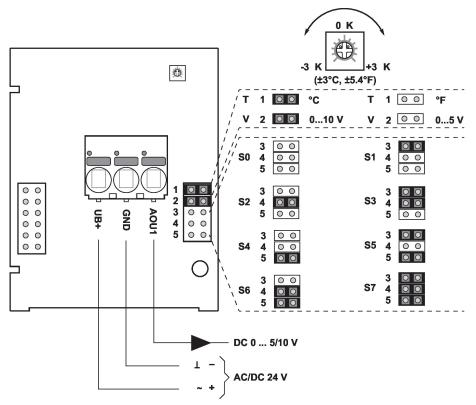
Scope of delivery	Description	Туре
	Mounting plate S housing	A-22D-A09

Dowel Screws

1/2" NPT conduit adapter



## **Wiring Diagram**

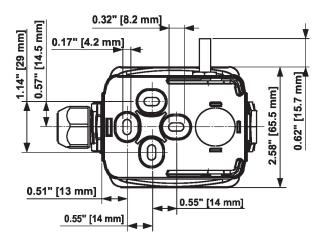


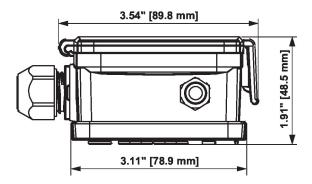
The adjustment of the measuring ranges is made by changing the bonding jumpers. The output value in the new measuring range is available after 2 seconds.

Setting	Range [°C]	Range [°F]	Factory setting
S0	-5050	-30130	
S1	-10120	0250	
S2	050	40140	
S3	0250	30480	
S4	-1535	0100	
S5	0100	40240	
S6	-2080	4090	
S7	0160	0150	



## **Dimensions**





Туре	Probe length	Weight
22UT-52	1" [25 mm]	0.29 lb [0.13 kg]