

# UT60/150 – ATI/BTI

## Universal miniature USB temperature measurement device

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### Description



The temperature sensor UT150 works directly at the USB port. The UT60-AT has measurement accuracy up to 0.1°C. The sensor in conjunction with the Sentax™ software is a very flexible measuring system with a data logger and monitoring functions.



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### Specifications

- Alert message via network (WLAN), SMS, voice mail, e-mail, starting applications (PC software)
- Transfer measurements in real time to Excel spreadsheet (PC software)
- Robust stainless steel housing with sinter filter (sensor head)
- Miniature construction
- Calibrated digital sensor
- High speed signal processing
- Measurement data acquisition, monitoring and logging software available
- Integrated USB 2.0 interface, electronics completely integrated in the USB connector
- Integration into your own applications via Embedded DLL or direct query is supported
- Accessible in LabView (example provided)
- No external power supply required\*.
- Replaceable sensor head\*\*
- On request available with DAkkS certification

\*If many sensors are connected simultaneously, a Power HUB with its own power supply may be required.

\*\*Damaged or aged sensor heads can be replaced if necessary.

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### Applications

- Measurement, recording and monitoring of temperatures
  - server room monitoring
  - laboratory tests
  - ISO 9000 certifications for plants
  - Food stuffs industry
  - Plant engineering and construction
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### Safety notices



The sensor device must not be used in applications where persons may be endangered or injured. It must also not be used as an emergency stop switch on systems and machines or in other safety-relevant areas!



The cable connection to the sensor must not be exposed to temperatures below -25°C or above +75°C, otherwise it could be damaged! Other versions are available for higher temperatures.



The sensor protection class is IP40. The device is **NOT** water proof.

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### Technical data

Device type	Description	Ranging
UT60 - AT	High grade steel sensor head for temperature measurements, $\varnothing$ 6 mm, length 50 mm Total weight: 60g	-10 .. +60°C $\pm 0.1^\circ\text{C}$ at -5 .. +45°C
UT150 - AT	High grade steel sensor head for temperature measurements, $\varnothing$ 6 mm, length 50 mm Total weight: 65g	-50 .. +150°C $\pm 0.3^\circ\text{C}$ at -10 .. +90°C
UT60 - BT	High grade steel sensor head for temperature measurements, $\varnothing$ 6 mm, length 50 mm Total weight: 60g	-10 .. +60°C $\pm 0.8^\circ\text{C}$ at -5 .. +45°C
UT150 - BT	High grade steel sensor head for temperature measurements, $\varnothing$ 6 mm, length 50 mm Total weight: 65g	-50 .. +150°C $\pm 1.0^\circ\text{C}$ at -10 .. +90°C

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### Power supply

Voltage supply	by USB
Power consumption	< 20 mA

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### Outputs

Communication	USB 2.0 standard CDC (Communications Device Class) interface
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### Timing

Response time	~ 75 ms
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### Cables for UT60

Cable type	MIK-C (black)
Protection	IP40
Temperature range	-30°C to +80°C
Length	2 m (configurable) by default

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### Cables for UT150

Cable type	Silicon-Teflon (Color = red)
Protection	IP40
Temperature range	-30°C to +180°C, short term until 210°C
Length	2 m (configurable) by default

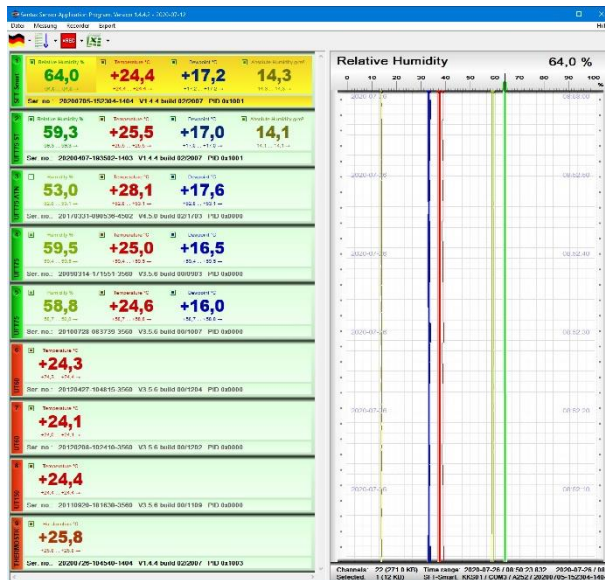
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# UT60/150 – ATI/BTI

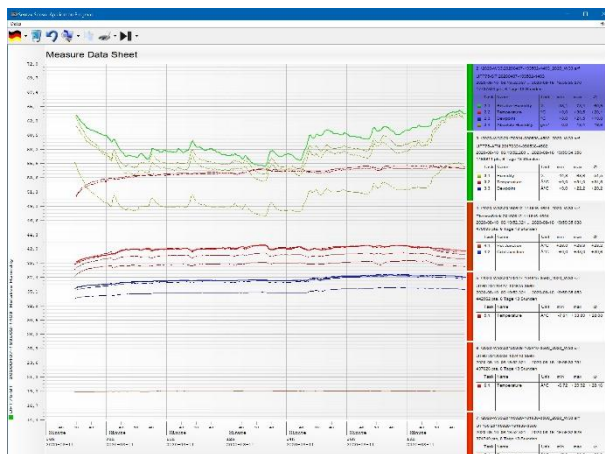
## Universal miniature USB temperature measurement device

The Sentax, a Windows application software, is supplied free of charge with the sensor. This is a universal tool for recording, processing and evaluating measurement data from all MELTEC USB sensors.



Measuring points with line recorder

- The measurement of each measuring point is recorded in real time and displayed as a separate curve in the recorder window. Depending on the type of sensor connected, up to several hundred measurements per second can be read out (usually 20 to 200 per second).
- In parallel to the display in the line recorder window, all measurement data can also be recorded in files with an exact time stamp. The time resolution can be up to one millisecond.
- The measurement data recorded over a long (or short) period of time can be evaluated and displayed as curves on a measurement sheet.



Datlogger

- The Sentax data logger records the measurement data with a precise time stamp over long periods of time with high resolution.
- The representation can be scaled from a whole year down to the millisecond level. Simply zoom into the desired section with the mouse.
- The measurement data are saved in a clear folder structure, sorted by sensor and calendar week.

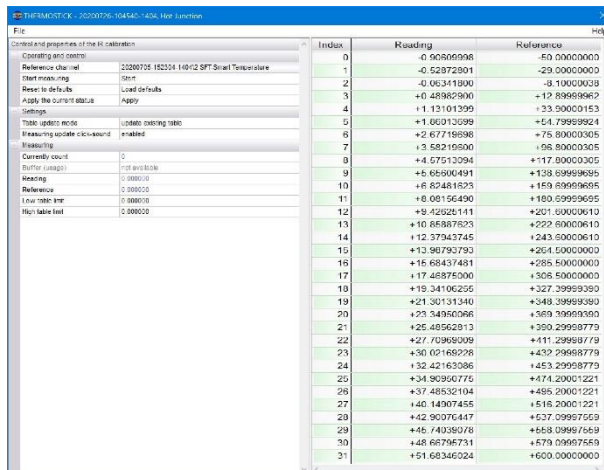
# UT60/150 – AT/BI

## Universal miniature USB temperature measurement device

Date	Time	Time offset	THERMISTOR	UFT75-ST	UFT75-ST	UFT75-ST	UFT75-ST	UFT75-ST	Absolute Humidity	Relative Humidity
			Hot Junction	Relative Humid.	Temperatur	Densität				
			°C	%	°C	g/m³	°C	g/m³	g/m³	%
05.01.2021	17:24:44.547	0,62300004	25,2	1,00840509	48,8	25	13,5	11,3		
05.01.2021	17:24:45,079	1,15500279	25,2	1,00840509	48,8	25	13,5	11,3		
05.01.2021	17:24:45,612	1,68800553	25,2	1,00840509	48,8	25	13,5	11,3		
05.01.2021	17:24:46,144	2,22899827	25,2	1,00840509	48,8	25	13,5	11,3		
05.01.2021	17:24:46,676	2,77000101	25,2	1,00771130	48,8	25	13,5	11,3		
05.01.2021	17:24:47,208	3,30899376	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:47,740	3,84898650	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:48,272	4,38897924	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:48,804	4,92897198	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:49,336	5,46896472	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:49,868	6,00895746	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:50,400	6,54895020	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:50,932	7,08894294	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:51,464	7,62893568	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:52,000	8,16892842	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:52,532	8,70892116	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:53,064	9,24891390	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:53,596	9,78890664	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:54,128	10,32889938	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:54,660	10,86889212	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:55,192	11,40888486	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:55,724	11,94887760	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:56,256	12,48887034	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:56,788	13,02886308	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:57,320	13,56885582	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:57,852	14,10884856	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:58,384	14,64884130	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:58,916	15,18883404	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:59,448	15,72882678	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:24:59,980	16,26881952	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:00,512	16,80881226	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:01,044	17,34880500	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:01,576	17,88879774	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:02,108	18,42879048	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:02,640	18,96878322	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:03,172	19,50877596	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:03,704	20,04876870	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:04,236	20,58876144	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:04,768	21,12875418	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:05,300	21,66874692	25,2	1,00771130	48,7	25	13,5	11,3		
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05.01.2021	17:25:07,960	24,36871062	25,2	1,00771130	48,7	25	13,5	11,3		
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05.01.2021	17:25:10,088	26,52868158	25,2	1,00771130	48,7	25	13,5	11,3		
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05.01.2021	17:25:20,728	37,32853638	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:21,260	37,86852912	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:21,792	38,40852186	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:22,324	38,94851460	25,2	1,00771130	48,7	25	13,5	11,3		
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05.01.2021	17:25:36,688	53,52831858	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:37,220	54,06831132	25,2	1,00771130	48,7	25	13,5	11,3		
05.01.2021	17:25:37,752	54,60830406	25,2	1,00771130						

# UT60/150 – ATI/BTI

## Universal miniature USB temperature measurement device

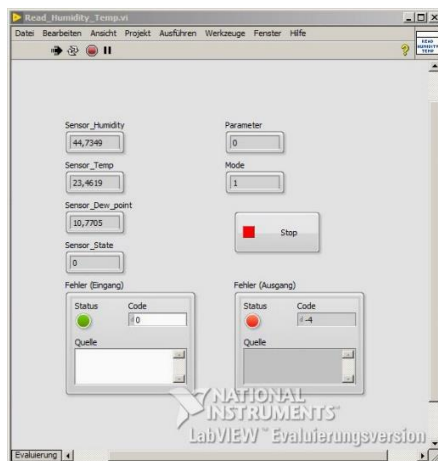


Index	Reading	Reference
0	-0.90809998	-0.00000000
1	-0.52972001	-29.00000000
2	-0.06341900	-9.10000038
3	+0.48982900	-19.89689862
4	+1.13101399	+33.00000153
5	+1.60012099	+54.79999824
6	+2.67749898	+75.80000305
7	+3.58219900	+96.80000305
8	+4.57513094	+117.80000305
9	+5.65900491	+138.89999695
10	+6.82481523	+159.89999695
11	+8.00155490	+180.89999695
12	+9.20261111	+201.80000610
13	+10.68887823	+222.80000610
14	+12.37943745	+243.80000610
15	+13.96793793	+264.80000000
16	+16.68431481	+285.80000000
17	+17.48875000	+306.80000000
18	+19.34106255	+327.39999380
19	+21.30131340	+348.39999380
20	+23.34930366	+369.39999380
21	+25.40562313	+390.29999779
22	+27.70965009	+411.29999779
23	+30.02168228	+432.29999779
24	+32.42163086	+453.29999779
25	+34.90900775	+474.20001221
26	+37.48332104	+495.20001221
27	+40.14907455	+516.20001221
28	+42.90076447	+537.09997559
29	+45.74039078	+558.09997559
30	+48.66796731	+579.09987569
31	+51.68346024	+600.00000000

Calibrations

- Some sensor devices also support calibration functions. The Sentax application software offers all the functions required to carry out a qualified calibration of the sensor devices. In special cases, this can significantly increase the accuracy of the sensors as a whole or for a specific measuring range.
- The calibration of sensor inputs and sensor outputs is supported.
- The outputs of sensors with analog output can be specially adapted to many applications.

## Read measured values into LabView



- Of course, the data can also be adopted in LabView. One included sample application makes this task easier.

## System integration using dll or protocol essentials



- A simple communication protocol for the sensors is available to developers if required. Integrate the sensors directly into your own development, or access the measurement data directly with LabView™ or other systems.
- An interface DLL is also available. Integrate the DLL into your developments and use simple functions for querying measurement data.