



USB PRECISION TEMPERATURE SENSOR TMP125



DESCRIPTION

The TMP125 is a USB temperature sensor based on a precision temperature chip. It can measure temperatures as low as $-55\text{ }^{\circ}\text{C}$ with a resolution of $0.5\text{ }^{\circ}\text{C}$.

Its sensing probe has dust, moisture and splash-proof envelope. This high level of protection makes it possible to use the TMP125 in harsh environments.

APPLICATIONS

- OEM
- Greenhouse
- Server rooms
- Manufacturing
- Pre-certification
- LIMS integration
- Humidity control
- Scientific research
- Building automation
- Engineering and R&D
- Environmental chamber

INSTALLATION TIME

Less than 10 minutes

UNIQUE SERIAL NUMBER

Each unit is assigned a unique serial number allowing for traceability and certification

FREE DAQ SOFTWARE

Real-time data visualization and logging

DATA INTEGRATION

Command-line tools for direct data access and integration

OPTIONS

- Virtual COM Port (VCP) communication protocol
- 3-point user calibration mechanism

ALSO AVAILABLE

Traceability certificates

SPECIFICATIONS

Parameter	Condition	Value	Units
Temperature			
Probe operating range ^[1]	–	-55 to 75	$^{\circ}\text{C}$
Accuracy	Typ., $25\text{ }^{\circ}\text{C}$	± 0.5	$^{\circ}\text{C}$
Accuracy	$-10\text{ }^{\circ}\text{C}$ to $75\text{ }^{\circ}\text{C}$	± 1	$^{\circ}\text{C}$
Accuracy	-55 to $75\text{ }^{\circ}\text{C}$	± 2	$^{\circ}\text{C}$
Resolution	–	0.5	$^{\circ}\text{C}$
Repeatability	Typ.	0.06	$^{\circ}\text{C}$
Response time	$t_{63\%}$ ($75\text{ }^{\circ}\text{C}$)	8	sec
Samples rate	–	240	ms
Factory calibrated	Individually ^[2]	Yes	–
Probe only IP rating	–	64	–
Warm-up time	At $25\text{ }^{\circ}\text{C}$, minimum, following power-up	5	min
Probe IP rating	–	65	–

SPECIFICATIONS

Parameter	Condition	Value	Units
Power supply			
Voltage	Powered through a USB port	5	V
Current consumption	At 5V	12	mA
Mechanical			
Colour	–	Cyan	–
Weight	Without USB cable	76	g
Housing and USB cable			
Temperature operating range	–	0 to 70	$^{\circ}\text{C}$
Humidity operating range	Non-condensing	10 to 90	%RH
Material	–	ABS	–
IP rating ^[3]	–	51	–
System galvanic isolation	–	None	–
USB cable length	–	1 (3)	m (ft)
Miscellaneous			
ADC resolution	–	12	bits
Long-term stability	–	Yes	–
Temperature compensated	By the manufacturer	Yes	–
Lifetime	–	5	years

^[1] Only if cable is not moved/flexed while the temperature is below $0\text{ }^{\circ}\text{C}$.

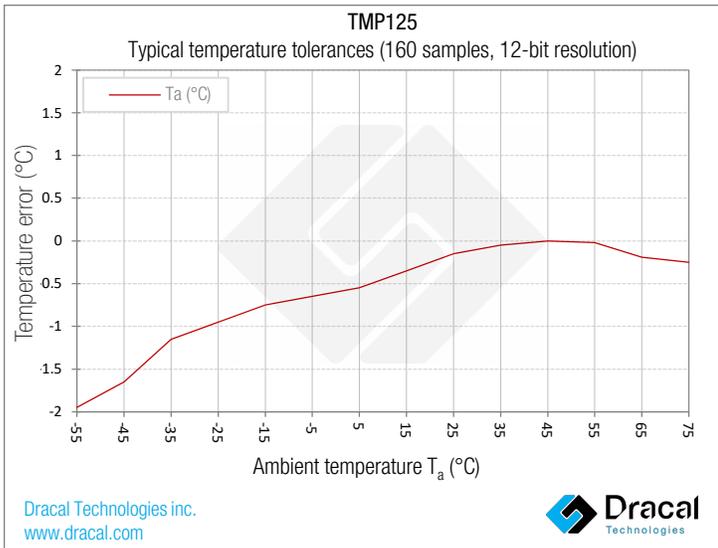
^[2] Each sensor is individually conditioned by the manufacturer of the semiconductor sensor chips, in the best stable conditions and their correction coefficients are recorded in each of them.

^[3] If water condensation or splashing is possible, protect the USB cable and the cable converter using extra precautions. Extra housing may be required depending on the application.

Warning: This product is not designed for use in, and should not be used for, human applications.

Note: While every effort has been made to ensure accuracy in this publication, no responsibility can be accepted for errors or omissions.

Note: Data may change without notification, and you are strongly advised to obtain copies of the most recently issued datasheet.



AVAILABLE CHANNEL(S) As displayed in our logging software			
CHANNEL ID*	DESCRIPTION	TYPE	NATURE
00	MCP980x I2C Temperature sensor	Temperature	Real

* Channel Id as it appears in QTenki. Virtual channel Id differ in QTenki and usbtenkiget.

CAUTION: Keep in mind that electromagnetic interferences (EMI) may adversely reduce the precision of the sensor. Avoid using this unit close to EMI sources such as or, transformers, high voltage and fluorescent light.

TIP: Avoid installing the sensor in a location where considerable vibrations may be present. Large vibrations can introduce extra inaccuracy in the pressure readings.

TIP: As for any precision measurement equipment, it is advised to power on the unit at least 15 minutes before using it.

ORDERING		
PRODUCT(S)		
PART NUMBER	OPTION	DESCRIPTION
601000	USB-TMP125	USB precision temperature sensor
603000	VCP-TMP125	USB precision temperature sensor - with VCP mode
608000	USB-TMP125-CAL	USB precision temperature sensor - calibratable
TRACEABILITY CERTIFICATE(S)		
NT1WT	1-point temperature certificate for one (1) unit	
NT2WT	2-point temperature certificate for one (1) unit	
NT3WT	3-point temperature certificate for one (1) unit	
NT4WT	4-point temperature certificate for one (1) unit	