

Tarangify SHT45 Temperature & Humidity Sensor Probe — M-Series, $\pm 0.1^{\circ}\text{C}$ / $\pm 1\%$ RH, I2C



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1. Product Overview

The Tarangify T-SHT45-M is a precision temperature and humidity sensor probe built around the Sensirion SHT45 digital sensor. It delivers $\pm 0.1^{\circ}\text{C}$ temperature accuracy and $\pm 1\%$ RH humidity accuracy over I2C, housed in a nickel-plated brass body with M12 \times 0.75 mounting thread. Designed for demanding indoor and outdoor installations in HVAC, agriculture, cold storage, and industrial monitoring.

2. Features

- Sensor: Sensirion SHT45 – $\pm 0.1^{\circ}\text{C}$ / $\pm 1\%$ RH accuracy
- Operating range: -40 to 125°C , 0 to 100% RH
- 16-bit resolution • I2C interface, address 0x44 (default)
- Operating voltage: 1.08V to 3.6V – low-power operation
- Housing: Nickel-plated brass, M12 \times 0.75 external thread
- Filter: Sintered metal filter cap at sensing tip
- 1-metre 4-core shielded cable, 22 AWG, bare-tinned wire ends
- On-chip heater (three power levels) for condensation management
- Indoor and outdoor use • Made in India

3. Applications

- HVAC duct and AHU sensing
- Outdoor industrial monitoring
- Weather instrumentation and stations
- Smart agriculture (polytunnels, polyhouses, open fields)
- Cold storage and warehouse climate control
- Server room and rack monitoring
- Process equipment monitoring
- DIY & prototyping – ESP32, Arduino, Raspberry Pi, STM32

4. Electrical Specifications

Parameter	Min	Typical	Max / Value
Supply Voltage (VDD)	1.08 V	3.3 V	3.6 V
Supply Current (Active)	—	430 μ A	—
Supply Current (Idle)	—	2 μ A	—
Temperature Range	-40°C	—	+125°C
Temperature Accuracy	—	\pm 0.1°C	—
Humidity Range	0% RH	—	100% RH
Humidity Accuracy	—	\pm 1% RH	—
Resolution	—	16-bit	—
I ² C Speed (Fast Mode)	—	400 kHz	1 MHz
I ² C Address	—	0x44	0x45 (Alternative)
Measurement Time	—	1.7 ms	8.2 ms
Heater Power	—	3 Levels	200 mW Max

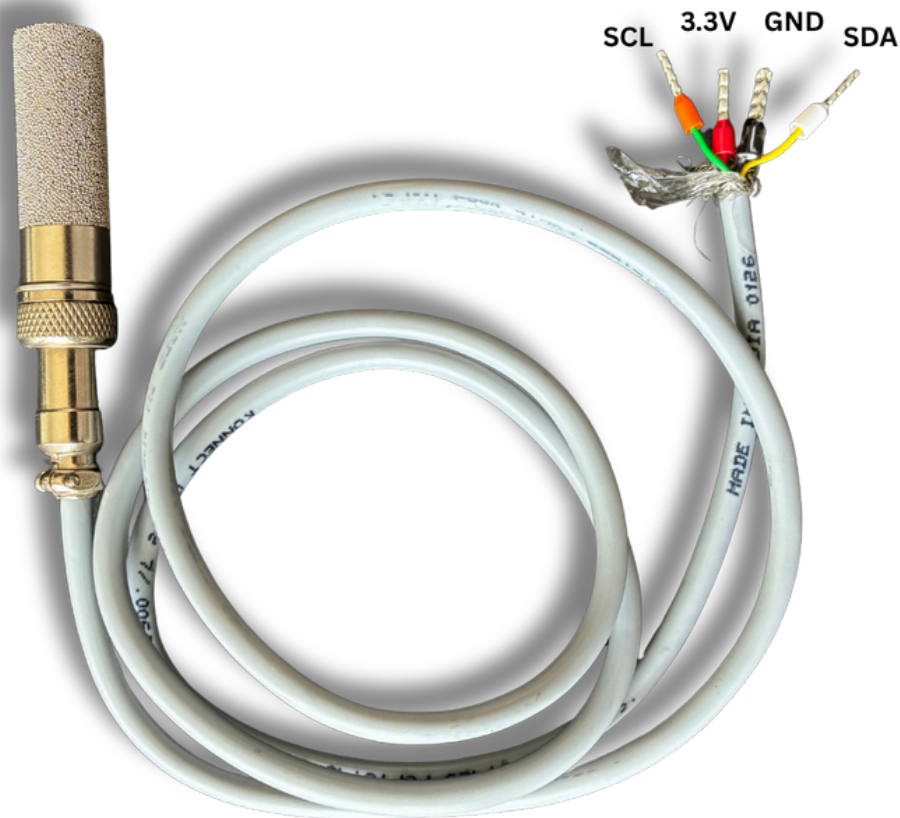
** Sensor-level specifications from Sensirion SHT45 datasheet (v6). Probe-level parasitics (cable capacitance, self-heating) depend on installation conditions.*

5. Mechanical Specifications

Parameter	Value
Overall Length	76 mm \pm 2 mm
Filter Cap Length	31 mm \pm 0.2 mm
Body Outer Diameter (OD)	14 mm \pm 0.2 mm
Mounting Thread	M12 \times 0.75 External
Housing Material	Nickel-Plated Brass
Filter	Sintered Metal Filter Cap
Cable Length	1 Metre (Standard)
Cable Type	4-Core Shielded, 22 AWG
Cable Termination	Bare-Tinned Wire Ends
Weight	~45 g (Probe + Cable)
Application	Indoor and Outdoor Use

6. Pin Description

Wire Colour	Name	Function
Red	VCC	Supply Voltage (1.08 V – 3.6 V)
Black	GND	Ground
Yellow	SDA	I ² C Data (4.7 k Ω Pull-Up to VCC Recommended)
Green	SCL	I ² C Clock (4.7 k Ω Pull-Up to VCC Recommended)



7. Protections

- Reverse polarity: not protected – observe wire colour coding
- Over-voltage: do not exceed 3.6V VCC
- ESD: SHT45 includes on-chip ESD protection on all pins
- Condensation: use on-chip heater to clear condensation on sensor filter
- Cable shield: connect shield drain wire to ground at host side only to avoid ground loops

8. Environmental Ratings

Parameter	Value
Operating Temperature	-40°C to +125°C (Sensor); -20°C to +85°C (Cable)
Storage Temperature	-40°C to +125°C
Humidity (Non-Condensing)	0% to 100% RH
Cooling Method	Natural Convection
Ingress Protection	Suitable for Outdoor Use; Avoid Direct Water Immersion



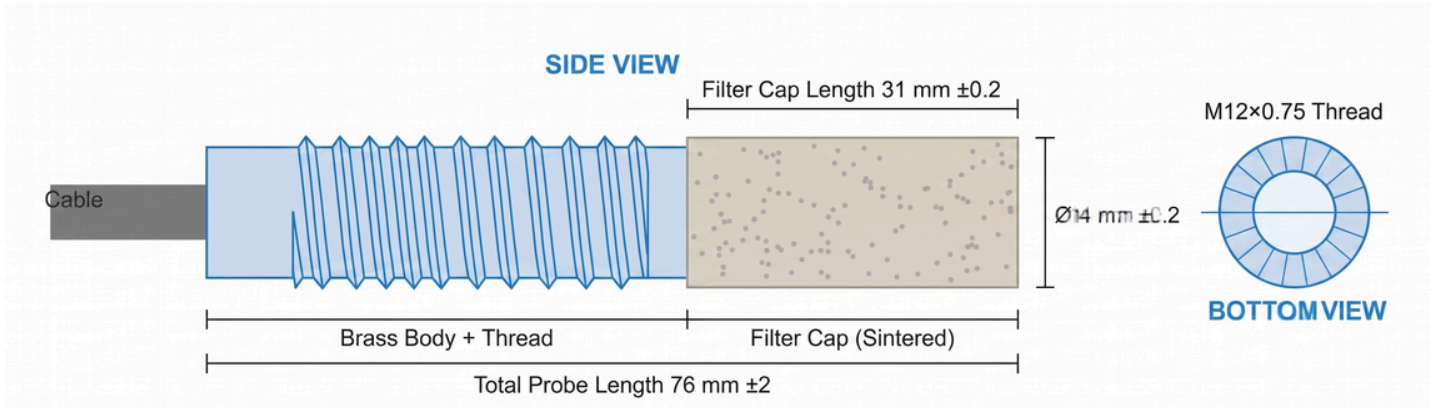
Tarangify T-SHT45-M

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9. Ordering Information

Product Code	Description	Color
T-SHT45-M	SHT45 Temp & Humidity Probe, M-Series, 1m cable	-

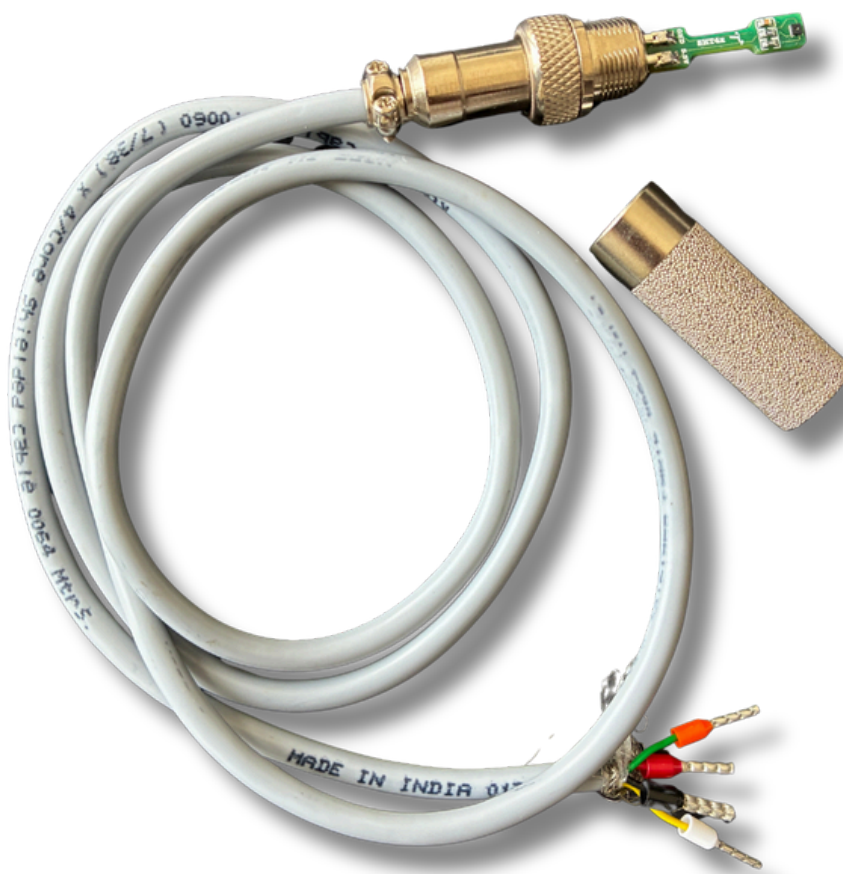
10. Mechanical Drawing



Dimensional Notes:

1. Overall length: 76 mm ±2 mm
2. Filter cap length: 31 mm ±0.2 mm
3. Body OD: 14 mm ±0.2 mm
4. Thread: M12×0.75 external
5. Cable length: 1000 mm ±20 mm
6. All dimensions in mm

All dimensions in mm. Dimensional tolerances as marked



15. Contact Information

- ✉ support@thingslinker.com
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