

Technical Information

UTECO UCON SERIES

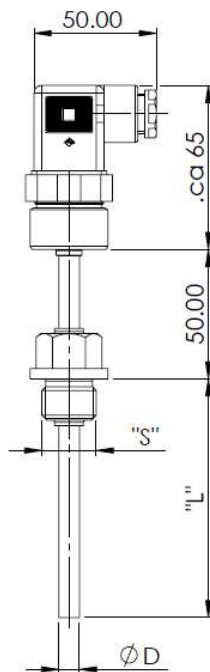
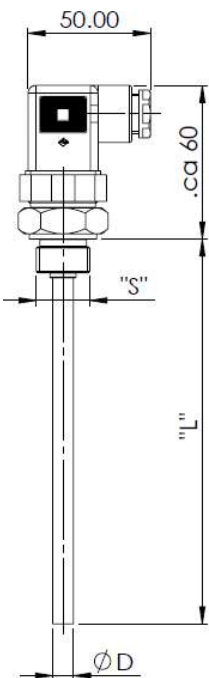


Temperature Probe with plug Connector.
Straight thermometer with or without extension length.



UCON 1

UCON 2



Application

Intended use:

Temperature measurement under pressure in motors, compressors, controlling cooling water, lubrication oil, hydraulic oil, plant engineering, in gases, fluids and refrigeration plants within general industry and marine applications.

Installation:

To be installed only in a thermowell at areas classified as Environmental Categories:

- **ENV2:** Enclosed spaces subject to temperature, humidity and vibration
(Tamb: 5 °C ...55 °C)
- **ENV3:** Enclosed spaces subject to generated heat from other equipment
(Tamb: 5 °C ...70 °C)
- **ENV4:** Mounted on reciprocating machinery
(Tamb: 5 °C ...55 °C)

Relative Humidity: 0...98% RH

Ambient Temperature¹

(outside the process area):

- Terminal block: 5 °C...70 °C
- Transmitter: -10 °C ...85 °C

Process Temperature:

-50 °C...260 °C

Ingress Protection Degree:

- Connection head IP65
- Cable gland [PG9]: ≥ IP65

¹ Storage Temperature: see Ambient Temperature

Technical Data:

Description:

Connection Head: 3 Pole rectangular connector equipped with cable gland & terminal device.

Protection Tube: protection tube with or without extension length [SS 316, SS 304, SS446 or Inc.600]

Process Connection: threaded

Measuring Element: One Pt100 (standard version) or Pt1000 Temperature Sensors class A, B or AA [EN 60751],

in 2-wire, 3-wire or 4-wire connection for terminal blocks while in 3-wire or 4-wire for transmitter version.

Accuracy Class [IEC/EN 60751]:

Tolerance Class	Temperature range of validity (°C)		Tolerance Values (°C)
	Wire wound resistors	Film resistors	
AA	-50 to 250	0 to 150	$\pm (0.1 + 0.0017 t)$
A	-100 to 450	-30 to 300	$\pm (0.15 + 0.002 t)$
B	-196 to 600	-50 to 500	$\pm (0.3 + 0.005 t)$

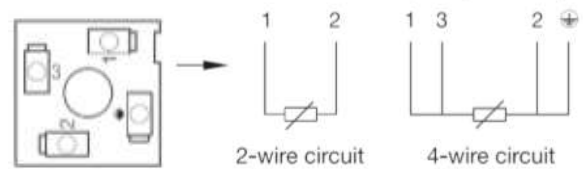
where t: measured Temperature in °C

Vibration Resistance:

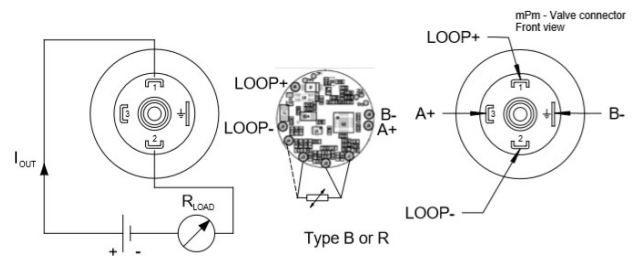
Type of Temperature Sensor	Vibration Resistant [as per IEC 60068-2-6]
A) Option with Terminal Block:	0.7g...4g Frequency range 2-100Hz
B) Option with Transmitter: 4...20mA	4g Frequency range 2-100Hz

Electrical connection:

A) Without transmitter (2-,3-, or 4-wire connection. Ground not Connected):



B) With transmitter (3-, or 4-wire connection. Ground not Connected):



Note: The earthing sign at one terminal of the connection head shall not be used for earthing at the sensor area!

Electrical/Mechanical Specifications:

Option with Transmitter:

Supply Voltage (V): 5...32V DC

Output Signal: 4...20mA

Wire Size: 0.34...1.5mm²/ AWG 22...16 stranded wire

Measured current/ Max Current:

- Pt 100 recommended: 0.3mA to 1mA
- Pt1000 recommended: 0.1mA to 0.3mA

The measuring current shall be as small as possible to avoid error from self-heating.

Option with Terminal Block:

Measured current/Max Current: same as above

Wire Size: same as above

Approvals- Compliances

- EN 60571- Industrial platinum resistance thermometers and platinum temperature sensors
- Approved as per Lloyd's Register's Type Approval System, Test Specification Number 1- March 2019 [Certificate No: LR2041438TA], for Marine and Offshore applications for use in environmental categories ENV2, ENV3 and ENV4 as defined in the above-mentioned System.
- RoHS Compliant
- REACH Compliant
- MEPC.269 (68) Compliant

Type Designation

A) Terminal Block Version

Type	Element	Diameter D(mm)	Length L (mm)	Sheath Material	Process Connection	DIN Tolerance Classes/ wires	Available Measuring Temperature Range
UCON1	1xPt 100	∅6	50...300	AISI 304	¼" BSP	Class A 3-w	-50 °C...260 °C
UCON2	1xPt1000	∅7		AISI 316	3/8" BSP	Class A 4-w	
		∅8		AISI 446	½" BSP	Class B 2-w	
		∅9		Inc.600	¾" BSP	Class B 3-w	
		∅9.5			¼" NPT	Class B 4-w	
		∅10			3/8" NPT	Class AA 3-w	
		∅11			½" NPT	Class AA 4-w	
		∅12			¾" NPT		
					16x 1.5M		
					18x 1.5M		
					20x 1.5M		
					22x 1.5M		

E.g.:

UCON1	1xPt100	6	/	150	mm	AISI 316	¼" BSP	Cl.B 3-w	-50...500 °C
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B) Transmitter Version

Type	Element	Diameter D(mm)	Length L (mm)	Sheath Material	Process Connection	DIN Tolerance Classes/ wires	Available Measuring Temperature Range	Output Signal	Defined Measuring Temperature Range
UCON1	1xPt 100	∅8 ²	50...150	AISI 304	½" BSPP	Class A 3-w	-50 °C...260 °C	4...20mA	Tmin...Tmax
UCON2	1xPt1000	∅10	50...300	AISI 316	¾" BSPP	Class A 4-w			
		∅12	50...300	AISI 446	½" NPT	Class B 3-w			
				Inc.600	¾" NPT	Class B 4-w			
						Class AA 3-w			
						Class AA 4-w			

E.g.:

UCON1	1xPt100	8	/	150	mm	AISI 316	¾" BSPP	Cl.B 3-w	-50...260 °C	(4...20 mA /)	0...100 °C
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UTECO ABEE accepts no responsibility for possible errors in this brochure and reserves the right to change its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed.

² It is noted that ∅8 corresponds to length L1= 50...150mm.

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