EE074

Temperature Probe with Modbus RTU

The EE074 probe measures accurately the temperature (T) of air, gases and liquids in demanding process and climate control applications such as food and beverages, pharma and biotech, clean rooms or agriculture.

Robust and Reliable

The IP68 stainless steel enclosure in combination with fully encapsulated electronics leads to an outstanding long term measurement performance in harsh and condensing environment.

Easy Installation

The M12x1 connector and the choice of mounting accessories minimize the installation costs. The immersion well with innovative clamp ring allows for safe installation in pressurized liquids.

Configurable and Adjustable

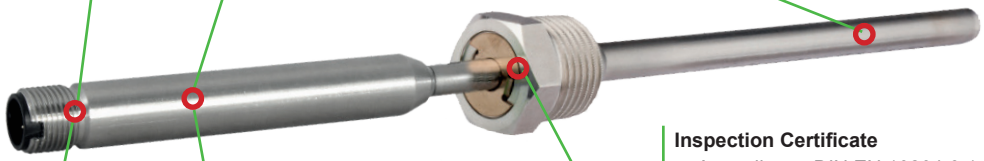
An optional adapter and the free EE-PCS Product Configuration Software facilitates the setup and adjustment of the EE074.

Features

User configurable and adjustable
» Free configuration software

Mechanical construction
» IP68 stainless steel enclosure
» Encapsulated electronics

Measurement performance
» ± 0.1 °C accuracy
» Wide working range up to -70…105 °C
» Compatible with dry block calibrators



Inspection Certificate
» According to DIN EN 10204-3.1

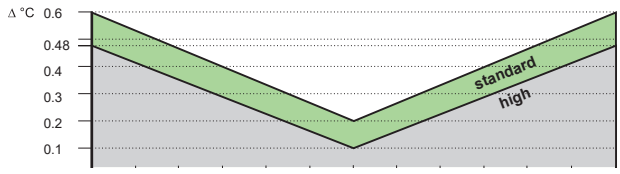
Connection
» RS485 with Modbus RTU
» M12x1 connector
» User configurable

Installation
» Various probe lengths
» Immersion well up to 25 bar
» Wall mounting clip

Immersion well
» Innovative mounting spring
» No fastening screw, no tools required

Technical Data

Measurand

Temperature sensor	Pt1000 Class A
Accuracy[1)] incl. hysteresis, non-linearity, temperature dependency of electronics and repeatability	
Resolution	0.01 °C
Response time t_{63}	75 seconds in air @ 3.0 m/s 21 seconds in liquid
Measuring interval	1 second

1) Traceable to intern. standards, administrated by NIST, PTB, BEV,... The accuracy statement includes the uncertainty of the factory calibration with an enhancement factor k=2 (2-times standard deviation). The accuracy was calculated in accordance with EA-4/02 and with regard to GUM (Guide to the Expression of Uncertainty in Measurement). The accuracy is defined at a 24 V DC supply, 9600 Baud rate, without termination resistor and a polling interval of ≥ 1 second. For the accurate measurement in air, please observe the installation note in the product manual.

General

Digital interface		RS485 (EE074 = 1 unit load)
Protocol		Modbus RTU
Default settings		Baud rate 9600[2)], Even Parity, Stopbits 1, Slave-ID 233
Supply		10…28 V DC
Current consumption, typ.		3 mA
Enclosure material		Stainless steel 1.4404 / AISI 316 L
Protection class[3)]		IP68 (electrical connection IP67)
Connector		M12x1, 5 poles, stainless steel
Electromagnetic compatibility		EN 61326-1:2013 EN 61326-2-3:2013 Industrial Environment CE
Working range	electronics	-40…80 °C (-40... 176 °F) / 0…100 % RH
	probe (70 & 155 mm)	-40…80 °C (-40... 176 °F) / 0…100 % RH
	probe (305 mm)	-70…105 °C (-94... 221 °F) / 0…100 % RH
Storage conditions		-40…80 °C (-40... 176 °F) / 0…90 % RH

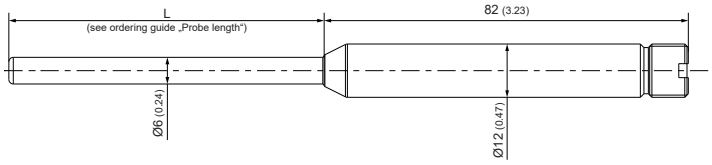
Immersion well

Material	Brass nickel-plated
	Stainless steel (tube: 1.4571 / 316Ti, mounting thread: 1.4404 / 316L)
Pressure rating	15 bar (218 psi), brass
	25 bar (363 psi), stainless steel

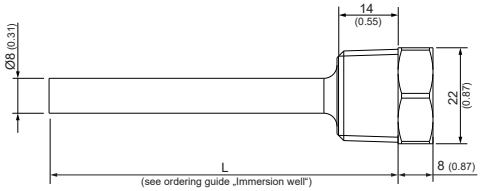
2) Supported baud rates 9600, 19200, 38400, 57600, 76800 and 115200;
more details about communication setting: See User Guide and Modbus Application Note at www.epluse.com/ee074
3) The IP67 connection rating applies when plugged into an appropiate M12x1 female connector.

Dimensions in mm (inch)

Temperature Probe



Immersion Well



Ordering Guide

Position 1 - Temperature Probe

		EE074-
Probe length	70 mm (2.82")	L70
	155 mm (6.16")	L155
	305 mm (12.07")	L305

Position 2 - Mounting Accessories (optional)

			R½" ISO	½" NPT
Immersion well	50 mm (1.97")	brass	HA400101	HA400111
		stainless steel	HA400201	HA400211
	100 mm (3.94")	brass	HA400104	HA400114
		stainless steel	HA400204	HA400214
	135 mm (1.97")	brass	HA400102	HA400112
		stainless steel	HA400202	HA400212
	285 mm (11.22")	brass	HA400103	HA400113
		stainless steel	HA400203	HA400213

Flanges & Clip	Plastic flange Ø 6 mm (0.24")	HA401101
	Stainless steel flange Ø 12 mm (0.47")	HA010201
	Wall mounting clip Ø 12 mm (0.47")	HA010211

Order Example

Position 1:

EE074-L305

Probe length: 305 mm

Position 2 (optional):

HA400203

Immersion well: R½" ISO, stainless steel, 285 mm (11.22")

Accessories (See data sheet "Accessories")

Modbus configuration adapter		HA011018
E+E Product Configuration Software		EE-PCS (free download: www.epluse.com/configurator)
Connection cable M12 - flying leads	1.5 m (59.06")	HA010819
	5 m (196.85")	HA010820
	10 m (393.70")	HA010821
T-coupler M12 - M12		HA030204
M12 cable connector for self assembly		HA010707
Protection cap for the M12 cable socket		HA010781
Protection cap for the M12 plug		HA010782