

+ Quick Guide

EE074 - Temperature Probe with Modbus RTU



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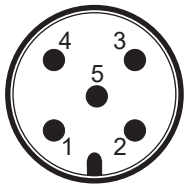
i PLEASE NOTE

Find this document and further product information on our website at www.epluse.com/ee074.

Electrical Connection

⚠ WARNING

Incorrect installation, wiring or power supply may cause overheating and can therefore lead to personal injuries or damage to property. For correct cabling of the device, always observe the presented wiring diagram for the product version used. The manufacturer cannot be held responsible for personal injuries or damage to property as a result of incorrect handling, installation, wiring, power supply and maintenance of the device.



M12 device plug
front view

Pin number	Function	Wire colors for accessories: - Couplig flange HA010705 - Connection cable HA010819/820/821
1	Supply voltage	Brown
2	RS485 B (D-)	White
3	GND	Blue
4	RS485 A (D+)	Black
5	Not assigned	Gray

Installation

i PLEASE NOTE

For accurate measurement, it is vital that the temperature of the probe body and the sensing head is the same as the temperature of the air being measured. Avoid mounting the EE074 in a way which creates temperature gradients along the probe.

The device and mainly the sensing head shall not be exposed to extreme mechanical stress.

Modbus Setup

	Factory settings	User selectable values (via PCS10)
Baud rate	9600	9600, 19200, 38400, 57600
Data bits	8	8
Parity	Even	None, odd, even
Stop bits	1	1, 2
Modbus address	233	1...247

The recommended settings for multiple devices in a Modbus RTU network are 9600, 8, Even, 1. The EE074 represents 1 unit load in a Modbus network.

Device address, baud rate, parity and stop bits can be set via:

- PCS10 Product Configuration Software and the the appropriate configuration cable.
The PCS10 can be downloaded free of charge from www.epluse.com/pcs10.
- Modbus protocol in the register 1 (0x00) and 2 (0x01).
See Application Note Modbus AN0103 (available at www.epluse.com/ee074).

The serial number as ASCII-code is located in read-only registers 1 - 8 (0x00 - 0x07, 16 bits per register).

The firmware version is located in register 9 (0x08) (bit 15...8 = major release; bit 7...0 = minor release).

The sensor name as ASCII-code is located in read-only registers 10 - 17 (0x09 - 0x11, 16 bits per register).

Communication settings (INT16)

Parameter	Register number ¹⁾ [Dec]	Register address ²⁾ [Hex]
Write register: function code 0x06		
Modbus address	1	00
Modbus protocol settings ³⁾	2	01

Device information (INT16)

Parameter	Register number ¹⁾ [Dec]	Register address ²⁾ [Hex]
Read register: function code 0x03 / 0x04		
Serial number (as ASCII)	1	00
Firmware version	9	08
Sensor name (as ASCII)	10	09

- 1) Register number (decimal) starts from 1.
- 2) Register address (hexadecimal) starts from 0.
- 3) For Modbus protocol settings see Application Note Modbus AN0103 (available on www.epluse.com/ee074).

Modbus Register Map

FLOAT32

Parameter	Unit	Register number ¹⁾ [DEC]	Register address ²⁾ [HEX]
Read register: function code 0x03 / 0x04			
Temperature	°C	1003	3EA
	°F	1005	3EC
	°K	1009	3F0

- 1) Register number (decimal) starts from 1.
- 2) Register address (hexadecimal) starts from 0.

INT16

Parameter	Unit	Scale ³⁾	Register number ¹⁾ [DEC]	Register address ²⁾ [HEX]
Read register: function code 0x03 / 0x04				
Temperature	°C	100	4002	FA1
	°F	50	4003	FA2
	°K	50	4005	FA4

- 1) Register number (decimal) starts from 1.
- 2) Register address (hexadecimal) starts from 0.
- 3) Examples: For scale 100, the reading of 2550 means a value of 25.5. For scale 50, the reading of 13 500 means a value of 270.

