



Quick Guide

EE354 - Dew Point Sensor down to -20 °C Td (-4 °F Td)



your partner
in sensor
technology.

PLEASE NOTE

Find this document and further product information on our website at www.epluse.com/ee354.

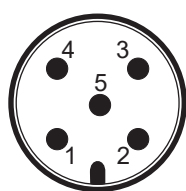
Electrical Connection

WARNING

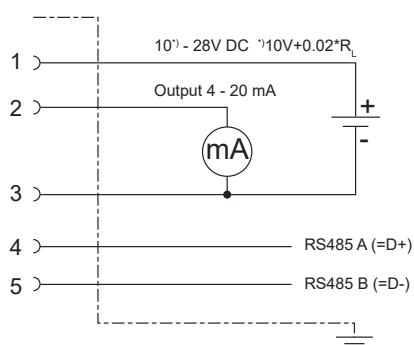
Incorrect installation, wiring or power supply may cause overheating and therefore personal injuries or damage to property. For correct cabling of the device, always observe the presented wiring diagram for the product version used. The manufacturer cannot be held responsible for personal injuries or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

PLEASE NOTE

To meet the EMC Directive 2014/30/EU a shielded connection cable must be used.



M12 device plug
front view



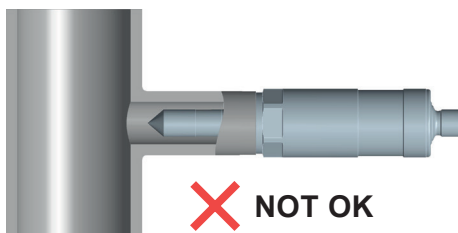
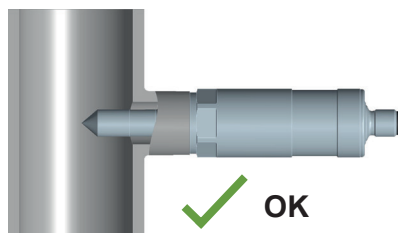
Pin number	Function	Wire colours for accessory: Connection cable HA010819/20/21
1	Supply voltage	brown
2	Output 4 - 20 mA	white
3	GND	blue
4	RS485 A (D+)	black
5	RS485 B (D-)	grey

Installation



PLEASE NOTE

Remove the protection cap just before installation.



Setup and Adjustment

The EE354 is ready to use and does not require any user configuration. The factory setup of EE354 corresponds to the type number ordered. If needed, the user can change the factory setup or make an adjustment with the help of the optional Modbus configuration adapter and the free PCS10 Product Configuration Software.

Modbus Setup

	Factory settings	User selectable values (via PCS10)
Baud rate	9600	9600, 19200, 38400, 57600, 76800, 115200
Data bits	8	8
Parity	Even	None, odd, even
Stop bits	1	1, 2
Modbus address	243	1...247

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

- PCS10 Product Configuration Software and the appropriate configuration cable HA011013. 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/ee354).

Communication settings (INT16)

Parameter	Register number ¹⁾ [Dec]	Register address ²⁾ [Hex]	Size ³⁾
Write register: function code 0x06			
Modbus address ⁴⁾	1	00	1
Modbus protocol settings ⁴⁾	2	01	1

Device information (INT16)

Parameter	Register number ¹⁾ [Dec]	Register address ²⁾ [Hex]	Size ³⁾
Read register: function code 0x03 / 0x04			
Serial number (as ASCII)	1	00	8
Firmware version	9	08	1

Application parameter

Parameter	Type	Register number ¹⁾ [Dec]	Register address ²⁾ [Hex]	Size ³⁾
Read register: function code 0x03/04 / Write register: function code 0x10				
Working pressure ⁵⁾⁶⁾	FLOAT32	5001	1388	2

1) Register number (decimal) starts from 1.

2) Register address (hexadecimal) starts from 0.

3) Number of registers.

4) For Modbus address and protocol settings see Application Note Modbus AN0103 (available at www.epluse.com/ee354).

5) Register available only for the EE354 with Firmware Version 2.00-Rev 01 and higher.

6) Working pressure is expressed in mbar, with 2 decimal digits (e.g. 1008.25), default value 1013.25 mbar. Example of Modbus frame to be sent to write Working pressure 1008.25 mbar: Request [Hex]: F3 10 13 88 00 02 04 10 00 44 7C 1D C3, Response [Hex]: F3 10 13 88 00 02 D0 74.

Modbus Register Map

FLOAT 32

Parameter	SI Unit ¹⁾	US/GB Unit ¹⁾	Register number ²⁾ [DEC]	Register address ³⁾ [HEX]
Read register: function code 0x03 / 0x04				
Dew point temperature, Td	°C	°F	32	1F
Frost point temperature, Tf	°C	°F	42	29
Volume concentration, Wv	ppm	ppm	60	3B
Water vapour partial pressure, e	mbar	psi	30	1D
Relative humidity RH, Uw	%RH	%RH	28	1B
Temperature, T	°C	°F	26	19

1) The choice of measurement units (metric or non-metric) must be done according to the ordering guide, see EE354 datasheet. Switching from metric to non-metric or vice versa by using the PCS10 is not possible.

2) Register number (decimal) starts from 1.

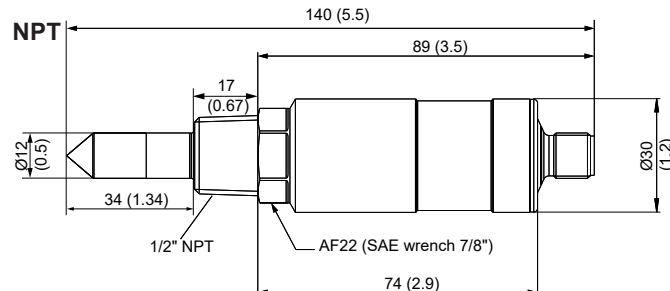
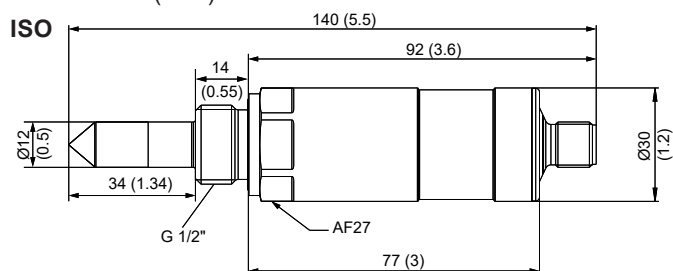
3) Register address (hexadecimal) starts from 0.

i INFO

If the Volume Concentration Wv is to be measured and the working pressure differs from the ambient pressure, the working pressure must be set via the PCS10 Product Configuration Software (all Firmware versions) or via Modbus protocol at register 5001 (only for EE354 with Firmware Version 2.00-Rev 01 and higher) in order to obtain the correct Volume concentration Wv value.

Dimensions

Values in mm (inch)



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