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EE03

Humidity and Temperature Module with Digital Output

EE03 is a cost effective, highly accurate temperature and humidity measurement module with two-wire digital interface. It features the well-proven, long term stable E+E HC103 humidity sensor. The EE03 is optimized for best thermal coupling with a plane surface, which is paramount for accurate measurement of surface moisture. By this, besides ambient humidity measurement, the EE03 can be employed also as condensation monitor, and indicates the danger of condensation before condensation actually occurs.

The E+E proprietary sensor coating is a protective layer applied to the sensing element. The coating extends substantially the life-time and the measurement performance of EE03 in corrosive environment. Additionally, it improves the long term stability in dusty, dirty or oily conditions by preventing stray impedances caused by deposits on the active sensor surface.

The E2 digital protocol allows for easy design in. An E2-RS232 convertor facilitates the testing of EE03 during the design in process.

Typical Applications

Condensation monitoring
Surface moisture measurement
Home appliances
Humidifiers and dehumidifiers
HVAC, OEM

Features

Compact design
Interchangeable and pluggable
Sensor protection for harsh environments
Low power
Cable length up to 10 m (32.8ft)

Technical Data

Measuring values

Relative Humidity

Sensor	E+E HC103
Digital output (2 wire E2 interface)[1)]	output value: 0.00...100.00 % RH
Working range	0...100 % RH with coating 0...95 % RH without coating
Accuracy at 21 °C (70 °F)	±3 % RH (10...100 % RH) Traceable to intern. standards, administrated by NIST, PTB, BEV...
Temperature dependence	±0.00035 x RH x (T-20 °C) (T-68 °F)

Temperature

Digital output (2 wire E2 interface)	Output value: -40.00...+85.00 °C (-40.00...+185.00°F)
Accuracy at 20 °C (68 °F)	±0.3 °C (±0.54 °F)

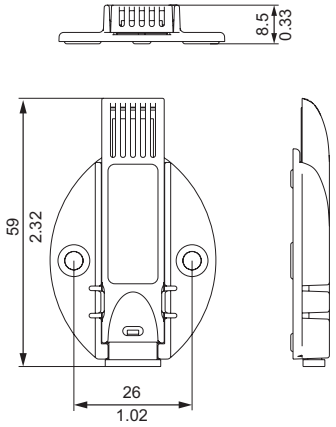
General

Supply voltage (Class III)	2.5 V DC - 5.5 V DC, max ripple 20 mV
Voltage level digital interface	≤ Supply voltage, but max 3.5 V
Current consumption at 5 V DC	average value: typ. 0.30 mA peak, every 3s: 1.70 mA
Housing	ABS-PC / IP20
Electromagnetic compatility	EN 61000-6-3 EN 61000-6-1
Working temperature	-40...85 °C (-40...185 °F)
Storage temperature	-40...60 °C (-40...140 °F)
Maximum cable length	10 m (32.8 ft)
Electrical connections	appropriate for female connectors: AMP/TYCO / 0-0280359-0 (4 pins) and female crimp contacts: AMP/TYCO / 181270-1

1) see support literature at www.epluse.com

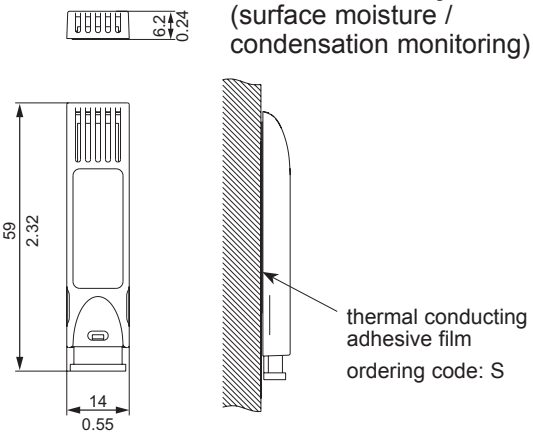
Dimensions (mm/inch)

with snap-in flange

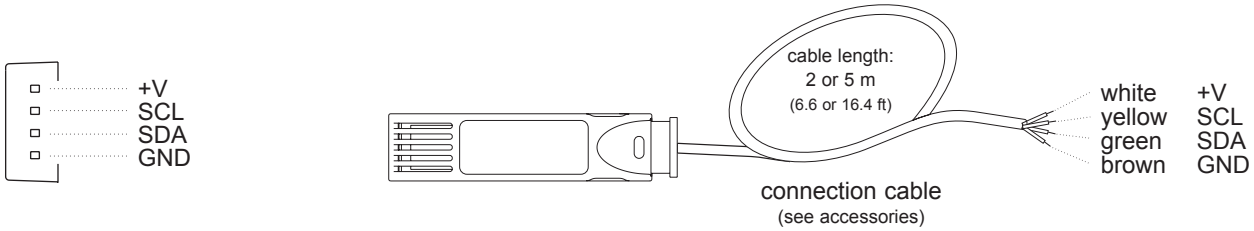


Mounting

with adhesive layer
(surface moisture / condensation monitoring)



Connection diagram



Ordering Guide

MODEL		OUTPUT		ADHESIVE FILM		PROTECTIVE COATING	
humidity and temperature	(FT)	E2-interface	(9)	without	(no code)	without	(no code)
				with	(S)	with	(HC)
EE03-							

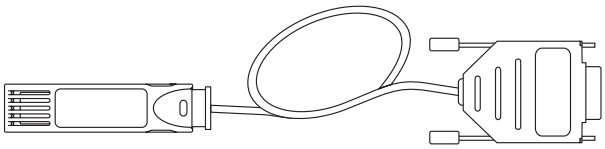
Order Example

EE03-FT9S

model:	humidity and temperature
output:	E2-interface
adhesive film:	with
coating:	without

Accessories

- E2-RS232 converter for test purposes	HA011002
- mounting materials (plate, screws, dowel)	HA010206
- connection cable 2 m (6.6 ft)	HA010307
5 m (16.4 ft)	HA010308



E2 - RS232 test converter