

# EE03 Series

## OEM Humidity / Temperature Module alterations according to customer specifications possible

The EE03 is an inexpensive, highly accurate, temperature and humidity measurement module for OEM applications that communicates via a two-wire digital protocol. Originally designed and manufactured for the automotive industry, this device has excellent long-term stability and is ideal for a wide range of applications that require remote or embedded RH and temperature measurements.

The EE03 plug-in module design also allows for ambient air monitoring or measurement of surface humidity and temperature to detect near-condensation (dew point) conditions. For applications in salt air or harsh environments, the EE03 is also available with an optional protective coating.

The EE03 features an embedded microprocessor that retains calibration data, and provides a full-range, temperature corrected humidity output. The simple E2 digital protocol used by the EE03 allows for low-cost integration with other devices utilizing microprocessor based control or monitoring.



### Typical Applications

- HVAC & economizer control**
- automotive appliances**
- consumer products humidifiers**
- dehumidifiers**
- medical technology**

### Features

- digital two wire output for RH and T**
- qualified for surface condensation monitoring**
- interchangeable plug-in design**
- integrated easily to systems**
- compact design**
- low power consumption**
- cable length up to 10m (32.8ft)**
- optional protective coating for harsh environments**
- traceable calibration**

### Technical Data

#### Measuring values

##### Relative Humidity

Sensor	HC103
Digital output (2 wires) <sup>2)</sup>	output value: 0.00...100.00% RH
Working range <sup>1)</sup>	0...95% RH with coating 0...100% RH
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)

##### Temperature

Digital output (2 wires) <sup>2)</sup>	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 <sup>3)</sup>	2.5V DC - 5.5V DC
Current consumption at 5V DC	average value: typ. 0.30mA peak, every 3s: 1.70mA
Housing	ABS-PC / IP20
Electromagnetic compatibility	EN 61000-6-3 EN 61000-6-1
Temperature range	working temperature: -40...85°C (-40...185°F) storage temperature: -40...60°C (-40...140°F)
Maximum cable length	10m (32.8ft)
Electrical connections	designed for female connectors: AMP/TYCO / 0-0280359-0 (4 pins) and female crimp contacts: AMP/TYCO / 181270-1

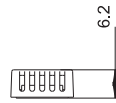
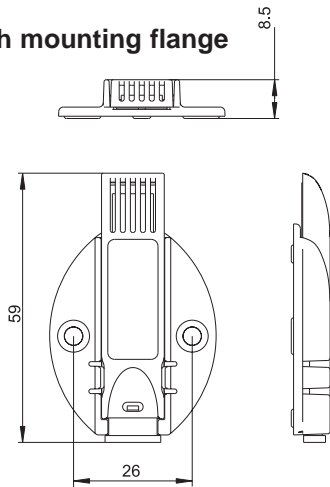


1) please refer to the working range of the HC103  
 2) serial protocol refer to [www.epluse.com](http://www.epluse.com)  
 3) max. permitted ripple: 20mV

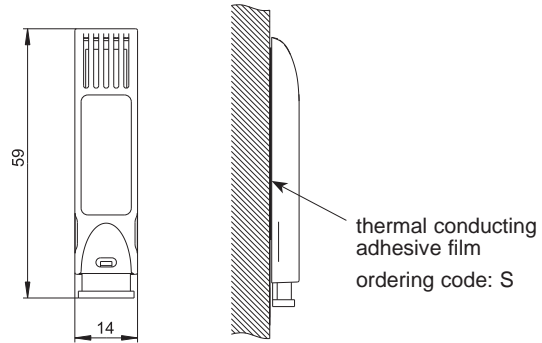
## Dimensions (mm) / Mounting

1 mm = 0.03937" / 1" = 25.4 mm

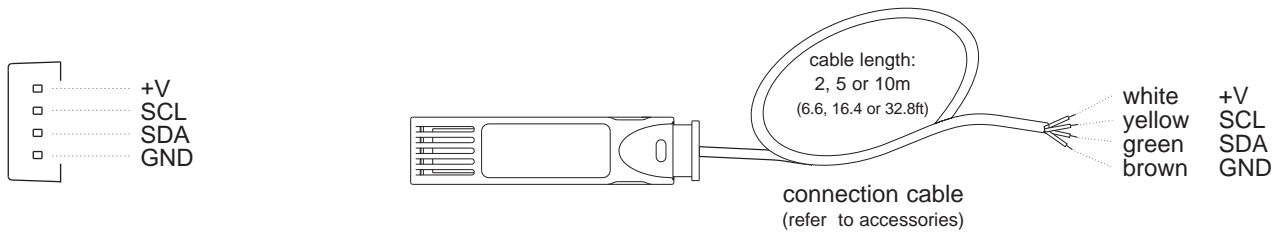
with mounting flange



**mounting by adhesive film**  
 for optimum temperature-offset  
 (condensation monitoring)



## Connection diagram

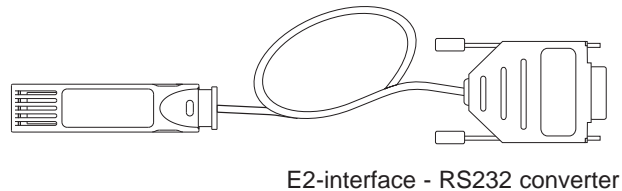


## Ordering Guide

MODEL	OUTPUT	ADHESIVE FILM	PROTECTIVE COATING
humidity and temperature (FT)	E2-interface (9)	no (no code) yes (S)	without coating (no code) with coating (HC)
<b>EE03-</b>			

## Accessories

- E2-interface - RS232 converter: (HA011002)  
 A RS232 converter is available for first testing measurements with a PC
- mounting set (plate, screws, dowel) (HA010206)
- connection cable 2m (6.6ft) (HA010307)  
 5m (16.4ft) (HA010308)  
 10m (32.8ft) (HA010309)



E2-interface - RS232 converter

## Order Example

### EE03-FT9S

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

EE03