WIRELESS SENSOR FOR HUMIDITY / TEMPERATURE / CO2

EE240 SERIES

DESCRIPTION

The **EE240 Series** feature advanced sensor technology and ease of installation. An extendable assortment of sensing probes allows for usage in many applications. The **EE240 Series** is capable of point to point or complex networking.

Wireless Transmitter EE244

Every transmitter can be equipped with up to three sensing probes. An optional display is available to provide local indication. As a standard, batteries provide for the power supply. For more power demanding applications the device can be powered through an external adapter.

Wireless Transmitter EE245

The elegant housing combines the measurement of temperature, humidity and CO2. An optional display is available to provide local indication. As a standard, batteries provide for the power supply. For more power demanding applications the device can be powered through an external adapter.

Base Station EE241 and EE242

The point-to-point connection can be accomplished with the **EE241**. The configuration at the factory of the up to four transmitted measurement values is done in accordance with your specifications, meaning that the values are available as analog outputs (0 - 5 / 10 V or 4 - 20 mA) immediately after installation.

For more complex networks (up to 500 transmitters or up to 2000 measurement values) the user-configurable **EE242** is available. Independent of the topology of the network, the integrated Webserver and the Ethernet interface warrants highest flexibility in the configuration of the network with a computer.

A simple integration of the measurement system in the customer's network and the easy remote access and diagnostic of the measurement data are additional helpful features. The output values

EE245 EE244* EE241

*Temperature sensor sold separately

can be transferred as an analog signal, as well as in digital form via Ethernet. For network integration, Modbus is supported.

Router Series EE244-R, EE245-R

The radio range depends greatly on local circumstances. With the router series **EE244-R** obstacles can be bypassed or the transmission distance expanded.

FEATURES

- ***Interchangeable Sensing Probes***
- ***Remote Probes up to 33 ft (10 m)***
- ***Battery Operating Life up to 1 Year***
- ***Webserver***
- ***Ethernet***
- ***Long Rangeability***

SPECIFICATIONS

Supply Voltage	
EE241/EE242	24V AC/DC ±20%
EE244	24 VDC
EE245/-R	8-28 VDC / 12 VAC
Battery	
EE244, EE245	4 x 1.5V AA
Supply Current	
EE241	70mA at 24 VDC
EE242	150mA at 24 VDC
EE244	20mA at 24 VDC
Frequency	2.4 GHz
Communication	
EE242	Webserver, Modbus RTU, Modbus TCP
Outputs	
EE241/EE242-	
2	4 x 0-5 VDC
3	4 x 0-10 VDC
6	4 x 4-20mA
Measurement Range	
EE07-PFT1/-MFT9	0-100% RH / -40° to 176°F (-40° to 80°C)
EE03-FT9	0-95% RH / -40° to 185°F (-40° to 85°C)
EE07-PT1/MT	-40°-176°F (-40° to 80°C)
EE871	0 to 2000ppm 0 to 5000ppm 0 to 10000ppm
Accuracy	
EE07-PFT1/-MFT9	±2% RH (0 to 90% RH); ±3% RH (90 to 100% RH); ±0.18°F (±0.1°C) at 68°F (20°C)
EE03-FT9	±3% RH (10 to 100% RH) at 69.8°F (21°C); ±0.54°F (±0.3°C) at 68°F (20°C)
EE07-PT1/MT	±0.18°F (±0.1°C) at 68°F (20°C)
EE871	±(50ppm+2% of m.v.) ±(50ppm+3% of m.v.) ±(100ppm+5% of m.v.)
EE245	
Temperature	± 0,3 °C (at 20 °C) / ± 0,4 °C (20...55 °C)
RH	± 3 % (30...70 %) / ± 5 % (70...90 %)
CO2	2000ppm (± 50ppm +2 % of m.v.) 5000ppm (± 50ppm +3 % of mv.v)
Transmission Power	10mW
Range	Up to 330 ft (100 m) indoors Up to 3300 ft (1000 m) line of sight
Operating Temperature	
EE241/EE242	Without display -22° to 122°F (-30° to 50°C) With display -4° to 122°F (-20° to 50°C)
EE244	Without display -40° to 122°F (-40° to 50°C) With display -4° to 122°F (-20° to 50°C)
EE245/-R	23° to 131°F (-5° to 55°C)
Materials Of Construction	
EE241/EE242	Polycarbonate (PC), IP20
EE244	Polycarbonate (PC), IP65
EE245	Polycarbonate (PC), IP30
Dimensions	
EE241/EE242	4.3" x 3.5" x 2.4"(10.8 x 9.0 x 6.2 cm)
EE244	5.3" x 3.5" x 2.4"(13.5 x 9.0 x 6.2 cm)
EE245	1.25" x 3.34" x 5.35" (3.2 x 8.5 x 13.6 cm)
Weight	1.94 lbs (0.88 kg)
Approvals	ETSI / FCC Part 15.247 / IC
RoHS Statement	Yes
Warranty	1 year

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EE240 SERIES

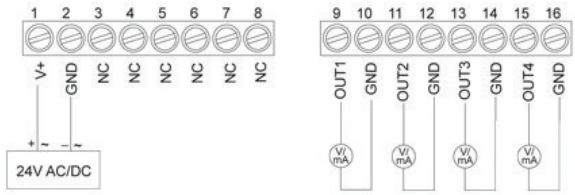
OPERATION

The data transmission is based on the IEEE 802.15.4 protocol with a transmission frequency of 2.4 GHz, which can be used worldwide without any additional cost. A special identification address, checksums, handshakes, and bidirectional communication provide the highest transmission reliability.

Typical radio ranges are 330 ft (100 m) for indoor applications and 3300 ft (1000 m) in the open field. Greater radio ranges are easily obtainable with routers. The self-configuring, scalable, and self-healing mesh network - even when a connection fails - is another component contributing to the improvement of the transmission reliability and security. The highest possible data security level is accomplished with a preset encryption key according to AES-128.

WIRING CONNECTION

Connection Diagram EE2401 / EE242



ORDERING INFORMATION

MODEL	DESCRIPTION
EE242-A2	Base station "wireless network" 0-5V without display
EE242-A2D	Base station "wireless network" 0-5V without display
EE242-A3	Base station "wireless net work" 0-10V without display
EE242-A3D	Base station "wireless net work" 0-10V with display
EE242-A6	Base station "wireless net work" 4-20mA without display
EE242-A6D	Base station "wireless net work" 4-20mA wtih display
EE241-A2	Base station "point-to-point" 0-5V without display
EE241-A2D	Base station "point-to-point" 0-5V with display
EE241-A3	Base station "point-to-point" 0-10V without display
EE241-A3D	Base station "point-to-point" 0-10V with display
EE241-A6	Base station "point-to-point" 4-20mA without display
EE241-A6D	Base station "point-to-point" 4-20mA with display
EE244-RA	Router 2.4 GHz
EE244-AA1	Transmitter with 1 probe option without display
EE244-AA1D	Transmitter with 1 probe option with display
EE244-AA2	Transmitter with 2 probe option without display
EE244-AA2D	Transmitter with 2 probe option with display
EE244-AA3	Transmitter with 3 probe option without display
EE244-AA3D	Transmitter with 3 probe option with display
EE245	RH/CO2/Temperature wall sensor transmitter
EE245-R	Router 2.4 GHz wall mount
EE07-PFT1	RH/T probe for standard applications
EE07-MFT9	RH/T probe for clean room applications, food and pharmaceutical industry
EE03-FT9	RH/T module for installation in small spaces or obtrusive mounting applications
EE07-PT1	T probe for standard applications
EE07-MT	T probe for clean room applications, food and pharmaceutical industry
EE871-2C95	C02 probe for standard applications 0-2000ppm
EE871-5C95	C02 probe for standard applications 0-5000ppm
EE871-10C95	C02 probe for standard applications 0-10000ppm
HA010801	Probe cable for EE07 6.5 ft (2 m)
HA010802	Probe cable for EE07 16.4 ft (5 m)
HA010803	Probe cable for EE07 32.8 ft (10 m)
HA010328	Connection cable for EE03 6.5 ft (2 m)
HA010329	Connection cable for EE03 16.4 ft (5 m)
HA010330	Antenna cable 6.5 ft (2 m)
HA010203	Bracket for rail installation
HA010403	Reference probes
HA010209	Duct mounting kit for EE07
HA010333	Crossover cable (PC to base station)