ModBus temperature, humidity and presence sensor

STA7xM

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MODEL	DESCRIPTION
STA70M	ModBus temperature sensor, 24Vac/Vdc
STA71M	ModBus temperature and relative humidity sensor, 24Vac/Vdc
STA72M	ModBus temperature, humidity and motion detector sensor, 24Vac/Vdc

APPLICATION AND USE

STA7xM is a room terminal with a large touchscreen color display that allows the measurement of temperature, humidity and presence depending on the model. Through the large color display it is possible to set temperature and humidity setpoints, set a daily and weekly time table and set the speed of a possible fan as well as virtualize the measured quantities (temperature and humidity) and others such as the outside temperature and the air quality from the reference controller.

It communicates through the ModBus protocol and can be connected to programmable controllers, properly setted, can operate on that network as master devices. Depending on the model, it can be equipped with a temperature sensor or with a temperature and relative humidity sensor or with a temperature, relative humidity and motion detector sensor. The power supply is 24Vac/Vdc and the sensor is mounted on the wall.

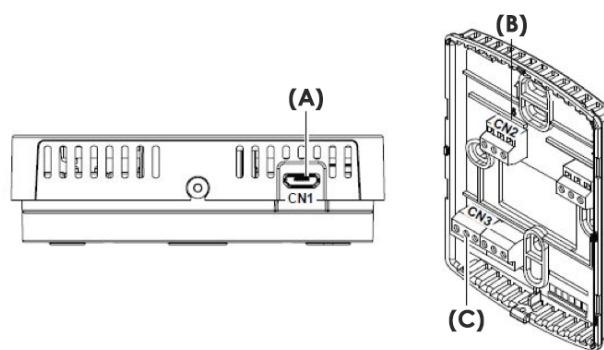For further details refer to the DMP114e product manual.
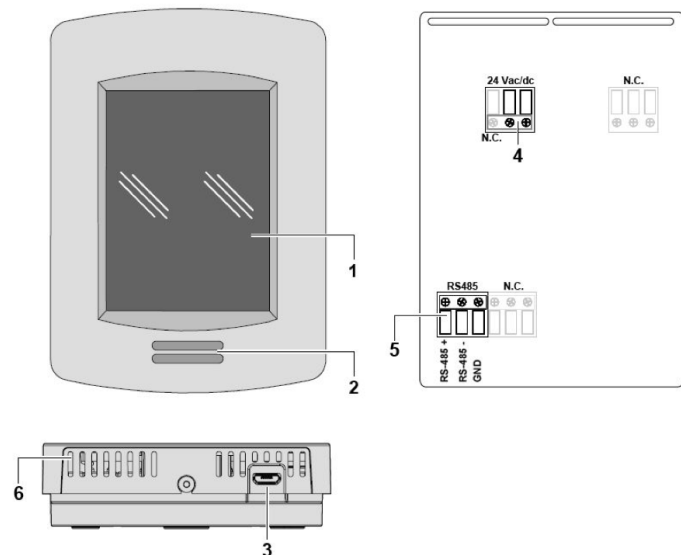
1 - TouchScreen
2 - Holes for presence (motion) detection
3 - Input connector (USB Micro-B port)
4 - Power Supply
5 - RS-485 Modbus serial line
6 - Holes for temperature measurement
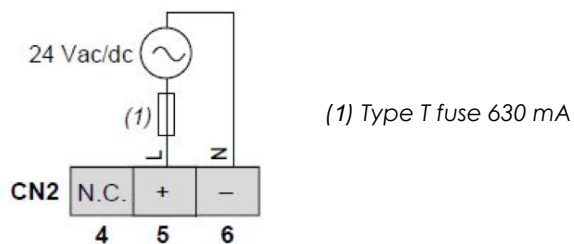
WIRING CONNECTIONS

(A) CN1 Usb-Micro B connector
(B) CN2 Connector pitch 5.00m
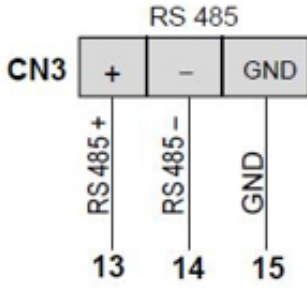**(C) CN3** Connector pitch 5.00m

Use copper conductors only.

Do not connect wires to unused terminals and/or terminals with the words "No connection" (N.C.).

CN2

POWER SUPPLY

(1) Type T fuse 630 mA

(For UL / CSA compliance, use only SELV - CLASS II power supplies).

CN3

RS 485

| CN3 | + | – | GND |

RS 485 +   RS 485 –   GND

13   14   15

Apply 120Ω termination resistor (if the device is at the end of the RS485 serial line).

TECHNICAL CHARACTERISTICS

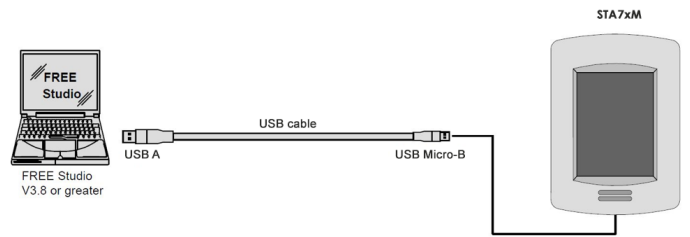|	
Power supply	24Vac ±15% 50/60Hz 24 Vdc ±10%
Display	Color touch 3,5'' - 320x240 px
Ambient operating temperature	0T50 (32-122 °F)
Ambient operating humidity (non-condensing)	0-75%
Ambient storage temperature	-30T50
Ambient storage humidity (non-condensing)	0-75%
Temperature sensor	NTC 10k
Temperature sensor Resolution	±0.1°C (±0.2°F)
Temperature sensor measurement range	±0.5°C (±0.9°F) at 21°C
Humidity Sensor and Calibration	Single point calibrated bulk polymer type sensor
Humidity Sensor Precision	Reading range from 10-90 % R.H. non-condensing 10 to 20% precision: 10% 20% to 80% precision: 5% 80% to 90% precision: 10%
Humidity Sensor Stability	< 1.0 % yearly (typical drift)
Mounting	Wall mounting
Standards	EN60950-1:2006+A2:2013 EN55024:2010 EN55022:2010/AC2011
Power draw	3.2VA / 1.3W
Dimensions	120x86x25 mm

CONNECTION DIAGRAMS

The following is a typical Modbus network connection (serial line). The maximum number of STA7xM sensor that can be connected to the MT-NET-Bxx display is 8.
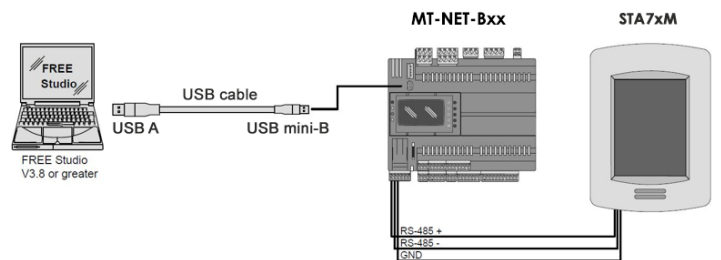

MT-NET-Bxx

GND
-
+
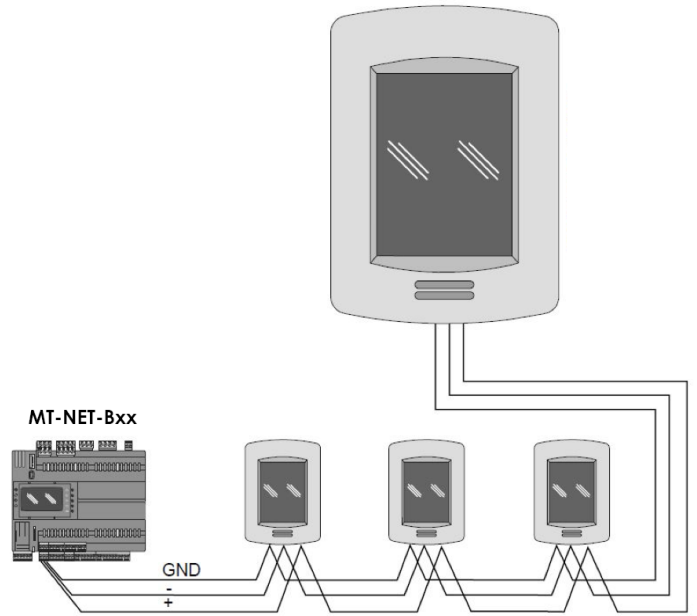
PROGRAMMING

Programming by connection with a PC through USB cable

FREE Studio

FREE Studio V3.8 or greater

USB A   USB cable   USB Micro-B

STA7xM

Programming by connection with MT-NET-Bxx

FREE Studio

FREE Studio V3.8 or greater

USB A   USB cable   USB mini-B

MT-NET-Bxx   STA7xM

RS-485 +
RS-485 -
GND

The sensor is supplied already programmed and ready for use.

MOUNTING

60 mm

DIMENSIONS [mm]

120 mm

86 mm
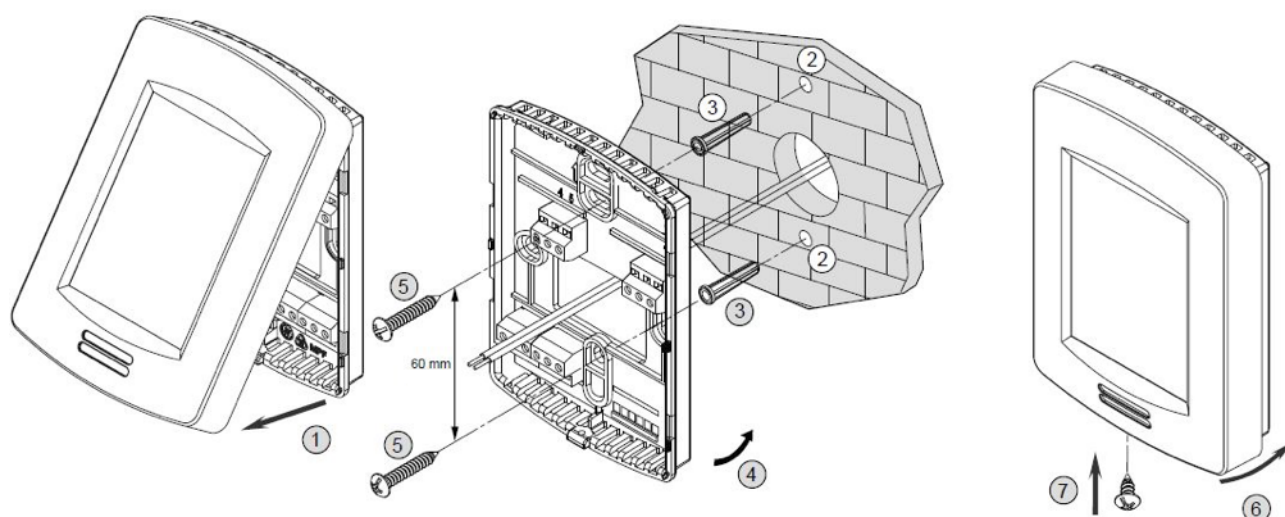
25 mm
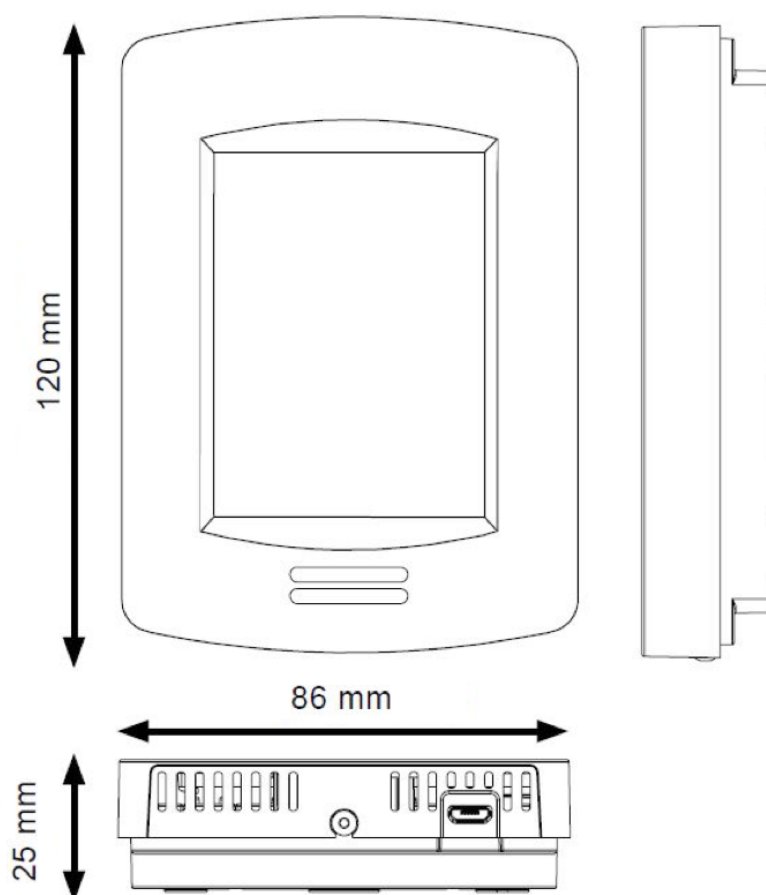
The performances stated in this sheet can be modified without any prior notice