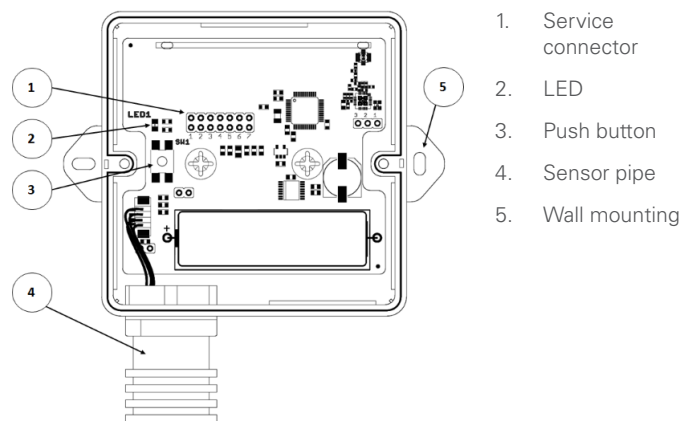# CM*a*20w

Outdoor wireless M-Bus temperature and humidity sensor

INTRODUCTION

CMa20w is a wireless M-Bus communicating temperature and humidity sensor for outdoor use.

For a complete description of the product or for information in Swedish, visit the Elvaco AB website, www.elvaco.com.
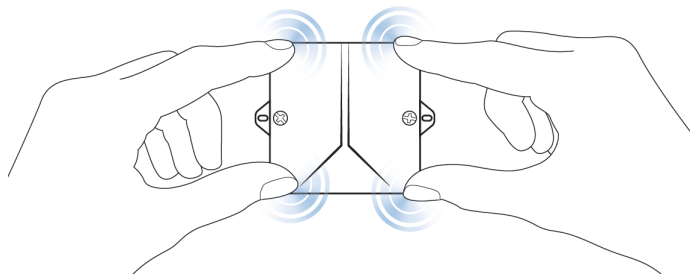
OVERVIEW

1. Service connector
2. LED
3. Push button
4. Sensor pipe
5. Wall mounting

MOUNTING

Mount the product in a weatherproof location to avoid that direct sunlight or rain affects the sensors. The product should be mounted straight vertically and horizontally with the sensor pipe (4) downwards. Use the holes (5) when mounting on wall.

IMPORTANT! To assure correct sealing when assembling the lid, **first fixate the lid by pressing on all 4 corners firmly** (see picture to the right). The two screws are used to secure the lid once pressed into place, **do not use screws to put lid into place!**

WIRELESS M-BUS

The product is delivered with the radio turned off. The radio must be manually switched on during the installation procedure. The product will not be activated until the installation procedure is started.
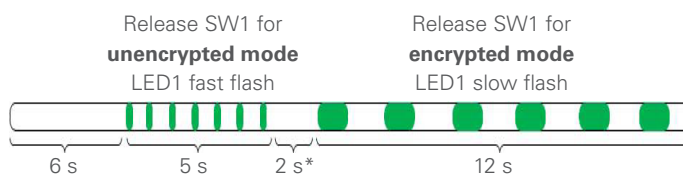
INSTALLATION

The product can be installed and enabled in two modes. Please advise your project manager which operation mode is used in your project.

Unencrypted mode: Meter data is sent unencrypted and no encryption key is needed to decrypt the data.

1. Press and hold button (3) for 5-10 seconds until LED1 (2) flashes quickly.
2. Release button (3).

Encrypted mode: Meter data is sent in encrypted mode and the encryption key is needed to decrypt the data.

1. Press and hold button (3) for 10-22 seconds, until LED1 (2) flashes slowly.
2. Release button (3).

Release SW1 for **unencrypted mode** LED1 fast flash

Release SW1 for **encrypted mode** LED1 slow flash

6 s   5 s   2 s*   12 s

* If the button is released in this mode, the CMa20w will return to inactive mode. This also applies if the button is pressed down for longer than 25 seconds.

IMPORTANT 1

Make sure that the product is activated by pressing the button (3) during normal operation. If the product is activated in unencrypted mode, LED1 will flash quickly 5 times. If the product is activated in encrypted mode, LED1 will be illuminated for 1 second.

IMPORTANT 2

During the first 24 hours after activation it is possible to change encryption mode between encrypted and unencrypted. See section "Installation" above.

OPERATION

The product will automatically, after the installation procedure, send C1 messages every 3rd minute containing sensor data, such as instantaneous temperature and humidity. The product will also send product status information, containing age indication of the battery and other relevant information.

SAFETY

The warranty does not cover damage to the product caused by usage in any other way than described in this manual. Elvaco AB can not be liable for personal injury or property damage caused by usage in any other way than described in this manual.

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TECHNICAL SPECIFICATIONS

Mechanics	
Protection class	IP65
Dimensions	110x100x52 mm
Weight	140 g
Antenna Wireless M-Bus	Internal
Mounting	Wall mounted

Electrical	
Power supply	Battery, 12 years

Environmental	
Operating temperature range	-20 °C to +45 °C
Storage temperature range	-40 to +30 °C
Operating humidity	0 to 95 %RH no condensation

Sensor accuracy	
Temperature 10 to 30 °C	+/- 0.2 °C
Humidity 10 to 90 % RH	+/- 2 % RH

Wireless M-Bus	
M-Bus standard	EN 13757-4:2013, mode C1b
M-Bus commands	SND_NR
Values	Temperature, humidity, min/max/average, momentary
RF power	25 mW
Frequency	868.95 MHz

Approvals	
EMC	EN 61000-6-2, EN 61000-6-3

Factory defaults	
Transmit interval	3 minutes
Encryption mode	Optional unencrypted/encrypted (128 bit AES)
Delivery mode	Inactive (not transmitting)

ORDERING INFORMATION

Product	Part number	Description
CMa20w	1050023	Wireless M-Bus communicating temperature and humidity sensor for outdoor use.

CONTACT INFORMATION

Elvaco AB Technical support:

Phone: +46 300 434300
E-mail: support @elvaco.com
Online: www.elvaco.com

EU DECLARATION OF CONFORMITY

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Elvaco AB, Kabelgatan 2T, S-43437 Kungsbacka, Sweden

Product	Year of CE-marking
CMa10w	2016
CMa11w	2016
CMa12w	2016
CMa20w	2016

The object(s) of the declaration listed above is in conformity with the relevant Community harmonization legislation:
EMC Directive 2014/30/EU
Radio Equipment Directive 2014/53/EU
RoHS 2011/65/EU
And are in conformity with the following harmonization standards or other normative documents:
EN55022 (Radiated emission)
EN 61000-4-6 (Immunity to HF-injection)
EN 61000-4-3 (Immunity to HF-field)
EN 61000-4-11 (Immunity to voltage variation)
EN 61000-4-4 (Immunity to burst)
EN 61000-4-5 (Immunity to surge)
EN 61000-4-2 (Immunity to ESD)
EN 300 220-1 (SRD Low power radio equipment)

Kungsbacka, Sweden, 2016-04-16

David Vonasek, CEO