
WMBUS DATA FORMAT

TEMP/HUMIDITY DEVICE (FX-WMBUS-CX-T)



Verify correct device and version

This document applies to the device FX-WMBUS-C-T with protocol version 16. There are two ways of finding out the protocol version of the device; either by looking at the label on the device or by looking at the data packets sent out by the device. See chapters [Error! Reference source not found.](#) and [Error! Reference source not found.](#) for more information.

Protocol version in data packets

If it is possible to check the information in the data packets sent out by the device, then the protocol version is included in the data field called *A-Field* with content *Protocol version*. For more information, see [WMBUS-data format](#)

Protocol version in label

The protocol version can be found by scanning the QR-code on the label (shown below). Only the serial number of the device is shown in clear text. By scanning the QR-code, the information about the device is shown as LAS.0201166.1B.09, where

- **Manufacturer code:** LAS
- **Serial number:** 0201166
- **Device type:** 0x1B (27)
- **Protocol version:** 0x16 (22)



WMBUS-data format

Art nr.	FX-WMBUS-CX-T
Version	22 (0x16)
Information	Message is sent typically every 2 minutes (default value) using C-mode with frame format A according to OMS 4
DR1	Temperature: Last measured value
DR2	Temperature: Average last hour value
DR3	Temperature: 24-hour average value
DR7	Days active since poweron.

Byte No	Field Name	Content	Info	Byte data	
1	L-Field	Length		0x2E	Linklayer
2	C-Field	SND-NR		0x44	
3	M-Field	Meter Manufacturer code	LAS	0x33	
4	M-Field	Meter Manufacturer code		0x30	
5	A-Field	Meter serial number (LSB)	Example: 0001067	0x67	
6	A-Field	Meter serial number		0x00	
7	A-Field	Meter serial number		0x01	
8	A-Field	Meter serial number (MSB)		0x00	
9	A-Field	Protocol version		0x16	
10	A-Field	Meter type	Room sensor	0x1B	
11	CI-Field	Short header		0x7A	Networklayer
12	Access no.	Transmission counter	Example: 7	0x07	
13	Status	Device status (error/alerts)	Refer to Table 1 for possible values	0x00	
14	Configuration	Number of encrypted blocks	Example: 3	0x03	
15	Configuration	Encryption	Encryption mode 5 + Synchronized: 0x25	0x25	
16	AES-Verify	Encryption Verification		0x2F	DATA blocks
17	AES-Verify	Encryption Verification		0x2F	
18	DR1	DIF	16-bit integer	0x02	
19	DR1	VIF	External temperature 0.01°C	0x65	
20	DR1	Value (LSB)	Example: 0x1122	0x22	
21	DR1	Value (MSB)		0x11	
22	DR2	DIF	16-bit integer + Storage 1	0x42 = Value OK 0x72 = Not enough values	
23	DR2	VIF	External temperature 0.01°C	0x65	
24	DR2	Value (LSB)	Example: 0x001C	0x1C	
25	DR2	Value (MSB)		0x00	
26	DR3	DIF	16-bit integer + Extension	0x82 = Value OK 0xB2 = Not enough values	
27	DR3	DIFE	Storage 2	0x01	
28	DR3	VIF	External temperature 0.01°C	0x65	
29	DR3	Value (LSB)	Example: 0x08A9	0xA9	
30	DR3	Value (MSB)		0x08	
31	DR4	DIR	16-bit unsigned integer	0x02	
32	DR4	VIF	One time days	0x23	
33	DR4	Value (LSB)	Example: 0x0022	0x22	
34	DR4	Value (MBS)		0x00	

Table 1: Status byte with errors and alerts

Bit	Info
0 (0x01)	X
1 (0x02)	X
2 (0x04)	Low battery
3 (0x08)	Permanent error/Sabotage enclosure
4 (0x10)	X
5 (0x20)	X
6 (0x40)	Sabotage enclosure
7 (0x80)	X

Version history

Version	Date	Name	Info
16.1	17.03.2023	Juha Rajanen	First version of the document.