
WMBUS DATA FORMAT

OUTDOOR TEMPERATURE DEVICE (FX-WMBUS-O-T)



Verify correct device and version

This document applies to the device FX-WMBUS-O-T with protocol version 65 (0x41). 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 **Protocol version in data packets** and **Protocol version in label** below 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 Protocol version*. For more information, see chapter

WMBUS-data format.

Protocol version in label

The protocol version can be found on the label. An example of identification number on the label is shown below, in this example it is described by LAS.00041216.1B.50, where

- **Manufacturer code:** LAS
- **Serial number:** 00041216
- **Device type:** 0x1B (27)
- **Protocol version:** 0x41 (65)



FX-WMBUS-O-T
LAS.00041216.1B.41



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WMBUS-data format

Art nr.	FX-WMBUS-O-T			
Version	65 (0x41)			
Information	Packet is sent every 90 seconds in T-mode			
DR1	Temperature: Last measured value			
DR2	Temperature: Average last hour			
DR3	Temperature: Average last 24 hours			
Byte No	Field Name	Content	Info	Byte data
1	L-Field	Length		
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		0x41 / 0x50
10	A-Field	Meter type	Room sensor	0x1B
11	CI-Field	Short header		0x7A
12	Access no.	Transmission counter	Example: 7	0x07
13	Status	Device status (error/alarms)	Refer to Table 1 for possible values	0x00
14	Configuration	Number of encrypted blocks	Example: 3	0x03
15	Configuration	Encryption		No encryption: 0x00 Encryption mode 5: 0x05
16	AES-Verify	Encryption Verification		0x2F
17	AES-Verify	Encryption Verification		0x2F
18	DR1	DIF	16-bit integer	0x02 = Value OK 0x32 = Value not OK
19	DR1	VIF	External temperature 0.01°C	0x65
20	DR1	Value (LSB)	Example: 0x0011	0x11
21	DR1	Value (MSB)		0x00
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: 0x0001	0x01
25	DR2	Value (MSB)		0x00
26	DR3	DIF	16-bit integer + Storage 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: 0x0012	0x12
30	DR3	Value (MSB)		0x00

Table 1: Status byte with errors and alerts

Bit	Info
0 (0x01)	Device not activated
1 (0x02)	
2 (0x04)	Low battery
3 (0x08)	X
4 (0x10)	X
5 (0x20)	X
6 (0x40)	X
7 (0x80)	X

Version history

Version	Date	Name	Info
41.1	11.11.2022	Juha Rajanen	First version of the document.