WMBUS DATA FORMAT

EXTERNAL TEMPERATURE DEVICE (LAN-WMBUS-G2-EXT)

![LANSEN - WIRELESS BUILDING TECHNOLOGY]

Verify correct device and version

This document applies to the device LAN-WMBUS-G2-EXT with protocol version 30. 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-format**.

Protocol version in label

The protocol version can be found on the label. An example of a label is shown in the figure below and the relevant information is described by LAS.00013870.1B.1E, where

- **Manufacturer code:** LAS

- **Serial number:** 00013870

- **Device type:** 1B

- **Protocol version:** 1E
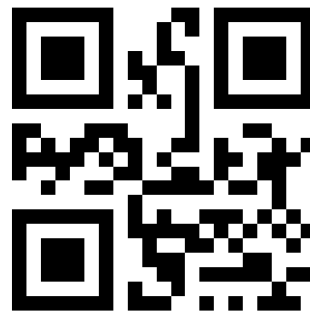
LANSEN

LAN-WMBUS-G2-EXT

LAS.00013870.1B.1E

M-Bus CE www.lansen.se
Made in Sweden

WMBUS-format

Art nr.	LAN-WMBUS-G2-EXT
Version	30 (0x1E)
Information	Packet is sent every 90 seconds in T-mode. If external temperature probe is connected, then packets are sent out every 5 minutes.
DR1	Temperature: Last measured value on first temperature probe (Only visible if at least one external temperature probe detected)
DR2	Serial number on first external temperature probe (Only visible if at least one external temperature probe detected)
DR3	Temperature: Last measured value on second temperature probe (Only visible if two external temperature probes detected)
DR4	Serial number on second external temperature probe (Only visible if at least two external temperature probes detected)
DR5	Temperature: Last measured value on third temperature probe (Only visible if three external temperature probes detected)
DR6	Serial number on third external temperature probe (Only visible if three external temperature probes detected)
DR7	Temperature: Last measured value on fourth temperature probe (Only visible if four external temperature probes detected)
DR8	Serial number on fourth external temperature probe (Only visible if four external temperature probes detected)

Byte No	Field Name	Content	Info	Byte data	
1	L-Field	Length			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		0x1E	
10	A-Field	Meter type	Room sensor device	0x1B	
11	CI-Field	Short header		0x7A	Networklayer
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	DATA blocks
17	AES-Verify	Encryption Verification		0x2F	
18	DR1	DIF	16-bit integer	0x02 = Value OK 0x32 = Measurement error	
19	DR1	VIF	External temperature 0.01°C	0x65	
20	DR1	Value (LSB)	Example: 0x0992	0x92	
21	DR1	Value (MSB)		0x09	
22	DR2	DIF	64-bit integer	0x07	
23	DR2	VIF	Serial	0x78	
24	DR2	Value (MSB)	Example: 0x28DFE8460A000099	0x28	
25	DR2	Value		0xDF	
26	DR2	Value		0xE8	
27	DR2	Value		0x46	
28	DR2	Value		0x0A	
29	DR2	Value		0x00	
30	DR2	Value		0x00	
31	DR2	Value (LSB)		0x99	
32	DR3	DIF	16-bit integer + extension	0x82 = Value OK 0xB2 = Measurement error	
33	DR3	DIFE	Subunit 1	0x40	
34	DR3	VIF	External temperature 0.01°C	0x65	
35	DR3	Value (LSB)	Example: 0x0992	0x92	
36	DR3	Value (MSB)		0x09	

37	DR4	DIF	64-bit integer + extension	0x87	
38	DR4	DIFE	Subunit 1	0x40	
39	DR4	VIF	Serial	0x78	
40	DR4	Value (MSB)		0x28	
41	DR4	Value		0x87	
42	DR4	Value		0x86	
43	DR4	Value	**Example: 0x288786430A000024**	0x43	
44	DR4	Value		0x0A	
45	DR4	Value		0x00	
46	DR4	Value		0x00	
47	DR4	Value (LSB)		0x24	
48	DR5	DIF	16-bit integer + extension	0x82 = Value OK 0xB2 = Measurement error	
49	DR5	DIFE	Subunit 2	0x80	
50	DR5	DIFE		0x40	
51	DR5	VIF	External temperature 0.01°C	0x65	
52	DR5	Value (LSB)	**Example: 0x1122**	0x22	
53	DR5	Value (MSB)		0x11	
54	DR6	DIF	64-bit integer + extension	0x87	
55	DR6	DIFE	Subunit 2	0x80	
56	DR6	DIFE		0x40	
57	DR6	VIF	Serial	0x78	
58	DR6	Value (MSB)		0x28	
59	DR6	Value		0xDD	
60	DR6	Value		0x0D	
61	DR6	Value	**Example: 0x28DD0D440A0000F8**	0x44	
62	DR6	Value		0x0A	
63	DR6	Value		0x00	
64	DR6	Value		0x00	
65	DR6	Value (LSB)		0xF8	
66	DR7	DIF	16-bit integer + extension	0x82 = Value OK 0xB2 = Measurement error	
67	DR7	DIFE	Subunit 3	0xC0	
68	DR7	DIFE		0x40	
69	DR7	VIF	External temperature 0.01°C	0x65	
70	DR7	Value (LSB)	**Example: 0x1122**	0x22	
71	DR7	Value (MSB)		0x11	
72	DR8	DIF	64-bit integer + extension	0x87	
73	DR8	DIFE	Subunit 3	0xC0	
74	DR8	DIFE		0x40	
75	DR8	VIF	Serial	0x78	
76	DR8	Value (MSB)		0x28	
77	DR8	Value		0x3E	
78	DR8	Value		0x27	
79	DR8	Value	**Example: 0x283eE27470A000045**	0x47	
80	DR8	Value		0x0A	
81	DR8	Value		0x00	
82	DR8	Value		0x00	
83	DR8	Value (LSB)		0x45	

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 (optional if sabotage is mounted)
4 (0x10)	X
5 (0x20)	External temperature sensor failure
6 (0x40)	Sabotage enclosure (optional if sabotage is mounted)
7 (0x80)	X