
WMBUS DATA FORMAT

TEMPERATURE/HUMIDITY DEVICE (LAN-WMBUS-G2-TH)



Verify correct device and version

This document applies to the device LAN-WMBUS-G2-TH with protocol version 7. 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.

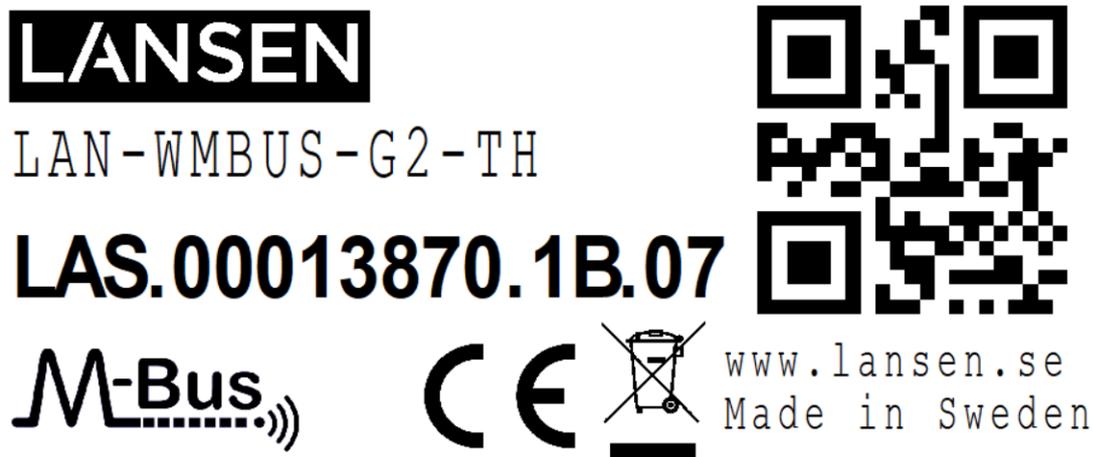
Protocol version in data packets

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.07, where

- **Manufacturer code:** LAS
- **Serial number:** 00013870
- **Device type:** 1B
- **Protocol version:** 07



WMBUS-format

Art nr.	LAN-WMBUS-G2-TH
Version	7 (0x07)
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
DR2	Temperature: Average last hour
DR3	Temperature: Average last 24 hours
DR4	Humidity: Last measured value
DR5	Humidity: Average last your
DR6	Humidity: Average last 24 hours
DR7	Temperature: Last measured value on first temperature probe (Only visible if at least one external temperature probe detected)
DR8	Serial number on first external temperature probe (Only visible if at least one external temperature probe detected)
DR9	Temperature: Last measured value on second temperature probe (Only visible if two external temperature probes detected)
DR10	Serial number on second external temperature probe (Only visible if at least two external temperature probes detected)
DR11	Temperature: Last measured value on third temperature probe (Only visible if three external temperature probes detected)
DR12	Serial number on third external temperature probe (Only visible if three external temperature probes detected)
DR13	Temperature: Last measured value on fourth temperature probe (Only visible if four external temperature probes detected)
DR14	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		0x07	
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	
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: 0x2233	0x33	
25	DR2	Value (MSB)		0x22	
26	DR3	DIF	16-bit integer	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: 0x4279	0x79	
30	DR3	Value (MSB)		0x42	

31	DR4	DIF	16-bit integer	0x02
32	DR4	VIF	Extension table	0xFB
33	DR4	VIF	Relative humidity 0.1%RH	0x1A
34	DR4	Value (LSB)	Example: 0x0427	0x02
35	DR4	Value (MSB)		0x00
36	DR5	DIF	16-bit integer + Storage 1	0x42 = Value OK 0x72 = Not enough values
37	DR5	VIF	Extension table	0xFB
38	DR5	VIF	Relative humidity 0.1%RH	0x1A
39	DR5	Value (LSB)	Example: 0x1122	0x22
40	DR5	Value (MSB)		0x11
41	DR6	DIF	16-bit integer	0x82 = Value OK 0xB2 = Not enough values
42	DR6	DIF	Storage 2	0x01
43	DR6	VIF	Extension table	0xFB
44	DR6	VIF	Relative humidity 0.1%RH	0x1A
45	DR6	Value (LSB)	Example: 0x3344	0x44
46	DR6	Value (MSB)		0x33
47	DR7	DIF	16-bit integer + extension	0x82 = Value OK 0xB2 = Measurement error
48	DR7	DIFE	Subunit 1	0x40
49	DR7	VIF	External temperature 0.01°C	0x65
50	DR7	Value (LSB)	Example: 0x1122	0x22
51	DR7	Value (MSB)		0x11
52	DR8	DIF	64-bit integer + extension	0x87
53	DR8	DIFE	Subunit 1	0x40
54	DR8	VIF	Serial number of temp. probe	0x78
55	DR8	Value (MSB)	Example: 0x288786430A000024	0x28
56	DR8	Value		0x87
57	DR8	Value		0x86
58	DR8	Value		0x43
59	DR8	Value		0x0A
60	DR8	Value		0x00
61	DR8	Value		0x00
62	DR8	Value (LSB)		0x24
63	DR9	DIF	16-bit integer + extension	0x82 = Value OK 0xB2 = Measurement error
64	DR9	DIFE	Subunit 2	0x80
65	DR9	DIFE		0x40
66	DR9	VIF	External temperature 0.01°C	0x65
67	DR9	Value (LSB)	Example: 0x1122	0x22
68	DR9	Value (MSB)		0x11
69	DR10	DIF	64-bit integer + extension	0x87
70	DR10	DIFE	Subunit 2	0x80
71	DR10	DIFE		0x40
72	DR10	VIF	Serial number of temp. probe	0x78
73	DR10	Value (MSB)	Example: 0x0000000000000001	0x00
74	DR10	Value		0x00
75	DR10	Value		0x00
76	DR10	Value		0x00
77	DR10	Value		0x00
78	DR10	Value		0x00
79	DR10	Value		0x00
80	DR10	Value (LSB)		0x01
81	DR11	DIF	16-bit integer + extension	0x82 = Value OK 0xB2 = Measurement error
82	DR11	DIFE	Subunit 3	0xC0
83	DR11	DIFE		0x40
84	DR11	VIF	External temperature 0.01°C	0x65
85	DR11	Value (LSB)	Example: 0x1122	0x22
86	DR11	Value (MSB)		0x11
87	DR12	DIF	64-bit integer + extension	0x87
88	DR12	DIFE	Subunit 3	0xC0
89	DR12	DIFE		0x40

90	DR12	VIF	Serial number of temp. probe	0x78
91	DR12	Value (MSB)	Example: 0x0000000000000001	0x00
92	DR12	Value		0x00
93	DR12	Value		0x00
94	DR12	Value		0x00
95	DR12	Value		0x00
96	DR12	Value		0x00
97	DR12	Value		0x00
98	DR12	Value (LSB)		0x01
99	DR13	DIF	16-bit integer + extension	0x82 = Value OK 0xB2 = Measurement error
100	DR13	DIFE	Subunit 4	0x80
101	DR13	DIFE		0x80
102	DR13	DIFE		0x40
103	DR13	VIF	External temperature 0.01°C	0x65
104	DR13	Value (LSB)	Example: 0x1122	0x22
105	DR13	Value (MSB)		0x11
106	DR14	DIF	64-bit integer + extension	0x87
107	DR14	DIFE	Subunit 4	0x80
108	DR14	DIFE		0x80
109	DR14	DIFE		0x40
110	DR14	VIF	Serial number of temp. probe	0x78
111	DR14	Value (MSB)	Example: 0x0000000000000001	0x00
112	DR14	Value		0x00
113	DR14	Value		0x00
114	DR14	Value		0x00
115	DR14	Value		0x00
116	DR14	Value		0x00
117	DR14	Value		0x00
118	DR14	Value (LSB)		0x01

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)	External temperature sensor failure
6 (0x40)	Sabotage enclosure
7 (0x80)	X