LANSEN

DATA FORMAT

Wireless MBus bridge to mioty with following options

B, BE, M – Battery, Extended battery, Mains

A1/A2 – Indoor/Outdoor

LR – Long Range amplifier/filter

Internal antennas (no X) / SMA-connector for external antennas (X)

OMS®

M-Bus wireless

mioty

Verify correct device and version

This document applies to our bridge LAN-WMBUS-B4-MIOTY with protocol version 30 (0x1E). 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 on label** below for more information.

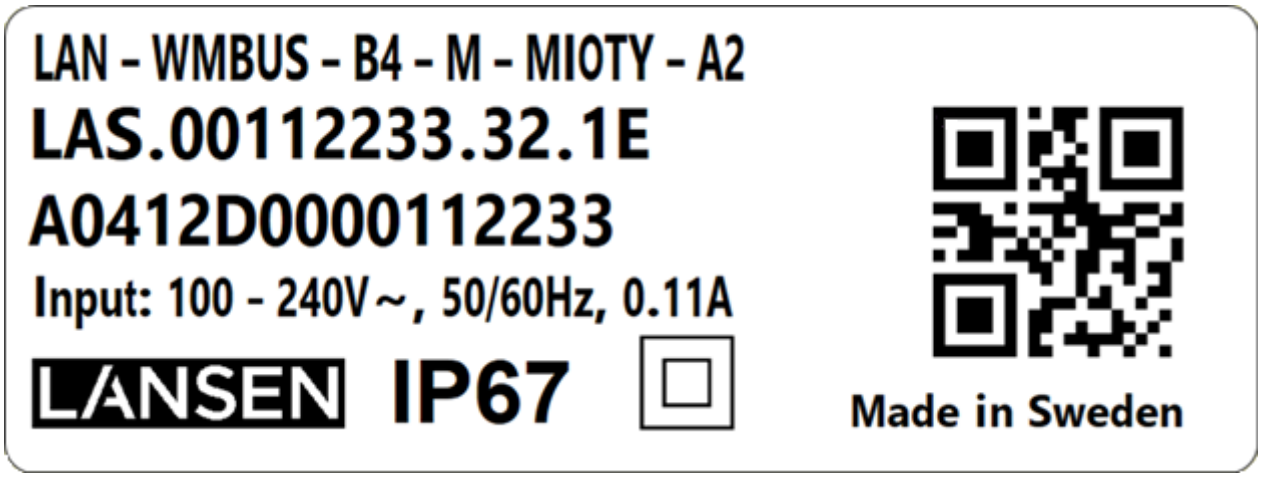
Protocol version in data packets

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*, see below.

Protocol version on 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.00112233.32.1E, where:

- **Manufacturer code**: LAS
- **Serial number**: 00112233
- **Device type**: 32
- **Protocol version**: 1E



Status Packet

A status packet contains information and settings about the bridge. The packet is sent at regular intervals.

A status packet is sent:

- Every 12 hours over the mioty interface.
- Over mioty on every new bootup.
- Every minute over the wM-Bus interface (default in C mode, frame format A).

DR1	Number of total messages transmitted over mioty since power up. Excluding status packets.
DR2	Used routing slots (maximum 2000) whitelist devices.
DR3	Software version of bridge
DR4	Is the bridge listening now? 0x01=Yes, 0x00=NO)
DR5	Time to mode change (Listen to Sleep or Sleep to Listen).
DR6	Value on parameter "*Listen timer*" NOTE: This value needs to be multiplied by 10 to get number of seconds
DR7	Value on parameter "*Pause timer*" (value 0 here means that the bridge will always listen) NOTE: This value needs to be multiplied by 10 to get number of seconds
DR8	Shows on which weekday(s) the bridge is listening.
DR9	Value on parameter "*Start time*", shown as minutes after midnight (-1=Not used)
DR10	Suppression timer setting
DR11	Current time
DR12	Current battery level. Battery level is always 5000 for mains version.
DR13	Estimated power left in battery (Months). NOTE: Not yet implemented
DR14	Total bytes sent over the mioty link
DR15	Number packet waiting to be transmitted when the first transmission period since status message ended. It is expected that this number is 0 when if enough long transmission period to transmit the messages.
DR16	Number of devices not being received during latest listen period, from the ones in the routing list.
DR17	Number of listen periods omitted since there was messages to be send out in the que.
DR18	Hardware model LR/Battery
DR19	Hardware version.
DR20	"ON" time in days since powerup
DR21	Seconds the WMBUS radio has been in listen mode (operating time).
DR22	Current temperature.

	NOTE: Not yet implemented

Byte	Field Name	Content	Info	Byte data	
1	L-Field	Length			Data link layer
2	C-Field	SND-NR		0x44	
3	M-Field	Manufacturer code	LAS	0x33	
4	M-Field	Manufacturer code		0x30	
5	A-Field	Serial number (LSB)	**Example**: 00112233	0x33	
6	A-Field	Serial number		0x22	
7	A-Field	Serial number		0x11	
8	A-Field	Serial number (MSB)		0x00	
9	A-Field	Protocol version	30	0x1E	
10	A-Field	Unidirectional Repeater		0x32	
11	CI-Field	Short header		0x7A	Short transport layer
12	Access no.	Transmission counter	**Example**: 7	0x07	
13	Status	Errors and alerts	See Fel! Hittar inte referenskälla. for more information.	0x00	
14	Configuration			0x00	
15	Configuration			0x00	
16	AES-Verify	Encryption Verification		0x2F	
17	AES-Verify	Encryption Verification		0x2F	
18	DR1	DIF	32-bit integer	0x04	Number of total messages transmitted over mioty since power up. Excluding status packets.
19		VIF	Extension table	0xFD	
20		VIFE	Cumulative counter	0x61	
21		Value (LSB)		0x00	
22		Value		0x00	
23		Value		0x00	
24		Value (MSB)		0x00	
25	DR2	DIF	16-bit integer	0x02	Used routing slots
26		VIF	Manufacturer specific	0xFF	
27		VIFE	Used routing slots	0x01	
28		Value (LSB)		0x00	
29		Value (MSB)		0x00	
30	DR3	DIF	16-bit integer	0x02	Software version of the bridge
31		VIF	Extension table	0xFD	
32		VIFE	Version	0x0F	

33		Value (LSB)		0x00	
34		Value (MSB)		0x00	
35	DR4	DIF	8-bit integer	0x01	Is the bridge listening now? (1=Yes, 0=NO)
36		VIF	Manufacturer specific	0xFF	
37		VIFE	Listen status	0x02	
38		Value		0x01	
39	DR5	DIF	32-bit integer	0x04	Seconds to mode change (seconds)
40		VIF	Manufacturer specific	0xFF	
41		VIFE	Seconds to mode change (seconds)	0x04	
42		Value (LSB)		0x00	
43		Value		0x00	
44		Value		0x00	
45		Value (MSB)		0x00	
46	DR6	DIF	16-bit integer	0x02	Value on parameter “Listen timer” (seconds / 10)
47		VIF	Manufacturer specific	0xFF	
48		VIFE	Listen timer	0x05	
49		Value (LSB)		0x00	
50		Value (MSB)		0x00	
51	DR7	DIF	16-bit integer + Storage 1	0x42	Value on parameter “Pause timer” (seconds / 10)
52		VIF	Manufacturer specific	0xFF	
53		VIFE	Pause timer	0x05	
54		Value (LSB)		0x00	
55		Value (MSB)		0x00	
56	DR8	DIF	8-bit integer	0x01	Which weekdays the gateway is listening
57		VIF	Manufacturer specific	0xFF	
58		VIFE		0x08	
59		Value	Note: See Table 2 for more info		
60	DR9	DIF	16-bit integer	0x82	Value on parameter “Start time” Shown as minutes after midnight.
61		DIFE	Storage 2	0x01	
62		VIF	Manufacturer specific	0xFF	
63		VIFE	Start Time (minutes)	0x05	
64		Value (LSB)		0xFF	
65		Value (MSB)		0xFF	
66	DR10	DIF	16-bit integer + Extension/Storage	0xC2	

67		DIFE	Storage 3	0x01	Suppression timer setting
68		VIF	Manufacturer specific	0xFF	
69		VIFE		0x05	
70		Value (LSB)	Example: 30 minutes	0x1E	
71		Value (MSB)		0x00	
72	DR11	DIF	48-bit integer	0x06	Current time
73		VIF	Time Type I format	0x6D	
74		Current Time	**Example**: 2001-01-01 00:01:02	0x02	
75		Current Time		0x01	
76		Current Time		0xC0	
77		Current Time		0x01	
78		Current Time		0x01	
79		Current Time		0x00	
80	DR12	DIF	16-bit integer	0x02	Current battery level
81		DIFE	Extension table	0xFD	
82		VIF	Voltage (mV)	0x46	
83		Value (LSB)		0x00	
84		Value (MSB)		0x00	
85	DR13	DIF	16-bit integer	0x02	Remaining battery time in months Not yet implemented
86		VIF	Extension table	0xFD	
87		VIFE	Extension table	0xFD	
88		VIFE	Remaining battery months	0x02	
89		Value (LSB)		0x00	
90		Value (MSB)		0x00	
91	DR14	DIF	32-bit integer	0x84	
92		DIFE	Subunit 1	0x40	
93		VIF	Extension table	0xFD	
94		VIFE	Cumulation counter	0x61	
95		Value (LSB)		0x00	
96		Value		0x00	
97		Value		0x00	
98		Value (MSB)		0x00	
99	DR15	DIF	16-bit integer + storage 1	0x42	
100		VIF	Extension table	0xFD	

101		VIFE	Cumulation counter	0x61	
102		Value (LSB)		0x00	
103		Value (MSB)		0x00	
104	DR16	DIF	16-bit integer	0x02	
105		VIF	Manufacturer specific	0xFF	
106		VIFE	Meter missing data	0x09	
107		Value		0x00	
108		Value		0x00	
109	DR17	DIF	16-bit integer + Extension/Storage	0xC2	
110		DIFE	Storage 3	0x01	
111		VIF	Extension table	0xFD	
112		VIFE	Cumulation counter	0x61	
113		Value		0x00	
114		Value		0x00	
115	DR18	DIF	8-bit integer	0x01	Hardware Model
116		VIF	Extension table	0xFD	
117		VIFE	Model/Version	0x0C	
118		Value	4	0x04	
119	DR19	DIF	8-bit integer	0x01	Hardware Version
120		VIF	Extension table	0xFD	
121		VIFE	Hardware Version	0x0D	
122		Value	1	0x01	
123	DR20	DIF	16-bit integer	0x02	“ON” time in days since powerup
124		VIF	On time days	0x23	
125		Value (LSB)			
126		Value (MSB)			
127	DR21	DIF	32-bit integer	0x04	Seconds the WMBUS radio has been in listen mode (operating time).
128		VIF	Operating time seconds	0x24	
129		Value (LSB)			
130		Value			
131		Value			
132		Value (MSB)			
133	DR22	DIF	8-bit integer	0x01	Not yet implemented
134		VIF	External temperature 1 °C	0x67	

135		Value		0x21	

Table 1: Explanation of status bits used by the battery driven gateways

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

Table 2: Bit representation for days when gateway is listening

Bit	Info
0 (0x01)	Sunday
1 (0x02)	Monday
2 (0x04)	Tuesday
3 (0x08)	Wednesday
4 (0x10)	Thursday
5 (0x20)	Friday
6 (0x40)	Saturday
7 (0x80)	NOT USED