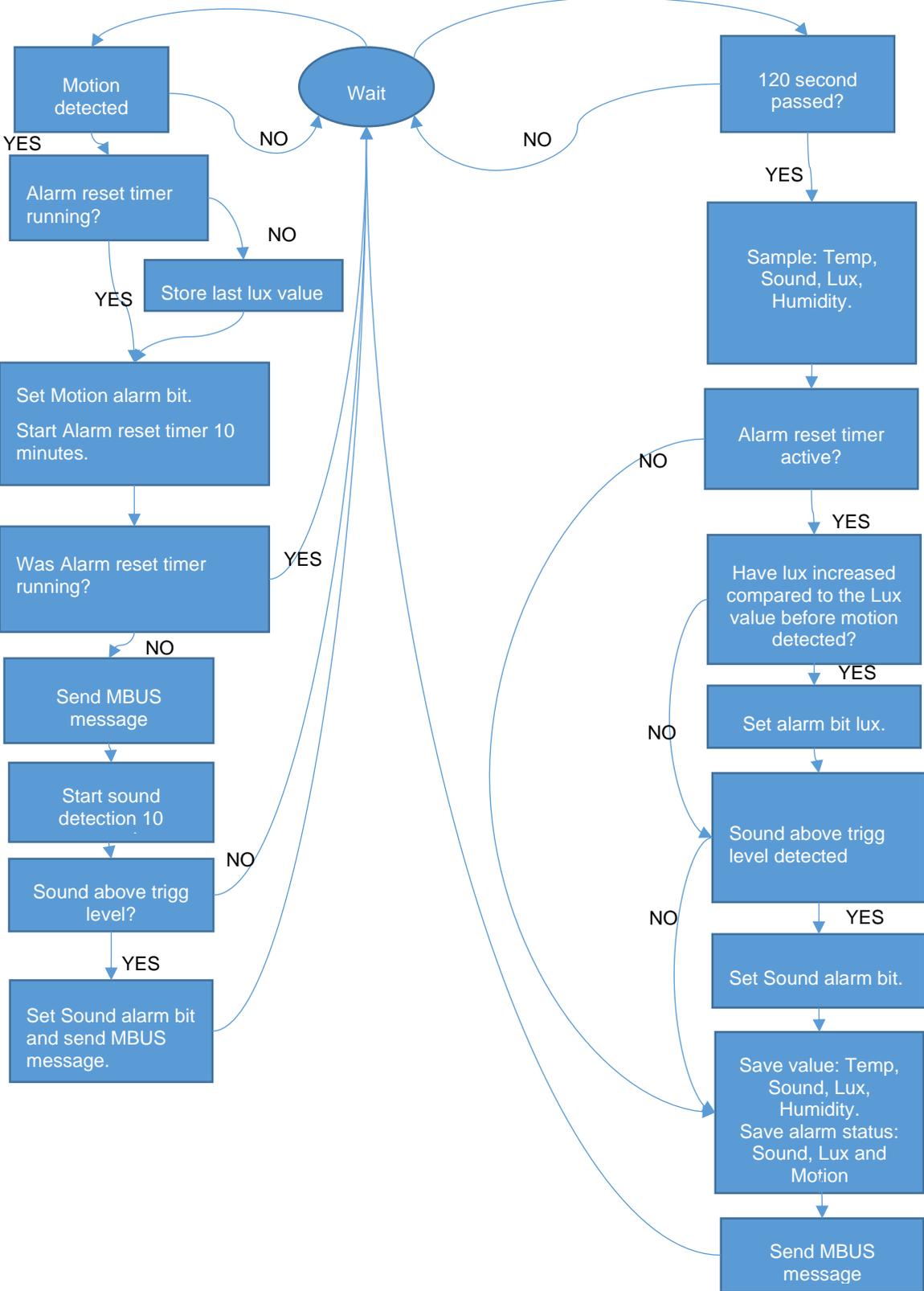

WMBUS DATA FORMAT/ TECHNICAL INFORMATION

Occupancy series

LAN-WMBUS-OD-EQ V5

LAN-WMBUS-OD-PIR V4





Art nr.	LAN-900-0052/ LAN-WMBUS-OD-IEQ /MBUS Version 5 LAN-900-0022 / LAN-WMBUS-OD-PIR /MBUS Version 4
Information	Packet is sent synchronous as standard every 120 seconds in C format A. On request T mode format A. Message is also sent asynchronous if the device detects movement and there have not been any movement the last 10 minutes. DR10-DR18 are only present for LAN-WMBUS-OD-IEQ
DR1	ALARM FIELD BIT 1: MOTION detected (0x01) BIT 2: Sound detected (0x02) BIT 3: LUX detected (0x04) Motion will always be 1 if there is an alarm. Sound and LUX alarm can only be active if there first has been a motion alarm. Will stay active as long as motion are detected. However the alarm will be active maximum 5 minutes if no new motion is detected, even if sound is detected. alarm = 1 no alarm = 0
DR2	Current Alarm status Motion detected last 120-240 seconds 0x01 Motion detected last 10 min = 0x02 Motion detected last 60 minutes = 0x04 Motion detected last 24 hours 0x08 Sound above threshold detected. Sound detected last 120-240 seconds 0x10 Sound detected last 10 min = 0x20 Sound detected last 60 min = 0x40 Sound detected last 24 hours min = 0x80 Lux has alarm means that the lux has increased more than 50 LUX compared to the time the motion sensor detected movement. LUX detected last 120-240 seconds 0x100 LUX detected last 10 min = 0x200 LUX detected last 60 min = 0x400 LUX detected last 24 hours min = 0x800 alarm = 1 no alarm = 0
DR3	Number on minutes with activity in a row. If there has been any activity during a 10 minute period this counts as activity. Will only count motions (PIR) as occupancy not sound.
DR4	Number of minutes since last alarm. 65535. Will stop ad 65535 no alarm is triggered for about 64 days.
DR5	Total number of motion detections slow. Note the value is incremented at maximum every 5 minutes seconds. That is a new movement can be detected when 5 minutes passed since the last movement. Note that this counter will wrap when the value 65535 is reached.
DR6	Total number of motion detections fast. Note the value is incremented at maximum every 10 seconds. That is a new movement can be detected when 10 second passed since the last movement. Note that this counter will wrap when the value 65535 is reached.
DR7	OnTime days
DR8	TotalOnTime days
DR9	Version
DR10	Current sound level

DR11	Max sound level last 20 minutes
DR12	Max sound level last 60 minutes
DR13	Current LUX value
DR14	Average LUX level last 60 minutes
DR15	Current temperature
DR16	Average temp last 60 minutes
DR17	Current humidity.
DR18	Average humidity last 60 minutes.

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	0x30	
4.	M-Field	Meter Manufacturer code		0x33	
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		0x0A	
10.	A-Field	Meter type	Motion sensor	0x1F	
11.	CI-Field	Short header	Example: 7	0x7A	
12.	Access no.	Transmission counter	Refer to Fel! Hittar inte referenskälla. for possible values	0x07	
13.	Status	Device status (error/alarms)	Example: 3	0x00	
14.	Configuration	Number of encrypted blocks	Encryption mode 5 + Synchronized: 0x25	0x03	
15.	Configuration	Encryption	Example: 7	0x25	
16.	AES-Verify	Encryption Verification		0x2F	
17.	AES-Verify	Encryption Verification		0x2F	
18.	DR1	DIF	8-bit integer	0x01	ALARM
19.	DR1	VIF	Extension table	0xFD	
20.	DR1	VIFE	Digital Input	0x1B	
21.	DR1	Value	Alarm status 0= NO ALARM 1= ALARM	0x01	
22.	DR2	DIF	16-bit integer Storage 1	0x42	ALARM_STAT US_ALL
23.	DR2	VIF	Extension table	0xFD	
24.	DR2	VIFE	Digital Input	0x1B	
25.	DR2	Value (LSB)	Alarm status	0x00	
26.	DR2	Value (MSB)	Alarm status	0x00	
27.	DR3	DIF	16 Bit integer + storage 2	0x82	PIR active minutes
28.	DR3	DIFE	Storage 2	0x01	
29.	DR3	VIF	Extension	0x02	
30.	DR3	VIFE	Dimensionless	0xFD	
31.	DR3	Value (LSB)		0x20	
32.	DR3	Value (MSB)		0x01	
33.	DR4	DIF	16 Bit integer + storage 3	0xC2	PIR minutes since alarm
34.	DR4	DIFE	storage 3	0x01	
35.	DR4	VIF	Extension	0x02	
36.	DR4	VIFE	Dimensionless	0xFD	
37.	DR4	Value (LSB)		0x20	
38.	DR4	Value (MSB)		0x00	

39.	DR5	DIF	16 Bit integer + storage 4	0xC2	PIR total number of motions slow
40.	DR5	VIF	Extension	0x02	
41.	DR5	VIF	Dimensionless	0xFD	
42.	DR5	Value (LSB)		0x20	
43.	DR5	Value (MSB)			
44.	DR6	DIF	16 Bit integer + storage 5	0xC2	PIR total number of motions fast
45.	DR6	VIF	Extension	0x02	
46.	DR6	VIF	Dimensionless	0xFD	
47.	DR6	Value (LSB)		0x20	
48.	DR6	Value (MSB)			
49.	DR7	DIF	16-bit integer		On time days
50.	DR7	VIF	On Time Days	0x23	
51.	DR7	Value (LSB)			
52.	DR7	Value (MSB)			
53.	DR8	DIF	16-bit integer		
54.	DR8	VIF	Total Operating Time Days	0x27	
55.	DR8	Value (LSB)			
56.	DR8	Value (MSB)			
57.	DR9	DIF	16-bit integer	0x02	Version (build ID)
58.	DR9	VIF	Extension table	0xFD	
59.	DR9	VIF	Version	0x0F	
60.	DR9	Value (LSB)	Example: 0x0004	0x04	
61.	DR9	Value (MSB)		0x00	
62.	DR10	DIF field	16 Bit integer + subunit 1	0xC2	Sound current value
63.	DR10		Subunit 1	0xC0	
64.	DR10	VIF	Extension	0xFD	
65.	DR10	VIF	Dimensionless	0x3A	
66.	DR10	Value (LSB)		0x00	
67.	DR10	Value (MSB)		0x00	
68.	DR11	DIF field ()	16 Bit integer + subunit 1 + storage 1	0xC2	Sound max last 20 min
69.	DR11		Subunit 1	0x40	
70.	DR11	VIF	Extension	0xFD	
71.	DR11	VIF	Dimensionless	0x3A	
72.	DR11	Value (LSB)		0x00	
73.	DR11	Value (MSB)		0x00	
74.	DR12	DIF field ()	16 Bit integer + subunit 1 + storage 2	0x82	Sound max last 60 min
75.	DR12		Subunit 1	0x41	
76.	DR12	VIF	Extension	0xFD	
77.	DR12	VIF	Dimensionless	0x3A	
78.	DR12	Value (LSB)		0x00	
79.	DR12	Value (MSB)		0x00	
80.	DR13	DIF	8 Bit integer Subunit 2	0x82	Current LUX value
81.	DR13	DIFE	Subunit 2	0x80	
82.	DR13	DIFE	Subunit 2	0x40	
83.	DR13	VIF	Extension	0xFD	
84.	DR13	VIFE	Dimensionless	0x3A	
85.	DR13	Value		0x00	
86.	DR14	DIF	8 Bit integer + subunit 2 + storage 1	0xC1	LUX avg 60 minutes
87.	DR14	DIFE	Subunit 2	0x80	
88.	DR14	DIFE	Subunit 2	0x40	
89.	DR14	VIF	Extension	0xFD	

90.	DR14	VIFE	Dimensionless	0x3A	
91.	DR14	Value		0x00	
92.	DR15	DIF	16 Bit integer	0x02	Current Temperature
93.	DR15	VIF		0x65	
94.	DR15	Value (LSB)		0x1C	
95.	DR15	Value (MSB)		0x00	
96.	DR16	DIF	16 Bit integer + storage 1	0x42 = Value OK 0x72 = Not enough values	Avg temperature 60 minutes
97.	DR16	VIF	External temperature 0.01°C	0x65	
98.	DR16	Value (LSB)		0x1C	
99.	DR16	Value (MSB)		0x00	
100.	DR17	DIF	16-bit integer	0x02	Current humidity
101.	DR17	VIF	Extension table	0xFB	
102.	DR17	VIFE	Relative humidity 0.1%RH	0x1A	
103.	DR17	Value (LSB)	Example: 0x0A78	0x78	
104.	DR17	Value (MSB)		0x0A	
105.	DR18	DIF	16-bit integer + Storage 1	0x42	Avg humidity 60 minutes
106.	DR18	VIF	Extension table	0xFB	
107.	DR18	VIFE	Relative humidity 0.1%RH	0x1A	
108.	DR18	Value (LSB)	Example: 0x012C	0x78	
109.	DR18	Value (MSB)		0x0A	
110.	AES Filler byte			0x2F	
111.	AES Filler byte			0x2F	

Status State contents errors and alerts.	
Bit	Info
0 (0x01)	X
1 (0x02)	X
2 (0x04)	1 Low battery
3 (0x08)	X
4 (0x10)	Sound detected last 120-240 seconds
5 (0x20)	Motion detected last 120-240 seconds
6 (0x40)	Motion detected last 10 minutes (
7 (0x80)	1 Motion detected last 24 hours

Other technical information:

The led will light up in red when motion is detected for the first 10 minutes after power up. After 10 minutes the led will never light up if not the device is restarted.

Revision history.

Rev	Date	Name	Info
V4.2	20210809	Martin Hallberg	Corrected that MBUS data format DR1 that it is 8 bit and not 16 bit. Corrected that MBUS data format DR2 value is 2 bytes and not 1. Corrected the DR1 text LUX is 0x100, 0x200, 0x400, 0x800
V 4.3	20210811	Martin Hallberg	Corrected that the alarm reset period for DR1 is 5 minutes and not 10 minutes.
4.4	20210907	Martin Hallberg	Corrected placement

Errata:

Version	
35	DR2 Bit for 24 hour for sound is never cleared Bit for PIR alarm is not set correctly for 10 minutes, 1 hour and 120 sec.
36	No known issues.