Norwegian HAN spesification - OBIS List Information			
Item	**Description**	**Value**	**Remarks**
A	File name	KFM_001.xlsx	Filename : OBIS List identifier.xlsx . Format for publication is pdf.
B	List version - date	21.03.2017	DD.MM.YYYY
C	OBIS List version identifier	**KFM_001**	Shall be identical to corresponding OBIS code value in the meter
D	Meter type	MA304H3	
E	Number of metering systems	2	(1,2,3)
F	Direct connected meter	Yes	
G	Current Transformer connected meter(CT-	No	
H	Voltage (V)	3x230	(1x 230, 3x230, 3x230/400)
I	Current Imax (A)	100	(80, 100, 100 A) Imax on the meters nameplate
J	Baudrate M-BUS (HAN)	2400	
K	List 1 Stream out every	2 seconds	
M	List 2 Stream out every	10 seconds	
N	List 3 Stream out every	1 hour	The values is generated at XX:00:00 and streamed out from the HAN interface 10 seconds later (XX:00:10)
O	HAN maximum power to HEMS (mW)	500 mW	The largest power that the customer equipment (HEMS or display) can consume from the meter HAN interface
P	HAN maximum current to HEMS (mA)	21 mA	

Norwegian HAN spesification - OBIS Codes

OBIS List version identifier:			KFM_001								
List number			OBIS Code - Group Value						Object name	Attributes		Item
1	2	3	A	B	C	D	E	F		Unit	Data type	Numb.
1			1	0	1	7	0	255	Active power+ (Q1+Q4)	kW	double-long-unsigned	1
	1	**1**	**1**	**1**	**0**	**2**	**129**	**255**	OBIS List version identifier		octet-String	2
	2	**2**	0	0	96	1	0	255	Meter -ID (GIAI GS1 -16 digit)		octet-String	3
	3	**3**	0	0	96	1	7	255	Meter type		octet-String	4
	4	**4**	1	0	1	7	0	255	Active power+ (Q1+Q4)	kW	double-long-unsigned	5
	5	**5**	1	0	2	7	0	255	Active power - (Q2+Q3)	kW	double-long-unsigned	6
	6	**6**	1	0	3	7	0	255	Reactive power + (Q1+Q2)	kVAr	double-long-unsigned	7
	7	**7**	1	0	4	7	0	255	Reactive power - (Q3+Q4)	kVAr	double-long-unsigned	8
	8	**8**	1	0	31	7	0	255	IL1 Current phase L1	A	long-signed	9
	9	**9**	1	0	51	7	0	255	IL2 Current phase L2	A	long-signed	10
	10	**10**	1	0	71	7	0	255	IL3 Current phase L3	A	long-signed	11
	11	**11**	1	0	32	7	0	255	ULN1 Phase voltage 4W meter , Line voltage 3W meter	V	long-unsigned	12
	12	**12**	1	0	52	7	0	255	ULN2 Phase voltage 4W meter , Line voltage 3W meter	V	long-unsigned	13
	13	**13**	1	0	72	7	0	255	ULN3 Phase voltage 4W meter , Line voltage 3W meter	V	long-unsigned	14
		14	0	0	1	0	0	255	Clock and date in meter		octet-String	15
		15	1	0	1	8	0	255	Cumulative hourly active import energy (A+) (Q1+Q4)	kWh	double-long-unsigned	16
		16	1	0	2	8	0	255	Cumulative hourly active export energy (A-)(Q2+Q3)	kWh	double-long-unsigned	17
		17	1	0	3	8	0	255	Cumulative hourly reactive import energy (R+) (Q1+Q2)	kVArh	double-long-unsigned	18
		18	1	0	4	8	0	255	Cumulative hourly reactive export energy (R-) (Q3+Q4)	kVArh	double-long-unsigned	19

OBIS codes available in different meter types										Meter Types				
OBIS List version identifier:									KFM_001	MA105H2E	MA304H3E	MA304H4	MA304T3	MA304T4
List number			OBIS Code - Group Value						Object name					
1	2	3	A	B	C	D	E	F						
1			1	0	1	7	0	255	Active power+ (Q1+Q4)					
	1	1	1	1	0	2	129	255	OBIS List version identifier	X	X	X	X	X
	2	2	0	0	96	1	0	255	Meter -ID (GIAI GS1 -16 digit)	X	X	X	X	X
	3	3	0	0	96	1	7	255	Meter type	X	X	X	X	X
	4	4	1	0	1	7	0	255	Active power+ (Q1+Q4)	X	X	X	X	X
	5	5	1	0	2	7	0	255	Active power - (Q2+Q3)	X	X	X	X	X
	6	6	1	0	3	7	0	255	Reactive power + (Q1+Q2)	X	X	X	X	X
	7	7	1	0	4	7	0	255	Reactive power - (Q3+Q4)	X	X	X	X	X
	8	8	1	0	31	7	0	255	IL1 Current phase L1	X	X	X	X	X
	9	9	1	0	51	7	0	255	IL2 Current phase L2	NA	X	X	X	X
	10	10	1	0	71	7	0	255	IL3 Current phase L3	NA	X	X	X	X
	11	11	1	0	32	7	0	255	ULN1 Phase voltage 4W meter , Line voltage 3W meter	X	X	X	X	X
	12	12	1	0	52	7	0	255	ULN2 Phase voltage 4W meter , Line voltage 3W meter	NA	X	X	X	X
	13	13	1	0	72	7	0	255	ULN3 Phase voltage 4W meter , Line voltage 3W meter	NA	X	X	X	X
		14	0	0	1	0	0	255	Clock and date in meter	X	X	X	X	X
		15	1	0	1	8	0	255	Cumulative hourly active import energy (A+) (Q1+Q4)	X	X	X	X	X
		16	1	0	2	8	0	255	Cumulative hourly active export energy (A-)(Q2+Q3)	X	X	X	X	X
		17	1	0	3	8	0	255	Cumulative hourly reactive import energy (R+) (Q1+Q2)	X	X	X	X	X
		18	1	0	4	8	0	255	Cumulative hourly reactive export energy (R-) (Q3+Q4)	X	X	X	X	X

Norwegian HAN spesification - OBIS Codes

Item Number	Long description OBIS Code
1	Active power in import direction (xxx,xxx kW)
2	Version number of this OBIS list to track the changes
3	Serial number of the meter point:16 digits 9999999999999999
4	Type number of the meter: "MA304H3E"
5	Active power in import direction (xxx,xxx kW)
6	Active power in export direction
7	Reactive power in import direction (xxx,xxx kVAr)
8	Reactive power in export direction
9	Instantaneous current of L1(xxx.x A)
10	0 A Not measured
11	Instantaneous current of L3
12	Instantaneous voltage L1-L2 (Phase voltage 4W meter , Line voltage 3W meter) (xxx.x V) 1 second sampling
13	Instantaneous voltage L1-L3 (Phase voltage 4W meter , Line voltage 3W meter) 1 second sampling
14	Instantaneous voltage L2-L3 (Phase voltage 4W meter , Line voltage 3W meter) 1 second sampling
15	Local date and time of Norway (Winter: CET (UTC+1) - Summer: CEST (UTC+2)) http://www.timeanddate.com/worldclock/norway/oslo
16	Cumulativeactive import active energy (A+) displayed hourly (xxxxxxxx.xxx kWh)
17	Cumulativeactive export active energy (A-) displayed hourly
18	Cumulativeactive import reactive energy (R+) displayed hourly (xxxxxxxx.xxx kVArh)
19	Cumulativeactive export reactive energy (R-) displayed hourly

List Interval

Clock	List interval		
	2 sec	**10 sec**	**3600 sec**
14:59:56	List 1		
14:59:58	List 1		
15:00:00		List 2	
15:00:02	List 1		
15:00:04	List 1		
15:00:06	List 1		
15:00:08	List 1		
15:00:10			List 3
15:00:12	List 1		
15:00:14	List 1		
15:00:16	List 1		
15:00:18	List 1		
15:00:20		List 2	
15:00:22	List 1		