

## Data sheet

### • **HAN module**

#### **For Kamstrup electricity meters**

Makes it possible for the consumer to see the current consumption or the export of electricity from e.g. solar cells or wind turbines, etc. To read this data, a display complying with EN-13757-2 must be purchased.



## Application

When connected to a display, the module can show the consumer the current consumption, with actual data. Thus, the consumer becomes more aware of his consumption and can take steps to reduce it.

The module sends information about the most important parameters to a display so the consumer can see the current consumption of electricity.

The consumer who, for example, has installed solar cells can also see how much electricity is exported to the grid.



## HAN specification

### OBIS List Information

| Item | Description                                    | Value                   | Remarks                                                                                             |
|------|------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------|
| A    | File name                                      | Kamstrup_V0001.xlsx     | Filename : OBIS List identifier.xlsx . Format for publication is pdf.                               |
| C    | List version - date                            | 03.05.2016              | DD.MM.YYYY                                                                                          |
| D    | OBIS List version identifier                   | Kamstrup_V0001          | Shall be identical to corresponding OBIS code in the meter                                          |
| E    | Meter type                                     | OMNIPOWER               |                                                                                                     |
| F    | Number of metering systems                     | 1,2,3                   | [1,2,3]                                                                                             |
| G    | Direct connected meter                         | No, Yes                 |                                                                                                     |
| H    | Current Transformer connected meter[ CT-meter] | No, Yes                 |                                                                                                     |
| I    | Voltage [V]                                    | 1x230, 3x230, 3x230/400 | [1x 230, 3x230, 3x230/400]                                                                          |
| J    | Current I <sub>max</sub> [A]                   | 6, 100                  | [6, 80, 100 A] I <sub>max</sub> on the meters nameplate                                             |
| K    | Baudrate M-BUS [ HAN]                          | 2400 Baud               |                                                                                                     |
| L    | List 1 Stream out every                        | 10 seconds              |                                                                                                     |
| M    | List 2 stream out every                        | 1 h                     | The values are generated at XX:00:00 and streamed from the HAN interface 10 second later [XX:00:10] |
| N    | HAN maximum power to HEMS [mW]                 | 144mW                   | 4 unit loads according to EN 13757-2                                                                |
| O    | HAN maximum current to HEMS [ mA]              | 6mA                     | 4 unit loads according to EN 13757-2                                                                |

## HAN specification

### OBIS Codes

| OBIS List version identifier |    |                         |   |    |   |     |     | Kamstrup_V0001                                        |            |                |      |
|------------------------------|----|-------------------------|---|----|---|-----|-----|-------------------------------------------------------|------------|----------------|------|
| List number                  |    | OBIS Code - Group Value |   |    |   |     |     | Object                                                | Attributes |                | Item |
| 1                            | 2  | A                       | B | C  | D | E   | F   | Name                                                  | Unit       | Data type      | No.  |
| 1                            | 1  | 1                       | 1 | 0  | 2 | 129 | 255 | OBIS List version identifier                          |            | Unsigned       | 1    |
| 2                            | 2  | 1                       | 1 | 0  | 0 | 5   | 255 | Meter -ID (GIAI GS1 -16 digit )                       |            | Unsigned       | 2    |
| 3                            | 3  | 1                       | 1 | 96 | 1 | 1   | 255 | Meter type                                            |            | Visible-string | 3    |
| 4                            | 4  | 1                       | 1 | 1  | 7 | 0   | 255 | Active power+ (Q1+Q4)                                 | kW         | Unsigned       | 4    |
| 5                            | 5  | 1                       | 1 | 2  | 7 | 0   | 255 | Active power- (Q2+Q3)                                 | kW         | Unsigned       | 5    |
| 6                            | 6  | 1                       | 1 | 3  | 7 | 0   | 255 | Reactive power+ (Q1+Q2)                               | kVAr       | Unsigned       | 6    |
| 7                            | 7  | 1                       | 1 | 4  | 7 | 0   | 255 | Reactive power- (Q3+Q4)                               | kVAr       | Unsigned       | 7    |
| 8                            | 8  | 1                       | 1 | 31 | 7 | 0   | 255 | IL1 Current phase L1                                  | A          | Unsigned       | 8    |
| 9                            | 9  | 1                       | 1 | 51 | 7 | 0   | 255 | IL2 Current phase L2                                  | A          | Unsigned       | 9    |
| 10                           | 10 | 1                       | 1 | 71 | 7 | 0   | 255 | IL3 Current phase L3                                  | A          | Unsigned       | 10   |
| 11                           | 11 | 1                       | 1 | 32 | 7 | 0   | 255 | ULN1 Phase voltage 4W meter , Line voltage 3W meter   | V          | Unsigned       | 11   |
| 12                           | 12 | 1                       | 1 | 52 | 7 | 0   | 255 | ULN2 Phase voltage 4W meter , Line voltage 3W meter   | V          | Unsigned       | 12   |
| 13                           | 13 | 1                       | 1 | 72 | 7 | 0   | 255 | ULN3 Phase voltage 4W meter , Line voltage 3W meter   | V          | Unsigned       | 13   |
|                              | 14 | 0                       | 1 | 1  | 0 | 0   | 255 | Clock and date in meter                               |            | Octet-String   | 14   |
|                              | 15 | 1                       | 1 | 1  | 8 | 0   | 255 | Cumulative hourly active import energy (A+) (Q1+Q4)   | kWh        | Unsigned       | 15   |
|                              | 16 | 1                       | 1 | 2  | 8 | 0   | 255 | Cumulative hourly active export energy (A-) (Q2+Q3)   | kWh        | Unsigned       | 16   |
|                              | 17 | 1                       | 1 | 3  | 8 | 0   | 255 | Cumulative hourly reactive import energy (R+) (Q1+Q2) | kVArh      | Unsigned       | 17   |
|                              | 18 | 1                       | 1 | 4  | 8 | 0   | 255 | Cumulative hourly active export energy (R-) (Q3+Q4)   | kVArh      | Unsigned       | 18   |

### Long description OBIS Code

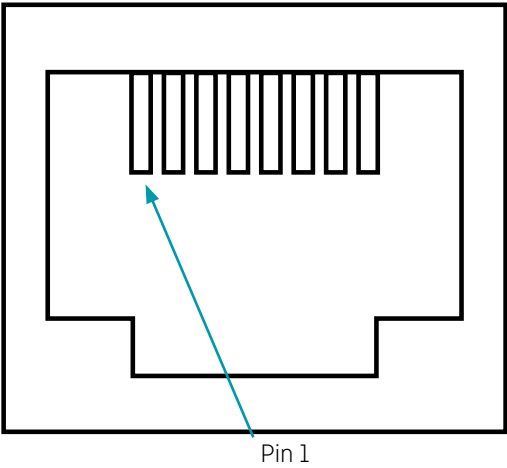
| Item No. |                                                                                                                                            |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Version number of this OBIS list to track the changes                                                                                      |
| 2        | Serial number of the meter point:16 digits 9999999999999999                                                                                |
| 3        | Type number of the meter: 684xx2, 684xx3, 685xx2, 685xx3, 686xx1, C65                                                                      |
| 4        | Active import power, with resolution of W, Format 4.3                                                                                      |
| 5        | Active export power, with resolution of W, Format 4.3                                                                                      |
| 6        | Reactive import power, with resolution of kvar, Format 4.3                                                                                 |
| 7        | Reactive export power, with resolution of kvar, Format 4.3                                                                                 |
| 8        | RMS 1 sec. avg. current L1, with resolution of 0.01A, Format 3.2. (3P3W) Current between L1 and L2 and part from current between L1 and L3 |
| 9        | RMS 1 sec. avg. current L2, with resolution of 0.01A, Format 3.2                                                                           |
| 10       | RMS 1 sec. avg. current L3, with resolution of 0.01A, Format 3.2. (3P3W) Current between L2 and L3 and part from current between L1 and L3 |
| 11       | RMS 1 sec. avg. voltage L1, with resolution of 1V, Format 3.0. (3P3W) Voltage between L1 and L2                                            |
| 12       | RMS 1 sec. avg. voltage L2, with resolution of 1V, Format 3.0. (3P3W) Calculated voltage between L1 and L3                                 |
| 13       | RMS 1 sec. avg. voltage L3, with resolution of 1V, Format 3.0. (3P3W) Voltage between L2 and L3                                            |
| 14       | Local date and time of Norway                                                                                                              |
| 15       | Active Energy import, with resolution of 10 Wh, Format 7.2                                                                                 |
| 16       | Active Energy export, with resolution of 10 Wh, Format 7.2                                                                                 |
| 17       | Reactive Energy import, with resolution of 10 Varh, Format 7.2                                                                             |
| 18       | Reactive Energy export, with resolution of 10 Varh, Format 7.2                                                                             |

Technical data

|                       |                                                                                                    |
|-----------------------|----------------------------------------------------------------------------------------------------|
| Standards             | 13757-2 Complies with the CE requirements when mounted in the meter.                               |
| Materials             | Glass-reinforced polycarbonate                                                                     |
| Weight                | 50 g                                                                                               |
| Sealing               | After the mounting, the module can be sealed.<br>Mounted without breaking the seal of the utility. |
| Protection class      | IP20                                                                                               |
| Connection            | RJ45                                                                                               |
| Cable length          | Max 50 m.                                                                                          |
| Operating temperature | -40 °C to 70 °C                                                                                    |
| Humidity-relative     | 20 % RH to 70 % RH                                                                                 |

The external display is connected via an RJ45 connector

| Pin | Functionality |
|-----|---------------|
| 1   | Communication |
| 2   | GND           |
| 3-8 | Not used      |



Ordering

|            |         |
|------------|---------|
| HAN module | 6840004 |
|------------|---------|