

## **Kamstrup 351 Combi communication interface specification**

Purpose: This document describes IEC 61107 communication protocol and module interface.  
Application: The document is for official publication and distribution.  
Responsibility: The electricity product department maintain this document.

**Construction requirements for non-Kamstrup modules.**

This document describes the minimum requirements for modules integrated in Kamstrup 351 Combi. In general the construction must be in line with the meter.

Requirements:

- Optocouplers have to be used where interfacing with the meter.
- The module can be powered according to below specifications.
- Use of IEC61107 mode A as described below.
- The module must conform with local regulations and requirements.

## IEC61107 data request

Readout by the use of IEC1107 in mode A.

Communication with the meter uses serial communication according to the RS232 standard.

Setup for serial communication is 300 baud, 1 start bit, 7 data bits, even parity and 1 stop bit.

To meter: /?![CR] [LF]

From meter: /KAM [SP] (Typenumber, **note 1**)[CR][LF] ; Type number  
[STX] 0.0.0(00000000) [CR][LF] ; Customer number  
0.2.0(5000E1) [CR][LF] ; Software type and revision  
1.8.0(0000000\*kWh) [CR][LF] ; Active energy  
1.8.1(0000000\*kWh) [CR][LF] ; Active energy - tariff 1  
1.8.2(0000000\*kWh) [CR][LF] ; Active energy - tariff 2  
1.8.3(0000000\*kWh) [CR][LF] ; Active energy - tariff 3  
1.8.4(0000000\*kWh) [CR][LF] ; Active energy - tariff 4  
3.8.0(0000000\*kWh) [CR][LF] ; Reactive energy  
96.8.0(0000000\*h) [CR][LF] ; Hour counter  
96.50.1(0000000) [CR][LF] ; Pulse input  
1.6.0(000000.0\*kW) [CR][LF] ; Active peak power  
3.6.0(000000.0\*kvar) [CR][LF] ; Reactive peak power  
1.6.0.1(000000.0\*kW) [CR][LF] ; Last month active peak power  
3.6.0.1(000000.0\*kvar) [CR][LF] ; Last month reactive peak power  
1.2.0(000000.0\*kW) [CR][LF] ; Active peak power accumulated  
3.2.0(000000.0\*kvar) [CR][LF] ; Reactive peak power accumulated  
0.1(0000000)! [CR][LF] ; Reset counter  
[ETX][BCC]

**Note 1.** Response is between 20 and 500 msec. after request.

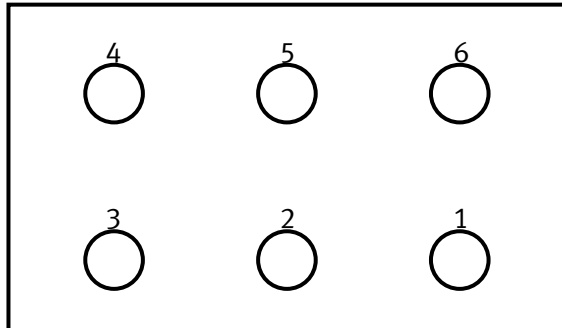
The calculation of the block check character [BCC] starts after transmission of [STX] and ends with [ETX], [STX] not included and [ETX] included. Calculation is made by 7 bit modulo 2 addition of each character.

**Example:**

To meter:     /?!  
From meter:   /KAM 685351A300100  
              \_0.0.0(00000000)  
              0.2.0(5000D1)  
              1.8.0(0012658\*kWh)  
              1.8.1(0000886\*kWh)  
              1.8.2(0000854\*kWh)  
              1.8.3(0002375\*kWh)  
              1.8.4(0008543\*kWh)  
              3.8.0(0000129\*kvarh)  
              96.8.0(0000024\*h)  
              96.50.1(0001027)  
              1.6.0(000023.4\*kW)  
              3.6.0(000001.5\*kvar)  
              1.6.0.1(000000.0\*kW)  
              3.6.0.1(000000.0\*kvar)  
              1.2.0(000057.0\*kW)  
              3.2.0(000003.2\*kvar)  
              0.1(0000000)!  
              \_7

## Module interface.

Valid for 5550-585 rev. C1.



Pin 1	Gnd
Pin 2	Data out For serial communication of data from the meter. The port type is open drain, with a 10nF capacitor to gnd Active high: Max voltage: supply voltage. (Gnd is reference) Minimum voltage: 0 V. (Gnd is reference) Active low: Max current 3 mA.
Pin 3	Pulse in/out (Port 2) For pulse transmission. Active high: Internally 1M Ohm pull-up resistor to supply and 10nF capacitor to gnd. Max voltage: supply voltage(Gnd is reference) Minimum voltage: 0 V. (Gnd is reference) Active low: Max current 3 mA.
Pin 4	Pulse in/out (Port 1) For pulse transmission. Active high: Internally 1M Ohm pull-up resistor to supply and 10nF capacitor to gnd. Max voltage: supply voltage(Gnd is reference) Minimum voltage: 0 V. (Gnd is reference) Active low: Max current 3 mA.
Pin 5	Data in For serial communication of data to the meter. Internally 1M Ohm pull-up resistor to supply, and 10nF capacitor to gnd. Max voltage: supply voltage. (Gnd is reference) Minimum voltage: 0V. (Gnd is reference)
Pin 6	Supply Nominal voltage 4.2 V Average current: 1 mA. (average for 60 seconds) Maximum current: 5 mA.