Kamstrup 382 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.

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Construction requirements for non-Kamstrup modules.

This document describes the minimum requirements for modules integrated in Kamstrup 382.
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 is 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] 685-$X_3X_2X_1$-Y_2Y_1-Z_2Z_1[CR][LF]	; Type number
	[STX] 0.0(00000000) [CR][LF]	; Customer number
	1.20(0000000*kWh) [CR][LF]	; Energy register
	1.20.1(0000000*kWh) [CR][LF]	; Tariff 1
	1.20.2(0000000*kWh) [CR][LF]	; Tariff 2
	1.31(0000000*h) [CR][LF]	; Hour counter
	1.26(0000000) [CR][LF]	; Pulse input
	1.6(000000,0*kW) [CR][LF]	; Actual peak value
	1.6*1(000000,0)! [CR][LF]	; Last month´s peak
	[ETX][BCC]	
	X_3 = Number of phases	1, 2, 3
	X_2 = Current	1, 6, 8, 9
	X_1 = Class	1, 2
	Y_2Y_1 = Modules	OK, SK, DK, RK, TK, MK……
	Z_2Z_1 = Label selection	

The answer is returned between 20 and 600 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 addition of each character.

Example:

From meter: /KAM 685-382-OK-15
0.0(00054042)
1.20(0000053*kWh)
1.20.1(0000033*kWh)
1.20.2(0000020*kWh)
1.31(0000482*h)
1.26(0000000)
1.6(000018,3*kW)
1.6*1(000000,0)!
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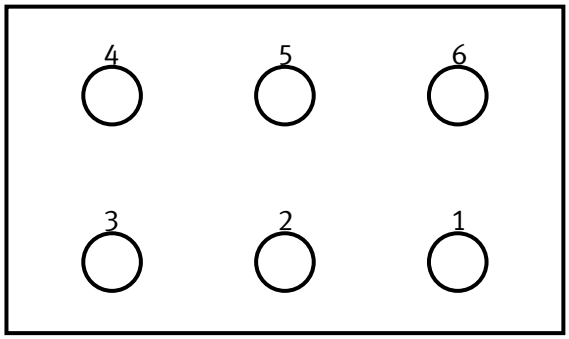
Module interface.

Valid for 5550-457 rev. G3 to 5550-599 rev. B1.



Pin 1 Gnd

Pin 2 Data out
For serial data communication from the meter.
Active high: Internally 100 kOhm pull-up resistor to supply.
Max voltage: 3.6V (Gnd is reference)
Minimum voltage: 0 V. (Gnd is reference)
Active low: Max current: 3 mA.

Pin 3 Pulse out
For pulse transmission.
Active high: Internally 100 kOhm pull-up resistor to supply.
Max voltage: 3.6V (Gnd is reference)
Minimum voltage: 0 V. (Gnd is reference)
Active low: Max current: 3 mA.

Pin 4 Pulse in
For tariff control and pulse receiving.
Max voltage: 3.6V (Gnd is reference)
Minimum voltage: 0 V. (Gnd is reference)

Pin 5 Data in
For serial data communication to the meter.
Max voltage: 3.6V (Gnd is reference)
Minimum voltage: 0V. (Gnd is reference)

Pin 6 Supply
Supply voltage: 3.6 V
Average current: 1 mA. (average for 60 seconds)
Maximum current: 5 mA.

For tariff change short circuit pins 1+4