

Data sheet

RS-485 module

for electricity meters

- RS-485 electrical interface for direct access to meter[s]
- Share GSM/GPRS modem – connect up to 32 electricity meters
- Galvanically separated serial communication
- Two-wire, half-duplex connection
- Cable length up to 1200 m
- Compliant with EIA-485
- DLMS and KMP protocols
- Baudrate 300 - 9600 baud
- 5A load control or 230 VAC tariff control



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Application

The RS-485 module is used as a serial communication interface for direct access to the electricity meter and by that relevant meter data.

From electricity meter Kamstrup 162/382 generation M [SW Rev. AF1], Kamstrup 351 generation C [SW Rev. P1] and OMNIPower variant 1 [SW Rev. V1], the module provides a reliable multi drop electrical interface, supporting the Kamstrup electricity meter DLMS and KMP protocols.

The communication interface is compliant with the RS-485 standard published by the Electronic Industries Alliance (EIA).

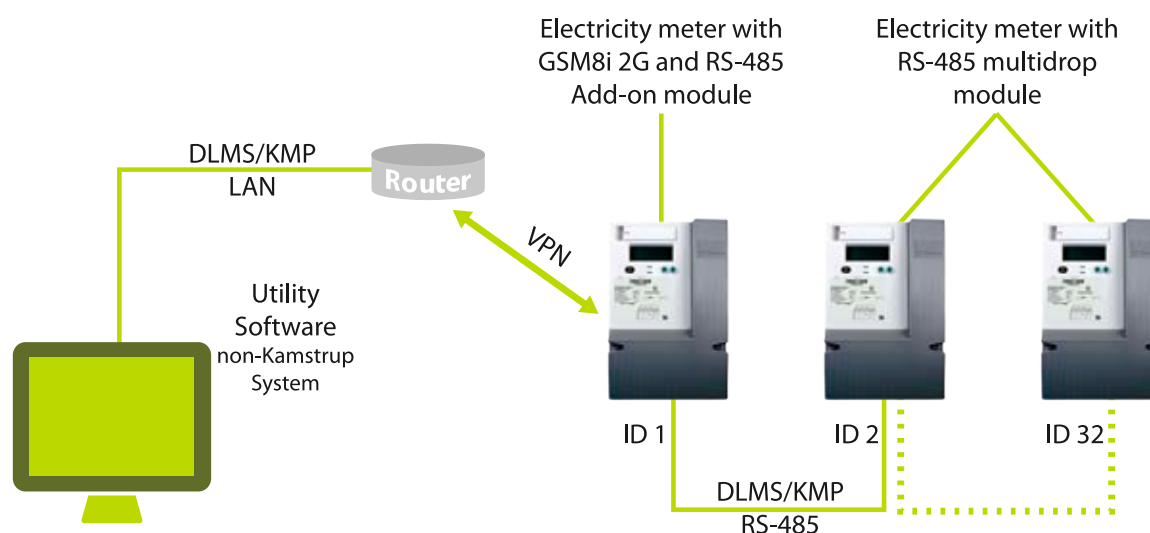
The differential signal and twisted pair cabling make the RS-485 resistant against electrical noise.

The simple bus wiring and long cable length also makes it ideal for use in building automation.

The module supports either a 5A load control output or a 2-tariff control input using 230 V.

Installation example

In multidrop communication mode, the electricity meter's communication address (DLMS or KMP) needs to be programmed. This can be done using METERTOOL.



NOTE! Multidrop communication is **not** supported by Kamstrup systems, but can be used together with external systems.

Technical data

	RS-485 Slave Module	RS-485 Master Module (Add-on)
Electrical data		
Supply	Internally via the electricity meter	
Power consumption	0.6 W	
Connection terminals	0.15 mm ² – 2.5 mm ²	
Operating temperature	-40 °C - +70 °C	
Mechanical data		
Storage temperature	-40 °C - +85 °C	
Relative humidity	< 90 %	
Weight	Approximately 30 g	
Dimensions, W x L x H	42 x 92 x 16 mm	42 x 75 x 29 mm
Marking/approvals		
CE marking	Meets the demands of the electricity meter	
Data/Communication		
Serial communication	300-9600 baud	9600 (GSM8i modem must be configured for DLMS or KMP transparent communication)
Signals	Tx+/Rx+, Tx-/Rx-, Half duplex	
Recommended cable	Twisted pair communication cable	
RS-485 input impedance	1 unit load	
Load control output		
Voltage rated	230 VAC	
Max current	5A/1250 VA	
Isolation voltage (open contact)	1000 V	
Tariff control input		
Control voltage	230 VAC +10 %/-15 %	
Control current	< 2 mA	
Input is galvanically isolated from the meter		

Connection details – RS-485

The RS-485 module is mounted on the modular area in the electricity meter using 8 pins module interface.

5A load control relay

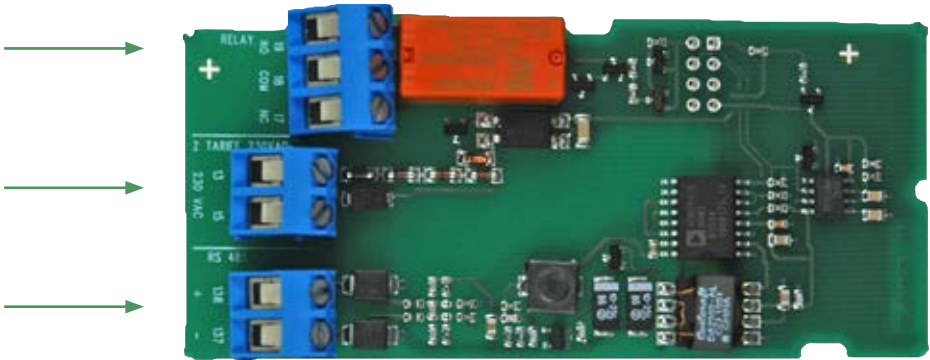
- 19 NO
- 18 Common
- 17 NC

Tarif input

- 13 External 0 or 230 VAC
- 15 External 0 VAC

RS-485 communication

- 138 Tx+/Rx +
- 137 Tx-/Rx -



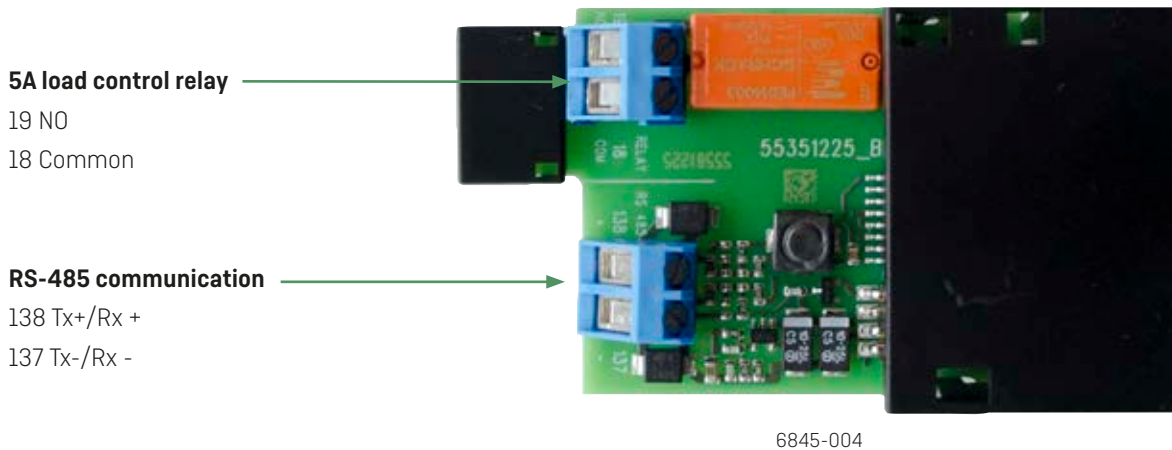
6850-072

Tariff control on module port

Terminal 13	Terminal 15	Active tariff	Active tariff inverted
0 VAC	0 VAC	T1	T2
230 VAC	0 VAC	T2	T1

Connection details – RS-485 (add-on)

The RS-485 (add-on) module is mounted on a GSM8i module in the module area in the electricity meter using 8 pins module interface.

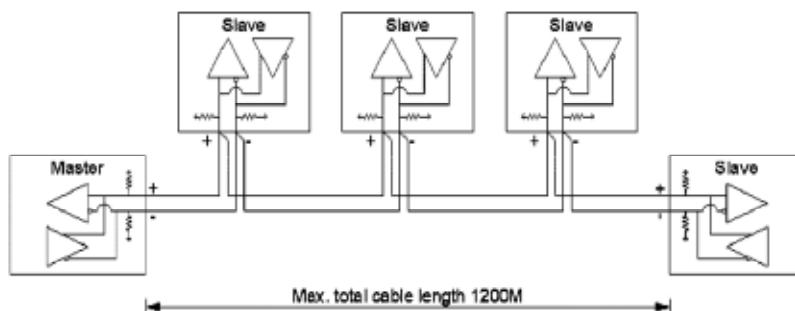


Installation

It is possible to connect up to 32 electricity meters using RS-485 – the RS-485 option is available as add-on for GSM8i 2G and GSM8i 3G. The galvanically isolated serial communication supports half-duplex and is designed for maximum 9600 bps.

The RS-485 interface is available on GSM8i port B only, and thus an external antenna is required for GSM8i 3G.

The multidrop concept does not support alarms – these shall be disabled in the meters in advance.



The topology of an RS-485 network using Kamstrup isolated and failsafe RS-485 slave or add-on modules.

- Max 32 unit loads on RS-485 bus
- The RS-485 bus shall be un-terminated
- RS-485 pull up/down resistors $\geq 33\text{ K}$

Order specifications

Description

RS-485 Slave Module

RS-485 Slave Module (Add-on)

GSM8i 2G with RS-485 add-on

GSM8i 3G with RS-485 add-on

Type no.

6850-072

6845-004

6819-060-00000

6817-060-00000

RS-485 module

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