



- THD available on the Current measurement
- 0,5 % Accuracy
- RS485 Modbus integrated
- Bidirectional Energy metering
- Din rail mountable
- Fully configurable by free interface software
- Bootloader for updating firmware
- Available Measure register: MSW first, LSW first or hundreds



## Technical data

### Function

Single-phase Power meter able to measure RMS AC or DC Current and Voltage.

### 1. Mechanical design

PBT plastic housing, IP rating IP20  
DIN-rail mountable with DIN-rail clips (included) for horizontal/vertical mounting, screw predisposition for horizontal/vertical mounting  
Mounting position: any  
Dimensions: 46,1 x 63 x 26,4mm (without connectors)  
Ø15mm (current transformer)  
Terminals:  
- 1,5mm<sup>2</sup> 4-pole connector (3,5mm pitch)  
- 1,5mm<sup>2</sup> 2-pole connector (3,5mm pitch)  
DIP-switch: 2 poles (Baudrate and Address) for connection with the configuration software  
Weight: 80g

### 2. Indicators

Yellow LED ON: indication of supply voltage  
Yellow LED flashing: indication of communication via RS485

### 3. Power Supply

Input: 9...30 V DC; terminals Pow(+), GND(-)  
Protection against polarity reversal and overtemperature  
Power consumption: < 1,3 W

### 4. RS485 Modbus RTU

Baudrate: 1200 ... 115200 Baud (Standard: 9600); terminals GND, A+, B-

### 5. Measuring circuit

Measurements available: Irms, Vrms, Watt, Var, Va, Vpk, Ipk, Frequency, Cosφ, Energy bidirectional, THD, MIN and MAX of each measure  
Type of Measure: RMS or DC  
Sampling rate: 11k samples per second  
Crest factor: 1,8 (current measurement)  
Working frequency: 1 ... 400Hz or DC  
Input impedance: 1MΩ ±1%  
Range:  
Current: up to 50A AC/DC  
Voltage: up to 800V AC / 1000V DC

### 6. Accuracy (@25°C up to 200Hz)

Current sensors:  
Voltage, Current, Active Power: < 0,5% f.s.  
Frequency: +/- 0,1 Hz  
Energy: +/- 1% of reading  
Vpeak, I peak: +/- 5% f.s.  
Range 500mV < V < 10V: Maximum error 0,5%  
Temperature coefficient: <100ppm/°C  
Band Width: > 800Hz

### 7. General specifications

Temperature coefficient: < 200 ppm/°C  
Operation temperature: -15 to +65°C

Storage temperature: -40 to +85°C  
Humidity: 10 to 90% (not condensing)  
Altitude: Up to 2000m above sea level  
Overvoltage category: Cat III up to 600V;  
Cat II up to 1000V

Isolation: 3kV on bare wire for Current measure  
4kV for Voltage measure (reinforced insulation to power supply and serial output)  
Standards: EN61000-6-4/2006 + A1 2011;  
EN64000-6-2/2005; EN61010-1/2010  
Certifications: CE, UL recognized component

Configuration: With software or via RS485 Modbus.  
Communication to free interface program for:  
- configuration of all the available parameters;  
- possibility of firmware upgrade (if available).

### DIP-switch:

DIP 1	DIP 2	
0	0	All settings from Eeprom
1	0	Address 1, Baudrate 9600
1	1	Address 1, Baudrate 38400

### Remarks:

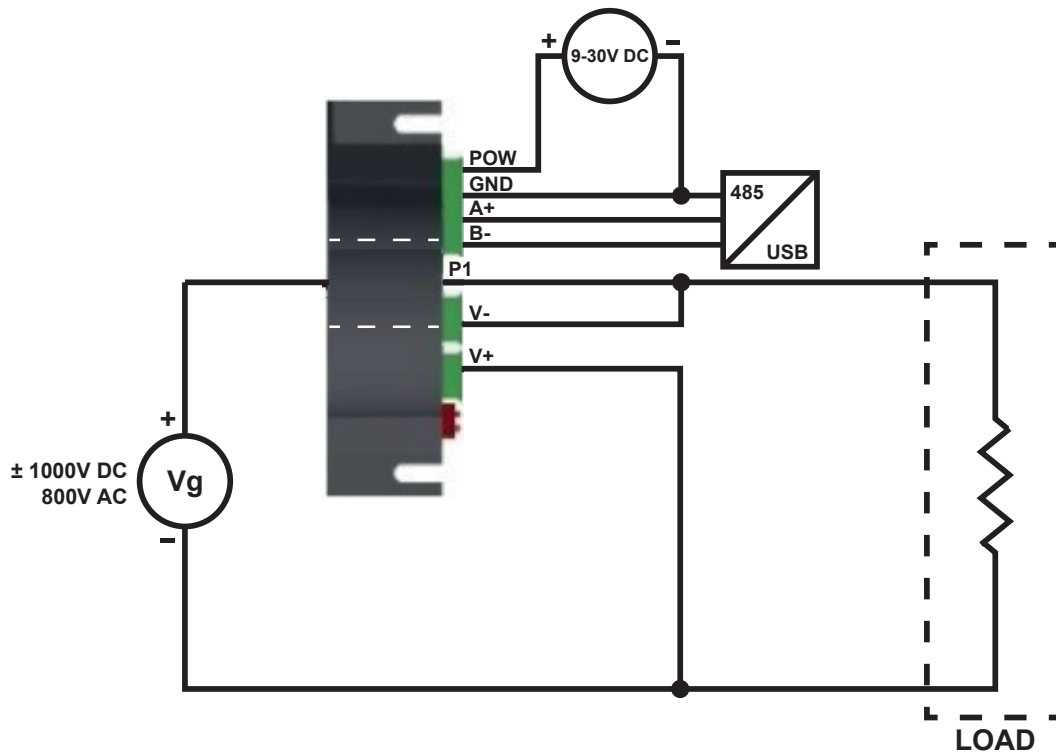
- Modbus connection: A+ and B- as per Modbus RTU standard
- Modbus Register reference: with reference to the logical address, for example 40010, corresponds to physical address n°9 as per Modbus RTU standard
- Modbus functions supported: 3 (read multiple registers, max 100), 6 (write single), 16 (write multiple)
- **Any changes made by dip-switch requires to reset via power supply or sending reset command**

Energy storage data on flash memory: 4,5 years minimum, 45 years typical  
Minimum Current measurement (cut off): 250mA  
Minimum Power measurement (cut off): 1 W  
Measurement refresh: every 50 cycles or 1 second (the faster), programmable with software

## Configuration software

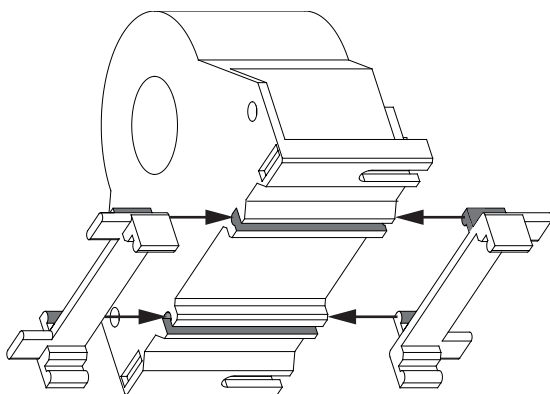
The free interface software is downloadable from our website [www.tele-online.com/products/sensact](http://www.tele-online.com/products/sensact)  
To communicate with the module you have to connect via USB port directly on your PC using the serial converter S-USB485; part No. 498513.  
You can configure the module via RS485 using the register map downloadable at [www.tele-online.com/products/sensact](http://www.tele-online.com/products/sensact)

## Connections

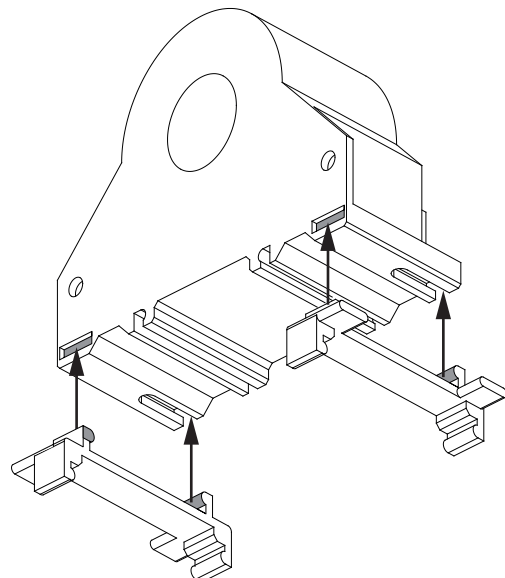


## Positioning clips for DIN-rail

For vertical DIN-rail mounting



For horizontal DIN-rail mounting



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Subject to alterations and errors

