



## Energy meter for alternating three-phase current

for current transformer connection  
secondary 1/5 A

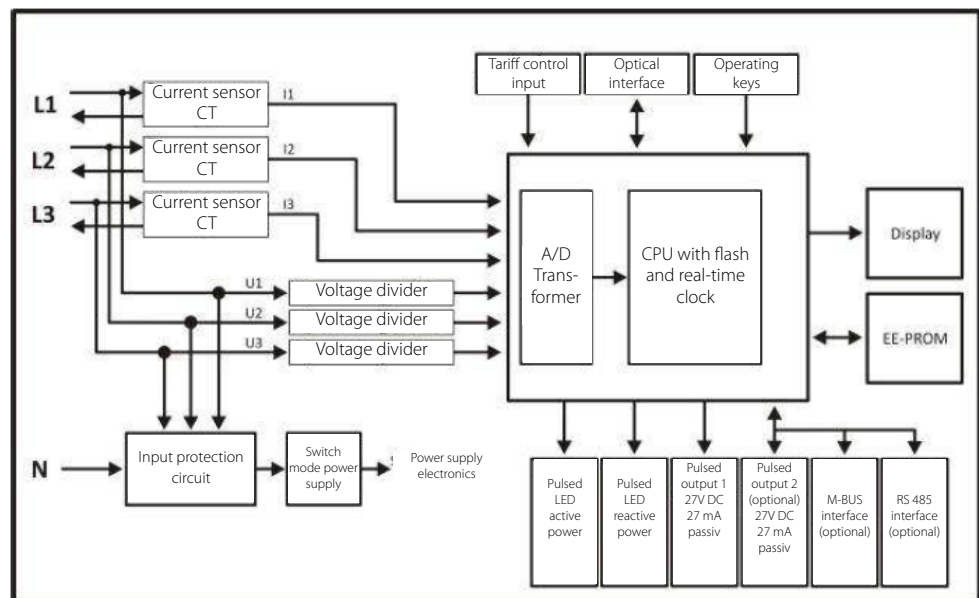
Type:

**SINUS 5//1 SO MID**  
**SINUS 5//1 M-BUS MID**  
**SINUS 5//1 Modbus MID**



### Function

The meter consists of a multi-part plastic housing. One part is manufactured from transparent plastic and covers the LC display (liquid crystal display) below and the name plate. For connecting the meter, terminal screws accessible from the outside are provided. The electronic function circuit of the meter is installed on printed circuit boards and is located inside the plastic housing. The current to be measured is internally adapted to the input conditions of the electronic sensors via a current transformer per current circuit (per phase). The voltage to be measured is internally adapted to the input conditions of the electronic sensors via a voltage divider per voltage circuit (per phase). The current and voltage signals are transmitted to the A/D converter process via filter circuits. The digitalized measuring values are further processed in a downstream processor. Following the processing, the registered energy quantities are indicated in the display. The software controls the processing in the meter. In this way, functions for meter start/stop, pulse output, display control, storage and backup of measured values, start-up and switch-off behavior and error monitoring are realized.



### Types and variants

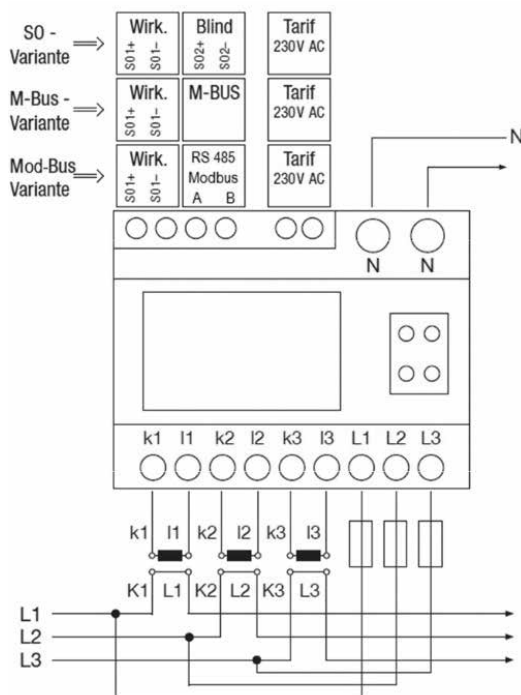
SINUS 5//1 SO MID

SINUS 5//1 M-BUS MID

SINUS 5//1 Modbus MID



## Connection



## Technical data

Types	
SINUS 5//1 S0 MID; M-BUS MID; Modbus MID	
Reference voltage range	3 x 230/400 (1 ± 10%) V - see meter imprint
Reference frequency range	50 (1 ± 2%) Hz - see meter imprint
Current information	see meter imprint $I_{min}$ - $I_n$ ( $I_{max}$ ) A
Meter imprint	$I_{min}$ - $I_{ref}$ ( $I_{max}$ ) A
Inrush current $I_{st}$	0,002 A (symmetrical per phase)
Minimum current $I_{min}$	0,01 A - see meter imprint
Transfer current $I_{tr}$	0,05 A
Rated current $I_{ref}$	1 A oder 5 A - see meter imprint
Maximum current $I_{max}$	6 A
Accuracy	class A (MPE = ± 3,5%) or class B (MPE = ± 2%)
Operation indicator/test output dev.	LED, red flashing, $t_{min} = 30$ ms
Detection of standstill/reverse motion	LED, red permanent lit
Registration indication	LC-display (liquid crystal display)
Display capacity	5 digits kWh and 3 decimal places
Pulse constant optical	$R_L$ , standard 20.000 imp/kWh (0,05 Wh/imp) - see meter imprint
Pulse constant electrical	$R_A$ , standard 5.000 imp/kWh (0,2 Wh/imp) - see meter imprint
Pulse number/measuring time	min 2 pulses and 20 s integration time
Pulse output electric. passiv	potential free acc. to DIN EN 62053-31 class A and B
Pulse parameters electrical	$U_{max} = 30$ V, $I_{max} = 30$ mA, inverse-polarity protection
Pulse length (set)	$t_{i\ max} = 35$ ms (adjustable)
Operating voltage range	180 V to 265 V, voltage single-phase or three-phase
Operating frequency range	40 Hz to 65 Hz
Energy consumption	voltage circuit approx. 0,6 VA, current circuit approx. 0,06 VA
Consideration of harmonic wave energy content	by measurement techniques up to approx. 4 kHz
Temperature range	-25 °C to +55 °C, indoor
Protection class	class II, protective insulation
Protection level	housing IP 51 with terminal cover installed
Fastening	snap on fastening on top hat rail 35 mm, DIN EN 60715
Electrical connection	screw terminal max 6 mm <sup>2</sup>
Weight	230 g