



Polyphase Electronic Electricity Meters



Three-phase electronic electricity meters of series **E3S - xxT with LCD display** are used for direct and indirect measurements of active electrical energy in three-phase voltage networks of frequency 50 Hz or 60 Hz in four lines or three lines system. They can be used as basic components for automated power monitoring and regulation. The measuring system of electronic electricity meters meets the requirements on measurement in accuracy class 1.0 or 2.0 in compliance with the standard IEC/EN 62053-21 and IEC/EN 62052-11. Electricity meters are equipped with the circuit of transmitting pulse which are proportional to the consumption of energy. That make their usage more extend by collection and processing of data of measured electrical energy too. It enables collection of data and parametrization of electricity meter through the optical interface. Tariff functions are controlled externally or internally, maximum demand measurement and measurement of electrical energy is in the mode consumption. Electricity meter evaluates reversed current-flow, reversed phase sequence and voltage failure.

E3S - xxT with LCD display

Measuring system consists of circuits for current and voltage scaling, calculation of electrical energy and of a power supply circuit. Current measurement is made with the tailored instrument transformer. The voltage scanning is made by the resistant attenuator. The base is on custom-made integrated circuits operated on principle A/D sampling and digital multiplying, and converting to output impulses, what frequency is proportional to the electrical power. The power unit supplies circuits of the measuring system as well as electronic tariff device.

Display system. It consists of a user-defined LCD display with 7 characters for energy display, four characters for the identifiers and 15 auxiliary characters.

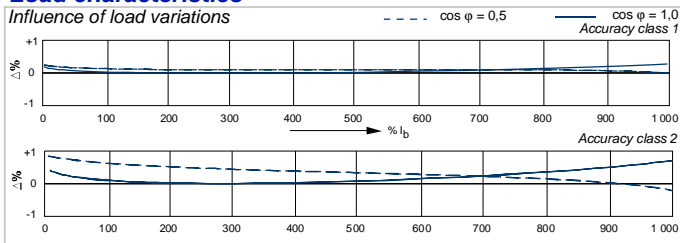
Electronic tariff device allow direct measurement of kW and kWh,

consumption/supply modes, at most four internally controlled tariffs, two externally controlled tariffs, built-in real-time clock and calendar.

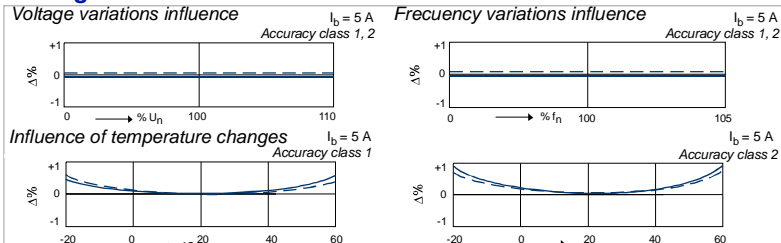
Output emitter circuit. Electricity meter is equipped with the pulse emitting circuit.

The meter case with the terminal block. The meters are in all-insulated cases, base and terminal block cover. There is a replaceable terminal block inserted into the plastic base. Its execution can differ depending on the value of maximum current, voltage and application of electricity meter. Terminal cover is polycarbonate. Voltage connection can be either external or internal one (under the electricity meter cover). Cover of electricity meter is polycarbonate with transparent window and optical interface.

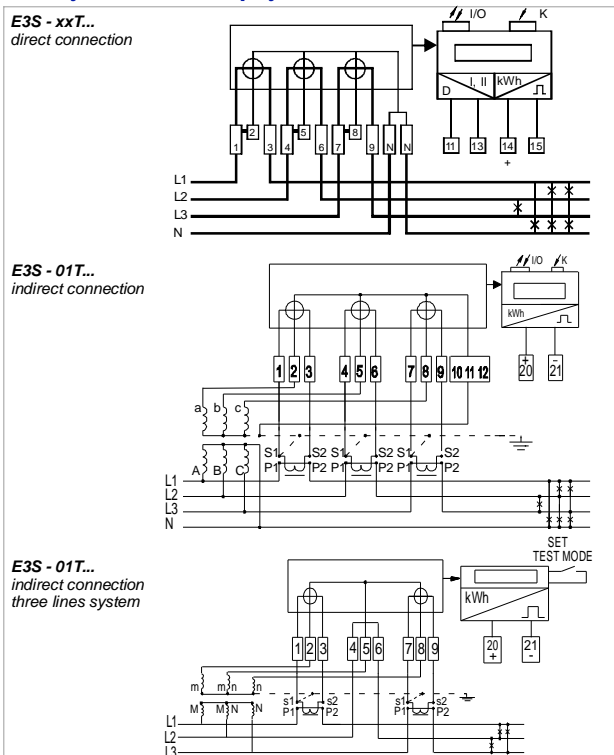
Load characteristics



Average values of additional errors



Vonkajšia schéma zapojenia



Types of meters E3S - XXT&A2Z4V1QX2LKPUDMOWH

E3S - polyphase electronic electricity meter
XX - overload capacity: **10** - 1 000 %, **12** - 1 200 %, **16** - 1 6000 %, **20** - 2 000 %
01 - 120 % - indirect connection

- T** - convertor of current - transformer
- &** - separating mark of type and execution
- A** - measured energy - active
- 2** - consumption-supply
- Z** - **1** - accuracy class 1.0; **2** - accuracy class 2.0
- Y** - **4** - number of lines in power net; **3** - number of lines in power net;
- V** - control input
- 1** - number of inputs
- Q** - type of inputs: **L** - low voltage (to 30 V), **H** - net voltage (to 230 V)
- X** - output
- 2** - number of outputs
- L** - low voltage (to 30 V)
- K** - interface communication
- P** - base of plastic
- U** - drilling of terminal [mm]: for direct connection - **8**
for indirect connection - current terminals - **8**
- voltage terminals - **3**

- D** - display
- M** - electronic more rates equipment
- O** - opto interface
- W** - 2 buttons on the cover
- H** - internal clock

Technical data

Accuracy class - for active energy	1.0 or 2.0
Reference voltage	57.7 - 480 V
Basic current - direct connection	5; 10; 15; 20 A
- indirect connection	1; 2; 2.5; 5 A
Maximum current	100 A
Mains frequency	50 Hz, 60 Hz
Maximum power of voltage circuit	7.5 VA/0.5 W
Self consumption of current circuit	0.04 VA
Average temperature coefficient	0.35 %/K
Numbers of rates	maximum 4
Control of rates	externally a internally
Control voltage for the actuation of tariff device:	
- standard	230 V AC, DC
- optional	from 6 V up to 250 V AC, DC
Test output: - pulse constant	2 000 pulses per kWh (according to exec.)
Output for measuring impulses:	
- impulse emitting constant	10 - 2 000 pulses per kWh
- impulse duration	standard 80 ms
- passive output (output collector)	24 V DC, from 1 mA up to 30 mA
- relay passive output	250 V AC or 100 V DC, maximum 5 W
Weight	maximally 1.2 kg
Coverage	IP 51

Dimensional drawing

