

# E420 Electricity Meter

The E420 meter is a three-phase electricity meter, designed for reliable and cost-efficient metering in households.

The meter's small size and simple structure make it easy to handle and safe to use. The design brings savings through faster calibration process and easier installation. The E420 is a tamper-proof and completely maintenance-free meter.

In the E420 meter we have combined Enermet's long experience in electricity metering with today's cost-efficiency requirements. As a result, we have a compact meter with the tried-and-tested reliability and security of Enermet's meter technology.



## Cost-efficiency from Usability

The logistics as well as verification and installation processes can be complicated and time consuming when dealing with large amounts of meters. With the E420 we have paid special attention to these important stages.

The E420 meter's small size means that it takes very little storage space. The meter is light and easy to pick up from the transport box.

As an electronic meter, the E420 is immune to disturbances due to vibration or mounting position. Thanks to this, it is safe to transport and the measurement is reliable under any circumstances.

Instead of voltage hooks, the E420 has a simple separator tool for speeding up the verification process. Connector screws are ready-opened and safely in their slots. Terminal cover is open and separate from the meter. These and other seemingly small details add up to considerable savings in time and money by means of improved installation and verification process efficiency.

## Security of Revenues

When a meter is installed and working, it should just measure the revenues and provide the readings for the energy utility's needs. The E420 does just that. It is a maintenance free electricity meter, with a reliable mechanical register showing just the necessary information.

Thanks to the new housing structure and seals, the meter is fully tamper proof. Furthermore, the absence of voltage hooks efficiently hinders any attempts to disturb the metering. The meter's simple structure means added reliability and cost-efficiency, as there is no need for costly extra visits to the metering location to fix or service the meter.

The E420's metering accuracy is very stable throughout the meter's lifetime. However, if the accuracy is lost, the internal diagnostics stops the meter's measuring altogether, thus avoiding the risk of too big consumption values.

### What is the E420?

The E420 is an electronic electricity meter in which the measuring is implemented using a single-chip design. The measurement is based on A/D-conversion and digital signal processing, guaranteeing precise and reliable measurement.

### Long-lasting reliability with an electronic meter

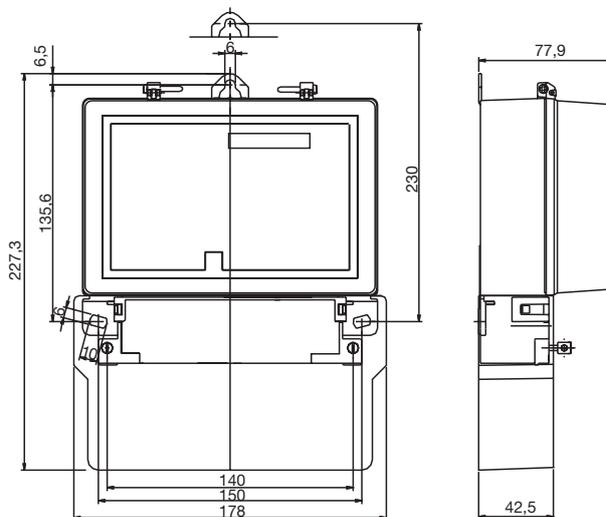
Enermet has a long experience of designing electronic meters for domestic and precision metering. Accelerated lifetime tests at international research institutes have shown that the operations of electronic meters remain accurate throughout their lifetime. Even after several years of use the calibration values have shown virtually no changes.

Using the advantages of that experience, we have developed the 5th generation of electronic 3-phase meters, the E420 meter family. The meter family includes one- and two-tariff meters, with multiple input/output options.

### Safely to Future

The E420 is simple, but still clever. If you choose, the E420 meters can be delivered with an S0 output, through which it can be connected to a metering system, either now or in the future. Thanks to the E420 meter's standard terminal block dimensions, installing of additional devices is easy.

The E420 meter meets strict environmental requirements. All meter parts can be recycled and the packaging is made of recyclable cardboard.



## E420 Technical Specification



#### Metrological Requirements

- Class 2 for active energy
- According to IEC 62052-11, 62053-21

#### Measurement System

- A/D conversion
- Digital signal processing

#### Voltage

- 3x230/400 V
- 2/3x230/400 V
- 3x230 V

#### Frequency

- 50 Hz

#### Current

- Rated current 5A of 10 A (for E420-s)
- Maximum current 60, 65, 80, 85 or 100 A
- Starting current < 25 mA

#### Power Consumption

- Voltage circuit 8 VA, Cap. 1.1 W, per phase
- Current circuit < 0.05 VA at I<sub>b</sub>, per phase

#### Overvoltage Protection

- 12 kV

#### Output

- S0 output with an optoisolated transistor output corresponding to IEC62053-31
- 500 imp./kWh

#### Meter constant

- 10 000 imp./kWh

#### LED

- Pulse and alarm indication

#### Temperature Range

- Operating: -40...+60 °C
- Storage: -40...+60 °C

#### Case

- Based on DIN 43857

#### Dimensions

- Height: 227 mm
- Width: 178 mm
- Depth: 78 mm

#### Weight

- 880 g

#### Counter

- electromechanical counter with 7 drums
- 6 integers, one numerical or coded decimal

#### Tariff Control

- Control inputs 13, 13&15, 13&15 inv.
- Tariff I: 230 V AC (-20%...+15%), 50 Hz
- Tariff II: no voltage or <115 V