


# Energy Measurement and Management




The ME162 single-phase electronic meters are intended for electric energy measurement and registration in single-phase two-wire networks in household. The meter is approved and manufactured in compliance with the IEC 62052-11, IEC 62053-21 (IEC 61036) standards and ISO 9001. They are designed according to even more severe Iskraemeco's standards that are the result of our more than 50-year experiences of meter manufacturing and fifty million meters installed worldwide.

## ME162 Single-phase meter




-  Active power


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-  Single or double direction


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-  Multi-rate registration


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-  Internal clock

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-  Data display

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-  Impulse output (KWh)

- Internal clock
- Data display on LCD in voltage-free state (option)
- LCD backlight (option)
- Communication optical port for semi-automatic meter reading
- Smaller dimensions
- Energy measurement: one direction, double direction or absolute

**FUNCTIONAL AND TECHNICAL DATA**

**ME162** is a single-phase meter for residential and small commercial users, for revenue measuring of active power in two wire systems.

**Measuring and registration:** Standard (as a mechanical meter).  
Other options: – Double direction  
– Always positive (absolute)

**Accuracy/calibration:** Due to the long-term stability there is no need for recalibration in meters life-time.

**Indications:** **LED 1** (red): kWh impulses (k=1000 imp/kWh)  
**Illuminated:** meter is powered, no load current  
**Pulsating:** load current is higher than starting value  
**Not illuminated:** meter is not powered

**Communication: Opto-port** (IEC 62056 – 21): for local meter reading and programming.

**Real time clock:**  
– 32 kHz quartz oscillator  
– The real time clock generates: a tariff program, season changeover, transition to day light saving period and vice-versa.

**Inputs – tariff:** Two tariff inputs for 2-4 tariff energy registration.

**Outputs:** S0 (DIN 43864) or opto-MOS-relay.  
Option: two separate S0 or optomos outputs for bi-directional energy flow direction (kWh-import, kWh- export).

**Local metering data display (LCD):**  
– Automatic scroll mode  
– Manual scroll (by button) Programmable data set and sequence  
– LCD back-light (option)  
– Data display on LCD in voltage-free state (option).

**Scroll key:**  
– LCD test  
– Scrolling data on LCD

**Enclosure:** Polycarbonate, self-extinguishable.

**Protection against water and dust:** IP 53.

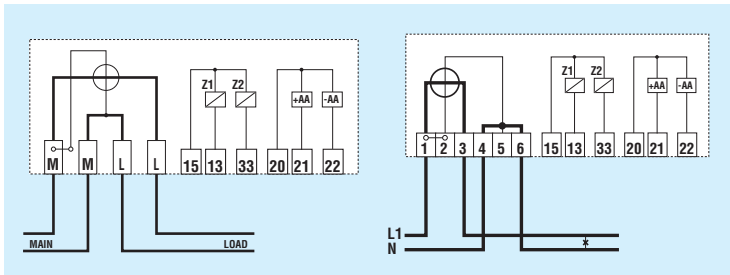
**TYPE DESIGNATION FOR ORDERING**

**ME162-D1A41-V22G22-M3KO**

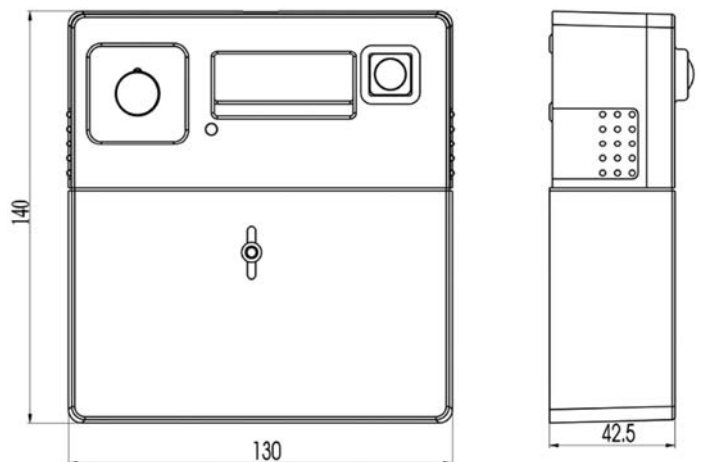
- M** – Electronic meter
- E** – Single-phase meter
- 162** – Meter with LCD and internal clock
- D1** – Terminal block for direct connection up to 85 A by DIN 43857
- D3** – Terminal block for direct connection up to 100 A by BS 5685
- A4** – Active energy measurement, accuracy class 1
- A5** – Active energy measurement, accuracy class 2
- 1** – Energy measurement in one direction
- 2** – Energy measurement in two directions
- 4** – Absolute energy measurement
- V12** – 1 tariff input
- V22** – 2 tariff inputs
- G12** – 1 impulse S0 output
- G22** – 2 impulse S0 outputs
- L11** – 1 OPTOMOS relay, make contact
- L21** – 2 OPTOMOS relays, make contact
- M** – Additional device
- 3** – Real time clock with Li-battery
- KO** – Communication interface. Optical interface IEC 62056-21 (IEC 61107)

Accuracy class	.2 or 1
Rated current I <sub>n</sub>	.5, 10, 20 A
Max. current I <sub>max</sub>	.85, 100 A
Min. current	.0,05 I <sub>n</sub>
Starting current	.0,004 I <sub>b</sub>
Reference voltage U <sub>n</sub>	120, 220, 230, 240 V
Voltage range	.0,8 U <sub>n</sub> ... 1,15 U <sub>n</sub>
Reference frequency	.50, 60 Hz
Meter constant	.1000 imp/kWh
Clock accuracy (25°C)	≤ 6 ppm or ≤ ± 3 min/year
RTC control	.32 kHz crystal
Temperature range of operation	-25°C ... +60°C
Extended temp. range	-40°C ... +70°C
Storing temperature	-40°C ... +85°C
Current circuit burden	<25 mW / 25 mVA
Voltage circuit burden	<0,8 W / 10 VA
Dielectric strength (burst test)	.4 kV, 50 Hz, 1 min
Impulse voltage	.6 kV, 1,2/50 μs
Short-circuit current	.30 I <sub>max</sub>
EMC: High frequency disturbances	.6 kV (IEC 1000-4-4)
Optical port	IEC62056-21 (IEC 61107)
Impulse outputs:	
S0	.ti = 40 ms (10, 20, 30, ..., 160 ms)
opto-MOS	.ti = 80 ms (10, 20, 30, ..., 160 ms)
Switching power	.25 VA (100 mA, 250 V)
Dimensions (h x w x d)	.97 x 130 x 43 mm
Mass	.Approx. 0.380 kg

**CONNECTION DIAGRAMS**



**DIMENSIONS**



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