


EKM-15E Spec Sheet



Technical Specifications:

- 120V Single Phase, external CT, kWh meter
- Rated Voltage: 120 volts (+/-30%)
- Rated Current: 5(50)Amps (use only the provided 50A CT)
- CT Inside Diameter: 14mm (about .55 inch)
- Pulse output impulse constant: 1000imp/kWh
- Range of allowable environmental conditions: Pollution Degree 2, Measurement Category III, Altitude rating 2000 meters max. Maximum Temperature Range: -20 Deg. C to 65 Deg. C.
- The equipment is protected throughout by double insulation as indicated by this symbol: 
- Accuracy Class: 1 ($\pm 1\%$ accurate) (Fig 3)
- Rated Frequency: 50Hz/60Hz
- Display mode: LCD 5+2: 99999.99kWh
- Start current: 0.4%Ib. (1.0)
- Power consumption: $\leq 8VA$ $\leq 0.4W$
- Voltage 12~27V, current $\leq 27mA$, max lead length: 20m
- Impulse width=90ms, connect pulse counter to terminal 20 and 21
- Outside dimensions: 117.5x55.8x18mm (Fig 1)

Safety Precautions:

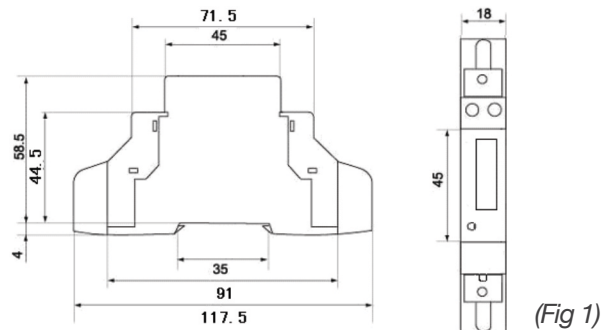
- Meter should be installed by a qualified electrician.
- Turn off all power supplying the equipment before performing any installation or service. Use a volt meter to confirm power is off.
- Use of this device inconsistent with this manual can cause permanent damage to the unit and/or serious harm to the installer or operator.

Tools/Materials List:

- Volt meter
- Small standard screwdriver
- DIN-Rail
- UL Listed Type 4 Enclosure (with appropriately rated conduit and fittings) is required if meter will be installed outdoors

Functions:

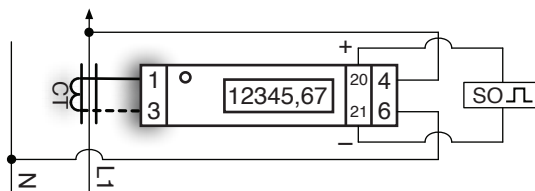
- Long-term active electricity measuring without adjustment.
- Meets IEC 61036
- Ideal for individual circuits or groups of circuits
- DIN rail Mounting
- Connect a pulse counter up to 200 feet away from the meter.



(Fig 1)

Installation Instructions:

1. Use a volt meter to confirm that you have 120 volts between L1 and neutral. This meter will not function correctly unless this is the case. If there are two hot lines and there is 240V between them, you have a 120/240V system. In this case you will use an EKM-25IDSv.2 meter.
2. Disconnect or switch power off before attempting to install, connect, disconnect, or service the meter. ALL POWER MUST BE TURNED OFF!
3. IMPORTANT: Distinguish and then identify the hot Line and the neutral line. Label both of them: L1, N.
4. Once the power has been turned off, pass L1 through the current transformer. (for a retrofit installation this may first require disconnecting L1 from your breaker or junction box)
5. Once the wire is through the CT, it should be reconnected in its original position in the breaker or junction box.
6. Connect the CT leads to ports 1 and 3 (direction doesn't matter).
7. Tap into L1 and connect a wire from it to port 4 on the meter. Also tap into N and connect a wire from it to port 6 on the meter. (Fig 2)
8. Mount the meter using 35mm DIN Rail in a protected indoor location. If installing outdoors, a UL Listed Type 4 Enclosure is required.
9. Once the above steps are completed, and you are ready, you can turn the power back on and begin to read your meter.



(Fig 2)

Pulse Output:

Terminals 20 and 21 are for pulse output (Fig 1). Pulse rate: 1000 Impulse/kWh. Polarity sensitive. Maximum 27VDC, 27mA. Red LED on the meter face flashes 1000 times/kWh. 1 flash = 1Wh.

Load current	Power factor COSφ	Basic error %		
		Class 0.5	Class 1	Class
0.05Ib	1.0	±1.0	±1.5	±2
0.1Ib~Ima	1.0	±0.5	±1.0	±2.0
x 0.1Ib	0.5(L)	±1.0	±1.5	±2.5
	0.8(C)	±1.0	±1.5	---
0.2Ib~Imax	0.5(L)	±0.5	±1.0	±2.0
	0.8(C)	±0.5	±1.0	---

(Fig 3)

Working Principle

When the meter is working, the energy consumed by the user is transformed into voltage and current signals, which are sampled by sample circuits. A pulse signal is then produced by a specialized IC. The Pulse signal is directly proportional to power consumption. The MCU records and stores the corresponding energy use. The LCD screen displays the energy use.

Data

The LCD display shows one piece of data: total electricity consumed(kWh). By design the kWh cannot be reset. The memory is not affected by a power shortage or power outage. The meter will go at least 10 years without power and still keep its kWh readings. In other words, the memory will not be erased if there is no power.

Transport and Handling

The meter should be handled with care, as there are precision components inside that could break and/or cause faulty readings should the meter become damaged. The process of transportation, handling, and installation should be done according to the transportation and storage rule of GB/T15464-1995. Keep the meter in the original packaging when stored. The storage temperature range should be 0–40°C. The relative humidity should be $\leq 85\%$. There should be no toxic chemicals present and no corrosive substances or gases in the air. The meters should be stacked on a platform no more than ten units high.

Warranty

Within two years from the date of sale, and on the condition that the user abide by the specifications and installation instructions listed here, and the sealing is kept completely intact. If the meter does not correspond with the rule of the enterprise standard, the meter shall be repaired free or replaced.