


EKM-25XDSE Spec Sheet



Technical Specifications:

- Single Phase, 2-wire or 3-wire, pass-through kWh meter
- Rated Voltage: 120V, 208V, 230V, 240V, 120/208V, 120/240V
- Rated Current: 100A
- Works with wires up to 13mm (~1 AWG) in diameter
- Pulse output impulse constant: 800 pulses/kWh
- Range of allowable environmental conditions: Pollution Degree 2, Measurement Category III, Altitude rating 2000 meters max.
- Maximum Temperature Range: -30°C to 70°C.
- The equipment is protected throughout by double insulation as indicated by this symbol: 
- Accuracy Class: 1
- Rated Frequency: 50/60Hz
- Creep: designed to prevent kWh creep
- Start current: 0.4% Ib. (1.0)
- Power consumption: ≤1W (when 220V, 20A)
- Tamper Detection Class 1.
- Weight: 0.32kg
- Outside dimensions: 88x100x65mm (see 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 that is inconsistent with this manual can cause permanent damage to the unit and/or serious harm to the operator.

Tools/Materials List:

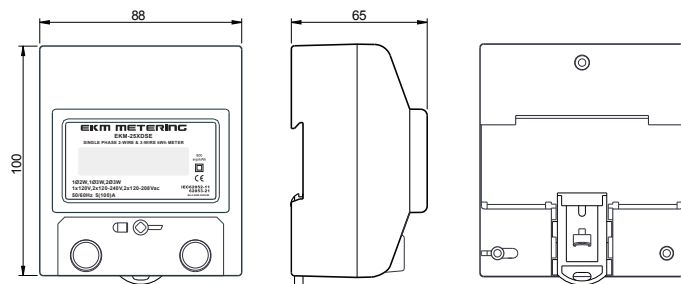
- Volt meter
- Small standard screwdriver
- DIN-Rail
- Type 4 Enclosure if meter will be installed outdoors

Functions:

- Long-term active electricity measuring without adjustment.
- Non-resettable kWh meter to prevent tampering
- Meets IEC 62053-21 and IEC 62052-11 standards (static AC active meter)

Pulse Output:

- Terminals 4 and 5 are for pulse output. Pulse rate: 800 Impulse/kWh. Polarity sensitive. Maximum 27VDC, 27mA.
- Red LED on the meter flashes 800 times/kWh. 1 flash = 1.25Wh.

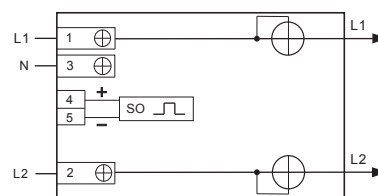


(Fig 1)

3-Wire (2 hot, 1 neutral) Installation Instructions:

1. Use a volt meter to identify L1 and L2 and to identify that you have 240V or 208V from line to line. You should also have 120V from each line to neutral.
2. Disconnect or switch the power off before attempting to install, connect, disconnect, or service the meter. ALL POWER MUST BE TURNED OFF!
3. Label all 3: L1, L2, N.
4. Remove the terminal cover plate by unscrewing the screw below the LCD screen of the meter. You will then be able to see the labels for each terminal.
5. Once the power has been turned off, pass line 1 and line 2 through the two holes in the meter. Use the bushing inserts, when appropriate for your wire gauge, to best center the wires in the tubes. Make sure both wires enter the meter on the same side (current flows in the same direction). (for a retrofit installation this may first require disconnecting the ends of L1 and L2 from a breaker or junction box)(see Fig 2)
6. Once the wires are through the meter, the ends should be reconnected in their original positions in the junction box or breaker panel. On the meter, tighten down the tap screws for each line that passes through the meter. These are labelled terminals 1 and 2. The tap screws penetrate the wire insulation in order to reference their voltages and power the meter, once the power is turned on.
7. Run a neutral reference wire from the neutral in your breaker panel or junction box, to terminal 3 on the meter.
8. Mount the meter using 35mm DIN Rail in a protected indoor location. If installing outdoors, a Type 4 Enclosure is required in order to protect the meter from the elements.
9. Once the above steps are completed, and you are ready, you can turn the power back on and begin to read your meter's LCD screen.

Single Phase 3-Wire (2 Hot, 1 Neutral)



(Fig 2)

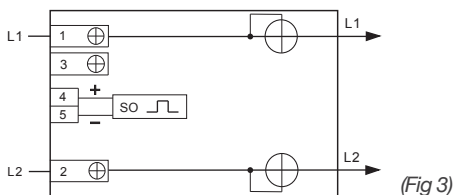
2-Wire (2 hot, no neutral) Installation Instructions:

1. Use a volt meter to identify L1 and L2 and to identify that you have 240 volts between the lines.
2. Disconnect or switch the power off before attempting to install, connect, disconnect, or service the meter. ALL POWER MUST BE TURNED OFF!
3. Label both: L1, L2
4. Remove the terminal cover plate by unscrewing the screw below the LCD screen of the meter. You will then be able to see the labels for each terminal.(see Fig 3)
5. Once the power has been turned off, pass line 1 and line 2 through the two holes in the meter. Use the bushing inserts, when appropriate for your wire gauge, to best center the wires in the tubes. (cont.>)

Make sure both wires enter the meter on the same side (current flows in the same direction). (for a retrofit installation this may first require disconnecting the ends of L1 and L2 from a breaker or junction box)

- Once the wires are through the meter, the ends should be reconnected in their original positions in the junction box or breaker panel. On the meter, tighten down the tap screws for each line that passes through the meter. These are labelled terminals 1 and 2. The tap screws penetrate the wire insulation in order to reference their voltages and power the meter, once the power is turned on.
- Mount the meter using 35mm DIN Rail in a protected indoor location. If installing outdoors, a Type 4 Enclosure is required in order to protect the meter from the elements.
- Once the above steps are completed, and you are ready, you can turn the power back on and begin to read your meter's LCD screen.

Single Phase 2-Wire (2 Hot)

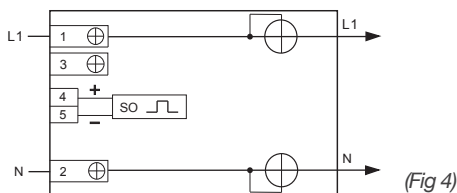


(Fig 3)

2-Wire (1 hot, 1 neutral), Option 1 Installation Instructions:

- Use a volt meter to identify L1 and neutral and to identify that you have 120 volts (U.S.), or 230 volts between them (foreign).
- Disconnect or switch the power off before attempting to install, connect, disconnect, or service the meter. ALL POWER MUST BE TURNED OFF!
- Label both: L1, N
- Remove the terminal cover plate by unscrewing the screw below the LCD screen of the meter. You will then be able to see the labels for each terminal.
- Once the power has been turned off, pass line 1 through the hole labelled 1/L1 in the meter and pass the neutral line through the hole labelled 2/L2. Use the bushing inserts, when appropriate for your wire gauge, to best center the wires in the tubes.(for a retrofit installation this may first require disconnecting the ends of L1 and neutral from a breaker or junction box)(see Fig 4)
- Once the wires are through the meter, the ends should be reconnected in their original positions in the junction box or breaker panel. On the meter, tighten down the tap screws for each wire that passes through the meter. These are the screws that are next to the 1 and 2 labels. The tap screws penetrate the wire insulation in order to reference their voltage or neutral, and power the meter, once the power is turned on.
- Mount the meter using 35mm DIN Rail in a protected indoor location. If installing outdoors, a Type 4 Enclosure is required in order to protect the meter from the elements.
- Once the above steps are completed, and you are ready, you can turn the power back on and begin to read your meter's LCD screen.

Single Phase 2-Wire (1 Hot, 1 Neutral), Option 1



(Fig 4)

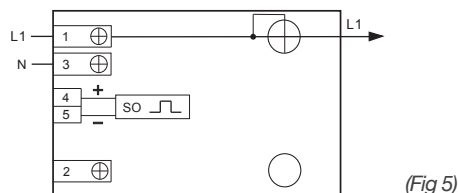
2-Wire (1 hot, 1 neutral), Option 2 Installation Instructions:

- Use a volt meter to identify L1 and neutral and to identify that you have 120 volts (U.S.), or 230 volts between them (foreign).

2. Disconnect or switch the power off before attempting to install, connect, disconnect, or service the meter. ALL POWER MUST BE TURNED OFF!

- Label both: L1, N
- Remove the terminal cover plate by unscrewing the screw below the LCD screen of the meter. You will then be able to see the labels for each terminal.
- Once the power has been turned off, pass line 1 through the hole labelled 1/L1 in the meter. Use the bushing insert, when appropriate for your wire gauge, to best center the wire in the tube.(for a retrofit installation this may first require disconnecting the ends of L1 from a breaker or junction box)(see Fig 5)
- Once the wire is through the meter, the end should be reconnected in its original position in the junction box or breaker panel. On the meter, tighten down the tap screw for line 1 that passes through the meter. This is labelled terminals 1. The tap screw penetrates the wire insulation in order to reference its voltage and power the meter, once the power is turned on.
- Run a neutral reference wire from the neutral in your breaker panel or junction box, to terminal 3 on the meter.
- Mount the meter using 35mm DIN Rail in a protected indoor location. If installing outdoors, a Type 4 Enclosure is required in order to protect the meter from the elements.
- Once the above steps are completed, and you are ready, you can turn the power back on and begin to read your meter's LCD screen.

Single Phase 2-Wire (1 Hot, 1 Neutral), Option 2



(Fig 5)

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 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 ≤85%. There should be no toxic chemicals present and no corrosive substances or gases in the air. The meters should be stacked no more than ten units high.

Warranty:

2 year warranty from the sale date. Breaking the meter seal voids the warranty. Meters that are rendered inoperable due to operator error, or due to the installation not following the instructions in this spec sheet, are not covered under warranty. Meters that are faulty will be repaired or replaced for free. Return shipping is not covered under warranty.