

# OB434-A/D

Three phase four wire DIN rail energy meter with LCD or Mechanical display

(Four DIN modules)



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# User manual



**1.1 Foreword**

Thank you for purchasing Owen Brothers Metering OB434 series DIN rail three phase four wire energy meter.

The OB434 series includes two types of energy meter: one is an analogue meter OB434-A, and the other has LCD display meter OB434-B.

**1.2 General Technical Data**

**1.2.1 Voltage (V)**

Voltage AC (Un) 3\*230/400  
 Voltage range 3\*161/279 to 300/500

**1.2.2 Current (A)**

Base (Ib) 5/10  
 Max (Imax) 80/100  
 Starting current (mA) 0.4% of Ib

**1.2.3 Power consumption current**

≤2W /10VA per phase

**1.2.4 General data**

Frequency (Hz) 50(±10%)  
 Accuracy 1.0

**1.2.5 Standards**

EN50470-3

**1.2.6 Memory back-up**

EEPROM

**1.2.7 Enclosure material**

Upper Polycarbonate  
 Lower Polycarbonate/glass fiber

**1.2.8 Temperature range (°C)**

Operating -25°C to +55°C  
 Storing -30°C to +70°C

**1.2.9 Humidity**

Operating 75%  
 Storing 95%

**1.2.10 Protection**

Protection against penetration  
 Of dust and water IP51

**1.2.11 insulating encased meter**

Of Protective class II

**1.2.12 Voltage withstand**

AC voltage withstand 2KV for 1 minute  
 Impulse voltage withstand 6KV-1.2uS waveform

**1.2.13 Current withstand**

30Imax for 0.01s

**1.2.14 Pulse output rate**

400/1000imp/kWh

**1.2.15 Data stored**

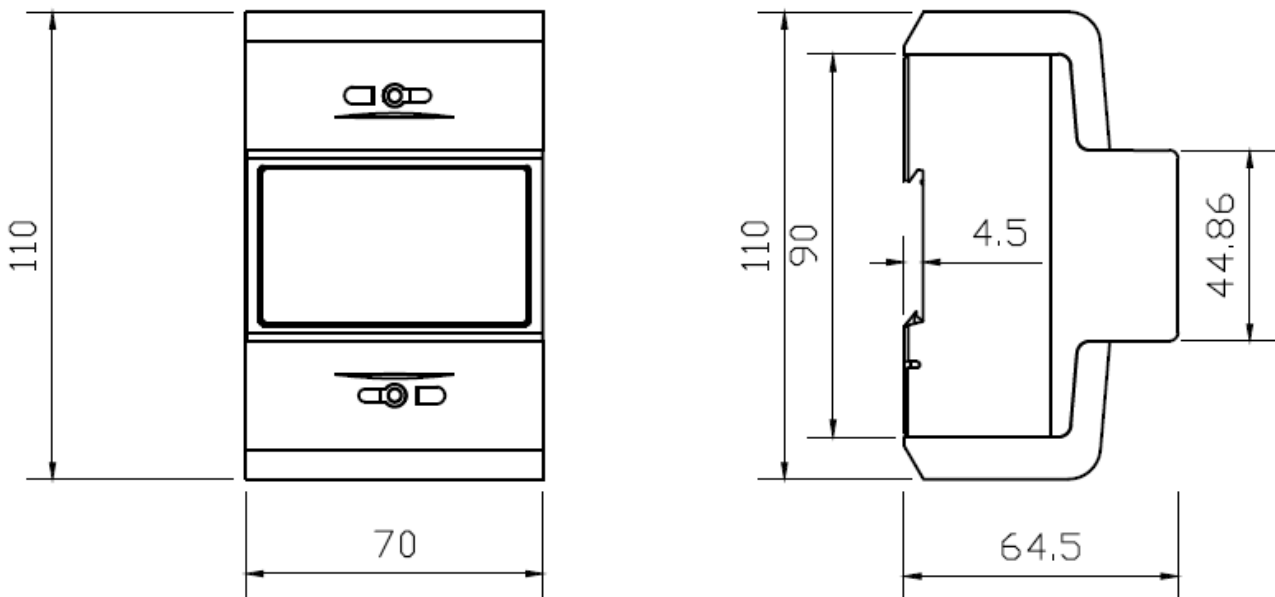
More than 20 years when power off

**1.3 Basic errors:**

|                          |             |       |
|--------------------------|-------------|-------|
| 0.05Ib                   | Cosφ = 1    | ±1.5% |
| 0.1Ib                    | Cosφ = 0.5L | ±1.5% |
|                          | Cosφ = 0.8C | ±1.5% |
| 0.1Ib - I <sub>max</sub> | Cosφ = 1    | ±1.0% |
| 0.2Ib - I <sub>max</sub> | Cosφ = 0.5L | ±1.0% |
|                          | Cosφ = 0.8C | ±1.0% |

**1.4 Dimension**


|        |              |
|--------|--------------|
| Height | 110 mm       |
| Width  | 70 mm        |
| Depth  | 64.5 mm      |
| Weight | 0.4 Kg (net) |




**Material**

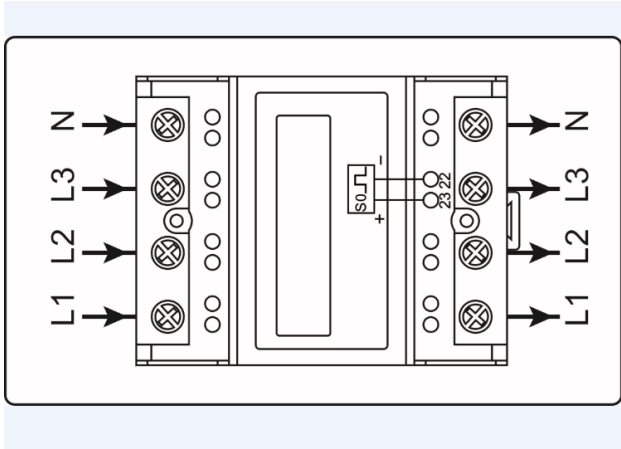
|             |   |
|-------------|---|
| Front panel | PC inflammable - flame retardant            |
| Cover       | ABS inflammable - flame retardant           |
| Base        | ABS inflammable retarding - flame retardant |

**1.5 Installation**

|  |
|--|
|  <b>CAUTION</b>   |
| <ul style="list-style-type: none"> <li>◆ Isolate supply before working on the installation.</li> <li>◆ Always use a suitable test lamp &amp; proving unit to prove that power is isolated. Such as Cyclim Test lamps.</li> </ul> |

|  |
|--|
|  <b>WARNING</b>   |
| <ul style="list-style-type: none"> <li>◆ Installation should be performed by qualified personnel familiar with related procedures, regulations and risks.</li> <li>◆ Use insulated tools to install the meter.</li> <li>◆ The case is sealed, do not brake it as this will void MID certification and warranty.</li> </ul> |

| connection diagram |                                 |    |                                 |
|--------------------|---------------------------------|----|---------------------------------|
| 23                 | active pulse output contact "+" | 22 | active pulse output contact "-" |
| L1                 | L1 phase wire                   | L2 | L2 phase wire                   |
| L3                 | L3 phase wire                   | N  | Neutral wire                    |



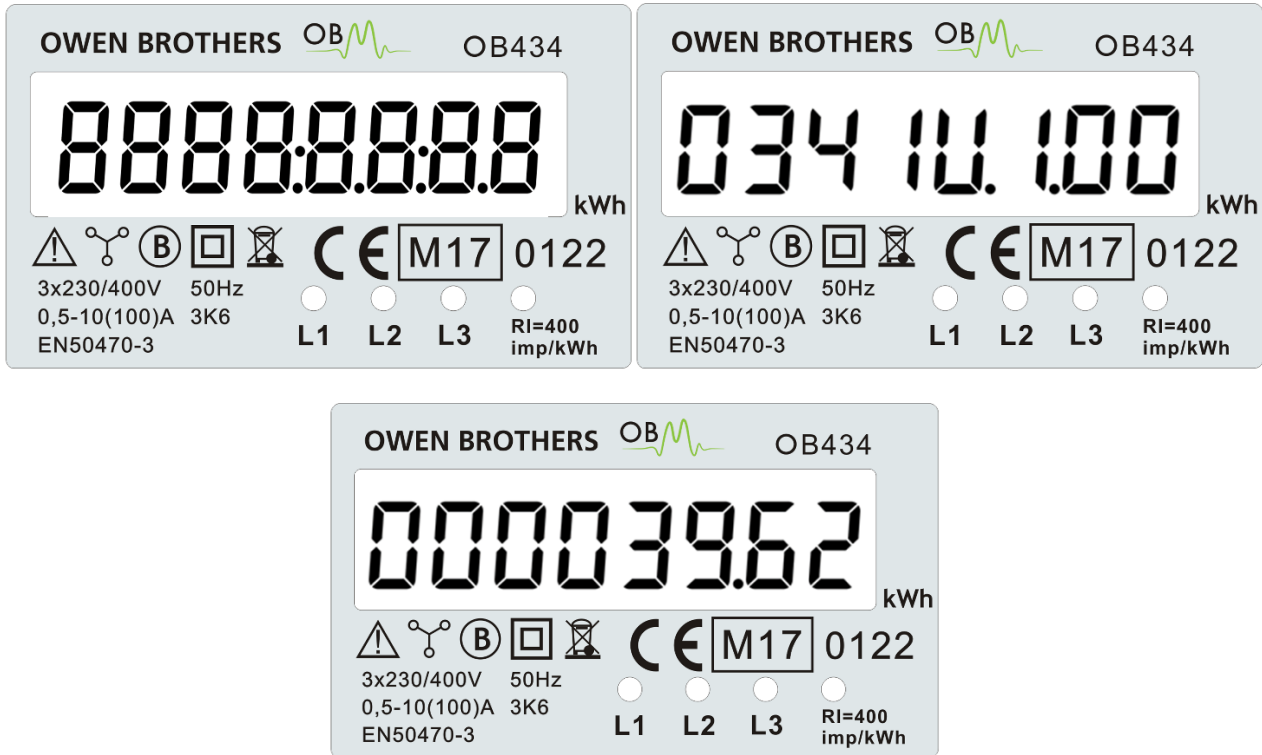
**1.6 Operating**

**Consumption indication:**

L1 indicator: will become yellow when there is current in phase A  
 L2 indicator: will become green when there is current in phase B  
 L3 indicator: will become red when there is current in phase C  
 The other indicator is for pulse output. When consumption happens; the LED will flash.  
 More LED flashes means more consumption RI=400imp/kWh

**Reading the meter:**

The display digits of OB434-A are 6+1. Five integers are marked with white colour and the one decimal is marked red.  
 The display digit of OB434-B are 6+2 as default and can be customized to 7+1 if required.



KWh consumption can't be reset to zero. The reading accuracy is 1/100 kWh.

**Display function : LCD will display the total kWh consumed.**

**Pulse output**

The OB434 Series DIN rail energy meter is equipped with a pulse output which is fully separated from the live circuits. It generates pulses in proportion to the measured energy for accuracy testing and system integration.

**1.7 Technical support/sales**

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