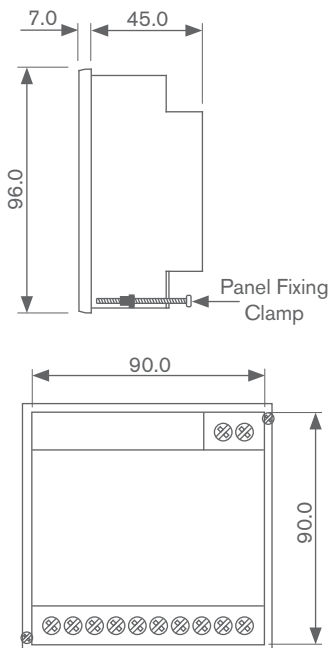# EM12B / EM33U / EM34U LCD Energy (kWh) Meter User Manual

The Eltime EM12B/EM33U/EM34U Digital Energy Meters have an 6/7/8 digit backlit LCD display and four function keys to enable setting of a CT ratio, PT ratio and password.

When powered up, the meter displays **CTPR**, **CTSC**, **PTPR** and **PTSC** values before settling permanently on the energy (Wh/kWh/MWh) reading.

To Set the Current Transformer (CT) Ratio (If Applicable):
1. Press and hold the **SET** key for 5 seconds and the display will then show **PWD 0000**.
2. Press the **ENT** key twice so the display shows the **CTPR** (CT primary value).
3. Press the **SET** key to scroll from digit to digit and the up and down keys to change the digit values. The CT primary value can be set from 0005 to 5000 Amps (the default value is 0005).
4. Press the **ENT** key once and the up key once, and then the **ENT** key again so the display shows the **CTSC** (CT secondary value).
5. Press the **SET** key to scroll from digit to digit and the up and down keys to change the digit values. The CT secondary value can be set from 0005 to 5000 Amps (the default value is 0005). Press the **ENT** key to save the changes and press the **SET** key to return to the main energy display.

To Set the Voltage Transformer (PT) Ratio (If Applicable):
1. Press and hold the **SET** key for 5 seconds and the display will then show **PWD 0000**.
2. Press **ENT** key once, the up key twice, and then the **ENT** key again so the display shows the **PTPR** (PT primary value).
3. Press the **SET** key to scroll from digit to digit and the up and down keys to change the digit values. The PT primary value can be set from 0001 to 9999 Volts (the default value is 0220).
4. Press the **ENT** key once and the up key once, and then the **ENT** key again so the display shows the **PTSC** (PT secondary value).
5. Press the **SET** key to scroll from digit to digit and the up and down keys to change the digit values. The PT secondary value can be set from 0001 to 9999 Volts (the default value is 0220). Press the **ENT** key to save the changes and press the **SET** key to return to the main energy display.
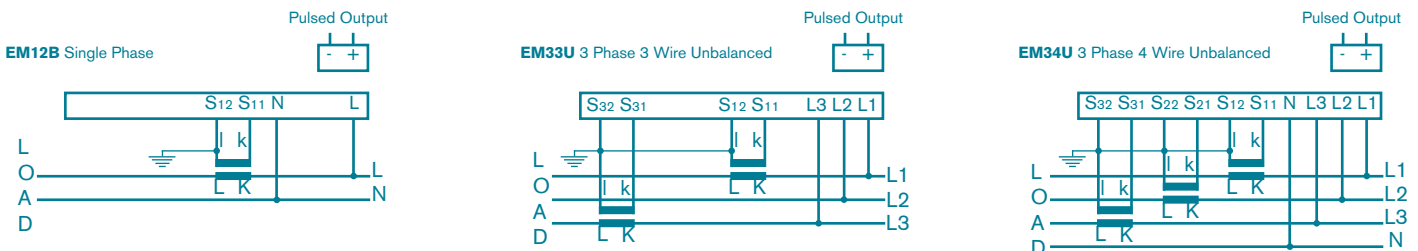
To Clear the Energy Counter Reading (EB):
1. Press and hold the **SET** key for 5 seconds and the display will then show **PWD 0000**.
2. Press **ENT** key once and the up key four times so the display shows **CLR EB** and then press the **ENT** key.
3. The display shows **SURE?**, press **ENT** to confirm and then press the **SET** key to return to the main energy display. The old energy reading is now stored in **OLD EB** and the energy counter reading is reset to zero.
4. To view the **OLD EB** value press and hold the **SET** key for 5 seconds and the display will then show **PWD 0000**. Press the **ENT** key once followed by the up key five times and the **ENT** key again to display the **OLD EB** value. Press the **ENT** key followed by the **SET** key to return to the main energy display.

To Change the Password Code (PW):
1. Press and hold the **SET** key for 5 seconds and the display will then show **PWD 0000**.
2. Press **ENT** key once and the up key six times so the display shows **PW** and then press the **ENT** key again.
3. Press the **SET** key to scroll from digit to digit and the up and down keys to change the digit values (the default password code is 0000) and then press the **ENT** key to confirm the new password code and press the **SET** key to return to the main energy display.

DIMENSIONS (in mm)

7.0   45.0

96.0

Panel Fixing Clamp

90.0

90.0

Max. Panel Thickness 7mm
Panel Cutout 92mm square

CONNECTIONS

Pulsed Output

EM12B Single Phase

L O A D

S₁₂ S₁₁ N   L

L
L
N

Pulsed Output

EM33U 3 Phase 3 Wire Unbalanced

L O A D

S₃₂ S₃₁   S₁₂ S₁₁   L3 L2 L1

L1
L2
L3

Pulsed Output

EM34U 3 Phase 4 Wire Unbalanced

L O A D

S₃₂ S₃₁ S₂₂ S₂₁ S₁₂ S₁₁ N L3 L2 L1

L1
L2
L3
N

LED INDICATION

CONDITION	LED INDICATION
All phase voltages are present	**All green 'ON' LEDs are continuously illuminated**
One or more phase voltages are not present	**The corresponding phase green 'ON' LED will not illuminate**
There is a voltage phase sequence error	**The incorrect phase's green 'ON' LEDs will flash once per second to indicate incorrect phase sequence**
The current transformer(s) are connected the wrong way round to the meter	**The corresponding phase red 'REV' LED will illuminate - the meter will still read correctly**