**1 Safety Precautions**

**DANGER**

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E in the USA or applicable local standards.
- Turn off all power to this device before working on it.
- Always use a properly rated voltage sensing device to confirm that all power is off.
- Do not exceed the device’s ratings for maximum limits.
- Do not use this device for critical control or protection applications where human or equipment safety relies on the operation of the control circuit.
- Always use grounded external CTs for current inputs.
- Do not use the device if the product or packaging is damaged. Contact Schneider Electric customer care representative for support.

Failure to follow these instructions will result in death or serious injury.

1. Turn off all power to this device before working on it.
2. Always use a properly rated voltage sensing device to confirm that all power is off.

**2 Dimensions**

Minimum clearance between mounted meters

**3 Mounting**

For additional information, refer to the product user manuals (document numbers below).

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**Model** CL 1.0 CL 1.0 CL 0.5 UL CE RCM EAC
EM6433H --- ✓ ✓ ✓ ✓ ✓ —
EM6436H ✓ ✓ ✓ ✓ ✓ ✓ —
EM6459H ✓ ✓ ✓ ✓ ✓ ✓ —
Control Power

1. **500 mA fuses**

   L1 and L2 are non-polarized. If using an AC power supply with neutral, connect neutral to the meter’s L2 terminal. Always use a fuse on L1. Fuse L2 when connecting an ungrounded neutral to the control power. If using a control power transformer, fuse both primary and secondary sides of the transformer. The fuses / circuit breakers must be rated for the installation voltage and sized for the available fault current.

Wiring

Recommended cable : RS-485 - Belden 3105A / Belden 3106A

### Potential Transformer

<table>
<thead>
<tr>
<th>IEC</th>
<th>ANSI</th>
</tr>
</thead>
</table>

#### Direct connect maximum voltage

- **Power system configuration types**
  - E: 500 mA fuses / circuit breaker *
  - E: Shorting block *
  - E: PT primary fuses and disconnect switch *
  - E: not supplied
  - E: indicates wiring for a balanced system

<table>
<thead>
<tr>
<th>Maximum voltage at terminals (UL / IEC)</th>
<th>≤ 277 V L-N / 480 V L-L (CAT III)</th>
<th>≤ 480 V L-L (CAT III)</th>
<th>≤ 480 V L-L (CAT III)</th>
<th>≤ 277 V L-N (CAT III)</th>
<th>≤ 277 V L-N / 480 V L-L (CAT III)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1, L2</td>
<td>0.82 - 3.31 mm² (18 - 12 AWG)</td>
<td>0.28 in (7 mm)</td>
<td>0.9 - 1.0 N·m (8.0 - 9.0 in·lb)</td>
<td>PH1/PH2</td>
<td></td>
</tr>
<tr>
<td>I1+, I1-, I2+, I2-, I3+, I3-</td>
<td>2.08 - 3.31 mm² (14 - 12 AWG)</td>
<td>0.24 in (6 mm)</td>
<td>0.5 - 0.6 N·m (4.4 - 5.3 in·lb)</td>
<td>PH1</td>
<td></td>
</tr>
<tr>
<td>D0-, D1+</td>
<td>0.33 - 3.31 mm² (22 - 12 AWG)</td>
<td>0.24 in (6 mm)</td>
<td>0.5 - 0.6 N·m (4.4 - 5.3 in·lb)</td>
<td>PH1</td>
<td></td>
</tr>
</tbody>
</table>

* The meter display allows configuration of 5 power system types, additional 8 can be configured through ION setup.
### Description

**A** Menu selection buttons
   - Left key: To navigate left
   - Down key: To navigate down
   - Up key: To navigate up
   - Right/OK key: To navigate right/Enter key

**B** LED indicators

**C** Alpha numeric LED display

**D** Analog load bar

**E** Current inputs

**F** RS-485

**G** Retainer clip

**H** Control power

**I** Voltage inputs

### Basic setup menus

**EM6459H**

1. Navigate to **Maintain** (Maintenance) through home page using the **Up** or **Down** key. Press **OK**.
2. Navigate to **Set** (Setup) using the **Up** or **Down** key. Press **OK**.
3. Enter the password (the default password is 0000). Press **OK**.
4. Press the **Up** or **Down** key to navigate to the required parameter.
5. Press **OK** to select the parameter.
6. Use the **Up** or **Down** key to change the settings. Press **OK**.
7. Press the **Left** key.
8. Press **OK** to save your settings.

**EM6433H and EM6436H**

1. Navigate to **Set** (Setup) using the **Up** or **Down** key. Press **OK**.
2. Enter the password (the default password is 0000). Press **OK**.
3. Press the **Up** or **Down** key to navigate to the required parameter.
4. Press **OK** to select the parameter.
5. Use the **Up** or **Down** key to change the settings. Press **OK**.
6. Press the **Left** key.
7. Press **OK** to save your settings.

**Home Page:** The factory set start-up page
7.1 Example: Changing VT parameter (3P4L to 3VT)

VT: Voltage Transformer; [no.Vt, 2.VT, 3.VT, 1.VT]
Default: no.Vt

Note: The VT Connect parameters are enabled based on the selected power system configuration.

7.2 Page lock/unlock

Page lock sets the current page as the default page. You cannot enter the Setup page or Clear page when a meter page is locked.

7.3 Diagnostics page

Diagnostic screens provide meter information, status and event data for troubleshooting.

7.4 Setup parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPE</strong></td>
<td>3P4L</td>
</tr>
<tr>
<td><strong>VT</strong></td>
<td>no.Vt</td>
</tr>
<tr>
<td><strong>VT.PR</strong></td>
<td>415</td>
</tr>
<tr>
<td><strong>VT.SE</strong></td>
<td>415</td>
</tr>
<tr>
<td><strong>CT</strong></td>
<td>A.123</td>
</tr>
<tr>
<td><strong>CT.PR</strong></td>
<td>5</td>
</tr>
<tr>
<td><strong>CT.SE</strong></td>
<td>5</td>
</tr>
<tr>
<td><strong>FREQ</strong></td>
<td>50</td>
</tr>
<tr>
<td><strong>A.SUP</strong></td>
<td>005</td>
</tr>
<tr>
<td><strong>LABL</strong></td>
<td>123</td>
</tr>
<tr>
<td><strong>FS%</strong></td>
<td>100</td>
</tr>
<tr>
<td><strong>P.SEL</strong></td>
<td>W</td>
</tr>
<tr>
<td><strong>LED</strong></td>
<td>Off</td>
</tr>
<tr>
<td><strong>L.PLS</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>COMM</strong></td>
<td>ON</td>
</tr>
<tr>
<td><strong>ID</strong></td>
<td>0000</td>
</tr>
<tr>
<td><strong>BAUD</strong></td>
<td>19200</td>
</tr>
<tr>
<td><strong>PRTY</strong></td>
<td>Even</td>
</tr>
<tr>
<td><strong>PASS</strong></td>
<td>0000</td>
</tr>
</tbody>
</table>

- **Type**: Power System Configurations: [1P.Ln, 1P.LL, 1P.3L, 3P.3L, 3P.4L] Default: 3P.4L
  Note: Other power system configurations can be set through ION setup.

- **VT**: Voltage Transformer: [no.Vt, 2.VT, 3.VT, 1.VT]
  Default: no.Vt
  Note: The VT Connect parameters are enabled based on the selected power system configuration.

- **VT.PR**: Primary Voltage (V L-L); [0100 V to 999000 V]
  Default: 415
  Note: VT.PR will not be enabled if VT Connect is no.Vt.

- **VT.SE**: Secondary Voltage (V L-L); [100, 110, 115, 120, 415]
  Default: 415
  Note: VT.SE will not be enabled if VT Connect is no.Vt.

- **CT**: Current Transformer; [A.1, A.2, A.3, A.12, A.23, A.31, A.123]
  Default: A.123
  Note: The CT terminal parameters are enabled based on the selected power system and VT connect configuration.

- **CT.PR**: CT Primary; [1 A to 32760 A]
  Default: 5
  Note: CT Primary can be set to 32767 A through ION setup.

- **CT.SE**: CT Secondary; [1 A, 5 A]
  Default: 5

- **FREQ**: System Frequency; [50 Hz, 60 Hz]
  Default: 50

- **A.SUP**: A.Suppression (Minimum current at which meter starts functioning); [1 to 99 mA]
  Default: 005

- **LABL**: Phase labeling; [123, Abc, rst, pqr, ryb]
  Default: 123

- **FS%**: Full scale value (Rescaling analog load bar with respect to CT loading); [1 to 100]
  Default: 100

- **P.SEL**: Parameter selection; [VA, W, VAR]
  Default: W

- **LED**: [Off, Intg]
  Default: Off

- **L.PLS**: Pulses per energy; [1 to 9999999]
  Default: 1

- **COMM**: Communication; [ON, OFF, RTFT]
  Default: ON
  ON/OFF: To enable/disable communications port.
  RTFT: For configuring legacy communication data models.
  Note: Id, baud rate, and parity cannot be viewed if comm is off.

- **ID**: Unit Id; [1 to 247]
  Default: 1

- **BAUD**: BPS (Bits per second); [4800, 9600, 19200, 38400]
  Default: 19200

- **PRTY**: Parity; [Even, Odd, None]
  Default: Even

- **PASS**: Password; Configurable from 0000 to 9999
  Default: 0000
  Record your password in a secure location.
Parameter navigation

**EM6459H**

**EM6436H**

**EM6433H**

* Favourite page can be configured through communication.
### Specifications

**Control power**
- AC: 48-277 V L-N ± 10%
- Frequency: 50 / 60 Hz ± 5 Hz
- AC burden:
  - ≤ 4 VA at 240 V L-N, 50 Hz
- DC: 48-277 V ± 10%
- DC burden:
  - ≤ 2 W at 240 V DC
- Installation category III

**Voltage inputs**
- Measured voltage: 20 to 277 V L-N / 35 to 480 V L-L
- Frequency: 50 / 60 Hz ± 2 Hz
- Permanent overload: 750 V L-L continuous
- Impedance: 5 MΩ
- Burden:
  - ≤ 0.2 VA @ 240 V L-N, 50 Hz
- Measurement category III, 480 V L-L

**Current inputs**
- 1 A or 5 A nominal
- Measured current:
  - Current range (5 A nominal): 50 mA to 6 A
  - Current range (1 A nominal): 10 mA to 1.2 A
- Withstand: 10 A continuous
- Impedance: 0.3 mΩ
- Burden:
  - ≤ 0.1 VA max @ 5 A, 50 Hz

**Environment**
- Operating temperature: -10 to 60 °C (14 to 140 °F)
- Humidity: 5% to 95%
- RH non-condensing at 37°C (98.6°F)
- Pollution degree 2
- Altitude: ≤ 2000 meters (6562 ft)
- Front IP51 (IP54 w/ gasket), Rear IP30 - as per IEC 60529
- Not suitable for wet locations
- For indoor use only

### Safety Instructions

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material. A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.
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• This product must be installed, connected and used in compliance with prevailing standards and/or installation regulations.
• If this product is used in a manner not specified by the manufacturer, the protection provided by the product may be impaired.
• The safety of any system incorporating this product is the responsibility of the assembler/installer of the system.

As standards, specifications and designs change from time to time, always ask for confirmation of the information given in this publication.