Hazard of Electric Shock, Explosion, or Arc Flash
Follow safe electrical work practices. Wear NPIR 70C in the USA or applicable local codes.
The equipment must only be installed and serviced by qualified electrical personnel.
Read, understand, and follow the instructions below before installing this product.
• Turn off all power supplying equipment before working on or inside the equipment.
• This product is designed to prevent a properly rated voltage sensing device to confirm power is off.
• Do not depend on this product for voltage indication.
Only install this product on insulated conductors.
• Install device in an appropriate location and the enclosure according to local regulations.
BSS sensitive equipment. Ground powered and discharge any static charge before handling this device.
Any covers that are displaced during the installation must be reinstalled
• Do not sit on or stand on the lead wire of a Variable Frequency Drive (VFD), aka Variable
Speed Drive (VSD) or Adjustable Frequency Drive (AFD).
Failure to follow these instructions will result in death or serious injury.
For use in a Pollution Degree 2 or better environment only. A Pollution Degree 2 environment must
control conductive pollution and the possibility of condensation or high humidity. Consider the
enclosure, the correct use of ventilation, thermal properties of the equipment, and the relationship
with the environment, installation category - CAT 5 is CAT IV.
Provide a disconnect device to disconnect the meter from the supply source. Place this device
in close proximity to the equipment and within easy reach of the operator, and mark it as the
disconnecting device. The disconnecting device shall meet the requirements of IEC 60439-1 and
IEC 60664-1 and shall be compatible with the equipment in the US and Canada. Disconnecting fuse
holders can be used. Provide overcurrent protection and disconnecting device for supply conductors
with approved current limiting devices suitable for protecting the wiring. If the equipment is used in a
manner not specified by the manufacturer, the protection provided by the device may be impaired.
FCC PART 15 INFORMATION
NOTE: This equipment has been tested by the manufacturer and found to comply with the limits for
a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide
reasonable protection against harmful interference when the equipment is operated in a residential
environment. This equipment generates, uses and can radiate radio frequency energy and, if
not installed and used in accordance with the instruction manual, may cause harmful interference to
radio communications. Operation of this equipment in a residential area may cause harmful interference
in which case the user will be required to correct the interference at his own expense. Modifications to
the product without the express authorization of the manufacturer will void the warranty.
Installation
The meter can be mounted in two ways: on standard 35 mm DIN rail or screw-mounted
to the back of the enclosure.
A. DIN Rail Mounting
1. Disconnect and lock out power. Use a properly rated voltage sensing device to
confirm power is off.
2. Attach mounting clips to the underside of the housing by sliding them into the slots from the
inside. The stopping pegs must face the outside of the housing.
3. Snap the clips onto the DIN rail. See diagram of the underside of the meter.
4. To prevent vertical shifting across the DIN rail, use two end stop clips.
B. Screw Mounting
1. Disconnect and lock out power. Use a properly rated voltage sensing device to
confirm power is off.
2. Attach the mounting clips to the underside of the housing by sliding them into the slots from the
outside. The stopping pegs must face the outside of the housing. The screw hole must be
exposed on the outside of the housing.
3. Use three #8 screws (not supplied) to mount the meter to the back of the enclosure. See diagram of the
underside of the meter.

Additional Resources
Go to www.schneider-electric.com for the Installation Guide and additional power meter information.

Specifications
- **Measurables**: IEC 62053-22, ANSI C12.20, 0.5%
- **Input Measurables**: Real Power and Energy
- **Input Voltage Characteristics**: Input Maximum: 600Vac (347VAC)
- **Frequency Range**: 50/60Hz
- **Input Current Measurement**: Input Current Measurement: 0 to 3.333V/AC or 0 to 1.14V/DC (10Ω range) for
  a properly rated voltage sensing device to confirm power is off.
- **Power Processing**: The power processing unit is isolated from the metering.
- **Protection**: Protection device containing a voltage disconnect switch with a
  fuse or disconnect circuit breaker. The protection device must be
  a fusible switch or a circuit breaker.
- **Connections**: Connections are rated for 150VAC @ 60°C.
- **Bus Signal**: BUS Signal: modbus and BACnet.
- **Compliance**: CE, UL 508 (open type device, residual current devices)/CSA 22.2 No. 14-05 (residential and light industrial)
- **Control Power**: Control Power: 4.2VDC/5mA
- **Power Processing**: Power processing unit is isolated from the metering.
- **Dimensions**: Dimensions: EM35xx: 4.3" x 2.6" (109 x 66 mm) (DIN mount configuration);
  EM3560: 4.3" x 2.6" (109 x 66 mm) (Screw mount configuration).
- **Environmental Conditions**: Operating Temperature: -30° to 70°C,
  Humidity: 95% RH (non-condensing).
- **Enclosure**: IP Degree of Protection (IEC 60529): IP40 Front Display; IP20 Meter
- **Potential Transformer**: Potential Transformer: 120V/180VAC input, 250VAC output.
- **Wiring**: To avoid distortion, use parallel wires for control power and voltage inputs.

Supported System Types

<table>
<thead>
<tr>
<th>CTs</th>
<th>Voltage Connections</th>
<th>System Type</th>
<th>Phase Loss Measurement</th>
<th>Wiring Method</th>
<th>Number of Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L-N</td>
<td>Single-Phase</td>
<td>L-N</td>
<td>Screw Mount</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>L-N</td>
<td>Single-Phase</td>
<td>L-N</td>
<td>Screw Mount</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>L-N</td>
<td>Three-Phase</td>
<td>L-N</td>
<td>Screw Mount</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>L-N</td>
<td>Three-Phase</td>
<td>L-N</td>
<td>Screw Mount</td>
<td>4</td>
</tr>
</tbody>
</table>

Dimensions
- **EM35xx**: 4.3" x 2.6" (109 x 66 mm) (DIN mount configuration); 4.3" x 2.6" (109 x 66 mm) (Screw mount configuration).
- **EM3560**: 4.3" x 2.6" (109 x 66 mm) (DIN mount configuration); 4.3" x 2.6" (109 x 66 mm) (Screw mount configuration).
- **Product Identification**: EM35xx: 02 = Unidirectional metering, pulse and alarm outputs only.
  50 = Unidirectional metering, Modbus full data set, pulse and alarm outputs.
  55 = Bidirectional metering, Modbus full data set, data logging, pulse and alarm outputs
  60 = Unidirectional metering, BACnet full data set, data logging, and two pulse inputs

To avoid distortion, use parallel wires for control power and voltage inputs.
The following symbols are used in the wiring diagrams on the following pages.
3.5 - 4.4 in·lb (0.4-0.5 N·m).

Diagram 2:  1-Phase Line-to-Line

Diagram 3:  1-Phase Direct Voltage

Diagram 4:  3-Phase 3-Wire 3 CT

Diagram 5:  3-Phase 4-Wire Wye

Diagram 6:  3-Phase 4-Wire Wye

Initial Setup Instructions

These instructions assume the meter is set to factory defaults. If it has been previously configured, check all optional values. For more options and the full setup instructions, see the full installation guide for the specific model.

A. To Navigate to the Setup screen:

1. Press \( \downarrow \) repeatedly until SETUP screen appears.
2. Press \( \uparrow \) to go to the ID1 screen.
3. Press \( \uparrow \) to move through the digits. Use the \( \downarrow \) or \( \uparrow \) buttons to enter the parameter. Do not press \( \downarrow \) to accept the value.
4. Press \( \downarrow \) to move to the first Setup screen (ID 0 on EM3502, 5. ID on EM3560, 5.2 on EM3560).
5. Use \( \uparrow \) or \( \downarrow \) to select the parameter screen you want to set.
6. After you set the parameters you want, \( \uparrow \) or \( \downarrow \) to select the next screen or exit the Setup screen (select SETUP).

B. To Enter Modbus communication parameters (EM355x models only):

1. Navigate to the 5. CT (set communications) Setup screen (see section A).
2. Press \( \uparrow \) to go to the ID1 screen and through the address digits. Use \( \uparrow \) or \( \downarrow \) to select the Modbus address (default is \( \circ \)).
3. Press \( \downarrow \) to accept the value and go to the CT2 screen. Use \( \uparrow \) or \( \downarrow \) to select the baud rate (default is \( \circ \)).
4. Press \( \downarrow \) to go to the CT4 screen. Use \( \uparrow \) or \( \downarrow \) to select the parity (default is \( \circ \)).
5. Press \( \downarrow \) to go back to the CT4 screen.

C. To Enter BACnet communication parameters (EM3560 models only):

1. Navigate to the 5. CT (set BACnet) Setup screen (see section A).
2. Press \( \uparrow \) to go to the ID1 screen and through the address digits. Use \( \uparrow \) or \( \downarrow \) to select the BACnet MAC address (default is \( \circ \)).
3. Press \( \downarrow \) to accept the value and go to the CT2 screen. Use \( \uparrow \) or \( \downarrow \) to select the baud rate (default is \( \circ \)).
4. Press \( \downarrow \) to go to the CT4 screen and through the upper four digits of the Device Instance. Use \( \uparrow \) or \( \downarrow \) to select the ID digits (default is a pseudo-random number).
5. Press \( \downarrow \) to accept the value and go to the CT4 screen. Use \( \uparrow \) or \( \downarrow \) to select the baud rate (default is \( \circ \)).
6. Press \( \downarrow \) to go to the CT2 screen and through the upper four digits of the Device Instance. Use \( \uparrow \) or \( \downarrow \) to select the ID digits (default is a pseudo-random number).

D. To Enter the CT Current Transducer input voltage and input current ranges:

1. Navigate to the 5. CT (set CT range) Setup screen (see section A).
2. Press \( \downarrow \) to go to the ID1 screen.
3. Press \( \downarrow \) to go to the CT2 screen and through the digits. Use \( \uparrow \) or \( \downarrow \) to select the voltage mode Current Transducer input voltage (default is \( \circ \)).
4. Press \( \downarrow \) to go to the CT4 screen and through the digits. Use \( \uparrow \) or \( \downarrow \) to select the CT size in amps (default is \( \circ \)).
5. Press \( \downarrow \) to accept the value and go back to the \( \circ \) screen.
6. After you set the parameters you want, \( \uparrow \) or \( \downarrow \) to select the next screen or exit the Setup screen (select SETUP).

Solid State Pulse Output

(EM3502 and EM355x Only)

The EM3502 and EM355x have one normally open (N.O.) K.Y.F outlet and one normally closed (N.C.) outlet. One is dedicated to energy (WH), and the other to Alarm. The EM3502 also provides an additional (N.O.) reactive energy (VARH) contact. See the Setup section for configuration information.

RS-485 Communications (EM355x and EM3560 Only)

Daisy-chaining Devices to the Power Meter

The RS-485 slave port allows the power meter to be connected in a daisy chain with up to 96 devices, with no PT. Use System Type 4 (L + T) (set BACnet) Setup screen (see section A).

Connect Shield to Earth Ground somewhere on the RS-485 bus.

The RS-485 transceivers are ¼ unit load or less.

The EM3502 and EM355x have one normally open (N.O.) KY Form A output and one normally closed (N.C.) output. One is dedicated to energy (WH), and the other to Alarm. The EM3502 also provides an additional (N.O.) reactive energy (VARH) contact. See the Setup section for configuration information.

China RoHS Compliance Information (EFUP Table)

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(00) + 250 544 3210

Contact your local Schneider Electric sales representative for assistance or go to:

www.schneider-electric.com