



To install a PM5350 meter into a multi-circuit application, refer to the PM5350 Multi-Circuit Installation Guide, part number 63230-401-205.



ADDITIONAL RESOURCES

For information on basic meter setup, refer to the PM5350 User Guide, part number 63230-401-203. You can download the user guides and other documentation from our website at www.schneider-electric.com. Type PM5350 in the search field.

SAFETY PRECAUTIONS

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. In the USA, see NFPA 70E.
- Only qualified electrical workers should install this equipment. Such work should be performed only after reading this entire set of instructions.
- NEVER work alone.
- Do not use this device for critical control or protection applications where human or equipment safety relies on the operation of the control circuit.
- Before performing visual inspections, tests, or maintenance on this equipment, disconnect all sources of electric power. Assume that all circuits are live until they have been completely de-energized, tested, and tagged. Pay particular attention to the design of the power system. Consider all sources of power, including the possibility of backfeeding.
- Turn off all power supplying the power meter and the equipment in which it is installed before working on it.
- Always use a properly rated voltage sensing device to confirm that all power is off.
- Before closing all covers and doors, carefully inspect the work area for tools and objects that may have been left inside the equipment.
- Use caution while removing or installing panels so that they do not extend into the energized bus; avoid handling the panels, which could cause personal injury.
- The successful operation of this equipment depends upon proper handling, installation, and operation. Neglecting fundamental installation requirements may lead to personal injury as well as damage to electrical equipment or other property.
- NEVER bypass external fusing.
- NEVER short the secondary of a PT or VT.
- NEVER open circuit a CT; use the shorting block to short circuit the leads of the CT before removing the connection from the power meter.
- Before performing Dielectric (Hi-Pot) or Megger testing on any equipment in which the power meter is installed, disconnect all input and output wires to the power meter. High voltage testing may damage electronic components contained in the power meter.
- The power meter should be installed in a suitable electrical enclosure.
- Always use grounded external CTs for current inputs.

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

INSTALLATION

Box Contents

- One (1) power meter
- One (1) set of installation guides
- One (1) RS-485 terminator (MCT2W)
- One (1) panel gasket
- One (1) certificate of calibration
- One (1) meter mounting template
- Three (3) screws (spare screws for CTs)

Figure 1: PM5350 Parts of the PM5350 (rear panel door removed)

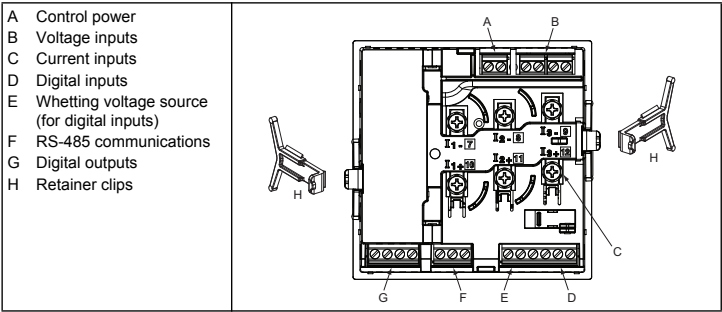
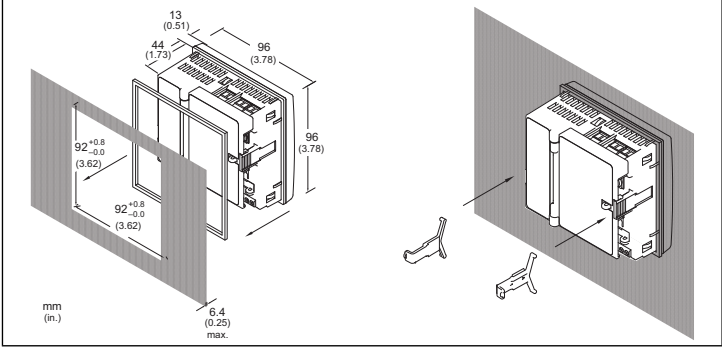


Figure 2: PM5350 Dimensions and Mounting



Mounting

1. Remove retainer clips from the power meter and set aside.
2. Insert the power meter through the panel cut-out (Figure 2).
NOTE: Remove adhesive backing from the panel gasket before inserting the power meter.
3. Attach the retainer clips to the power meter (Figure 2).

Installation Considerations

- When choosing a mounting location, consider the following points:
- Allow for easy access to all parts of the power meter. Allow extra space for wiring, fuse disconnects, shorting blocks, accessories, or other components. Route the wires so they do not cover the back of the unit or cooling vents on the power meter.
 - Install the power meter on a flat surface of a protective enclosure (for example, in the USA, use a Type 1 rated enclosure or better).

WIRING

See the label inside the rear panel door for wiring connections. Terminal wiring should have a minimum temperature rating of 80°C.

Table 1: Wiring Specifications

Connector	Wire Size	Wire Strip Length	Torque
Control Power ¹ and Voltage Inputs ¹	14 AWG 1.91 mm ²	0.28 in. 7mm	4.4 - 5.3 in-lbf 0.5 - 0.6 N•m
Current Inputs ²	14AWG 1.91 mm ²	—	4.4 - 5.3 in-lbf 0.5 - 0.6 N•m
RS-485 Communications, Digital Outputs ¹ , and Digital Inputs	16 AWG 1.34 mm ²	0.24 in. 6 mm	4.4 - 5.3 in-lbf 0.5 - 0.6 N•m
Measurement Category			
Voltage Inputs	CAT III, 277 V L-N / V L-L nominal CAT II, 400 V L-N / 690 V L-L nominal CAT III, 300 V L-L		
Control Power, up to 265Vac or 300Vdc	CAT III		

¹Wire ferrules recommended. Wire ferrule determines stripping length.
²Current inputs (CTs) must have spade or ring terminal connections.

Supported System Types

Figure 3: Single-Phase Power System Configurations

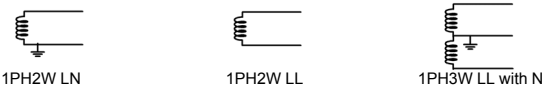


Table 2: Single-Phase

Power System Configuration	Number of Wires	CTs		Voltage Connections		See Figure
		Qty.	Meter Terminal	Qty.	Meter Terminal	
Single-Phase Wiring						
1PH2W LN	2	1 ¹	I1	2	V1, Vn	5
1PH2W LL	2	1 ¹	I1	2	V1, V2	6
1PH3W LL with N	3	2	I1, I2	3	V1, V2, Vn	7

¹For 1 and 2 CT systems, you must configure the meter for the phases on which the CT is installed. Please see the Power Meter PM5350 User Guide (63230-401-203) for more information.

Figure 4: Three-Phase Power System Configurations

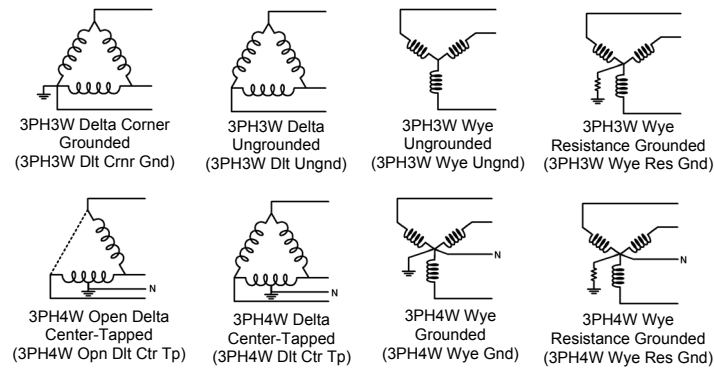


Table 3: Three-Phase (Direct Connect)

Power System Configuration	Number of Wires	CTs		Voltage Connections		See Figure
		Qty.	Meter Terminal	Qty.	Meter Terminal	
Three-Phase Wiring						
3PH3W Dlt Cmr Gnd 3PH3WDlt Ungnd 3PH3W Wye Ungnd 3PH3W Wye Res Gnd	3	2	I1, I3	3	V1, V2, V3	8
		3	I1, I2, I3	3	V1, V2, V3	9
3PH3W Dlt Cmr Gnd 3PH3WDlt Ungnd 3PH3W Wye Ungnd 3PH3W Wye Res Gnd	3	1 ¹	I1	3	V1, V2, V3	18
3PH4W Opn Dlt Ctr Tp 3PH4W Dlt Ctr Tp 3PH4W Wye Gnd 3PH4W Wye Res Gnd	4	3	I1, I2, I3	4	V1, V2, V3, Vn	10
3PH4W Opn Dlt Ctr Tp 3PH4W Dlt Ctr Tp 3PH4W Wye Gnd 3PH4W Wye Res Gnd	4	3	I1, I2, I3	4	V1, V2, V3, Vn	10
3PH4W Opn Dlt Ctr Tp 3PH4W Dlt Ctr Tp 3PH4W Wye Gnd 3PH4W Wye Res Gnd	4	1 ¹	I1	4	V1, V2, V3, Vn	19

¹For 1 and 2 CT systems, you must configure the meter for the phases on which the CT is installed. Please see the Power Meter PM5350 User Guide (63230-401-203) for more information.

Table 4: Three-Phase (with VTs)

Power System Configuration	Number of Wires	CTs		Voltage Connections		See Figure
		Qty.	Meter Terminal	Qty.	Meter Terminal	
Three-Phase Wiring						
3PH3W Dlt Cmr Gnd 3PH3WDlt Ungnd 3PH3W Wye Ungnd 3PH3W Wye Res Gnd	3	2	I1, I3	2	V1, V3 (V2 to Ground)	11
		3	I1, I2, I3	2	V1, V3 (V2 to Ground)	12
3PH3W Dlt Cmr Gnd 3PH3WDlt Ungnd 3PH3W Wye Ungnd 3PH3W Wye Res Gnd	3	1 ¹	I1	2	V1, V3 (V2 to Ground)	17
3PH4W Opn Dlt Ctr Tp 3PH4W Dlt Ctr Tp 3PH4W Wye Gnd 3PH4W Wye Res Gnd	4	3	I1, I2, I3	3	V1, V2, V3 (Vn to Ground)	13
		3	I1, I2, I3	2	V1, V3 (Vn to Ground)	14
		2	I1, I2, I3	3	V1, V2, V3 (Vn to Ground)	15
3PH4W Opn Dlt Ctr Tp 3PH4W Dlt Ctr Tp 3PH4W Wye Gnd 3PH4W Wye Res Gnd	4	1 ¹	I1	3	V1, V2, V3 (Vn to Ground)	16

¹For 1 and 2 CT systems, you must configure the meter for the phases on which the CT is installed. Please see the Power Meter PM5350 User Guide (63230-401-203) for more information.

Overcurrent Protection

Locate overcurrent protection as close to the device as possible. For European Community (CE) compliance, the disconnect circuit breaker must be placed within reach of the power meter and labeled: Disconnect Circuit Breaker for Power Meter.

NOTE: The disconnect circuit breaker or fusing must be rated for the available short circuit current at the connection points.

Table 5: Fuse Recommendation

Control Power Source	Source Voltage (V _s)	Fuse	Fuse Amperage
CPT	V _s ≤ 125 Vac	FNM or MDL	250 mA
CPT	125 < V _s ≤ 240 Vac	FNQ or FNQ-R	250 mA
CPT	240 < V _s ≤ 265 Vac	FNQ or FNQ-R	250 mA
Line Voltage	V _s ≤ 240 Vac	FNQ-R	250 mA
Line Voltage	V _s > 240 Vac	FNQ-R	250 mA
DC	V _s ≤ 300 Vdc	LP-CC	500 mA

- For selecting fuses and circuit breakers other than those listed above, use the following criteria:
- Select overcurrent protection rated as listed above.
- Select current interrupt capacity based on the installation category and fault current capability.
- Select overcurrent protection with a time delay.
- The voltage rating should be based on the input voltage applied.
- If a 250 mA fuse is not available with the required fault current capability, use a fuse rated at a maximum of 500 mA.
- Fuse protection can be substituted with molded-case circuit breaker 0.5A/4P.

Wiring Diagrams

Table 6: Wiring Diagram Symbols

Symbol	Description
	Potential or voltage transformer
	Current Transformer
	Fuse
	Voltage disconnect switch
	Shorting block

Figure 5: 1-Phase Line-to-Neutral 2-Wire System 1 CT

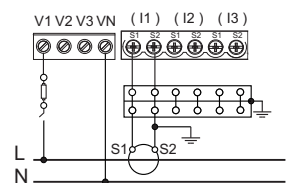


Figure 6: 1-Phase Line-to-Line 2-Wire System 1 CT

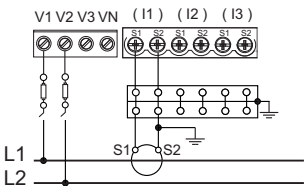


Figure 7: 1-Phase Direct Voltage Connection 2 CT

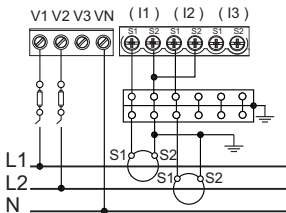


Figure 8: 3-Phase 3-Wire 2 CT no VT

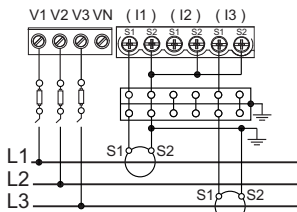


Figure 9: 3-Phase 3-Wire 3 CT no VT

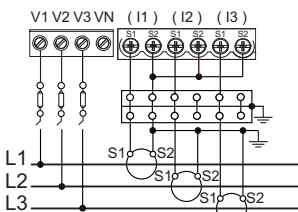


Figure 10: 3-Phase 4-Wire Wye Direct Voltage Input Connection 3 CT

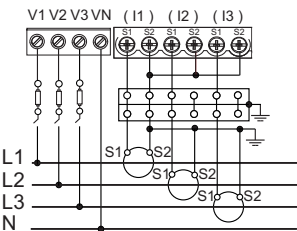
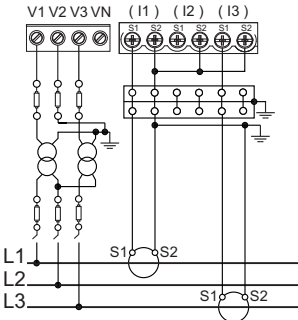


Figure 11: 3-Phase 3-Wire Delta Connection 2 CT 2 VT



• Use with 120/240V systems.

• Use with 480Y/277V and 208Y/120V systems.

Figure 12: 3-Phase 3-Wire Delta Connection 3CT 2VT

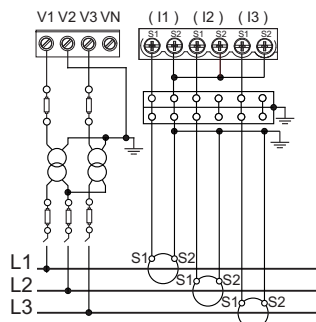


Figure 13: 3-Phase 4-Wire Wye Connection 3CT 3VT

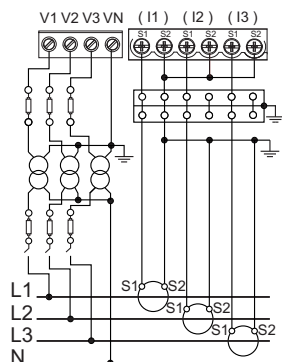


Figure 16: 3-Phase 4-Wire Wye 3VT 1 CT (balanced)

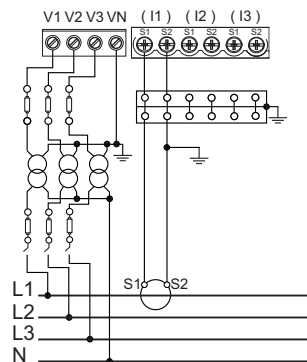


Figure 17: 3-Phase 3-Wire 1 CT 2 VT (balanced)

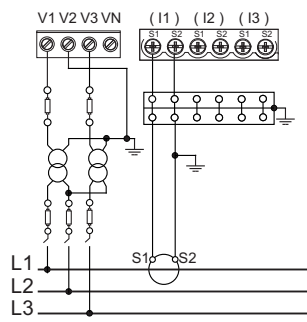


Figure 14: 3-Phase 4-Wire Wye 3CT 2VT (balanced)

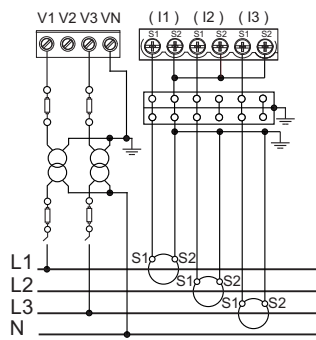


Figure 15: 3-Phase 4-Wire Wye 3 VT 2 CT (for balanced 3-wire loads)

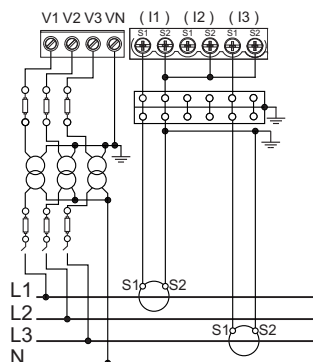


Figure 18: 3-Phase 3-Wire Direct Voltage Input Connection 1 CT (balanced)

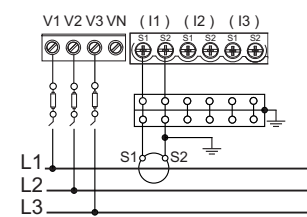


Figure 19: 3-Phase 4-Wire Direct Voltage Input Connection 1 CT (balanced)

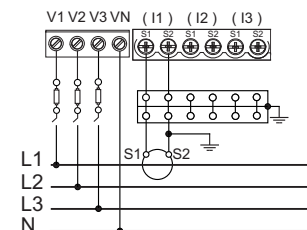


Figure 20: Direct Connect Control Power (Phase to Phase)

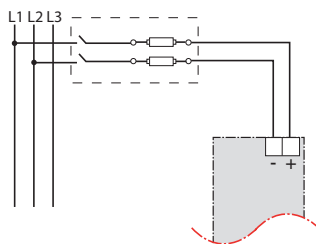
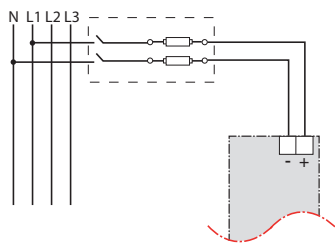


Figure 21: Direct Connect Control Power (Phase to Neutral)



- Phase to Phase only when voltage 85 Vac < V < 265 Vac
- See Table 5.

- Phase to Neutral only when voltage 85 Vac < V < 265 Vac
- See Table 5.

Figure 22: Direct Connect Control Power (DC Control Power)

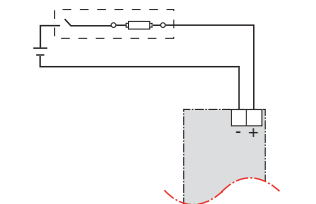
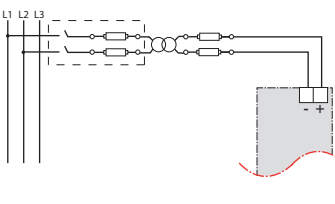


Figure 23: Control Power Transformer (CPT) Connection



- DC Control Power 100 Vdc < V < 300 Vdc
- See Table 5.

- Control Power Transformer 120 or 240 Vac Secondary 50 VA max.
- See Table 5.

INPUT/OUTPUT

⚠ WARNING

UNINTENDED EQUIPMENT OPERATION

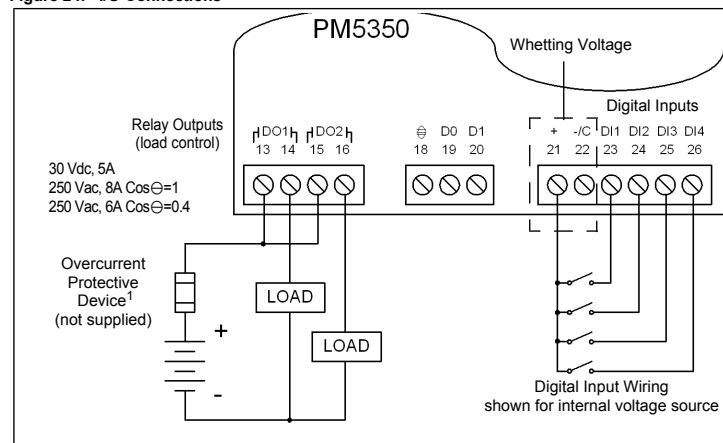
- Do not use this device for critical control or protection applications where human or equipment safety relies on the control operation of the control action.
- Do not rely solely on device data to determine if your power system is functioning correctly or meeting all applicable standards and compliances.
- Do not use device control for time-critical functions because delays can occur between the time control action is initiated and when the action is applied.
- Do not use digital inputs for voltage sensing applications over 36 Vdc.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

The PM5350 has four (4) digital inputs and two (2) digital mechanical relay outputs. The digital inputs have two (2) operating Modes: Normal and Demand Sync.

The digital outputs have two (2) operating modes: External Control (default) and Alarm mode. When configured in Alarm mode, the digital output can be controlled by the meter in response to an alarm condition.

Figure 24: I/O Connections



¹The overcurrent protective device must be rated for the short-circuit current at the connection point.

NOTE: Do not use the whetting voltage power supply as a power source for other devices.

HAZARD OF EXCESSIVE VOLTAGE

- Do not perform a Dielectric (Hi-Pot) or Megger test on the power meter. High voltage testing of the power meter may damage the unit.
- Before performing Hi-Pot or Megger testing on any equipment in which the power meter is installed, disconnect all input and output wires to the power meter.

Failure to follow these instructions can result in equipment damage.

Baud Rate	Maximum Communication Distances 1 to 32 Devices	
	Feet	Meters
9600	8,000	2,438
19200	6,000	1,829
38400	2,500	762