



PTS90X2X Series Installation Guide

120V/208V/240V AC Power Distribution Panels

Single SPD (L-G) per Leg or Dual SPD (L-N) per Leg, (N-PE)

30A, 40A Main Breaker - Non SuSE

PTS90X20 - 120VAC Maximum 6 UL489 Breaker Positions with Single SPD

PTS90X20 - 120VAC Maximum 5 UL489 Breaker Positions with Dual SPD

PTS90X22 - 120VAC Maximum 6 UL489 Breaker Positions with Single SPD

PTS90X22 - 120VAC Maximum 5 UL489 Breaker Positions with Dual SPD

PTS90X22 - 120VAC Includes External Rotary Disconnect Switch

PTS90X24 - 120/208/240VAC Maximum 4 UL489 Breaker Positions

PTS90X28 - 120/208/240VAC Maximum 8 UL489 Breaker Positions with Dual SPD

PTS90X28 - 120/208/240VAC Includes External Rotary Disconnect Switch

60A Main Breaker, SuSE

Suitable for Use as Service Equipment

PTS90X21 - 120VAC Maximum 6 UL489 Breaker Positions with Single SPD

PTS90X21 - 120VAC Maximum 5 UL489 Breaker Positions with Dual SPD

PTS90X23 - 120VAC Maximum 6 UL489 Breaker Positions with Single SPD

PTS90X23 - 120VAC Maximum 5 UL489 Breaker Positions with Dual SPD

PTS90X23 - 120VAC Maximum 9 UL489 Breaker Positions with Dual SPD

PTS90X23 - 120VAC Includes External Rotary Disconnect Switch

PTS90X24 - 120/240VAC Maximum 4 UL489 Breaker Positions

PTS90X28 - 120/208/240VAC Maximum 8 UL489 Breaker Positions with Dual SPD

PTS90X28 - 120/240VAC Includes External Rotary Disconnect Switch



PTS90X2X Series Small Cell AC Power Distribution Load Centers Installation Guide

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1.0 Model Overview

The PTS90X2X Series of Small Cell AC Power Distribution Load Centers provides a custom factory fully assembled load center for Small Cell and CRAN deployments.

The PTS90X20 PTS90X22
Series products are:
Conforms to UL Standard 67
Certified to: CSA Standard C22.2 #29

The PTS90X21 PTS90X23 PTS90X24 PTS90X28
Series products are:
Suitable for Use as Service Equipment.
Conforms to UL Standard 67
Certified to: CSA Standard C22.2 #29



PTS90X2X – Small Cell AC Power Distribution Load Centers



**PTS90X20
PTS90X21**

**PTS90X22
PTS90X23**

PTS90X28

Figure 1



PTS90X2X Series Small Cell AC Power Distribution Load Centers Installation Guide

PTS90X20 PTS90X21 Outline Drawing

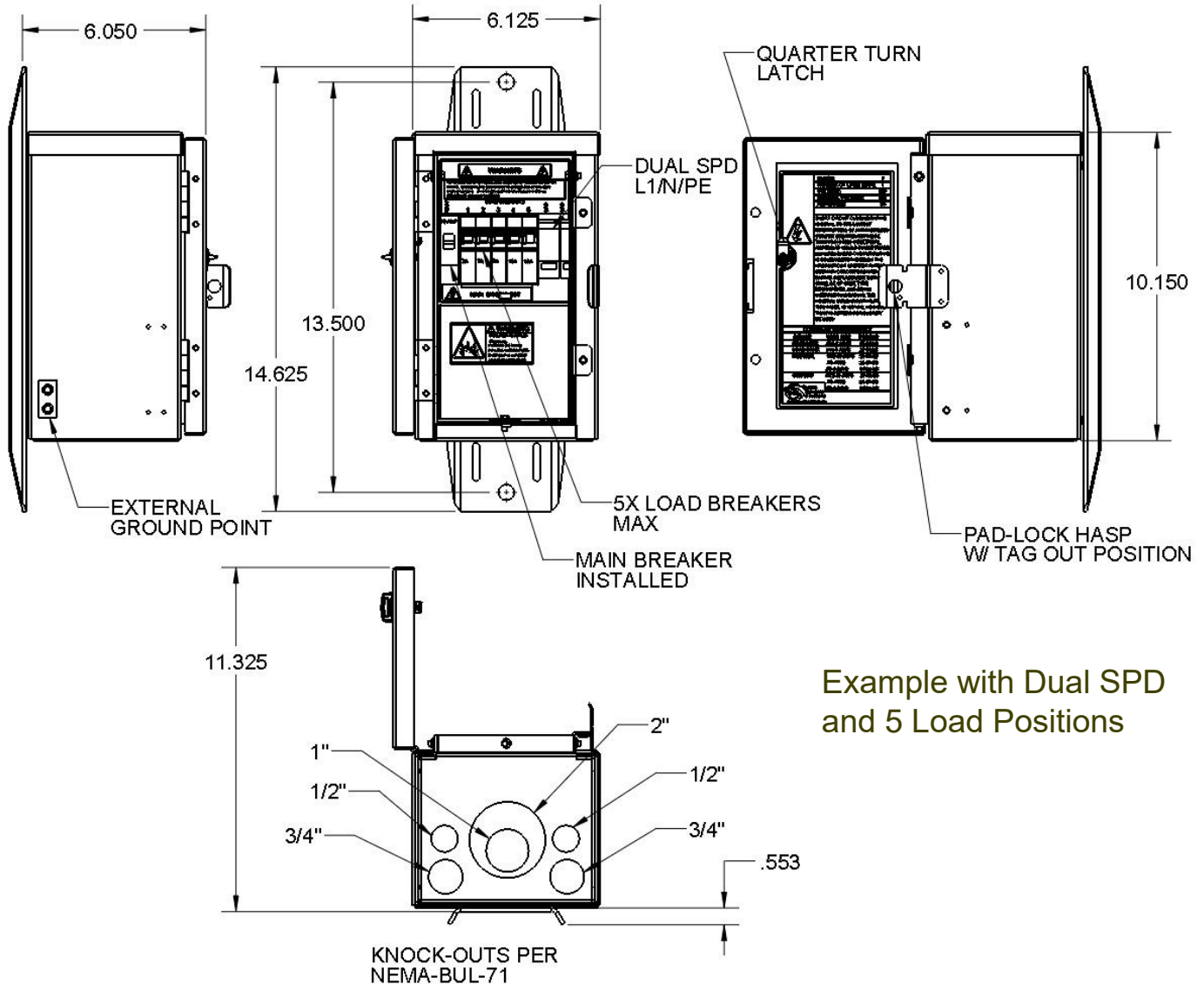


Figure 2: Dimensional Drawings



Caution: Installation shall be completed per all NEC and Local Codes. Do not install PTS90X2X Systems before reading and understanding all specifications and installation guides provided. Installation should be performed by a qualified installer.



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PTS90X22 PTS90X23 Outline Drawing

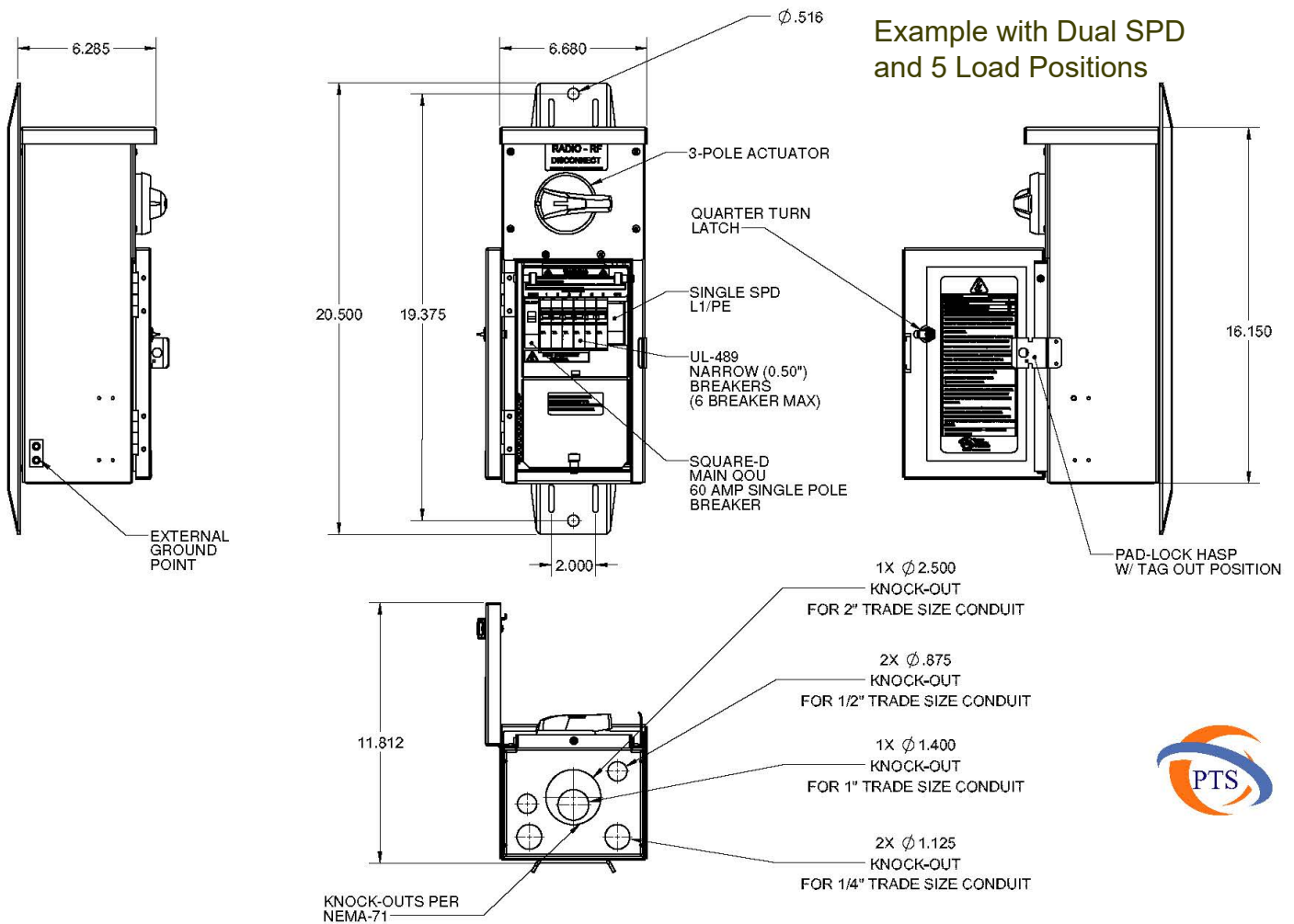


Figure 3: Dimensional Drawings



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PTS90X28 Outline Drawing

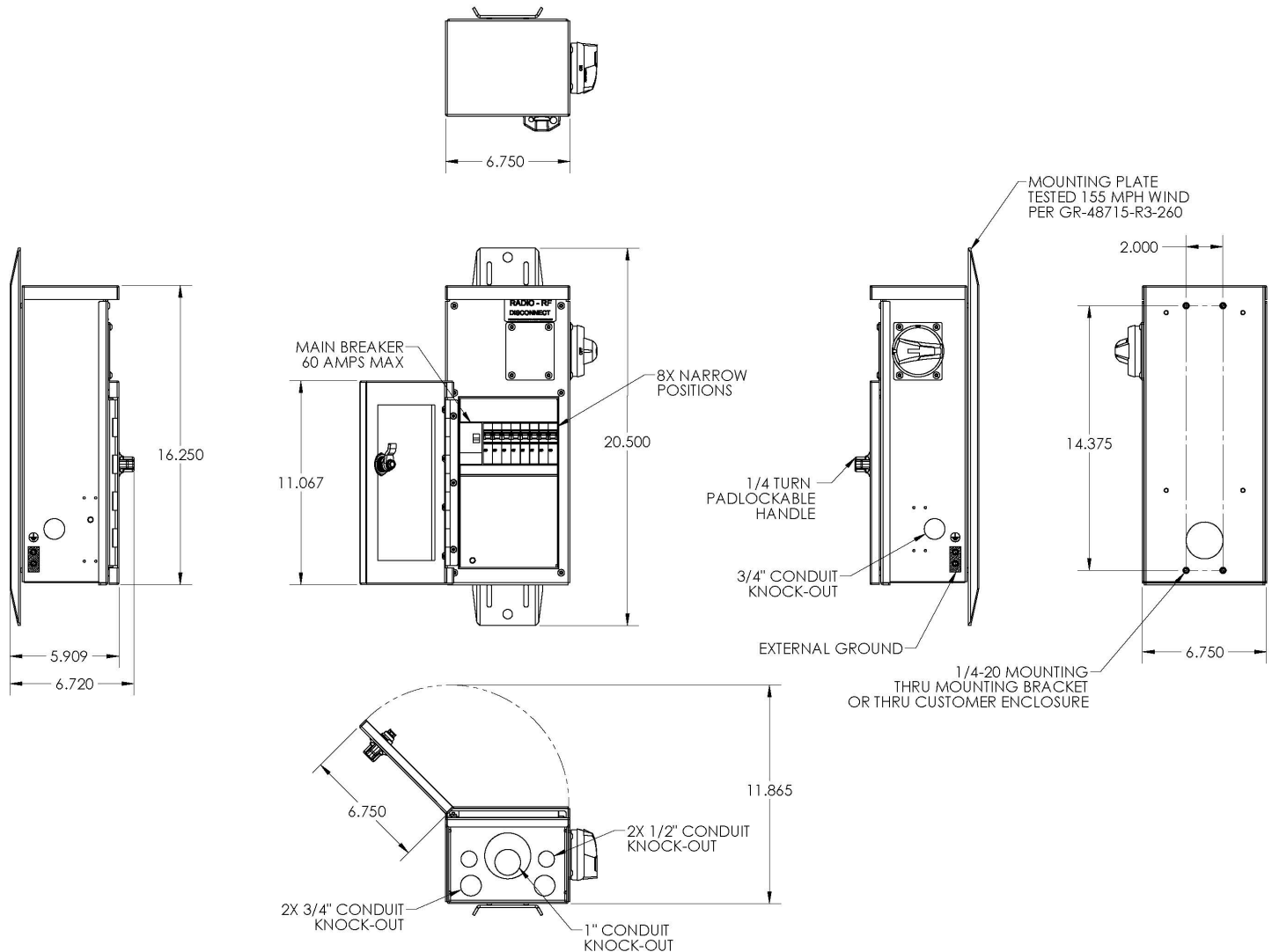


Figure 4: Dimensional Drawings



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1.1 Specifications

Electrical	
Operating Voltage	120VAC and 120/240VAC Models
Main Breaker	30A,40A, 60Amp (60Amp required for SuSE)
Distribution Breakers	Max of (8) UL489 Breakers 0-25Amp, Model Specific
Power Input Wire Size	#14 - #4 awg Cu - Al
Power Output Wire Size	#14 - #4 awg Cu - Al
Neutral and Ground Contacts	#14 - #4 awg Cu - Al
Rated Conditional Short	10kAIC (22kAIC Main Breaker Optional)
SPD, Dual MOV (L-N) & (N-G)	20Ka 8/20us Nominal
External Ground Connection	2-hole 1/4-20 w/ 5/8" spacing

Physical	
Housing Material	Powder Coated Aluminum
Breaker Access	Thumb knob and lockable hasp
Wire Access, Internal	1/4" hex head or #2 Phillip
Housing Dimensions (H x W x D)	(Excludes hasp and bracket)
PTS90X20 PTS90X21 PTS90X24	10.13" x 6.15" x 6.00"
PTS90X22 PTS90X23 PTS90X28	16.15" x 6.68" x 6.285"
Unit Weight / Shipping Weight	
PTS90X20 PTS90X21 PTS90X24	10lbs / 12lbs
PTS90X22 PTS90X23 PTS90X28	11lbs / 13lbs
Mounting	Supplied Bracket

Environmental	
Operating Temperature	(-40 °C) to (60 °C)
Relative Humidity	95% Non-Condensing



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1.2 Breaker Specifications

Additional/Spare Breakers		
PTS P/N	Description	
PT-KM1N-05A	UL489A DIN Rail Breaker, 05 AMP	
PT-KM1N-07A	UL489A DIN Rail Breaker, 07 AMP	
PT-KM1N-10A	UL489A DIN Rail Breaker, 10 AMP	
PT-KM1N-12A	UL489A DIN Rail Breaker, 12 AMP	
PT-KM1N-16A	UL489A DIN Rail Breaker, 16 AMP	
PT-KM1N-20A	UL489A DIN Rail Breaker, 20 AMP	
PT-KM1N-25A	UL489A DIN Rail Breaker, 25 AMP	
PT-KM2N-05A	UL489A DIN Rail Breaker-Dual-Pole, 05 AMP	
PT-KM2N-10A	UL489A DIN Rail Breaker-Dual-Pole, 10 AMP	
PT-KM2N-15A	UL489A DIN Rail Breaker-Dual-Pole, 15 AMP	
PT-KM2N-20A	UL489A DIN Rail Breaker-Dual-Pole, 20 AMP	
PT-KM2N-25A	UL489A DIN Rail Breaker-Dual-Pole, 25 AMP	

Torque Recommendations	
Main QOU Breaker	42-47 in-lbs
Load Breaker	17-22 in-lbs
Surge Protection	17-22 in-lbs
Neutral Block and Bar	24-27 in-lbs
Ground Bar	24-27 in-lbs



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1.4 Application

The PTS90X2X is a compact AC Load Centers designed for Small Cell and CRAN Deployments where distribution of AC power is required.

The PTS90X2X Series of compact AC Load Centers can also be used for AC Power Distribution applications where limited space exists, excluding the ability to use a larger load center.

The PTS90X2X Series of compact AC Load Centers is Suitable for Use as Service Equipment, or as a sub-tending branch panel when modernizing or expanding existing sites.

2.0 Features

The PTS90X2X Series of Small Cell AC Load Centers packaged as a custom configuration, ready for install in new and expansion environments.

2.1 Main Breaker

The PTS90X20 PTS90X22 Systems can support main breaker ampacity up to 40Amps.

The PTS90X21 PTS90X23 PTS90X24 PTS90X28 Systems can support main breaker ampacity up to 60Amps.

2.2 Distribution Breakers

The PTS90X2X Systems support up to (8) UL489 Breakers rated from 0-25 Amps, depending on model

2.3 Optional Single-SPD or Dual-SPD Protection

The PTS90X2X Systems can support either Single SPD (L-G) or Dual SPD (L-N) & (N-G) modules.

2.4 External Rotary Disconnect Switch

The PTS90X22 PTS90X23 PTS90X28 are equipped with an External Rotary Disconnect Switch.

2.5 Suitable for Use as Service Equipment

The PTS90X21 PTS90X23 PTS90X24 PTS90X28 are Suitable for Use as Service Equipment when bonding the Neutral and Ground and following code requirements, and equipped with 60Amp Main Breaker



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3.0 Inspecting and Unpacking of PTS90X2X Series Load Centers

- 3.0.1 Inspect the packaging for obvious signs of rough handling and/or external damage.
- 3.0.2 Review Installation Guide.
- 3.0.3 Remove from plastic packaging.

4.0 Mounting

The PTS90X2X Systems are certified for outdoor installations. This section provides installation guidelines to ensure the appropriate requirements are met.

4.1 Mounting Bracket

- 4.1.1 A mounting bracket is included and pre-installed with the enclosure and can be used as a template, or the mounting bracket detail on page 4 can be used, if preferred.
- 4.1.2 If mounting bracket is removed, a lock-tite like adhesive should be applied to the screws when replacing.



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4.2 Mounting enclosure to Pole, Stanchion or Round Surfaces

- 4.2.1 Customer is responsible to identify suitable location for mounting
- 4.2.2 Install Pole Straps and tighten per specifications -or -
- 4.2.3 Mark and drill anchors locations using template provided.
- 4.2.4 Wood Poles should be Lag Bolted or Through Bolted
- 4.2.5 Fiberglass or Metal pole shall be strap mounted.
- 4.2.6 Torque to mounting hardware specifications.



Figure 5: Mounting Example for enclosure on a Pole, Stanchion or Round Surface



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4.3 Mounting enclosure on flat surfaces

- 4.3.1 Customer is responsible to identify suitable location for mounting.
- 4.3.2 Mark and drill anchors or clips to secure enclosure to surface.
- 4.3.3 Torque to mounting hardware specifications.



Figure 6: Mounting Example for enclosure on flat surfaces



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5.1 Removing Dead Front Access Plate

- 5.1.1 Locate Dead Front Access Plate set screw and remove
- 5.1.2 Set aside for reuse.
- 5.1.3 Review Equipment Ground Connection Points
- 5.1.4 Review Neutral Connection points

5.2 Wiring Ground Connections

- 5.2.1 Ensure enclosure is grounded as per NEC and Local Jurisdictions Code requirements.
- 5.2.2 If Using for Service Equipment, bond the neutral to the ground bus bar and follow NEC and Local Jurisdictions Code requirements.
- 5.2.3 Tighten connections as per manufacturers specifications.



**Figure 7: Example - Location of External
Enclosure Ground Connection**



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5.3 Wiring Service and Load Connections

- 5.3.1 Wiring to be done in accordance with NEC and Local Jurisdictions Code.
- 5.3.2 Wire the Service Ground to the internal ground bar
- 5.3.3 Wire the Service Neutral to Neutral bar connection according to use and Local Jurisdictional Code.
- 5.3.4 If wiring for Service Entrance, ensure that the provided bond strap is connected between the internal ground bar and neutral bar, and label accordingly.
- 5.3.5 Wire the Service Feed to the right side (service side) of the Main Breaker (s)
- 5.3.6 Land Equipment ground to ground bar
- 5.3.7 Land Equipment Neutral to Neutral bar
- 5.3.8 Land Load feeds to the right side (load side) of load breaker(s)
- 5.3.9 Ensure connections are properly seated in set screw capture ring openings prior to tightening per specifications.
- 5.3.10 Tighter per breaker and bar specifications



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Figure 8: Standard Wiring Practice Example



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5.4 Re-Installing the Dead Front or Access Cover Plate

- 5.4.1 Reinstall the Dead Front or Access Cover Plate and ensure that it is seated correctly.
- 5.4.2 Reinstall the Dead Front Access Plate set screw and tighten.
- 5.4.3 Check to ensure all breakers are sitting square in the dead plate opening
- 5.4.4 Check to ensure all blank breaker positions are covered



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5.5 Labeling the Breakers

- 5.5.1 If installed as Service Equipment, apply the "SERVICE DISCONNECT" label at the main breaker position
- 5.5.2 If installed as Branch Equipment, apply the "MAIN DISCONNECT" label at the main breaker position
- 5.5.3 Label Load Breakers accordingly



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6.0 Installation Review

Inspect the installation, verifying that all is in accordance with this document, NEC, and local Codes.



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7.0 Document and Revision Control

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