

Jefferson County PUD

2023

# Broadband Fiber Optic FTTP Outdoor Network Enclosure

Revision 0

**SECTION III**  
**TECHNICAL SPECIFICATIONS**  
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# Broadband Fiber Optic FTTP Outdoor Network Enclosure

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## 1. General Scope

1.1. This specification covers outdoor network enclosures intended for use with broadband fiber optic utilities.

## 2. Applicable Codes and Standards

2.1. Except where explicitly stated, the enclosure shall meet all applicable requirements, including methods of testing, of the following industry standard:

Agency	Standard	Title	Year
NFPA	NFPA 70	National Electric Code (NEC)	2023
IEEE	IEEE-C2	National Electrical Safety Code (NESC)	2023
Telecordia	GR-487	Generic Requirements for Electronic Equipment Cabinets	2022
UL	UL-60950	Information Technology Equipment – Safety – Part 1	2019
UL	UL-50	Enclosures for Electrical Equipment, Non-environmental Considerations	2020
NEMA	NEMA Ratings	Environment and withstand capabilities of electrical enclosures	

## 3. Technical Specifications

3.1. Cabinet details:

3.1.1. The enclosure shall be NEMA 3 or 4 rated to prevent dust and water intrusion and shall be compliant with GR-487, UL-60960, and UL-50, latest revisions.

3.1.2. The enclosure shall be compartmentalized for safety, including a separate vented battery compartment, which shall incorporate a riser to support a second battery string.

3.1.3. Enclosure doors shall utilize a handle-latching mechanism.

3.1.4. Enclosure doors shall be securable with a padlock.

3.1.5. Separate enclosure chamber with ability to install fiber termination inserts as listed below:

- Mount up to 576 SC/APC connector fiber terminations in 12-port increments.
- 24 feeder ports
- Up to 18 integrated PON splitters, cassette type.

3.1.6. Enclosure shall be furnished with:

- environmental and intrusion alarm systems. (Refer to section 4.1.5)
- 23-inch front and rear equipment racks for use with 19" rack mounted equipment. Equipment racks shall have a minimum 32 RU total mounting space for equipment. A minimum 16 RU per side.
- mechanical support for high-density fiber plant terminations.
- Copper ground bar.
- 120/240VAC load center, minimum 60A capacity, UL-listed.
- AC service disconnect breaker, AC surge suppressor.
- Redundant AC supplies to DC power system
- 120VAC GFCI convenience outlets
- Compact DC power system. 220/240 VAC input, reconfigurable to 110/120VAC, 20A rectifier modules

- 170AH battery reserve capacity (NSB 170FT); up to 340AH capacity with second-string riser option.
- provisions for mounting an AC meter on enclosure.
- 1800W. 6000BTU Door-mounted Air Conditioner Module.
- Battery Heater Kit.
- Zone 4 seismic protection kit.
- Battery string and installation kit, copper protection and splicing.

#### 3.1.7. Alarm relays

- |                          |                              |
|--------------------------|------------------------------|
| ○ AC Fail                | ○ Current Share              |
| ○ High Voltage Warning   | ○ Single Rectifier Failure   |
| ○ High Voltage Shut Down | ○ Multiple Rectifier Failure |
| ○ Battery on Discharge   | ○ System Communication       |
| ○ LVD Warning            | ○ High Temperature           |
| ○ LVD Open               | ○ Thermal Runaway            |
| ○ Distribution Open      | ○ Battery Test Failure       |
| ○ Redundant Capacity     |                              |
| ○ DC Disconnect          |                              |

3.2. Enclosure shall be outfitted with a generator receptable (Hubbell), 50A; L14-50R receptable. Generator cable shall be L14-50R at one end and CS6364 at the other. N+1 Rectifier redundancy; 30A or 20A modules.

#### 3.3. Vault details:

3.3.1. Vault construction shall match the specifications as listed in the accompanying documentation.

3.3.2. Vault lid shall be split-lid type for ease of operation. If cabinet is to be mounted directly over the vault, the lid shall be specifically designed for the cabinet.

#### 3.4. Concrete Pad details:

3.4.1. The concrete pad may either be pre-cast or site-cast.

3.4.2. The concrete pad shall follow a template to accommodate conduit entry into the enclosure.

3.4.3. The concrete pad shall have provisions for either a free-standing cabinet bolted directly to the pad, or provisions for an H-frame and mounting the cabinet through wall-mounting hardware.

## 4. Testing

4.1. No testing or test reports are required for this specification.

## 5. Marking and Identification

5.1. Adhesive schematic of AC schematic between enclosure compartments shall be attached to the inside of the enclosure door.

## 6. Packaging

Enclosure and loose parts shall be wrapped for transport to prevent incursion of road debris during shipping. Upon receipt, the shipment will be stored in an uncovered yard.