

Clearfield ODC-200 Outdoor Cabinet



DESCRIPTION

The Clearfield ODC-200 broadband enclosure provides the ultimate modularity and flexibility in a low profile cabinet design, while preserving maximum capacity for cooling and internal space for equipment and copper or fiber distribution. The ODC-200 accommodates multiple 1RU networking systems, including the Calix E7-2 and B6-001 Ethernet access products, and provides all the powering, line protection, and fiber or copper cable management to serve copper and fiber access subscribers. The ODC-200 represents a strategic breakthrough for the outside plant. Combining unprecedented scalability and flexibility with a form factor that meets the strictest zoning regulations, the ODC-200 is a game changer for Communications Service Providers shortening their copper loops today, and positioning themselves for an effortless migration to fiber in the future.

Key attributes

MODULARITY: The Clearfield ODC-200 cabinet can scale from a minimum equipment configuration of 48 copper or fiber subscriber lines to its maximum capacity of 384 combo copper loops or 384 fiber drops. A simple but spacious interior enables field technicians to install common options such as equipment shelves, power and ground cabling, line protection panels, fiber distribution, battery options, and cross-connect modules. A field installable Expansion Module (EXM) provides the ability to grow the enclosure to support more subscriber fiber distribution endpoints, add a secondary or alternative location for an integrated battery box, add rack space to migrate copper loops to fiber drops, integrate a copper cross-connect, etc.

FLEXIBILITY: The ODC-200 accommodates a variety of standard options expected in remote cabinets, such as an internal battery enclosure and/or integrated battery box in an EXM, battery warmers, integrated cross-connect (in EXM), and field changeable distribution frames for copper or fiber based access, cabinet risers and vaults, generator connector, etc.

POWER OPTIONS: The ODC-200 supports local AC power or remote/line power configurations. An AC powered ODC-200 includes a redundant rectifier with a UL approved load center or with a simpler AC input junction box. The cabinet also provides multiple battery backup options, in-cabinet and/or EXM. The remote powered ODC-200 includes a $\pm 190Vdc$ downstream power converter (max. 20 circuits) and one or two hold-up capacitors.

LOW PROFILE: The ODC-200 has been designed to comply with a 36 inch height requirement, to allow a minimum intrusive effect in urban, suburban and residential areas. Different riser and vault options are available to allow ease of access in unrestricted height deployments.

COPPER TO FIBER ACCESS MIGRATION: The ODC-200 provides an ideal platform for migrating copper access services to fiber access infrastructure and electronics. The mounting frames in the cabinet support an equal concentration of copper pro-panels to fiber distribution frames. Many chassis based architectures provide a common infrastructure for copper (VDSL2) and fiber access (GPON or AE) service line cards. A field installable Expansion Module (EXM) provides additional space to add fiber distribution for a planned and orderly subscriber cutover. When migrating from copper based access to FTTP, the Service Provider can re-utilize the cabinet as an active or passive remote. Active equipment, and power elements in the cabinet like the rectifier shelf and AC load center, battery box and batteries, or heat exchanger door, are easily removed allowing ample space in the enclosure for fiber splicing, termination and distribution, and multiple high concentration splitters, turning the previously active remote into a fiber splice and splitting enclosure.

EQUIPMENT ACCESS: The ODC-200 has front and side doors and a copper distribution swing frame to provide ample access to the equipment and power system within the cabinet. A heat exchanger is integrated onto the equipment access door as a standard feature.

SPECIFICATIONS

Clearfield ODC-200 Outdoor Cabinet

EQUIPMENT SUPPORTED

Up to eight 1RU shelves; 8RU in a 19 inch rack

WIRED CAPACITY

Copper: Up to 384 VDSL2 Combo lines, or 384 VDSL2 Overlay(*) lines. (*) Sixteen 48-line pro-panels in ODC-200 cabinet, battery box in EXM.

Fiber: Up to 384 subscriber fiber terminations with internal battery box in cabinet, up to 576 subscriber fiber terminations without internal battery box in cabinet(*). Up to 18 integrated PON splitters. (*) Alternate battery box location and additional fiber capacity in EXM.

DIMENSIONS

Base cabinet: Height 36 inches, Width 24 inches, Depth 48 inches (battery box internal to cabinet)

Expansion Module (EXM): Height 36 inches, Width 24 inches, Depth 29 inches (battery box internal to EXM option)

Riser options for cabinet and EXM: 6 inch or 12 inch height (when EXM is deployed, riser option must match that of ODC-200)

WEIGHT

Base cabinet: 290 lbs. Includes equipment shelves, pro-panels and frame, and internal battery box.

Internal battery box: 25 lbs

Expansion Module: 50 lbs (empty)

Battery string (four 100Ah batteries): 315 lbs

COLOR

Warm gray

ENVIRONMENTAL

Ambient temperature: -40°C to +51.7 °C, per GR-487

COOLING

1050 Watt cooling capacity with door mount heat exchanger, as per GR-487 Generic Requirements

POWER OPTIONS

AC Power feed: 240 VAC single phase, 50/60HZ, 30 Amp service with UL listed service disconnect

High power AC surge protection (Joslyn)

Remote Power feed: Twenty ±190 VDC circuits/channels

AC/DC RECTIFIERS

Two 40 Amp rectifier modules (nominal), 1+1 redundant, autosenses and adjusts for low and high AC input

High input (185-264 VAC): 1640W or 30 Amps per rectifier at -53 VDC (derated for high Temp. at 70°C)

BATTERY BACK-UP

Single 100Ah battery string in battery box internal to cabinet

Single or additional 100Ah battery string in Expansion Module (EXM)

GENERATOR CONNECTOR OPTIONS

30 Amp NEMA twist lock

DC-DCREMOTE/LINE POWER

GE Energy (Lineage Power) CPS2500D: ±190VDC Downstream Power Converter

10 converter modules maximum;

2 channels per converter module

25 Amp (1300 Watt) max. total capacity

HOLD-UP POWER CAPACITOR OPTION

One or two 665W Remote Power Buffer Capacitor

MOUNTING OPTIONS

Pre-Cast or Pour-in-Place Pad Template, Wall/H-Frame Mount, Vault/Riser

COPPER PROTECTION PANELS

Standard 5-pin protection panels

Up to eight modular 48-pair increments (384 pairs total for Combo)

Up to sixteen modular 48-line pro-panels in ODC-200 cabinet, battery box in EXM (384-DSL plus 384-POTS ports for Overlay)

COPPER SPLICING

Copper plant OSP connectors: MS² or 710

Cross-connect in EXM; 1,200-pair at 2:1 concentration (Combo: 384 equipment lines, 768 subscriber lines), in 600-pair modular increments

FIBER MANAGEMENT OPTIONS

12-/24-Position Clearfield Fiber Splice and distribution on 19/23 inch mount

Support for in-cabinet GPON and Active-E fiber management: Up to 384-position fiber distribution in 12-, 24-, 48-, or 96-port increments assemblies; SC/APC connector, loose tube or ribbon

Expansion Module: 23" rack based add-on for supplemental fiber, battery, cross-connect capacity

Fiber spool and routing facilities

Up to eighteen integrated 1by2, 1by16, 1by32 GPON Splitters (optional)

SAFETY

UL-60950, Standard for Safety, Issue1, April 1, 2003

CAN/CSA-C22.2 No. 60950

EMC

FCC Part 15 Class A

ICES-003 Class A

COMPLIANCE

Telcordia GR-487, Generic Requirements for Electronic Equipment Cabinets

Clearfield ODC-200 Expansion Module (EXM)



DESCRIPTION

The Clearfield ODC-200 outdoor enclosure can expand its feature set and capacity with the optional use of the ODC-200 Expansion Module (EXM). The EXM adds complementary modularity and flexibility with the same low profile of the cabinet design. The EXM accommodates a second battery string compartment and/or multiple passive applications, like additional line protection, integrated copper cross-connect, fiber management and distribution, or copper or fiber cable management. The ODC-200 is a fully compliant GR-487 outdoor enclosure.

Key attributes

MODULARITY AND FLEXIBILITY: The field installable Expansion Module (EXM) provides the ability to grow the ODC-200 cabinet to support more subscriber fiber distribution endpoints, add a secondary or alternative integrated battery box, add rack space to migrate copper loops to fiber drops, integrate a copper cross-connect, etc.

LOW PROFILE: The ODC-200 and EXM have been designed to comply with a 36 inch height requirement, to allow a minimum intrusive effect in urban, suburban and residential areas. Different riser and vault options are available to allow ease of access in non-restricted height deployments.

COPPER TO FIBER ACCESS MIGRATION: The EXM provides an ideal platform for migrating copper access services to fiber access infrastructure and electronics. The expansion module supports a concentration of fiber distribution frames that equals

that of the cabinet's copper support, and can move the cabinet beyond that for FTTP deployments. Typical chassis based architectures provide a common infrastructure for copper (VDSL2) and fiber access (GPON or AE) service line cards. The field installable EXM provides additional space to add fiber distribution for a planned and orderly subscriber cutover, and support FTTP access with ample space in the enclosure for fiber splicing, splitting and distribution.

PLACEMENT: The EXM can be placed on the rear and/or side of the ODC-200 (see pictures below). Placement maintains a sealed environment within both enclosures, making the combination suitable for all applications. The access hatches on the ODC-200 have been designed to mate with that of the EXM in order to provide cable pass-through access. Placement of the EXM can be done at the initial deployment of the cabinet or as a later expansion.



SPECIFICATIONS

Clearfield ODC-200 Expansion Module (EXM)

DIMENSIONS

Height 36 inches, Width 24 inches,
Depth 29 inches
Riser options for cabinet and EXM: 6
inch or 12 inch height (when EXM is
deployed, riser option must match
that of ODC-200)

WEIGHT

Expansion Module: 50 lbs (empty)
Internal battery box: 25 lbs
Battery string (100Ah): 315 lbs

COLOR

Warm gray (same as ODC-200)

ENVIRONMENTAL

Ambient temperature:
-40°C to +51.7 °C (per GR-487)

MOUNTING OPTIONS

Pre-Cast Pad and Vault/Riser, Pour-in-
Place Pad Template

BATTERY BACK-UP

Single 100AH battery string in internal
battery box, additional or
alternative to internal battery box
in cabinet

FIBER CAPACITY

Fiber: Up to 384 subscriber fiber
terminations with internal battery
box installed, up to 576 subscriber
fiber terminations without internal
battery box (SC/APC connectors)
Up to 18 integrated PON splitters

INTEGRATED CROSS-CONNECT OPTIONS (WITHIN EXM)

1,200-pair at 2:1 concentration
(Combo: 384 equipment lines, 768
subscriber lines), in 600-pair
modular increments
CAT5 wiring, TE (ADC) LSA-Plus
blocks

COPPER SPLICING

Copper plant OSP connectors:
MS² or 710

FIBER MANAGEMENT OPTIONS

12-/24-Position Clearfield Fiber Splice
and distribution on 19 inch mount
Support for in-cabinet GPON and
Active-E fiber management: Up to
480-position fiber distribution in
12-, 24-, 48-, or 96-port increments
assemblies; SC connector, loose
tube or ribbon
Expansion Module: 23" rack based
add-on for supplemental fiber,
battery, cross-connect capacity
Fiber spool and routing facilities
Integrated Nx1:16,1:32 or 1:64 GPON
Splitters (option)

COMPLIANCE

Telcordia, GR-63-CORE, NEBS
Telcordia, GR-487, Generic
Requirements for Electronic
Equipment Cabinets