

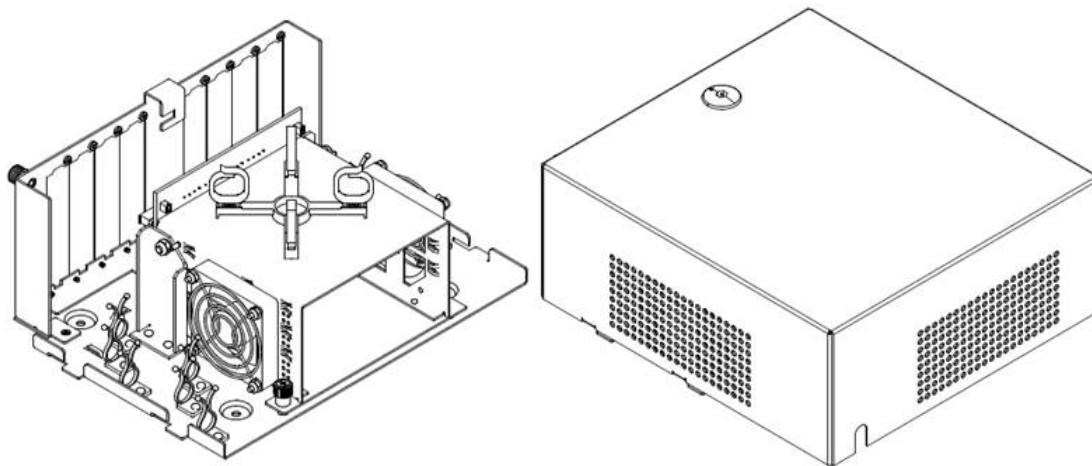
# LOCKING WALL-MOUNTED CPE ENCLOSURE 3O3D3-CPL2C REV B



ETL LISTED  
CONFORMS TO  
UL STD 60950-1

CLEI™ Code SOM7J10A, CPR 209695

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**Figure 1: 3O3D3-CPL2C REV B Mounting**

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## 1 INTRODUCTION

This practice describes the 3O3D3-CPL2C REVB Locking Wall-Mounted Customer-Premises Equipment (CPE) Enclosure, shown in [Figure 1](#). Installation instructions and engineering references are included.

### 1.1 Reason for Reissue

This practice has been reissued to streamline mounting instructions.

### 1.2 Description

The 3O3D3-CPL2C REVB can be used to house the following units:

- O3D3-MO units that derive a DS3 circuit from an OC3 optical facility
- O3-3D3DN units that derive three DS3 circuits from an OC3 optical facility
- O3-12D1DN units that derive twelve DS1 signals from an OC3 optical facility

### 1.3 Features

The mounting provides the following features:

- Accommodates up to three 200 Mechanics® plug-in units, such as the O3D3-MO (OC3 to DS3)
- Accommodates up to two Type 400 plug-in units, such as the O3-12D1DN (twelve DS1s)  
Accommodates one Type 400 plug-in unit plus two Type 200 plug-in units
- Hinged chassis to simplify installation
- Provision for up to eight bulkhead interface modules to provide an integrated network interface for DS1 and DS3 services
- Locking cover
- Individual fuses for each of three card slots
- +24 VDC, -24 VDC, or -48 VDC operation
- Redundant A/B power inputs (diode isolated) for -24 VDC and -48 VDC
- Integral fiber management storage spool
- Thermal management
- Cable management
- Removable demarcation panel for easy access to connections

## 2 INSTALLATION

The 3O3D3-CPL2C REVB is suitable for installation in Network Telecommunication Facilities and locations where the NEC applies as well as GR-3108-CORE outside plant (OSP) environments.



### WARNING

*This mounting includes components that are susceptible to damage from static electricity. DO NOT handle without protection from electrostatic discharge.*

Per GR-1089-CORE June 2006, Section 9.8, battery return (BR) of the 3O3D3-CPL2C REVB does not have any internal connection to the frame and, therefore, may be used in either DC-C (common bonding and grounding systems) or DC-I (isolated bonding and grounding systems). The chassis ground wire must be at least as large as the wire used for the BR.

Available bulkhead network interface (NI) modules for the mounting are listed in [Table 1](#). Each ordering code includes the NI module and suitable cables to connect between the module and its associated plug-in unit.

Follow [Procedure 1](#) to install the 3O3D3-CPL2C REVB on a wall or backboard.

Follow [Procedure 2](#) to connect power, ground, and alarms. [Table 2](#) and [Table 3](#) describe the fuses, connectors, and switch. The 3O3D3-CPL2C REVB can be powered from +24 VDC, -24 VDC, or -48 VDC. If desired, the mounting can also be powered from a 120 VAC source by using the Engenuity/Pulsecom 2100-0300 120 VAC to -48 VDC 1A wall-mounted power supply.

After performing the above procedures, install the plug-in units in the mounting slots; see the appropriate Practice Section. Then follow [Procedure 3](#) to install bulkhead NI modules, as desired.

**Table 1 — Bulkhead Network Interface Modules for the 3O3D3-CPL2C REVB**

Ordering Code	Port Type	Connector	Number of Ports	Associated Plug-In Unit	Practice Section
CPM-12DS1X	DS1	RJ48C	12	O3-12D1 Series	1634
CPM-DS3	DS3	BNC	1	O3D3 Series	1643
<b>NOTE:</b> CPM-12DS1X includes three panels with four RJ48C connectors each to accommodate all twelve DS1 ports of the O3-12D1 Series unit.					

**Procedure 1. Mounting the 303D3-CPL2C REV B on a Wall or Backboard**

STEP	ACTION
1	Obtain suitable #12 hardware for mounting to a backboard or, if required, mounting directly to a wall.
2	If necessary, use the supplied key to unlock the cover. Unscrew the cover thumbscrew; then remove the cover by sliding it to the right (OPEN position) and pulling it away from the mounting plate. See <a href="#">Figure 2</a> and <a href="#">Figure 3</a> .
3	Hold the mounting plate (without cover) in the desired position on the wall. See <a href="#">Figure 3</a> .
4	See <a href="#">Figure 3</a> and identify each of the mounting holes. Use a pencil to mark the four mounting hole positions. Then drill appropriately-sized holes for the mounting hardware to be used. <p style="text-align: center;"><b>WARNING</b> <i>Avoid hitting pipes or wires in the wall when drilling.</i></p>
5	Insert screws through the mounting plate holes and into the backboard or, if used, wall anchors.
6	Tighten the screws.

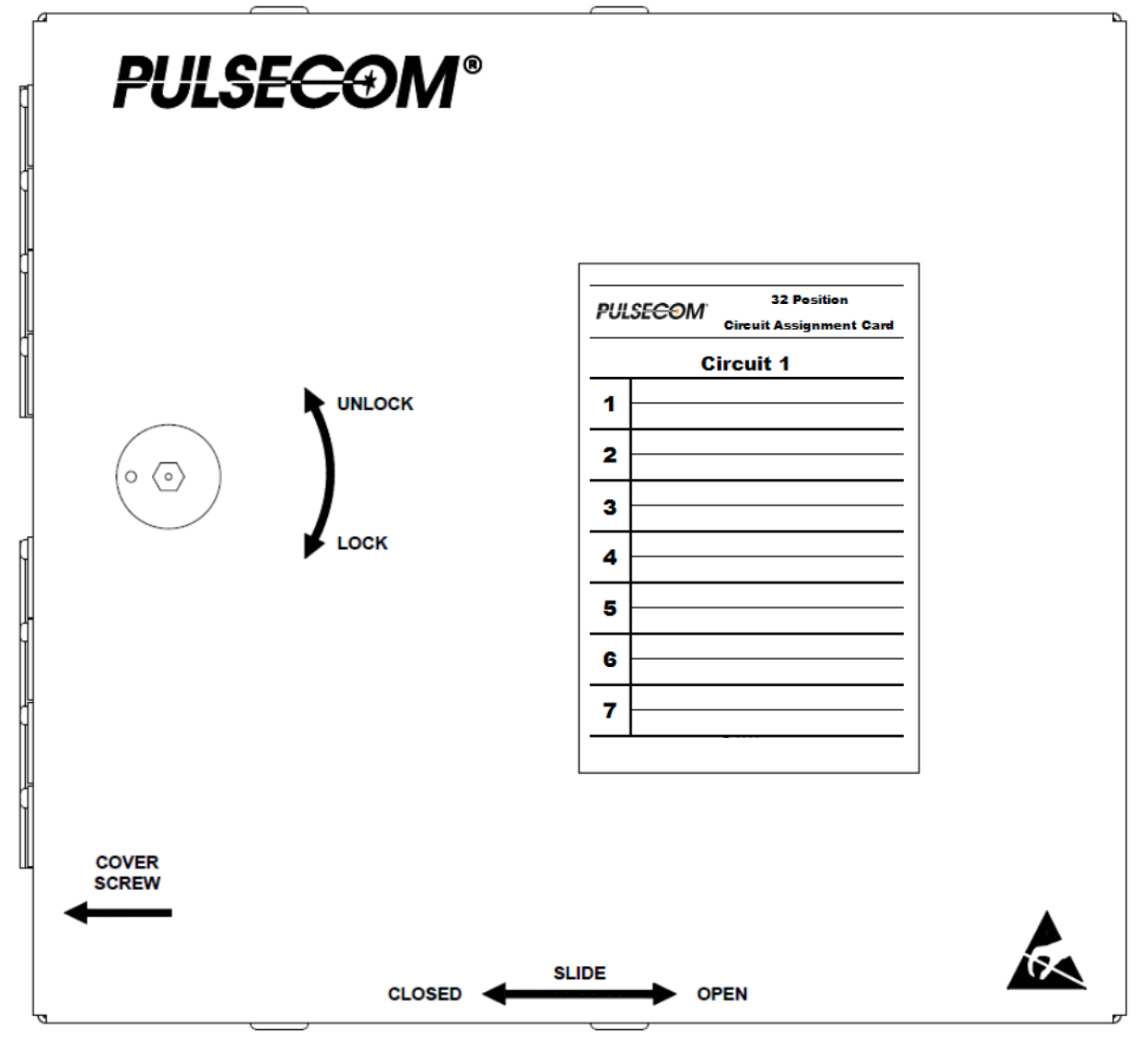


Figure 2: 3O3D3-CPL2C REVB Mounting – Cover View

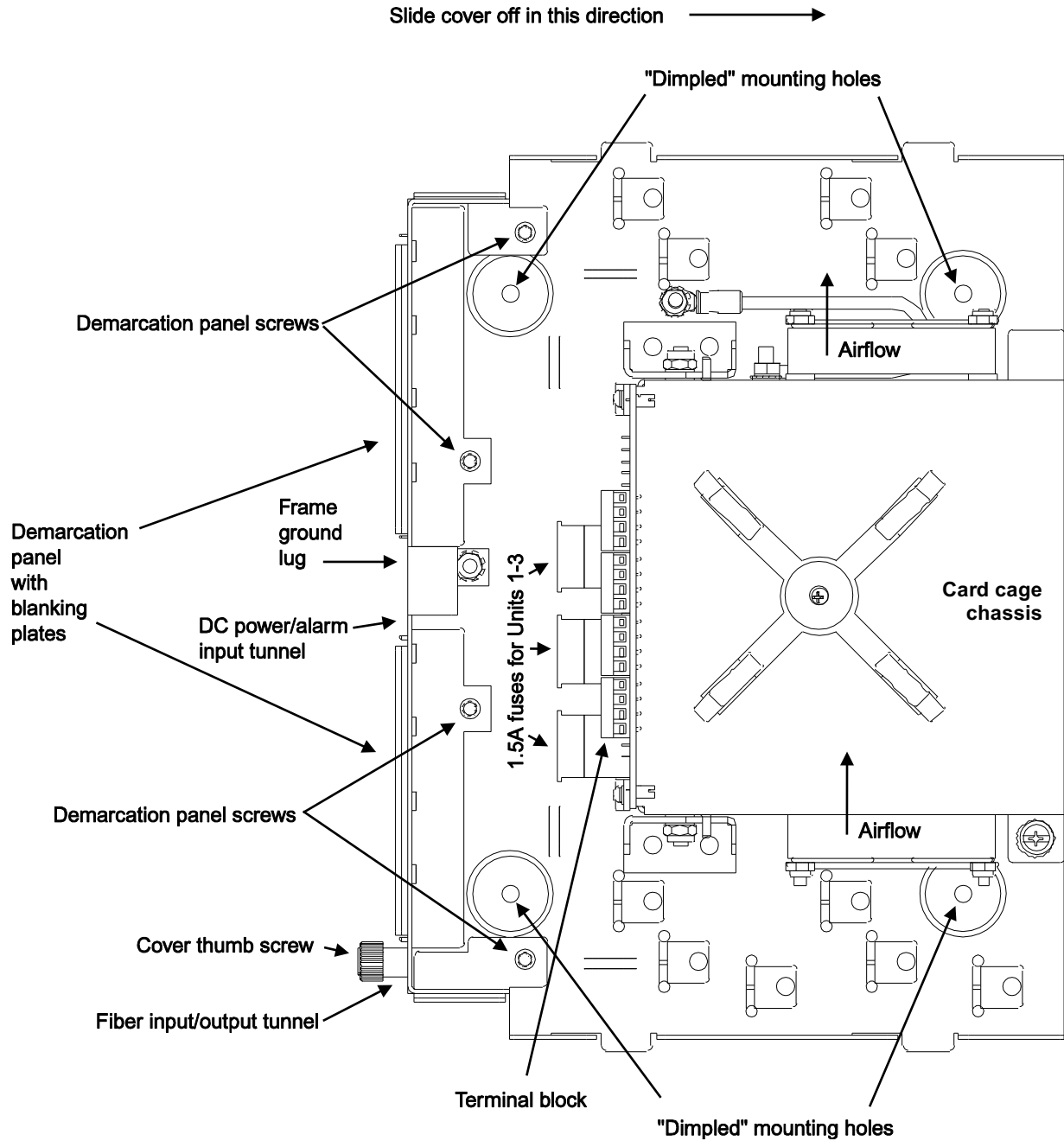
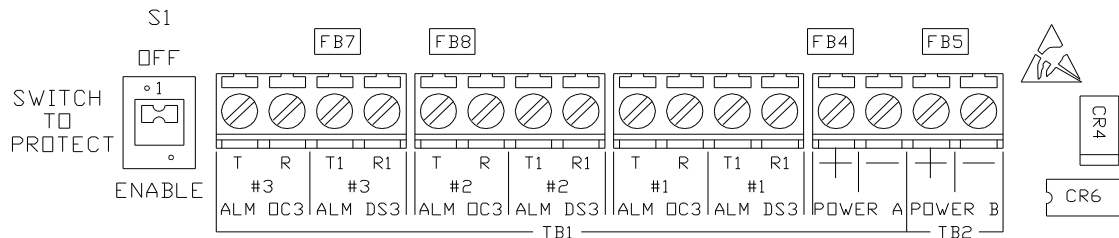


Figure 3: 3O3D3-CPL2C REV B Mounting – Front View

**Procedure 2. Making Power, Ground, and Alarm Connections**

STEP	ACTION
<b>NOTE</b> <i>Fuses, terminal block, and switch are all located on the backplane of the card cage chassis.</i>	
1	Ensure that the supply to be used to power the mounting is OFF. Check that the 3O3D3-CPL2C REV B Unit 1, Unit 2, and Unit 3 fuses are installed. See <a href="#">Figure 3</a> . If desired for easier access, remove the demarcation panel by loosening the four demarcation panel screws using a #1 Phillips screwdriver. See <a href="#">Figure 3</a> .
2	Connect a frame ground lead to the frame ground stud using 6 AWG or heavier wire. The frame ground lug accepts up to 1/0 AWG wire. See <a href="#">Figure 3</a> .
3	Connect the <u>negative</u> side of the 24 VDC or 48 VDC supply to the – POWER A terminal (TB1). Connect the <u>positive</u> side of the supply to the + POWER A terminal. Wire size 22 AWG is recommended (22 AWG minimum, 14 AWG maximum. See <a href="#">Figure 3</a> and <a href="#">Figure 4</a> for this step and the next three steps.
4	<b>NOTE</b> <i>Redundant supply <b>must</b> be the same voltage as primary supply. Redundant positive-referenced supplies (+24V) <b>cannot</b> be used.</i> If a redundant supply is used, connect the <u>negative</u> side of the 24 VDC or 48 VDC supply to the – POWER B terminal (TB2). Connect the <u>positive</u> side of the supply to the + POWER B terminal.
5	If desired, make connections to the T/R and the T1/R1 alarm terminals for Unit 1, Unit 2, and/or Unit 3. Wire size 22 AWG is recommended (24 AWG minimum, 20 AWG maximum). Refer to the plug-in unit’s manual for alarm definition.
6	Ensure that switch S1 (SWITCH TO PROTECT) is set to the OFF position. See <a href="#">Figure 4</a> .
7	If the demarcation panel was removed in Step 1, replace it.
8	Apply power.



**Figure 4: 3O3D3-CPL2C REV B Terminal Block and S1 Switch**

**Table 2 — 3O3D3-CPL2C REVB Connectors, Fuses, and Switch**

Connector	Label	Function
TB1	POWER A – +	Screw terminal for negative input power connection Screw terminal for positive input power connection
	ALM DS3 #1, #2, #3	Connects to card-edge connector pins 41 and 47 of Unit 1, Unit 2, and Unit 3
	ALM OC3 #1, #2, #3	Connects to card-edge connector pins 7 and 13 of Unit 1, Unit 2, and Unit 3
TB2	POWER B – +	The redundant supply <b>must</b> be the same voltage as the primary supply; redundant +24V <b>cannot</b> be used Screw terminal for optional redundant negative input power connection Screw terminal for optional redundant positive input power connection
	Frame Ground	#6 AWG lug for frame ground connection
<b>Fuse</b>		<b>Function</b>
Units 1 through 3 1.5 AMP		1.5A GMT™ fuse to protect Units 1 through 3
<b>Switch</b>		<b>Function</b>
S1		*Used to enable or turn off switch-to-protect operation
*Ensure that switch S1 (SWITCH TO PROTECT) is set to the OFF position.		

**Table 3 — 3O3D3-CPL2C REVB Card-Edge Pin Connections**

NCTE Pin	NCTE Description
7	Network Tip
13	Network Ring
41	Network Tip1
47	Network Ring1
35	Power In*
17	Signal Ground
27	Chassis Ground
1	Chassis Ground
*Each card slot is connected via diode to shelf A/B power inputs.	

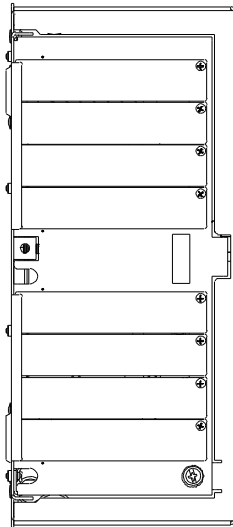


**Procedure 3. Installing NI Demarc Plate and Cables**

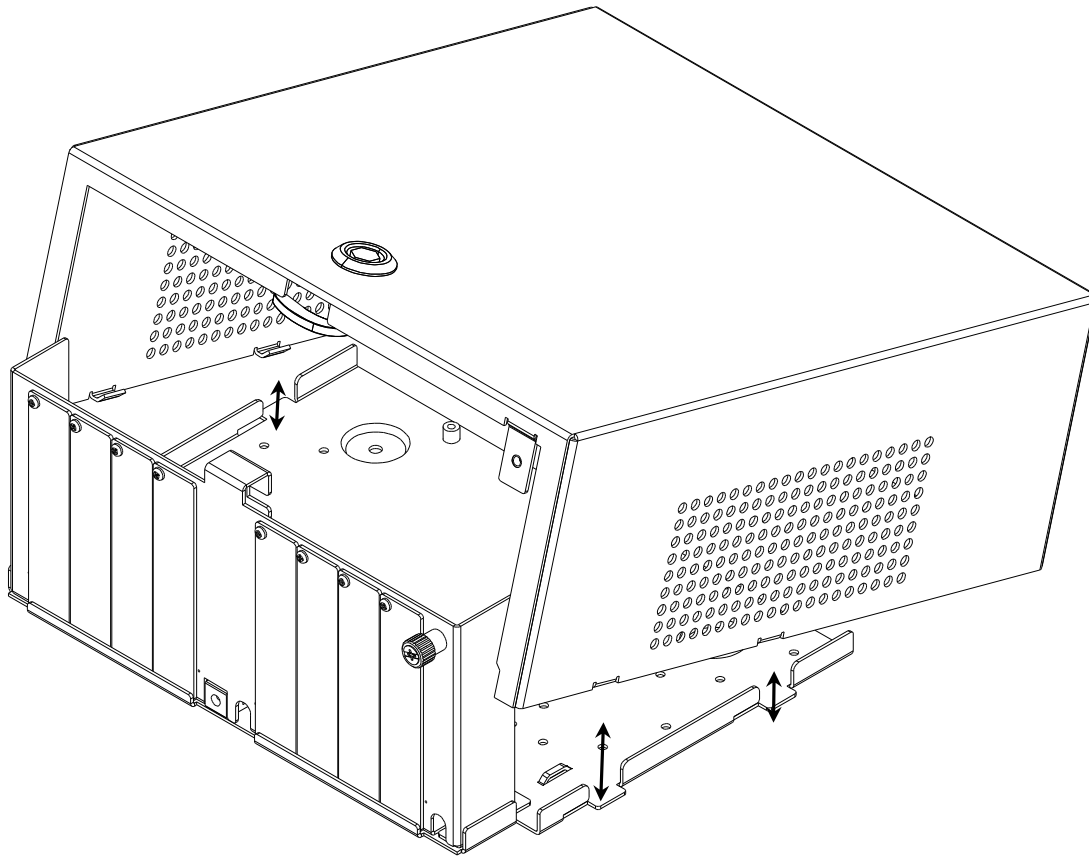
STEP	ACTION
1	<p>Remove the NI module blanking plate from the demarcation panel of the chassis. Do not discard screws. See <a href="#">Figure 5</a>.</p> <p style="text-align: center;"><b>NOTE</b></p> <p>The entire demarcation panel can be removed if close quarters make it difficult to access the screws that secure the individual blanking plates to the unit. Using a #1 Phillips screwdriver, remove the four demarcation panel captive screws to remove the entire panel. Ensure that the DC power/alarm leads do not get pinched or damaged during removal or installation of the demarcation panel. (See <a href="#">Figure 3</a>.)</p>
2	<p>Mount the bulkhead NI module in place using the blanking plate screws removed in Step 1.</p>
3	<p>Use the cables included with the bulkhead NI module to connect between the NI demarc module and the front panel of the corresponding plug-in unit. Use cable saddles to secure cables. Replace the demarcation panel if it was removed in Step 1.</p>
4	<p>Replace the cover by aligning the tabs on the cover with tabs on the mounting plate; then slide the cover to the left (CLOSED position). See <a href="#">Figure 6</a>. Tighten the thumbscrew and lock the cover.</p>

**WARNING**

*When connecting fibers to the mounting, use care to avoid breaking the fiber. Always follow fiber bend radius guidelines.*



**Figure 5: NI Module Demarcation Panel with Blanking Plates**



**Figure 6: Aligning the 3O3D3-CPL2C REVB Cover and Mounting Plate Tabs**

### 3 SPECIFICATIONS

[Table 4](#) lists the electrical and physical characteristics of the mounting.

**Table 4 — 3O3D3-CPL2C REV B Specifications**

Description	Specification
<b>A. Power Requirement</b>	
Input Voltage Range	+21 to +28 VDC, -21 to -28 VDC, or -42 to -57 VDC
Maximum Input Current a) At -48V b) At +24V or -24V	800 mA 1.7 A
<b>B. Environmental</b>	
Temperature Range, Operating and Storage	-40° to +70°C (-40° to +158°F)
Relative Humidity, No Condensation	10% minimum to 95% maximum
Size (height × width × depth)	12.9 × 11.9 × 5.2 inches (328 × 302 × 132 mm)
Weight, Approximate, Without Plug-In Modules	4.5 pounds (2.0 kg)
<b>C. Fan Operation</b>	
Fan On	40°C ±5°C (104°F ±9°F)
Fan Off	20°C ±1°C (68°F ±2°F)

### 4 MAINTENANCE

No routine maintenance is required. [Table 5](#) lists ordering codes for replacement parts. Refer to [Procedure 4](#) for fan replacement instructions.

**Table 5 — 3O3D3-CPL2C REV B Replacement Parts**

Part	Part Number
1.5A GMT Fuse	003337-0150
Locking Key	005000-0088
Fan Assembly	106969-1

**Procedure 4. Replacing a Fan Assembly**

STEP	ACTION
1	Unplug fan wiring from backplane.
2	Use a 5/16" nut driver or wrench to remove the four nuts holding the fan guard and fan in place. Retain the nuts for later use.
3	Remove fan guard and fan. Retain the fan guard for later use.  <p style="text-align: center;"><b>NOTE</b></p> <p style="text-align: center;"><i>The top fan assembly has four spacers between the cage card and the fan. <b>Do not remove the spacers</b> when replacing the top fan assembly.</i></p>
4	Position the replacement fan over the studs so that the airflow is in the correct direction (see <a href="#">Figure 3.</a> )  <p style="text-align: center;"><b>NOTE</b></p> <p style="text-align: center;"><i>Fans must always be installed so that airflow moves through the card cage from <b>bottom to top</b>. To determine airflow direction through the fan, find the label on the fan's hub. Airflow through the fan is from the non-label side (intake) to the label side (exhaust).</i></p>
5	Position fan guard from Step 3 over the studs.
6	Secure fan guard and fan using the four nuts from Step 2.
7	Reconnect fan wiring to backplane.

**5 CUSTOMER SERVICE**

Direct questions concerning the operation of the unit to Technical Support. Obtain repair services by returning the defective mounting to the Engenuity/Pulsecom Repair Department, 3545 Stern Avenue, St. Charles, IL 60174; email [sales@engenuitycom.com](mailto:sales@engenuitycom.com).

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