

# 3500/15 AC and DC Power Supplies

## Datasheet

**Cordant™**

141530 Rev. P



## Description

The Bently Nevada™ 3500/15 AC and DC Power Supplies are half-height modules and must be installed in designated slots on the left side of the rack. The 3500 rack can contain one or two power supplies with any combinations of AC and DC. Either supply can power a full rack.

When two power supplies are installed in a rack, the one in the lower slot acts as the primary supply, and the other in the upper slot acts as the backup supply. If installed, the second supply is the backup for the primary one.

Removing or inserting either power supply module does not disrupt operation of the rack as long as a second power supply is installed.

The 3500/15 AC and DC Power Supplies accepts a wide range of input voltages and converts them to voltages acceptable for use by other 3500 modules. The following power supplies are available with the 3500 Series Machinery Protection System:

- Universal AC Power
- High Voltage DC Power Supply
- Low Voltage DC Power Supply



The Universal AC Power Supply and PIM (Power Input Module) are not compatible with the Legacy 3500 AC Power Supply, High Voltage AC PIM and Low Voltage AC PIM.



The High Voltage and Low Voltage DC Power Supplies and PIM (Power Input Module) are NOT compatible with the Legacy 3500 High Voltage and Low Voltage DC Power Supplies and PIMs.



## Specifications

### Inputs

#### Voltage Options

| Universal Voltage AC |                                                                                                                                                                                                                                                                                                |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description          | This option uses the universal AC Power Supply and universal AC Power Input Module (PIM).                                                                                                                                                                                                      |
| Input Voltage        | <p>110 to 220 Vac nominal</p> <p>Non-hazardous areas:<br/>85 to 264 Vac rms</p> <p>Hazardous areas:<br/>85 to 250 Vac rms</p> <p>120 to 373 Vac pk</p> <p>The universal AC Power Supply and Power Input Module are not compatible with the legacy High Voltage AC or Low Voltage AC units.</p> |
| Input Frequency      | 47 to 63 Hz                                                                                                                                                                                                                                                                                    |
| High Voltage DC      |                                                                                                                                                                                                                                                                                                |
| Description          | This option uses the High Voltage DC Power Supply and the High Voltage DC Power Input Module (PIM).                                                                                                                                                                                            |
| Input voltage        | 88 to 140 Vdc                                                                                                                                                                                                                                                                                  |
| Low Voltage DC       |                                                                                                                                                                                                                                                                                                |
| Description          | This option uses the Low Voltage DC Power Supply and the Low Voltage DC Power Supply Input Module (PIM).                                                                                                                                                                                       |
| Input voltage        | 20 to 30 Vdc                                                                                                                                                                                                                                                                                   |

### Current Information

| Out of Range Protection | For all power supply options, an under-voltage does not harm the supply or the PIM. An over-voltage causes the fuse to open on the PIM. |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Full Rack Current Draw  |                                                                                                                                         |
| Universal voltage AC    | 2.8 A rms (maximum)                                                                                                                     |
| High voltage DC         | 2.5 A (maximum)                                                                                                                         |
| Low voltage DC          | 11.0 A (maximum)                                                                                                                        |

### Outputs

| Front Panel LEDs |                                                       |
|------------------|-------------------------------------------------------|
| Supply OK LED    | Indicates when the power supply is operating properly |

### Physical

| Power Supply Module                 |                                                            |
|-------------------------------------|------------------------------------------------------------|
| Dimensions (Height x width x depth) | 120.7 mm x 50.8 mm x 251.5 mm<br>4.75 in x 2.0 in x 9.9 in |
| Weight                              | 1.39 kg<br>3.06 lb                                         |
| Power Input Modules                 |                                                            |
| Dimensions (Height x width x depth) | 120.7 mm x 25.4 mm x 114.3 mm<br>4.75 in x 1.0 in x 4.5 in |
| Weight                              | 0.34 kg<br>0.75 lb                                         |

## Rack Space Requirements

|                     |                                                                                                                                                                                                      |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power supply module | Two half-height slots are located on the left side of the rack. Each slot accommodates one power supply. Both slots can hold a power supply at the same time, allowing for redundant power supplies. |
| Power input module  | Special half-height module located directly behind the associated power supply                                                                                                                       |

## Miscellaneous

|                 |                                   |
|-----------------|-----------------------------------|
| Minimum loading | No minimum rack load is required. |
|-----------------|-----------------------------------|

## Environmental Limits

|                       |                                       |
|-----------------------|---------------------------------------|
| Operating temperature | -30 °C to +65 °C<br>-22 °F to +150 °F |
| Storage temperature   | -40 °C to +85 °C<br>-40 °F to +185 °F |
| Humidity              | 95%, non-condensing                   |

## Compliance and Certifications

### FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

### EMC

European Community Directive:

EMC Directive 2014/30/EU

Standards:

EN 61000-6-2; Immunity for  
Industrial Environments  
EN 61000-6-4; Emissions for  
Industrial Environments

### Electrical Safety

European Community Directive:

LV Directive 2014/35/EU

Standards:

EN 61010-1

### RoHS

European Community Directive:

RoHS Directive 2011/65/EU

### Maritime

DNV GL rules for classification – Ships,  
offshore units, and high speed and light  
craft

ABS Rules for Condition of Classification,  
Part 1

- Steel Vessels Rules
- Offshore Units and Structures

## Hazardous Area Approvals



For the detailed listing of country and product-specific approvals, refer to the [Approvals Quick Reference Guide \(108M1756\)](#).

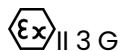
For additional technical documentation, please log in to [bntechsupport.com](http://bntechsupport.com) and access the Bently Nevada Media Library.

### cNRTLus

Class I, Zone 2: AEx/Ex nA nC ic IIC T4 Gc;  
Class I, Zone 2: AEx/Ex ec nC ic IIC T4 Gc;  
Class I, Division 2, Groups A, B, C, and D;

T4 @ Ta= -20°C to +65°C (-4°F to +149°F)  
When installed per drawing 149243 or  
149244.

### ATEX/IECEx



Ex nA nC ic IIC T4 Gc  
Ex ec nC ic IIC T4 Gc

T4 @ Ta= -20°C to +65°C  
(-4°F to +149°F)  
When installed per drawing 149243 or  
149244.

## Ordering Information



For the detailed listing of country and product-specific approvals, refer to the [Approvals Quick Reference Guide \(108M1756\)](#).

For additional technical documentation, please log in to [bntechsupport.com](http://bntechsupport.com) and access the Bently Nevada Media Library.

## 3500/15 Power Supply Module

### 3500/15 -AA-BB-CC

#### A: Power Supply Type (Top Slot)

|           |                                          |
|-----------|------------------------------------------|
| <b>03</b> | Legacy High Voltage DC (88 to 140 Vdc)   |
| <b>04</b> | Legacy Low Voltage DC (20 to 30 Vdc)     |
| <b>05</b> | Universal AC Voltage (85 to 264 Vac rms) |
| <b>06</b> | High Voltage DC Supply                   |
| <b>07</b> | Low Voltage DC Supply                    |

#### B: Power Supply Type (Bottom Slot)

|           |                                             |
|-----------|---------------------------------------------|
| <b>00</b> | No Supply (Used when no supply is required) |
| <b>03</b> | Legacy High Voltage DC (88 to 140 Vdc)      |
| <b>04</b> | Legacy Low Voltage DC (20 to 30 Vdc)        |
| <b>05</b> | Universal AC Voltage (85 to 264 Vac rms)    |
| <b>06</b> | High Voltage DC Supply                      |
| <b>07</b> | Low Voltage DC Supply                       |

#### C: Agency Approval

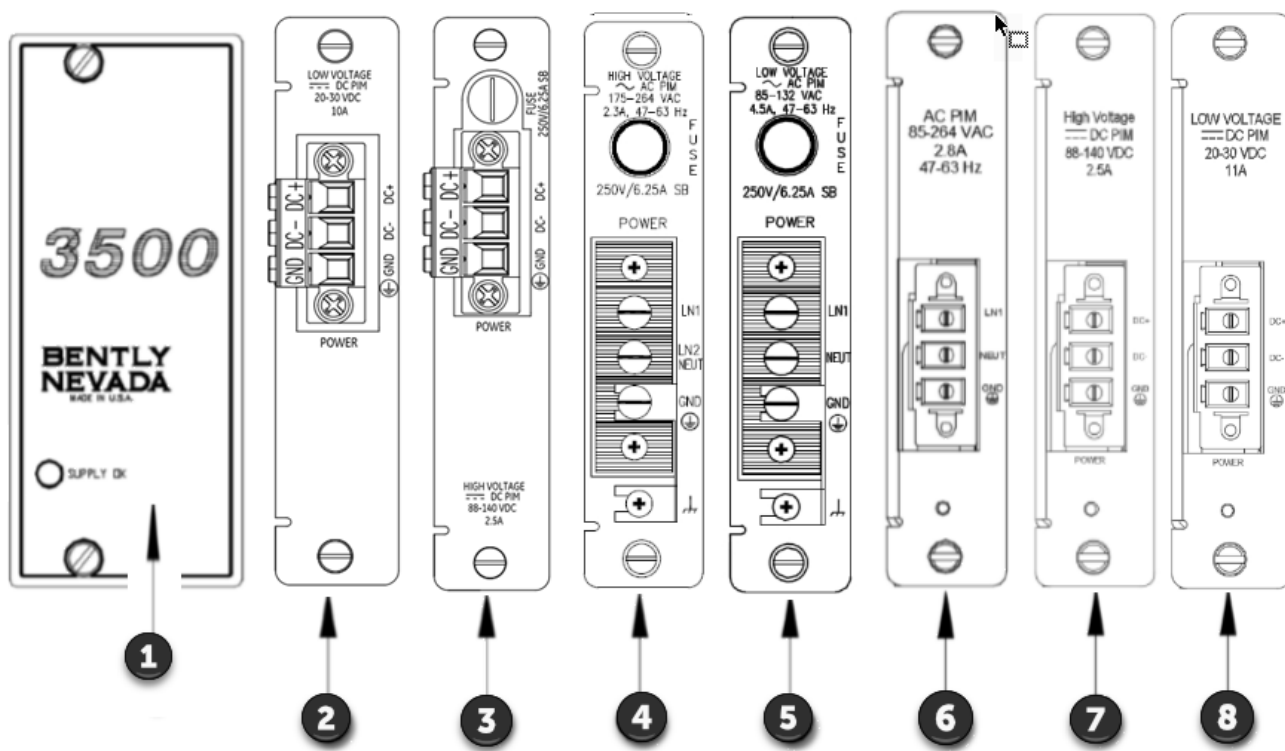
|           |                                      |
|-----------|--------------------------------------|
| <b>00</b> | None                                 |
| <b>01</b> | CSA / NRTL / C (Class 1, Division 2) |

## Spares

| Part Number | Description                                                                                                |
|-------------|------------------------------------------------------------------------------------------------------------|
| 106M1079-01 | Universal AC Power Supply Module                                                                           |
| 106M1081-01 | Universal AC Power Input Module                                                                            |
| 129486-01   | Legacy High Voltage DC Power Supply Module                                                                 |
| 129478-01   | Legacy High Voltage DC Power Input Module                                                                  |
| 133292-01   | Legacy Low Voltage DC Power Supply Module                                                                  |
| 133300-01   | Legacy Low Voltage DC Power Input Module                                                                   |
| 114M5329-01 | High Voltage DC Power Supply                                                                               |
| 115M7750-01 | High Voltage DC PIM                                                                                        |
| 114M5330-01 | Low Voltage DC Power Supply                                                                                |
| 114M5335-01 | Low Voltage DC PIM                                                                                         |
| 01720025    | Replacement Fuse (for both AC Power Input Module and Legacy High Voltage DC Power Input Module)            |
| 01720045    | Replacement Fuse (Low Voltage DC Power Input Module and Legacy Low Voltage DC Power Input Module)          |
| 120M3877    | Replacement Fuse<br>Fast blow rated at 5A/500 Vac<br>Size 6.3 x 32 mm<br>(Universal AC Power Input Module) |
| 131150-01   | Power Supply Blank Front Panel (qty 1, includes screws)                                                    |

| Part Number | Description                                                                     |
|-------------|---------------------------------------------------------------------------------|
| 128085-01   | Power Supply Rear Input Connector Cover (qty 1) Order part 04310251 for screws. |
| 04310251    | Screw for Power Supply Input Cover (qty 2)                                      |
| 129767      | 3500/15 Power Supply User Guide                                                 |
| 118M0915-01 | Replacement connector for Universal AC Power Input Module                       |
| 118M0915-02 | Replacement connector for DC Power Input Module                                 |
| 129M0198    | Replacement fuse (High Voltage DC Power PIM (Power input Module))               |

## Graphs and Figures



1. 3500/15 AC and DC Power Supplies OK LED
2. Legacy Low Voltage DC Power Input Module
3. Legacy High Voltage DC Power Input Module
4. Legacy High Voltage AC Power Input Module
5. Legacy Low Voltage AC Power Input Module
6. Universal AC Voltage Power Input Module
7. High Voltage DC Power Input Module
8. Low Voltage DC Power Input Module

**Figure 1: 3500/15 Power Supply and PIMS**

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