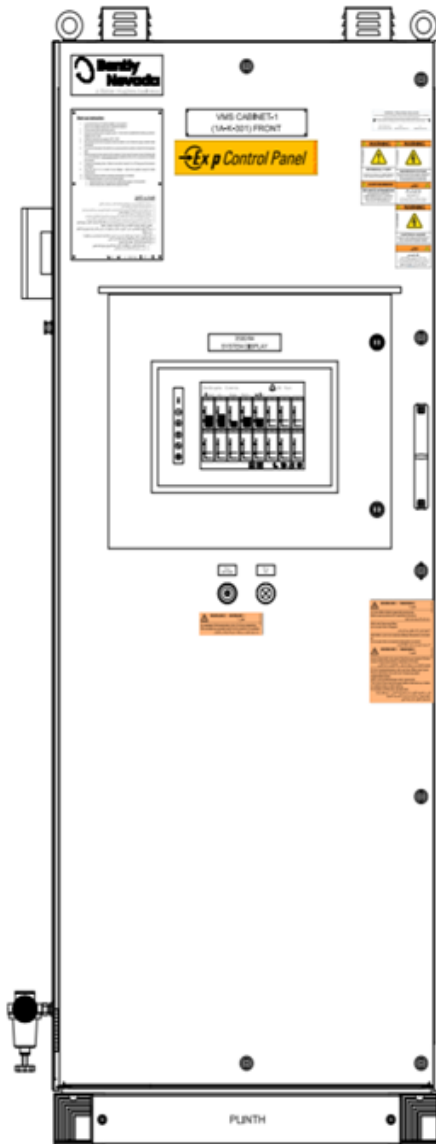


# 3500 and Orbit 60 Outdoor Packaged Systems Datasheet

Cordant™

177M4920 Rev. B



## Description

Packaged Systems provide a fully pre-mounted, pre-wired, site-ready, and factory-tested industrial enclosure solution for Bently Nevada machinery protection and condition monitoring instrumentation. A packaged system is designed to simplify site installation, provide suitable protection for the installed instrumentation from the surrounding environment, and facilitate ongoing ease of use and maintenance.

The Bently Nevada Outdoor Cabinet Package protects the Bently Nevada™ 3500 and Bently Nevada™ Orbit 60 System against adverse environmental conditions, such as excessive moisture, dirt, grime, and unclean air.

For Hazardous applications, Bently Nevada can provide solutions for a non-purged cabinet certified for a Zone 2 environment and an Ex "p" purging. The cabinet is specially designed for system installations that require environmental protection, or where safety standards mandate hazardous approval agency requirements.

The outdoor cabinets are available in either 304 stainless steel and 316 stainless steel and are compatible with a full-range of 3500 or Orbit 60 rack-mount and bulkhead-mount option.



Baker Hughes 

Supported Monitoring Types	Supported Applications/Environments
<ul style="list-style-type: none"> <li>• Orbit 60 Series Monitoring System</li> <li>• 3500 Series Monitoring Systems</li> <li>• Any external data acquisition hardware (e.g., communications processors) required by the monitoring systems</li> </ul>	<p><b>Standard Enclosure Options:</b></p> <ul style="list-style-type: none"> <li>• NEMA 12/IP54 free-standing enclosures suitable for outdoor safe area</li> <li>• NEMA 4/IP65 free-standing enclosure with protection against windblown dust and rain, splashing water, and hose directed water</li> <li>• NEMA 4X/IP65 Ex non-purged cabinet certified for Zone 2</li> <li>• Wall-mounted enclosure for outdoor for safe zone / Zone 2</li> </ul> <p><b>Purge Panel Options available for Zone 1 &amp; Zone 2:</b></p> <ul style="list-style-type: none"> <li>• Purged type cabinet with vortex cooler</li> <li>• Purged type cabinet with air-conditioner</li> </ul>

## Specifications

### Enclosures

Enclosures	
Material	<ul style="list-style-type: none"> <li>• 304s Stainless Steel</li> <li>• 316s Stainless Steel</li> </ul>
Ingress Protection	<ul style="list-style-type: none"> <li>• NEMA 4 / IP55 with FAN</li> <li>• NEMA4X / IP65</li> </ul>
Protection Type	<ul style="list-style-type: none"> <li>• Safe non-hazardous area</li> <li>• Non-purged certified for Zone 2</li> <li>• Ex "p" purged type</li> </ul>
Physical Dimensions	
Height	Refer to Typical Cabinet Type, Figure 1~ 4
Depth	
Width	
Accessories	
Plinth	100 mm Plinth for Free-standing Enclosure
Roof	Standard
Handle	Key-lockable
Cable Entry	Gland Plates for Bottom entry
Lifting	Eyebolts
Door	Door Stay for Free-standing enclosure
Cooling	<ul style="list-style-type: none"> <li>• Vortex Cooler</li> <li>• Air conditioned</li> <li>• Fan</li> </ul>
Light	LED Light with motion sensor
Temperature	Thermostat or RTD
Earthing	PE/FE Grounding Bars
Circuit Protection	<ul style="list-style-type: none"> <li>• Miniature Circuit Breaker</li> <li>• Fuses</li> </ul>
Term Block	Din Rail Mount Terminal Blocks

### Enclosure Capacity

Safe Area Installation Cabinet (Figure 1) 800 mmW x 2000 mmH x 800 mmD	
Number of Racks	3500- 2 Rack/ Bulkhead Mount
	O60 -3 Rack/Bulkhead Mount
Number of Dynamic IOs	Rack Mounted - 120
	Bulkhead (front/rear) w/o Isolator - 180, with Isolator-120
	Bulkhead (front access) w/o-120, with Isolator - 70
Cabinets certified for Zone 2 (Figure 2 and 3) 800 mmW x 2000 mmH x 800 mmD	
Number of Racks	3500- 2 Rack/ Bulkhead Mount
	O60 -3 Rack/Bulkhead Mount
Number of Dynamic IOs	3500 with Isolators -70
	O60 with Isolators -70
O60 Outdoor Wall-mount Cabinet (Figure 4) 800 mmW x 900 mmH x 400 mmD	
Number of Dynamic IOs	O60-Bulkhead - 60
3500 Outdoor Wall-mount Cabinet(Figure 5) 800 mmW x 1200 mmH x 400 mmD	
Number of Dynamic IOs	3500-Bulkhead w/o isolator -60, with Isolator - 35
Terminal Blocks	
Power	
Type:	Single feedthrough terminals, DIN mount

### Terminal Blocks

Insulation	Polyamide Nylon
<b>Transducer, Relay, and Recorder</b>	
Type:	Single disconnect terminals, DIN mount
Insulation	Polyamide Nylon

### Wires and Cables

#### Signal Cable

Type	Single Pair or Triad Cable with shield wire
Conductor	Stranded copper
Size	22 ~ 18 AWG 0.33 ~ 0.82 sqmm
Insulation Rating	300 Volts, 75°C minimum
Insulation material	PVC, Flame Retardant

#### Relay Wire

Type	Single core
Conductor	Stranded copper
Size	18 ~ 16 AWG 0.82 ~ 1.32sqmm
Insulation Rating	600 Volts, 75°C minimum
Insulation material	PVC, Flame Retardant

#### Power Wire

Type	Single core
Conductor	Stranded copper
Size	16 AWG (1.5sq mm) minimum
Insulation Rating	600 Volts, 75°C minimum

### Wires and Cables

Insulation material	PVC, Flame Retardant
<b>Earth Wire</b>	
Conductor	Stranded copper
Size	16 AWG (1.5 sqmm) minimum
Protective Earth	Green and Yellow
Functional Earth	Green

### Circuit Breakers

#### Circuit Breakers

Type	Thermo-magnetic, double pole
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### Bus Bars

#### Bus Bars

Individual bus bars are provided for Protective Earth Ground and Functional Earth, and can be connected when an isolated earthing connection is not required. Intrinsically safe applications have an additional bus bar for I.S. ground.

Material	Copper
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### Requirement for Safe Area Installation

- Ambient temperature range -20 to 50°C.
- Maximum inside temperature to be 50°C.

## Requirement for Class 1 Div 2, Zone 2 Non-Purged

- Enclosure meeting UL698A and IEC 60079-0 for Ex application
- Components to be Ex certified with connections complying to IEC 60079-7 and UL 121201
- Ambient temperature range -20°C to 50°C
- Maximum inside temperature to be 50°C

## Requirement for Zone 1 & 2 Ex “p” Installation

Purge Panel solutions are engineered for specific specifications in accordance with the Ex”p” hazardous area concept to NFPA496 and IEC 60079-2. Please reach out to Bently representative for right Purged Cabinet design and provide below information:

- Area Classification
- Ambient Temperature range
- Area Temperature Class

Please fill-out the [Ex Custom Field Enclosure Request on page 6.](#)

Equipment Type	
Overvoltage Category	Overvoltage Category II
Pollution Degree	Pollution Degree 4
Electrical Equipment	Fixed Equipment & Permanently Connected Equipment
EMC Compatibility	Industrial location
Ingress Protection	IP54 minimum
Impact Resistance	IK-09
Equipment Class	Equipment Class 1

Equipment Type	
Power Supply System	TN-S System
System Environmental	
Operating Temperature Range	-20°C to +50°C
Storage Temperature Range	-40°C to +85°C
Relative Humidity	0% to 85% rH non-condensing operating and storage

### CAUTION

**LOCATION TEMPERATURE AND HUMIDITY**

If you install the hardware in a location where temperatures may exceed 40°C (104°F) or in excessive humidity, please reach out to Bently representative for right custom cabinet design.

## Ex Custom Field Enclosure Request

Item	Description	Details
1	Type of Certification: a. IECEx b. ATEX c. CSA/NEC d. Other	
<b>Zone Application</b>		
2	Area Zone:	
3	Area Gas Group:	
<b>Division Application</b>		
4	Area Class:	
5	Area Division:	
6	Area Gas Group:	
<b>Others</b>		
7	Area Temp Class:	
8	Maximum & Minimum Environmental Temperature:	
9	Maximum & Minimum Environmental Relative Humidity:	
10	Is the environment corrosive?:	
11	Should the enclosure include the following accessories?: a. Zener Barrier b. Galvanic Isolator c. Surge Protector d. Others	
12	Preferred Type of Enclosure Material:	
13	Preferred Type of Protection: a. Ex "e" b. Purging System : Ex "p"	
14	Is TB required in the enclosure?:	

## 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](https://bntechsupport.com) and access the Bently Nevada Media Library.

## Packaged Systems

Packaged Systems are individually manufactured to order. Contact a Bently Nevada Customer Care Representative at [Bently.com/support](https://Bently.com/support) for ordering information.

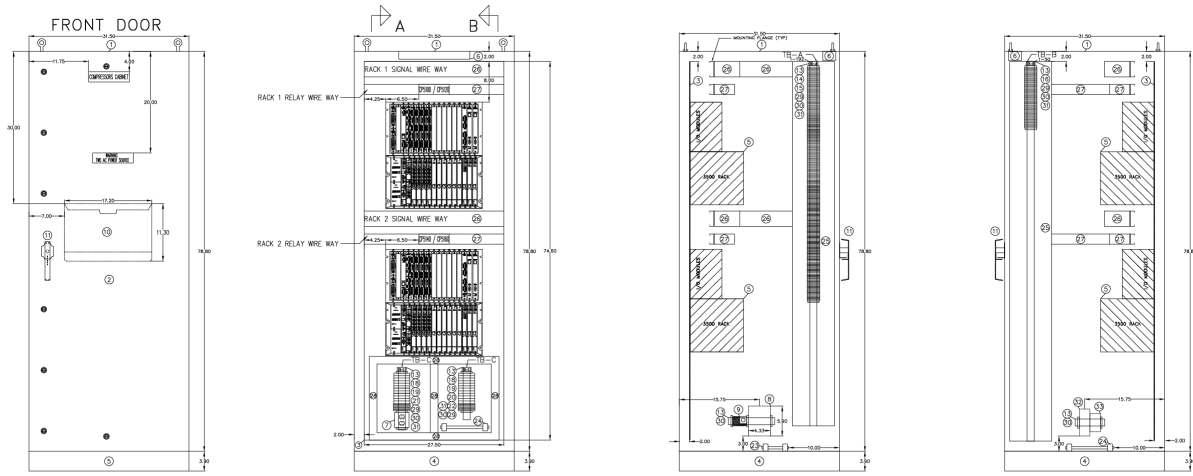
## Documentation

- Cabinet drawings in .pdf format
- Cabinet Certification for Ex cabinets
- QA test report

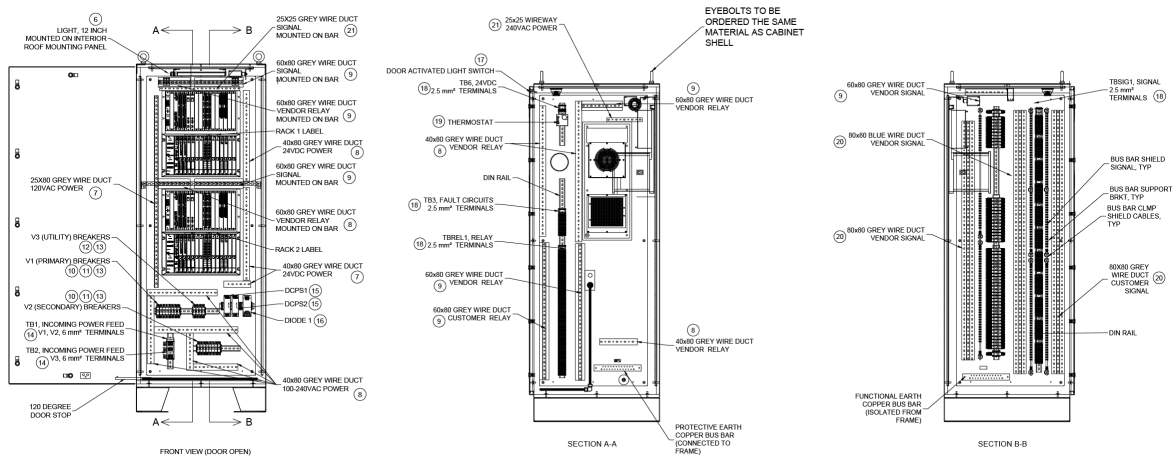
## Storage Requirement

- Cabinet & Spares must be stored in closed roof.
- No rodents, birds, or insects in the storage room.
- Panels are to be stored in a clean, cool, and dry place under controlled ambient temperature, 20°C to 30°C and relative humidity 5% to 85%, non-condensing.
- Do not tip, stack, or expose to electric shock.

## Diagrams and Figures

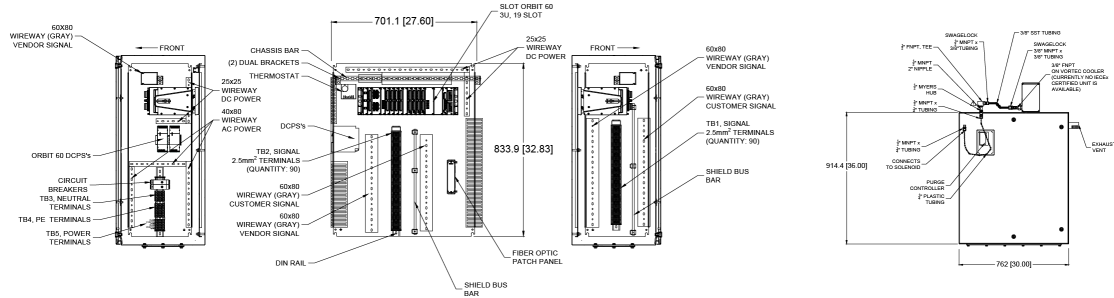


**Figure 1: Safe Area Outdoor Cabinet (800 mmW x 2000 mmH x 800 mmD)**

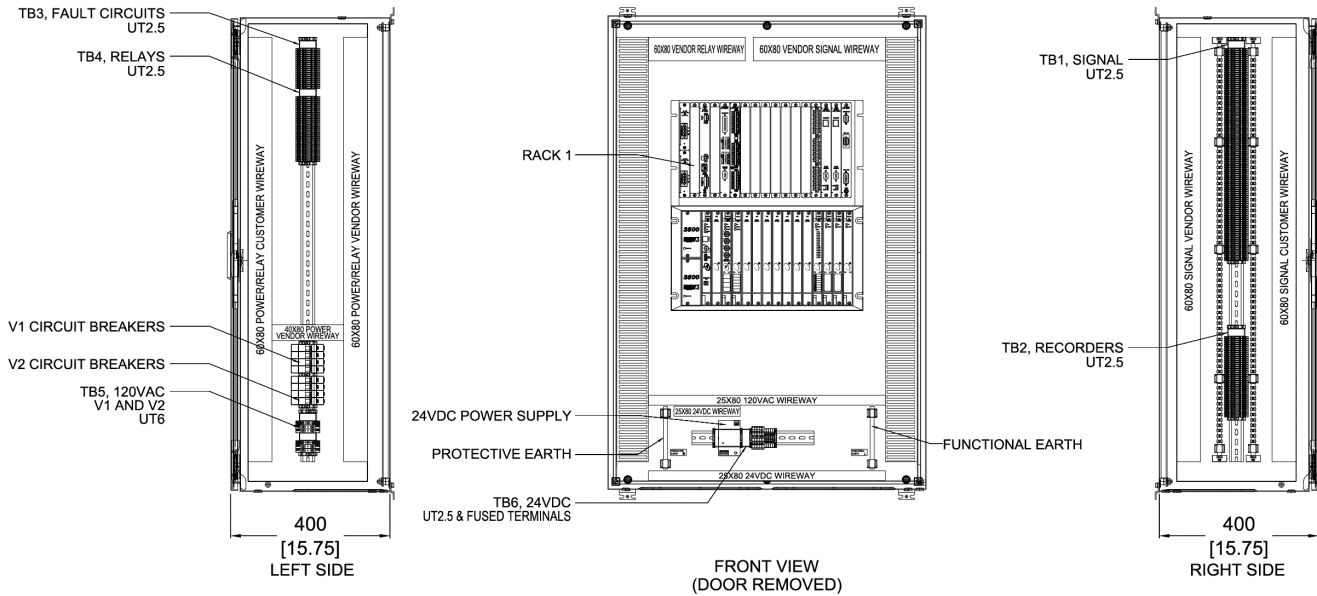


**Figure 2: Ex "p" Zone 2 Cabinet (800 mmW x 2000 mmH x 800 mmD)**





**Figure 4: O60 wall-mount with Vortex (Purged Optional) (800 mmW x 900 mmH x 400 mmD)**



**Figure 5: 3500 Outdoor wall-mount cabinet (Purged optional) (800 mmW x 1200 mmH x 400 mmD)**

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