

ORDERING GUIDE

Infinity M Dual Voltage Power Systems

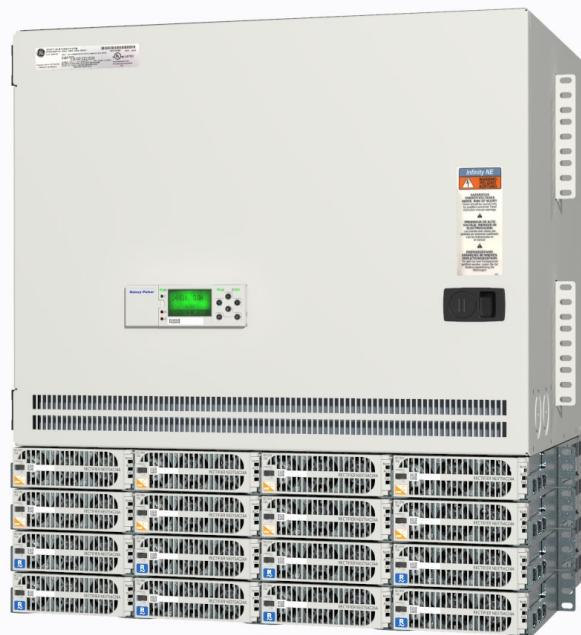


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Infinity Medium Plant

Dual Voltage Capable, Rack Mounted Power System

The OmniOn Medium power plant family provides you ultimate voltage and distribution flexibility to meet your varying field applications. Solutions range from 150 to 4200 Amps supporting +24V or -48V batteries with options for +24V to -48V, -48V to +24V, or -48V to -58V converters.

The OmniOn Infinity Medium DC energy system is a larger capacity alternative option to our Infinity S power systems. Utilizing the similar architecture as the Infinity S, the Infinity M offers more features than are available in the smaller capacity Infinity S. Offering features from simple -48V to Dual Voltage operation, Infinity M is a great solution for wireless, cable and small telecom offices.

Overview

The OmniOn Infinity Medium DC energy system is a modular power plant that supports dual voltage operation with a primary voltage of -48V with a secondary voltage of +24V or -58V through the use of a comprehensive range of advanced rectifiers and DC-DC converters. Additional options are available for +24V battery plants with -48V secondary output. Primary voltage is supported by rectifiers and battery reserve, while secondary voltage is supported by DC-DC converter modules.

The Infinity M Power System has primary voltage capacity for +24V and -48V power up to 2,100A; secondary voltage capacity is up to 600A per expansion module.

Advantages:

- Dual Voltage power system with ultimate flexibility
- -48V up to 2100 Amps
- Secondary voltage capacity up to 600A
- High availability applications
- Efficiency approaching 97%

Key Features

Infinity M systems may be equipped in a 7ft 23" relay rack; a half height rack for mounting on battery stands; indoor or outdoor power cabinets; or mounting rails for field install applications. The distribution module is either 10U (17.5"), 14U (24.5") or 18U (31.5") tall and accommodates up to 104 single voltage or selectable voltage bullet breaker positions or up to 24 Large Breaker positions that support GJ style breakers and TPL Fuses. Power shelves are 1U tall with five slots that accept CP series rectifier. Converter shelves can be added to support a secondary voltage option.

- Dual Voltage Flexibility
- 277/220/110V AC Input
- Redundant Fan Cooling
- Hot pluggable
- Digital load sharing
- Fully RoHS 10 compliant
- Temperature hardened harsh environments. (-40°C to +75°C)

Galaxy Pulsar* Plus Controller

The Galaxy Pulsar Plus is used throughout many of the GE DC Power products including GPS, Infinity, CP, and SPS with the only differentiator being the form factor which is scaled to meet the nature of the application. The controller utilizes secure network management protocols allowing for advanced network supervision with SNMP communications to deliver extensive monitoring and control features with both local and remote access.

The Pulsar Plus controller utilizes standard network management protocols allowing for advanced network supervision. GE Galaxy Manager™ software is the centralized visibility and control component of a comprehensive power management system designed to meet engineering, operations and maintenance needs.

Key Features:

- Integrated 10/100Base-T Ethernet Network IPV4 & IPV6 compatible
- Secure Protocols: SNMPv3, SSL, SSH
- 10 user assignable Alarm relays and 15 binary inputs
- Battery management including slope thermal compensation
- Active Rectifier Management ARM (energy efficiency)

System status, parameters, settings, and alarm thresholds can be viewed and configured from the controller's front panel display. Assignment and configuration of alarm inputs and output relays can be performed from a laptop computer connected to a local RS-232 or Ethernet port, or by remote access is through a network connection to the World Wide Web (internet) or your enterprise network (intranet).

Galaxy Millennium* II Controller

Galaxy Millennium II is our flagship controller designed to meet the needs of the most advanced power systems. Building on the Galaxy Millennium platform, the Galaxy Millennium II delivers state-of-the-art performance by combining sophisticated control, monitoring, and remote network access previously on three separate circuit packs into a single integrated unit. The controller has been designed to simplify plant administrative and surveillance routines as well as reduce operating, provisioning, and personnel expenses. Configuration of the Galaxy Millennium II can be performed via menu based front panel display, a local terminal or remote modem using syView2, or through a local or remote network

connection utilizing standard web browsers or network protocols. In addition to its standard integrated monitoring capabilities, this controller offers extensive external monitoring using bay interface cards (BICs), distribution control cards, and remote peripheral monitoring modules (RPMs) designed for various inputs and transducers. Additional external relay contacts are also available. The Galaxy Millennium II, with integrated network access, allows for advanced network supervision using standard network management protocols and available network management software. The GE Energy Galaxy Manager network management software can be used to meet power system engineering, operations and maintenance needs. Via the World Wide Web, users gain access to live data and information logged into Galaxy Manager's centralized server from each monitored system controller across the power network.

Additional Features:

- 19 user assignable alarm relays
- Remote Peripheral Monitoring & Control (RPM) - Ability to add up to 95 additional monitoring modules
- 32 derived channels enable arithmetic and Boolean operations for customer defined operations

Applications

The Infinity M may be configured as a -48V single voltage power system or as a dual voltage power system that supports rectifiers and converters. The primary voltage is supported by -48V rectifiers and battery reserve, while secondary voltage is supported by DC-DC converters. Infinity-M includes dedicated 24V, 48V and return buses. The primary voltage capacity is 2,100A at -48V. Secondary voltage capacity is up to 600A.

The system includes low voltage battery disconnect option for the primary voltage. A low voltage load disconnect option can be used for load shedding to maintain critical loads. The secondary voltage can also utilize a software disconnect by turning off converter as required by the user.

- Wireless Telecom Networks
- Central Office
- Cable Facilities
- Remote Radio Sites
- Data Networks

Infinity M Dual Voltage Distribution Specifications

Infinity M distribution panels are an integral part of the power plant distribution. Panels are installed in the factory and tested per our UL bay certifications. Panels are designed such that they can be installed in the distribution bay to allow for a variety of distribution options including:

- 26 Position Single Voltage Bullet Breakers
- 26 Position Dual Voltage Selectable Bullet Breakers

Bullet Breaker Panels				
Dist.	Output	Panel Rating @ 45C	Position	Shunt Monitorable
G630	48VDC	600A	Any Tier	No
G631	48VDC	600A	Any Tier	Yes; Panel Current
G632	24VDC	600A	Any Tier	No
G633	24VDC	600A	Any Tier	Yes; Panel Current
G635	48/24VDC	600A Primary, 600A Sec, 1200A Max Combined	Any Tier Fully Sel.	No
G635A	48/24VDC	600A Primary, 600A Sec, 1200A Max Combined	Bottom 212 or 222	No
G635M	48/24VDC	600A Primary, 600A Sec, 1200A Max Combined	Bottom Tier	No
G635V	48/24VDC	600A Primary, 600A Sec, 1200A Max Combined	Bottom Tier	No
G635T	48/24VDC	600A Primary, 600A Sec, 1200A Max Combined	Top Tier	No
G648	48/58VDC	600A Primary, 600A Sec, 1200A Max Combined	Any Tier Fully Sel.	No
G648A	48/58VDC	600A Primary, 600A Sec, 1200A Max Combined	Bottom 212 or 222	No
G648M	48/58VDC	600A Primary, 600A Sec, 1200A Max Combined	Bottom Tier	No
G648V	48/58VDC	600A Primary, 600A Sec, 1200A Max Combined	Bottom Tier	No
G648T	48/58VDC	600A Primary, 600A Sec, 1200A Max Combined	Top Tier	No

Infinity M 48/24V Specifications

The Infinity M 48/24V power system is configured with a -48V primary and +24V secondary output voltage. The primary voltage is supported by 48V rectifiers and battery reserve, while secondary voltage is supported by 48/24 DC-DC converters. Infinity-M includes dedicated 24V, 48V and return buses. The primary voltage capacity ranges from 1200A to 2100A. Secondary voltage capacity ranges from 600A to 1200A depending main distribution type, configuration of distribution panels, and the quantity of power shelves incorporated. The Fully Selectable and M-Series have a low voltage battery disconnect option for the primary voltage.



Input	MIN	TYPICAL	MAX
Voltage Range			
• High-Line	175VAC	220VAC	305VAC
• Low-Line	85VAC	110VAC	140VAC
Frequency	45Hz	60Hz	66Hz
Power Factor	98%	99.5%	99.8%
Total Harmonic Distortion			5%

Primary Output	Fully Selectable Series	M-Series	V-Series
Nominal Voltage	-48Vdc	-48Vdc	-48Vdc
Output Rating	1,500 - 2,100A	1,500 - 2,100A	1,200A
Vo Setpoint (Factory)	-54.5Vdc±1%	-54.5Vdc±1%	-54.5Vdc±1%
Vo Range	-42Vdc to -58Vdc	-42Vdc to -58Vdc	-42Vdc to -58Vdc
Regulation	±0.5%	±0.5%	±0.5%

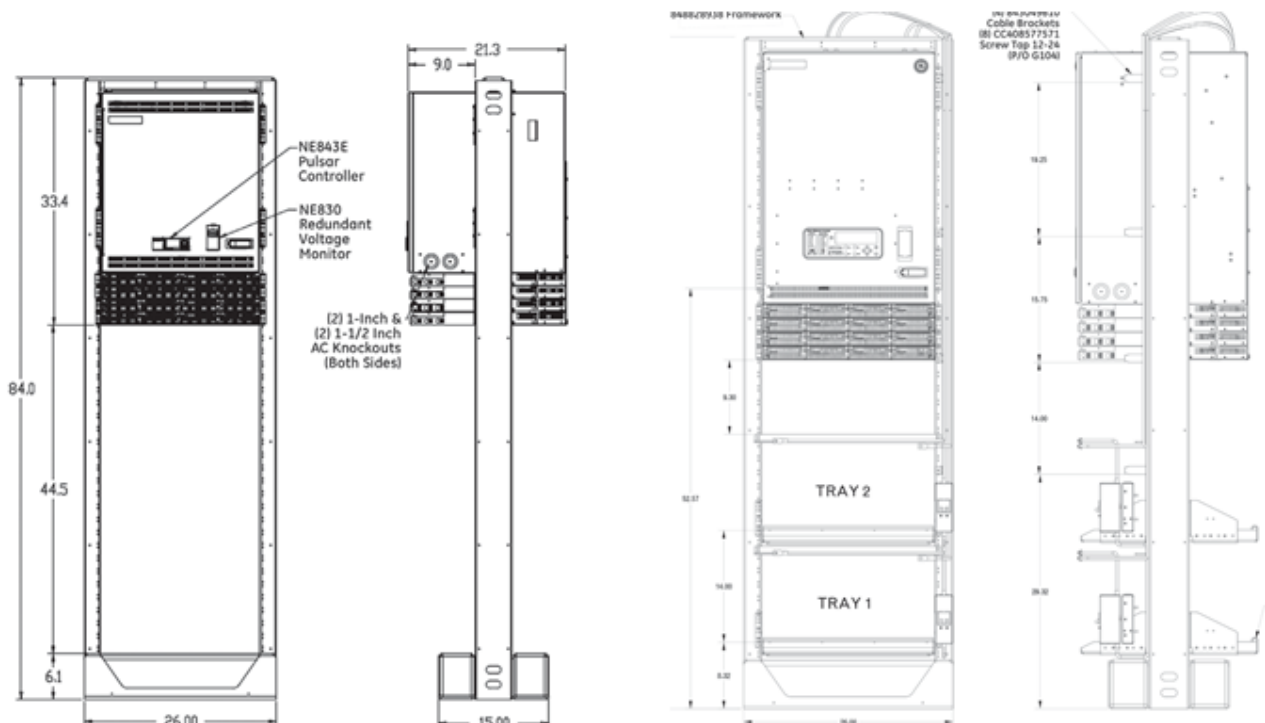
Secondary Output	Fully Selectable Series	M-Series	V-Series
Nominal Voltage (Vdc)	24Vdc	24Vdc	24Vdc
Output Rating (A)	600 - 1,200A	600 - 1,200A	600A
Vo Setpoint (Factory)	27.2Vdc	27.2Vdc	27.2Vdc
Vo Range (Vdc)	+21Vdc to +29Vdc	+21Vdc to +29Vdc	+21Vdc to +29Vdc
Regulation	±0.5%	±0.5%	±0.5%

Mechanical	
Height (in./mm)	31.5 / 800 (Base system with 4 power shelves)
Width (in./mm)	23 / 584.2 (Standard Frame)
Depth (in./mm)	21 / 533.4
Weight (Lb/Kg)	360 / 163 (Base System with 5 power shelves and 7ft frame, no rectifiers)

Specifications (continued)

Environmental	
Operating Temperature	-40°C to +75°C (-40°F to 167°F)
Storage Temperature	-40°C to +85°C (-40°F to 185°F)
Relative Humidity	95% max, non-condensing
Altitude	4000M (for altitudes above 2000M, peak operating temperature de-rates 0.656°C /100M; 4000M peak temperature rating is 62°C)
Safety And Standards Compliance	
NEBS	Evaluated by independent NRTL test lab to Telcordia GR63-CORE and GR1089-CORE [Level 3] ISSUE 7
Safety	ANSI/UL62368-1 and CAN/CSA C22.2 No. 62638-1, IEC62638-1
RoHS	Compliant to 2011/65/EU and amended Directive (EU) 2015/863
EMC	European Directive 2014/30/EU; EN55032, Class A; EN55035; FCC, Class A; GR1089-CORE ISSUE 7
Agency Certifications	
CSA / UL	ANSI/UL62638-1 and CAN/CSA C22.2 No. 62638-1
EMI/EMC	European Directive 2014/30/EU; EN55032 (CISPR22) Class A; EN55035 (CISPR35)
NEBS Level 3	GR1089-CORE, Issue 6 Special equipment room cooling may be needed - heat dissipation exceeds values of GR-63 Table 4-5

Drawings



Standard Infinity M Plant


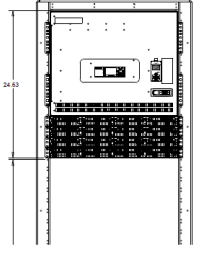

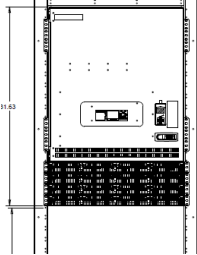

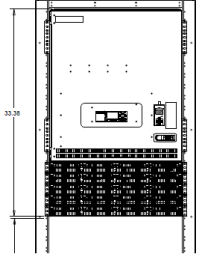

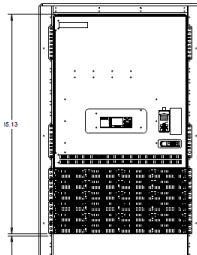

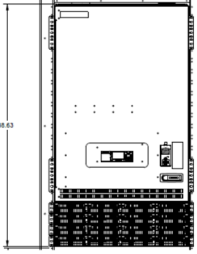
High Capacity Infinity M Plant

Step 1: Select Base Power System - Infinity M

Infinity M Dual Voltage Power Systems (-48V Primary, +24V Secondary)

The below list of Infinity M plants are a continuation of the current product offering with primary voltage of 48V and secondary voltage operation of 24V through converters. Systems now have the top two power shelves as universal rectifier or converter compatible. Two tier distribution bays are rated at a maximum of 1200A of primary output current whereas the three tier distribution can be expanded to as much as 1800A for 3 Tier and 2100A for 4 Tier on the primary bus.

Fully Selectable Bays


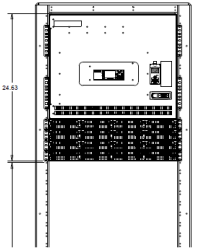

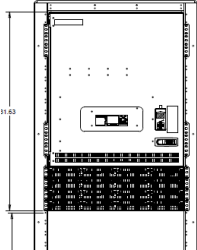

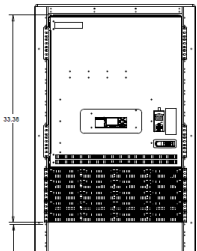

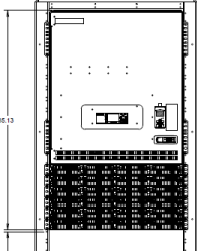

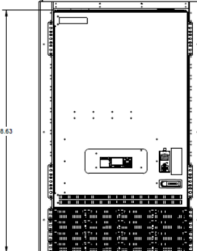
Comcode	Description	Feature	Rating	Qty	Picture
150044587 	-48/24V NEM Fully Selectable 2-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G222, G635A(2), G320	48V Out	1200A	52	
		24V Out	1200A	52	
		Universal Power Slots		12	
		-48V Power Slots		4	
		Available Rack Units		29	
150049190 	-48/24V NEM Fully Selectable 3-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G223, G635(3)	48V Out	1200A	78	
		24V Out	1200A	78	
		Universal Power Slots		16	
		-48V Power Slots		0	
		Available Rack Units		25	
150049191 	-48/24V NEM Fully Selectable 3-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G223, G635(3), G320	48V Out	1500A	78	
		24V Out	1200A	78	
		Universal Power Slots		16	
		-48V Power Slots		4	
		Available Rack Units		24	
150049192 	-48/24V NEM Fully Selectable 3-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G223, G635(3), G320(2)	48V Out	1800A	78	
		24V Out	1200A	78	
		Universal Power Slots		16	
		-48V Power Slots		8	
		Available Rack Units		23	
150049197 	-48/24V NEM Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G224, G635(4), G320(3)	48V Out	2100A	104	
		24V Out	1200A	104	
		Universal Power Slots		16	
		-48V Power Slots		12	
		Available Rack Units		18	

Step 1: Select Base Power System - Infinity M

Infinity M Dual Voltage Power Systems (-48V Primary, +24V Secondary)

The below list of Infinity M plants are a continuation of the current product offering with primary voltage of 48V and secondary voltage operation of 24V through converters. Systems now have the top two power shelves as universal rectifier or converter compatible. Two tier distribution bays are rated at a maximum of 1200A of primary output current whereas the three tier distribution can be expanded to as much as 1800A for 3 Tier and 2100A for 4 Tier on the primary bus.

Bottom Selectable Panel


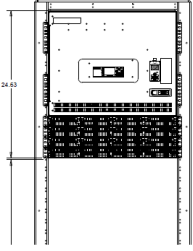

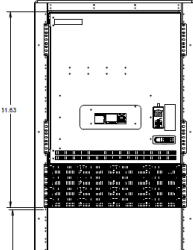

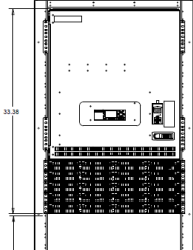
Comcode	Description	Feature		Rating	Qty	Picture
		48V Out	24V Out			
1600131297A 	-48/24V NEM 2-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G222M, G630, G635L, G310(2), G320(2)	48V Out	1200A	52		
		24V Out	600A	26		
		Universal Power Slots		8		
		-48V Power Slots		8		
		Available Rack Units		29		
150049193 	-48/24V NEM 3-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G223M, G630(2), G635L, G310(2), G320(2)	48V Out	1200A	78		
		24V Out	600A	26		
		Universal Power Slots		8		
		-48V Power Slots		8		
		Available Rack Units		25		
150049194 	-48/24V NEM 3-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G223M, G630(2), G635L, G310(2), G320(3)	48V Out	1500A	78		
		24V Out	600A	26		
		Universal Power Slots		8		
		-48V Power Slots		12		
		Available Rack Units		24		
150049195 	-48/24V NEM 3-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G223M, G630(2), G635M, G310(2), G320(4)	48V Out	1800A	78		
		24V Out	600A	26		
		Universal Power Slots		8		
		-48V Power Slots		16		
		Available Rack Units		23		
1600329078A 	-48/24V NEM 4-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G224M, G630(3), G635M, G310(2), G320(2)	48V Out	1200A	104		
		24V Out	600A	26		
		Universal Power Slots		8		
		-48V Power Slots		8		
		Available Rack Units		21		

Step 1: Select Base Power System - Infinity M

NEW Infinity M Dual Voltage Power Systems (-48V Primary, +24V Secondary)

The following codes are the wireless application optimized Infinity M solutions. These configurations have a maximum output capacity of 1200A and targeted specifically to Wireless applications. There are options for top or bottom selectable distribution panels and 48V only plants.

Bottom Selectable Panel

Comcode	Description	Feature	Rating	Qty	Picture
1600351297A 	-48V Primary voltage 2-Tier NEM Power System equipped with +24V selectable panel, a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G222V, G630, G635V, G310V(2), G320V(2)	48V Out	1200A	52	
		24V Out	600A	26	
		Universal Power Slots		8	
		-48V Power Slots		8	
		Available Rack Units		29	
1600351299A 	-48V Primary voltage 3-Tier NEM Power System equipped with +24V selectable panel, a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G223V, G630(2), G635V, G310V(2), G320V(2)	48V Out	1200A	78	
		24V Out	600A	26	
		Universal Power Slots		8	
		-48V Power Slots		8	
		Available Rack Units		25	
1600351301A 	-48V Primary voltage 3-Tier NEM Power System equipped with +24V selectable panel, a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G223V, G630(2), G635V, G310V, G320V(4)	48V Out	1200A	78	
		24V Out	600A	26	
		Universal Power Slots		4	
		-48V Power Slots		16	
		Available Rack Units		23	

Step 1: Select Base Power System - Infinity M

Top Selectable Panel

Comcode	Description	Feature	Rating	Qty	Picture
1600351298A 	-48V Primary voltage 2-Tier NEM Power System equipped with +24V selectable panel, a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G222V, G630, G635T, G310V(2), G320V(2)	48V Out	1200A	52	
		24V Out	600A	26	
		Universal Power		8	
		-48V Power Slots		8	
		Available Rack Units		29	
1600351300A 	-48V Primary voltage 3-Tier NEM Power System equipped with +24V selectable panel, a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G223V, G630(2), G635T, G310V(2), G320V(2)	48V Out	1200A	78	
		24V Out	600A	26	
		Universal Power		8	
		-48V Power Slots		8	
		Available Rack Units		25	
1600351302A 	-48V Primary voltage 3-Tier NEM Power System equipped with +24V selectable panel, a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G223V, G630(2), G635T, G310V(2), G320V(4)	48V Out	1200A	78	
		24V Out	600A	26	
		Universal Power		8	
		-48V Power Slots		16	
		Available Rack Units		23	

Top and Bottom Selectable Panels

The following codes are the Wireless optimized Infinity M solutions. These configurations have a maximum output capacity of 1200A and targeted specifically to Wireless applications and offer selectable panels in the top and bottom most positions in the bay.

Comcode	Description	Feature	Rating	Qty	Picture
1600389818A 	-48V Primary voltage 3-Tier NEM Power System equipped with +24V selectable panel in top and bottom rows, a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G223V, G635V, G635T, G630, G310V(2), G320V(3)	48V Out	1200A	78	
		24V Out	600A	52	
		Universal Power Slots		8	
		-48V Power Slots		12	
		Available Rack Units		24	
1600390862A 	-48V Primary voltage 3-Tier NEM Power System equipped with +24V selectable panel in top and bottom rows, a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G223V, G635V, G635T, G630, G310V(2), G320V(4)	48V Out	1200A	78	
		24V Out	600A	52	
		Universal Power Slots		8	
		-48V Power Slots		16	
		Available Rack Units		23	

Infinity M 48/58V Specifications

The Infinity M 48/58V power system is configured with a -48V primary and -58V secondary output voltage. The primary voltage is supported by 48V rectifiers and battery reserve, while secondary voltage is supported by 48/58 DC-DC converters. Infinity-M includes dedicated 58V, 48V and return buses. The primary voltage capacity ranges from 1200A to 2100A. Secondary voltage capacity ranges from 600A to 1000A depending main distribution type, configuration of distribution panels, and the quantity of power shelves incorporated. The Fully Selectable and M-Series have a low voltage battery disconnect option for the primary voltage.



Input	MIN	TYPICAL	MAX
Voltage Range			
• High-Line	175VAC	220VAC	305VAC
• Low-Line	85VAC	110VAC	140VAC
Frequency	45Hz	60Hz	66Hz
Power Factor	98%	99.5%	99.8%
Total Harmonic Distortion			5%

Primary Output	Fully Selectable Series	M-Series	V-Series
Nominal Voltage	-48Vdc	-48Vdc	-48Vdc
Output Rating	1,200 - 2,100A	1,200 - 2,100A	1,200A
Vo Setpoint (Factory)	-54.5Vdc±1%	-54.5Vdc±1%	-54.5Vdc±1%
Vo Range	-42Vdc to -58Vdc	-42Vdc to -58Vdc	-42Vdc to -58Vdc
Regulation	±0.5%	±0.5%	±0.5%

Secondary Output	Fully Selectable Series	M-Series	V-Series
Nominal Voltage (Vdc)	58Vdc	58Vdc	58Vdc
Output Rating (A)	600 - 1,200A	600 - 1,000A	600A
Vo Setpoint (Factory)	58.0Vdc	58.0Vdc	58.0Vdc
Vo Range (Vdc)	-48Vdc to -58dc	-48Vdc to -58dc	-48Vdc to -58dc
Regulation	±0.5%	±0.5%	±0.5%

Mechanical	
Height (in./mm)	31.5 / 800 (Base system with 4 power shelves)
Width (in./mm)	23 / 584.2 (Standard Frame)
Depth (in./mm)	21 / 533.4
Weight (Lb/Kg)	360 / 163 (Base System with 5 power shelves and 7ft frame, no rectifiers)

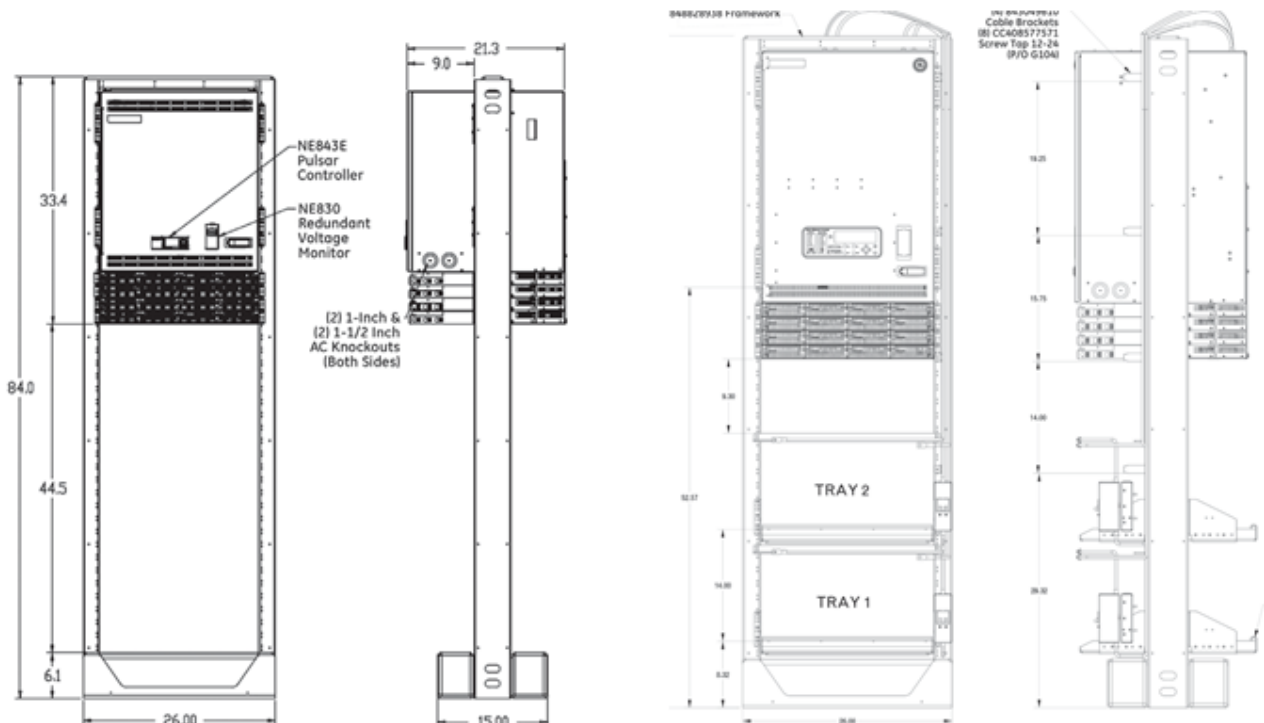
Specifications (continued)

Environmental	
Operating Temperature	-40°C to +75°C (-40°F to 167°F)
Storage Temperature	-40°C to +85°C (-40°F to 185°F)
Relative Humidity	95% max, non-condensing
Altitude	4000M (for altitudes above 2000M, peak operating temperature de-rates 0.656° C /100M; 4000M peak temperature rating is 62°C)

Safety And Standards Compliance	
NEBS	Evaluated by independent NRTL test lab to Telcordia GR63-CORE and GR1089-CORE [Level 3] ISSUE 7
Safety	ANSI/UL62368-1 and CAN/CSA C22.2 No. 62638-1, IEC62638-1
RoHS	Compliant to 2011/65/EU and amended Directive (EU) 2015/863
EMC	European Directive 2014/30/EU; EN55032, Class A; EN55035; FCC, Class A; GR1089-CORE ISSUE 7

Agency Certifications	
CSA / UL	ANSI/UL62638-1 and CAN/CSA C22.2 No. 62638-1
EMI/EMC	European Directive 2014/30/EU; EN55032 (CISPR22) Class A; EN55035 (CISPR35)
NEBS Level 3	GR1089-CORE, Issue 6 Special equipment room cooling may be needed - heat dissipation exceeds values of GR-63 Table 4-5

Drawings



Standard Infinity M Plant

High Capacity Infinity M Plant

Step 1: Select Base Power System - Infinity M

Infinity M Dual Voltage Power Systems (-48V Primary, -58V Secondary)

The below list of Infinity M plants are a continuation of the current product offering with primary voltage of 48V and secondary voltage operation of 58V through converters. Systems now have the top two power shelves as universal rectifier or converter compatible. Two tier distribution bays are rated at a maximum of 1200A of primary output current whereas the three tier distribution can be expanded to as much as 1800A for 3 Tier and 2100A for 4 Tier on the primary bus.

Comcode	Description	Feature	Rating	Qty	Picture
1600480860A 	-48/-58V NEM Fully Selectable 2-Tier Power System equipped with a door mounted Pulsar Plus Controller, Low Voltage Battery Disconnect, and mounted in a 7ft Zone 4 frame H5692448 G104, G842, G222M, G648A, G648L, G325(3), G320(3), G601R	48V Out	1200A	52	
		58V Out	920A	52	
		Universal Power Slots		12	
		-48V Power Slots		12	
		Available Rack Units		27	
1600481212A 	-48/-58V NEM Fully Selectable 2-Tier Power System equipped with a door mounted Pulsar Plus Controller, Low Voltage Battery Disconnect, and mounted in a 7ft Zone 4 frame with 3, 24" battery trays fed by 200A on shelf breakers. H5692448 G104, G842, G222M, G648A, G648L, G325(3), G320(3), G601R, G452C(3), G461(3)	48V Out	1200A	52	
		58V Out	920A	52	
		Universal Power Slots		12	
		-48V Power Slots		12	
		Available Rack Units		0	
1600480423A 	-48/24V NEM Fully Selectable 3-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G103, G842, G223M, G630(2), G648M, G325(3), G320(3), G602R	48V Out	1500A	78	
		58V Out	520A	78	
		Universal Power Slots		12	
		-48V Power Slots		12	
		Available Rack Units		22	
1600481212A 	-48/-58V NEM Fully Selectable 3-Tier Power System equipped with a door mounted Pulsar Plus Controller, Low Voltage Battery Disconnect, and mounted in a 7ft Zone 4 frame with 3, 24" battery trays fed by 200A on shelf breakers. H5692448 G104, G842, G223M, G648A, G630, G648K G325(3), G320(3), G601R, G452C(3), G461(3)	48V Out	1500A	78	
		58V Out	920A	78	
		Universal Power Slots		12	
		-48V Power Slots		12	
		Available Rack Units		0	

Infinity M 24/48V Specifications

The Infinity M 24/48V power system is configured with a +24V primary and -48V secondary output voltage. The primary voltage is supported by 24V rectifiers and battery reserve, while secondary voltage is supported by 24/48 DC-DC converters. Infinity-M includes dedicated 24V, 48V and return buses. The primary voltage capacity ranges from 1200A to 2100A. Secondary voltage capacity ranges from 300A to 600A depending main distribution type, configuration of distribution panels, and the quantity of power shelves incorporated. The Fully Selectable and M-Series have a low voltage battery disconnect option for the primary voltage.



Input	MIN	TYPICAL	MAX
Voltage Range			
• High-Line	175VAC	220VAC	305VAC
• Low-Line	85VAC	110VAC	140VAC
Frequency	45Hz	60Hz	66Hz
Power Factor	98%	99.5%	99.8%
Total Harmonic Distortion			5%

Primary Output	Fully Selectable Series	M-Series	V-Series
Nominal Voltage	+24Vdc	+24Vdc	-
Output Rating	1,200 - 2,100A	1,200 - 2,100A	-
Vo Setpoint (Factory)	+24.2Vdc±1%	+24.2Vdc±1%	-
Vo Range	+21Vdc to +29Vdc	+21Vdc to +29Vdc	-
Regulation	±0.5%	±0.5%	-

Secondary Output	Fully Selectable Series	M-Series	V-Series
Nominal Voltage (Vdc)	48Vdc	48Vdc	-
Output Rating (A)	600 - 1,200A	600 - 1,000A	-
Vo Setpoint (Factory)	54.0Vdc	54.0Vdc	-
Vo Range (Vdc)	-42Vdc to -56dc	-42Vdc to -56dc	-
Regulation	±0.5%	±0.5%	-

Mechanical	
Height (in./mm)	31.5 / 800 (Base system with 4 power shelves)
Width (in./mm)	23 / 584.2 (Standard Frame)
Depth (in./mm)	21 / 533.4
Weight (Lb/Kg)	360 / 163 (Base System with 5 power shelves and 7ft frame, no rectifiers)

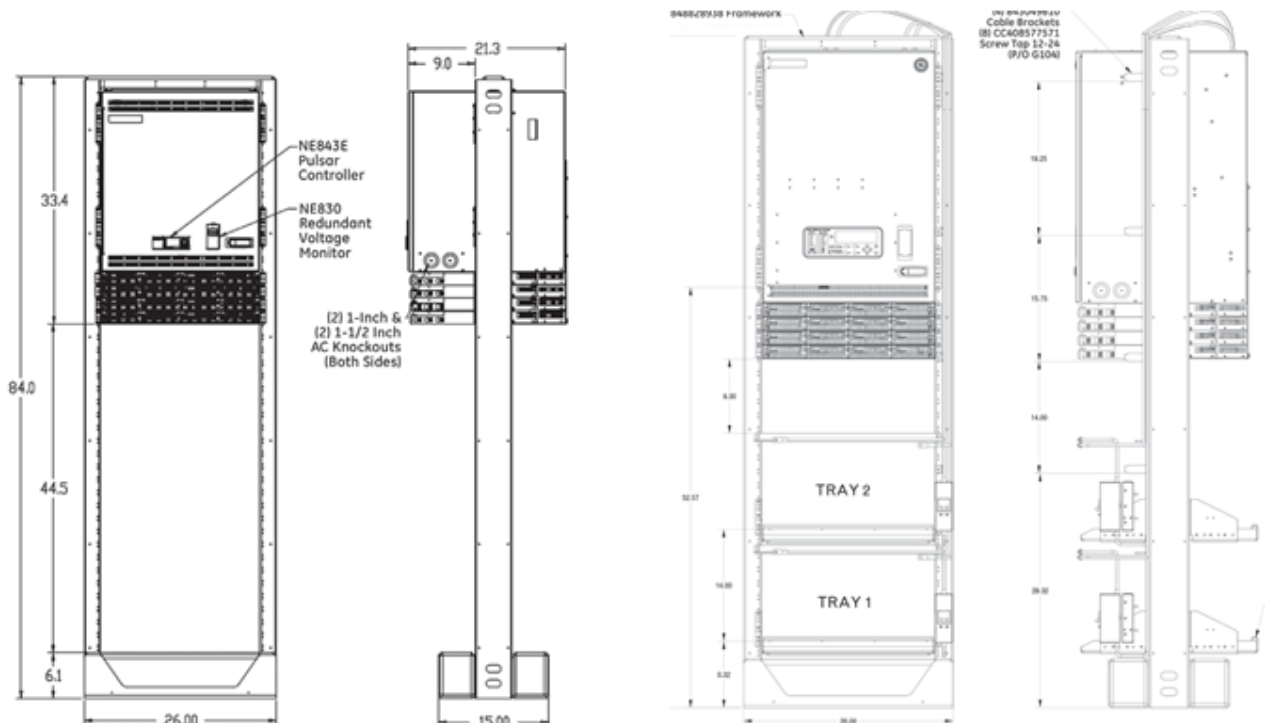
Specifications (continued)

Environmental	
Operating Temperature	-40°C to +75°C (-40°F to 167°F)
Storage Temperature	-40°C to +85°C (-40°F to 185°F)
Relative Humidity	95% max, non-condensing
Altitude	4000M (for altitudes above 2000M, peak operating temperature de-rates 0.656°C /100M; 4000M peak temperature rating is 62°C)

Safety And Standards Compliance	
NEBS	Evaluated by independent NRTL test lab to Telcordia GR63-CORE and GR1089-CORE [Level 3] ISSUE 7
Safety	ANSI/UL62368-1 and CAN/CSA C22.2 No. 62638-1, IEC62638-1
RoHS	Compliant to 2011/65/EU and amended Directive (EU) 2015/863
EMC	European Directive 2014/30/EU; EN55032, Class A; EN55035; FCC, Class A; GR1089-CORE ISSUE 7

Agency Certifications	
CSA / UL	ANSI/UL62638-1 and CAN/CSA C22.2 No. 62638-1
EMI/EMC	European Directive 2014/30/EU; EN55032 (CISPR22) Class A; EN55035 (CISPR35)
NEBS Level 3	GR1089-CORE, Issue 6 Special equipment room cooling may be needed - heat dissipation exceeds values of GR-63 Table 4-5

Drawings



Standard Infinity M Plant

High Capacity Infinity M Plant

Step 1: Select Base Power System - Infini-

Infinity M Dual Voltage Power Systems (+24V Primary, -48V Secondary)













The below list of Infinity M plants are a continuation of the current product offering with primary voltage of 24V and secondary voltage operation of 48V through converters. Systems now have the top two power shelves as universal rectifier or converter compatible. Two tier distribution bays are rated at a maximum of 1200A of primary output current whereas the three tier distribution can be expanded to as much as 1800A for 3 Tier and 2100A for 4 Tier on the primary bus.

Comcode	Description	Feature	Rating	Qty	Picture
150052897 	24/-48V NEM Fully Selectable 2-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G104, G842, G830, G212, G635(2), G310	24V Out	1200A	52	
		48V Out	1200A	52	
		Universal Power		16	
		+24V Power Slots		-	
		Available Rack Units		29	
150050346 	24/-48V NEM Fully Selectable 3-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G104, G842, G830, G213, G635(3)	24V Out	1600A	78	
		48V Out	1200A	78	
		Universal Power		16	
		+24V Power Slots		-	
		Available Rack Units		25	
150050347 	24/-48V NEM Fully Selectable 3-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 7ft Zone 4 frame H5692448 G104, G842, G830, G213, G635(3), G310	24V Out	1800A	78	
		48V Out	1200A	78	
		Universal Power		20	
		+24V Power Slots		-	
		Available Rack Units		24	
150050349 	24/-48V NEM Fully Selectable 3-Tier Power System equipped with a door mounted Pulsar Plus Controller, mounted in a 42" Zone 4 frame H5692448 G102, G842, G830, G213, G635(3), G310	24V Out	1800A	78	
		48V Out	1200A	78	
		Universal Power		20	
		+24V Power Slots		-	
		Available Rack Units		-	
150050348 	24/-48V NEM Fully Selectable 3-Tier Power System equipped with a door mounted Pulsar Plus Controller, with Low Voltage Battery Disconnect and mounted in a 7ft Zone 4 frame H5692448 G104, G842, G830, G213, G635(3),	24V Out	1600A	78	
		48V Out	1200A	78	
		Universal Power Slots		16	
		+24V Power Slots		-	
		Available Rack Units		18	

Step 2: Select Rectifier and Converter Modules

Rectifier Modules









Infinity rectifiers are designed to operate in all Infinity based power systems. They are designed and qualified to operate 40°C to +55°C with extended operation to +75°C. The 48V rectifiers are programmable from 42 - 58Vout, whereas the 24V rectifiers are programmable from 21 - 29Vout. All rectifiers of the same output voltage type will operate in parallel and load share based on the percentage of load capacity of each rectifier, ensuring that no one rectifier is loaded more than others.

Comcode	Description	Input	Output	Float	Max	Picture
109158878 	NE050AC48ATEZ	95 - 145Vac	1200W	44A	25A (48V)	
		175 - 305Vac	2725W	100A	57A (48V)	
		Input Current	15A - 12A			
		Heat Release	158 Watts	539 BTU/hr.		
109163473 	NE075AC48ATEZ	95 - 145Vac	1200W	22A	25A (48V)	
		175 - 305Vac	4085W	75A	82A (48V)	
		Input Current	22A - 16A			
		Heat Release	249 Watts	652 BTU/hr.		
1600248701A 	NE075AC48ATEZ+	95 - 145Vac	1200W	22A	25A (48V)	
		175 - 305Vac	4085W	75A	82A (48V)	
		Input Current	22A - 16A			
		Heat Release	191 Watts	594 BTU/hr.		
150025074 	NE050ECO48ATEZ	95 - 145Vac	1200W	44A	50A (48V)	
		175 - 305Vac	2725W	100A	114A (48V)	
		Solar 100 - 300Vdc	Full output above 250Vdc			
		Input Current	15A - 12A			
		Heat Release	174 Watts	594 BTU/hr.		
109160834 	NE100AC24ATEZ	95 - 145Vac	1200W	44A	50A (24V)	
		175 - 305Vac	2725W	100A	114A (24V)	
		Input Current	15A - 12A			
		Heat Release	174 Watts	594 BTU/hr.		
150025075 	NE100ECO24ATEZ	95 - 145Vac	1200W	44A	50A (24V)	
		175 - 305Vac	2725W	100A	114A (24V)	
		Solar 100 - 300Vdc	Full output above 250Vdc			
		Input Current	15A - 12A			
		Heat Release	174 Watts	594 BTU/hr.		


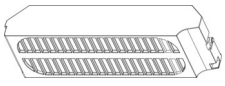
Step 2: Select Rectifier and Converter Modules

Converter Modules

Infinity converters are designed to operate in all dual voltage Infinity based power systems. They are designed and qualified to operate 40°C to +55°C with extended operation to +75°C. The 48V converters are programmable from 42 - 58Vout, whereas the 24V converters are programmable from 21 - 29Vout.

Comcode	Description	Input	Output	Nominal	Max	Picture
CC108142881 	NE075DC24A	42 - 60Vdc	2080W	75A (27.25)	87A (24V)	
		Input Nominal	Nominal 42A @ 54.5Vdc			
	94% Efficiency	Input Maximum	Maximum 60A @ 40Vdc			
		Heat Release	205 Watts	700 BTU/hr.		
1600405449A 	NE070DC58AZ	42 - 60Vdc	4060W	70A (54.5)	75A (48V)	
		Input Nominal	Nominal 85A @ 54.5Vdc			
	92% Efficiency	Input Maximum	Maximum 115A @ 42Vdc			
		Heat Release	191 Watts	594 BTU/hr.		
CC109112471 	NE030DC48A	21 - 30Vdc	1635W	30A (54.5)		
		Input Nominal	Nominal 63A @ 27Vdc			
	92% Efficiency	Input Maximum	Maximum 81A @ 21Vdc			
		Heat Release	162 Watts	553 BTU/hr.		
150023619 	NE040DC48AZ	21 - 30Vdc	2080W	40A (54.5)		
		Input Nominal	Nominal 85A @ 27Vdc			
	92% Efficiency	Input Maximum	Maximum 115A @ 21Vdc			
		Heat Release	191 Watts	594 BTU/hr.		

Miscellaneous - Rectifier/Converter Slot Fillers

Ordering Code	Description	Picture
CC109170668	Infinity Rectifier/Converter slot filler (empty chassis)	
CC848798702	Blank front cover for use in empty rectifier / converter positions	

Step 3: Distribution Components



Bullet Style Load Circuit Breakers

Infinity distribution panels support plug-in (bullet style) breakers modules. Larger breakers can be 2 or even 3 poles. The multi-pole breakers require output bus bar adapters, with returns either using the battery return bus or additional adapters connected to the load return bus.




Ordering Code	Amperage	CB Positions	Min Wire Gauge	Picture
407998137	3	1	10	
407998145	5	1	10	
407998152	10	1	10	
407998160	15	1	10	
407998178	16	1	10	
407998186	20	1	10	
407998194	25	1	10	
407998202	30	1	10	
408213486	40	1	10	
407998210	45	1	8	
407998228	50	1	8	
407998236	60	1	6	
407998244	70	1	6	
407998251	80	1	4	
407998269	90	1	4	
407998277	100	1	2	
CC848808551	100	2	2	
408185353	125	2	2	
408185346	150	2	1	
408544076	200	2	3/0	
408564941	200	3	3/0	
408573975	225	3	3/0	
408535752	250	3	4/0	
450046922	300	3	4/0	
CC848756916	2-pole Adapter bus for 100-200A breakers; used for ¼"-20 on 5/8" lugs (order 2 per 2 pole breaker to accommodate load and return lugs)			
850021775	2-pole Adapter bus for 100-200A breakers; used for 3/8" on 1" lugs (order 2 per 2 pole breaker to accommodate load and return lugs)			
CC848756924	3-pole Adapter bus for 200-300A breakers; used for 3/8" on 1" lugs; off-center connection (order 2 per 3 pole breaker to accommodate load and return lugs)			
850021955	3-pole Adapter bus for 200-300A breakers; used for 3/8" on 1" lugs; center connection (order 2 per 3 pole breaker to accommodate load and return lugs)			

Step 3: Distribution Components


Bullet Style TPS/TLS Fuse Holders and TPS/TLS Fuses

Ordering Code	Amperage	Picture
406700567	3	
406700583	5	
406700591	6	
406700609	10	
406700617	15	
406700625	20	
406700633	25	
406700641	30	
406700658	40	
406700674	50	
406700682	60	
406700690	70	
CC408618020	80	
CC408618037	90	
CC408618045	100	
CC408618061	125 (Max of 3, 125A fuses per side. A Space must be left between fuses)	
407845197	0.18 Alarm Fuse	
406473959	Bullet Fuse Holder, TFD-101-011-09 (Alarm on Removal or Blown Fuse)	
CC109103157	Bullet Fuse Holder, TFD-101-011-10 (Alarm on Removal or Blown Fuse)	




Bullet Style GMT Fuse Holders and GMT Fuses

Ordering Code	Amperage	Picture
405006222	0.25	
3150439	0.5	
405673146	1.33	
405181983	2	
406976985	3	
406159061	5	
405725433	7.5	
406159236	10	
407845197	12	
406473959	15	
CC109103157	6-pos GMT Bullet Fuse Holder (Requires 2 bullet positions) Note: Max Fuse Load is 12A	
1600316837A	10-pos GMT Bullet Fuse Holder (Requires 3 bullet positions) Note: Max Fuse Load is 15A	
408515823	Fuse Puller	

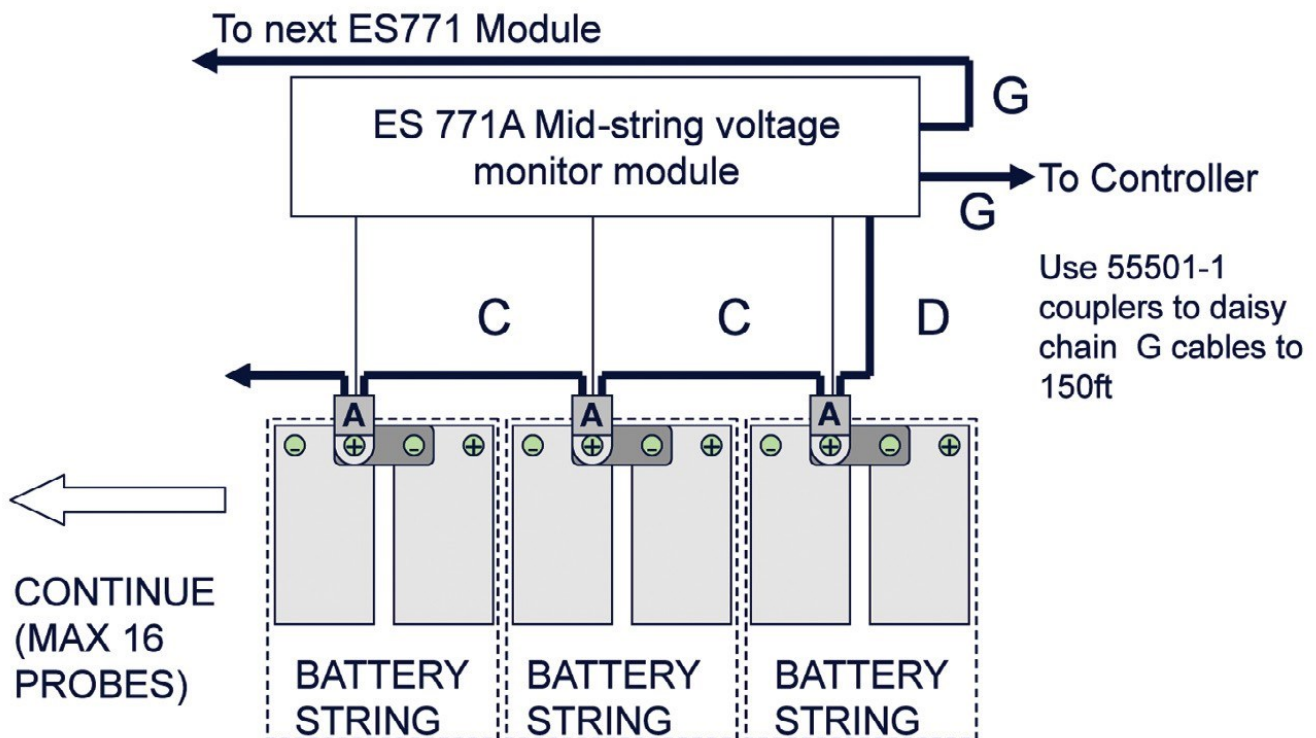
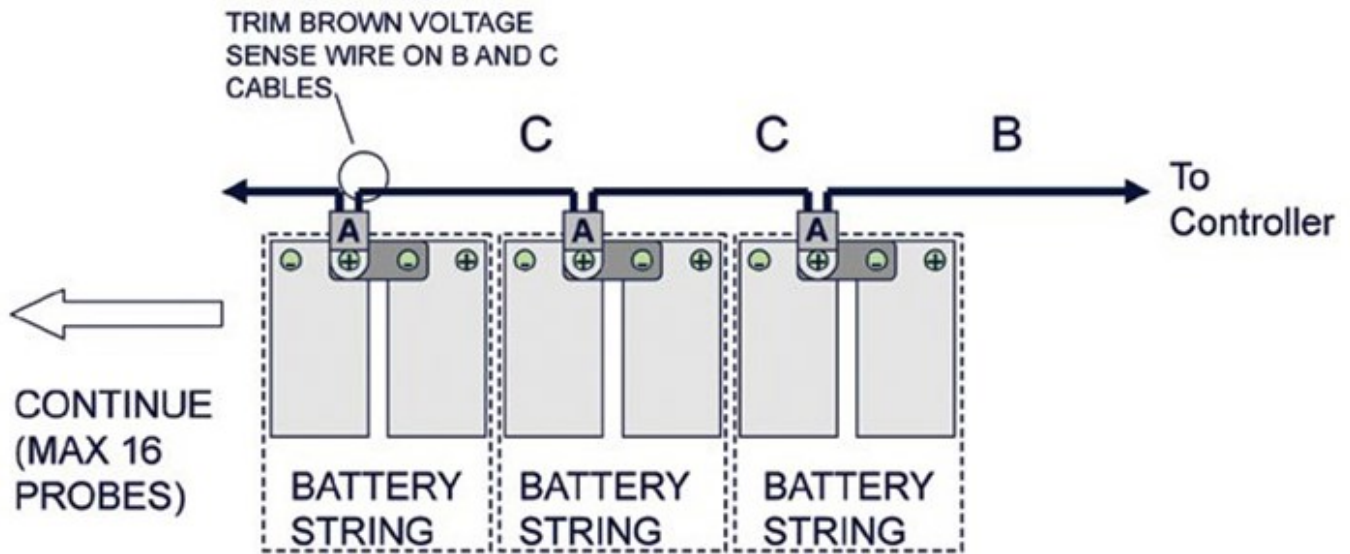
Step 4: Select Alarm Output and Input

Ordering Code	Description	Picture
CC848890153	5ft Auxiliary input alarm cable for Pulsar Plus Controller	
CC848865980	15ft Auxiliary input alarm cable for Pulsar Plus Controller	
CC848817651	50ft Auxiliary input alarm cable for Pulsar Plus Controller	
CC848817668	150ft Auxiliary input alarm cable for Pulsar Plus Controller	
CC109157442	15ft alarm output cable for Pulsar Plus Controller	
CC848817635	50ft alarm output cable for Pulsar Plus Controller	
CC848817643	150ft alarm output cable for Pulsar Plus Controller	

Step 5: Select Battery Monitoring

Ordering	Description	Application	Picture
CC109142980	QS873A Thermal Probe	(A)	
150026698	QS873B Ambient Probe	(A)	
CC848817024	10 ft wire set	(B: thermal probe to controller)	
CC109157434	20 ft wire set	(B: thermal probe to controller)	
850052679	40 ft wire set	(B: thermal probe to controller)	
CC848822560	1 ft wire set	(C: thermal probe to thermal	
848719803	5 ft wire set	(C: thermal probe to thermal	
CC848822321	10 ft wire set	(C: thermal probe to thermal	
850027334	20 ft wire set	(C: thermal probe to thermal	
7000253598A	30 ft wire set	(C: thermal probe to thermal	
8600089209P	40 ft wire set	(C: thermal probe to thermal	
108958422	ES771A Battery Voltage Monitor Card		
CC848791517	2-1/2 ft. wire set	(D: ES771A to thermal probe)	
CC848797290	6 ft. wire set	(D: ES771A to thermal probe)	
848719829	10 ft. wire set	(D: ES771A to thermal probe)	
CC848791500	4 ft. wire set	(G:ES771A to ES771A or controller)	
848652947	10 ft wire set	(G:ES771A to ES771A or controller)	
555052-1	In Line Coupler	(G: extension coupler)	
<p>Temperature probes are needed for battery monitoring . They are connected to each battery or battery string to provide slope thermal compensation and temperature alarms</p>			

Step 5: Select Battery Monitoring (Continued)



Additional Information

Product Documentation for Infinity M

Ordering Code	Description
H5692448	Infinity M Drawings
CC848815325	H5692448 Installation Guide
CC848815341	Advanced Features User Guide for the Pulsar Plus Controller, 167-792-183

Revision History

REVISION	DATE	CHANGES/NOTES	IMPLEMENTATION DATE
1.0	March 2023	Infinity M Dual Voltage Ordering Guide - Created	September 26, 2016
1.1	10/25/2023	Updated as per OmniOn template	10/25/2023
1.2	3/13/2024	Fixed errors in descriptive text and comcodes	3/13/2024

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