

Unity DC Power System with Flatpack2

Versatile and powerful solution for any application. The combination of high efficiency, power density and reliability makes the Unity Power System a product family that truly stands out and provides unparalleled network availability. The versatility of the Unity Power System in combination with advanced control and monitoring means that it can be used in a wide variety of DC Telecom applications.



Unity Power System DC Power Supply System

Doc 370140.DS3 – rev1.3

APPLICATIONS

WIRELESS, FIBER AND FIXED LINE COMMUNICATION

Today's communications demand state of the art, efficient and compact DC power systems. Unity Power Systems deliver an industry leading power density, efficiency and superb reliability at lowest lifetime cost.

BROADBAND AND NETWORK ACCESS

Increasing network speed demands flexible and expandable DC power solutions. The Flatpack2 rectifiers combined with Smartpack S controller are your key building blocks for future needs.

SMALL AND LARGE

Due to the high power density, cost competitive design and a highly flexible system communication interface, Flatpack2 rectifiers are used in system solutions up to 30 kW.

PRODUCT DESCRIPTION

MORE ROOM FOR REVENUE EQUIPMENT

The 4U distribution is designed to meet the demand for compact and flexible DC power solutions. It is based on building blocks and has a variety of configurations depending on battery and load needs. Pluggable breakers ensure easy configurability as well as "in field" placement.

The power system contains a Smartpack S controller, which has all the functionality required in present and future applications.

Powered by Flatpack2 HE rectifier modules, efficiency exceeds 96%.

KEY FEATURES

- **COMPACT DESIGN**
Small overall dimensions are ideal for both rack and cabinet solutions.
- **DIGITAL CONTROLLER**
The Smartpack S digital controller system provides comprehensive monitoring and regulation by utilizing a variety of specialized data collection devices.
- **HEAT MANAGEMENT**
Flatpack2 modules feature front-to-back airflow and chassis-integrated heat-sinks, supplementing high-efficiency energy conversion with excellent heat management.
- **COST EFFICIENCY**
A true plug-and-play system, the Unity power system reduces both time-to-install and overall costs.

Unity Power System, Flatpack2

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INPUT SPECIFICATIONS

Rated Input Voltage Range	100 – 277 VAC ¹ ; 80 – 400 VDC ¹ ¹ See datasheet for specific module's input specifications.
Input Connections (Rear Access)	Terminal Block ² MATE-N-LOK™ ³ ² Default configuration is one rectifier per input; jumper straps are included for powering two rectifiers from one input. ³ Input cables sold separately; options include one cable per rectifier, or one cable with two MATE-N-LOK connectors to power two rectifiers per line cord.

OUTPUT SPECIFICATIONS

Rated Voltage	0 – 56 V
Rated Current	640A

PHYSICAL ATTRIBUTES

Nominal rack sizes	19" / 23" (For 19" systems, inside width of relay rack must meet EIA-310-D standards, which specify an inside dimension of 17.72".)
Depth	19.2" Terminal Block connections; 20.4" AMP connections
Height	5 RU to 11 RU, depending on number of distributions and rectifier shelves.

DC DISTRIBUTION OPTIONS (VARY BY SYSTEM)

Distribution configurations* <i>*For additional details see the Unity Product Guide.</i>	Load breaker, bulk load, battery breaker, and bulk battery options available
Available breaker positions	19" systems – 21 single-pole breaker positions per panel, * ¼-20 studs, ⅝" center-to-center 23" systems – 26 single-pole breaker positions per panel, * ¼-20 studs, ⅝" center-to-center <i>*Up to two panels</i>
Bulk battery connections [†] <i>†Not all systems have bulk battery connections. For details see the Unity Product Guide.</i>	19" - Five (5) ¼-20 PEM nuts, ⅝" center-to-center and five (5) ⅜-16 studs, 1" center-to-center 23" – Eight (8) ¼-20 PEM nuts, ⅝" center-to-center and seven (7) ⅜-16 studs, 1" center-to-center
Low voltage disconnect options	None or battery (LVBD)
Breaker sizes	Single pole, 0 – 100A Double pole, 125 –200A Triple pole, 250A

CONTROLLER

Monitoring Unit	Smartpack S Panel Mount
Inputs/Outputs	6 configurable inputs*: 1-4, temperature (battery or ambient); 5, normally open or normally closed; 6, factory-wired for LVBD alarm Additional external battery breaker alarm 6 outputs: dry contact (Normally Open/Normally Closed) <i>* See Smartpack S Panel Mount datasheet for more details (Doc. No. 242100.415.DS3).</i>

MODULES (SOLD SEPARATELY)

241115.105	Flatpack2 48V, 2000W HE Rectifier
241119.105	Flatpack2 48V, 3000W HE Rectifier
241115.205	Flatpack2 24V, 1800W HE Rectifier
241115.650	Flatpack2 48V, 1500W HE Solar Charger
241119.650	Flatpack2 48V, 3200W HE Solar Charger

OTHER SPECIFICATIONS

Operating temperature	-40 to +65°C (-40 to +149°F), de-rates above 45°C (113°F)* <i>* See datasheet for specific module's temperature specifications..</i>
Storage temperature	-40 to +70°C (-40 to +158°F)

APPLICABLE STANDARDS

Electrical Safety	UL/CSA 60950-1, 2 nd edition IEC 60950-1, 2 nd edition
EMI/EMC	GR-1089-CORE
Environment	GR-63-CORE, NEBS LEVEL 3

Unity DC Power System with Flatpack S

Versatile and powerful solution for any application. The combination of high efficiency, power density and reliability makes the Unity Power System a product family that truly stands out and provides unparalleled network availability. The versatility of the Unity Power System in combination with advanced control and monitoring means that it can be used in a wide variety of DC Telecom applications.



Unity Power System DC Power Supply System

Doc 370152.DS3 – rev1.2

APPLICATIONS

WIRELESS, FIBER AND FIXED LINE COMMUNICATION

Today's communications demand state of the art, efficient and compact DC power systems. Unity Power Systems deliver an industry leading power density, efficiency and superb reliability at lowest lifetime cost.

BROADBAND AND NETWORK ACCESS

Increasing network speed demands flexible and expandable DC power solutions. The Flatpack S rectifiers combined with Smartpack S controller are your key building blocks for future needs.

SMALL AND LARGE

Due to the high power density, cost competitive design and a highly flexible system communication interface, Flatpack S rectifiers are used in system solutions up to 30 kW.

PRODUCT DESCRIPTION

MORE ROOM FOR REVENUE EQUIPMENT

The 4U distribution is designed to meet the demand for compact and flexible DC power solutions. It is based on building blocks and has a variety of configurations depending on battery and load needs. Pluggable breakers ensure easy configurability as well as "in field" placement.

The power system contains a Smartpack S controller, which has all the functionality required in present and future applications.

Powered by high-efficiency Flatpack S rectifier modules.

KEY FEATURES

- **COMPACT DESIGN**
Small overall dimensions are ideal for both rack and cabinet solutions.
- **DIGITAL CONTROLLERS**
The Smartpack S digital controller system provides comprehensive monitoring and regulation by utilizing a variety of specialized data collection devices.
- **HEAT MANAGEMENT**
Flatpack S modules feature front-to-back airflow and chassis-integrated heat-sinks, supplementing high-efficiency energy conversion with excellent heat management.
- **COST EFFICIENCY**
A true plug-and-play system, the Unity power system reduces both time-to-install and overall costs.

Unity Power System, Flatpack S



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INPUT SPECIFICATIONS

Rated Input Voltage Range	100 – 250 V (AC or DC) ¹ <small>¹ See module datasheet for further details.</small>
Input Connections (Rear Access)	Terminal Block ² MATE-N-LOK™ ³ <small>² Default configuration is two rectifiers per input; jumper straps are included for powering four rectifiers from one input. ³ Input cables sold separately; options include two rectifiers per input, or one cable with two MATE-N-LOK connectors to power four rectifiers per line cord or one cable with three MATE-N-LOK connectors to power six rectifiers per line cord (cannot be used with 1800W modules).</small>

OUTPUT SPECIFICATIONS

Rated Voltage	0 – 56 V
Rated Current	640A

PHYSICAL ATTRIBUTES

Nominal rack sizes	19" / 23" (For 19" systems, inside width of relay rack must meet EIA-310-D standards, which specify an inside dimension of 17.72".)
Depth	15" Terminal Block connections;* 16.1" AMP connections <small>*Side access is required for conduit to terminal block connections; therefore, ensure that relay rack rails will not interfere with conduit knockouts.</small>
Height	6 RU to 11 RU, depending on number of distributions and rectifier shelves.

DC DISTRIBUTION OPTIONS (VARY BY SYSTEM)

Distribution configurations*	Load breaker, bulk load, battery breaker, and bulk battery options available <small>*For additional details see the Unity Product Guide.</small>
Available breaker positions	19" systems – 21 single-pole breaker positions per panel,* ¼-20 studs, ⅝" center-to-center 23" systems – 26 single-pole breaker positions per panel,* ¼-20 studs, ⅝" center-to-center <small>*Up to two panels</small>
Bulk battery connections [†]	19" – Five (5) ¼-20 PEM nuts, ⅝" center-to-center and five (5) ⅜-16 studs, 1" center-to-center 23" – Eight (8) ¼-20 PEM nuts, ⅝" center-to-center and seven (7) ⅜-16 studs, 1" center-to-center <small>[†]Not all systems have bulk battery connections. For details see the Unity Product Guide.</small>
Low voltage disconnect options	None or battery (LVBD)
Breaker sizes	Single pole, 0 – 100A Double pole, 125 –200A Triple pole, 250A

CONTROLLER

Monitoring Unit	Smartpack S
Inputs/Outputs	6 configurable inputs*: 1-4, temperature (battery or ambient); 5, normally open or normally closed; 6, factory-wired for LVBD alarm Additional external battery breaker alarm 6 outputs: dry contact (Normally Open/Normally Closed) <small>* See Smartpack S Panel Mount datasheet for more details (Doc. No. 242100.415.DS3).</small>

MODULES (SOLD SEPARATELY)

241122.105	Flatpack S 48V, 1000W
241122.125	Flatpack S 48V, 1800W
241122.205	Flatpack S 24V, 1000W

OTHER SPECIFICATIONS

Operating temperature	-40 to +65°C (-40 to +149°F), de-rates above 45°C (113°F)
Storage temperature	-40 to +70°C (-40 to +158°F)

APPLICABLE STANDARDS

Electrical Safety	UL/CSA 60950-1, 2 nd edition IEC 60950-1, 2 nd edition
EMI/EMC	GR-1089-CORE
Environment	GR-63-CORE, NEBS LEVEL 3