

19" Power supply system

The Industrial bulk feed (IBF) unit is designed for systems with 24-220 VDC output, from 2-16 kW output power. The Power Core is built around the Flatpack2 rectifiers, and designed for applications such as switchgear, telecom, emergency lighting and alarm systems.

Its compact design and simple installation make it a powerful 19" power supply package.

The IBF unit can be used as a stand-alone system or as integrated unit into our IBB systems together with our Flatpack2 rectifiers.



IBF AC/DC

24V_{DC}, 48 V_{DC}, 60 V_{DC}, 110 V_{DC}, 125 V_{DC} & 220 V_{DC} systems

DOC. NO: CIO20806.400.DS3, v1.0

INDUSTRY APPLICATIONS

Power Utilities

- Low & High Voltage switchgear
- Transformer & SUB Stations
- Power Generation & Distribution
- Control & protection
- SCADA
- Communications equipment

Marine

- Communication onboard ships

Railway infrastructure

- Control & protection
- Signaling

Telecom - Mobile - Fixed / Wireless

- Radio Base stations/ Cell Sites
- Distributed Antenna Systems
- Microwave
- Broadband



Front panel Smartpack2 Master Ctrl



Flatpack2 HE rectifiers

KEY FEATURES

- COMPACT DESIGN
- SIMPLE INSTALLATION
- HOUSE UP TO 8 RECTIFIER
- 85-300 VAC INPUT
- 2-16 KW OUTPUT
- BULK FEED OUTPUT
- MAX 300 A, DC OUTPUT
- INTEGRATED BATTERY SHUNT
- GRAPHICAL 3.2" TFT DISPLAY
- 6 RELAY OUTPUTS
- 6 DIGITAL INPUTS
- ETHERNET
- WEB BROWSER
- SNMP
- MODBUS TCP/IP (RTU)

See last page specifications

24V/30V Systems

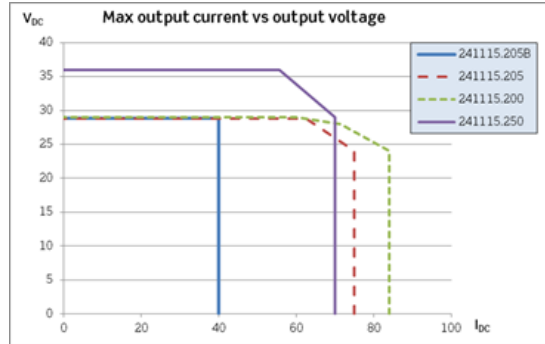
Applications

The 24V/30V rectifiers are suitable for parallel operation with all types of stationary batteries, including lead acid or nickel cadmium types, and can also operate without batteries.

Typical applications:

- Alarm systems
- Diesel start float application
- PABX systems
- Emergency lighting
- Industrial control systems

FLATPACK2 24/30 V RECTIFIERS



1 POWER RACK (1PR)

AVAILABLE 24/30V RECTIFIERS

Part Number	Description	Output Voltage Range	Efficiency	Max Output current				Output protection
				1 Module	2 Module	3 Module	4 Module	
241115.205B	Flatpack2 24V/40A HE	21.7 - 28.8 V	> 95% (30-65% load)	40 A	80 A	120 A	160 A	Fuse
241115.205	Flatpack2 24V/1800W HE	21.7 - 28.8 V	> 95% (30-65% load)	75 A	150 A	225 A	300 A	Fuse
241115.200	Flatpack2 24V/2000W	21 - 29 V	> 89% (25-100% load)	84 A	168 A	252 A	-	Blocking diode
241115.250	Flatpack2 24V/2000W WOR	21.5 - 36 V	> 91% (25-85% load)	70 A	140 A	210 A	280 A	Fuse

2 POWER RACK (2PR)

AVAILABLE 24/30V RECTIFIERS

Part Number	Description	Output Voltage Range	Efficiency	Max Output current				Output protection
				5 Module	6 Module	7 Module	8 Module	
241115.205B	Flatpack2 24V/40A HE	21.7 - 28.8 V	> 95% (30-65% load)	200 A	240 A	280 A	-	Fuse
241115.205	Flatpack2 24V/1800W HE	21.7 - 28.8 V	> 95% (30-65% load)	-	-	-	-	Fuse
241115.200	Flatpack2 24V/2000W	21 - 29 V	> 89% (25-100% load)	-	-	-	-	Blocking diode
241115.250	Flatpack2 24V/2000W WOR	21.5 - 36 V	> 91% (25-85% load)	-	-	-	-	Fuse

48V/60V Systems

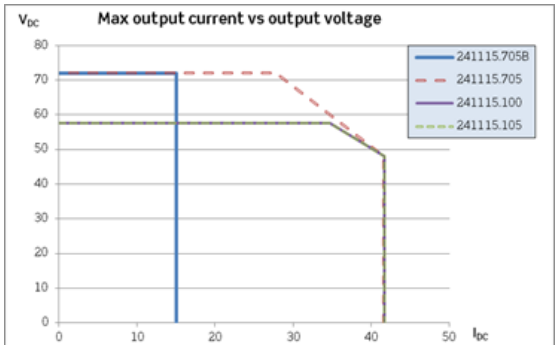
Applications

The 48V rectifiers are designed to meet international telecom standards for safe and reliable operation in telecom environments or any industrial communication system.

Typical applications:

- Telecommunication systems; SCADA, GSM-R
- PABX systems
- Emergency lighting
- Industrial control systems

FLATPACK2 48/60 V RECTIFIERS



1 POWER RACK (1PR)

AVAILABLE 48/60V RECTIFIERS

Part Number	Description	Output Voltage Range	Efficiency	Max Output current				Output protection
				1 Module	2 Module	3 Module	4 Module	
241115.705B	Flatpack2 48-60V/15A HE	39.9 - 72 V	> 95.5% (50-100% load)	15 A	30 A	45A	60 A	Fuse
241115.705	Flatpack2 48-60V/2000W HE	39.9 - 72 V	> 95.5% (25-75% load)	41.6 A	83.2 A	124,8 A	166,4 A	Fuse
241115.100	Flatpack2 48V/2000W	43.2 - 57.6 V	> 91.5% (45-95% load)	41.6 A	83.2 A	124,8 A	166,4 A	Blocking diode
241115.105	Flatpack2 48V/2000W HE	43.5 - 57.6 V	> 96% (30-70% load)	41.6 A	83.2 A	124,8 A	166,4 A	Fuse

2 POWER RACK (2PR)

AVAILABLE 48/60V RECTIFIERS

Part Number	Description	Output Voltage Range	Efficiency	Max Output current				Output protection
				5 Module	6 Module	7 Module	8 Module	
241115.705B	Flatpack2 48-60V/15A HE	39.9 - 72 V	> 95.5% (50-100% load)	75 A	90 A	105 A	120 A	Fuse
241115.705	Flatpack2 48-60V/2000W HE	39.9 - 72 V	> 95.5% (25-75% load)	208 A	249,6 A	291,6 A	-	Fuse
241115.100	Flatpack2 48V/2000W	43.2 - 57.6 V	> 91.5% (45-95% load)	208 A	249,6 A	291,6 A	-	Blocking diode
241115.105	Flatpack2 48V/2000W HE	43.5 - 57.6 V	> 96% (30-70% load)	208 A	249,6 A	291,6 A	-	Fuse

110V/125V Systems

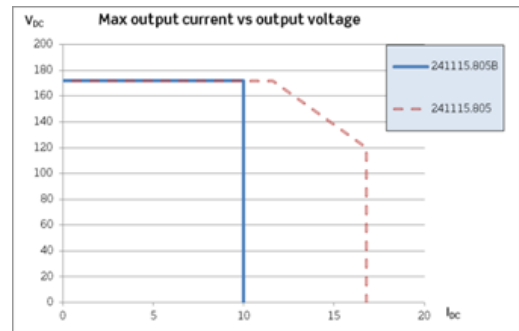
Applications

The 110/125V rectifiers are designed for demanding environments and comply with IEC61000-6.5 (Immunity Power Stations and Substations) for reliable operation in critical applications.

Typical applications:

- Low & High Voltage switchgear
- Transformer & SUB Stations

FLATPACK2 110/125 V RECTIFIERS



1 POWER RACK (1PR)

AVAILABLE 110/125V RECTIFIERS

Part Number	Description	Output Voltage Range	Efficiency	Max Output current				Output protection
				1 Module	2 Module	3 Module	4 Module	
241115.805B	Flatpack2 110-125V/10A HE	89.2-171.6 V	> 94% (45-100% load)	10 A	20 A	30 A	40 A	Oring diode
241115.805	Flatpack2 110V/2000W HE	89.2-171.6 V	> 94% (30-70% load)	16.8 A	33.6A	50,4	67,2	Oring diode

2 POWER RACK (2PR)

AVAILABLE 110/125V RECTIFIERS

Part Number	Description	Output Voltage Range	Efficiency	Max Output current				Output protection
				5 Module	6 Module	7 Module	8 Module	
241115.805B	Flatpack2 110-125V/10A HE	89.2-171.6 V	> 94% (45-100% load)	50 A	60 A	70 A	80 A	Oring diode
241115.805	Flatpack2 110V/2000W HE	89.2-171.6 V	> 94% (30-70% load)	84 A	96 A	117,6 A	134,4 A	Oring diode

220V Systems

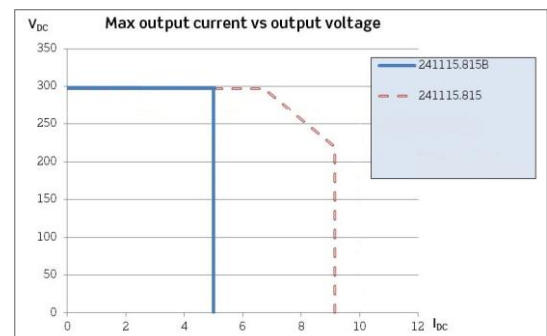
Applications

The 220V rectifiers are designed for demanding environments and comply with IEC61000-6.5 (Immunity Power Stations and Substations) for reliable operation in critical applications.

Typical applications:

- Low & High Voltage switchgear
- Transformer & SUB Stations
- Power Generation & Distribution

FLATPACK2 220 V RECTIFIERS



1 POWER RACK (1PR)

AVAILABLE 220V RECTIFIERS

Part Number	Description	Output Voltage Range	Efficiency	Max Output current				Output protection
				1 Module	2 Module	3 Module	4 Module	
241115.815B	Flatpack2 220V/5A HE	178,5-297 V	> 94% (45-100% load)	5 A	10 A	15 A	20 A	Oring diode
241115.815	Flatpack2 220V/2000W HE	178,5-297 V	> 94% (30-70% load)	9,16 A	18,32 A	27,48 A	36,64 A	Oring diode

2 POWER RACK (2PR)

AVAILABLE 220V RECTIFIERS

Part Number	Description	Output Voltage Range	Efficiency	Max Output current				Output protection
				5 Module	6 Module	7 Module	8 Module	
241115.815B	Flatpack2 220V/5A HE	178,5-297 V	> 94% (45-100% load)	25 A	30 A	35 A	40 A	Oring diode
241115.815	Flatpack2 220V/2000W HE	178,5-297 V	> 94% (30-70% load)	45,8 A	54,96 A	64,12 A	73,28 A	Oring diode

IBF AC/DC

TECHNICAL SPECIFICATIONS

Model	IBF-AC/DC-1PR-Std.Basic	IBF-AC/DC-2PR-Std.Basic	IBF-AC/DC-1PR-Ind.Basic	IBF-AC/DC-2PR-Ind.Basic
Part number	CIO 20405.xxx	CIO 20806.xxx	CIO 20405.xxx	CIO 20806.xxx

INPUT DATA

Voltage (range)	85 - 300 AC			
Surge Protection	OVP Class 2			
AC Input protection TN network	3*25 A MCB (single pol)	3*40 A MCB (single pol)	3*25 A MCB (single pol)	3*40 A MCB (single pol)
AC Input protection IT network	1*32 A MCB (three pol)	1*63 A MCB (three pol)	1*32 A MCB (three pol)	1*63 A MCB (three pol)
Input protection in rectifiers	Individual fuse in rectifier modules			
Connection	Individual screw terminal 6 mm ² PE screw terminal, max 6 mm ² and M5 cable lug directly to chassis			

OUTPUT DATA

Voltage (default)	24-125 V _{DC}		24-220 V _{DC}	
Power (maximum) @ nominal input	8000 W	16000 W	8000 W	16000 W
Current (maximum) @ nominal input	See previous page or applicable Flatpack2 datasheet			
Unprotected bulk output	•			
Connection bulk output	M8 bolt			
Built in battery shunt	•			
Output Protection in rectifiers	Blocking OR-ing FET or fuse, Short circuit proof & High temperature protection			

CONTROL AND MONITORING

Monitoring Unit	Smartpack 2 Control System with Standard Basic	Smartpack 2 Control System with Industrial Basic
Local Operation	Display and keys, WEB interface via standard browser	
Remote Operation	WebPower (WEB Interface, SNMP protocol and email)	
Alarm Relays (Connection: clamp ≤ 1.5 mm ²)	6 x Potential free contacts (NO, NC, C) [Max 75 VDC/1,0 A]	
Alarm Relays (Connection: clamp ≤ 1.5 mm ²)	-	3 x Potential free contacts (NO,NC,C) [Max 300 VDC/0,1 A]
Digital Inputs	6x NO/NC	
MODBUS	TCP/IP	TCP/IP & RTU
Communication ports	RJ45	RJ45, RS232, RS485
Battery symmetry measurements	-	•
Current measurements	Rectifier, Battery & Load Current	
Alarms	Low & high output voltage alarms (Minor and major levels) Earth fault alarm, Temperature alarm, AC Input outage alarm, load breaker & battery breaker alarm and much more	

OTHER SPECIFICATIONS

Isolation	3.0 kV _{AC} - input to output 1.5 kV _{AC} - input to earth 0.5 kV _{DC} - output to earth (1.5 kV _{DC} for 110 & 220 V rectifiers)			
Operating temperature	-40 to +45°C (-40 to +113°F), humidity 5 - 95% RH non-condensing Output power de-rates at high temperature, see datasheet for applicable rectifier			
Storage temperature	-40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing			
Dimensions [WxDxH]	482*432*222mm (5U)	482*432*267mm (6U)	482*432*222mm (5U)	482*432*267mm (6U)
Weight (without rectifiers)	17 kg	16 kg	17 kg	16 kg

DESIGN STANDARDS

Electrical safety	EN 60950-1			
EMC	ETSI EN 300 386 V.1.6.1 EN 61000-6-1 / -2 / -3 / -4 / -5 (Depending on module)			
Environment	ETSI EN 300 019, ETSI EN 300 132 - 2			