Compact wall mounted power supply system

The Flatpack2 Wallbox is built around the Flatpack2 rectifier and designed for applications such as switchgear, telecom, emergency lightning and alarm systems.

Its compact design and simple installation make it a powerful wall mounted DC power supply package.

The rectifier's wide DC output range makes it suitable for parallel operation with all types of stationary batteries, including lead acid, or nickel cadmium types.

Flatpack2 Wallbox

$24V_{DC}$, $30V_{DC}$, 48 V_{DC}, 60 V_{DC}, 110 V_{DC} & 125 V_{DC} systems

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INDUSTRY APPLICATIONS

Power Utilities

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

Offshore and process industry

- Safety and Automation Systems (SAS)

Marine

- Communication onboard ships

Railway infrastructure

- Control & protection
- Signaling

Telecom – Mobile - Fixed / Wireless

- Radio Base stations/ Cell Sites
- LTE / 4G / WiMAX
- Distributed Antenna Systems
- Microwave
- Broadband

Frontpanel Smartpack2

Flatpack2 HE rectifier

KEY FEATURES

- ✓ Compact design and simple installation
- ✓ Simple removable front, easy access for installation and connections
- ✓ 24-110 V_{DC} systems
- ✓ Bulk feed output or 1 or 2 pole distribution
- ✓ Graphical 3.2" TFT high contrast, high resolution color display for easy navigation in user menu
- ✓ Ethernet for remote or local monitoring and control via WEB Browser
- ✓ SNMP protocol with TRAP, SET and GET on Ethernet. Email of TRAP alarms
- ✓ 6 digital programmable relay outputs
- ✓ 6 programmable multipurpose inputs ("digital inputs" or analog signals).

See reverse side for specifications

Flatpack2 Wallbox comes in three different versions

- Wallbox bulk feed with DC bulk feed output for 24-125 V_{DC}
- Wallbox with 2 pole distribution for 24-110 V_{DC} systems
- Wallbox with 1 pole distribution for -48 V_{DC} systems

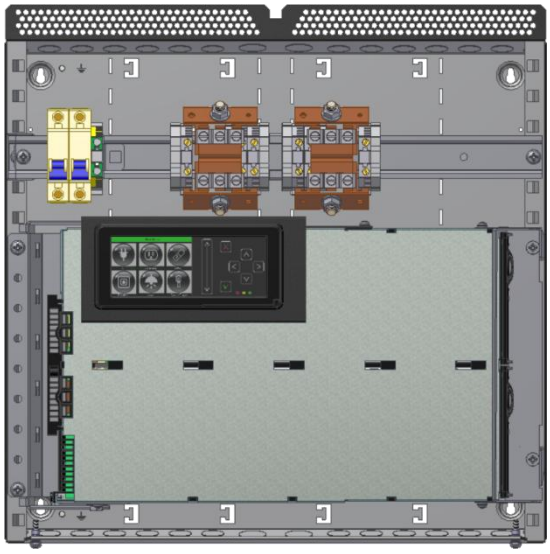
Common features for all versions

- Houses up to two FP2 rectifiers
- Smartpack2 DC System controller with 3.2" TFT color display,
- Included Ethernet and Web interface for remote monitoring.
- 6 Digital inputs for external alarm
- 6 Relay outputs NO, COM, NC for remote alarm
- Common feed AC-input (or options see below)

Flatpack2 Wallbox - DC Bulk feed output

Designed for 24, 30, 48, 60, 110 and 125 V_{DC}

-168 A DC Bulk feed output

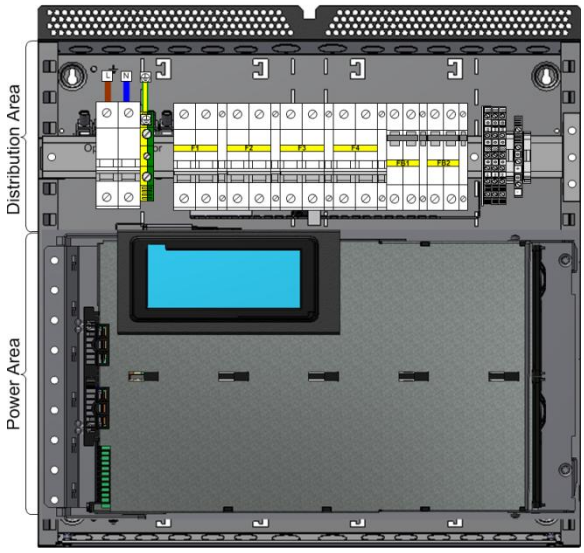


Wallbox with DC bulk feed output

Flatpack2 Wallbox -2 pole distribution floating system

Designed for 24, 30, 48, 60 and 110 V_{DC}

- Common feed AC input with SPD (option)
- Individual AC feed (option)
- 3 Relay output connected to terminals
- 2*2 pole battery fuses, 16-63 A
- 3 or 4 (depending on AC mains option) 2 pole load fuses, 6-63 A
- Load fuse alarm
- Battery fuse alarm
- Temperature sensor interface to terminals

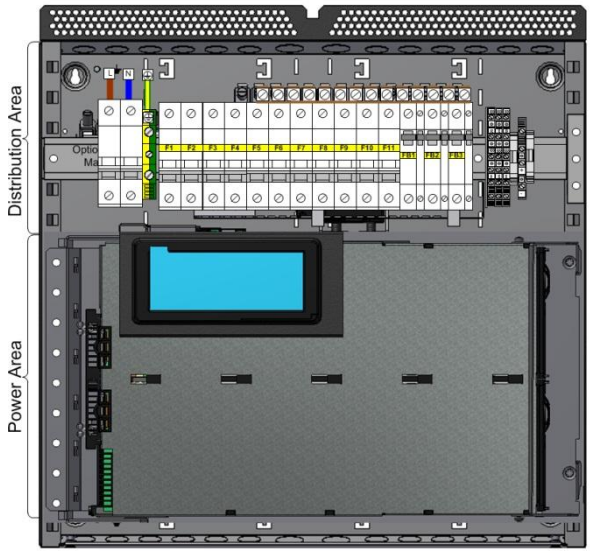


Wallbox with 2 pole distribution

Flatpack2 Wallbox -1 pole distribution -48 V system

Designed for – 48 V_{DC}

- Common feed AC input with SPD (option)
- Individual AC feed (option)
- 3 Relay output connected to terminals
- 3*1 pole battery fuses, 16-63 A
- 9 or 11 (depending on AC mains option) 1 pole load fuses, 6-63 A
- Load fuse alarm
- Battery fuse alarm
- Integrated battery shunt
- Integrated LVBD contactor
- Temperature sensor interface to terminals



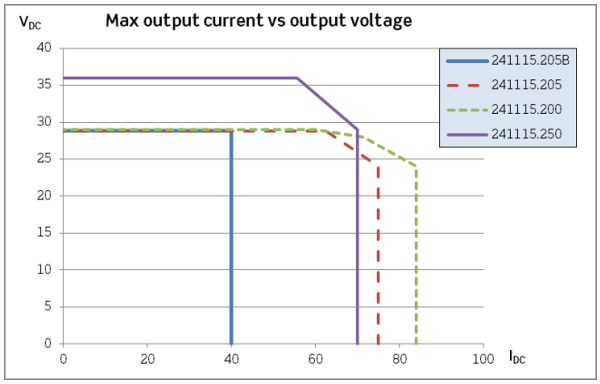
Wallbox with 1 pole distribution

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 lightning
- Industrial control systems



AVAILABLE 24V RECTIFIERS

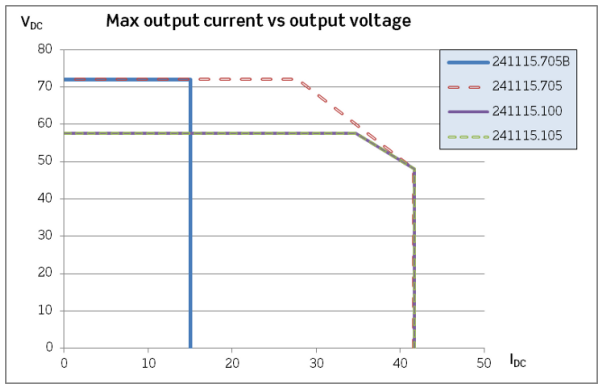
Part Number	Description	Voltage Range	Efficiency	Maximum Current		Output protection
				1 Module	2 Module	
241115.205B	Flatpack2 24V/40A HE	21.7 – 28.8 V	> 95% (30-65% load)	40 A	80 A	Fuse
241115.205	Flatpack2 24V/1800W HE	21.7 – 28.8 V	> 95% (30-65% load)	75 A	150 A	Fuse
241115.200	Flatpack2 24V/2000W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

48V/60V Systems

Applications

The 48V rectifiers are deigned 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 lightning
- Industrial control systems



AVAILABLE 48V RECTIFIERS

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

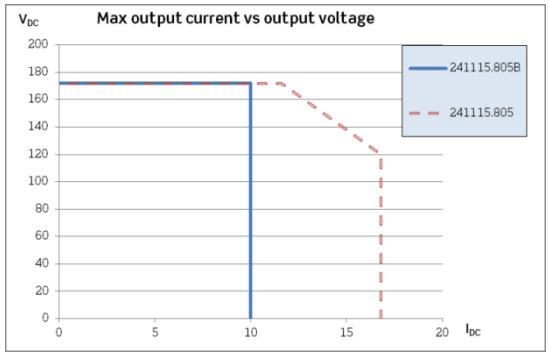
* 3kW 48V rectifiers are also supported if required

110V/125V Systems

Applications

The 110V 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



AVAILABLE 110V RECTIFIERS

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

Flatpack2 Wallbox

TECHNICAL SPECIFICATIONS

Model	Bulk Feed 24-60V	Bulk Feed 110V	2 - pole dist. 24 - 110V	1 - pole dist. -48V
Part number	CTO30210.000	CTO30210.100	CTO30210.xxxx	CTO30210.xxxx
INPUT DATA				
Voltage (range)	85 - 300 V_{AC}			
Single AC feed	•	•	•	•
Single AC feed with SPD (OVP Class 2)	-	-	•	•
Dual AC feed (individual pr rectifier)	-	-	•	•
Recommended input breaker	16A for 1 FP2 rectifier in system or 2 FP2 rectifiers with individual feed 25A for 2 FP2 rectifiers in system			
Protection	Individual fuse in rectifier modules			
Connection	Directly on input MCB, up to 25mm^2 PE screw terminal, max 10 mm^2 and M5 cable lug directly to chassis			
OUTPUT DATA				
Voltage (default)	24-60 V_{DC}	110-125 V_{DC}	24-110 V_{DC}	- 48 V_{DC}
NiCad, number of cells supported	18-40	85-104	18-88	38 - 40
Pb, number of cells supported	12-30	54-60	54	24
Power (maximum) @ nominal input	4000 W			
Current (maximum) @ nominal input	See previous page or applicable Flatpack2 rectifier datasheet			
Unprotected bulk output	•	•	-	-
Protected battery outputs	-	-	2 x 2 pole (16 - 63 A)	3 x 1 pole (16 - 63A)
Protected load outputs	-	-	3(4[2]) x 2 pole (6 - 63A)	(11[2]) x 2 pole (6 - 63A)
Integrated battery shunt and disconnect	-	-	-	200A
Connection	Terminal, max 35mm^2	Terminal, max 35mm^2	Directly on input MCB, up to 25mm2	
Output Protection in rectifiers	Blocking OR-ing FET or fuse, Short circuit proof & High temperature protection			
CONTROL AND MONITORING				
Monitoring Unit	Smartpack 2			
Local Operation	Display and keys, WEB interface via standard browser using WebPower			
Remote Operation	WebPower (WEB Interface, SNMP protocol and email)			
Alarm Relays (Connection: clamp ≤ 1.5 mm^2)	6 x Potential free change over contacts (NO, NC, C) [Max 75V/2A/60W]			
Inputs	6 x Configurable (digital, analog) and 3 temperature			
Current measurements	Rectifier current and if battery shunt is used; battery current and load cu			
Alarms	Low & high output voltage alarms (Minor and major levels), Earth fault alarm, Temperature alarm, Mains outage alarm, Battery remaining capacity/low quality alarms, Battery/load breaker tripped 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[3]			
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			
Protection Class	IP21, (IP22, with additional cover PN: 298484)			
Storage temperature	-40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing			
Dimensions[WxHxD] / Weight	452 x 450 x 200mm (17.8 x 17.7 x 7.9") / 13 kg (1 module) 15 kg (2 module)			
DESIGN STANDARDS				
Electrical safety	EN 60950-1-3rd edition			
EMC	ETSI EN 300 386 V.1.4.1 EN 61000-6-1 / -2 / -3 / -4			
Environment	ETSI EN 300 019, ETSI EN 300 132 - 2			

2) Depending on AC Mains input configuration
3) 1.5kV$_{AC}$ for Wallbox with 110V Flatpack2 rectifiers