

## 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<sub>DC</sub>, 30V<sub>DC</sub>, 48 V<sub>DC</sub>, 60 V<sub>DC</sub>, 110 V<sub>DC</sub> & 125 V<sub>DC</sub> 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<sub>DC</sub> 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<sub>DC</sub>
- Wallbox with 2 pole distribution for 24-110 V<sub>DC</sub> systems
- Wallbox with 1 pole distribution for -48 V<sub>DC</sub> systems

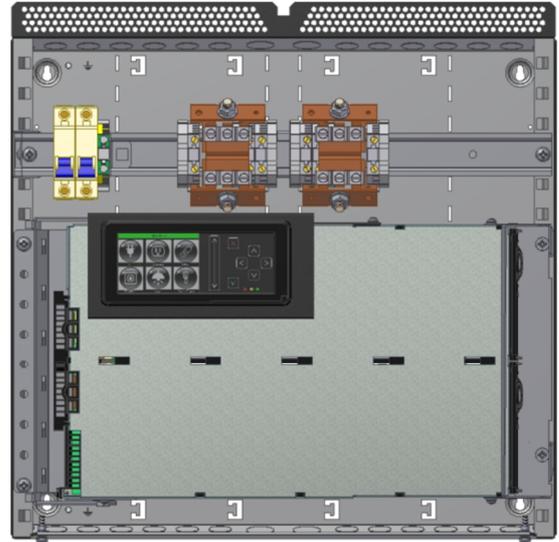
## Common features for all versions

- 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<sub>DC</sub>

- 168 A DC Bulk feed output

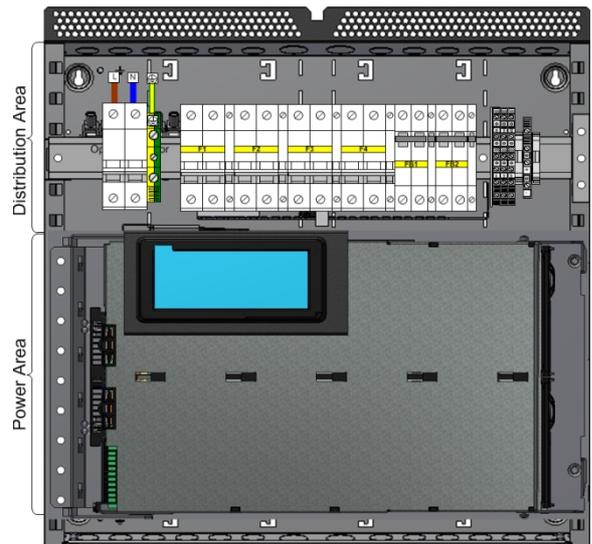


Wallbox with DC bulk feed output

### Flatpack2 Wallbox -2 pole distribution floating system

Designed for 24, 30, 48, 60 and 110 V<sub>DC</sub>

- 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

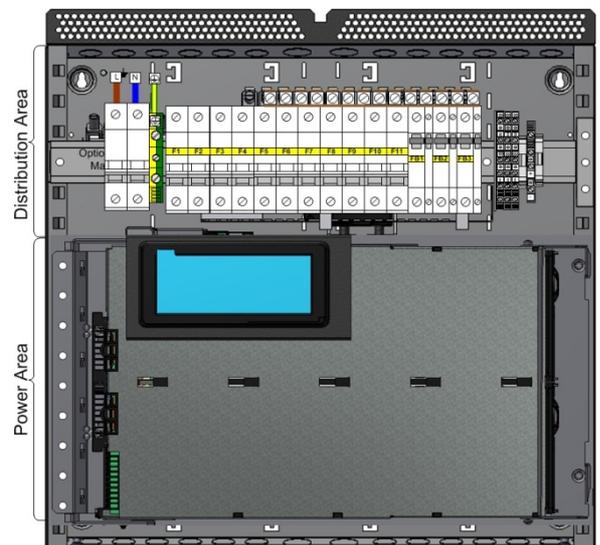


Wallbox with 2 pole distribution

### Flatpack2 Wallbox -1 pole distribution -48 V system

Designed for - 48 V<sub>DC</sub>

- 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

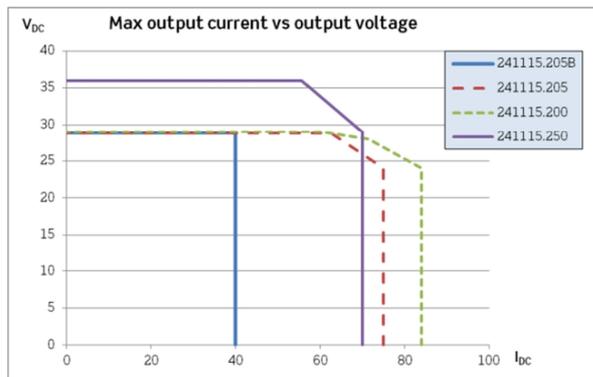
## 24V/30V Systems

### 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              |

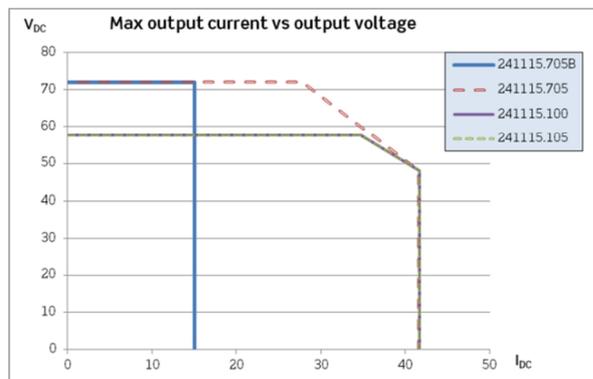
## 48V/60V Systems

### Applications

The 48V rectifiers are 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 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

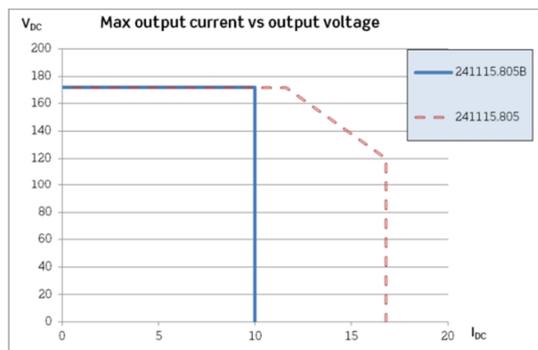
## 110V/125V Systems

### 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 | CT030210.000     | CT030210.100   | CT030210.xxxx            | CT030210.xxxx       |

### INPUT DATA

|  |  |   |   |   |
|--|--|---|---|---|
| Voltage (range)                        | 85 - 300 V <sub>AC</sub>   |   |   |   |
| 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<br>25A for 2 FP2 rectifiers in system                 |   |   |   |
| Protection                             | Individual fuse in rectifier modules   |   |   |   |
| Connection                             | Directly on input MCB, up to 25mm <sup>2</sup><br>PE screw terminal, max 10 mm <sup>2</sup> and M5 cable lug directly to chassis |   |   |   |

### OUTPUT DATA

|   |  |                                    |  |                                       |
|---|--|------------------------------------|--|---------------------------------------|
| Voltage (default)                       | 24-60 V <sub>DC</sub>  | 110-125 V <sub>DC</sub>            | 24-110 V <sub>DC</sub>                         | - 48 V <sub>DC</sub>                  |
| 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 <sup>2</sup> ) x 2 pole (6 - 63A)          | (11 <sup>2</sup> ) x 2 pole (6 - 63A) |
| Integrated battery shunt and disconnect | -  | -                                  | -  | 200A                                  |
| Connection                              | Terminal, max<br>35mm <sup>2</sup>   | Terminal, max<br>35mm <sup>2</sup> | Directly on input MCB, up to 25mm <sup>2</sup> |                                       |
| 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 <sup>2</sup> ) | 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 <sub>AC</sub> - input to output<br>1.5 kV <sub>AC</sub> - input to earth<br>0.5 kV <sub>DC</sub> - output to earth <sup>3)</sup>               |
| Operating temperature      | -40 to +45°C (-40 to +113°F), humidity 5 - 95% RH non-condensing<br>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 60950-1-3 <sup>rd</sup> edition                     |
| EMC               | ETSI EN 300 386 V.1.4.1<br>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<sub>AC</sub> for Wallbox with 110V Flatpack2 rectifiers