



Micropack Wallbox

Micropack Wallbox

Power Supply System
12V/480W, 24V/960W or 48V/1000W

Compact wall mounted power supply system

The Micropack wallbox have been designed for industrial and telecom applications with power requirements in the range of 120-1000W. With its compact design and simple installation and optional internal backup batteries, it makes it a really "micro" DC backup system.

Applications

Telecom - Wireless, fiber and broadband

Today's communications demand state of the art, cost efficient and compact DC power systems. The Micropack delivers a cost- efficient power solution that can be easily adapted for applications where there is limited space.

Industrial - Power utilities, process industry, marine and offshore

Increasing demand for reliable DC power with or without battery backup makes Micropack Wallbox the ideal choice in the small power range

Product Description

The basic power core has 4 rectifier positions, a Compact controller and a bulk DC output feed, but can also be configured with 2 position power core and optional DC distribution

The power core is prepared for any Micropack rectifier module and the system output can be either of the following: (based on module choice)

- 12V/120 – 480W / 10 – 40A
- 24V/240 – 960W / 10 – 40A
- 48V/250 – 1000W / 5.2 – 21A

The system is monitored and controlled by the Compact controller, but if display or extended controller functionality is needed it can optionally be configured with Smartpack2

In the lower left side of the box there is space for optional backup batteries (4x12V/7Ah)

Simple removable front cover gives good access for installation and connections

Key Features

Compact design

The small system dimensions are ideal locations with limited space

Bulk-feed or integrated distribution

The system comes as default with bulk output DC feed, but can be configured with integrated load and battery distribution to meet your power solution requirements.

Digital controllers

The controller is digitalized, enabling excellent monitoring and regulation characteristics, included Ethernet for remote monitoring.

Heat management

The box is optimized both for Micropack with its natural convection cooling.

Unique install ability

Simple removable front cover gives good access for installation and connections. Combined with true plug-and-play modules, this gives short cost effective time-to-install.

Global approvals

Micropack Wallbox is CE and UL recognized marked for worldwide installation.

Rectifiers

Plug and play

The Wallbox comes with power core and controller. Set the output voltage of the system by inserting the proper rectifier type. The controller will automatically set default settings for the selected output voltage range. The power core is coded to prevent a rectifier with an incorrect output voltage being inserted into the system.

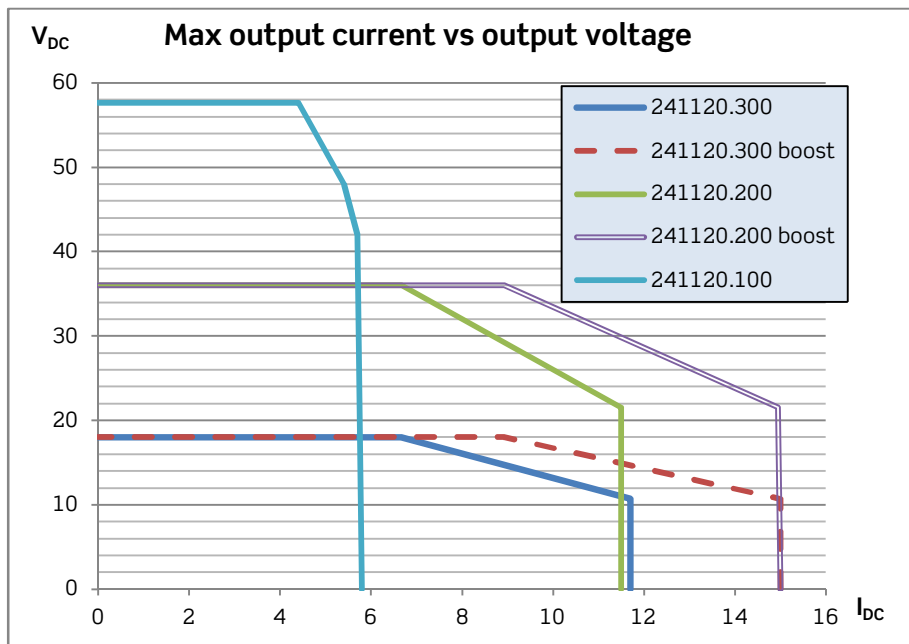
Redundancy and features

The rectifiers communicates over the internal CAN bus for active current sharing. Redundancy is achieved by installing more rectifiers than needed for supplying the load. The controller has an efficiency mode that shuts down spare rectifiers when load is low to save power. Energy supplied by the rectifiers can viewed in the controller Web pages. Details on rectifier status, firmware and serial number are also available. The controller can be set up to give alarms or warnings if the system is loaded at configurable levels of its total capacity (based on installed functional rectifiers).



Available rectifiers for the Micropack Wallbox

Part number	Description	Voltage range	Efficiency	# cells supported		Output protection
				Pb	NiCad	
241120.300	Micropack 12V/120W WOR	10.7 – 18.0 V	> 88% (50-100% load)	6 or 7	10 or 11	Fuse
241115.200	Micropack 24V/240W WOR	21.5 – 36.0 V	> 92% (50-90% load)	12 or 15	20 to 22	Fuse
241115.100	Micropack 48V/250W	43.5 – 57.6 V	> 93% (55-100% load)	24	-	Fuse



Micropack performance

Constant power and short circuit proof

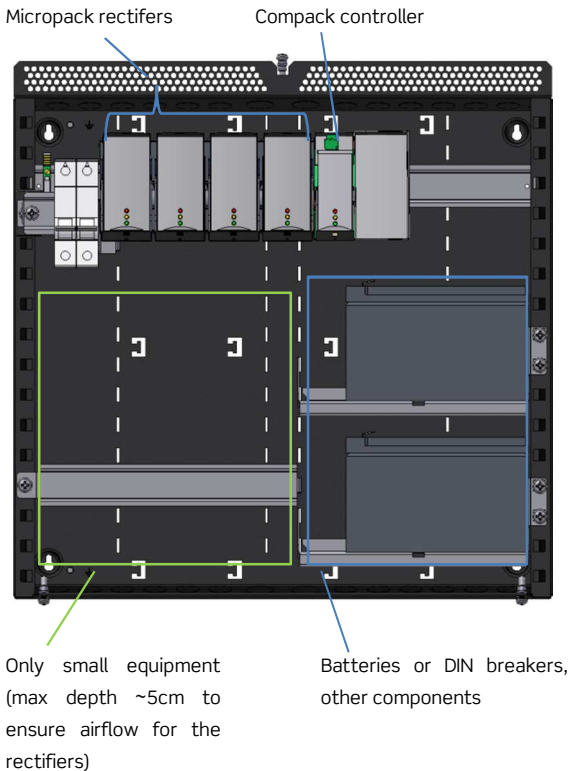
The Micropack rectifiers has a constant power characteristic in their supported output voltage range. The output current is limited if the output is short-circuited and voltage falls below the rectifier output voltage range.

Power boost

The 12V and 24V rectifiers are allowed to enter a boost mode for up to 60s. During boost they can deliver 30-40% more power than rated (maximum 15A). This helps starting up capacitive loads.

Selective fuse tripping (SBF)

In a multi-branch, battery-less system it is vital that the rectifiers can provide enough current for tripping the load fuses. If there is a short in one branch, its fuse needs to be tripped quickly in order for the other branches to operate unaffected. The 12V and 24V rectifier will give a 50 to 55A pulse duration of 35ms to help tripping fuses. This is initiated by a sudden drop in the output voltage exceeding 5V.



Micropack Wallbox

...as a simple rectifier box

If the application has the need for a pure DC power supply the Wallbox offers a neat, easy installable enclosure for the Micropack rectifiers. It has room for a few small components as load breakers and connection terminals.

...as a small complete battery backup dc power system

With up to 4 12V/7Ah batteries, a battery shunt and contactor, and a few load breakers installed, the Micropack Wallbox is a miniature full-blown DC power system that will power the load during mains failures. If more battery capacity is needed, larger batteries could be set on the floor below the Wallbox, or in a separate box.

Control

The default Compack controller offers comprehensive control and monitoring of the Wallbox DC System, it being simple or complex. It has three configurable inputs that can be used for monitoring temperature, voltage or digital signals into the system. Minor and major low and high alarm limits are configurable separately on each input.

Warnings and alarms are visible on the leds on the controller. There are also 3 configurable relays that can control external buzzers or lamps, or remote signal to a control center for specified alarm events. Finally, if the Wallbox is connected to an Ethernet connection, alarms can send SNMP TRAPs to and NMS system or emails.

To configure the system, that is setup inputs and alarms, communication parameters or change from the default settings for each voltage range, a PC with a web browser needs to be connected to the Compack controller's Ethernet port.



Optional controller with display

The Smartpack2 controller

The Micropack Wallbox for 24V and 48V can be configured with Smartpack2 controller. The display unit will be situated in the front panel below the rectifiers. It will by default show output voltage and current (if the system has a current shunt). More monitoring fields can be shown. It also allows for local setup of the power system without the need of a PC and web browser.

...more monitoring connections

In addition to the display the Smartpack2 controller can be extended with a number of Controller CAN nodes as IO Monitors, Battery monitor, AC Mains monitor and Load monitor.

Ordering information - order 1 Wallbox and 1-4 rectifiers

System Voltage	Maximum Output Current	Adjustable Output Voltage Range	Part numbers			
			CTOU0410.000	241120.300	241115.200	241115.100
12 Vdc	11.7 A	10.7 - 18 V	1	1		
	23.4 A	10.7 - 18 V	1	2		
	35.1 A	10.7 - 18 V	1	3		
	46.8 A	10.7 - 18 V	1	4		
24 Vdc	11.6 A	21.5 - 36 V	1		1	
	23.2 A	21.5 - 36 V	1		2	
	34.8 A	21.5 - 36 V	1		3	
	46.4 A	21.5 - 36 V	1		4	
48 Vdc	6.5 A	43.5 - 57.6 V	1			1
	13 A	43.5 - 57.6 V	1			2
	19.5 A	43.5 - 57.6 V	1			3
	26 A	43.5 - 57.6 V	1			4

Micropack Wallbox

Additional Technical Specifications

Input	
Voltage	1 x single phase feed (85V _{AC} – 300V _{AC}) *
Recommended input breaker	10A
Input Protection	Internal fuses in rectifier module On/off MCB

* 85 – 300V_{DC} input optional (requires change of Wallbox input MCB)

DC Output (dependent of module choice)	
Voltage	12V _{DC} , 24V _{DC} & 48V _{DC}
Output current	See previous page or Micropack rectifiers datasheets

Connections	
Load connection	Screw terminal blocks, up to 16 mm ²
Alarm connections	Pluggable terminal blocks, up to 1.5 mm ²
Input AC	Directly on input MCB, up to 4mm ²

Other Specifications	
Isolation	<ul style="list-style-type: none"> o 3.0 KVAC – input and output o 1.5 KVAC – input earth o 0.5 KVDC – output earth
Operating temp.	-40 to +45°C (-40 to +113°F)
Storage temp.	-40 to +80°C (-40 to +176°F)
Dimensions	452 x 200x450mm (W x D x H)
Weight	Approx. 5kg (excluding rectifiers)

Monitoring - default	
Monitoring Unit	Compack
Local Operation	WEB interface via standard browser using WebPower
Remote Operation	WebPower (WEB Interface, SNMP protocol and email of alarms)
Alarm Relays	3 x Potential free change over contacts (NO, NC, C) [Max 75V/2A/60W]
Visual Indications	<ul style="list-style-type: none"> o Green LED – System ON o Yellow LED – Minor alarm(s) o Red LED – Major alarm(s)
Inputs	<ul style="list-style-type: none"> o 3 x multipurpose inputs. Can be configured for temperature measurement, digital or analogue monitoring
Current Measurements	<ul style="list-style-type: none"> o Battery current (optional external battery shunt required) o Rectifier current o Calculated load current (optional external battery shunt required)
Alarms	<ul style="list-style-type: none"> o Load fuse alarm o Battery fuse alarm o LVD operated o Low output voltage alarms (2 individual alarm levels) o High output voltage alarms (2 individual alarm levels) o Battery capacity o Temperature alarm o and much more

See Compack datasheet for further details (242100.400.DS3)

Optional monitoring – display & more functionality	
Monitoring Unit	Smartpack2
Extra features compared to Compack:	
Local Operation	3.2" QVGA TFT screen and 6 buttons SD Card slot
Alarm Relays	6 x Potential free change over contacts (NO, NC, C) [Max 75V/2A/60W]
Inputs	6 x multipurpose inputs
Full support of the Controller CAN nodes (power provided)	

See Smartpack2 datasheet for further details (242100.50X.DS3)

Applicable Standards	
Electrical safety	IEC 60950-1
EMC	<ul style="list-style-type: none"> o ETSI EN 300 386 V.1.3.2 (telecommunication network) o EN 61000-6-1 (immunity, light industry) o EN 61000-6-2 (immunity, industry) o EN 61000-6-3 (emission, light industry) o EN 61000-6-4 (emission, industry) o EN 61000-6-5 (immunity, power stations and sub stations) *
Environment	ETSI EN 300 019 ETSI EN 300 132-2

* Only valid for Wallbox with 12V and 24V rectifiers

Ordering Information

Part no.	Description
CTOU0410.000	uP 12-48V WB Bulk feed
241120.100	Micropack 48/250 CC G2
241120.200	Micropack 24/240 WOR G2
241120.300	Micropack 12/120 WOR G2

Specifications are subject to change without notice

CTOU0410.DS3 – v1