# **DC-UPS** uninterruptible power supply

Safe energy in automation





## **DC-UPS** uninterruptible power supply

## Safe energy in automation

### Bridge power failures of up to 30 minutes at 40 A with our uninterruptible power supply solutions. Let's connect.

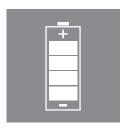
In automation, a highly reliable 24 V power supply avoids the costly machinery breakdowns caused by power outages.

Our maintenance-free buffer modules are recommended for handling short-time interruptions of up to several 100 ms and have lifetime service of up to ten years, depending on the application. Longer power outages can be bridged out with our uninterruptible power supply unit, combined with a battery module. This module provides power up to 40 A for 30 minutes or 1 A for 30 hours, depending on your needs. The temperature-compensated charging characteristic curve guarantees a long service life for the battery.

Customisation makes them applicable for multiple types of operation. Let's connect.

### Long battery service life

The temperature-compensated characteristic charge curve ensures the best charge for the battery. This maintains the battery's long service life.



### Can be used around the world

International approvals (cURus, cULus) and TÜV certification facilitate the use of these products around the world, and in different applications.







### Time saving

The three additional active 24 V DC transistor outputs simplify cabling and save time.



### **Space saving**

The ability to mount the UPS components sideby-side in only 66 mm width saves space in the electronics cabinet.



# Create your own, individual power supply solution

The PRO-H and PRO-M power supply units with diverse add-on modules meet nearly every requirement for durable power supplies.



### Quick error analysis

The charging level indicator and the status and error indicators facilitate rapid error analysis.



### **Buffers around 500 ms**

You can reliably bridge short power interruptions of several 100 ms with the maintenance-free buffer module.



## Versatile battery modules of 1.3 to 17 Ah

The battery modules are equipped with maintenance-free AGM VRLA batteries. An integrated temperature sensor ensures the constant, accurate charging of the battery.



### Flexible application

Multiple operation modes optimise the use of battery power and facilitate its flexible application.



# Uninterruptible power supplies (UPS)

Uninterruptible power supplies (UPS)	Overview	B.2
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	Battery modules	B.6
	Buffer modules	B.8

## **Uninterruptible power supplies**

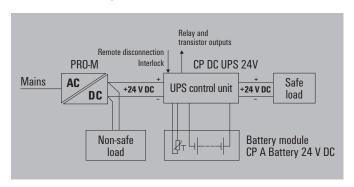
Weidmüller's uninterruptible power supplies reliably protect 24 V DC consumers from voltage drop-outs and dips, such as those that could occur as a result of mains faults. These products therefore play a key role in increasing systems availability.

The buffer module is the perfect solution for bridging short-term power supply failures or dips of up to 100 ms. The capacitor-based technology enables maintenance-free operation, depending on the application, of up to 10 years.

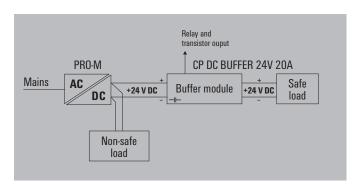
The UPS control unit, together with the accompanying battery module and the power supply, form a complete DC UPS system with support times in minutes or hours. The modular construction allows for the overall load to be distributed into non-safe and safe load circuits, such that often a smaller UPS can be designed.

A huge variety of operating types are available to suit the particular application precisely. A remote input to block battery operation, as well as multiple signal outputs, enable remote operation of the UPS.

### **UPS** with battery module



### **UPS** with buffer module

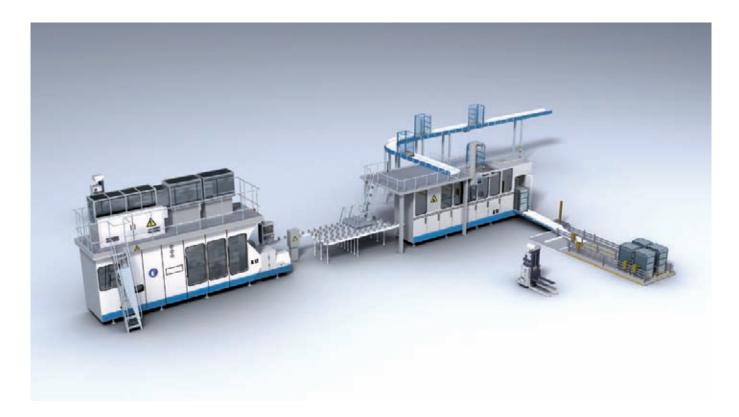






# Can your facility afford to experience a power failure? Allow us to connect you so that you are safe from failure and downtime.

Let's connect.



It is critical to safeguard a facility's power supply in the event of an outage. You cannot do without the important signals from the field, which serve to control the entire process. In addition, you also need to monitor a whole range of functions and performance parameters for your facility. Our highly modular power supply concept will support you in the practical fulfilment of all your requirements. At the same time, we will also familiarise ourselves with your future requirements and provide you with an individual, tailor-made solution, with components that are precisely aligned to work with one another.

For a continual, lasting power supply and clean control voltage, we use redundant circuits, selective short-circuit solutions, battery reservoirs and DC/DC converters. And because lightning and power surges can put an uninterrupted power supply in a production facility at risk, we also provide lightning and overvoltage protection. The VPU series provides unrestricted operation of power supplies and automation devices such as sensors, actuators and control units. The subsequent availability of the power supply means that all devices will restart in a controlled manner. Let's connect.



### PRO-M

- Used to save space in automation technology
- Individual modulation of the output power
- Up to 5 devices can be switched directly, in parallel
- · Optional diode modules with fault signalling
- Expanded temperature range –25  $^{\circ}\text{C}$  to 70  $^{\circ}\text{C}$

### **UPS** control unit

- · Different status relays for status monitoring
- Direct switchover to battery operation in the event of malfunction
- Automatic reconnection to load when power recovers
- · Long battery life due to integrated deep discharge protection
- · Optimised charging feature

- Two 24 V models in 10 A/20 A and 40 A
- Temperature-compensated charging feature for long battery life
- Integrated battery diagnostics including continuous availability test
- Status relay and additional transistor outputs for remote monitoring
- Convenient LED displays for easy error analysis



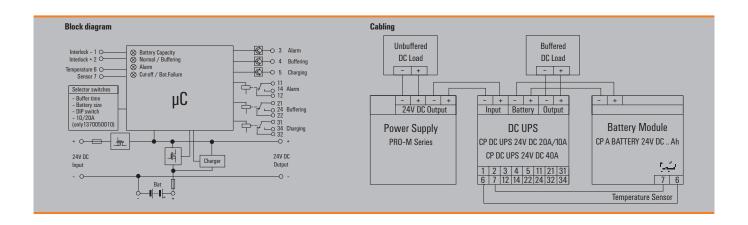


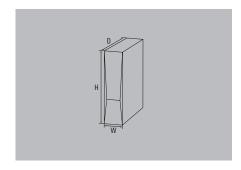






Fechnical data	
Status relay ( max.load 30 V AC/DC 0.1 A)	Fault (alarm), battery operation (buff.), charging (charg.)
Transistor outputs (24 to 27 V DC max. load 150 mA)	, , , , , , , , , , , , , , , , , , , ,
Transistor outputs (24 to 27 v DC max. load 150 mA)  LED status indicator	Fault (alarm), battery operation (buff.), charging (charg.)
LED STATUS INDICATOR	Three-colour LED: battery capacities
	> 85 % green, > 40 % yellow, > 20 % red, < 20 % red (flashing)
	Green/yellow LED: normal / buffering
	Yellow/red LED: temperature alarm / alarm
	Yellow/red LED: switch-off / battery fault
General technical data	
Ambient temperature (operational)	-25 °C+70 °C
Storage temperature	-40 °C+85 °C
Max. perm. air humidity	595 %
Protection degree	IP 20
Class of protection	3
Pollution severity level	2
Overvoltage category	III
Insulation voltage input/output to housing/ground	1300 V DC 1 min (typetest)
MTBF	> 500,000 hours acc. to IEC 1709
Protection against reverse voltages from the load	3234 V DC
Parallel connection option	Yes, only with diode module for redundancy
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on mounting rail TS35, 50 mm above and below
	Space for free movement of air
Overload protection	Yes
Short-circuit protection	Yes
EMC / shock / vibration	
Interference emission	Acc. to EN55022 Class B
Interference immunity tests	Acc.to EN61000-4-2 (ESD), EN61000-4-3 and EN61000-4-8 (fields),
•	EN61000-4-4 (burst), EN61000-4-5 (surge), EN610004-6 (conducted)
	EN61000-4-11 (dips)
Resistance against vibration and shock	Acc.to IEC60954 Vibration: 2.3 q,
3	Acc.to IEC60068-2-31 shock: 30 g in all directions
Electrical safety (applied standards)	· · · · · · · · · · · · · · · · · · ·
Electrical equipment of machines	Acc. to EN60204
Safety transformers for switch-mode power supplies	Acc. to EN61558-2-17
Machinery with electronic equipment	Acc. to EN50178 / VDE0160
Extra-low voltage protection	SELV acc. to EN60950, PLEV acc. to EN60204









### **Technical data**

### Input

Rated input voltage

Input voltage range

Rated input voltage (up to 60 °C)

Input current, max. (to 45 °C)

Input fuse

Standby current (without battery)

Standby current (with fully charged battery)

Reverse polarity protection

### Output

Rated output voltage

Output voltage, normal operation (Imax)

Output voltage, battery operation (Imax)

Rated output current (up to 60 °C)

Continuous output current (up to 70 °C), derating from 60 °C

Continuous output current (up to 45 °C)

Power Boost@24 V DC, 60 °C

### Integrated battery charger

Charging feature

Charging voltage (temperature compensated)

Temperature coefficient

Charging current

Battery availability test

### Battery module

Rated voltage

Storage medium (AGM battery)

Parallel connection option

### Operating elements and control inputs

Output current selector switch

Battery in Ah selector switch

Buffer times in minutes selector switch

DIP switch

Remote disconnection (Interlock)

Temperature sensor connection

### General data

Buffer times

Efficiency

Power loss

Height x width x depth

Weight

### **Approvals**

### Connection data

Conductor connection system

Wire cross-section, rigid mm2 (min./max.)

Wire cross-section, flexible mm2 (min./max.) Wire cross-section, AWG/kcmil (min./max.)

Stripping length (mm)

**Ordering data** 

Tightening torque range (NM)

24 V DC	
20 30 V DC	

 $\leq$  13 A (for 10 A)  $\mid$   $\leq$  23 A (for 20 A)  $\leq$  15 A (for 10 A)  $\mid$   $\leq$  27 A (for 20 A) Yes, 30 A max. 200 mA

max. 0,5 A
Yes
24 V DC
Vo = Vin - 0,2 V
Vo = Vin - 0,3 V
10 A / 20 A
7,5 A / 15 A
12 A / 24 A
12 A / 24 A for 1 min, ED = 5 %

IU characteristic curve
27, 48 V @ 20 °C

- 48 mV / °C

0,15 CA

Yes, each minute

1,3 Ah, 3,4 Ah, 7,2 Ah, 12 Ah, 17 Ah (selectable, with rotary switch)

### 10A / 20A

1,3 / 3,4 / 7,2 / 12 / 17 / No Battery / Service

0,5 / 1 / 3 / 5 / 10 / 20 / 30 / 45 / \infty / \infty w/0

Inversion of the transistor outputs; operation without temperature sensor

Yes

Yes, for NTC 10 KΩ

### Depending on the connected battery (adjustable)

- ≥ 98 % Normal operation, battery charged
- $\geq$  96 % Normal operation, battery charging
- $\geq$  98 % Battery operation

<10 W

130 / 66 / 150 mm

0,98 kg

CE, TÜV; Pending: cURus, cULus, GL

Input/output/battery	Signal	
Screw connection		
0,5/16	0,5/6	
0,5/16	0,5/4	
26/6	26/12	
10	8	
1,2 1,5	0,50,6	

2 43 A
≤ 51 A
Yes, 60 A
max. 200 mA
max. 0,5 A
Yes
24 V DC
Vo = Vin - 0.2 V
Vo. Vin. 0.2 V

24 V DC	
Vo = Vin - 0,2 V	
Vo = Vin - 0,3 V	
40 A	
24 A	
48 A	

48 A for 1 min, ED = 5 %

IU characteristic curve

27, 48 V @ 20 °C

- 48 mV / °C 0,15 CA

24 V DC

20...30 V DC

Yes, each minute

24 V DC

3,4 Ah, 7,2 Ah, 12 Ah, 17 Ah (selectable, with rotary switch)

Yes, max. 2

No

3,4 / 7,2 / 12 / 17 / No Battery / Service

0,5 / 1 / 3 / 5 / 10 / 20 / 30 / 45 /  $\infty$  /  $\infty$  w/0

Inversion of the transistor outputs; operation without temperature sensor

Yes, for NTC 10 KΩ

Depending on the connected battery (adjustable)

- ≥ 98 % Normal operation, battery charged
- $\geq$  96 % Normal operation, battery charging
- $\geq$  98 % Battery operation

<10 W

130 / 66 / 150 mm

1,0 kg

CE, TÜV; Pending: cURus, cULus, GL

Input/output/battery	Signal
Screw connection	
0,5/16	0,5/6
0,5/16	0,5/4
26/6	26/12
10	8
1,2 1,5	0,50,6

Туре	Qty.	Order No.
CP DC UPS 24 V 20 A/10 A	1	1370050010

Туре	Qty.	Order No.
CP DC UPS 24 V 40 A	1	1370040010

- Maintenence-free lead-acid batteries from 3.4 Ah to 17 Ah
- Integrated temperature sensor for optimal battery charging
- Integrated fuse for reliable activation
- Capacity up to 40 A / 30 min or 1 A / 30 hrs
- · Robust metal housing for wall mounting

### CP A BATTERY 24V DC 3,4 Ah





CP A BATTERY 24V DC 7,2 Ah



24 V DC 7,2 Ah

1,8 A

### **Technical data**

Rated voltage Nominal capacity Max. charging current at 0.15 CA Fuse (ATO flat blade fuse max. 80 V DC) Buffer time

Max. output current Parallel connection option Series switching capability Temperature sensor

### General data

Battery type (maintenance-free battery)

Battery type Panasonic

Lifetime in years (application-dependent)

Ambient temperature

Storage temperature

Latest commissioning in months

Max. perm. air humidity

Class of protection

Protection degree

Vibration mounting rail assembly/wall mounting acc. to IEC 68-2-6 Shock mounting rail assembly/wall mounting acc. to IEC 68-2-27  $\,$ 

Height x width x depth Weight

Approvals

### Connection data (input/output, signal)

Screw connection

Wire cross-section, rigid mm<sup>2</sup> (min./max.)

Wire cross-section, flexible mm<sup>2</sup> (min./max.)

Wire cross-section, AWG/kcmil (min./max.)

Tightening torque range (Nm)

24 V DC		
3,4 Ah		
0,51 A		
25 A		
11,3 min @ 10 A		
5 min @ 20 A		
0F A		

25 A		
Yes, max. 2		
No		
NTC 8 kΩ		

Valve Regulated Lead Acid (VRLA)- Absorbed Glass Mat (AGM)
UP-RW1220P
69 @ 20 °C
0 °C+40 °C
-15 °C+40 °C
9
595 %
III
IP 20
0.7 g / 0.7 g
30 g
144 / 108 / 126 mm

Signal
0,2/1,5
0,2/1,5

Signal	Signal
0,2/1,5	0,2/1,5
0,2/1,5	0,2/1,5
28/16	28/16
0,20,25	0,20,2

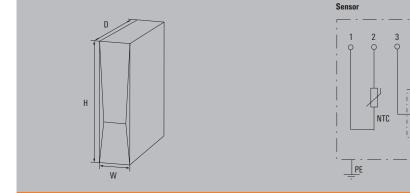
2 x 25 A
26,5 min @ 10 A
11,5 min @ 20 A
5 min @ 30 A
50 A
Yes, max. 2
No
NTC 8 kΩ
Valve Regulated Lead Acid (VRLA)- Absorbed Glass Mat (AGM)
LC-R127R2PG
69 @ 20 °C
0 °C+40 °C
-15 °C+40 °C
9
595 %
III
IP 20
- / 0.7 g
30 g
155 / 162 / 126 mm
5,9 kg
CE, TÜV
Input/output/battery Signal

Input/output/battery	Signal	
Pluggable		
0,2/6	0,2/1,5	
0,25/6	0,2/1,5	
24/10	28/16	
0,50,6	0,20,25	

### **Ordering data**

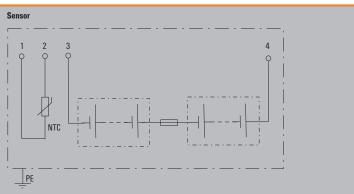
Туре	Qty.	Order No.
CP A BATTERY 24V DC 3,4 Ah	1	1251070000

	Order No.
CP A BATTERY 24V DC 7,2 Ah 1	1251080000



24/10

0.5...0.6



### CP A BATTERY 24V DC 17 Ah

24 V DC







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### **Technical data**

Rated voltage Nominal capacity Max. charging current at 0.15 CA Fuse (ATO flat blade fuse max. 80 V DC) Buffer time

Max. output current Parallel connection option Series switching capability Temperature sensor

### General data

Battery type (maintenance-free battery)

Battery type Panasonic

Lifetime in years (application-dependent)

Ambient temperature

Storage temperature

Latest commissioning in months

Max. perm. air humidity

Class of protection Protection degree

Vibration mounting rail assembly/wall mounting acc. to IEC 68-2-6  $\,$ Shock mounting rail assembly/wall mounting acc. to IEC 68-2-27  $\,$ 

Height x width x depth

Weight Approvals

### Connection data (input/output, signal)

Screw connection

**Ordering data** 

Wire cross-section, rigid mm<sup>2</sup> (min./max.)

Wire cross-section, flexible mm<sup>2</sup> (min./max.)

Wire cross-section, AWG/kcmil (min./max.)

Tightening torque range (Nm)

24 V DC	
12 Ah	
1,8 A	
2 x 25 A	
51 min @	0 A
22,7 min @	20 A
9,2 min @	30 A
50 A	
Yes, max. 2	
No	
NTC 8 kΩ	
Valve Regu	ated Lead Acid (VRLA)- Absorbed Glass Mat (AGM)

valve Regulated Lead Acid (VRLA)- Absorbed Glass Iviat (AGIVI)
LC-RA1212PG
69 @ 20 °C
0 °C+40 °C
-15 °C+40 °C
9
595 %
III
IP 20
- / 0.7 g
30 g
155 / 229 / 126 mm
9,2 kg
CE, TÜV

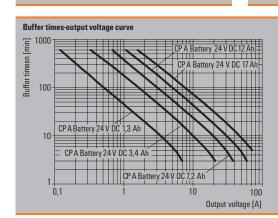
CE, TUV	
Input/output/battery	Signal
Pluggable	
0,2/6	0,2/1,5
0,25/6	0,2/1,5
24/10	28/16
0,50,6	0,20,25

17 Ah
2,55 A
2 x 25 A
81 min @ 10 A
34,2 min @ 20 A
13,5 min @ 30 A
50 A
Yes, max. 2
No
NTC 8 kΩ
Valve Regulated Lead Acid (VRLA)- Absorbed Glass Mat (AGM)
LC-XD1217APG
1012 @ 20 °C
0 °C+40 °C
-15 °C+40 °C
9
595 %
<u>III</u>
IP 20
- / 0.7 g
30 g
178 / 232 / 160 mm
13,4 kg
CE, TÜV
Input/output/battery Signal

Input/output/battery	Signal	
Pluggable		
0,2/6	0,2/1,5	
0,25/6	0,2/1,5	
24/10	28/16	
0,50,6	0,20,25	

Туре	Qty.	Order No.
CP A BATTERY 24V DC 12 Ah	1	1251090000

Туре	Qty.	Order No.
CP A BATTERY 24V DC 17 Ah	1	1251110000



- Maintenance-free UPS on capacitor basis with a capacity to support 20 A / 260 ms
- Parallel switching to increase the output current or support time
- Status notification via LED and relay contact

### **CP DC Buffer 24V 20A**







### **Technical data**

### Input

Input voltage

Input current

Max. approved input current

Surge protection

### Output

Output voltage

Output current

Parallel connection option

Overload protection

Surge protection

Status relay (max. load)

### Display

Operational

### General data

Efficiency

Insulation voltage input/output

Storage medium

Buffer times MTBF

Ambient temperature

Storage temperature

Max. perm. air humidity

Height x width x depth

Standards applied EMC

Weight

Approvals

Conductor connection system

Wire cross-section mm<sup>2</sup> (nominal/min./max.)

24 V DC (22,530 V DC)
022 A
Max. 22 A
35 V DC suppressor diode
24 V DC
20 A, max. 22 A
Yes, without diode module
≥ 22 A (Only at discharge)
3134 V (Only at discharge)
Input voltage OK (30 V AC/DC 2 A)
Operational (24 V AC/DC 300 mA)

### LED green: ready

(	95	%
	1 [	W

mm

Internal condenser

260 ms bei 20 A, 6 s at 1 A

> 500,000 hours acc. to IEC 1709

-25 °C...+70 °C

-40 °C...+85 °C

5...95 %

130 / 66 / 150

EN50178, EN60950

EN55011, EN55022, EN55024, EN61000-6-2,-3,-4

1,15 kg

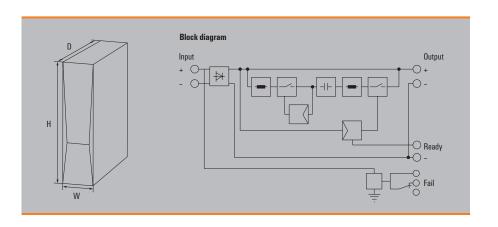
CE, TÜV, cURus, cULus

Input Screw connection

Output 10/0,3/16 10/0,3/16 4/0,13/6

### **Ordering data**

Туре	Qty.	Order No.
CP DC Buffer 24V 20A	1	1251220000



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Venezuela

### **Weidmüller - Partner in Industrial Connectivity**

As experienced experts we support our customers and partners around the world with products, solutions and services in the industrial environment of power, signal and data. We are at home in their industries and markets and know the technological challenges of tomorrow. We are therefore continuously developing innovative, sustainable and useful solutions for their individual needs. Together we set standards in Industrial Connectivity.

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