Datasheet
Uninterruptible Power Supplies Solutions

NEW

Weidmuller’s uninterruptible power supply solutions reliably protect 24 V DC applications from voltage drop-outs and sags, such as those that could occur as a result of incoming power fault. These product solutions play a key role in increasing up time and reliability.

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 for up to 10 years, depending upon the application.

The UPS control unit, together with the accompanying battery module and the power supply, form a complete and scalable DC UPS system with support times ranging from minutes to hours.

The modular construction allows for the overall load to be distributed into safe areas and standard load circuits, giving the user flexibility in their designs.

A huge variety of configurations are available by selecting different size control units, batteries, power supplies, and buffer modules to suit your particular application. For example, a remote input can be used to block battery operation. Multiple signal outputs show status and operation of the UPS.
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 familiarize 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.

Weidmüller Power Supplies

- 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 °C to 70 °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

UPS with battery module

UPS with buffer module
Uninterruptible Power Supplies Solutions

UPS control unit
- 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

Technical data

<table>
<thead>
<tr>
<th>Indication</th>
<th>Status relay (max. load 30 V AC/DC 0.1 A)</th>
<th>Fault (alarm), battery operation (buff.), charging (charg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transistor outputs (24 to 27 V DC max. load 150 mA)</td>
<td>Fault (alarm), battery operation (buff.), charging (charg.)</td>
<td></td>
</tr>
<tr>
<td>LED status indicator</td>
<td>Three-colour LED: battery capacities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 85 % green, &gt; 40 % yellow, &gt; 20 % red, &lt; 20 % red (flashing)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Green/yellow LED: normal / buffering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yellow/red LED: temperature alarm / alarm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yellow/red LED: switch-off / battery fault</td>
<td></td>
</tr>
</tbody>
</table>

General technical data

- Ambient temperature (operational): -25 °C…+70 °C
- Storage temperature: -40 °C…+85 °C
- Max. perm. air humidity: 5…95 %
- 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: 32…34 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 TS 35, 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), EN61000-4-6 (conducted), EN61000-4-11 (dips)
- Resistance against vibration and shock: Acc.to IEC60954 Vibration: 2.3 g, 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 EN1688-2-17
- Machinery with electronic equipment: Acc. to EN60178 / VDE0160
- Extra-low voltage protection: SELV acc. to EN60950, PLEV acc. to EN60204

Block diagram

Cabling

- Unbuffered DC Load
- Buffered DC Load
- DC UPS
- Battery Module

Temperature Sensor
## Technical data

### Input
- Rated input voltage: 24 V DC
- Rated input voltage range: 20...30 V DC
- Nominal input current (up to 60 °C): ≤ 13 A (for 10 A) / ≤ 15 A (for 20 A)
- Input current, max. (to 45 °C): ≤ 15 A (for 10 A) / ≤ 27 A (for 20 A)
- Input fuse: Yes, max. 200 mA / max. 0.5 A
- Reverse polarity protection: Yes

### Output
- Rated output voltage: 24 V DC
- Rated output current (up to 60 °C): 10 A / 20 A
- Continuous output current (up to 70 °C), derating from 60 °C: 7.5 A / 15 A
- Continuous output current (up to 45 °C): 12 A / 24 A
- Power Boost@24 V DC, 60 °C: 12 A / 24 A for 1 min, ED = 5 %

### Integrated battery charger
- Charging voltage (temperature compensated): 27, 48 V @ 20 °C
- Charging current: 0.15 CA
- Battery availability test: Yes, each minute

### Battery module
- Rated voltage: 24 V DC
- Storage medium (AGM battery): 1.3 Ah, 3.4 Ah, 7.2 Ah, 12 Ah, 17 Ah (selectable, with rotary switch)
- Parallel connection option: Yes, max. 2

### Operating elements and control inputs
- Operating current selector switch: 10 A / 20 A
- Battery in Ah selector switch: 1.3 / 3.4 / 7.2 / 12 / 17 / No Battery / Service 3.4 / 7.2 / 12 / 17 / No Battery / Service
- Buffer times in minutes selector switch: 0.5 / 1 / 3 / 5 / 10 / 20 / 30 / 45 / ∞ / ∞ w/0
- DIP switch: Yes, for NTC 100 KΩ
- Remote disconnection (Interlock): Yes
- Temperature sensor connection: Yes, for NTC 100 KΩ

### General data
- Buffer times: Depending on the connected battery (adjustable)
- Efficiency: ≥ 98 % Normal operation, battery charged, ≥ 98 % Normal operation, battery charging, ≥ 98 % Battery operation
- Power loss: <10 W
- Depth x width x height: 150 / 66 / 130 mm
- Weight: 0.98 kg

### Approvals
- CE, TÜV, cURus, cULus; GL

### Connection data
- Wire cross-section, rigid mm² (min./max.): 0.5/16 0.5/4 26/6 26/12
- Wire cross-section, flexible mm² (min./max.): 0.5/16 0.5/4 26/6 26/12
- Stripping length (mm): 10 8 1.2...1.5 0.5...0.6
- Tightening torque range (NM): 1.2...1.5 0.5...0.6

### Ordering data
- Type: CP DC UPS 24 V 20 A/10 A
- Qty.: 1
- Part No.: 1370050010
- Type: CP DC UPS 24 V 40 A
- Qty.: 1
- Part No.: 1370040010

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**Note:** Standard with Metal TS-35 DIN-Rail Mounting Foot. See Page 8 for additional mounting options.
Battery modules
- Maintenance-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

Technical data

<table>
<thead>
<tr>
<th>CP A BATTERY 24V DC 1.3 Ah</th>
<th>CP A BATTERY 24V DC 3.4 Ah</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rated voltage</strong></td>
<td>24 V DC</td>
</tr>
<tr>
<td><strong>Nominal capacity</strong></td>
<td>1.3 Ah</td>
</tr>
<tr>
<td><strong>Max. charging current at 0.15 CA</strong></td>
<td>0.2 A</td>
</tr>
<tr>
<td><strong>Fuse (ATO flat blade fuse max. 80 V DC)</strong></td>
<td>15 A</td>
</tr>
<tr>
<td><strong>Buffer time</strong></td>
<td>11.3 min @ 10 A</td>
</tr>
<tr>
<td></td>
<td>5 min @ 20 A</td>
</tr>
<tr>
<td><strong>Max. output current</strong></td>
<td>15 A</td>
</tr>
<tr>
<td><strong>Parallel connection option</strong></td>
<td>Yes, max. 2</td>
</tr>
<tr>
<td><strong>Series switching capability</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>Temperature sensor</strong></td>
<td>NTC 100 kΩ</td>
</tr>
<tr>
<td><strong>Battery type (maintenance-free battery)</strong></td>
<td>Valve Regulated Lead Acid (VRLA)- Absorbed Glass Mat (AGM)</td>
</tr>
<tr>
<td><strong>Battery type Panasonic</strong></td>
<td>UP-RW1220P</td>
</tr>
<tr>
<td><strong>Lifetime in years (application-dependent)</strong></td>
<td>6…9 @ 20 °C</td>
</tr>
<tr>
<td><strong>Ambient temperature</strong></td>
<td>0°...+40 °C</td>
</tr>
<tr>
<td><strong>Latest commissioning in months</strong></td>
<td>9</td>
</tr>
<tr>
<td><strong>Class of protection</strong></td>
<td>III</td>
</tr>
<tr>
<td><strong>Vibration mounting rail assembly/wall mounting acc. to IEC 68-2-6</strong></td>
<td>30 g</td>
</tr>
<tr>
<td><strong>Shock mounting rail assembly/wall mounting acc. to IEC 68-2-27</strong></td>
<td>124 / 52 / 148 mm</td>
</tr>
<tr>
<td><strong>Depth x width x height</strong></td>
<td>1.5 kg</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>1.5 kg</td>
</tr>
<tr>
<td><strong>Approvals</strong></td>
<td>CE, GL, UL 508</td>
</tr>
<tr>
<td><strong>Connection data (input/output, signal)</strong></td>
<td>Pluggable</td>
</tr>
<tr>
<td><strong>Screw connection</strong></td>
<td>0.2/6</td>
</tr>
<tr>
<td><strong>Wire cross-section, rigid mm² (min./max.)</strong></td>
<td>0.25/6</td>
</tr>
<tr>
<td><strong>Wire cross-section, flexible mm² (min./max.)</strong></td>
<td>0.25/6</td>
</tr>
<tr>
<td><strong>Total torque range (Nm)</strong></td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Input/output/battery</strong></td>
<td>0.2…0.25</td>
</tr>
<tr>
<td><strong>Signal</strong></td>
<td>0.2/4</td>
</tr>
<tr>
<td><strong>Pluggable</strong></td>
<td>0.2/4</td>
</tr>
<tr>
<td><strong>3D/12</strong></td>
<td>30/12</td>
</tr>
<tr>
<td><strong>0.5</strong></td>
<td>0.2…0.25</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>CP A BATTERY 24V DC 1.3 Ah</td>
</tr>
<tr>
<td><strong>Qty.</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Part No.</strong></td>
<td>1406300000</td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td>Standard with Metal TS-35 DIN-Rail Mounting Foot. Can also be surface mounted. See Page 8 for additional mounting options.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CP A BATTERY 24V DC 3.4 Ah</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rated voltage</strong></td>
</tr>
<tr>
<td><strong>Nominal capacity</strong></td>
</tr>
<tr>
<td><strong>Max. charging current at 0.15 CA</strong></td>
</tr>
<tr>
<td><strong>Fuse (ATO flat blade fuse max. 80 V DC)</strong></td>
</tr>
<tr>
<td><strong>Buffer time</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Max. output current</strong></td>
</tr>
<tr>
<td><strong>Parallel connection option</strong></td>
</tr>
<tr>
<td><strong>Series switching capability</strong></td>
</tr>
<tr>
<td><strong>Temperature sensor</strong></td>
</tr>
<tr>
<td><strong>Battery type (maintenance-free battery)</strong></td>
</tr>
<tr>
<td><strong>Battery type Panasonic</strong></td>
</tr>
<tr>
<td><strong>Lifetime in years (application-dependent)</strong></td>
</tr>
<tr>
<td><strong>Ambient temperature</strong></td>
</tr>
<tr>
<td><strong>Latest commissioning in months</strong></td>
</tr>
<tr>
<td><strong>Class of protection</strong></td>
</tr>
<tr>
<td><strong>Vibration mounting rail assembly/wall mounting acc. to IEC 68-2-6</strong></td>
</tr>
<tr>
<td><strong>Shock mounting rail assembly/wall mounting acc. to IEC 68-2-27</strong></td>
</tr>
<tr>
<td><strong>Depth x width x height</strong></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
</tr>
<tr>
<td><strong>Approvals</strong></td>
</tr>
<tr>
<td><strong>Connection data (input/output, signal)</strong></td>
</tr>
<tr>
<td><strong>Screw connection</strong></td>
</tr>
<tr>
<td><strong>Wire cross-section, rigid mm² (min./max.)</strong></td>
</tr>
<tr>
<td><strong>Wire cross-section, flexible mm² (min./max.)</strong></td>
</tr>
<tr>
<td><strong>Total torque range (Nm)</strong></td>
</tr>
<tr>
<td><strong>Input/output/battery</strong></td>
</tr>
<tr>
<td><strong>Signal</strong></td>
</tr>
<tr>
<td><strong>Pluggable</strong></td>
</tr>
<tr>
<td><strong>3D/12</strong></td>
</tr>
<tr>
<td><strong>0.5</strong></td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Qty.</strong></td>
</tr>
<tr>
<td><strong>Part No.</strong></td>
</tr>
<tr>
<td><strong>Note</strong></td>
</tr>
</tbody>
</table>
Battery modules
- Maintenance-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

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
- Depth x width x height
- Weight
- Approvals

Connection data (input/output, signal)
- Screw connection
- Wire cross-section, rigid mm² (min./max.)
- Wire cross-section, flexible mm² (min./max.)
- Wire cross-section, AWG/kcmil (min./max.)
- Tightening torque range (Nm)

Ordering data

Note

Buffer times-output current curve
Buffer modules

- 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

Technical data

<table>
<thead>
<tr>
<th>Input</th>
<th>24 V DC (22.5...30 V DC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>0...22 A</td>
</tr>
<tr>
<td>Max. approved input current</td>
<td>Max. 22 A</td>
</tr>
<tr>
<td>Surge protection</td>
<td>35 V DC suppressor diode</td>
</tr>
<tr>
<td>Output</td>
<td>24 V DC</td>
</tr>
<tr>
<td>Output voltage</td>
<td>20 A, max. 22 A</td>
</tr>
<tr>
<td>Parallel connection option</td>
<td>Yes, without diode module</td>
</tr>
<tr>
<td>Overload protection</td>
<td>≥ 22 A (Only at discharge)</td>
</tr>
<tr>
<td>Surge protection</td>
<td>31...34 V (Only at discharge)</td>
</tr>
<tr>
<td>Status relay (max. load)</td>
<td>Input voltage OK (30 V AC/DC 2 A)</td>
</tr>
<tr>
<td></td>
<td>Operational (24 V AC/DC 300 mA)</td>
</tr>
</tbody>
</table>

Display

- Operational LED green: ready

General data

- Efficiency: 95 %
- Insulation voltage input/output: 1 kV
- Buffer times: 260 ms at 20 A, 6 s at 1 A
- Storage medium: Internal condenser
- MTBF: > 500,000 hours acc. to IEC 1709
- Ambient temperature: -25 °C...+70 °C
- Storage temperature: -40 °C...+85 °C
- Max. perm. air humidity: 5...95 %
- Depth x width x height: 150 / 66 / 130 mm
- Standards applied: EN50178, EN60950, EN55011, EN55022, EN55024, EN61000-6-2,-3,-4
- CE, TÜV, cURus, cULus
- Weight: 1.15 kg
- Connection data
  - Conductor connection system: Screw connection
  - Wire cross-section mm² (nominal/min./max.): 10/0.3/16

Ordering data

<table>
<thead>
<tr>
<th>Type</th>
<th>Qty.</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP DC Buffer 24V 20A</td>
<td>1</td>
<td>1251220000</td>
</tr>
</tbody>
</table>

Note

Plastic DIN-Rail Mounting Foot. See Page 8 for additional mounting options.
Uninterruptible Power Supplies Solutions

**UPS control unit - Accessories**

- **Small metal foot**
  - Type: MTA 30 MF
  - Part No.: 1251320000

- **Large metal foot**
  - Type: MTA 45 MF
  - Part No.: 1251310000

- **Small plastic foot**
  - Type: MTA 30 BK
  - Part No.: 1168970000

- **Large plastic foot**
  - Type: MTA 45 BK
  - Part No.: 1962250000

- **Small wall mounting**
  - Type: CP A WALLADAPTER 30 MM
  - Part No.: 1461870000

- **Large wall mounting**
  - Type: CP A WALLADAPTER 45 MM
  - Part No.: 1461850000

- **Temperature probe**
  - Type: CP DC UPS TF25
  - Cable length: 2.5 m
  - Part No.: 1444540000

- **Small screwdriver**
  - Type: SDIS 0.5X3.0X100
  - Blade type: B
  - Size/AF: a 0.5, b 3, c 100
  - Part No.: 9008380000

- **Large screwdriver**
  - Type: SDIS 1.0X5.5X125
  - Blade type: B
  - Size/AF: a 1, b 5.5, c 125
  - Part No.: 9008410000

- **Markers**
  - Type: SM 18/9.5 K MC NE WS
  - Colour: white
  - Qty.: 200
  - Part No.: 1248580000

- **End bracket**
  - For DIN rail TS 35
  - Type: W EW 35/1 SW
  - Colour: black
  - Torque: 1.2 Nm
  - Qty.: 50
  - Part No.: 1162600000

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Subject to technical changes • 10/14 • LIT1404E