PRODUCT DESCRIPTION

The UZK12.072 battery module utilizes one non-spillable maintenance-free VRLA lead-acid battery, which is assembled in a package with all wiring and fusing included.

The battery module is available in two different options. It can be ordered as UZK-module with a battery or as UZO-module without a battery which can be installed at a later date to avoid outdated batteries.

The battery module can either be mounted on a DIN rail or be screwed on a flat surface.

BATTERY MODULE

- Two Mounting Options: DIN rail or Panel/Wall Mounting
- Small Mounting Footprint
- 2m Power Leads Included
- Heavy Duty Fuse Holder and Spare Fuse Included
- 3 Year Warranty, Except for Batteries, Which Are Considered a Service Part.

SHORT-FORM DATA

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>Nominal voltage</td>
<td>DC 12V</td>
</tr>
<tr>
<td>Nominal battery capacity</td>
<td>7Ah</td>
</tr>
<tr>
<td>Nominal battery life</td>
<td>3 to 5 years</td>
</tr>
<tr>
<td>Battery current</td>
<td>Max. 30A</td>
</tr>
<tr>
<td></td>
<td>Max. 1.8A</td>
</tr>
<tr>
<td>Discharging current</td>
<td>At 10°C</td>
</tr>
<tr>
<td>Charging current</td>
<td>At 20°C</td>
</tr>
<tr>
<td>Recommended charging voltage</td>
<td>13.9V</td>
</tr>
<tr>
<td></td>
<td>13.75V</td>
</tr>
<tr>
<td></td>
<td>13.6V</td>
</tr>
<tr>
<td></td>
<td>13.45V</td>
</tr>
<tr>
<td>Self-discharge rate</td>
<td>3%/month</td>
</tr>
<tr>
<td>Battery fuse</td>
<td>30A</td>
</tr>
<tr>
<td>For charging</td>
<td>ATOF® 287 030 from Littelfuse</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-10°C to +40°C</td>
</tr>
<tr>
<td></td>
<td>-15°C to +50°C</td>
</tr>
<tr>
<td>Size (WxHxD)</td>
<td>158x132x98mm</td>
</tr>
<tr>
<td>Weight</td>
<td>3500g / 7.7lb</td>
</tr>
<tr>
<td></td>
<td>800g / 1.76lb</td>
</tr>
<tr>
<td>For UZK12.072</td>
<td>For UZO12.072</td>
</tr>
</tbody>
</table>

ORDER NUMBERS

- Battery Module UZK12.072: Battery module with assembled batteries
- UZO12.072: Battery module without assembled batteries
- UZB12.071: Battery replacement 12V, 7Ah

MAIN APPROVALS

For details and the complete approval list, see chapter 9.

UL 61010-2-201  ATEX  IECEx

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All parameters are typical values specified at 25°C ambient temperature unless otherwise noted.
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The information given in this document is correct to the best of our knowledge and experience at the time of publication. If not expressly agreed otherwise, this information does not represent a warranty in the legal sense of the word. As the state of our knowledge and experience is constantly changing, the information in this data sheet is subject to revision. We therefore kindly ask you to always use the latest issue of this document (available under www.pulspower.com).

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**WARNING**  Risk of electrical shock, fire, personal injury or death.
- Turn power off before working on the device. Protect against inadvertent re-powering.
- Do not modify or repair the unit.
- Use caution to prevent any foreign objects from entering the housing.
- Do not use in wet locations or in areas where moisture or condensation can be expected.
- Do not touch during power-on, and immediately after power-off. Hot surfaces may cause burns.
1. INTENDED USE

This device is designed for installation in an enclosure and is intended for commercial use, such as in industrial control, process control, monitoring and measurement equipment or the like.

Do not use this device in equipment where malfunction may cause severe personal injury or threaten human life.

2. INSTRUCTIONS FOR DISPOSAL OF THE BATTERIES

Always dispose batteries through a recycling organization. Optionally, batteries can be returned to the supplier or the battery manufacturer. Batteries must be completely discharged before recycling.

CAUTION: The unit contains wet cell batteries. Ventilation of the installation room in accordance with the rules of Canadian Electrical Code, part 1 is required if used in Canada.

3. INSTRUCTIONS FOR BATTERY STORAGE

Do not store batteries or battery modules at temperatures higher than 25°C or performance and lifetime may change.

Before initial use, check the last charging which is marked on the battery. If it is older than 9 months, replace the battery.

Do not store batteries longer than 9 months without charging or performance and lifetime may change. Every 9 months or whenever the open circuit voltage (OCV) falls below 12.6V, the battery module should be charged. Apply a charging voltage of 13.8V (at 25°C) for 72 hours. Batteries with an OCV below 12V should be disposed.

4. INSTALLATION INSTRUCTIONS

This device may only be installed and put into operation by qualified personnel.

This device does not contain serviceable parts, except the fuse or replacement battery.

If malfunction should occur during installation or operation, first check the fuse and battery for proper functionality. If the unit is damaged or if the malfunction continues, immediately turn power off and send device to the factory for inspection. Do not install the battery fuse until the installation work is complete.

Replacement fuses must be of the same type or an UL listed fuse with the same nominal value and characteristics.

battery.

Do not short-circuit the battery poles or power wires and always check correct battery polarity.

Mount the device onto a heavy-duty DIN rail or screw it securely on a flat surface. Before mounting the unit on a flat surface, detach the DIN rail slider (remove the plastic lock mechanism by using a flat-blade screwdriver and move the lock downwards while pushing the plastic slide upwards at the same time) and the two aluminum DIN rail brackets (Torx T10 screwdriver). Do not install the battery module upside down.

Install the device in a cool area inside an enclosure providing protection against electrical, mechanical and fire hazards.

Ensure sufficient ventilation by following the requirements of the EN 50272-2.

Frequently charging below +5°C reduces the lifetime of the battery.

The device is designed for pollution degree 2 areas in controlled environments. No condensation or frost allowed.

The enclosure of the device provides a degree of protection of IP00.

Do not use batteries other than the original batteries supplied by the manufacturer to avoid conflicts with agency approvals.
The maximum surrounding air temperature is +50°C (+122°F). The operational temperature is the same as the ambient or surrounding air temperature and is defined 2cm below the device. Charging is allowed up to +40°C. Frequent charging below +5°C reduces the lifetime of the battery.

The device is designed to operate in areas between 5% and 95% relative humidity.

Shorten the length of the (+) and (-) wires as needed between the battery module and the DC-UPS. If separate wires are used, do not use wires smaller than 4mm² (AWG 12). Do not use individual wires longer than 2m (7ft) to avoid voltage drops on this connection.

5. INSTALLATION INSTRUCTIONS HAZARDOUS LOCATIONS

The device is suitable for use in Class I Division 2 Groups A, B, C, D locations and for use in Group II Category 3 (Zone 2) environments.

Hazardous Location classification: ATEX: EPS 15 ATEX 1 025 X, II 3G EX ec IIC T4 Gc

WARNING EXPLOSION HAZARDS!

Substitution of components may impair suitability for this environment.

Do not disconnect the device unless power has been switched off or the area is known to be non-hazardous.

A suitable enclosure must be provided for the end product which has a minimum protection of IP23 and fulfills the requirements of the EN 60079-15. Sufficient ventilation must be ensured in the final installation.

Do not use batteries other than the original batteries supplied by the manufacturer or batteries, which are approved according to EN/ IEC 60079-7.
6. INSTRUCTIONS FOR REPLACING BATTERIES

Batteries need to be replaced periodically. The time interval depends on the ambient temperature in which the battery is used and, on the number, and depth of discharge cycles. In a typical application it is recommended to replace the batteries at least every 2 years. Disconnect battery fuse before replacing the batteries.

7. ENVIRONMENT

| Operational temperature *) | -10°C to +40°C (14°F to 104°F) | For charging
|                           | -15°C to +50°C (5°F to 122°F) | Frequently charging below +5°C (41°F) reduced the lifetime of the battery
|                           | -20°C to +50°C (-4°F to 122°F) | For discharging
| Storage temperature        | -15°C to +50°C (5°F to 122°F) | For storage and transportation
| Humidity                   | 5 to 95% r.h.                  | Recommendation:
|                           |                                | Do not store at temperatures higher than 25°C or performance and lifetime may change.
| Vibration sinusoidal       | ±4mm at 16.7Hz fixed frequency for 1hour | Vibration in vertical mounting orientation according to IEC/EN 61056-1
| Shock                      | free fall from 20cm onto a wooden floor | Shock with bottom down orientation according to IEC/EN 61056-1
| Altitude                   | 0 to 6000m (0 to 20 000ft)     | For storage and transportation
| Degree of pollution        | 2                               | Recommendation:
|                           |                                 | Do not store at temperatures higher than 25°C or performance and lifetime may change.

*) Operational temperature is the same as the ambient temperature and is defined as the air temperature 2cm below the unit.

8. PROTECTION FEATURES

| Degree of protection | IP 00                     | According to EN/IEC 60529 |
| Class of protection  | III                      | According to EN/IEC 61140 |
| Internal input fuse  | 30A                      | DC-Fuse (blade type) ATOF® 287 030 from Littelfuse |
|                       |                          | Replacement fuses must be of the same type or an UL listed fuse with the same nominal value and characteristics. |
| Isolation             | 1100Vac                  | Isolation voltage between power to chassis |
9. APPROVED, FULFILLED OR TESTED STANDARDS

<table>
<thead>
<tr>
<th>Standard/Code</th>
<th>Approval Details</th>
</tr>
</thead>
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<tr>
<td>IEC 61010-2-201</td>
<td>CB Report: CB Scheme Certificate for Equipment for Measurement, Control and Laboratory Use - Particular requirements for control equipment.</td>
</tr>
<tr>
<td>IECEx</td>
<td>IECEx Certificate EN 60079-0 Explosive atmospheres - General requirements. EN 60079-7 Equipment protection by type of protection &quot;e&quot; Certificate: IECEx EPS 15.0049X. Temperature Code: T4. Type of Protection: ec.</td>
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<td>VDMA 24364</td>
<td>Paint Wetting Impairment Substances Test (or LABS-Test) Tested for Zone 2 and test class C1 according to VDMA 24364-C1-L/W for solvents and water-based paints.</td>
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10. REGULATORY PRODUCT COMPLIANCE

<table>
<thead>
<tr>
<th>Directive</th>
<th>Compliance Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU Declaration of Conformity</td>
<td>The CE mark indicates conformance with the - EMC directive - ATEX directive - RoHS directive.</td>
</tr>
<tr>
<td>WEEE Directive</td>
<td>Manufacturer's Statement: EU-Regulation on Waste Electrical and Electronic Equipment Registered in Germany as business to business (B2B) products.</td>
</tr>
<tr>
<td>EAC TR Registration</td>
<td>EAC Certificate: EAC EurAsian Conformity - Registration Russia, Kazakhstan and Belarus. 8504408200, 8504409000.</td>
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All parameters are typical values specified at 25°C ambient temperature unless otherwise noted.
11. PHYSICAL DIMENSIONS AND WEIGHT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>UZK12.072</th>
<th>UZO12.072</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>158mm / 6.22”</td>
<td>For DIN rail mounting; The DIN rail depth must be added to the unit depth to calculate the total required installation depth.</td>
</tr>
<tr>
<td>Height</td>
<td>132mm / 5.2”</td>
<td>For UZK12.072</td>
</tr>
<tr>
<td>Depth</td>
<td>98mm / 3.86”</td>
<td>For UZO12.072</td>
</tr>
<tr>
<td>Weight</td>
<td>3500g / 7.7lb</td>
<td>Zinc-plated steel</td>
</tr>
<tr>
<td></td>
<td>800g / 1.76lb</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 11-1 Front view

Fig. 11-2 Side view

All dimensions in mm

Fig. 11-3 Isometric view
12. WALL/ PANEL MOUNTING

Panel/ wall mounting is possible by detaching the DIN rail brackets

**Fig. 12-1** Panel/ wall mounting – Removing the aluminium brackets and plastic slide

- Detach the two aluminium brackets by removing the two screws with a Torx screwdriver (Torx 10).
- Remove the plastic lock mechanism by using a flat-blade screwdriver to move the lock downwards while pushing the plastic slide upwards at the same time. Detach the plastic slide.
- Panel/ wall mounting is possible by using either the four holes on the rear or on the bottom of the unit.

**Fig. 12-2** Hole pattern for wall mount

**Fig. 12-3** Hole pattern for bottom mount

All dimensions in mm
13. **Recommendations for a Long Battery Life**

**Temperature:**
The temperature has the most impact on the service life. The hotter the temperature, the earlier the wear-out phase of the battery begins. The wear-out results in a degradation of battery capacity. Place the battery module in a cool location, e.g. near the bottom of the control cabinet. Do not place the battery module near heat generating devices. Do not overcharge batteries!

![Fig. 13-1 Service life (according to EUROBAT) vs. ambient temperature, typ.](chart)

**Number of discharge cycles and depth of discharge:**
Do not discharge batteries more than necessary. Set buffer time limiter to the required buffer time. The number, as well as the depth of discharging cycles is limited. A replacement of the battery might be necessary earlier.

When choosing the battery capacity, always try to get the next higher capacity than required. The depth of discharge reduces the service life of the battery and limits the number of cycles.

![Fig. 13-2 Battery degradation vs. discharging cycles, typ.](chart)

**Store batteries fully charged**
Do not store discharged batteries. Keep batteries fully charged!
Charge retention is important to get the longest battery life. Stored batteries which are not fully charged age faster than charged batteries. Batteries which are not in use should be recharged at least once a year. The higher the ambient temperature, the shorter the charging interval. At storage temperatures higher than 30°C, recharging should be done at least every nine months.
14. MOUNTING ORIENTATIONS

The standard mounting orientation is the vertical installation onto a flat surface.

Fig. 14-1  Standard mounting orientation

The following mounting orientations are also allowed:

Fig. 14-2  Allowed mounting orientations

Do not use the battery module in an upside-down position:

Fig. 14-3  Forbidden mounting orientation