



### BATTERY REPLACEMENT

- Maintenance-free VRLA Lead-Acid Battery
- AGM (Absorbent Glass Mat) Technology
- Can Be Installed in Any Orientation Except Permanently Inverted
- High-current Type

## 1. GENERAL DESCRIPTION

The UZH12.051 is a non-spillable maintenance-free VRLA lead-acid battery with absorbent glass mat (AGM) technology. It can be used as a battery replacement for many DC-UPS battery modules.

## 2. SHORT-FORM DATA

Nominal voltage	DC 12V	
Nominal battery capacity	5Ah	Capacity class
Nominal battery life	3 to 5 years	According EUROBAT
Battery current	Max. 35A	Discharging current
	Max. 1.8A	Charging current
Recommended charging voltage	13.9V	At 10°C
	13.75V	At 20°C
	13.6V	At 30°C
	13.45V	At 40°C
Self-discharge rate	3%/month	At 20°C
Temperature range	-10°C to +40°C	For charging
	-15°C to +50°C	For discharging
Connection terminal	Faston 250	
	6.35x0.8mm	
Size (WxHxD)	90x106x70mm	
Weight	2100g / 4.63lb	

## 3. ORDER NUMBERS

Battery Replacement **UZH12.051**

## 4. MARKINGS



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**⚠ WARNING** Risk of electrical shock, fire, personal injury or death.

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

## 5. INTENDED USE

The battery is intended to be a replacement part for various DC-UPS battery modules.

## 6. INSTRUCTIONS FOR DISPOSAL OF THE BATTERIES

Batteries must be completely discharged before replacement and can be returned to the supplier of the battery module or the battery manufacturer for disposal.

Always dispose batteries through a recycling organization.

## 7. INSTRUCTIONS FOR BATTERY STORAGE

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

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.

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 must not be charged anymore and must be disposed.

## 8. INSTALLATION INSTRUCTIONS

Install batteries in an enclosure providing protection against electrical, mechanical and fire hazards.

Do not install the battery upside down.

Do not cover or block the pressure release valves on top of the battery.

Hydrogen gas can be released via pressure relief valves. It will form an explosive mixture in air when the concentration exceeds 4% in volume. It is mandatory to ensure sufficient ventilation of the battery. The necessary air flow must be calculated according to EN 50272-2.

**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.





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 as the air temperature 2cm below the device.

### 9. ENVIRONMENT

Operational temperature *)	-10°C to +40°C (14°F to 104°F)	For charging Frequently charging below +5°C (41°F) reduced the lifetime of the battery
	-15°C to +50°C (5°F to 122°F)	For discharging
Storage temperature	-20°C to +50°C (-4°F to 122°F)	For storage and transportation Recommendation: Do not store at temperatures higher than 25°C or performance and lifetime may change.
Humidity	5 to 95% r.h.	IEC 60068-2-30 Do not energize while condensation is present
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)	
Degree of pollution	2	According to IEC 62477-1, not conductive

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

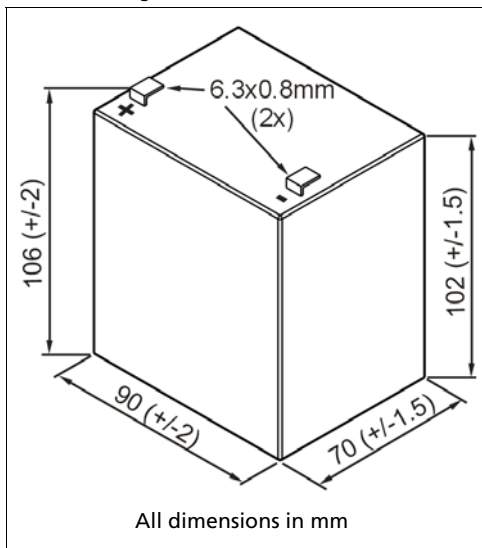
### 10. FULFILLED STANDARDS

UL 1989		Component recognition - Stand-by batteries UL Category BAZR2
RoHS Directive		Batteries are exempt from the directive 2011/65/EU of the European Parliament and the Council of June 8 <sup>th</sup> , 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
REACH Directive		Directive 1907/2006/EU of the European Parliament and the Council of June 1 <sup>st</sup> , 2007 regarding the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
IEC 61056		General purpose lead-acid batteries (valve-regulated types)

### 11. PHYSICAL DIMENSIONS AND WEIGHT

Width	90mm / 3.54"	
Height	102mm / 4.02"	Container height
Height	106mm / 4.17"	With battery poles
Depth	70mm / 2.76"	
Weight	2100g / 4.63lb	

Fig. 11-1 **Isometric view**

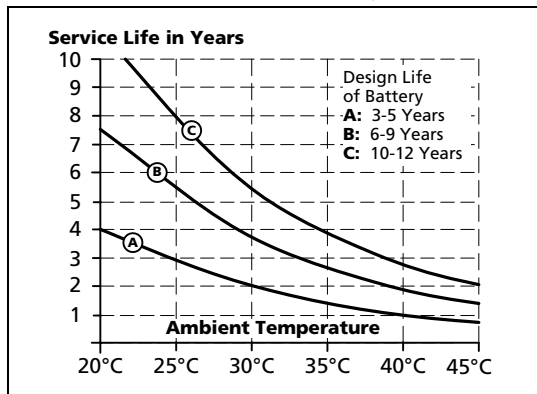


## 12. RECOMMENDATIONS FOR A LONG BATTERY LIFE

### 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. 12-1 **Service life (according to EUROBAT) vs. ambient temperature, typ.**

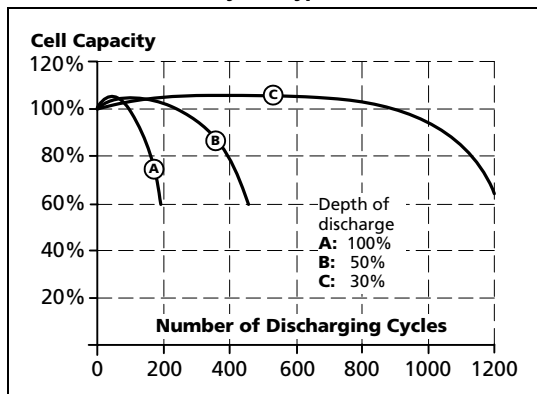


### Number of discharge cycles and depth of discharge:

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. 12-2 **Battery degradation vs. discharging cycles, typ.**



### 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.