Cellpower series

CP, CPL, CPH, CPW, CPF, CPR, CPS, CPT, CPC, CPX, CPG, CLPL, CLN, CLF & CPXC

- Limited Warranty -

All Cellpower batteries are warranted to be free from defects in material and workmanship. Should a claim arise, the following limited warranty policy.

Battery type	Months of warranty
CP	12
CPC	12
CPH	12
CPF	24
CPG	12
CPL	24
CPR	24
CPS	24
CPT	12
CPW	36
CPX	12
CLPL	24
CLN	24
CLF	60
CPXC (HE)	24

CONDITIONS:

1. A Stand-by battery will not be considered defective unless it fails to deliver 60% or less of its rated capacity during the warranty period per EN60896-21/22.

   A Cyclic battery will not be considered defective unless it fails to deliver 70% or less of its rated capacity during the warranty period per EN60254-1.
2. Each battery must be the proper size, design, and capacity for its intended application at 25°C.
3. Each battery must be charged, discharged, stored and serviced in accordance with the manufacturer's instructions. The limited warranty is invalid if the battery is subject to misuse, abuse or physical damage.
4. User agrees that the manufacturer's representative shall be granted inspection access with reasonable notice.
5. The Warranty Period will be reduced 50% for every 8 degrees Centigrade increase in operating temperature above 25°C (base temperature). Warranty is void if temperature exceeds 50°C.
6. The limited warranty is rendered void if the battery becomes unserviceable due to fire, wreckage, freezing, neglect, abuse, or any act of God, the use of battery additions, or the battery is serviced by persons not authorized by Cellpower.

CLAIMS:

1. Contact original point of purchase for instructions on applicable warranty claim procedures immediately after notice.
2. Upon satisfactory proof of claim as determined by Cellpower, we shall repair or replace, at our option, any defective battery based upon the purchase price as outlined above exclusive of labor.
3. Not accept any product for return, credit or exchange unless expressly authorized by Cellpower in writing and returned prepaid to our warehouse
4. All defective and replaced batteries, if returned, become property of Cellpower.

CELLPOWER SHALL NOT BE LIABLE FOR, AND USER SHALL INDEMNIFY AND SAVE CELLPOWER HARMLESS FROM ANY CLAIMS AND LIABILITIES ARISING OUT OF THE USE MAINTENANCE, TRANSPORTATION, OR INSTALLATION OF ANY EQUIPMENT WARRANTED HEREUNDER. THE FOREGOING LIMITED WARRANTY IS IN LIEU OF ALL WARRANTIES EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE SOLE LIABILITY OF CELLPOWER IS SET FORTH UNDER THE CLAIMS PARAGRAPH ABOVE. CELLPOWER SHALL NOT HAVE ANY LIABILITY FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES. THIS LIMITED WARRANTY APPLIES ONLY TO THE ORIGINAL PURCHASER (USER) OF THE EQUIPMENT IS NONTRANSFERABLE, AND GOVERNED BY AND CONSTRUED UNDER DUTCH LAWS.

VRLA Battery Storage

It is recognized that VRLA batteries exhibit excellent charge retention characteristics. That is, their self-discharge rate is low and is typically less than 3% per month at 25°C. Although the self-discharge rate is low, specific precautions must be taken to guard against the battery over discharging due to self-discharge when in storage or in a non-operational mode.

It is necessary to understand what is meant by a fully dis-charged (flat) battery. A discharged battery may be determined by the voltage of that battery. The voltage of a battery that can be described as fully discharged varies with the discharge current. For example, the higher the discharge current for a battery, the quicker the battery reaches a fully discharged state and the lower the voltage will be for a battery to be described as fully discharged (flat). At all times, to prolong its active life, a VRLA battery should be recharged immediately after it has been either partially or fully discharged,

Storage temperature for VRLA batteries

VRLA batteries can be stored in an ambient temperature of between -35°C to +50°C.

Mechanical precautions

Storage at low temperatures is possible providing the battery is handled with some extra care, since most plastics hardens at low temperatures, the risk of dam aging the battery container through shock or dropping will increase. When stored at high temperatures ensure that the battery is on a flat and horizontal shelf to prevent deformation of the plastic container.

Electrical precautions

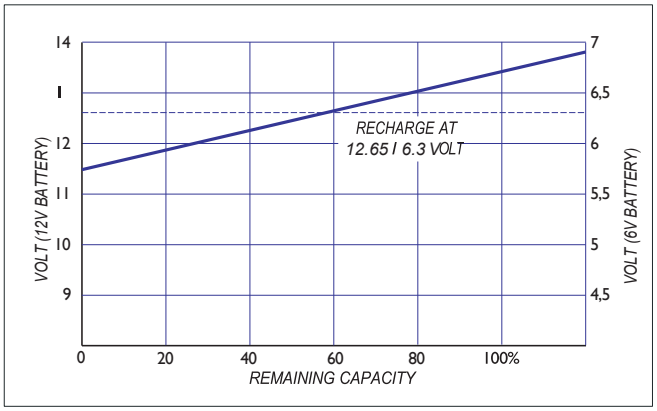
Note that the electrochemical processes in any battery will be influenced by the temperature. When taking a battery out of storage ensure proper functioning before connecting it to your equipment. Check that the delivered voltage and current drain of your applications meets the specifications at the given temperature. The electric characteristics will be reduced at low temperatures, so in order to reach the full capacity, let the battery warm up before use.

Storage at different temperatures will influence the self-discharge. If the temperatures is below 20°C every 9 months the battery should be checked and recharged, above 30°C this should be done every 3 months. Storage at temperatures above 40°C will reduce the functional life of the battery. When charging batteries that are stored at temperatures other than room temperature, a charger that accordingly compensates the charge voltage should be used.

The slowest practical rate of discharge for a lead acid battery is self-discharge. As the current is very low, the fully discharged voltage is high, i.e. the battery is flat at 2.00 – 2.03Vpc. There-fore a program of stock control must be introduced to ensure that batteries are re charged well before that voltage is reached. A FIFO usage system is also recommended.

Supplementary Charge Advice

Storage Temperature	*Charging Interval*
• 20°C or less	Every 9 months
• 20 - 30°C	Every 6 months
• 30 - 40°C	Every 3 months



While discharging a battery, lead sulphate (sulphation) is formed. If the battery is recharged as soon as discharging is completed, the lead sulphate is converted to active material. However, on self-discharge the lead sulphate that is formed may become inactive, so that it cannot be reconverted. The lower the voltage that a battery is allowed to fall under when self-discharging, the more likely it is that the sulphation formed will not be able to be reversed. The battery will be “damaged beyond recovery.

Lithium Battery Storage

Lithium Batteries have a low self-discharge rate, allowing them to be stored for extended periods without damage. However, to ensure long-term storage without issues, it is essential to follow the guidelines mentioned in the technical manual for maintaining good battery condition. In particular, attention should be given to the recommended storage

temperatures and state of charge (SoC). If these guidelines are not carefully followed and the battery loses voltage over time, it has not been stored properly and may no longer be recoverable. When stored correctly and consistently under the right conditions, a Lithium Battery can remain in good condition for an extended period without any problems. For a new, fully charged Lithium Battery, keep in mind a minimum self-discharge rate of about 2% per month.

For storage, completely disconnect the battery from the application and other externally connected items, even if they are a charger. Store the battery in a cool (ideally 20°C) and well-ventilated location; never in direct sunlight or a location where there is otherwise regular exposure to UV radiation. Store the battery in a location where the battery terminals cannot make contact. For safety reasons, it is best to cover them with insulating tape or the originally supplied battery terminal caps. Charge the battery to at least 80% of its capacity before storage. Check the voltage of the stored battery at least once every 100 days and, if necessary, recharge it to at least 80% of its capacity.