

Care & Maintenance

Opportunity Charging



Operating Notes

Guidelines for Opportunity Charging

Definition

Opportunity charging is an operational regime that allows a battery to extend its effective capacity over a working shift. However – a number of key considerations need to be taken into account when opportunity charging a battery:

Opportunity charging is intended to give an occasional increase in effective capacity and thereby increase the working shift of a battery. It should not be seen as a critical requirement of a battery's duty on a daily basis as it will significantly reduce the batteries performance and life.

The battery will still require one full recharge every daily working cycle.

If opportunity charging is required for every shift and a full recharge is not possible within a 24 hour period then additional battery capacity is required – either a larger battery or additional batteries.

Persistent and frequent opportunity charging will lead to increased battery temperature and permanently damage the battery reducing the battery life.

3 key factors affect the usefulness of opportunity charging

The time spent on opportunity charging

Longer periods of approximately 1 hour are preferred – short periods of 5 minutes deliver little benefit.

The current battery capacity at the time of commencing the opportunity charge

The benefit of opportunity charging is maximised if the battery is already over 25% discharged.

The recharge time of the charger used

8 hour chargers will return energy more quickly to the battery.

The table below details the typical affect of 1 hour opportunity recharge in relation to the depth of discharge of the battery and the charger sizing

Battery capacity at commencement of opportunity charge	Approximate percentage of battery capacity returned during 1 hour of opportunity charging	
	Typical 8 hour charger	Typical 12 hour charger
95%	6.5%	5.5%
85%	9.0%	7.5%
75%	13%	9.0%
65%	13%	9.0%
50%	13%	9.0%
25%	13%	9.0%

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