



The initial charge current is recommended to be set at  $I_1 = 0.25 \times C_{20}$  ( $I_{max} = 0.35 \times C_{20}$ ) in order to fully charge the batteries within a reasonable amount of time. It can be set lower, however please be aware that charge time will increase so make sure the batteries have enough time to fully charge before being put back into service. Fullriver batteries have a low internal resistance allowing them to be charged at a higher current, therefore faster, than conventional flooded/wet batteries.

**Bulk stage** - the charger should deliver the initial current  $I_1$  until the voltage limit  $U_0$  is reached.

**Absorption stage** - the charger should maintain the voltage  $U_0$  until the current tapers to  $I_2$ .

**Float stage and termination** – the charger can maintain the current  $I_2$  indefinitely or until the charger is shut off or unplugged. This stage is ideal to maintain battery state of charge.

Make sure the temperature compensation is programmed as specified in Figure 1 ( $-4mV/^{\circ}C/cell$  or  $-2mV/^{\circ}F/cell$ ) or manually adjust the voltage setting for temperatures varying from  $25^{\circ}C$  ( $77^{\circ}F$ ). As the temperature decreases, the voltage should be increased and as the temperature increases the voltage should be decreased.

The profile in Figure 1 can be used with or without the float stage. Without the float stage, recharge can be terminated based on time (this will need to be determined as it will vary with depth of discharge and charge current) or percentage recharge ( $\sim 105\%-110\%$ ).

### Charge Voltage Quick Reference

12 V Battery	32°F (0°C)	50°F (10°C)	68°F (20°C)	77°F (25°C)	86°F (30°C)	104°F (40°C)
Charge Voltage	15.30	15.06	14.82	14.70	14.58	14.34
Float Voltage	14.25	14.01	13.77	13.65	13.53	13.29

For a 6V battery divide the voltage by 2.

### Constant Current Charger - IUI

A constant current charger can also be used, however it is important to adhere to the termination criteria mentioned below to minimize the chance of excessive over-charge. See Figure 2 for the recommended constant current charge profile.

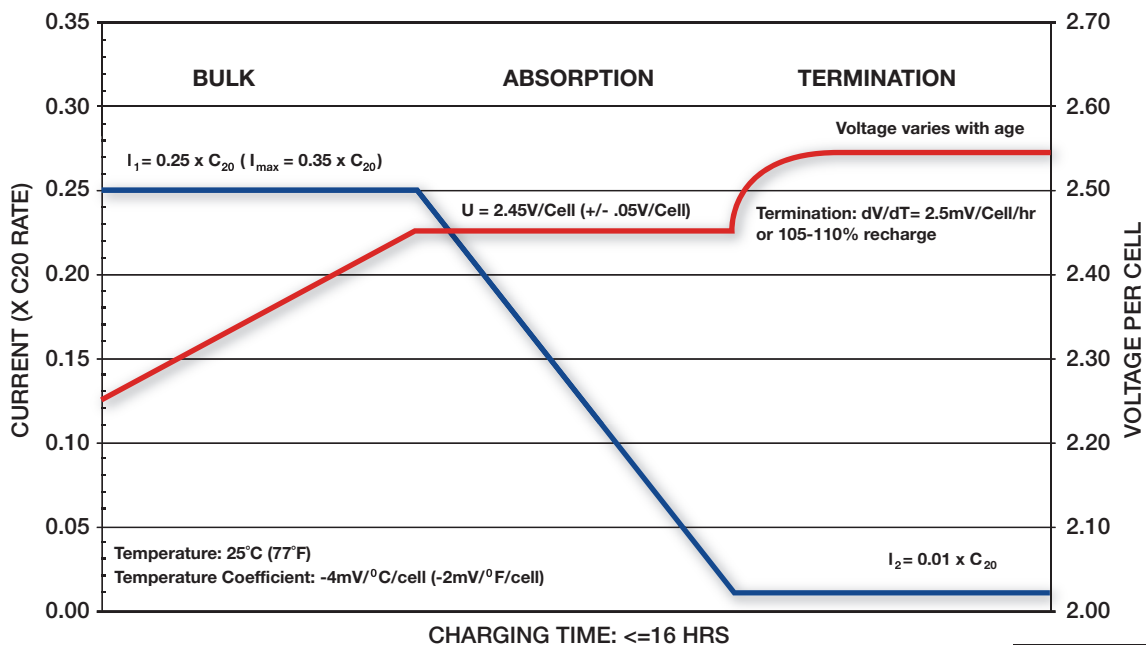


Figure 2

Continued...

