

## 2.03 COMPONENTS

F. Automatic Multi-Rate Battery Charger: SCR type designed for engine starting duty with field-demonstrated MTBF greater than 750,000 hours.

**Standards:** Charger shall be C-UL listed to UL 1236 and comply with NFPA 110, NFPA 70, FCC Part 15 Class B, ANSI C62.41, Cat. B and IBC 2006. Charger shall carry UL listing label, FCC compliance label and IBC 2003/2006 compliance label.

**Battery compatibility:** Field selectable for either lead-acid or nickel-cadmium. Number of cells Ni-Cd battery shall be field selectable.

**Input:** 110-120/208-240 VAC  $\pm 10\%$ , Single Phase, switch selectable. 50/60Hz selectable. Input shall have current limiting capabilities to prevent premature fuse blowing.

**Output:** Constant voltage, current limited type with current rating sufficient to recharge a fully discharged battery within 24 hours. Charger shall be field selectable for 12 or 24-volt battery. Charger voltage shall be adjustable to battery maker's recommended charging voltage specification. Voltage regulation shall be  $\pm 0.5\%$  or better. Output current will be current limited to prevent premature fuse blowing. Charger shall not require use of a crank disconnect device to prevent blowing of fuses on engine start.

**Automatic float/equalize charge mode:** Charger shall automatically operate in equalize mode after battery discharge, then revert to float mode once battery is fully charged. Manual equalizer timers are not acceptable.

**Temperature Compensation:** Charger shall offer as a standard temperature compensation control and probe.

**Battery fault system:** Sensing circuitry shall automatically detect and alarm on disconnected battery, high resistance charging leads, open battery or high resistance battery.

**Charger alarms:** Individual Form C alarm contacts and front panel LEDs for AC fail, charger fail, low battery volts, high battery volts and battery fault. Contacts shall be rated 2A at 26 VDC

**Display:** Digital metering for both voltage and current. Front panel LED indicators for AC on, float mode active, equalize mode active and temperature compensation active.

**Environment:** Convection cooled with operating temperature  $-4F$  to  $+140F$  with overtemperature protection. Humidity to 95%, non-condensing. Circuit boards shall be treated to resist effect of extreme humidity. Fan cooled chargers will not be accepted. Charger shall be housed in aluminum or stainless steel.

**Warranty:** Charger shall offer minimum of three-year warranty. Warranty shall cover all charger components without exception.