



Christie RF80-M® vs. SuperMasterCharger

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Technical comparison between the Christie RF80-M and the SuperMasterCharger based on available published data at time of this writing.

1. Touch Screen
 - 1.1 RF80-M
 - First aircraft battery charger/analyzer with touch-screen display. Very user-friendly, intuitive and robust. Incorporates large, colorful status and metering displays which can be easily viewed from a considerable distance, even in low light conditions. On-screen alpha-numeric keypad for easy data entry.
 - 1.2 SuperMasterCharger
 - Uses conventional LED metering displays and a small LCD screen with keypad for user interface.
2. Computer Interface
 - 2.1 RF80-M
 - Optional AB3K-M interface board installed at time of purchase allows communication with PC running ABMS-10X Battery Management System software. When AB3K-M is installed, individual cell voltages amp-hours and battery temperature are continuously displayed on the touch-screen. Battery type, serial number assignment and recipe (charge, discharge, analyze, etc.) can be selected at the charger station via the touch-screen or at the PC.
 - 2.2 SuperMasterCharger
 - Built-in BTAS interface for PC communications. No local display at charger station of cell voltages (only shown on PC screen). No user-interface at charger station to assign batteries or initiate recipes (PC only).
3. Charge/Discharge Current Capabilities
 - 3.1 RF80-M
 - .5a-65a constant current or constant potential charge. 2-80a Reflex charge. 1-60a constant current discharge.
 - ReFLEX® is a proven charge method which allows safe, high-speed main charging without over-charging or excessive heating. ReFLEX was developed by Christie and has been successfully used for decades in commercial and military applications.
 - Discharger circuit based on FET control with four independent fan-cooled nickel-chrome coils. This is a highly reliable and proven design in use for over 20 years.
 - 3.2 SuperMasterCharger
 - .2a-50a constant current or constant potential charge. No ReFLEX capability. .2a-60a constant current discharge.
 - Uses multiple bi-polar power transistors mounted directly to surface of aluminum heat sinks. Since all discharge transistors are wired in parallel, a single shorted transistor will short the entire bank.
4. Manual Mode
 - 4.1 RF80-M
 - Allows single or multiple charge/discharge/wait tasks to be run in sequence using simple touch-screen interface. For full compliance with battery CMMs, the RF80-M can terminate charge on time, voltage, or time + voltage (and/or logic).
 - 4.2 SuperMasterCharger
 - Various charge/discharge tasks may be selected using small LCD screen with keypad. Programming of time, voltage and current are available.
5. Program Mode
 - 5.1 RF80-M
 - The RF80-M will store up to 100 battery processing programs; each program may have up to 16 functions/steps. Program functions include: charge, discharge, and wait steps. The program/function flexibility permits the battery technician the ability to easily and accurately replicate the exact battery requirements as detailed by the battery's CMM and the applicable technical manuals.
 - 5.2 SuperMasterCharger
 - Up to 100 battery test profiles can be stored.
6. Charge Modes
 - 6.1 RF80-M
 - Constant current, 2-step (or multiple step) constant current, constant potential and ReFLEX charge modes.
 - 6.2 SuperMasterCharger
 - Constant current, 2-step (or multiple step) constant current, constant potential charge modes.

7. Alarm Signals
 - 7.1 RF80-M
 - Audible signals at the end of each task. Multiple alerts may be programmed (see 8.1 below).
 - 7.2 SuperMasterCharger
 - Audible signals for events and alarms for charger fault conditions.
8. Alerts
 - 8.1 RF80-M
 - Alerts can be inserted at any point within the battery process program. Audible and touch screen visual alerts will notify the battery technician to: 1) check, 2) record, or 3) perform a particular CMM specified function.
 - 8.2 SuperMasterCharger
 - Alerts cannot be programmed.
9. Proven Power Section
 - 9.1 RF80-M
 - Rock solid, reliable and proven charge/discharge power section based on the RF80-K model in service for over 20 years.
 - 9.2 SuperMasterCharger
 - Based on Superseder power section.
10. DigiFLEX[®] Analysis
 - 10.1 RF80-M
 - Exclusive DigiFLEX Analysis provides visual indication of battery processing status (charge or discharge). The DigiFLEX circuitry provides measurement and display of the battery condition during the ReFLEX[®] charge cycle. DigiFLEX uses the display of luminescent bars to portray the rate and duration of negative pulses throughout the charge cycle. The green luminescent bars show the “relative state of charge” of the battery. Green bars will initially appear when the battery has attained approximately 80% capacity. At full charge, the green luminescent bars will extend completely to the right side of the display on the RF80-M.
 - 10.2 SuperMasterCharger
 - This feature is not available.
11. Safety Features
 - 11.1 RF80-M
 - Complies with international CE Low Voltage Directive, limiting the output voltage to 42 VDC to prevent user exposure to potentially unsafe output voltages. Built-in software limits for max current, voltage and charge time. 100 amp output current limiter prevents over-current conditions. Reverse polarity, open circuit, short circuit and over-voltage and over-temperature protection.
 - 11.2 SuperMasterCharger
 - Internal hardware and software safeguards for current and voltage. Reverse polarity, open circuit, short circuit, over-voltage and over-temperature protection.
12. CE Mark
 - 12.1 RF80-M
 - CE Tested and Certified
 - Council Directive: 2006/05/01 Electrical equipment for measurement, control and laboratory use EMC requirements Part 1: General Requirements (Electromagnetic Compatibility). Standards Used – CENELEC EN 61326-1.
 - Council Directive 2010/12/10 Ed: 5 Household and similar electrical appliances Safety Part 1: General Requirements (Low Voltage Directive). Standards Used - Safety of household and similar electrical appliances Part 2– Particular Requirements for Battery Chargers; EN 60335–2–29:2004+A2:2010 used in conjunction with EN 60335-1:2002+A1:2004 +A11:2004 + A2:2006 +A12:2006 +A13:2008.
 - 12.2 SuperMasterCharger
 - CE status unknown as of this date.
13. Number of Batteries
 - 13.1 RF80-M
 - One typical 20-cell nickel-cadmium (24 cells max) or 12-cell lead-acid battery. Up to two 11-cell nickel-cadmium batteries or three 7-cell batteries at a time in series (charge only). Maximum charge voltage limited to 42 VDC in accordance with international CE Low Voltage Directive.
 - 13.2 SuperMasterCharger
 - Capability for up to 50 cells, non-compliant with international CE Low Voltage Directive.
14. National Stock Number (NSN) – U.S. Military and NATO use
 - 14.1 RF80-M
 - Carries NSN 6130-01-610-9925
 - Currently in use at U.S. Military, DHS, NATO, and international non-NATO military bases worldwide
 - 14.2 SuperMasterCharger
 - National Stock Number (NSN) status unknown as of this date.

15. Manufacturing Quality Standards

15.1 RF80-M

- Produced at ISO9001:2008 and AS9100-C certified production facility.
- Master distributor and service center is ISO9001:2008 audited and certified.

15.2 SuperMasterCharger

- Externally audited and certified manufacturing quality standards unknown.



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