Specialty Concepts
MARK/22 Photovoltaic Charge Controller

The MARK/22 is similar to the MARK/15™ (see below) but it is rated for 22 amps of PV current. It also has a low-power consumption LCD digital display, which can show two different system parameters (battery voltage and array current).

The Specialty Concepts, Inc. MARK 15 is a cost effective, flush mount, battery charge controller with digital system monitoring. The MARK 15 is available for 12 or 24-volt systems with charging current up to 15 amps, and provides efficient charging while protecting the batteries from damage due to overcharging. This controller is designed for use in mobile or stationary photovoltaic energy systems, with complete system monitoring of battery voltage, solar charging current, and charge set-point calibration. Chargemode status lights, battery condition LED bar-graph, a blocking diode, battery fuse and array fuse are standard.

FEATURES CHARGE REGULATION
- 15 amp charge current, 12 or 24 volt Easily handles over-currents
- Switching shunt, LFCS pulse charging method
- Field adjustable set-points

DESIGN FEATURES
- 100% solid-state
- Designed for rugged mobile use
- Over-current protection - battery fuse, array fuse
- Reverse leakage protection - blocking diode
- Reverse polarity protection
- Lightning protection
- Input noise suppression
- Low power consumption
- 12 awg terminal block

MONITORING
- Digital monitoring of:
  a) System battery voltage
  b) Solar charge current
  c) Charge set-point calibration
- "SOLAR CHARGING" light
- "BATTERY CHARGED" light
- LED bar-graph BATTERY CONDITION indicator
- BAR or DOT display
- Power saver display mode MOUNTING
- Flush mount
- Knock-out box available for wall mounting (4x7 BOX accessory)

PARAMETERS	UNITS	Mark/15-12	Mark/15-24
Nominal Voltage	(Volts)	12	24
Array Voltage, Max (Voc)	(Volts)	26	52
Array Current, Continuous (Isc)	(Amps)	15	15
Array Current, Max (60 seconds)	(Amps)	20	20
Load Current, Continuous (1)(3)	(Amps)	10	10
Load Current, Max (60 seconds) (1)(3)(5)	(Amps)	13	13
Operating Voltage at Battery, Min			
Charge Control	(Volts)	0	0
Load Disconnect (LVD) (1)	(Volts)	8.5	19.0
LCD Metering	(Volts)	7.8	18.0
LED Bar-graph	(Volts)	10.5	21.0
Current Consumption			
Quiescent (Tare)	(Milliamps)	8.8	8.8
Charging (with LED Bar-graph off)	(Milliamps)	12.8	12.8
LED Bar-graph	(Milliamps per LED)	5	5
Load Disconnected (1)(4)	(Milliamps)	40	40
Charge Termination, Factory Set	(Volts)	14.4 + .2	28.8 + .4
Charge Termination, Adjustable Range (6)	(Volts)	13.6 - 15.3	27.2 - 30.6
Charge Resumption, Factory Set (6)	(Volts)	13.0 + .2	26.0 + .4
Load Disconnect (LVD), Factory Set (1)	(Volts)	11.5 + .2	23.0 + .4
Load Disconnect, Adjustable Range (7)	(Volts)	10.7 - 12.2	21.4 - 24.4
Load Reconnect, Factory set (1) (7)	(Volts)	13.0 + .3	26.0 + .6
Voltage Drop, Array to Battery @ 15 amp			
Controller, Max	(Volts)	0.5	0.5
Controller and 2 fuses, Max	(Volts)	0.8	0.8
Voltage Drop, Battery to Load, Max. (1)	(Volts)	0.06	0.06
LCD Meter Accuracy			
DC Voltage	(Volts)	0.5 %	0.5 %
DC Current	(Volts)	1 %	1 %
Temperature Comp. Coef. (from 25°C) (2)	(Volts/°C)	-.03	-.06
Operating Temperature Range	(°C)	-30 to 50	-30 to 50
Storage Temperature Range	(°C)	-40 to 70	-40 to 70

Notes:
(1) Low-voltage load disconnect option
(2) Temperature compensation option
(3) Non-inductive.
(4) LVD relay energized, typical value.
(5) Carry only, Non-switching
(6) The Charge Termination / Resumption span is fixed. The Resumption set-point changes as the Termination set-point is adjusted.
(7) The Load Disconnect / Reconnect span is fixed. The Reconnect set-point changes as the Disconnect set-point is adjusted.

Also Known As: