

PHOTOVOLTAIC - HYBRID POWER SYSTEM CONTROLLER



STANDARD MPR-9400 PACKAGING

THE MPR-9400 PV CONTROLLER is your TOTAL PV controller solution for your telecommunication, residential and hybrid power needs. TOTAL because we put the most advanced and innovative features in our basic to advanced controller systems. The MPR-9400 addresses the TOTAL needs of your batteries as well as your loads.

THE MPR-9400 provides dramatically reduced maintenance costs as well as increased survivability at your sites.

DST provides complete turn-key power system controllers.

DST sells its controls through our major photovoltaic distributors/system integrators. Contact DST for a distributor near you.

MPR-9400

POWER CONTROL SOLUTIONS FOR THE PV - HYBRID INDUSTRY

-MEDIUM TO LARGE SYSTEMS-

FEATURES

- **Communication via RS232 Serial Interface**
- Advanced MPR-9400 modular Micro-Processor control circuitry to allow flexible controller configurations.
- PV power from 60 to 300 amps (larger PV inputs available) @ all voltages from 12 to 120 VDC
 - 3 subarray staged taper charge
 - Pulse finish charge
 - True equalizations
- Advanced charging algorithms, EBBM™
 - Temperature compensated
- Advanced generator controls
- Load control from 35 to 200 amps
 - 1 or 2 stages - load prioritized
- **± 5% Load voltage regulation**
 - 1 to 3 staged "CEMF"
- Complete monitoring capabilities
 - Multiple voltage, multiple currents, multiple temperatures, solar insolation, date & time, fuel level and data logging. All control channel states monitored
 - LED's - Load, PV, LVA, HVA, GEN & Analog back up
- 3 X 3 Keypad and 2 X 24 LCD for set point modification and viewing monitored parameters
- Alarm relays, LVA & HVA, 2formC voltage free
- System Safety
 - Reverse polarity protected
 - Transient voltage protection
 - Circuit breakers on arrays and Loads
- NEMA 4X or NEMA 1 enclosure- sizes vary depending on controller capacity
- Analog back up of digital controls
- **Remote communications option**
- **MAIN battery disconnect option**
- **PWM module option**

Two year limited warranty

ENGINEERING POWER SOLUTIONS FOR THE PHOTOVOLTAIC INDUSTRY



DIGITAL SOLAR TECHNOLOGIES

REMOTE COMMUNICATION

The **MPR-9400** can be equipped with an optional 14,400 baud **MODEM** which will allow the user to dial the remote site's MPR-9400 using our **MPRCOMM** software package **OR** communications can be accomplished via the **RS232** serial interface through your communication equipment to retrieve the system's status. This provides a user friendly interface to our controllers via your personal computer. This option is one of the most valuable features the MPR series has to offer. This communication package allows you to fully monitor and control your system as if you were physically at the site. **Imagine the money and time that you will save** by not having to travel to your remote power system!

The MPR-9400 will actually **call your computer** if an alarm is activated. The call out function can be user programmed to call your host computer if a High voltage alarm, Low voltage alarm, generator failure or low fuel level etc. occurs. These call out alarms can be custom configured by DST.

MPRCOMM can automatically call one or multiple sites, down load the data, store the data in a database and then hang up. This automatic communication can be programmed by the user to occur once a day or other time periods.

COMMUNICATION SOFTWARE

DST's new **Visual Basic** software package will enable the user to communicate with the **MPR-9400** using Windows 95 and 98 platforms.

The user friendly interface allows all system parameters to be monitored and all set points and controls to be changed. Password protected.

Graphical representation of the DATA LOG can easily be produced by selecting the parameters to be analyzed and selecting the start and end date of the data.



STANDARD MPR-9400 INSTRUMENT PANEL

DATA LOGGING

The **DATA LOGGING** option allows the user to completely analyze the systems performance, battery condition and functionality of their PV system. After down loading the data logging file, either **locally or remotely**, you can produce the needed graphs. These graphs will visually allow you to easily analyze the performance of the power system.

There are two DATA LOGGING versions:

- 1, 5, 15, 30 or 60 minute programmable averaging sampling times
- 2, Daily logging of maximum and minimum system values

Logged parameters:

- Battery voltages, Battery amp hours, Battery current, PV currents, PV amp hours, GEN/rectifier amps, GEN/rectifier amp hours, GEN run time, Load currents, Load amp hours, Battery and controller temperatures, Solar irradiance, alarm and fault conditions

Memory - 1 or 2 MB - 200 days to 5+ years of data

SPECIFICATIONS

- Voltage - 12 to 120 VDC, Neg. or Pos. Gnd
- Array current - up to 300 amps (expandable)
- Load current - up to 200 amps
- Control circuitry (standby) parasitic load - 35 mA
- Analog inputs - 7
- Digital inputs - 2
- Digital outputs - 9
- Resolution 8 or 12 bit
- Temperature - -40°C to 85°C
- NEMA 4X or NEMA 1 enclosure
- Maximum wire sizes
 - Battery - up to 500 MCM
 - Arrays - 2/0
 - Loads - 2/0
 - Control wire - 16 AWG
- LCD - 2X24 -20°C to 70°C
- 6 LED's
- UL listed DC rated @ 125 VDC circuit breakers



STANDARD MPR-9400 POWER COMPONENTS

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