

2011

DRS-54V

Dongah Rectifier System Operating Manual

AC 240V 1Phase 3WIRE Input -54VDC Output 55A per Shelf 18.5Amps per Module

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1. Specifications

1.1 Input Characteristics

- 1.1.1 Rated input voltage range: 180V ~ 240, Single Phase Permitted input voltage range: 85Vac ~ 280Vac
- 1.1.2 Input frequency range: 47Hz ~ 63Hz
- 1.1.3 Power factor: 98% or above (50 \sim 100% load)
- 1.1.4 Efficiency: 91% or above (240Vac input, Typically)
- 1.1.5 Input voltage stabilization rate: Within ($\pm 0.5\%$) of rated voltage

1.2 Output Characteristics

- 1.2.1 Rated output voltage: -54.0Vdc \pm 0.5%
- 1.2.2 Output current: Max 55.5A(18.5A x 3Modules)
- 1.2.3 Output voltage stabilized rate: Within $\pm 0.5\%$ of set voltage

1.3 Environmental Characteristics

- 1.3.1 Operating temperature range: -40°C ~ 65°C
- 1.3.2 Operating humidity range: 5% \sim 95%

1.4 Safety Standard

- 1.4.1 Lightning surge: Input terminal EARTH 1.2 x 50us 2KV, 1.2 x 50us 1KV between input terminals
- 1.4.2 Insulation resistance : $10 M \ensuremath{\Omega}$ or above when measured at DC500V
- 1.4.3 Leakage current: 3mA or less (Measure by module unit in rated input/output condition)
- 1.4.4 High frequency (EMI): EN55022 Level A

1.5 Protection Function

- 1.5.1 Output high voltage protection: Shuts off output at -59.0V or above
- 1.5.2 Output over-current protection: 105% \sim 130% of rated current



2. Installation

2.1 Packaged Condition

This power equipment is shipped out as a packaged rectifier system unit.

2.2 Transportation

This power equipment can be damaged due to severe shock or vibration during transportation, so caution and careful measures should be taken to prevent damage from shock, vibration, rain, etc. during transportation.

2.3 Removal of Package

The equipment should be unpacked as close to its installation location as possible. Use caution to prevent admission of foreign matter into the equipment.

2.4 Installation Procedure

2.4.1 Frame Ground Wiring

Connect frame ground wiring as shown in Figure 1 below:



Figure 1) Frame Ground Wiring Diagram

Recommended method for frame ground wiring

- a. Terminal size: 1Hole, M5, 10mm
- b. Use of 10AWG wire or higher is recommended.
- c. Maximum torque shall be 7.8 to 11.8kgf. *Caution: any torque beyond the standard level may lead to terminal damage.*
- d. Connect wiring using a Phillips screwdriver.



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2.4.2 Wiring of AC Input

Connect AC input wiring as shown in Figure 2 below:



Figure 2) Input/Output Wiring Diagram

- Recommended method for wiring single phase 3 wire AC input wiring
 - a. Terminal Block Size: M4, 9mm
 - b. For ACH, ACN and FG, 10AWG wiring is recommended.
 - c. Locking torque shall be kept within the standard value of 7.8 through 11.8kgf; any torque beyond this may lead to terminal damage.
 - d. Screw down wiring using a standard Phillips screwdriver.



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2.4.3 DC Wiring Diagram

Connect DC output wiring as shown in Figure 3 below:



Figure 3) Output Wiring Diagram

- Recommended method of DC output wiring
 - a. Terminal size: 1Hole, M6, 14mm
 - b. For -54V, GND, use of 6AWG wiring or higher is recommended.
 - c. Locking torque shall be kept within the standard value of 7.8 through 11.8kgf; any torque beyond this may lead to terminal damage.
 - d. Screw down wiring using a standard Phillips screwdriver.



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2.4.4 Battery Wiring Diagram

Connect battery wiring as shown in Figure 4 below:



Figure 4) Battery Wiring Diagram

- Recommended method for battery wiring
 - a. Terminal size: 1Hole, M6, 14mm
 - b. For BATT, + BATT, use of 6AWG wire or higher is recommended.
 - c. Locking torque shall be kept within the standard value of 7.8 through 11.8kgf; any torque beyond this may lead to terminal damage.
 - d. Screw down wiring using a standard Phillips screwdriver.



2.4.5 Temperature Sensor Wiring Diagram

Connect temperature sensor wiring as shown below in Figure 5.





R_TEMP: Ractifier Temperature B_TEMP: Battery Temperature B1/B2: Battery Bank

Figure 5) Temperature Sensor Wiring Diagram

- Recommended method of battery wiring
 - a. R_TEMP and B_TEMP shall be installed with manufacturer-provided wiring.
 - b. For R_TEMP, temperature sensor shall be placed inside the rack to measure the rack temperature.
 - c. The B_TEMP temperature sensor shall be placed near the battery terminals where battery temperature can be measured.
 - d. B1 is a cell check cable that can monitor 1 unit of battery cell.
 - e. B2 is a cell check cable that can monitor 4 units of battery cell.



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2.4.6 TCP/IP Wiring Diagram

Connect TCP/IP wiring as shown below in Figure 6.



Figure 6) TCP/IP Wiring Diagram

Attach an Ethernet cable to the RJ45 COMM port at the front of control module (DSC-N) on the right side of the system.

2.4.7 Serial Cable Wiring

Connect the serial debug cable provided by the manufacturer to the RJ45 Debug port on the front of the control module.

3. Composition and Functions of Rectifier System

The rectifier shelf is composed of one control module (DSC-N) and three rectifier modules (DRM54V-1K) as shown in Figure 7.



3.1 SHELF (DRS-54V)

The (DRS-54V) includes one control module and 3 rectifier modules. Input/Output wiring is located at the rear; the COMM and DEBUG RJ45 connectors are at the front of the controller.



3.2 Control Module (DSC-N)

3.2.1 Main Control Module

The main control module controls the rectifier modules, displays the operating status of rectifiers, and provides alarms and configuration of the system.

The control module is composed as shown in Figure 8:



Figure 8) The composition diagram for control unit (DSC-N)

Table 1) Status of the Control Unit LEDS by Alarm

	No. J. Destifier Chabins		LED Status		
No.	Rectifier Status	Green	Yellow	Red	
		(NOR)	(MIN)	(LAM)	
1	Rectifier is normal	ON	OFF	OFF	
2	Output over-current (at 105%	OFF	ON	OFF	
	maximum output current)				
З	Rectifier high temperature warning	OFF	ON	OFF	
	(65℃ or above)	011		011	
4	Battery high temperature warning	OFF	ON	OFF	
	(55℃ or above)	••••		••••	
5	Rectifier Temp Sensor Fail	OFF	ON	OFF	
6	Battery Temp Sensor Fail	OFF	ON	OFF	

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7	Battery Low Voltage (44.0V)	OFF	ON	OFF	
8	AC Input Fail (75V or less or 300V or higher)	OFF	OFF	ON	
9	DC Over Voltage (58.0V or above)	OFF	OFF	ON	
10	DC Low Voltage (48.0V or below)	OFF	OFF	ON	
11	DRM54V Module 1~3 Fail	OFF	OFF	ON	
12	Battery Cell Fail	OFF	OFF	ON	
13	Battery Relay Open	OFF	OFF	ON	
14	User Define 1~4 Fail	OFF	OFF	ON	



Figure 9) Debug Port Location

3.2.1.1 Communication Function

RS232 serial communication is from the DEBUG connector and Ethernet communication is from the Comm. connector on the front of the control module. TCP/IP and SNMP protocols are supported by the controller.

Programs can be updated through Debug (RS232) or Ethernet (TCP/IP). The proper wiring of a serial cable, from the RJ45 Debug connector to RS232 DB9 Male connector pinout, is listed below in Table 2:

Pin	Description		
Assignment	Control Module Front Debug (RJ45)	PC (DB9 Male)	
1	Reserve	Reserve	
2	RXD	TXD	

Table 2) RJ45 to RS232 Pin Assignment

3	TXD	RXD
4	Reserve	Reserve
5	GND	GND
6	Reserve	Reserve
7	Reserve	Reserve
8	Reserve	Reserve
9		Reserve

3.2.2 Measurement and Monitoring Functions

3.2.2.1 Measuring Function

The Control module measures DC output voltage and DC output current, and reports them to a server program through the Debug (RS232) or Comm. (Ethernet) connectors.

3.2.2.2 Warning Monitoring Function

The Control module also monitors alarms and reports the information to a server program through the Debug (RS232) or Comm. (Ethernet) connectors.

No.	Туре	Contents	Remark
1	AC FAIL	Input Voltage Fail	AC 75V or below or AC 300V or above
2	DC HIGH	DC Over Voltage	DC >58.0V. When DC < 57.5V alarm cancelled
3	DC LOW	DC Low Voltage	DC voltage <48.0V. When DC >48.5V alarm is cancelled.
4	DC OVER CURR	DC Over Current	No. of installed modules *105%
5	Rectifier Module Fail #1~#3	UNIT #1~#3 FAIL	Alarms when a rectifier module fails.
6	RECT. TEMP FAIL	RECTIFIER TEMPERATURE HIGH	Rack temperature >65 degrees Celsius. Alarm cancelled when temp <60 degrees Celsius.
7	BATT. TEMP FAIL	BATTERY TEMPERATURE HIGH	Rack temperature >55 degrees Celsius. Alarm cancelled when temperature <50 degrees Celsius.
8	RECT.SENSOR-F	RECTIFIER TEMPERATURE	Alarm occurs when the rack temperature sensor is not installed

Table 3) Types of Rectifier Alarms

		SENSOR	
9	BATT.SENSOR-F	BATTERY TEMPERATURE SENSOR	Alarm occurs when the battery temperature sensor is not installed
10	BATT.LOW VOLT	Battery Low Voltage	Alarm occurs when battery voltage is <44.0V +/- 0.3V.
11	BATT.CELL FAIL	Battery Cell Fail	Check for abnormality through battery discharge test.
12	BATT.DISCONNECT	Battery Relay Open	Battery relay open.
13	USER DEFINE #1~#4	User Define Alarm 1~4	Alarms occur according to user setting.



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3.3 Rectifier Module (DRM54V-1K)

The rectifier module converts AC 220V power to DC -54V/18.5A power, controls output voltage through the signal of the control module, and emits warnings to the control module. The rectifier module is composed as follows.

* CAUTION: DO NOT manipulate the variable volume at module top arbitrarily, or output voltage may reach beyond current sharing specification.



Figure 10) Module Composition Diagram

Туре	Color	Status			
Normal LED	Green	Normal output			
Stand-by LED	Orange	ON in case AC power is supplied, DC output Off. OFF when output power is normal.			
Alarm LED	Red	Rectifier module Alarm UV: Voltage dropped below 42V OV: Voltage rose beyond 59V FF: FAN FAIL, OT: 1st Heatsink 83 degree or above, and 2nd Heatsink 115 degrees or above			

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	AF: 75	/ or below or 300V or above
Vadj : Volume re	esistor that enable	s fine adjustment of output voltage

4. System Operation

4.1 System Composition

When system is in normal operation, rectifier outputs supply DC power to the output.

4.1.1 SHELF (DRS-54V)

When AC is supplied to the shelf, and all modules are installed properly, the shelf should operate normally.

4.1.2 Control Module (DSC-N)

When operating properly, the Control module should have the Nor (normal) LED lit and the MAJ LED off.

4.1.3 Rectifier Module (DRM54V-1K)

During normal operation, each rectifier module installed should have the power display Green LED on. The Red Alarm LED should be off.

5. Rectifier System

5.1 The Operating Mechanism of Rectifier System

5.1.1 Composition and Function

This rectifier system is composed of three rectifier modules (DRM54V-1K) and one control module. Capable of admitting single phase 220VAC as input power, the rectifier system can operate up to -44.0V \sim -58.0V for DC -54V output voltage, and can use max 55.5A of output current.

The output connection terminal is composed of one circuit at the rear of the rectifier. In addition, the rectifier is designed and produced to be able to supply high quality power to the system, and can emit warnings when equipped with the circuit required for warning and protection.

5.1.2 Composition of System Circuit

This rectifier system supplies power to the rectifier module by receiving commercial AC power, and the rectifier module supplies power to the system by converting commercial AC power to DC power.



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5.2 System Diagram for Rectifier System





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5.3 System Operation

- 5.3.1 Checklist prior to Operation
 - 5.3.1.1 The input/output wiring of rectifier system should be wired with no input AC power present!
 - 5.3.1.2 After wiring the input/output terminals, ensure proper torque on all bolts and visually check wires for proper installation.
- 5.3.2 Rectifier System Operation
 - * Check to confirm that the input AC power is correct. It should be single phase 3 wire 220V AC.
 - * Re-Check system output and the condition of the output wiring of the system.
 - 5.3.2.1 Power Applying Procedure
 - 1) Apply AC to DRS-54V.
 - 2) Check output DC. It should be (-54V \pm 0.5%).
 - 3) Once power is applied, check to see if the rectifier module (DRM54V-1K) works normally, the green LED on module front illuminates, and the green LED on the control module illuminates.

(When connecting wiring between system and output, be sure to check the polarity.)



6. Using the software tools to provision and monitor the DRS-54V Power System

6.1 Software tools

- 6.1.1 There are two Windows-based programs for the DRS-54V:
 - 6.1.1.1 DRS54V_Debug the RS232 Serial Program
 - 6.1.1.2 DRS54V_TCP_IP the Ethernet Program

6.2 Using the Debug Port Program

- 6.2.1 The serial interface uses an RS232 DB9 to RJ45 cable wired as in Table 2. Install the cable between the PC and the system controller Debug port.
- 6.2.2 Run the program DRS54V_Debug on the PC. If the RS232 port on the PC is not Port 1, you will get the following warning screen. Press **OK** and continue on to the main program.



Exit	Image: Instance Image: Image
- Present Date / Time	Ethernet IP Status Rectifier IP Address
AC Voltage	Atage Gateway
DC Current Batt. E Batt Current Batt. E	lank#1 - R MAC Address
Rack Temperature Batt. I Batt. Temperature Batt. I	ank#2-L Server1 IP Address C Disable C Enable
– Alarm – AC Input Fail M DC High Voltage M	Server2 IP Address C Disable C Enable C Disable C Enable C Disable C Enable C Disable C Enable
DC Low Voltage M DC High Current U	odule #3 Server4 IP Address C Disable C Enable
Battery Disconnection Battery Low Voltage Rectifier High Temp Battery High Temp Battery High Temp Battery Cell Fail	er Define2 Serial Number Serial Number Version

Debug Main Page

6.2.3 Setting up the RS232 Comm Port

6.2.3.1 If the warning in section 6.2.2 is received, select the **Comm Port** button. The following screen will appear.

Exit Com Port	Manual IP SET Hi	istory His_Clear
Date Date / Time	Time	Rectifier IP Address
Measurement AC Votrage DC Current Batt Current Batt Current Batt. Temperature Alarm	DC Voltage Batt. Bank#1 - Batt. Bank#1 - Batt. Bank#2 - Batt. Bank#2 - COM2 COM3 COM4 COM4 COM4 COM4 COM4 COM4 COM4 COM4	Gateway PORT PORT 1 2 3 4 Softing Close C Disable C Enable C Disable C Enable C Disable C Enable
DC High Voltage DC Low Voltage DC Low Voltage DC High Current Battery Disconnection	Module #1 Module #2 Module #3 User Define1 User Define2	Server4 IP Address C Enable Server4 IP Address Serial Number
Battery Low Voltage Rectifier High Temp Battery High Temp Battery Cell Fail	User Define3 User Define4 Batt. Temp Sensor Fail Rack Temp Sensor Fai	

- 6.2.3.2 Select the proper Comm Port, and then press **Setting**. If the proper port has not been selected, the warning message in 6.2.2 will reappear. If the proper port is selected, press the **Close** button to close the dialog box.
- 6.2.3.3 Once the power system is communicating with the PC, the date, time, measurement, Ethernet IP status, version and serial number boxes will be filled in. If there are any alarms, the associated check box will turn from green to red in the **Alarm** section.
- 6.2.3.4 To set the time and date, select the **Clock** box. The following screen will appear.

Exit Com Port	Manual 😵 SET DATE/T				TX RX
Present Date / Time	Time DATE / TIN DC Voltage Month	1E Year			
DC Current Batt Current Rack Temperature Batt. Temperature	Batt. Bankt 7 ✓ Batt. Bankt S M T Batt. Bankt 3 4 5 Batt. Bankt 3 4 5 Batt. Bankt 3 4 5 Batt. Bankt 10 11 12 Batt. Bankt 17 18 17	2011 W T F S 1 2 6 7 8 9 13 14 15 16 20 21 22 23	12 🗘 Min 42 🗘		C Disable C Enable
Alarm AC Input Fail DC High Voltage DC Low Voltage	Module Module Module Module	27 28 29 30	42 ÷	•	C Disable C Enable C Disable C Enable
DC High Current Battery Disconnection Battery Low Voltage Rectifier High Temp Battery High Temp	User D User D User D User D Batt. Temp Sensor Fail	Close Curre	ent DATE/TIME]	A Disable C Enable

- 6.2.3.5 To set the date, enter the month and the year in the associated box. Select the day from the calendar. Select the hour, minute, and second in the associated fields to set the time. Press **Current DATE/TIME** to see if the time was set properly. Press the **Close** box to exit to main menu.
- 6.2.3.6 To manually start a Battery Discharge Test, select the **Manual** box from the top of the screen. The following menu will appear.



Select **Discharge** and setting to manually start a battery discharge test. Select the **Stop** button to stop the discharge test. Select **Close** to go back to main screen.

6.2.3.7 To view alarm history, select the **History** button. The following screen will appear:

History D	Data	1	- N	-								and the second s
File Nam	e			بو اح		E	3					
Ord	DATE	TIME	ACV	DCV	DCA	BCA	B_TEMP	R_TEMP	ALARM1	ALARM2	ALARM3	ALARM4 ^
1												
-	-	_	_		-		-					
-				-		-						
-						-						
	-	_		-	_	_	-					
		_		+								
-						-						
		_				1						
	-	_	_	-			_	_				
-	-			-		-						
-						-	-					
				1								
-												
	-	_	_	-	-							
	-		-	-								

The alarm history should start filling the **History Data** form. To stop data flow, press the **Stop Request** button, (Scissors box). To re-start the flow of data, press the **New Request** button, (Light box). To save the data to disk, press the **Save File** button. To open a history file from the disk, press the **Open File** box at the top of the form.

- 6.2.3.8 To erase alarm history, press the **His_Clear** button at the top of the main menu.
- 6.3 Ethernet Port Software
 - 6.3.1 Prior to running the Ethernet Software, the Debug software **MUST BE USED** to set up TCP/IP.
 - 6.3.2 With the unit powered on, start the DRS54V_Debug Program.

		TX RX
1.[1.	1
1.		C Disable C Enable
	1.	C Disable C Enable
].[C Disable C Enable
1		

6.3.3 When you select **IP SET**, the following menu will appear on your screen.

Exit Con	Pactifier IP Address 402 450 50 402	Rectifier IP Address	
resent Date /	Recurrer in Address 192 . 168 . 50 . 192		
ate	GATEWAY 192 . 168 . 1 . 50	GAIEWAY	
leasurement	SUBNET MASK 255 255 0	SUBNET MASK	
C Vonage C Current	MAC Address 0.0.0.0.0.0	MAC Address	
att Current	Server1 IP Address 192 168 50 25 C Disable @ Enable	Server1 IP Address	
ack <mark>T</mark> emperat	Server2 IP Address Disable C Enable	Server2 IP Address	ible (* Ena
larm —	Server3 IP Address Disable C Enable	Server3 IP Address	ible C Ena
AC Input Fa	Server4 IP Address	Server4 IP Address	ble C Ena
DC Low Vo	Serial No.	Serial No.	ble C Ena
Battery Dis			
Battery Lov		1 🎾 🛛 🕺	
Battery Hig		Setting Close	

- 6.3.3.1 To Change the default IP Address: Put the new address in the rectifier **IP** Address boxes, then select the rectifier **IP Address** check box.
- 6.3.3.2 To change the gateway, put the new address in the gateway address boxes and select the **GATEWAY** check box.
- 6.3.3.3 To change subnet mask: Place the new address in the **Subnet Mask** address boxes and then select the **Subnet Mask** check box.
- 6.3.3.4 The MAC Address will be automatically filled out by the system.
- 6.3.3.5 The Server address is the PC that is running the TCP/IP program. There are four IP addresses for servers.
 - 6.3.3.5.1 Enter the address in the Server1 **IP Address** boxes of the PC that is running the TCP_IP program. Select the check box Server 1 **IP Address**. If there will be more than one PC running the TCP/IP program, enter the IP addresses of these PCs into Server 2 through 4 **IP Address** boxes and then select the check box associated with the IP address.

Caution: If the check box next to the item being changed is not selected, that item will not be changed.

- 6.3.3.6 Select the setting box. Once the changes are made, the check boxes will clear.
- 6.3.3.7 Close the Debug Program.
- 6.3.3.8 Open the TCP/IP Program. The following Screen will appear.

Connect	S Disconnect	<u>≤</u>	lose	SA	V Version		
All site View Se	lect Site View						
Add IP].[] s	Site		Chang	Remo	ve Savelnfe
	IP	Site	ACV	DCV	DCA	BTA	Alarm
						*	
						* *	
4						*	Clear
4						* *	Clear

6.3.3.8 Enter the IP address of the system in the **IP Address** box. Select **Add**. The following screen will appear. *Caution: If this address does not match one of the server addresses from 6.3.3.5.1 above, the power system will not communicate with the TCP/IP Program. Caution: Ensure the firewall of the PC running the TCP/IP program allows the program to communicate over the intranet.*

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II site Viev	Sele	ect Site View						
Add	IP 1	92 . 168 . 50	. 192	Site		Chang	e Remo	ve Savelnfo
		IP	Site	ACV	DCV	DCA	BTA	Alarm
	192.	168.50.192		1.1.1.1				
							*	Clear

6.3.3.9 Select the **Connect** button. The host IP Address of the PC running the program will be shown in the window beneath the main window. When the unit connects to the program, the Incoming AC Voltage (ACV), Output Voltage (DCV), Output Current in Amps (DCA) and Battery Current in Amps, (BTA) will be displayed. If the system has any alarms, both these displays and the alarm box will be in red. Double click on the IP address of the system, and the **Select Site View** will appear as below.

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All site View Sel	ect Site View			
		Clock Man	ual Alarm	History A History Clear
Present Date / Tir	me Alarn	n	and the summer	
Date	A 🗌	C Input Fail		Module #1
Time		C High Voltage		Module #2
Measurement		C Low Voltage		Module #3
AC Voltage		C High Current		User Define1
DC Voltage	S PASSW	ORD		X Jefine2
DC Current				vefine4
Batt Current		(DK Exit	emp Sensor Fail
Dan Curren				Jemp Sensor Fail
Rack Temperature	- Serve	er IP Status		
Batt. Temperature	Serve	er 1 IP Address		C Disable C Enab
Batt. Bank#1 - L	Serve	er 2 IP Address		C Disable C Enab
Batt. Bank#1 - R				
Batt. Bank#2 - L	Serve	er 3 IP Address	J	C Disable C Enab
12 11 A 11 A 11 A	Serve	er 4 IP Address].[].[C Disable C Enab

6.3.3.10 By default there is no password; hit **OK** to continue. The **Select Site View** menu will appear as below.

All site View Sele	ct Site View		
Present Date / Tin Date Time Measurement AC Voltage DC Voltage DC Current Batt Current Rack Temperature Batt. Bank#1 - L Batt. Bank#1 - R Batt. Bank#1 - R	Alarn	Clock Manual C Input Fail C High Voltage C Low Voltage C High Current attery Disconnection attery Low Voltage ectifier High Temp attery High Temp attery Cell Fail r 1 IP Address	Iistory Iistory Clear Module #1 Module #2 Module #2 Module #3 User Define1 User Define2 User Define3 User Define4 Batt. Temp Sensor Fail Rack Temp Sensor Fail Rack Temp Sensor Fail C Disable C Ena . C Disable C Ena . C Disable C Ena
Batt. Bank#2 - R	Serve	r 4 IP Address	 . C Disable C Ena

6.3.3.11 Date and Time: The present date and time will appear in the **Date/Time** boxes. If the date or time is incorrect, select the **Clock** button; the following menu will appear.

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All site View Sele	ct She view				
		Clock	Manual III	Alarm History	History Clear
Present Date / Tin Date	SET D	ATE/TIME		le #	1
Time	DATE			le #	2
Measurement			Y	ME Def	3 ine1
AC Voltage		onth	11	Hour Def	ine2
DC Voltage		MITIWIT		Def	ine3
DC Current		1 2 3 4	5 6	Min Def	ine4
Batt Current	14	8 9 10 1 15 16 17 1	1 12 13 3 19 20	34 🔹 Ter	ip Sensor Fall no Sensor Fail
Rack Temperature	21	22 23 24 2 29 30 31	5 26 27	Sec	np ocnovi r un
Batt. Temperature					C Disable C Enable
Batt. Bank#1 - L		-	11		C Disable C Enable
Batt. Bank#1 - R		K X Canc	el Current SET D	CH Time Set	
Batt. Bank#2 - L					C Disable C Enable
Batt. Bank#2 - R	Serve	er 4 IP Address			C Disable C Enable

- 6.3.3.11.1 To correct the date: Enter the month and year in their associated fileds and select the day from the calendar. To correct the time, enter the hour, minute and second in their fields. Select **OK** to go back to the main menu.
- 6.3.3.12 The **Manual** button starts a battery discharge test. The following menu will appear:

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All site View Sel	ect Site View	🕝 Clock 💐 Manu	al 🕂 Alarn	n History	葡 History Clear
Date		n C Input Fail C High Voltage		Module Module	#1 #2
Measurement — AC Voltage DC Voltage DC Current Batt Current Rack Temperatur		Aanual Discharge	SET	User De User De User De User De User De Batt. Ter Rack Te	#3 fine1 fine2 fine3 fine4 np Sensor Fail mp Sensor Fail
Batt. Temperature Batt. Bank#1 - L					C Disable C Enable
Batt. Bank#1 - R	Serve	r 2 IP Address	· <u> </u>		C Disable C Enable
Batt. Bank#2 - L	Serve	r 3 IP Address	[C Disable C Enable
Batt, Bank#2 - R	Serve	r 4 IP Address			C Disable C Enable

- 6.3.3.12.1 To start the battery discharge test, select **Discharge** and **Set**. To stop a battery discharge test, select **Stop** and **Set**. Select **Exit** to go back to the main menu.
- 6.3.3.13 The **Alarm History** button will bring up the following screen.

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File Name			😫 🖂	20	* 🚺																						_
Ord	DATE	TIME	ACV	DCV	DCA	BCA	B_TEMP	R_TEMP	AF	OV	UV BC	OC	BR	SD	U1	U2	U3	UD1	UD2	UD3	UD4	FIRE	BTF	BE	RTF	BSF	RSF
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6.3.3.13.1 The alarms will continue to fill the page and scroll through until the Stop Request button is selected (third button from left). To write the results to the PC, select the Write button, (first button from left). To retrieve an alarm file from your PC, select the Open File button. To start collecting alarm data select the new request button, (fourth button from left).

All site View Sele	ct Site View				
Present Date / Tim Date Time Measurement AC Voltage DC Voltage DC Current Batt Current	Alarm	Clock Ma Clock Ma Cloput Fail Chigh Voltage Clow Voltage Chigh Current Attery Disconnection Attery Low Voltage Extifier High Temp Attery High Temp	nual 🖪 Ala	Arm History Modul Modul User I User I User I Ser I Batt. 1	History Clear He #1 He #2 He #3 Define1 Define2 Define3 Define4 Femp Sensor Fail
Rack Temperature Batt. Temperature Batt. Bank#1 - L Batt. Bank#1 - R Batt. Bank#2 - L Batt. Bank#2 - R	Server Server Server Server Server Server Server Server Server	r IP Status		Rack	Temp Sensor Fail

- 6.3.3.14 The **History Clear** button will clear out all previous alarm history that has not been saved to disk.
- 6.3.3.15 Alarms: If there is an alarm, the check box associated with the alarm will turn red.
- 6.3.3.16 Measurements: Each text box in the **Measurement** section will display the current value of that measurement.
- 6.3.3.17 **S/W Version** refers to the software version of the TCP/IP program being run.
- 6.3.3.18 The **Server IP Address** section shows the Server $1 \sim 4$ IP address that was assigned in step 6.3.3.1.