DIGITAL INTERFACE

Acopian Digital Interface can be used to monitor and control Acopian power supplies that are equipped with this optional component. It includes isolated Ethernet, RS232, and USB (RS485 option available) interfaces, utilizing 16 bit DAC and ADC.

INSTALLATION

These modules are built in to the chassis of compatible Acopian Power Supplies and are accessable throught the rear panel (see drawing).

OPERATION

Factory Settings:
Output: Off
Voltage: Maximum
Current: Maximum
Remote/Local: Local
Echo: On
SCPI: Off

LOCAL/REMOTE OPERATION: Select 'LOCAL' to program supply output using front panel adjust or rear panel programming. Select 'REMOTE' to program supply output using digital interface.
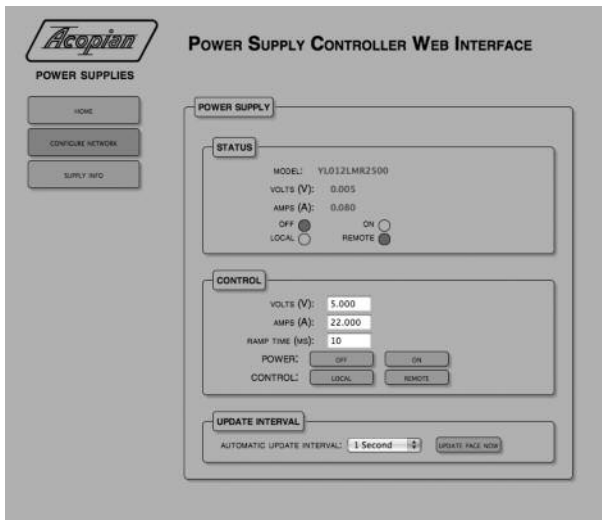
ETHERNET OPERATION: Ethernet operation can be used in 2 different ways, either through the web interface or telnet. The webpage is the easiest way to control the supply, since no text commands will need to be used. Telnet uses the same commands as the serial interface.

Default Ethernet Settings:
IP Address: 192.168.1.100
Subnet Mask: 255.255.255.0
Gateway: 0.0.0.0
Username: admin
Password: admin

Webpage Control
(JavaScript must be enabled. Recommended browsers: Firefox, Chrome, Internet Explorer version 9.0 and later.) The control webpage can be accessed by entering the IP address of the interface into a web browser. The page will automatically update at the user-set 'update interval'. The webpage will require a password, which can be set using serial commands. The default username is 'admin', and the default password is 'admin'.

'Model Information' Field displays the power supply model number.

'Output' Field displays the output voltage, current and status.
FAULT/OK (Single output models): Displays the status of the 'Vok' signal.
OFF/ON: Displays the on/off state of the output.
LOCAL/REMOTE (Wide adjust models): Identifies the programming source.
'Control' Field allows user to control power supply parameters.
VOLTS/AMPS (Wide adjust models): To change the output voltage or current, enter a valid value the appropriate field and press 'enter' to apply value change.
POWER: Control the DC output by clicking either 'on' or 'off'.
CONTROL (Wide adjust models): Switch programming source by clicking either 'local' or 'remote'.

'Update Interval' Field displays the update control options.
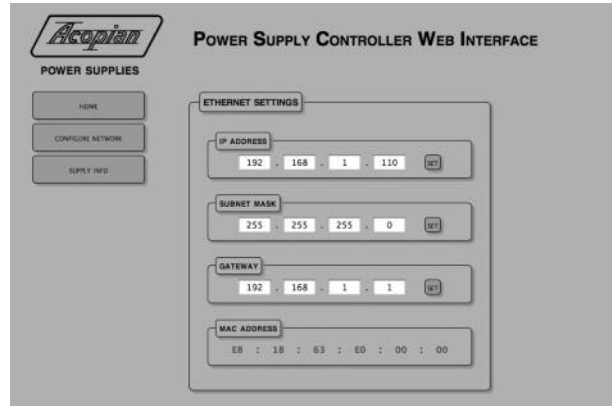AUTOMATIC UPDATE INTERVAL: Uses dropdown menu to set the interval for how often the page will automatically update.
UPDATE PAGE NOW: Immediately updates the power supply data displayed on the page, regardless of the set interval.

Telnet Control
The telnet connection uses the same commands as the serial interfaces. Telnet operation uses TCP port 23. See the other side of this sheet for serial command list.

Ethernet Configuration using Webpage:
The network configuration page can be accessed from the 'Configure Network' link on the left side of the website. To change any setting, enter each new value, then press 'Set' when complete. Controller will perform a soft reset to apply the changes.

Ethernet Configuration Using Serial Interface or Telnet:
The commands required for setting the new Ethernet configuration are IP, MASK, and GATEWAY.

'IP xxx.xxx.xxx.xxx' will set the new IP address, with 'xxx.xxx.xxx.xxx' being the new IP address.

'MASK xxx.xxx.xxx.xxx' will set the network submask 'MASK xxx.xxx.xxx.xxx'.

'GATEWAY xxx.xxx.xxx.xxx' will set the network gateway, 'GATEWAY xxx.xxx.xxx.xxx'. After the new settings have been entered, either restart the power supply or use the 'RESET' command to restart the controller and apply the settings.
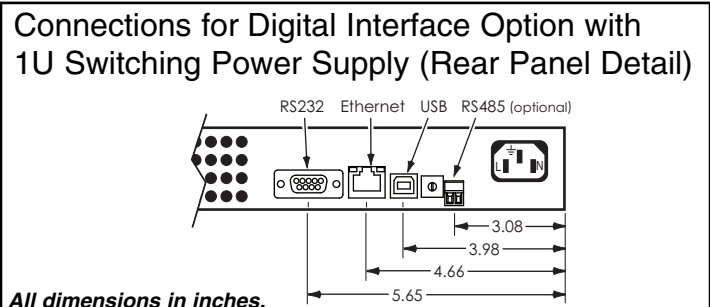
SERIAL OPERATION (RS232, USB): RS232 connection settings are defined in default settings. USB connection will create virtual COM port on the connected computer, connect just as you would for an RS232 connection. See the other side of this sheet for serial command list.

Serial Settings:
Baud Rate: 115200
Data Bits: 8
Parity: none
Stop Bits: 1
Flow Control: none

SCPI: Can be used on serial or telnet interfaces. When SCPI is active, serial commands are not recognized.

LABVIEW: Drivers are available on the website.

Connections for Digital Interface Option with 1U Switching Power Supply (Rear Panel Detail)

All dimensions in inches.

DIGITAL INTERFACE

Glossary of Digital Interface Commands, Serial and SCPI (commands within brackets are optional, as are lowercase portions of SCPI commands)

Description:	Serial Command:	SCPI Command:
Current, View or [Set] Value View or [set] the current limit.	ISET [New Output Current]	:CURRent [:LEVel][:IMMediate][:AMPLitude]
Current, View Output Reading Read the device output current.	IREAD	:MEASure[:SCALar]:CURRent[:DC]?
Current, View Max Rating View the Maximum output current.	IMAX	:CURRent [:LIMit][:AMPLitude]?
Echo Commands Turn display of commands back to the terminal as they are typed [on] or [off]. Does not apply to Optional RS485.	ECHO [ON|OFF]	:SYSTem:ECHO *or* :ECHO
Error [View] Displays SCPI errors *(LIST ALL , TOTAL COUNT, or NEXT ERROR).*		:SYTem:ERRor:ALL? :SYTem:ERRor:COUNt? :SYTem:ERRor[:NEXT:]?
Gateway, View or [Set] View or [set] the gateway address. (Consult your IT department if you are unfamiliar with this setting.)	GATEWAY [xxx.xxx.xxx.xxx]	
Help Displays help for serial commands. If no [command] is entered, a brief list of these commands will be shown.	HELP [command]	
IP, View or [Set] View or [set] the IP address. (Consult your IT department if you are unfamiliar with this setting.)	IP [xxx.xxx.xxx.xxx]	:SYSTem:COMMunicate:SOCKet:ADDRess
Local/Remote, View or [Set] Switch between [local] and [remote] programming.	REMOTE [LOCAL|REMOTE]	
MAC Address, View View the MAC address. This address is factory assigned and can not be changed by the end user.	EMAC	
Mask, View or [Set] View or [set] the subnet mask. (Consult your IT department if you are unfamiliar with this setting.)	MASK [xxx.xxx.xxx.xxx]	
Model Number, View Displays power supply model number.	MODEL	
Output, View or [Set] Turn the supply's output [on] or [off]. If neither is specified, the current state will be displayed.	PWR [ON|OFF]	:OUTPut[:STATe]
Password, View or [Set] If no [new password] is entered, will display the current password for the web interface.	PASS [New Password]	
Reset Device Power Perform a soft reset.	RESET	:SYSTem:*RST *or* :SYSTem:RESet *or* :*RST *or* :RESet
Reset Device Settings Reset the interface to factory default values. (See the other side of this sheet for default settings.)	FACTORY	
SCPI [Set] Turn [on] or [off] SCPI commands. When SCPI is ON, only the commands defined in the SCPI column will be valid, the Serial Command Set will not work.	SCPI [ON|OFF]	:SYSTem:SCPI *or* :SCPI
Uptime, View Display the uptime of the system.	UPTIME	
Username, View or [Set] If no [new username] is entered, will display the current username for the web interface. Only one username can be set in the system.	USER [New Username]	
Version, View Display the current firmware version.	VER	:SYSTem:VERSion?
Voltage, View Max Rating View the Maximum output voltage.	VMAX	:VOLTage [:LIMit][:AMPLitude]?
Voltage Monitor Valid only for single output models. Will display 'OK' if voltage is within specified range. See the specifications for your power supply for valid ranges.	VOK	:STATus:OPERation:ENABle?
Voltage, Output Reading Read the device output voltage.	VREAD	:MEASure[:SCALar]:VOLTage[:DC]?
Voltage, View or [Set] Value View or [set] the output voltage set point.	VSET [New Output Voltage]	:VOLTage [:LEVel][:IMMediate][:AMPLitude]