

Olson Electronics Remote Power Monitoring Meter

Operation Guide



Key Features

- Amps: 00.00 to 32.00A True RMS (rated short period to 40A)
- Volts: 200.0 to 250.0V True RMS
- Watts: 0000 to 9999W
- KWh: 000000.0 to 999999.9 KWh (approx 15 years @ full 32A load before roll-over)
- Power Factor: .00 to .99 (Cos)
- Temperature 00.0 to 70.0 °C (internal to the PDU only)
- Network connectivity

Technical Specification

- Supply Voltage 200 - 250VAC 50/60Hz
- Meter Maximum Current 32A continuous
- Accuracy Better than 1%
- 4 digit 14mm high LED local display
- RJ45 10baseT Ethernet connectivity
- SNMP V1 support for all display values and configuration parameters
- IP Address Configurable, static and dynamic via DHCP client
- KWh and other settings retained in non-volatile memory.

Operation Guide

- The Remote Power Monitoring PDU can be configured by any network enabled PC with a web browser.
- No CD or programs are required to configure the PDU.
- The unit comes with a default IP address of 192.168.0.30 and DHCP turned OFF.
- You can connect the PDU to an existing network via a standard RJ45 patch panel if connecting via a switch or hub.
- Alternatively you can connect directly to a PC with a cross over RJ45 patch panel.
- The setup is slightly different depending if a DHCP server is available.

PDU Connected to a DHCP Server

- Connect the unit to the mains and to the network
- Next turn DHCP ON from the local push button switch and display as follows:
 - Repeatedly press the push button switch until the display shows IP and then release. See below for full details of "Operation of the Local Display"
 - After a 2 second delay it should display the current IP address.
 - When it is displaying the current IP address, press and hold the push button switch until SET is displayed.
 - Release the switch and it should display ON ie DHCP ON
 - If it displays OFF then you have just turned DHCP OFF! In this case repeat the above procedure, DHCP is toggled ON/OFF by this procedure.
- Once DHCP is enabled it can take up to a minute to find the DHCP server and get it's address.
- If no DHCP server is found then the default IP address continues to be used.

PDU Connected Directly to a PC with Cross-Over Cable.

- The PC will need to have a static IP address on the same subnet as the PDU eg if the PDU has its factory IP address 192.168.0.30 then the PC will need an IP address in the 192.168.0.xxx range.

Displaying the Units IP Address

- The PDU IP address can be found either by the local LED display or via the DHCP server diagnostics/log if a DHCP server is being used.
- To display the IP address locally, repeatedly press the push button switch to scroll through the various parameters until 'IP' is displayed.
- The IP address should be displayed after 2 seconds after you release the switch. It will repeatedly scroll through the 4 IP address octets. See the 'Local Display' section for full details of operating the local display.

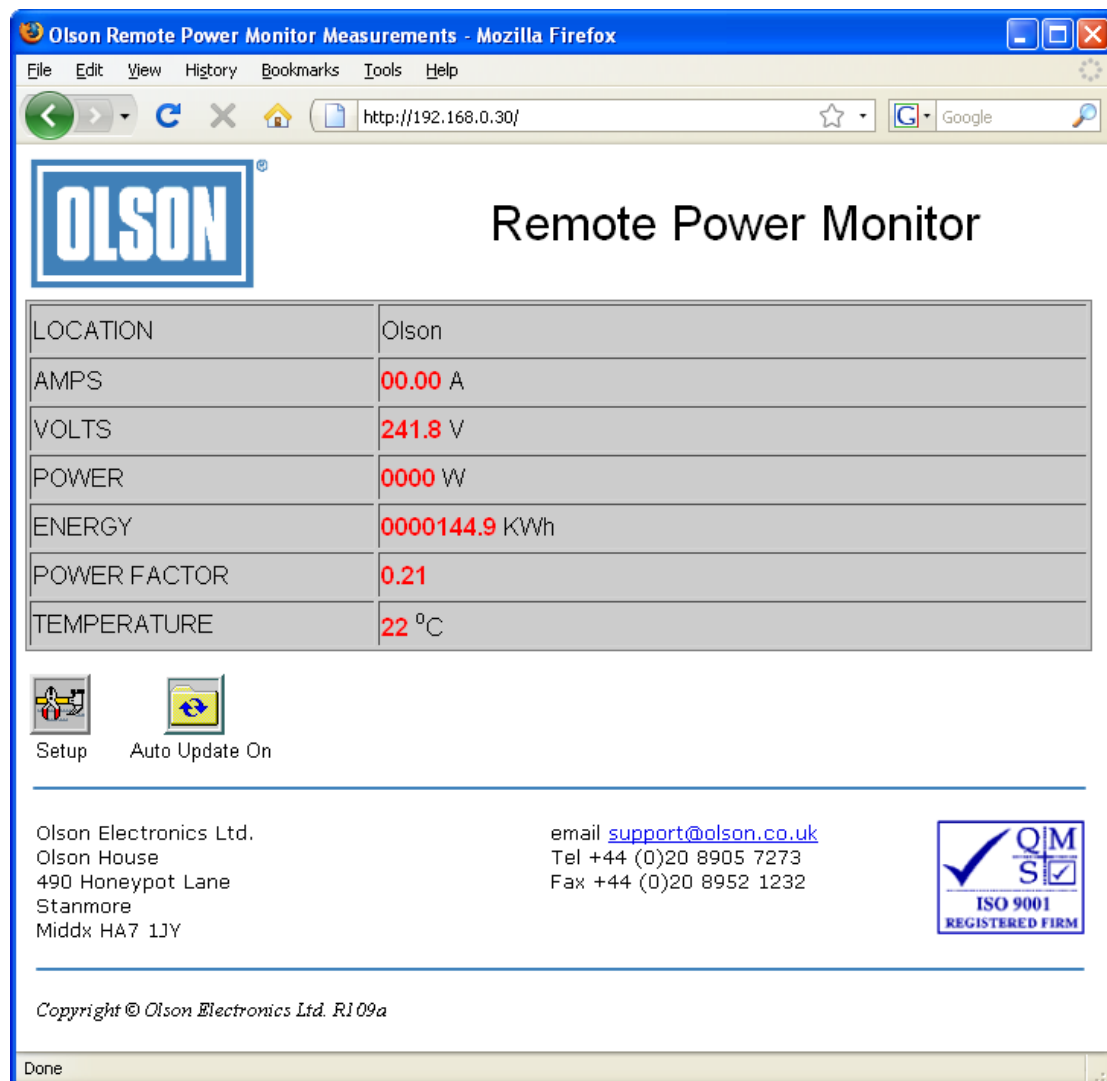
Resetting the IP to the Factory Default

- The IP address can be reset to the factory default from the local display. Press the switch to scroll through the various parameters until TEMP is displayed. The press and hold the switch until SET is displayed. The IP Address should the display 192.168.0.30

Connecting to the PDU with a Web Browser

NOTE. You may have to either configure or temporarily disable any firewall present to allow the web browser to connect to the PDU.

- Once the units IP address is known, you can connect via any popular web browser. Put `http://xxx.xxx.xxx.xxx` in the url address bar where `xxx.xxx.xxx.xxx` is the PDU IP address.
- In all the examples the IP address is the default 192.168.0.30
- The unit has been tested with all popular web browsers running under Windows™, *nix and Apple OS including Internet Explorer 4.0 upwards, Firefox 1.0 upwards (and other Gecko based browsers), Opera 4.0 upwards, Safari 1.0 upwards, Galeon 1.0 upwards and Konqueror 2.0 upwards. It should work with all other standards compliant Web Browsers.



The screenshot shows a Mozilla Firefox browser window titled "Olson Remote Power Monitor Measurements - Mozilla Firefox". The address bar contains the URL `http://192.168.0.30/`. The page content includes the Olson logo, the title "Remote Power Monitor", and a table of measurements:

LOCATION	Olson
AMPS	00.00 A
VOLTS	241.8 V
POWER	0000 W
ENERGY	0000144.9 kWh
POWER FACTOR	0.21
TEMPERATURE	22 °C

Below the table are two icons: "Setup" and "Auto Update On". At the bottom, contact information for Olson Electronics Ltd. is provided, including the address (Olson House, 490 Honeypot Lane, Stanmore, Middx HA7 1JY), email (support@olson.co.uk), telephone (+44 (0)20 8905 7273), and fax (+44 (0)20 8952 1232). An ISO 9001 Registered Firm logo is also present. The footer contains the copyright notice "Copyright © Olson Electronics Ltd. R109a" and the status "Done".

"Home" Page of the PDU

Connecting to the PDU with a Web Browser

- If the web browser does not display a page you can ping the unit to check for network connectivity.
- On PC's running Windows this is accessed by:
 - Start -> Run
 - Type CMD in the run dialogue box
 - At the command prompt, type in ping xxx.xxx.xxx.xxx where xxx.xxx.xxx.xxx is the PDU IP address.
 - If the PDU is networked correctly you get the following:
Reply from 10.1.0.8: bytes=32 time=3ms TTL=128
 - If the PDU is not correctly connected you get the following:
Request timed out.
- If the PDU is not correctly connected then check the network settings, firewall settings etc.
- It may help to ping a known working IP address of say a server, router or other network device.

The Remote Web Interface

- The Home Page of the PDU displays a "snapshot" of the various power parameters and is not automatically updated.
- To get the various power parameters continuously updated click on the "Auto Update On" icon. The page will then automatically refresh every 10 seconds.
- This update time is user adjustable and can be set from the "Setup" page.

The "Setup" Page


- The "Setup" page is accessed from the Setup icon on the home page.
- It is password protected – with factory default username being **olson** and password also being **olson**
- From the setup page various parameters can be adjusted
- As we have a policy of continuously updating our products, you may receive a unit with a higher firmware revision number.

The screenshot shows a web browser window titled "Remote Power Monitor - Mozilla Firefox" with the address bar displaying "http://192.168.0.30/server_config.htm". The page features the Olson logo and the title "Remote Power Monitor". Below this is the "Server Configuration" section, which includes a table of current settings and a form for editing them. The current settings are: Module Type (Olson 9016-V01 PDU), Firmware Revision (1.09), Ethernet Address (000D06180839), Unit Name/Location (Olson), Default IP Address (192.168.0.30), Current IP Address (192.168.0.30), HTTP Port Number (00080), DHCP Enabled (OFF), HTTP Username (olson), HTTP Password (olson), Web Page Upload Password (olson), Firmware Upload Password (olson), SNMP Read Community (public), SNMP Write Community (olson), SNMP Enable (W), and Info Page Refresh Rate (010). A "Submit" button is located to the right of the form fields. Below the configuration section is a "Measurements Page" link with a small bar chart icon. The footer contains contact information for Olson Electronics Ltd., including their address, email (support@olson.co.uk), and phone/fax numbers, along with an ISO 9001 Registered Firm logo. The browser status bar at the bottom shows "Done".

OLSON Remote Power Monitor


Server Configuration

Module Type	Olson 9016-V01 PDU
Firmware Revision	1.09
Ethernet Address	000D06180839
SNMP MIB File	
Unit Name/Location	<input type="text" value="Olson"/>
Default IP Address	<input type="text" value="192.168.0.30"/>
Current IP Address	<input type="text" value="192.168.0.30"/>
HTTP Port Number	<input type="text" value="00080"/>
DHCP Enabled	<input type="button" value="OFF"/>
HTTP Username	<input type="text" value="olson"/>
HTTP Password	<input type="text" value="olson"/>
Web Page Upload Password	<input type="text" value="olson"/>
Firmware Upload Password	<input type="text" value="olson"/>
SNMP Read Community	<input type="text" value="public"/>
SNMP Write Community	<input type="text" value="olson"/>
SNMP Enable	<input type="button" value="W"/>
Info Page Refresh Rate	<input type="text" value="010"/>

 [Measurements Page](#)

Olson Electronics Ltd.
Olson House
490 Honeypot Lane
Stanmore
Middx HA7 1JY

email support@olson.co.uk
Tel +44 (0)20 8905 7273
Fax +44 (0)20 8952 1232



Copyright © Olson Electronics Ltd.

Done

Setup Page

Notes on the Setup/Server Configuration Page

- The Module Type shows which version of the hardware is installed. For all Olson Remote Monitoring products it should be Olson 9016-V01 PDU
- When updating the firmware it is important to ensure that only firmware for this version is selected.
- The firmware version installed may be different to that shown in these instructions as we have a policy of continuous development and improvement.
- The Ethernet address shown is also often referred to as the MAC address
- There's a link on this web page to download the snmp MIB file from the unit. As a MIB file is a text file, it may open as a text file in many browsers. If you wish to save the MIB file, you can right hand click the link and select "save target as" option (or similar).
- The PDU can have a name given to it so it is easier to identify it on the network, especially if there is more than one Olson PDU on the network.
- The unit displays the current and default IP addresses.
- If the DHCP option is off, then they should be the same, but if DHCP is on and the unit has obtained it's IP address via DHCP, then the Current IP address will display this address and the default address what it will use if no DHCP server can be found.
- The unit can use a non-standard port address. By default it is set to port 80.
- The http username and password can be changed by the user. These are needed to log into this setup page.
- The web page (update) and firmware update both have their own password. By default they are both set to **olson**. These passwords will be needed when updating the web page and system firmware respectively.
- The next options are for the snmp. The read and write communities can be set separately and snmp can have either read only (R), write and read (W) or Off (N).
- Finally the update interval for the 'Auto Update On' page can be set.

XML Functionality

- The unit has XML functionality, so all the power parameters can be interrogated by any XML capable program such as MS Excel and Access, OpenOffice and many other databases.
- To obtain the XML parameter fields you can use a browser and type `http://***.***.***.***/data.xml` The fields will be displayed
- Please contact us for demonstration Excel files that can be used as a basis for data logging.

Resetting the Username and Password to Default

- The password and username can be reset back to the factory default (olson and olson), using the local display.
- Repeatedly press the pushbutton to scroll through the various parameters until it display PF. Release and the press for 5 seconds until the TEMP changes to rSET.

Firmware Updates

- When firmware updates are available they will be posted on our website together with instructions on how to perform the update.
- The firmware update is performed via the network and so can be done remotely.
- At present the update utility software only runs on Microsoft Windows PC's

SNMP

- The PDU can be used with most SNMP management and monitoring programs.
- To assist in setting up SNMP programs there is a MIB file on the unit on the 'Setup/Server Setup' page or alternatively on our website.
- SNMP traps are not yet implemented. It is hoped these will shortly be incorporated into a firmware update.

The screenshot shows the iReasoning MIB Browser interface. The address bar displays '192.168.0.30' and the OID is '.1.3.6.1.4.1.17933.1.1.24.0'. The left pane shows a tree view of MIBs, with 'Olson-9016-V01' selected. The main pane displays a 'Result Table' with the following data:

Name/OID	Value	Type
.1.3.6.1.2.1.1.1	Olson 9016-V01 PDU	OctetString
.1.3.6.1.2.1.1.2	.1.3.6.1.4.1.17933.1.1.1	OID
.1.3.6.1.2.1.1.3		Null
.1.3.6.1.2.1.1.4		Null
.1.3.6.1.2.1.1.5	Olson	OctetString
.1.3.6.1.2.1.1.6		Null
.1.3.6.1.2.1.1.7		Null
moduleType	Olson 9016-V01 PDU	OctetString
firmwareRevision	1.09	OctetString
moduleName	Olson	OctetString
etherAddress	000006180839	OctetString
defaultIpAddress	192.168.0.30	OctetString
currentIpAddress	192.168.0.30	OctetString
dhcpClientEnable	OFF	OctetString
httpPortNumber	00080	OctetString
httpUserName	olson	OctetString
httpPassword	olson	OctetString
snmpReadCommunity	public	OctetString
snmpWriteCommunity	olson	OctetString
snmpAccessEnable	W	OctetString
webPageUploadPassword	olson	OctetString
webPageUploadEnable	Y	OctetString
firmwareUploadPassword	olson	OctetString
firmwareUploadEnable	Y	OctetString
parameterUpdatePassword	Param Write Only	OctetString
voltsReading	239.6	OctetString
ampsReading	00.00	OctetString
powerReading	0000	OctetString
energyReading	0000144.9	OctetString
powerFactorReading	0.99	OctetString
internalTempReading	26	OctetString

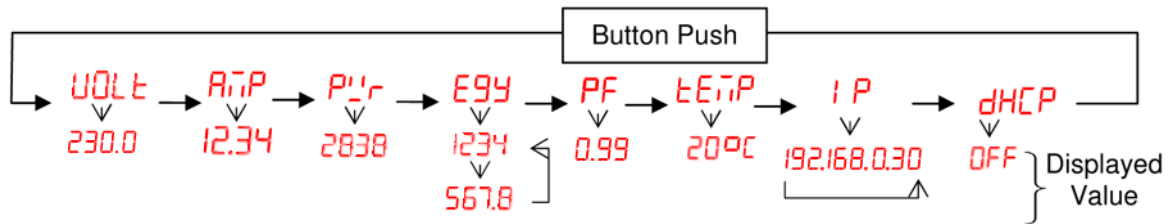
Below the table, a detailed view for the selected 'pdu' entry is shown:

Name	pdu
OID	.1.3.6.1.4.1.17933.1.1
MIB	Olson-9016-V01
Syntax	
Access	
Status	
DefVal	
Indexes	
Descr	

Information via snmp

Operation of the Local Display

- When powering (booting) up, it will illuminate the decimal points, right to left, while carrying out a self-diagnostic check.
- It will then display 'Olson Electronics' while continuing its self-diagnostic check.
- It will then display the firmware version number for 2 seconds
- It will then display the last parameter it was displaying when powered down.
- You can scroll through the different parameters by the push button switch.
- Below is the order of displayed parameters.
- Pressing the switch immediately displays the header/description. The actual value is displayed after a 2 second delay from releasing the push button.



Resetting the KWh Counter

- The KWh value is stored in E²PROM memory and will be retained for up to 100 years with the unit powered down.
- It is not possible for the user to reset the KWh meter. It can only be reset by returning it to the factory.