Installation & Operating Manual Ver. 1.5.2

PowerLok Rack PDUs



POWERLOK[™] Rack PDU Installation & Operating Manual

Contents

itroduction	3
afety Precautions	}
Equipment grounding	ł
roduct Specifications	ł
Mechanical Specifications	ţ
Electrical Specifications	ł
ackaging	5
egulatory Compliance	5
stallation	5
uplicating Rack PDU Configurations	3
witchLOK Error! Bookmark not defined	•
rmware updating22	L
mited Warranty22	L

Introduction

PowerLOK Rack PDUs are a next generation product for the mission critical industry. All PowerLOK PDUs are engineered, tested, and manufactured in the United States. Gateview Technologies automated manufacturing processes ensure that our customers' servers run reliably in the 24/7 mission critical industry. PowerLOK's Fast-Response and Select Model program makes it easy to get what you need when you need it.

Safety Precautions

Specific safety precautions for this product are as follows:

- All precautions should be taken to guarantee a safe work and operational environment. General safety precautions must be observed during all aspects of operation of equipment described in this document. Failure to comply with the safety warnings, procedures, and guidelines presented in this document is in violation of the safety standards of design, manufacture, and intended use of this equipment.
- You are responsible for following the safety guidelines and warnings presented in this document for this equipment. Individuals using Gateview Rack PDUs are expected to follow all the noted warnings and safety precautions necessary for safe operation of the equipment in your environment. Gateview Technologies assumes no liability for failure to comply with these requirements.
- Rack PDUs are intended for indoor use only in a controlled environment that adhere to the operating temperatures within this manual. Any use outside of these constraints may void the warranty.
- Rack PDUs rated for 240/415VAC may be fitted with a NEMA L22-20 or L22-30 plug that is rated for a higher voltage. Caution must be taken to assure that the rating of the Rack PDU and the supply voltage match.
- The total capacity of equipment connected to the Rack PDU CANNOT EXCEED the maximum load rating of the Rack PDU.



DANGER

HAZARDOUS VOLTAGE, CURRENT, AND ENERGY LEVELS ARE PRESENT IN THIS PRODUCT. INTERNAL CIRCUITS CAN HAVE HAZARDOUS VOLTAGES PRESENT EVEN WITH PDU CIRCUIT BREAKERS IN THE OFF POSITION. DO NOT OPERATE THE PRODUCT WITH THE COVER REMOVED.

Professionals installing and operating Rack PDUs are advised of the following:

- Do not try to modify the Rack PDU in anyway, including the input plug, power whip and receptacles.
- Do not drill into or attempt to open any part of the Rack PDU enclosure. There are no serviceable parts inside the Rack PDU.
- Do not attempt to use the Rack PDU if any part of it is damaged.
- Rack PDUs rated 30A and greater contain magnetic-hydraulic circuit breakers. Circuit breaker equipped PDUs must be mounted vertically.
- Do not mount the Rack PDU to an unstable enclosure or surface.

Equipment grounding

To minimize electrical shock hazard, the Rack PDU chassis/enclosure is connected to the electrical earth ground pin of the Rack PDU plug. The input power cable must be plugged into an industry electrical code compatible receptacle which provides connection to the facility electrical safety ground.

Product Specifications

The following section gives the mechanical and electrical specifications of the Rack PDU.

Mechanical Specifications

Chassis dimensions in inches and (mm). See specifications for complete outline drawings.

Vertical PDU	Length	Width	Depth
24L	23.98 (609)		
36L	35.98 (914)		
41L	40.98 (1041)	2.18 (55.37)	2.00 (50.80)
46L	45.98 (1168)		
72L	72.00 (1829)		
82L	82.00 (2083)		

Electrical Specifications

PDU Utility Wiring Configuration	Line Current Rating	UL / CSA Line Current Rating*	Number of Wires	Wire Gauge	Operating Temperature
208V 1PH	20A	16A	3	12	
2007 191	30A	24A	5	10	
4201/2001/14/1/5 2011	20A	16A	F	12	
120V/208V WYE 3PH	30A	24A	5	10	
	20A	16A		12	0°C - 60°C
240V/415V WYE 3PH	30A	24A	5	10	(32°F - 148°F)
	60A	48A		6	
	30A	24A		10	
	35A	30A		8	
208/240V DELTA 3PH	208/240V DELTA 3PH 50A 40A 4 6				
	60A	48A	<u> </u>	6	

* Per the National Electrical Code (NEC) and Canadian Electrical Code (CEC) requirements, when in service, the line current is to be limited to 80% of the PDU's plug rating.

Rack PDUs rated 30A-60A line current contain 20A circuit breakers for receptacle group protection. The circuit breakers are UL-489 Listed and rated 5 or 10kAIC depending on model.

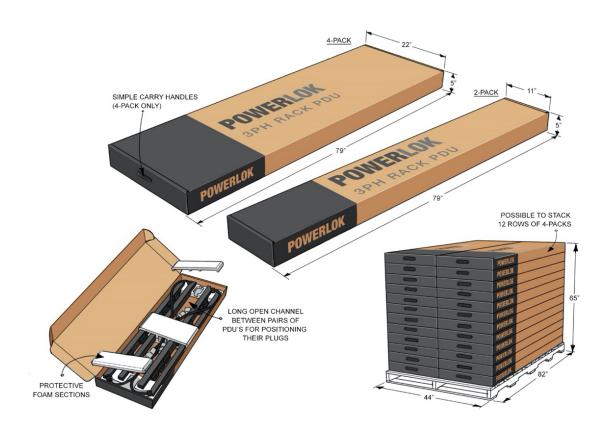
Packaging

Rack PDUs are shipped in molded 1.8 EPS foam and 200 double-wall corrugated cartons.

72L Package	Dimensions	Approx. Ship Weight	Lifting Handles	Maximum PDUs per pallet	Maximum height per 44" x 82" pallet
1-pack	79 x 11 x 5	17	Ne	48	
2-pack		35	No	96	65" (12 levels)
3-pack	79 x 22 x 5	52		72	
4-pack		68	Yes	96	

82L Package	Dimensions	Approx. Ship Weight	Lifting Handles	Maximum PDUs per pallet	Maximum height per 44" x 92" pallet
1-pack	89 x 11 x 5	19	No	48	65" (12 levels)
2-pack		37		96	

72" PDU packaging example:



Regulatory Compliance

Product Safety

Rack PDUs have been safety tested and certified to the following standards:

- USA UL 60950-1
- CAN/CSA 22.2 No. 60950-1
- Canada ICES-003 (A) / NMB-003 (A)
- FCC Part 15 Class A compliant
- RoHS compliant
- NOM Addendum

USA Notification

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

Canadian Notification

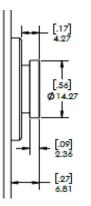
This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Installation

Installation of Rack PDUs into a server rack is performed by using the buttons that are already attached to the back surface of the Rack PDU. These buttons mate with keyhole slots located in the server rack.

Mounting button detail:

Key slot example:





Alternately, Rack PDU mounting buttons may be removed (attached with #6-32 screws) and a customer supplied bracket designed for Rack PDU mounting may be attached. The attachment screws can be re-used. A customer supplied #6-32 screw should not penetrate the Rack PDU chassis more than 1/8".

POWERLOK[™] Rack PDU Installation & Operating Manual

Power Monitoring

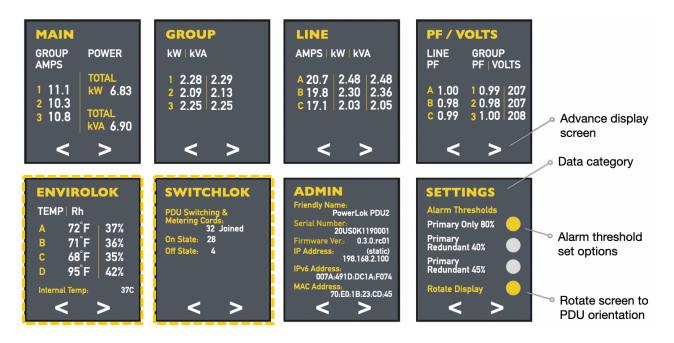
PowerLOK models with monitoring include a local touchscreen display and ethernet communication.

EnviroLok port (some models)	~		
PDU Display	~	MAIN	
		GROUP AMPS	POWER
		1 11 1	TOTAL
Micro		1 11.1 2 10.3	kW 6.83
Reset Hole	\sim	3 10.8	total kva 6.90
		<	>
Ethernet ports/hub	~		•

Monitoring accuracy

- Voltage: ± 0.5% at nominal
- Current: ± 1.0% of measurement from 250 mA 1A
- Current: ± 0.5% of measurement from 1A 30A

The touchscreen can rotate 180 degrees. The illustration below is a 30A 120/208V 3PH PDU example with EnviroLOK and SwitchLOK devices installed. Highlighted devices only appear on PDU display when installed.



Ethernet Communication

The Rack PDU is equipped with two RJ45 10/100Base-T Ethernet ports to attach to an existing local area TCP/IP network. This connection allows access to the Rack PDU via a web browser or SNMP manager. The two RJ45 connectors that are bidirectional; therefore, the user can connect to either port to set up the PDU on the network. 12 PDUs can be connected in series by daisy chaining.

PDU Addressing Modes

The Rack PDU supports the following methods of **IPv4 addressing**:

Mode	Description	Comment
Linked local	IPv4 link-local addresses are assigned to address block 169.254.0.0 - 169.254.255.255	This addressing mode supports attaching a host PC/laptop directly to the Rack PDU without requiring a switch, router or DHCP server.
DHCP	The Rack PDU network configuration is provided by the DHCP server.	The local touchscreen display will publish the IP address assigned to the Rack PDU by the DHCP server.
Static IP	Default PDU network configuration IP address: 192.168.1.254 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1	The static IP can be changed using the web browser.

The Rack PDU supports the following methods of IPv6 addressing:

Mode	Description	Comment
SLAAC	StateLess Address Auto Configuration. The	Router must be capable of Router Advertisements.
	PDU sends a request to the router for a	Alternatively, an independent router
	prefix, then uses it's own MAC address and	advertisement daemon on the network may
	prefix to generate an IP address.	respond to the PDU while in SLAAC mode. For
		Linux boxes, refer to 'RADVD'
Static	Default	IPv6 address field takes the full address including
	2603:6011:8904:9900:7a:491d:dc1a:f074,	prefix. This address may be changed in the web
	Prefix 2603:6011:8904:9900, 48 bit length	browser.

Web server address settings page:

Settings	
IPv4 Addressing Mode	
Linked Local DHCP Static	IP
IP Address	IPv4 DNS Servers
Subnet Mask	Primary DNS
Default Gateway	Secondary DNS
IPv6 Addressing Mode The Enable Enable IP Addresses: FE90::2D0:B8EE:ETC6:653C FE90::2D0:B8EE:ETC6:653C	
SLAAC Static	
IP Address	Primary DNS
Prefix	Secondary DNS
Prefix Length	Default Gateway

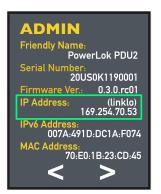
Connecting PowerLOK to a Network

Linked local

Once the user is connected to the network, go to the touchscreen display to identify the factory assigned linklo IP address. IPv4 link-local addresses are assigned to address block 169.254.0.0 - 169.254.255.255. Open a new browser tab and enter the linklo IP address: 169.254.70.53, as an example, to access the web browser.

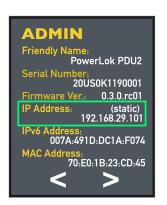
Access to the Rack PDU's web server

Default credentials are: Username: administrator Password: password Credentials may be changed in the admin section.



Static IP

The following section describes how to set the user's computer for a static IP. The PDU has a static IP of 192.68.29.101 as shown in the touchscreen example below:



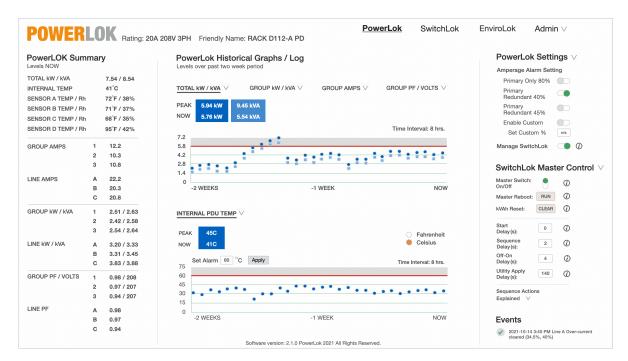
Web Browser

The Rack PDU is equipped with a web browser accessible over IP. To access, open a browser window and enter the PDU IP address. If the PowerLok web page does not appear, the PDU is not connected, or the network does not recognize the PDU. See section: How to connect your PC/laptop with Linked local and

POWERLOK[™] Rack PDU Installation & Operating Manual

Static IP option or call your network administrator. For each data type, historical graphing or historical logs can be viewed.

Real time plus historical graphing



Real time plus historical logs

POWER	LO	Rating: 20A	208V 3PH Frie	endly Nam	e: RACK	D112-A F	D		PowerLok	SwitchLok	<u>EnviroLok</u> Admin ∨
	nmar	у	PowerLo			phs / Lo	g				PowerLok Settings ∨
TOTAL kW / kVA		7.54 / 8.54									
INTERNAL TEMP		41°C	TEMPERA								
SENSOR A TEMP / R		72°F / 38%		Grap	oh A	в	с	D	Log Scale		Primary Redundant 40%
SENSOR B TEMP / R		71°F / 37%		NOV Log	2 F	62 F	82 F	106 F			Primary
		68°F / 35%	TODAY	-00:00:10	82 F	62 F	82 F	106 F	10 sec.		Redundant 45%
SENSOR C TEMP / R			TODAY	-00:00:20	82 F	62 F	82 F	106 F	1 min.		Enable Custom
SENSOR D TEMP / R	h	95°F / 42%	TODAY	-00:00:30	82 F	62 F	82 F	106 F			Set Custom % n/a
GROUP AMPS	1	12.2	TODAY	-00:00:40	82 F	62 F	82 F	106 F	10 min.		Manage SwitchLok 🛛 🌘 🕡
anour Amrs	2	10.3	TODAY	-00:00:50	82 F	62 F	82 F	106 F	30 min.		Manage SwitchLok
	3	10.8	TODAY	-00:01:00	82 F	62 F	82 F	106 F	1 hr.		
		10.0							1.111.		SwitchLok Master Control
LINE AMPS	Α	22.2	-1 DAY	-00:00:10	82 F	62 F	82 F	106 F	8 hr.		Master Switch:
	в	20.3	-1 DAY	-00:00:20	82 F	62 F	82 F	106 F	1 day		
	С	20.8	-1 DAY	-00:00:30	82 F	62 F	82 F	106 F			Master Reboot: RUN
GROUP kW / kVA	1	2.51 / 2.63									kVAh Reset: CLEAR ()
	2	2.42 / 2.58									Start
	3	2.54 / 2.64	HUMIDIT	Y(Rh) ∨	А	в	с	D	Log Scale		Delay (s):
LINE kW / kVA	А	3.20 / 3.33		NOW	38	35	38	32	Log Scale		Sequence 2
	B	3.31 / 3.45	TODAY	-00:00:10	38	35	38	32	10 sec.		Delay (s):
	c	3.83 / 3.88	TODAY	-00:00:20	38	35	38	32			Off-On 4
	•	0.007 0.00	TODAY	-00:00:30	38	35	38	32	1 min.		Utility Apply 140
GROUP PF / VOLTS	1	0.98 / 208	TODAY	-00:00:40	38	35	38	32	10 min.		Delay (s):
	2	0.97 / 207	TODAY	-00:00:50	38	35	38	32	30 min.		Sequence Actions
	3	0.94 / 207	TODAY	-00:01:00	38	35	38	32			Explained V
INE PF	А	0.98							1 hr.		
	в	0.97	-1 DAY	-00:00:10	38	35	38	32	8 hr.		Events
	c	0.94	-1 DAY	-00:00:20	38	35	38	32	1.4		
	•		-1 DAY	-00:00:30	38	35	38	32	1 day		2021-10-14 3:40 PM Line A Over-current cleared (34,5%, 40%)

Rack PDU Installation & Operating Manual

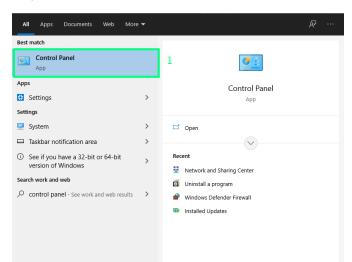
POWERLOK[™]

			Admin \lor
Network Ad	min		X
PDU Friendly Name:			
Model Number:	PL8204D-10C	MAC Address:	70-B3-D5-A7-0F-AC
Serial Number:	20USK15190001	Port Speed:	100 Mbps
Firmware Version:	0.0.3.rc02	Hardware Version:	1.1.2
FTP Enabled			
Settings			
IPv4 Addressing Mod	e		
Linked Local	DHCP Stat	ic IP	
IP Address		IPv4 DNS Servers	
Subnet Mask		Primary DNS	
Default Gateway		Secondary DNS	
IPv6 Addressing Mod	Enable		
IP Addresses: FE90	::2D0:B8EE:ETC6:653C		
FE90	::2D0:B8EE:ETC6:653C		
SLAAC 🔵 Sta	atic 💭		
IP Address		Primary DNS	
Prefix		Secondary DNS	
Prefix Length		Default Gateway	
Time Servers			
NTP	MON, 11 O	CT 2021 3:28:40 PM EDT	
Web Access Settings			
Enable HTTP	Port: AUTO		
Enable HTTPS	Port: FE90:	2D0:B8EE:ETC6:653C	
Download Certificate En	abled when HTTPS is enal	bled	

Admin section of the web browser

PC Settings for Static IP on a Network

Step 1: Go to Control Panel





Rack PDU Installation & Operating Manual

Control Panel	- D X
Control Panel	ب الن
Adjust your computer's settings	View by: Category -
System and Security Review your computer's status Save backup acqueres of your files with File History Backup and Restore (Windows 7)	User Accounts Change account type Appearance and Personalization
Network and Internet View network status and tasks Hardware and Sound View devices and printers	Clock and Region Change date, time, or number formats
Add a device Adjust commonly used mobility settings Programs	Ease of Access Let Windows suggest settings Optimize visual display

Step 2: Select network and internet

Step 3: Select Network and Sharing Center

늘 Network and Internet	-	\Box ×
← → ~ ↑ 撞 > Control P	Panel → Network and Internet ✓ Č Search Control Panel	م
Control Panel Home System and Security	Network and Sharing Center View network status and tasks Conn ct to a network View network computers and devices	
Network and Internet	A Internet Options	
Hardware and Sound	Change your homepage Manage browser add-ons Delete browsing history and cookies	
Programs		
User Accounts		
Appearance and Personalization		
Clock and Region		
Ease of Access		

Step 4: Select Ethernet

💱 Network and Sharing Center					-		×
← → × ↑ 🛂 > Control P	Panel > Network and Internet > Network and	Sharing Center 🗸 🗸	ē	Search Control Panel			Q
Control Panel Home	View your basic network informa	ation and set up connections					
Change adapter settings	View your active networks						
Change advanced sharing settings	CASMEL Public network	Access type: Internet Connections: Mi-Fi (CASMEL)					
Media streaming options							
	Unidentified network Public network	Access type: No network acces Connections: Connections: Couple click	³⁵ 4				
	Change your networking settings						
	Set up a new connection or netw Set up a broadband, dial-up, or V	/ork /PN connection; or set up a router or access point.					
	Troubleshoot problems Diagnose and repair network pro	blems, or get troubleshooting information.					

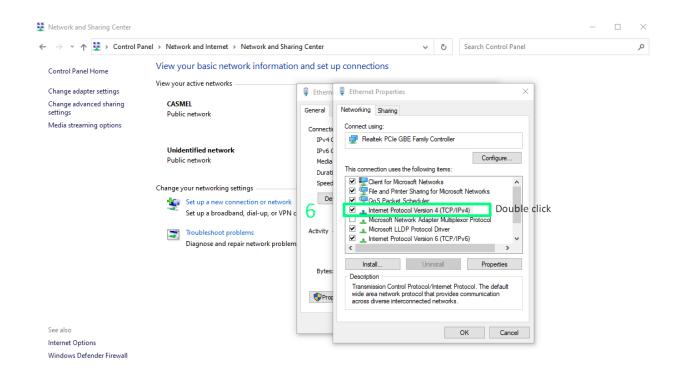
POWERLOK

Rack PDU Installation & Operating Manual

Control Panel Home	View your basic network information	and set up connections		
Change adapter settings	View your active networks	Ethernet Status	×	
Change advanced sharing settings	CASMEL Public network	General		
Media streaming options	Unidentified network	Connection IPv4 Connectivity:	No network access	
	Public network	IPv6 Connectivity: Media State: Duration:	No network access Enabled 00:06:24	
	Change your networking settings Set up a new connection or network Set up a broadband, dial-up, or VPN c	Speed: Details	10.0 Mbps	
	Troubleshoot problems Diagnose and repair network problem	Activity	Received	
	_	Bytes: 0	180 Diagnose	

Step 5: Select Properties and then Options

Step 6: Select Internet Protocol Version 4 (TCP/IPv4)



POWERLOK[™] Rack PDU Installation & Operating Manual

Step 7: Enter IP address, Subnet mask and Default gateway	1
with numbers as shown and select OK.	

Control Panel Home Change adapter settings Change advanced sharing ettings Media streaming options Change your networking settings Change your networking settings Set up a broadband, dial-up, or VPNe Set up a broadband, dial-up, or VPNe Set up a broadband, dial-up, or VPNe Diagnose and repair network problem Bytes: Diagnose and repair network problem Bytes: Diagnose and repair network problem Bytes: Diagnose and repair network problem Bytes: Diagnose and repair network problem Bytes: Bytes:
Addia streaming options Unidentified network Public network Public network Public network Public network Public network Change your networking settings Set up a new connection or network Set up a broadband, dial-up, or VPN c Diagnose and repair network problems Diagnose and repair network problem Pyters Probleshoot problems Diagnose and repair network problems Diagnose and repair network problems Pyters Pyters Otatian Diagnose Otatian Diagnose Pyters Outation Outation Connection Connection Public network Public network
See also OK Cancel

This completes all the necessary steps to configure for static IP.

How to setup the PDU with the Static IP to the router -

To setup the PDU for your router follow these steps:

Step 1: Use the command prompt and type ipconfig to view the assigned IP address.

POWERLOK[™]

Rack PDU Installation & Operating Manual

Command Prompt
Microsoft Windows [Version 10.0.19042.928] (c) Microsoft Corporation. All rights reserved.
C:\Users\juantpipconfig 1
Windows IP Configuration
Wireless LAN adapter Local Area Connection* 1:
Media State : Media disconnected Connection-specific DNS Suffix . :
Wireless LAN adapter Local Area Connection* 2:
Media State : Media disconnected Connection-specific DNS Suffix . :
Wireless LAN adapter Wi-Fi:
Connection-specific DNS Suffix .: tigoune.com.co IPv6 Address
Ethernet adapter Ethernet:
Connection-specific DNS Suffix .: Link-local IPv6 Address

Step 2: To setup the PDU with the IP address in the address block, I used: 192.168.1.10. To determine if the IP address in not in use, type arp-a command as shown below:

Command Prompt					
Default Gateway : 192.168.29.0					
Ethernet adapter Blueto	oth Network Connection				
Media State Connection-specific	: Media DNS Suffix . :	disconnected			
C:\Users\juant <mark>></mark> arp -a	2				
Interface: 192.168.1.54	0x11				
Internet Address	Physical Address	Туре			
192.168.1.254	c4-27-95-31-01-5d	dynamic			
192.168.1.255	ff-ff-ff-ff-ff	static			
224.0.0.22	01-00-5e-00-00-16	static			
224.0.0.251	01-00-5e-00-00-fb	static			
224.0.0.252	01-00-5e-00-00-fc	static			
239.255.255.250	01-00-5e-7f-ff-fa	static			
255.255.255.255	ff-ff-ff-ff-ff	static			
Interface: 192.168.29.9	9 0x12				
Internet Address	Physical Address	Туре			
192.168.29.100	70-b3-d5-a7-0f-ac	dynamic			
192.168.29.255	ff-ff-ff-ff-ff	static			
224.0.0.22	01-00-5e-00-00-16	static			
224.0.0.251	01-00-5e-00-00-fb	static			
224.0.0.252	01-00-5e-00-00-fc	static			
239.255.255.250		static			
255.255.255.255	ff-ff-ff-ff-ff	static			
C:\Users\juant>					



POWERLO	אר				a
PUWENL	Model: POWERLO	K / Rating: 30A 240/415V 3PH	Network Admin	\otimes	PowerLok Admin V
PowerLOK Summ Levels NOW (Real-time)	nary	Power Graphs / Log Levels within each 3 hour time	PDU Friendly Name: PowerLokPDU2		PowerLok Settings Amperage Alarm Setting
TOTAL KW / KVA	0.00 / 0.02 23°C		Model Number: POWERLOK MAC Address: 70-83-05-A7-0F-AC Serial Number: 20US0K15190001 Port Speed: 100 Mbps Firmware Version: 0.3.0.rt Hardware Version: PDU1.2		Primary Only 80%
		PEAK 0.05 kw 0.33 kVA	FTP Enabled		Primary Redundant
GROUP AMPS	1A 0.0 1B 0.0 2A 0.0	21.6	Settings	Time Interval: 3 hrs.	Enable Custom
	2B 1.4 3A 0.0	17.3	IPv4 Addressing Mode Linked Local DHCP Static IP		Internal PDU Alarm °C 60
	3B 0.8	13 8.6	IP Address 192.168.29.100 IPv4 DNS Servers Subpet Mask 255.255.255.0 Primary DNS 209.18.47.62		Events
LINE AMPS	A 0.0 B 0.0	4.3	Subnet Mask 255,255,0 Primary DNS 209,18,47,62 Default Gateway 192,168,29,100 Secondary DNS 209,18,47,61	· · · · · ·	2021-11-08 2:55 PM Power up - No Events
	C 0.0	0 -2 WEEKS	IPv6 Addressing Mode C	NOW	 2000-01-01 7:14 PM Power up - No Events
GROUP kW / kVA	1A 0.00 / 0.00	-2 WEEKS	IP Addresses: fe80::72b3:d5ff:fea7;fac 2603:6011:8904:9900:7a:491d:dc1a:f075	NOW	2000-01-01 7:11 PM PDU Over-temperature (2514 C,0 C)
	1B 0.00/0.00	INTERNAL TEMP	SLAAC	LINE PF 🗸	Clear History
	2A 0.00 / 0.00 2B 0.00 / 0.01		Static (
	3A 0.00/0.00 3B 0.00/0.01	PEAK 26° C	IP Address 2603:6011:8904:9900.7a Primary DNS 2001:4860:4860:8888 Prefix 2603:6011:8904:9900 Secondary DNS 2001:4860:4860:8844		
LINE kW / kVA	A 0.00 / 0.00	76	Prefix Length 48 Default Gateway fe80::1	Time Interval: 3 hrs.	
	B 0.00 / 0.00	60	Time Servers		
	C 0.00/0.00	45	NTP 216.239.35.0 UTC 11-08-2021 19:57:04		
GROUP PF / VOLTS	1A 1.00 / 139.7 1B 1.00 / 121.5	15	Web Access Settings	**************	
	2A 1.00 / 0.1 2B 0.01 / 9.4	0	Enable HTTPS Port 443		
	3A 1.00 / 140.4	-2 WEEKS		NOW	
	3B 1.00/7.9				
			Time Inter	val: 3 hrs.	
		76 -			

Step 3: Open the web server using your IP address and open the Admin section to select Edit.

Step 4: Enter your IP address, subnet mask and default gateway and then select Apply Settings.

POWERL	OK Model: POWERLC	DK / Rating: 30A 240/415V 3PH		X	PowerLok Admin V
PowerLOK Sun Levels NOW (Real-time TOTAL kW / kVA INTERNAL TEMP	e) 0.00 / 0.02 23°C	Power Graphs / Log Levels within each 3 hour time TOTAL kW / kVA	Network Admin PDU Friendly Name: ForwerLockPDU2 Model Number: POWERLOK MAC Address: Serial Number: 2005K15190001 Port Speed: 100 Mbps Filmware Version: 0.3.0.rd Hardware Version: PDU1.2 FTP Enabled Image: State Stat	GROUP PF / VOLTS V	PowerLok Settings Amperage Alam Setting Primary Gedundant 40% Primary Redundant
GROUP AMPS	1A 0.0 1B 0.0 2A 0.0 2B 1.4 3A 0.0 3B 0.8 A 0.0 B 0.0	21.8 17.3 13 8.6 4.3	Settings IPv4 Addressing Mode Linked Local DHCP IP Address 192.166.110 IP Address 192.255.255.0 Primary DNS 200.18.47.62 Default Gateway 192.168.1254 Secondary DNS 200.18.47.61	Time Interval: 3 hrs.	45%, Enable Custom Set Custom %, 20 Internal PDU Alarm °C 60 Events 2021:11-88 2:55 PM Power up - No Events 2020:10-07:14 PM Power up - No Events
GROUP KW / KVA	C 0.0 1A 0.00 / 0.00 1B 0.00 / 0.00 2A 0.00 / 0.00 2B 0.00 / 0.01	-2 WEEKS	IPv8 Addressing Mode •• IP Addressing Mode •• IP Addressing Mode •• SLAAC •• Static •• IP Addressing 12605.0011.8904.9900.7a Primary DNS 2001.4660.4680.8888 12001.4660.4680.8888		2000/07/17/17/19/19/00/07/17/19/19/00/07/17/19/19/00/07/17/19/19/00/07/17/19/19/00/07/10/19/10/07/10/19/10/07/10/19/10/07/10/19/10/10/10/10/10/10/10/10/10/10/10/10/10/
LINE kW / kVA	3A 0.00 / 0.00 3B 0.00 / 0.01 A 0.00 / 0.00 B 0.00 / 0.00 C 0.00 / 0.00	PEAK 28°C	Prefix 2001-3600/4500/200 Prefix 2001-3600/4500/2006 Prefix 2603-50011/6304/5500 2001-860/4500/2006 Prefix Prefix Length 48 Default Gateway [m80:-1] Time Servers VTC 11-08-2021 19:57:04 VTC 11-08-2021 19:57:04	Time Interval: 3 hrs.	
GROUP PF / VOLTS	1A 1.00 / 139.7 1E 1.00 / 121.5 2A 1.00 / 0.1 2B 0.01 / 9.4 3A 1.00 / 140.4 3B 1.00 / 7.9	30 15 -2 WEEKS	Web Access Settings Enable HTTP Port 80 Enable HTTPS Port 443	**************************************	
ļ	Apply Sett Revert to F	ings Do Factory Default	Not Apply & Revert to Prior Settings		

This should complete the necessary steps to configure for the router. Connect the PDU to the router, open a browser and enter the static IP address to access the PowerLok web server.

Time Server

The Rack PDU may be configured to retrieve the UTC time value from an NTP time server. It does this once upon bootup and displays the value in the admin section. The IP address 216.239.35.0 is set as default.

Time	Servers	
NTP	216.239.35.0	UTC 11-08-2021 20:39:21

Time Server configuration in admin settings.

HTTP \ HTTPS

The web user interface may be configured to use standard HTTP or TLS (HTTPS). HTTPS loads slower, but makes encrypted connections. Browser clients may display a warning about an invalid certificate, but data is still encrypted. Port settings may be changed here as well, but this should be done with caution as non-default ports may be forgotten. Changes to HTTP\HTTPS require a reboot to take effect.

HTTP \ HTTPS configuration in admin.

SNMP

The Rack PDU provides an SNMP interface for the purpose of monitoring data externally. These data can be used to respond to events such as over current, over temperature, and other critical conditions. All three versions of SNMP are supported by this device and are configured via admin section of the web interface.

'Host Access Limited' allows you to allow only access from particular IP addresses. Enable it and configure the IP address to use this function.

Authorization and Privacy are specific to SNMPv3. Authorization options are SHA-1 or MD5-95 while Privacy options are DES-CBC and AES-128-CFB.

SNMP defaults are shown in the image.

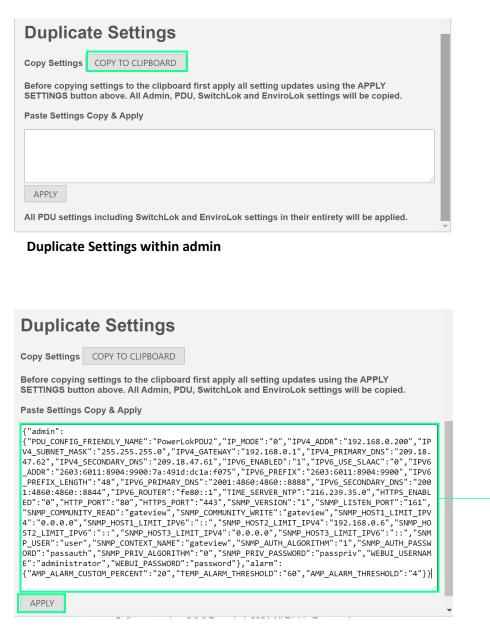
SNMP Settings							
Security Type							
V3 🕖 V2c 🤇	V1 (
Listen Port 16	1						
Read Comm. gat	eview						
Write Comm. gat	eview						
Host Access Limite	d						
IP Address Host 1	0.0.0.0	IPv4	::	IPv6			
IP Address Host 2	192.168.0.6	IPv4	::	IPv6			
IP Address Host 3	0.0.0.0	IPv4	::	IPv6			
SNMP V3							
USM User use	er						
Context Name gat	eview						
Enable Authorizatio	n 🕖						
Authorized Algorith	m						
SHA MD5							
Authorized Passwo	rd passauth						
Enable Privacy 🔵							
Private Algorithm							
DES 🚺 AES							
Private Password passpriv							

SNMP configuration within admin



Duplicating Rack PDU Configurations

Rack PDU configurations may be easily duplicated by copying values to the clipboard and pasting in other PDU admin sections. Editing the text directly is not recommended.



Duplicate Settings within admin

Control-V paste or right-click, select 'paste'

SwitchLOK

SwitchLOK devices allow electronic switching and monitoring capabilities of PDU outlets. They communicate wirelessly with associated PDUs equipped with SwitchLOK support.



LED meaning

LED Action	LED Color	Meaning
Fast Blink	Green	Not associated or joined with PDU
Slow Blink	Green	SwitchLOK is in joining mode, ready to be accepted from PDU Web interface
Continuous	Green	SwitchLOK is successfully joined with PDU
Continuous	Red	SwitchLOK relay is open

For PDUs equipped with SwitchLOK support, SwitchLOK devices may be joined, or associated with a PDU using the web interface. To join PDU and SwitchLOK, connect the SwitchLOK device to AC power. Press and hold the SwitchLOK pushbutton for 5 seconds, then release. LED should enter a slow blink state whereby it is ready to connect to the PDU. Access the PDU's web interface, activating the 'Manage SwitchLOK' slider.

SWITCH	ILOK	Press and hold 5 seconds	
POWERLO	Rating: 20A	208V 3PH Friendly Name: RACK D112-A PD	EnviroLok Admin V
PowerLOK Summary		PowerLok Historical Graphs / Log Levels over past two week period	PowerLok Settings V
TOTAL kW / kVA	7.54 / 8.54		Amperage Alarm Setting Primary Only 80%
	41°C 72°F / 38%	TOTAL kW / kVA V GROUP kW / kVA V GROUP AMPS V GROUP PF / VOLTS V	Primary Redundant 40%
	72 F / 38%	PEAK 5.94 kW 9.45 kVA	Primary
SENSOR C TEMP / Rh	68°F / 35%	NOW 5.76 kW 5.54 kVA	Redundant 45%
SENSOR D TEMP / Rh	95°F / 42%	Time Interval: 8 hrs.	Set Custom % n/a
GROUP AMPS 1	12.2	7.2 5.8	Manage SwitchLok
2	10.3	4.2	
3	10.8	2.8	SwitchLok Master Control V
LINE AMPS A	22.2	1.4	Master Switch:
В	20.3	-2 WEEKS -1 WEEK NOW	
с	20.8		Master Reboot: RUN ()

SwitchLOK in the join state will appear in this list. Select 'Add' to join SwitchLOK with this PDU. At this time, a friendly label, RU, and ID may be assigned. A 'Test Reboot' may be done to prove the SwitchLOK is joined with the PDU.

Notes:

- SwitchLOK devices will remain in the join-ready state for up to 1 hr after which it will exit this state.
- Joined SwitchLOK devices may be 'removed' at any time from the PDU web interface

								Nouthuant TO /0	
Managing S	Primary Redundant 45%								
	<i>(i)</i>	(\tilde{J})	(i)	RU	ID	Friendly Name		Enable Custom	\bigcirc
00 C0 B7 9E 22 36	Remove	Test Reboot	Joined	29	1B	BAE SYSTEMS, DELL R730, INSTALLED: 4/10/20 DR18 S. FLYNN		Set Custom %	n/a
00 C0 B7 9E 22 36	Remove	Test Reboot	Joined	Enter	Enter	Enter			
00 C0 B7 9E 22 36	Remove	Test Reboot	Add	Enter	Enter	Enter		Manage SwitchLok)
00 C0 B7 9E 22 36	Remove	Test Reboot	Add	Enter	Enter	Enter	-		
00 C0 B7 9E 22 36	Remove	Test Reboot	Add	Enter	Enter	Enter		Switchl ok Ma	ster Contro
00 C0 B7 9E 22 36	Remove	Test Reboot	Add	Enter	Enter	Enter		0	
00 C0 B7 9E 22 36	Remove	Test Reboot	Add	Enter	Enter	Enter		Master Switch: On/Off	<i>(i)</i>
	Remove All	Test Reboot All	Add All	Apply A	VI Naming			Master Reboot: RUN	۱ (j)
	0	Û	(j)		()			kVAh Reset: CLEA	AR (j)

Once SwitchLOK is joined, selecting the SwitchLOK link at the top of the page will show a list of joined devices. They may be controlled by the Master control on the right pane, individually selected for group actions using the orange circles in the Control column or expanded individually to reveal detailed controls.

POWE	R		: 204	42	08	V 3F	эН	Friendly Name: RACK D112-A PE	, F	PowerLok		<u>s</u>	witc	hLol	<u>k</u>	E	nvin	oLok	Adm	in ∨	
PowerLOK Sum Levels NOW	nma	ary 7.54 / 8.54		L	eve	els fo	r past	k Historical Graphs & Contr t two weeks period, peak and now. val is 8 hours.	OI All Information	Viewing 🗸	Rel	bo	Group ot per se	ping A		~		PowerLol Amperage Ala Primary On	rm Setti	ng	
INTERNAL TEMP		41 °C							Collapse Graphs						RU	N		Primary	,		
SENSOR A TEMP / Rh SENSOR B TEMP / Rh		72 F / 38% 71 F / 37%		F	ิรม	IC)	Friendly Name		State	Seq.	D)elay (s)	kVAh	Cor	trol (Redundant Primary			
SENSOR C TEMP / Rh		68 F / 35%	\$		47	1/	4 B.	BAE SYSTEMS, DELL R730, INSTALLED: 4/10/	20 DR18 S. FLYNN	-0-	1		4	2880	\mathbf{v}	0		Redundant Enable Cus			
SENSOR D TEMP / Rh		95 F / 42%				1/		BAE SYSTEMS, DELL R730, INSTALLED: 4/10/		-69-	2		4	2880		•		Set Custo		n/a	
GROUP AMPS	1	12.2	\$ \$		43 41	1/		AE SYSTEMS, DELL R730, INSTALLED: 4/10/ AE SYSTEMS, DELL R730, INSTALLED: 4/10/		-0-	3		4	2880				Manage Switc	hLok		(i)
	2 3	10.3 10.8	* \$		41 39	1/		AE SYSTEMS, DELL R730, INSTALLED: 4/10/			5	Ť	4	2880							
	A				37	11	3 B/	AE SYSTEMS, DELL R730, INSTALLED: 4/10/	20 DR18 S. FLYNN	-0-	6	I	4	2880		0		SwitchLol	(Mas	ster (Control
LINE AMPS	в	22.2 20.3	\$;	35	18	3 B/	AE SYSTEMS, DELL R730, INSTALLED: 4/10/	20 DR18 S. FLYNN	-0-	7		4	2880	\vee	•		Master Switch: On/Off	•	<i>(i)</i>	
	С	20.8				18	_	AE SYSTEMS, DELL R730, INSTALLED: 4/10/		_0_	8		4	2880				Master Reboot:	RUN	0	
GROUP kW / kVA	1	2.51 / 2.63				18		AE SYSTEMS, DELL R730, INSTALLED: 4/10/ AE SYSTEMS, DELL R730, INSTALLED: 4/10/		-0-	9		4	2880 2880				kVAh Reset:	CLEAR	0	
	3	2.54 / 2.64	¥		20	1	0/	AL STOTEMO, DELETITO, INSTALLED. 4/10.	ED DIVID O. TETNIN		10		4	2000	~			Start Delay (s):	0	(j)	
LINE KW / KVA	А	3.20 / 3.33																Sequence	2	0	
	B C	3.31 / 3.45 3.83 / 3.88																Delay(s): Off-On	4	(i)	
GROUP PF / VOLTS	1	0.98 / 208																Delay (s): Utility Apply	140	0	
	2 3	0.97 / 207																Delay (s):		U	
LINE PF	A	0.94 / 207																Sequence Actio Explained V	15		
half the 1 T	в	0.98																			
	С	0.94																Events			
																		2021-10-14 (34.5%, 40%)		ine A Ov	er-current cleared

Firmware updating

For firmware update, please contact tech support: **support@gateview.com** or visit our website and contact the support team from the live chat: <u>http://www.gateview.com/</u>

Firmware is upgraded locally through the ethernet port on the PDU.

For a current SNMP MIB (Management Information Base) list, please contact your PowerLOK reseller.

Limited Warranty

Warranty Replacement Procedure: All product warranty procedures are conditional upon the warranty information set forth in Gateview Technologies Terms and Conditions for a term of three (3) years from the shipment of the product. Gateview Technologies will provide a replacement product if it is defective in accordance with the following: This warranty does not apply to normal wear and tear or damage resulting from misuse, abuse, or neglect. No service or maintenance is required and there are no serviceable parts inside of the product. Do not attempt to open the Rack PDU or the customer will void the warranty.

The customer should ensure prior to use whether this product is suitable, adequate, or safe for the use intended. Since individual applications are subject to great variation, Gateview Technologies makes no representation or warranty as to the suitability or fitness of these products for any specific application and Gateview Technologies is not responsible for equipment damaged by incorrect communication on the part of the customer between the customer and Gateview Technologies.

The customer will incur the cost of shipping the defective product to Gateview Technologies, and, if a replacement is necessary, Gateview Technologies will reimburse the customer for shipping and subsequently ship a replacement product within fourteen (14) days of receipt of the defective product. If replacement of the product is not necessary, Gateview Technologies reserves the right to deny reimbursement for the shipping of the product returned from the customer.

Notices

Version 1.5.2 Copyright © 2022 Gateview Technologies, Inc.

All Rights Reserved

This product manual is protected by copyright and all rights are reserved.

Gateview Technologies reserves the right to update the product manual at any time. In no event shall Gateview Technologies be liable for damages resulting from any omission in this document.

Gateview and the PowerLok logos are registered trademarks of Gateview Technologies. Use of the logos for commercial purposes without the prior written consent of Gateview Technologies may constitute trademark infringement and unfair competition in violation of federal and state laws.