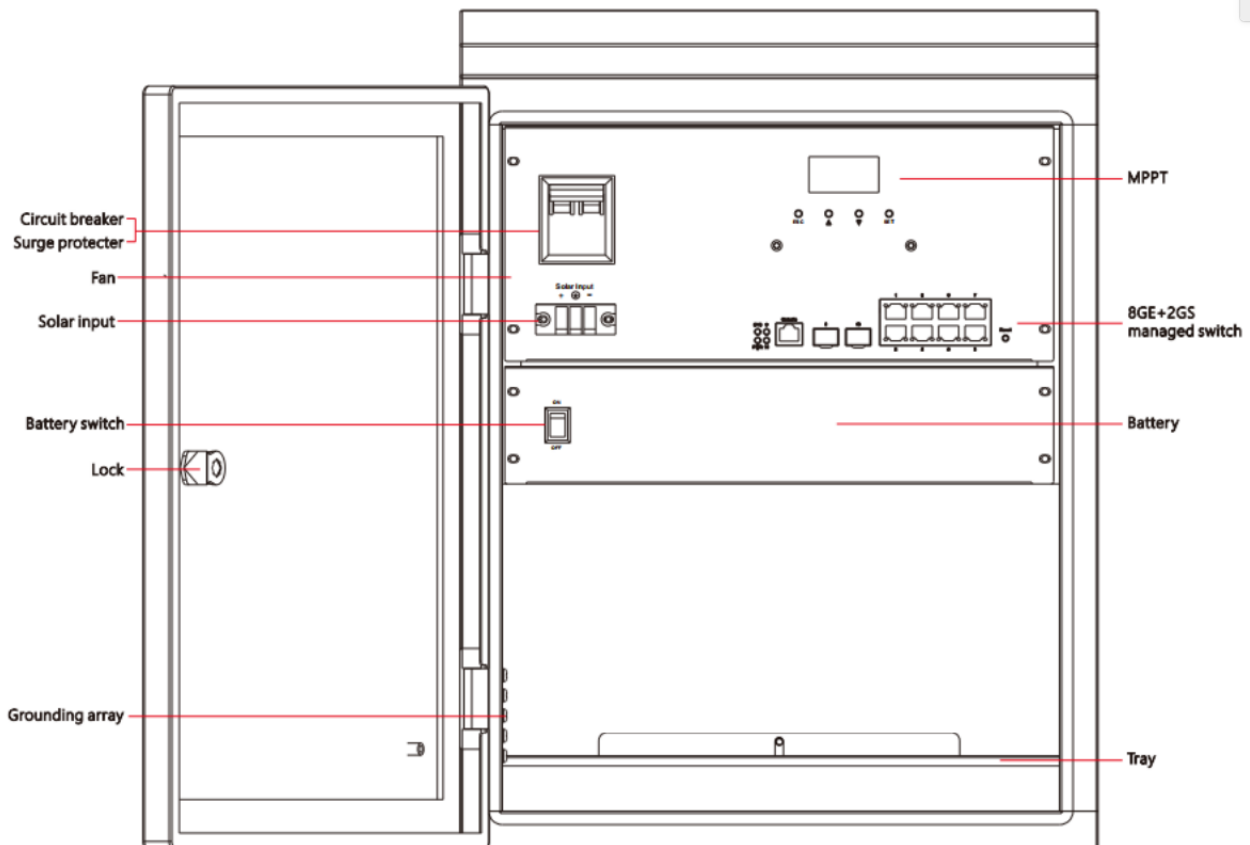


❖ Overview

It is an outdoor solar PoE switch, powered by solar battery, with MPPT controller, storage battery, PoE switch, circuit-breaker, surge arrester, cooling fan inside.

It can be applied for surveillance monitoring, forest monitoring, etc.



❖ Features

- ❖ Solar power input, input 60~150VDC;
- ❖ PoE switch with 8*10/100/1000M PoE ports and 2*1000M SFP ports, with L2 network management;
- ❖ support L2 management, such as QoS, VLAN, MSTP, Multi-broadcast, ports management and PoE management;
- ❖ With MPPT controller, connected the solar battery and charge the storage battery ;
- ❖ With storage battery, lithium iron phosphate battery.
- ❖ The box adopts waterproof (protection level IP55), anti-rust treatment, suitable for long time outdoor use.

❖ Hardware specification

Parameter	Specifications
Solar input	Solar battery input, 60~150VDC
PoE switch	Switch parameter: 1~8 ports: 10/100/1000Base-T 30W PoE RJ45(IEEE802.3af/at) 9~10 ports: 1000M SFP slots
	PoE ports: Ports 1~8 support IEEE802.3af/at,end-span, 30W per port Max.
	Switch Working mode: Default: common switch. VLAN: 1~8 ports are isolated, only can communicate with the uplink ports; restrain the network storm; close flow control.
	Switch fabric: 20Gbps
	Switch Throughput: 14.88Mpps
	Switch Buffer: 4M
	Switch MAC address table:8K
	Switch Indicator: Power: 1 *red ; Downlink 1~8: Green LEDs indicate Link/Act, yellow LEDs indicate PoE Uplink9, 10: Green LEDs indicate Link/Act
	Switch Protection: Surge: 6KV, standard: IEC61000-4-5 ESD: 6KV: contact 8KV: air, standard:IEC61000-4-2
	Switch ESD: 6KV: contact / 8KV: air, standard:IEC61000-4-2
Circuit-breaker	220V 10A
Surge arrester	220V 40KA
Cooling fan	1 pc
MPPT controller	System voltage: 12V/24V/36V/48V/Auto
	Solar input voltage: <150V
	Battery type: lead battery and li battery
	MPPT efficiency: >99%
Storage battery	Rated charging current: 40A
	Battery type : Ternary lithium battery Rated voltage: 48V, 7.5AH
Box	Dimension(L×W×H): 380mm×220mm×500mm
	Working temperature: 0°C~55°C
	Storage temperature: -40°C~85°C
	Humidity: 0~90%(No condensation)
	Material: Metal SGCC
	Colour: White Net-weight: 20KG

Network switch software specification

ITEM				Web	CLI
System configuration	System date time	SNTP	Enable/Disable	Yes	Yes
	User Management	\	Apply/Delete	Yes	Yes
	Safe Management	http	Enable/Disable	Yes	Yes
		SNMP	Enable/Disable	Yes	Yes
		telnet	Enable/Disable		Yes
		SSH	Enable/Disable		Yes
	Configuration file	\	Upload/Download	Yes	Yes
		\	Save/Delete	Yes	Yes
	Firmware file	\	Upload	Yes	Yes
System	\	Reboot/Reboot Factory	Yes	Yes	
Port configuration	Common	Admin Status	Up/Down	Yes	Yes
		Speed	Auto	Yes	Yes
			Full-1000 Mbps	Yes	Yes
			Full-100 Mbps	Yes	Yes
			Half-100 Mbps	Yes	Yes
			Full-10 Mbps	Yes	Yes
			Half-10 Mbps	Yes	Yes
	Flow control	\	On/Off	Yes	Yes
	Storm constrain	Action	Block		Yes
			Shutdown		Yes
		Broadcast	Min-rate Max-rate 1~1488100pps		Yes
		Enable	Log		Yes
			Trap		Yes
		Interval	6~180s		Yes
		Multicast	Min-rate Max-rate 1~1488100pps		Yes
	Unicast	Min-rate Max-rate 1~1488100pps		Yes	
	Strom control	Broadcast(1~1024000kbps)	On/Off	Yes	Yes
		Multicast(1~1024000kbps)	On/Off	Yes	Yes
		DLF(1~1024000kbps)	On/Off	Yes	Yes
	Rate limit	TX	1~1024000kbps/Off	Yes	Yes
		RX	1~1024000kbps/Off	Yes	Yes
	Protected Port	/	Yes/No	Yes	Yes
	Learn Limit	MAC Address	0~8191	Yes	Yes
Port trunk	Trunk Group	Create/Delete	Yes	Yes	
	Member Port	Add/Delete	Yes	Yes	
	Trunk Method	Src-mac	Yes	Yes	

			Dst-mac	Yes	Yes
			Src-dst-mac	Yes	Yes
			Src-ip	Yes	Yes
			Dst-ip	Yes	Yes
			Src-dst-ip	Yes	Yes
	Port Mirror	Mirror Port	/	Yes	Yes
		Mirrored Port	/	Yes	Yes
		Mirror Direction	Receive	Yes	Yes
			Transmit	Yes	Yes
			Both	Yes	Yes
			Not_receive	Yes	Yes
			Not_transmit	Yes	Yes
	Neither	Yes	Yes		
	DHCP	DHCP client	Enable		Yes
			Release		Yes
			Renew		Yes
		DHCP Snooping	/		Yes
	IP	IGMP Snooping	Mrouter VLAN(1~4094)		Yes
		MAC-bind	IP Address MAC Address		Yes
	IP-subnet-vlan	IP Address Mask	VLAN 1~4094	Yes	Yes
	LACP	Port Priority	1~65535		Yes
		Timeout	Long		Yes
			Short		Yes
	LLDP	Admin Status	Disable		Yes
			TX		Yes
			RX		Yes
			TXRX		Yes
		Enable	/		Yes
		Check-change-interval	1~30		Yes
Management Address		IP Address		Yes	
Tlv-enable		Dot1-tlv		Yes	
	Dot3-tlv		Yes		
	Med-tlv		Yes		
Loopback detection	Enable	/		Yes	
	Resume	/		Yes	
	Resume Mode	Automation		Yes	
		Manual		Yes	
	Shutdown Mode	No Shutdown		Yes	
		Shutdown		Yes	
MAC VLAN	MAC Address	VLAN 1~4094		Yes	
VLAN-mapping	VLAN(1~4094)	Map-vlan(1~4094)		Yes	

	Voice VLAN	VLAN ID(1~4094)	Enable/Disable		Yes	
		Qos Map-queue(0~7)	Remark-dscp(0~63)		Yes	
	Mvr-interface	Enable/Disable	/		Yes	
	OAM	Enable	/		Yes	
		Loopback	/		Yes	
		Mode	Active		Yes	
			Passive		Yes	
	QinQ	Customer	/		Yes	
		Outer-vid(1~4094)	Inner-vid(VLAN ID)		Yes	
		Tpid	/		Yes	
		Uplink	/		Yes	
	Ulld	Aggressive	/		Yes	
		Port	/		Yes	
	Jumbo Frame		1523~16383bytes		Yes	
DDM Information	/	/	Yes	Yes		
MAC	MAC Binding		Select-all/Apply/Delete	Yes	Yes	
	MAC Auto Binding		Select-all/Apply	Yes	Yes	
	MAC Filter		Select-all/Apply/Delete	Yes	Yes	
	MAC Auto Filter		Select-all/Apply	Yes	Yes	
	Bridge	Acquire	/		Yes	
		Address	MAC(HHHH.HHHH.HHHH)	Discard/Forward		Yes
		Ageing-time	10~1000000s		Yes	
		Unregistered	Multicast	Discard/Forward		Yes
VLAN configuration	VLAN	2~4094	Apply/Delete	Yes	Yes	
	VLAN Port	Mode	Access	Yes	Yes	
			Trunk	Yes	Yes	
			Hybrid	Yes	Yes	
		Port Members	Default VLAN(p)	Yes	Yes	
			Tagged Member(t)	Yes	Yes	
			Untagged Member(u)	Yes	Yes	
UnMember	Yes	Yes				
SNMP configuration	SNMP community	Community Name	Apply/Delete	Yes	Yes	
		Read Only	Apply/Delete	Yes	Yes	
		Read Write	Apply/Delete	Yes	Yes	
	TRAP Target	SNMP Version	V1	Yes	Yes	
			V2C	Yes	Yes	
			V3	Yes	Yes	

		Item	Apply/Delete	Yes	Yes
ACL configuration	Standard IP	Group Number	1~99 1300~1999 Select-all/Add/Delete	Yes	Yes
		Source IP	Select-all/Add/Delete	Yes	Yes
		Source Wildcard	Select-all/Add/Delete	Yes	Yes
		Math Data Packets	Deny/Permit	Yes	Yes
	Extended IP	Group Number	100~199 2000~2699 Select-all/Add/Delete	Yes	Yes
		Source IP	Add/Delete	Yes	Yes
		Source Wildcard	/	Yes	Yes
		Destination IP	/	Yes	Yes
		Destination Wildcard	/	Yes	Yes
		Protocol Type	IP/TCP/UDP	Yes	Yes
		Source Port	Ftp(TCP) Ftp-Data(TCP) Pop3(TCP) Sntp(TCP) Telnet(TCP) WWW(TCP) Rip(UDP) Sntp(UDP) Sntp-Trap(UDP) Tftp(UDP)	Yes	Yes
		Destination Port	Ftp(TCP) Ftp-Data(TCP) Pop3(TCP) Sntp(TCP) Telnet(TCP) WWW(TCP) Rip(UDP) Sntp(UDP) Sntp-Trap(UDP) Tftp(UDP)	Yes	Yes
		TCP Control Flag	Fin Sys Rst Psh Ack Urg	Yes	Yes
		Math Data Packets	Deny/Permit	Yes	Yes
	MAC IP	Group Number	700~799 Select-all/Add/Delete	Yes	Yes
		Source MAC	Add/Delete	Yes	Yes

		Source MAC wildcard	Select-all/Add/Delete	Yes	Yes
		Source IP	Select-all/Add/Delete	Yes	Yes
		Source Wildcard	Select-all/Add/Delete	Yes	Yes
		Destination IP	Select-all/Add/Delete	Yes	Yes
		Destination Wildcard	Select-all/Add/Delete	Yes	Yes
		VLAN ID	0~4094 Select-all/Add/Delete	Yes	Yes
		Math Data Packets	Deny/Permit	Yes	Yes
	MAC ARP	Group Number	1100~1199 Select-all/Add/Delete	Yes	Yes
		Sender MAC	Add/Delete	Yes	Yes
		Sender MAC wildcard	Select-all/Add/Delete	Yes	Yes
		Sender IP	Select-all/Add/Delete	Yes	Yes
		Sender IP wildcard	Select-all/Add/Delete	Yes	Yes
		Math Data Packets	Deny/Permit	Yes	Yes
	ACL Reference	Ports	Select-all/Add/Delete	Yes	Yes
		All ACL Group	Select-all/Add/Delete	Yes	Yes
Time-range	Name	1<=S<=31		Yes	
	Cycle-time	Days(0~6 week days) From(0~23hour)		Yes	
	Utter-time	From(2000~2100year)		Yes	
QoS configuration	QoS apply	Port	Select	Yes	Yes
		QoS Type	NO QoS	Yes	Yes
			COS-based	Yes	Yes
			DSCP-based	Yes	Yes
			DSCP COS-based	Yes	Yes
	User Priority	0~7	Yes	Yes	
	QoS schedule	Port	Select	Yes	Yes
		QoS schedule mode	WRR	Yes	Yes
			SP	Yes	Yes
			WFQ	Yes	Yes
	Queue	0~7	Yes	Yes	
	Weight of queue	1~127	Yes	Yes	
	IP Address	VLAN ID(VID)	1~4094 Create/Delete	Yes	Yes
		IP Address	Set/Delete	Yes	Yes
		DHCP Client	Enable/Disable	Yes	Yes
ARP	Static ARP	IP address add	Yes	Yes	
		MAC address add	Yes	Yes	
	ARP Item	A.B.C.D delete	Yes	Yes	
		A.B.C.D/M delete	Yes	Yes	

			All delete	Yes	Yes	
			Dynamic delete	Yes	Yes	
			Static delete	Yes	Yes	
			Change Dynamic ARP into Static ARP	A.B.C.D/M	Yes	Yes
				All	Yes	Yes
				Aging time	1~65535min	
	Host Static Route	Target Address/Subnet prefix	Apply/Delete	Yes	Yes	
		Next Hop	Apply/Delete	Yes	Yes	
AAA Configuration	Tacacs+	Taccas+	Enable/Disable	Yes	Yes	
		Server IP	A.B.C.D	Yes	Yes	
		Authentication Type	pap	Yes	Yes	
			chap	Yes	Yes	
		Shared Secret	S<30	Yes	Yes	
	Radius	Primary Server	A.B.C.D	Yes	Yes	
		Option Server	A.B.C.D	Yes	Yes	
		UDP Port	1~65535	Yes	Yes	
		Accounting	Enable/Disable	Yes	Yes	
		Shared Key	S<30	Yes	Yes	
		Vendor	S<24	Yes	Yes	
		NAS Port	1~65535	Yes	Yes	
		NAS Port Type	1~65535	Yes	Yes	
	NAS Service Type	1~65535	Yes	Yes		
Roaming	Enable/Disable	Yes	Yes			
802.1x	802.1x	802.1x	Enable/Disable	Yes	Yes	
		Reauthentication	Enable/Disable	Yes	Yes	
		Reauthentication Period	1~2147483647s	Yes	Yes	
		Quiet Period	1~2147483647s	Yes	Yes	
		Tx-Period	1~2147483647s	Yes	Yes	
		Server Timeout	1~2147483647s	Yes	Yes	
		Supplicant Timeout	1~2147483647s	Yes	Yes	
		Max Request	1~2147483647	Yes	Yes	
		Reauth Max	Max Request	Yes	Yes	
		Client Version	0.0~255.255	Yes	Yes	
		Check Client	Enable/Disable	Yes	Yes	
		Check Version	Open/Close		Yes	
	802.1x Port	Port Number	Select	Yes	Yes	
		Port Mode	N/A	Yes	Yes	
Force-Unauth			Yes	Yes		
Auto			Yes	Yes		
Force-Auth	Yes		Yes			
Support Host Number	1~256	Yes	Yes			

		Guest VLAN	1~4094		Yes
		Transmit Port	Enable/Diaable		Yes
	802.1x User Auth-Info	port	Select	Yes	Yes
STP Configuration	MSTP	MSTP	Enable/Disable	Yes	Yes
		Priority	0~61440(icrements of 4096)	Yes	Yes
		Portfast Bpdu-Filter	Enable/Disable	Yes	Yes
		Portfast Bpdu-Guard	Enable/Disable	Yes	Yes
		Forward-Time	4~30(2*(ForwardTime-1)>=MaxAge)	Yes	Yes
		Hello-Time	1~10(2*(HelloTime+1)<=MaxAge)	Yes	Yes
		Errdisable-Timeout	Enable/Disable	Yes	Yes
		Errdisable-Timeout Interval	10~1000000s(10,10000can't update)	Yes	Yes
		Max-Age	6~40s	Yes	Yes
		Max-Hops	1~40	Yes	Yes
		Cisco-Interopeability	Enable/Disable	Yes	Yes
	STP Port	Port	Select	Yes	Yes
		Portfast	Enable/Disable	Yes	Yes
		Portfast bpdu-filter	Enable/Disable/default	Yes	Yes
		Portfast bpdu-guard	Enable/Disable/default	Yes	Yes
		Root Guard	Enable/Disable	Yes	Yes
		Link-Type	Shared	Yes	Yes
			Point-to-Point	Yes	Yes
		Priority	0~240(increments of 16)	Yes	Yes
		Path-Cost	1~200000000	Yes	Yes
		Force-Version	STP(0)	Yes	Yes
			RSTP(2)	Yes	Yes
MSTP(3)	Yes		Yes		
Not-supported(1)	Yes		Yes		
Instance	1~15		Yes		
IGMP Snooping Configuration	IGMP Snooping	IGMP Snooping	Enable/Disable	Yes	Yes
GMRP Configuration	GMRP Global	Global GMRP	Enable/Disable	Yes	Yes
	GMRP Ports	Port	Select	Yes	Yes
		GMRP Status	Enable/Disable	Yes	Yes
	GMRP Registration	Fixed	IF_Name		Yes
Forbidden				Yes	

		Normal			Yes
EAPS Configuration	EAPS	EAPS Ring ID	1~16	Yes	Yes
		Mode	None	Yes	Yes
			Master	Yes	Yes
			Transit	Yes	Yes
		Primary Port	/	Yes	Yes
		Secondary Port	/	Yes	Yes
		Control VLAN	2~4094	Yes	Yes
		Protected VLANs	1~4094	Yes	Yes
		Hello Time Interval	1~65535<Fail Time	Yes	Yes
		Fail Time	2~65535>Hello Time	Yes	Yes
		Data Span	Enable/Disable	Yes	Yes
		Extreme Interoperability	Enable/Disable	Yes	Yes
		Enable Status	Enable/Disable	Yes	Yes
RMON Configuration	Statistics	Port	Select	Yes	Yes
		Index	1~100	Yes	Yes
		Owner	/	Yes	Yes
	History	Port	Select	Yes	Yes
		Index	1~100	Yes	Yes
		Interval	1~3600	Yes	Yes
		Request Buckets	1~100	Yes	Yes
		Owner	/	Yes	Yes
		History Data	First	Yes	Yes
			Prev	Yes	Yes
			Next	Yes	Yes
	Last		Yes	Yes	
	Alarm	Index	1~60	Yes	Yes
		Interval	1~3600	Yes	Yes
		Variable	Monitor Object's Oid	Yes	Yes
		Sample Type	Absolute	Yes	Yes
			Delta	Yes	Yes
		Rising Threshold	1~2147483647	Yes	Yes
		Failing Threshold	1~2147483647	Yes	Yes
		Rising Event Index	1~60	Yes	Yes
		Failing Event Index	1~60	Yes	Yes
	Owner	/	Yes	Yes	
	Event	Index	1~60	Yes	Yes
Description		/	Yes	Yes	
Type		None	Yes	Yes	
		Log	Yes	Yes	
		Snmp-Trap	Yes	Yes	
	Log-and-Trap	Yes	Yes		

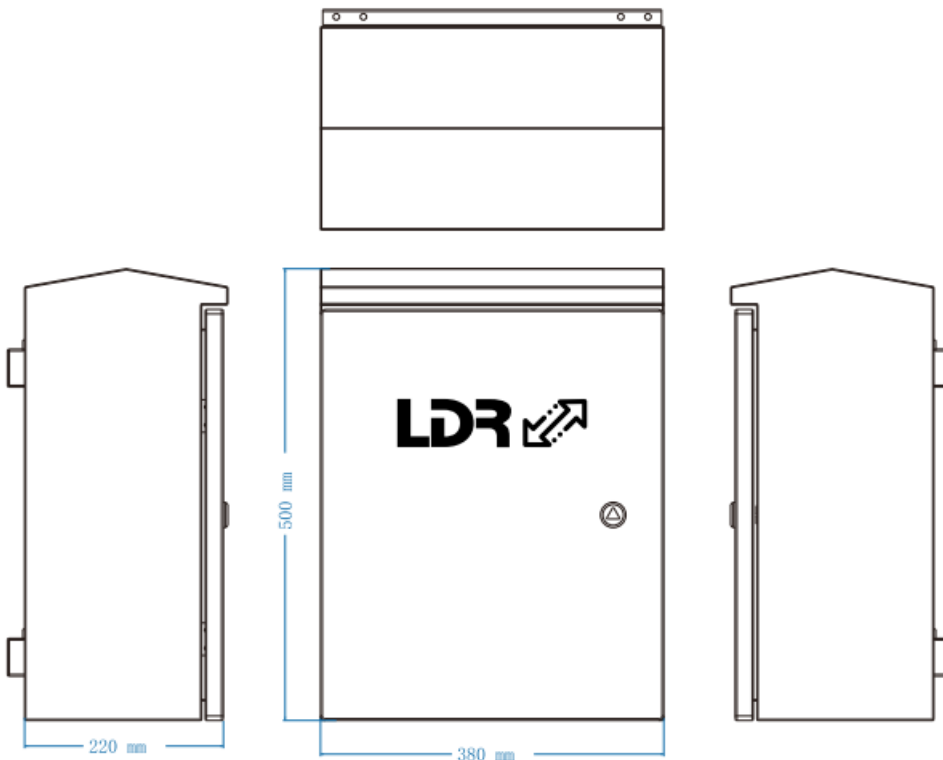
		Community	/	Yes	Yes
		Owner	/	Yes	Yes
Cluster Management	NDP	Port	Select	Yes	Yes
		Port Enable	Enable/Disable	Yes	Yes
		Global Enable	Enable/Disable	Yes	Yes
		Hello-Time	1~4096	Yes	Yes
		Aging-Time	1~4096	Yes	Yes
	NTDP	Port	Select	Yes	Yes
		Port Enable	Enable/Disable	Yes	Yes
		Global Enable	Enable/Disable	Yes	Yes
		Hops	1~6	Yes	Yes
		Interval-Time	0~65535min	Yes	Yes
		Hop-Delay	1~1000milsec	Yes	Yes
		Port-Delay	1~100milsec	Yes	Yes
	Cluster	Cluster Enable	Enable/Disable	Yes	Yes
		Management-VLAN	1~4094	Yes	Yes
		IP-Pool	A.B.C.D/M	Yes	Yes
		Handshake Time	1~255sec	Yes	Yes
		Handshake Hold-time	1~255sec	Yes	Yes
Cluster Name		/	Yes	Yes	
Type		Autobuild	Yes	Yes	
Log Information	Log	Log Priority	Critical	Yes	Yes
			Warning	Yes	Yes
			Informational	Yes	Yes
			Debugging	Yes	Yes
	All	Yes	Yes		
Syslog	Open/Close	/		Yes	
POE Power Control	POE	Type	802.3af		Yes
			802.3at	Yes	Yes
			802.3bt	Yes	Yes
		Admin Status	Enable/Disable	Yes	Yes
		Total Power	20~2500/0		Yes
		POE Policy	POE Port	Yes	Yes
			Week Days	Yes	Yes
	Clock		Yes	Yes	
	PD Query	POE Port	Select	Yes	Yes
		POE Watchdog	Enable/Disable	Yes	Yes
		PD IP Address	A.B.C.D	Yes	Yes
		PD Query Interval	5~300sec	Yes	Yes
PD Timeout Number		2~10	Yes	Yes	
PD Boot Time		30~600sec	Yes	Yes	

DHCP	DHCP snooping	IP Address	Upload	Yes
			Auto-upload	Yes
		Download	Yes	
		Reset-download	Yes	
		MAC Address	Delete	Yes
ERPS Configuration	ERPS	Domain ID	1~8	Yes
		Node-role	interconnection	Yes
	none-interconnectio n		Yes	
	ERPS Ring ID(1~32)	Enable/Disable	/	Yes
		Force Switch	Add/Clear	Yes
		Manual Switch		Yes
		Guard Time	10~2000	Yes
		Node Mode	Ring-node	Yes
			Rpl-neighbor-node	Yes
			Rpl-owner-node	Yes
		Hold-off-time	0~10000	Yes
		Raps-send-time	1~10	Yes
		Raps-VLAN	2~4094	Yes
		Revertive-behaviour	Non-revertive	Yes
			Revertive	Yes
		Ring Mode	Major-ring	Yes
			Sub-ring	Yes
		RI-port	Select	Yes
		Rpl-port	Select	Yes
		Traffic VLAN	1~4094	Yes
Wtb Time		1~10	Yes	
Wtr Time	1~12	Yes		
LACP Configuration	LACP	Max-active-link-number	1~8	Yes
		System-priority	1~65535	Yes
LINE	Line	Vty	/	Yes
LLDP	LLDP	Global	Enable	Yes
		Hold-multiplier	2~10	Yes
		Timer	Reinit-delay	Yes
			Tx-delay	Yes
Tx-interval	Yes			
Loop-detection	Loopback-detectio n	Detection-Time	(1~65535)*2<Resum e-Time	Yes
		Protocol-safety	/	Yes
		Respond-packets	2~100	Yes
		Resume-Time	10~65535	Yes
MVR	MVR	Enable/Disable	/	Yes
		Group	IP Address	Yes

		VLAN	1~4094		Yes
OAM	OAM	Errored-frame	Period		Yes
			Threshold		Yes
		Errored-frame-period	Period		Yes
			Threshold		Yes
Errored-frame-seconds	Period		Yes		
	Threshold		Yes		
Redundant-Port	Redundant-port(1~8)	Force-switch	/		Yes
		Primary-port	Secondary-port		Yes
UDLD	UDLD	Enable	/		Yes
		Time	7~90		Yes
Protocol VLAN	Protocol VLAN	Ether-type	0~65535		Yes
			ARP		Yes
			Atalkarp		Yes
			Atalkddp		Yes
			Atmmulti		Yes
			Atmtransport		Yes
			Dec		Yes
			Deccustom		Yes
			Decdiagnostics		Yes
			Decdnadumload		Yes
			Decdnaremoteconsole		Yes
			Decdnarouting		Yes
			Declat		Yes
			Decsyscomm		Yes
			G8bpqx25		Yes
			IEEEaddrtrans		Yes
			IEEEpup		Yes
			IP		Yes
			IPX		Yes
			PPPdiscovery		Yes
PPPsession		Yes			
Rarp		Yes			
X25		Yes			
Xeroxaddrtrans		Yes			
Xeroxpup		Yes			
CFM	CFM	CC	interval(3~7) Service-instance(1~32767)		Yes
		Enable	/		Yes
		Linktrace	Auto-detection		Yes

		MA	MD		Yes
		MD	Level(0~7)		Yes
		Mip-rule	Default Service-instance(1~3 2767)		Yes
			Explicit Service-instance(1~3 2767)		Yes
Service-instance(1~32767)	MA		Yes		

❖ Structure



❖ Ordering information

Version	describe
RCLDR-PM-OD-NPT0101	Outdoor solar PoE switch 8*10/100/1000M PoE+2*1000M SFP switch,with L2 network management; MPPT controller; Storage battery; Cooling fan; Circuit-breaker and surge protector; Metal box housing