# HM64E High Power Multi Ports PON EDFA (3RU)



User's Manual

HM64E Series

#### **I**. Products Descriptions

HM64E Series 1550nm high power fiber amplifier adopts two-stage amplification, the first stage adopts low-noise EDFA, the second stage adopts high-power EDFA, the total output optical power can reach 44dBm. It can replace several or dozens of EDFA, which can greatly reduce the cost of network building and maintenance and reduce the space of head-end. Each output port is built in with CWDM to multiplex CATV signal and OLT PON Data flow. The device will play an increasingly important role in the process of continuous extension and expansion of optical fiber network. It provides a high stability but low cost solution for the triple-play and large area coverage of FTTH.

Optional dual fiber inputs, in fact, built-in with a set of complete optical switch system, which can be used as the backup of A and B optical path. When the main optical line fails or lower than the threshold value, the device will automatically switch to the standby optical line to ensure the continuous operating of the device. The product is mainly used in optical fiber ring network or redundant backup network, It is featured in short switching time (< 8ms), low loss (< 0.8dbm ), and can be forced manually switched.

The core components adopts the top brand pump laser and double cladding active fiber. The optimized optical circuit design and manufacturing process ensure the best optical performance. The perfect electronic controlled APC (automatic power control), ACC (automatic current control) and ATC (automatic temperature control) are adopted to ensure high stability and reliability of output power, as well as excellent optical performance. MPU (microprocessor) with high stability and precision is adopted in the system. The optimized thermal structure design , good ventilation and heat dissipation design ensure the long life and high reliability of the device. Based on the powerful network management function of TCP / IP protocol, network monitoring and head-end management can be carried out for the status of multiple node equipment through RJ45 network management interface, supporting multiple power supply redundancy configurations, which improved the practicability and reliability of the device.

#### Special Notes

In consideration of the request of inserting and plugging patch cord in the working state of the device, a maintenance function with a rapid drop of 6dB is added to protect the fiber core.

The output power is reduced by 6dB instead of turning off the power supply. It will not c ause a large area of out of service, but only a short-time signal decline.

The function is featured in :

A. After 6dBm reduced, the output power per port is ≤18dBm , the value makes it Available To pug in and out patch cord without hurting or burning the fiber core of patch cord.

B. It can return to original working status quickly after maintenance.

### Features

1.1 It adopts the top brand pump laser and double cladding active fiber.

1.2 Each output port is built in with CWDM.

1.3 Compatible with any FTTx PON: EPON, GPON, 10GPON.

1.4 Perfect APC, ACC and ATC optical circuit design ensures low noise, high output and high reliability of the device in the whole operating band (1545 ~ 1565nm).

1.5 It has the function of automatic protection of low input or no input. When the input optical power is lower than the set value, the laser will automatically shut down to protect the operating safety of the device.

1.6 Output adjustable, adjustment range : 0~-4dBm.

1.7 RF test in the front panel(optional).

1.8 The switching time of optical switch is short and the loss is small. It has the functions of automatic switching and forced manual switching.

1.9 Built- in dual power supply, automatically switched and hot plug supported.

1.10The operating parameters of the whole machine are controlled by microprocessor, and the LCD status display on the front panel has many functions such as laser status monitoring, parameter display, fault alarm, network management, etc.; once the operating parameters of the laser deviate from the allowed range set by the software, the system will alarm promptly.

1.11Standard RJ45 interface is provided, supporting SNMP and WEB remote network management.

### **II. Installation**

### 2.1 Preparation before installation

2.1.1 Please examine the machine to see if there is distinct

2.1.2 Please examine if the accessories is complete and the quality cards is here. If not, please contact sales or dealer

### 2.2 Installation

2.2.1 Please keep a space about 4.5cm between machines for ventilation.

2.2.2 Please make sure: the socket works very well and well grounded; The impedance  $\leq 4\Omega$ ; 220V power with three cables, the middle one should connected to the ground. Incorrect grounding may hurt the device or influence the quality of signal.

2.2.3 Please make sure the power supply button in the rear panel turn to OFF before the power supply cable connected.

2.2.4 Please keep the interface of the fiber clean before connecting the fiber.

## III. Operation

## 3.1 Diagram



**Dual Inputs Model** 



Catagony	Items	Unit		Index		Remarks	
Category	nems	Unit	Min.	Min. Typ. Max.		Remarks	
	CATV Operating Wavelength	nm	1545		1565		
	OLT PON Pass Wavelength	nm	13	1310/1490		CWDM	
	Optical Input Range	dBm	-8		+10		
	Output Power	dBm			44	1dBm interval	
	Output adjustment Range	dB	-4		0	Adjustable, each step 0.1dB	
	Output ATT	dB		-6		Output ATT at one time And recover	
	Output Ports Uniformity	dB			0.7		
	Output Power Stability	dB			0.3		
	No. of OLT PON				64	SC/APC	
	Ports				128	LC/APC	
Optical	No. of COM Ports				64	SC/APC	
Index					128	LC/APC	
	CATV Pass Loss	dB			0.8		
	OLT Pass Loss	dB			0.8		
	IsHM64Etion between CATV and OLT	dB	40				
	Switching Time of Optical Switch	ms					
	Insertion Loss of Optical Switch	dB			0.8	Optional	
	Noise Figure	dB			6.0	Pin: 0dBm	
	PDL	dB			0.3		
	PDG	dB			0.4		
	PMD	ps			0.3		
	Remnant Pump Power	dBm			-30		
	Optical Return Loss	dB	45				
	Fiber Connector		SC/APC		C	FC/APC、LC/APC	
	RF Test	dBµV	78		82	Optional	
General	Network Management		SN	IMP,W	EB		
Index	Interface		รเ	upporte	ed		
	Power Supply	V	90		265	AC	

		-72		-36	DC
Power Consumption	W			150	Dual PS,1+1 standby,43dBm
Operating Temp	°C	-5		+65	,, -
Storage Temp	°C	-40		+85	
Operating Relative Humidity	%	5		95	
Dimension	mm	370	×483×	132	D、W、H
Weight	Kg		8.2		

## **3.3 Front Panel Instructions**



## Single Input



## **Dual Inputs**

S/N	Identification	Name	Remarks
1	LCD	LCD Display	To display the parameters of the device
	0717110		LED Green, Device working
2	STATUS	ATUS Device Status	LED Red,Device alarming or faulty
3	INPUT	Fiber Input	LED Green, Input within requested range LED Red, no input or out of the requested range or only single input connected in dual inputs model
4	OUTPUT	Fiber Output	LED Green,Fiber output is within normal range LED Red,Fiber output is out of normal range

_			LED Green, Dual power supply working		
5	5 POWER	Power Supply	LED Yellow, Single power supply working		
6	CATV IN	CATV input	1550nm fiber input	Single input	
7	CATV IN1	CATV input 1	1550nm fiber input 1	Dual Inputs	
8	CATV IN2	CATV input 2	1550nm fiber input 2	Dual Inputs	
9	OLT IN	OLT Input	OLT Input	CWDM	
10	OUT	Fiber Output	Fiber Output		
11	▲ ▼	Buttons	Start menu page turning and set the device		
12	ENT	Enter	Confirmation after menu page turning and device setting		
13	OFF/ON	Кеу	ON pump laser on ,OFF pump laser off		
14	RF TEST	RF test point	Output level 78 ~ 82dBµV Optional		
15	RS232	RS232 Port	Local programming		
16	RJ45	RJ45 Port	Remote SNMP and WEB supported		

## 3.4 Rear panel Instructions



S/N	Identification	ltems	Remarks
1	Fan	Fan	For the cooling of the device
2	÷	Grounding Port	For Grounding

3	Power1	Power Socket1	Hot plug in/out supported
4	Power2	Power Socket 2	Hot plug in/out supported

## 3.5 Front Panel Operation

Press the  $\checkmark$  to display the following menus in turn, and press the  $\blacktriangle$  to reverse the cycle





will return to normal output



## **IV. Products Series**

Total Output Power		No. of Output Port		
dBm	mW	No. of Output Port	Output Power per Port	
		64	19.5	
41	12500	128	16.0	
		256		
		64	20.5	
42	16000	128 17.0	17.0	
		256		
		64         21.5           128         18.0	21.5	
43	25000		18.0	
		256		
		64 22.5	22.5	
44	32000	128	19.0	
		256		

### V. Notes

5.1 Static-sensitive pump laser is applied in the EYDFA, please note that electrostatic protection should be applied in the storage of the EYDFA and it should not be stored with corrosive material, and the storage temperature should be between - 40  $^{\circ}$ C and + 85  $^{\circ}$ C.

5.2 As the output power of EYDFA is high, please do not turn on the power supply before the EYDFA is connected to the system or the output ports are not equipped with protection sleeves. Please do not to plug in/out the patch cord when the device is working , otherwise it may burn the output interface, resulting the decrease of the output power.

5.3 Please don't now attempt to look into the optical connectors when power applied, eye damage may result.

5.4 Please don't block the cooling holes of the device and keep it in good ventilation

5.5 Please use anhydrous industrial alcohol instead of medical alcohol to wash the fiber connector if necessary after the power supply of the device turned off.

5.6 For high power EYDFA, it is easy to burn the fiber output interface and decrease the output power, so the advised best value on each port is lower than 19dBm.

5.7 Please don't test the EYDFA repeatedly, otherwise the fiber connector interface may be hurt and the output power decreased.

5.7 The change of input optical power has a great influence on CNR. The higher input power, the higher the CNR, the lower input power, and the worse the CNR, as shown in the following figure:



#### **CNR loss value/Input Power**

S/N	Fault Phenomenon	Faulty Reason	Solution	Remarks
1	Power Yellow	Single power supply working	Connect another power supply	
2	STATUS Green INPUT Yellow OUTPUT Green	Single optical input	Connect another input	Dual Model
3	STATUS Red INPUT Yellow OUTPUT Red	No input or input too low	Adjust the value of input power	
4	STATUS Red INPUT Green OUTPUT Red LCD Display "KEY OFF"	The key turned to OFF	Turn the key to ON	
		Fiber interface hurt caused by wrong operation such as plug in/out patch cord when the power supply is on, it will cause the output lower than LCD display	Replace the fiber connector	The advised optical power per port ≤19dBm
5	Output power LCD displays normal value, but low value by power meter	Output interface of EYDFA or patch cord is dirty.	Clean the output interface with industrial anhydrous alcohol or dust-free paper	
		Power meter error	Change power meter	Top brand power meter is advised
		The wavelength deviation of input optical signal is far from 1550nm	Adjust the wavelength of optical transmitter	
6	LCD display shows output is about 0 ~ 4dB lower than specified value	Checking if the ATT attenuation in "setting info" is enabled	Turn off "ATT" function	
7	LCD display shows output is about 6dB	Checking if the "Maintain -6dB"function in "Setting Info" enabled	Turn off "-6dB" function	
8	The optical power of the output end of the optical amplifier is normal, but the index of the user end is deteriorated	Optical power to fiber is high	Decrease the power to fiber under19dBm	

## VI、 Solution to some ordinary problems

### VII. Warranty Terms

HM64E series EYDFA are covered by CATCAST. WARRANTY AS NEGOTIATED, which starts from the initial date of your purchase. We provide its customer whole-life technical supports. If warranty is expired, repair service only charges parts (if required). In the event that a unit must be returned for service, before returning the unit, please be advised that:

7.1 Warranty mark pasted on the housing of unit must be in good conditions.

7.2 A clear and readable material describes model number, serial number and troubles should be offered.

7.3 Please pack the unit in its original container. If the original container is no longer available, please pack the unit in at least 3 inches of shock absorbing material.

7.4 Returned unit(s) must be prepaid and insured. COD and freight collect can not be acceptable.

**NOTE:** we **do not** assume responsibility for damage caused by improper packing of returned unit(s).

The following situation is not covered by warranty:

- 1. The unit fails to perform because of operators' faults.
- 2. Warranty mark is modified, damaged and/or removed.
- 3. Damage caused by Force Majeure.
- 4. The unit has been unauthorized alteration and/or repaired.
- 5. Other troubles caused by operators' faults.

### M. Web Server

Web server is built in SNMP module. Users can directly view the basic operating parameters and network parameters of the device through the web browser. Popular web browsers include IE of Microsoft, Chrome of Google, Firefox of Mozilla, Opera of software ASA's, etc. The built-in web server of SNMP supports these popular browsers very well. The following diagrams are illustrated by opera browser.

8.1 First of all, Please find the IP address of the device in the LCD panel menu. The default IP address is 192.168.1.122. Set the IP address of the computer to the same network segment as the device, find the "network" icon on the desktop of windows system, select the icon, right-click the mouse, and select "properties" in the pop-up menu

	Open
Network	Map network drive Disconnect network drive
	Create shortcut Delete
	Properties

Click "Local Area Connection" in the pop-up version

		x
Control Panel +	Network and Internet   Network and Sharing Center  Vetwork and Internet  Network and Sharing Center  Vetwork and Internet  Network and Sharing Center  Vetwork and Internet  Network and Sharing Center  Vetwork and Internet  Network and Sharing Center  Vetwork and Internet  Network and Sharing Center  Vetwork and Internet  Network and Sharing Center  Vetwork and Internet  Network and Sharing Center  Vetwork and Internet  Network and Sharing Center  Vetwork and Internet  Vetwork and Internet  Network and Sharing Center  Vetwork and Internet  Vetwork and Internet  Network and Internet  Network and Internet  Vetwork and Internet  Vetwo	P
Control Panel Home Change adapter settings Change advanced sharing settings	View your basic network information and set up connections ADMIN-PC (This computer) View your active networks Unidentified network Public network Public network Change your networking settings Change your networking settings Set up a new connection or network Set up a new connection or network Set up a new connection or network Set up a new connection or network Connect to a network Connect to a wireless, wired, dial-up, or VPN network connection. Choose homegroup and sharing options Access files and printers located on other network computers, or change sharing settings.	Ø
See also HomeGroup Internet Options Windows Firewall	Troubleshoot problems Diagnose and repair network problems, or get troubleshooting information.	

In the "Local Area Connection Status" menu, select "Properties", and then double-click

"Internet Protocol Version 4 (TCP / IPv4)".

General		Networking
Connection IPv4 Connectivity: IPv6 Connectivity: Media State: Duration: Speed: Details	No Internet access No network access Enabled 00:31:50 100.0 Mbps	Connect using: Atheros AR8151 PCI-E Gigabit Ethemet Controller (NDIS E Configure This connection uses the following items: Cient for Microsoft Networks Gas Packet Scheduler Gas Pile and Printer Sharing for Microsoft Networks File and Printer Sharing for Microsoft Networks
Activity Sent	Received	Install Uninstall Properties
Bytes: 36,063	Diagnose	Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
	Close	OK Cancel

Set the IP address to make the IP address and the device in the same network segment, so that the computer can access the device.

neral	
	automatically if your network supports ed to ask your network administrator
Optain an IP address automa	atically
Use the following IP address	
IF address:	192.168.0.10
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	192.168.0.1
<ul> <li>Obtain DNS server address a</li> <li>Obtain DNS server</li> <li>Obtain DNS server:</li> <li>Preferred DNS server:</li> <li>Alternate DNS server:</li> </ul>	A STATE OF THE ACCOUNTS A
Validate settings upon exit	Advanced

8.2 Open the web browser and enter the IP address of the device in the address bar of the browser, such as 192.168.0.22

O Menu III Speed Dial III +	
<ul> <li>&lt; C № ⊕ 192.168.0.22</li> </ul>	© ∓
	0

The browser will pop up a login box

?	http://192.168.0.22 is requesting your username and password. The site says: "Embedded WEB Manager"
ser Name:	
Password:	

In the pop-up login user name box, enter User Name: "admin" (Note: all lowercase letters), password: "123456", and then enter.

8.3 The browser displays the device status page by default

vice Status	Device Status-					
vice Settings		Device Model	EYDFA			
		Serial Number	0001			
rm Status		Internal Temprature	31.0	°C		
rm Properties		Input Power	-60.0	dBm		
twork Settings		Total Output Power	-60.0	dBm		
ange Password		Single Output Power	-60.0	dBm		
set Settings		DC Power +5V	5.1	v		
Ū.						
		Power Supply 2				
		August -				
					1 <u></u>	-
	Pump	BIAS		ТЕМР	TEC	
	2	0 mA		4.8 °C	0.06 A	_
	2	0 mA	i	J.0 °C	0.00 A	

Real Time Device Status Page (For Single Input Model)

ce Settings n Status n Properties vork Settings		Device Model Serial Number	EYDFA 0001			
n Status n Properties			0001			
n Properties						
		Internal Temprature	33.0	°C		
ork Settings		Input Power	-60.0	dBm		
		Total Output Power	-60.0	dBm		
nge Password		Single Output Power	-60.0	dBm		
				v		
et Settings				v		
		Switch Position	Channel 1			
		Power Supply 1	Normal			
		Power Supply 2	Fault			
	Index	Input Power	The	eshold	Description	
	1	-60.0 dBm	0.0	dBm	Channel 1	
	2	-60.0 dBm	0.0	) dBm	Channel 2	]
	Pump	BIAS	1	EMP	TEC	
	1	0 mA	24	1.6 °C	0.14 A	1
	2	10 mA	0	.0 °C	0.00 A	]
		0 mA	24	l.6 °C	0.14 A	

Real Time Device Status Page (For Dual Inputs Model)

8.4 The left side of the page is the menu navigation bar. Click to enter the corresponding menu page



Page Navigation Bar (For Single Input Model)

Device Status	
Device Settings	
Alarm Status	
Alarm Properties	
Network Settings	
Change Password	
Reset Settings	

Page Navigation Bar (For Dual Inputs Model)

	SNMP Agent WEB Manager
Device Status Device Settings Alarm Status Alarm Properties Network Settings Change Password Reset Settings	Device Settings         PUMP Status:         Set Output ATT:         .0         B             Submit
	Copyright © All rights reserved.

Device Setting Page (For Single Input Model)

	SNMP Agent WEB	Vanager		
Device Status Device Settings Alarm Status Alarm Properties Network Settings Change Password Reset Settings	Device Settings PUMP Status: Threshold: Set Output ATT: Switch Mode: Switch To:	PUMP ON         ~           0.0	] dBm ] dB	
				Copyright © All rights reserved.

Device Setting Page (For Dual Inputs Model)

Index 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Parameter Name Output optical power Input optical power Power Supply 1 Power Supply 2 Internal Temp Pumpt BIAS	Alarm Status Nominal Nominal Nominal Nominal Nominal Nominal	
2 3 4 5 6	Input optical power Power Supply 1 Power Supply 2 Internal Temp	Nominal Nominal	
3 4 5 6	Power Supply 1 Power Supply 2 Internal Temp	Nominal	
4 5 6	Power Supply 2 Internal Temp		
5	Internal Temp	Nominal	
6			
	Durand DIAC	Nominal	
7	Pumpi BIAS	Nominal	
	Pump2 BIAS	Nominal	
8	Pump1 TEC	Nominal	
9	Pump1 Temp	Nominal	
10	DC +5V	Nominal	
	Land Control of Contro		



ice Status	- Alarm Status			
ice Settings	Index	Parameter Name	Alarm Status	
m Status	1	Output optical power	Nominal	
	2	Input optical power	Nominal	
m Properties	3	Power Supply 1	Nominal	
vork Settings	4	Power Supply 2	Nominal	
	5	Internal Temp	Nominal	
nge Password	6	Pump1 BIAS	Nominal	
et Settings	7	Pump2 BIAS	Nominal	
	8	Pump1 TEC	Nominal	
	9	Pump1 Temp	Nominal	
	10	DC +5V	Nominal	
	11	Channel 1	Nominal	
	12	Channel 2	Nominal	
	13	Channel 1 input	Nominal	
	14	Channel 2 input	Nominal	



evice Status	- Alarm Pro	operties						
evice Settings	Index	Parameter Name	ніні	н	LO	LOLO	Deadband	Action
arm Status	1	Output optical power (dBm)	27.0	26.0	✓ 11.0	10.0	0.5	Set
arm Properties	2	Input optical power (dBm)	10.0	8.0	-6.0	-10.0	0.2	Set
etwork Settings	3	Internal Temp (`C)	85	70	5		2	Set
nange Password	4	Pump1 BIAS (mA)	900	800	<b>I</b> 100	80	20	Set
eset Settings	5	Pump2 BIAS (mA)	☑ 15000	✓ 10000	✓ 100	80	20	Set
eser Settings	6	Pump1 TEC (A)	2.00	☑ 1.50	-1.50	-2.00	0.10	Set
	7	Pump1 Temp (`C)	35.0	30.0	20.0	15.0	1.0	Set
	8	DC +5V (V)	6.5	✓ 6.0	4.0	3.5	0.2	Set
	Index	Param	neter Name			Cont	rol	Action
	1	Powe	r Supply 1			EnableMajor	~	Set
	2	Powe	r Supply 2			EnableMajor	~	Set

Alarm Properties Setting Page (For Single Input Model)

e Status e Settings	Index	Parameter Name	нн	н	LO	LOLO	Deadband	Action
	1	Output optical power (dBm)	27.0	26.0	11.0	10.0	0.5	Set
Status	2	Input optical power (dBm)	v 10.0	8.0	-6.0	-10.0	0.2	Set
Properties	3	Internal Temp (`C)	85	70	5		2	Set
rk Settings	4	Pump1 BIAS (mA)	900	800	100	80	20	Set
e Password	5	Pump2 BIAS (mA)	☑ 15000	☑ 10000	2 100	80	20	Set
Settings	6	Pump1 TEC (A)	2.00	☑ 1.50	-1.50	-2.00	0.10	Set
	7	Pump1 Temp (`C)	35.0	30.0	20.0	15.0	1.0	Set
	8	DC +5V (V)	6.5	6.0	4.0	3.5	0.2	Set
	9	Channel 1 input (dBm)	V 10.0	8.0	-6.0	-10.0	0.2	Set
	10	Channel 2 input (dBm)	10.0	8.0	-6.0	-10.0	0.2	Set
	Index	Paran	neter Name			Cont	rol	Action
	1	Powe	er Supply 1			EnableMajor	~	Set
	2	Powe	er Supply 2			EnableMajor	~	Set
	3	Cr	annel 1			EnableMajor	~	Set
	4	Cr	nannel 2			EnableMajor	~	Set

Alarm Properties Setting Page (For Dual Inputs Model)

and the second sec	SNMP Agent WEB	Vanager
Device Status Device Settings Alarm Status Alarm Properties Network Settings Change Password Reset Settings	Network Settings Device MAC: Update Identifier: Agent Version: Static IP Address: Subnet Mask: Default Gateway: Trap Address 1: Trap Address 2: Trap Address 3: Trap Address 3: Trap Address 4: Trap Address 5: Trap Address 6: Trap Address 7: Trap Address 8: Read Community: Write Community: Trap Community: SNMP Version:	00: B9: A0: 12: 74: 3B OA138SG03 V3.1.0 192; 168; 0; 22 255; 256; 256; 0 192; 168; 1; 1 0; 0; 0; 0; 0 0; 0; 0; 0; 0 0; 0; 0; 0; 0; 0 0; 0; 0; 0; 0; 0; 0; 0; 0; 0; 0; 0; 0; 0
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Network Setting Page (For Single Input Model)

- Carl	SNMP Agent WEB	Manager
Device Status Device Settings Alarm Status Alarm Properties Network Settings Change Password Reset Settings	Network Settings Device MAC: Update Identifier: Agent Version: Static IP Address Subnet Mask Default Gateway: Trap Address 1: Trap Address 3: Trap Address 4: Trap Address 5: Trap Address 5: Trap Address 7: Trap Address 8: Read Community: Write Community: SNMP Version:	00: B9: A0: 12: 91: 8F OA138SG02 V3.10 192, 168; 0 . 22 255, 256; 0 . 0 192, 168; 1 . 1 0 . 0 . 0 . 0 0 . 0 . 0 . 0 public public V1 ~
		Copyright © All rights reserved.

Network Setting Page (For Dual Inputs Model)

The second se	SNMP Agent WEB Manager
Device Status Device Settings Alarm Status Alarm Properties Network Settings Change Password Reset Settings	Change Password         Password         Password         New Username:         New Password:         Confirm Password:         Submit
	Copyright © All rights reserved.

Page to Change User Name and Password (For Single Input Model)

The second se	SNMP Agent WEB Manager	
Device Status Device Settings Alarm Status Alarm Properties Network Settings Change Password Reset Settings	Change Password   Password   Password   New Usemame:   New Password:   Confirm Password:     Submit     Reset	
	Copyright © All rights reserve	d.

Page to Change User Name and Password (For Dual Inputs Model)

Device Status	Restore settings and Reboot device		
Device Settings	Reboot device		
Alarm Status	Reboot device		
Alarm Properties Network Settings Change Password	Restore alarm properties factory settings     Warning!!     Click the restore button, all alarm properties will be restored to factory default.		
Reset Settings	Restore Factory		
	Restore Net parameters: <ul> <li>IP Address: 192.168.1.150</li> <li>Subnet Mask: 255.255.255.0</li> <li>Gateway Address: 192.168.1.1</li> <li>TRAP Address 1: 0.0.0.0</li> <li>TRAP Address 2: 0.0.0</li> </ul> <li>User parameters:         <ul> <li>User parameters:</li> <li>User outparameters:</li> <li>Subsection:</li> <li>User outparameters:</li> <li>Password: 123456</li> </ul> </li>		
	Restore net		

Restore Page (For Single Input Model)

The second se	SNMP Agent WEB Manager
Device Status	Restore settings and Reboot device
Device Settings	Reboot device
Alarm Status	Reboot device
Alarm Properties	
Network Settings	Restore factory settings
Change Password	Warning!! Click the restore button, all parameters will be restored to factory default.
Reset Settings	Restore Factory
	<ul> <li>Restore Net parameters:         <ul> <li>IP Address: 192.168.1.8</li> <li>Subnet Mask: 255.255.250.0</li> <li>Gateway Address: 192.168.1.1</li> <li>TRAP Address 1: 192.168.1.200</li> <li>TRAP Address 2: 255.255.255.255</li> </ul> </li> <li>User parameters:         <ul> <li>User name: admin</li> <li>Password: 123456</li> </ul> </li> </ul>
	Restore net
	Copyright © All rights reserved.

Restore Page (For Dual Inputs Model)