



SmartAX MA5822

Multi-service Access Module





Product Overview

The SmartAX MA5822 is a multi-service access module launched by Huawei Technologies Co, Ltd. The MA5822 applies to fiber to the building (FTTB) or fiber to the curb (FTTC) network applications for providing voice, data, and multicast services for community users.



*Use the appearance of the MA5822 , 24GE+24POTS as an example.



Product Highlights

10G GPON Upstream Transmission

- 10G GPON provides a higher bandwidth to meet service requirements.
- The 10G GPON transmission complies with ITU-T Recommendation G.987 and ITU-T Recommendation G.988, and provides asymmetric transmission rates in the upstream direction and the downstream direction.
- 10G GPON networks can coexist with the current GPON networks to fully use the existing optical distribution network (ODN) resources.



Product Highlights

Rich and Complete Specifications

The MA5822 provides multiple specifications. Carriers can choose the ideal one according to the user density, which best balances the input and output. The following table lists the configurations of the MA5822.

Port Configuration	Control Board	Control Board		Uplink port
8FE+8POTS	H825XPUB	H821EPFD	H848ASLB	Provides one small form-factor pluggable (SFP) port to support the following upstream transmission modes: • 10G GPON (asymmetric) • GPON
16FE+16POTS	H825XPUB	H821EPFB	H822ASNB	
24FE+24POTS	H825XPUB	H821EPFA	H822ASMB	
8GE+8POTS	H826XPUB	HS22EPGD	H848ASLB	
16GE+16POTS	H826XPUB	HS22EPGB	H822ASNB	
24GE+24POTS	H826XPUB	HS22EPGE	H822ASMB	

A Rich Variety of Services

The MA5822 support a rich variety of services, such as voice, data, and multicast services, and quality of service (QoS) assurance solutions.

- Supports high-performance multicast services.
- Supports IPv6 features.
- Provides effective QoS management. rectification, data backup and uploading, and log collection.
- Supports network performance monitoring. The MA5822 supports network optimization and user monitoring.

Comprehensive Management and Maintenance

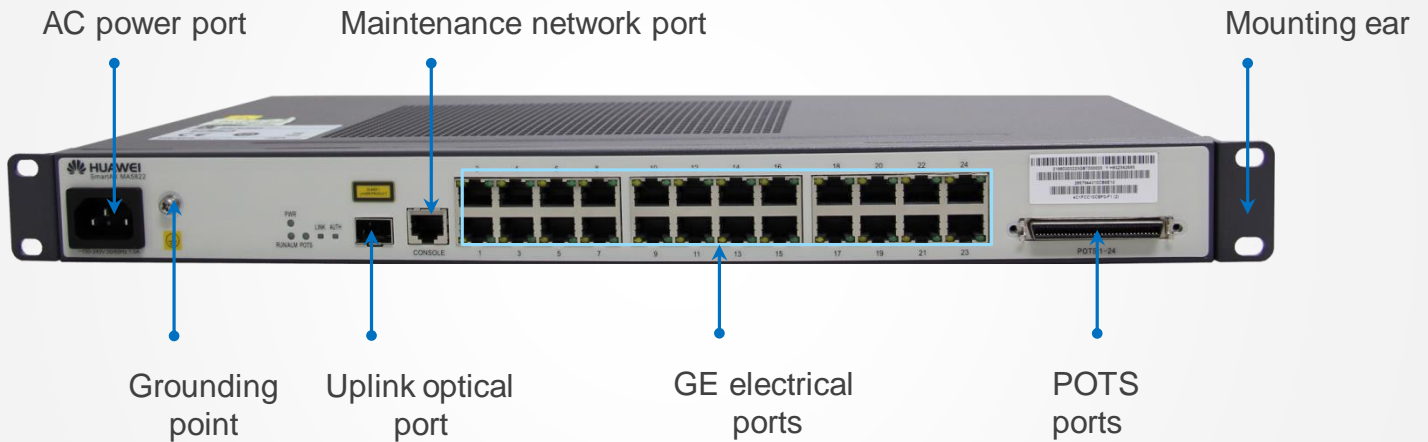
The MA5822 support multiple high efficient management and maintenance functions, such as remote software commissioning, acceptance, upgrade and patch installation, and fault location.

- Supports one-stop deployment and plug-and-play. When transmitting services upstream through a PON port, the MA5822 support offline deployment and plug-and-play. It automatically obtains configuration data from the iManager U2000 network management system (U2000) and reports its status to the U2000 after going online. The configuration data automatically takes effect.
- Supports remote batch upgrade. The MA5822 provides a software-and-patch integrated package for one-stop upgrade, and supports automatic batch upgrade and rollback in case of an upgrade failure.
- Supports zero-touch routine maintenance. The MA5822 supports remote fault location and rectification, data backup and uploading, and log collection.
- Supports network performance monitoring. The MA5822 supports network optimization and user monitoring.

High-Reliability Design

- Complies with carrier-class reliability specifications.
- Passes the electrostatic discharge (ESD) test.
- Provides surge protection and anti-interference functions.
- Complies with the following surge protection standards:
 - AC power port: 6 kV common mode; 6 kV differential mode.
 - User port: 4 kV common mode for GE/FE ports; 4 kV common mode and differential mode for POTS ports.
- Uses derating designs for electronic components, improving system reliability.
- Uses an anticorrosion design and fewer lines routed across the surface of a board to achieve a proper heat dissipation effect (producing a temperature difference to prevent condensation).

Product Hardware

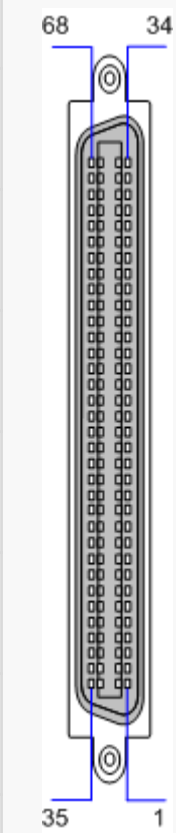


*Use the MA5822 , 24GE+24POTS as an example.

Port Description

Port	Silkscreen	Description
AC power port	None	Connects to 110 V or 220 V AC power.
Ground point	None	Connects the device to the ground.
Uplink port	None	Provides GPON upstream transmission using an SFP uplink optical port.
Maintenance serial port	CONSOLE	Provides local maintenance. Supports system configuration using tools, such as HyperTerminal, through CLI.
Maintenance network port	None	Supports local device management through any service port.
GE electrical ports	None	Provides gigabit Ethernet adaptive access rates of 10 Mbit/s, 100 Mbit/s and 1000 Mbit/s.
POTS ports	POTS 1-24	Supports POTS access and provides the VoIP, FoIP, and MoIP services.

The definition of the POTS port

X1 Pin	Port No.	X1 Pin	Port No.	Port figure	X1 Pin	Port No.	X1 Pin	Port No.
68	24	50	8		34	-	16	16
67		49			33		15	
66	23	48	7		32	-	14	15
65		47			31		13	
64	22	46	6		30	-	12	14
63		45			29		11	
62	21	44	5		28	-	10	13
61		43			27		9	
60	20	42	4		26	-	8	12
59		41			25		7	
58	19	40	3		24	-	6	11
57		39			23		5	
56	18	38	2		22	-	4	10
55		37			21		3	
54	17	36	1		20	-	2	9
53		35			19		1	

Technical Specifications

Dimensions (Without the Mounting Brackets)		Dimensions (With the Mounting Brackets)	
442 mm x 220 mm x 43.6 mm		482.6 mm x 220 mm x 43.6 mm	
Weight			
8 FE+8 POTS	2.12 kg	8 GE+8 POTS	2.12 kg
16FE+16 POTS	2.35 kg	16 GE+16 POTS	2.35 kg
24FE+24 POTS	2.43 kg	24 GE+24 POTS	2.43 kg



Technical Specifications

Ambient Temperature	Ambient Humidity	Atmospheric Pressure	Altitude
-40° C to +55° C *	5%RH to 95%RH	70 kPa to 106 kPa	≤ 4000 m **

* The device can start up at -25° C and run at -40° C.

** The air density varies with the altitude, which affects the heat dissipation of a device. Therefore, the working environment temperature of the cabinet varies with the altitude.

Power Supply Mode	Working Voltage Range
220 V AC	100 V AC to 240 V AC

Static Power Consumption

8FE+8POTS	10W	8GE+8POTS	17.7W
16FE+16POTS	12W	16GE+16POTS	18.7W
24FE+24POTS	13W	24GE+24POTS	21.1W

Maximum Power Consumption

8FE+8POTS	17W	8GE+8POTS	27.5W
16FE+16POTS	30W	16GE+16POTS	38.9W
24FE+24POTS	40W	24GE+24POTS	52.6W

Maximum input current

1 A

Optical Port Specifications

Parameter	10G GPON	GPON
Optical module type	One-fiber bi-directional	One-fiber bi-directional
Port mode	Single-mode	Single-mode
Connector type	SC/PC (UPC)	SC/PC (UPC)
Maximum transmission distance (km)	60	20
Center wavelength (nm)	Tx: 1270 Rx: 1577	TX: 1310 RX: 1490
TX optical power (dBm)	2 to 7	0.5 to 5
Extinction ratio (dB)	8.2	> 10
Maximum RX sensitivity (dBm)	-28	-27
Overload optical power (dBm)	-8	-8



Primary Function List

Upstream transmission modes

- 10G GPON
- GPON

Voice

- H.248
- Session Initiation Protocol (SIP)
- Semi-permanent connections (SPCs)
- Voice signal processing
- Voice service test and maintenance
- Reliability of voice services

Multicast

- IGMP v2/v3
- IGMP Proxy
- IGMP Snooping
- MLD Proxy
- MLD Snooping

- Multicast CAC

Layer 2 management

- MAC address management
- Virtual local area network (VLAN) management
- SVLAN+MAC forwarding
- SVLAN+CVLAN forwarding
- Transparent transmission of protocol packets

QoS

- Priority processing
- Traffic management
- Traffic Policing
- Congestion management
- Access control list (ACL) policies

User security

- Policy Information Transfer Protocol (PITP)
- DHCP Option82

- 802.1x authentication
- Relay agent info option (RAIO)
- Anti-MAC address transfer
- Anti-MAC address spoofing
- Anti-IP address spoofing

Fault diagnosis

- Point-to-Point Protocol over Ethernet (PPPoE) dialup service emulation
- Dynamic Host Configuration Protocol (DHCP) dialup service emulation
- Call emulation
- Multicast emulation

Management protocol

- SNMP V1
- SNMP V2C
- SNMP V3









Nameplate Description

The MA5822 in different models can be differentiated from the model printed on the nameplate attached on the top of the device. The following shows nameplates using the 8-port MA5822 as an example.

NOTE

- Model printed on the nameplate of the MA5822 (GE+POTS access): MA5822-XGE, X indicates the number of ports and POTS is not displayed.
- Model printed on the nameplate of the MA5822 (FE+POTS access): MA5822-X, X indicates the number of ports and POTS is not displayed.

Product	Nameplate
<p>MA5822 8 GE+8 POTS</p>	<div data-bbox="691 152 1337 577">  <p>SmartAX MA5820 Series\MA5822 型号 Model:SmartAX MA5822-8GE 多业务接入设备 Multi-Service Access Equipment 电源额定值 POWER RATING: ~100-240V;50/60Hz;1.0A</p> <hr/> <p>Hungary-Budapest-Kozraktar u. 30-32, Riverpark,1st floor</p> <hr/> <div style="display: flex; justify-content: space-between;"> <div data-bbox="710 421 933 488"> <p>1类激光产品 CLASS 1 LASER PRODUCT</p> </div> <div data-bbox="957 414 1316 488">  </div> </div> <hr/> <div style="display: flex; justify-content: space-between;"> <p data-bbox="710 521 1029 571">华为技术有限公司 HUAWEI TECHNOLOGIES CO.,LTD.</p> <p data-bbox="1161 521 1316 571">中国制造 MADE IN CHINA</p> </div> </div>
<p>MA5822 8 FE+8 POTS</p>	<div data-bbox="691 607 1337 1032">  <p>SmartAX MA5822 Series 型号 Model:SmartAX MA5822-8 多业务接入设备 Multi-Service Access Equipment 电源额定值 POWER RATING: ~100-240V;50/60Hz;1.0A</p> <hr/> <div style="display: flex; justify-content: space-between;"> <div data-bbox="1136 712 1316 768"> <p>1类激光产品 CLASS 1 LASER PRODUCT</p> </div> <div data-bbox="1104 790 1308 857">  </div> </div> <hr/> <div style="display: flex; justify-content: space-between;"> <div data-bbox="954 880 1040 969">  </div> <div data-bbox="1056 880 1316 969">  </div> </div> <hr/> <div style="display: flex; justify-content: space-between;"> <p data-bbox="710 981 1029 1030">华为技术有限公司 HUAWEI TECHNOLOGIES CO.,LTD.</p> <p data-bbox="1169 981 1324 1030">中国制造 MADE IN CHINA</p> </div> </div>