

VOA700 series • High accuracy multi-way
voltage-controlled optical attenuator

Technical performance

Hangzhou Huatai Optic Tech. Co., Ltd

CONTENT

1.0	PRODUCT DESCRIPTION.....	1
2.0	PRODUCT FEATURE.....	2
3.0	MAIN APPLICATION.....	2
4.0	TECHNICAL INDEX.....	3
5.0	APPLICATION LEGEND.....	5
6.0	PRODUCT SERIES.....	6
7.0	MODEL EXPLANATION.....	7

1.0 PRODUCT DESCRIPTION

Huatai VOA700 series assemble multi high-resolution electricity controlled optical attenuators into 1RU or 3D housing, mainly applied to optical adjustment and automatic equilibrium in DWDM system's and multi-channel network and optical amplify network.

VOA700 series is a high-end product series. Each attenuator has high-resolution input and output optical power monitoring and attenuator value monitoring, with automatic mode and manual mode. Client can set the automatic fixed attenuation mode and automatic fixed output mode in automatic mode. RS232 and RJ45 provide serial communication and SNMP network interface. LCD on the front panel provides every work parameter and fault alarm of the whole unit. All the optical port can install on the front panel or back panel.

2.0 PRODUCT FEATURE

- High efficiency space, 1RU casing can contain 16 ways optical attenuator.
- High resolution, $\leq 0.1\text{dB}$
- High-accuracy optical input and output power monitor and display.
- Detection and display of high-precision attenuation.
- Can be set to automatic fixed power output mode.
- Attenuation range 20dB, 30dB, 35dB, 40dB, 45dB optional
- Equipment power has three attenuation states to choose from
- Low insertion loss
- Low wavelength dependence loss
- Low polarization dependence loss
- Front panel LCD displays working status and parameters
- Completed RS232 and SNMP
- Excellent P/P ratio in this area

3.0 MAIN APPLICATION

- DWDM system, power adjustment and automatic equalization in multi-channel.
- Power control into narrowband wavelength division multiplexers (WDMs) and configurable networks.
- In Lab

4.0 TECHNICAL INDEX

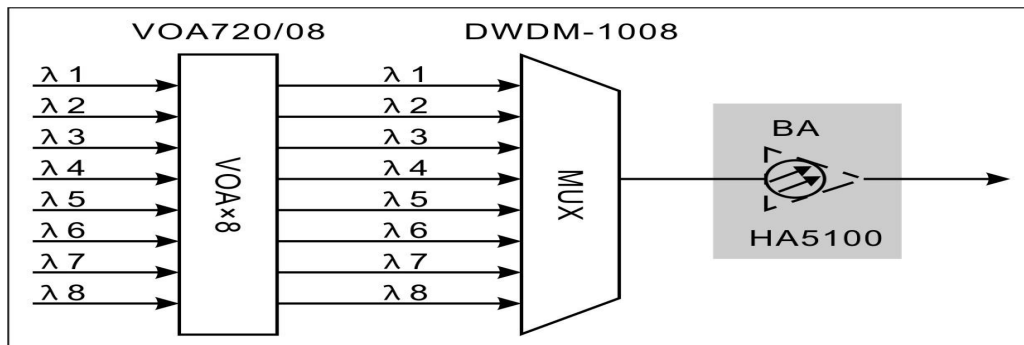
Performance		Index			Supplement		
		Min.	Typ.	Max.			
Optical feature	Operating wavelength range	(nm)	1200		1620		
	Optimum operating wavelength range	(nm)	1525		1575		
	Resolution	(dB)			0.1		
	Minimum attenuation	(dB)		0.7	1.2		
	Attenuation Range	(dB)	20				VOA720
			30				VOA730
			35				VOA735
			40				VOA740
			45				VOA745
	Attenuation setting accuracy	(dB)	-0.1		+0.1		
	Attenuation monitor accuracy	(dB)	-0.2		+0.2		
	Tuning speed	(ms)		20			
	Polarization mode dispersion	(ps)			0.1		
	Polarization dependence gain	(dB)			0.2		
	Polarization dependence loss	(dB)			0.3		
	Wavelength dependence ripple	(dB)			0.2		
	Temperature-related attenuation	(dB)			0.15		
	Power handling	(mW)			500		
	Return loss	(dB)	-50			PC	
	Power attenuation state (with unit powered off)		Keep	ATT/Keep			K grade
Open			ATT/Min			O grade	
Closed			ATT \geq 40dB			C grade	
Input optical power detection range	(dBm)	-50		+27			
Output optical power detection range	(dBm)	-50		+27			

	Detection accuracy	(dB)	-0.1		+0.1	
	Fixed output Error	(dB)	-0.15		+0.15	Automatic mode
General feature	SNMP network management interface		RJ45			
	Series interface		RS232			
	Power supply	(V)	90		265	220VAC
			30		72	-48VDC
	Power consume	(W)			50	
	Operating temp.	(°C)	0		65	
	Storage temp.	(°C)	-40		80	
	Relative humidity	(%)	5		95	
	Size (W)×(D)×(H)	(")	19×14.5×1.75			1RU (19")
19×11×1.75						
12.4×15.4×5.25			3D (12.4", desk-type)			

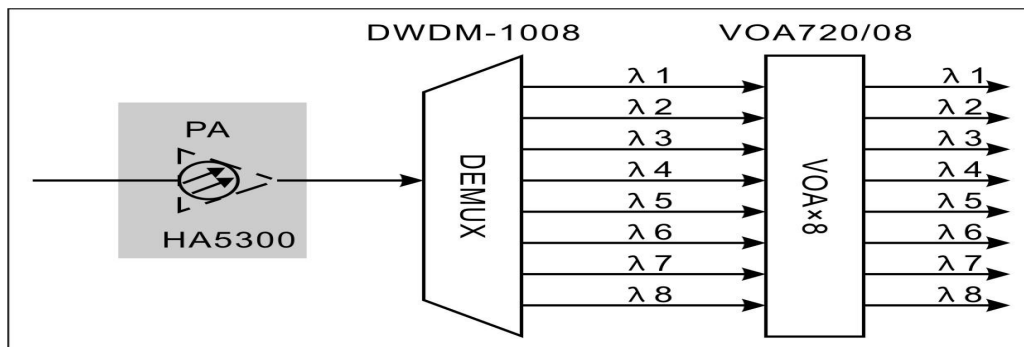
5.0 APPLICATION LEGEND

The application of VOA700 used in DWDM system:

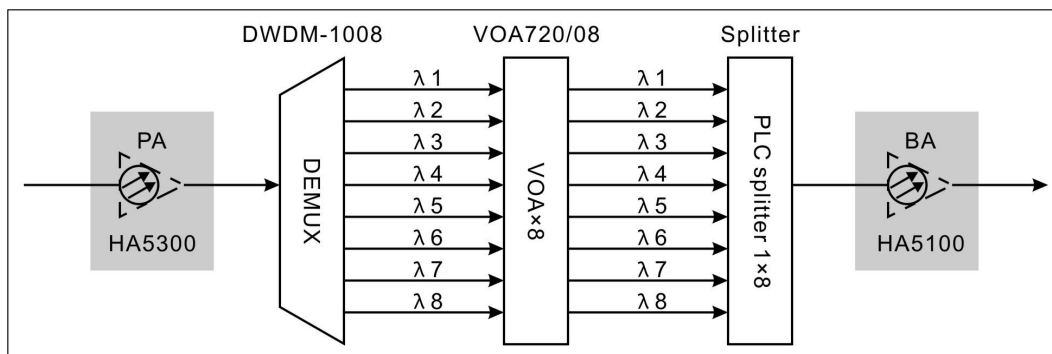
5.1 Multiplexing:



5.2 Demultiplexing



5.3 Line:



6.0 PRODUCT SERIES

Mode	Attenuate range	Attenuator value	Power down attenuate status	Peak working wavelength	Electronic interface		
VOA720/01-KC	20dB	1 way	Keep original set attenuate status	C-Band 1525~1575nm	RS232, RJ45, SNMP		
VOA720/04-KC		4 way					
VOA720/08-KC		8 way					
VOA720/16-KC		16 way					
VOA735/01-KC	<35dB	1 way		Keep original set attenuate status	C-Band 1525~1575nm	RS232, RJ45, SNMP	
VOA735/04-KC		4 way					
VOA735/08-KC		8 way					
VOA735/16-KC		16 way					
VOA740/01-KC	35~40dB	1 way			Keep original set attenuate status	C-Band 1525~1575nm	RS232, RJ45, SNMP
VOA740/04-KC		4 way					
VOA740/08-KC		8 way					
VOA740/16-KC		16 way					
VOA730/01-CC	30dB	1 way	Closed, turn off, Maximum attenuate			C-Band 1525~1575nm	RS232, RJ45, SNMP
VOA730/04-CC		4 way					
VOA730/08-CC		8 way					
VOA730/16-CC		16 way					
VOA740/01-CC	40dB	1 way	Closed, turn off, Maximum attenuate	C-Band 1525~1575nm		RS232, RJ45, SNMP	
VOA740/04-CC		4 way					
VOA740/08-CC		8 way					
VOA740/16-CC		16 way					
VOA730/01-OC	30dB	1 way	Open, turn on, Minimum attenuate	C-Band 1525~1575nm	RS232, RJ45, SNMP		
VOA730/04-OC		4 way					
VOA730/08-OC		8 way					
VOA730/16-OC		16 way					

Main function: 1、Attenuate value and input、output optical power test, testing range: -50~+27dBm, accuracy: ± 0.1 dB

2、Manpower、automatic mode

3、Automatic mode: can set fixed attenuate mode and output mode.

7.0 MODEL EXPLANATION

VOA 7 □□ / □□ - □□ - 1U - F / SA - 22

Product series	Product type	Range of attenuation		Number of attenuator		Power-down attenuation state		Optimized working wavelength		Exterior		Optical port position		Connector		Power supply		
Drive-by-wire adjustable attenuator	7	High degree of accuracy, top-class, with input & output power monitor, automatic control mode, RS232, SNMP	20	20dB	01	1 way	K	To keep the original settings attenuation	C	C-Band	1U	19" 1RU	F	Front panel	FA	FC/APC	22	220VAC
			30	30dB	04	4 ways			L	L-Band	2U	19" 2RU	B	Back panel	FP	FC/UPC	11	110VAC
			35	35dB	08	8 ways			O	O-Band	3D	Desk-type			SA	SC/APC	48	-48VDC
	5	Standard type, with decrement monitoring, RS232, SNMP	40	40dB	16	16 ways	O	Normally open, small amount of attenuation			ML	Modulator			SP	SC/UPC		
			45	45dB							OEM	Appearance user customized			LA	LC/APC		
	3	Utility-type, without monitor, RS232					C	Normally closed, large amount of attenuation							LP	LC/UPC		