

AAWG 100G WDM Mux/Demux Module

Agiltron's Wavelength Division Multiplexer (WDM) is based on AWG technology. This proven technology offers wide channel bandwidth, flexible channel configuration, low insertion loss, and high isolation. This WDM series modules are passive optical multiplexer/demultiplexer designed for metro access applications that represent the state of the art in fiber optics design. This Mux/Demux module multiplexes and demultiplexes multiple WDM wavelengths of 100GHz channel spacing into a ring or point-to-point network, ideal for telecommunications and networking. The Mux/Demux module is packaged with a 1RU, 19" rack mount chassis for simple installation and modularity. This chassis based system offers network equipment manufacturers a more scalable and higher-density solution to add WDM capability to their existing and new networks with simple pluggable interface.



Features

- 100 GHz Channel Spacing
- High Channel Isolation
- Low Insertion Loss
- Highly Stable & Reliable

Specifications

Parameters		Min	Typical	Max	Unit
Operation Wavelength		DWDM channels			
Insertion Loss – passband *	Gaussian		≤ 4.5		dB
	Flat top		≤ 5.5		
Channel Bandwidth			± 0.11		nm
Uniformity			≤ 1.0		dB
Isolation @Add/Drop Channel	Adjacent		≥ 30		dB
	Non-adjacent		≥ 40		
Durability			≤ 0.5		dB
PDL			≤ 0.5		ps
PMD			≥ 50		dB
Directivity			≥ 45		dB
Return Loss			300		mW
Power Handling					°C
Operating Temperature		0		+70	°C
Storage Temperature		-40		+85	°C

* Including connectors

Applications

- Add/Drop Channels
- WDM Systems
- CATV Fiberoptic Links

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link](#):

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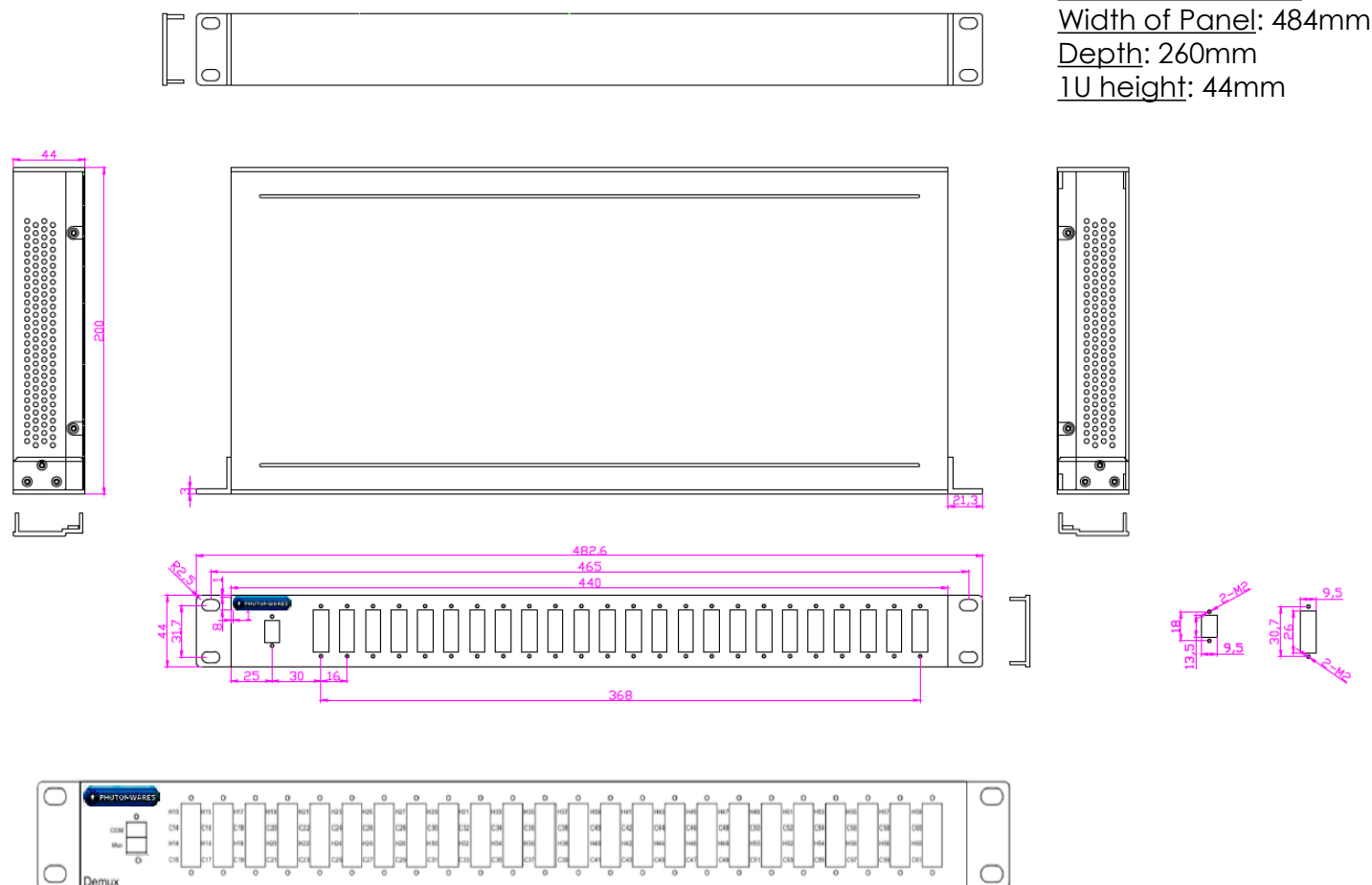
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Mechanical Dimensions (mm)



*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Ordering Information (Part Number)

Prefix	Ch. Spacing	Number of Channels	Type	1st ITU Channel Number * (for example)	Configuration	Monitor	Connector ^[1]
AAWG-	100G = 1	16 Channel=16 40 Channel=40 48 Channel=48	Flat top = 1 Gaussian = 2	1560.61nm = 21 1588.98nm = 23	MUX or DEMUX = 1 MUX+DEMUX = 2	With monitor port = 1 Special=0	Duplex LC = 8 Special = 0

[1]. The default connector configuration uses fiber with 0.9 mm buffer protection. The connector cannot be installed directly onto bare fiber because the bare fiber is prone to damage during shipping. However, the connector can be assembled on bare fiber if a 3 cm protective loose tube is added for reinforcement. The customer may remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SMF-28 fiber and decreases further for smaller-core fibers.

* Refer ITU Channel Table

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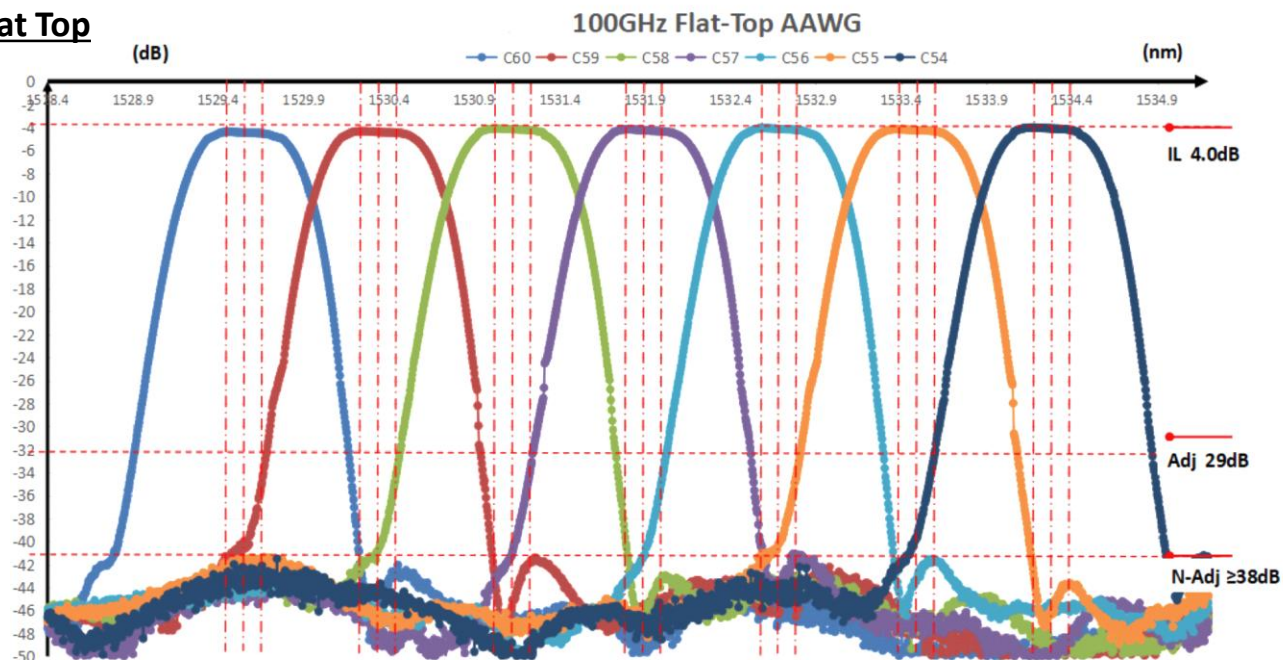
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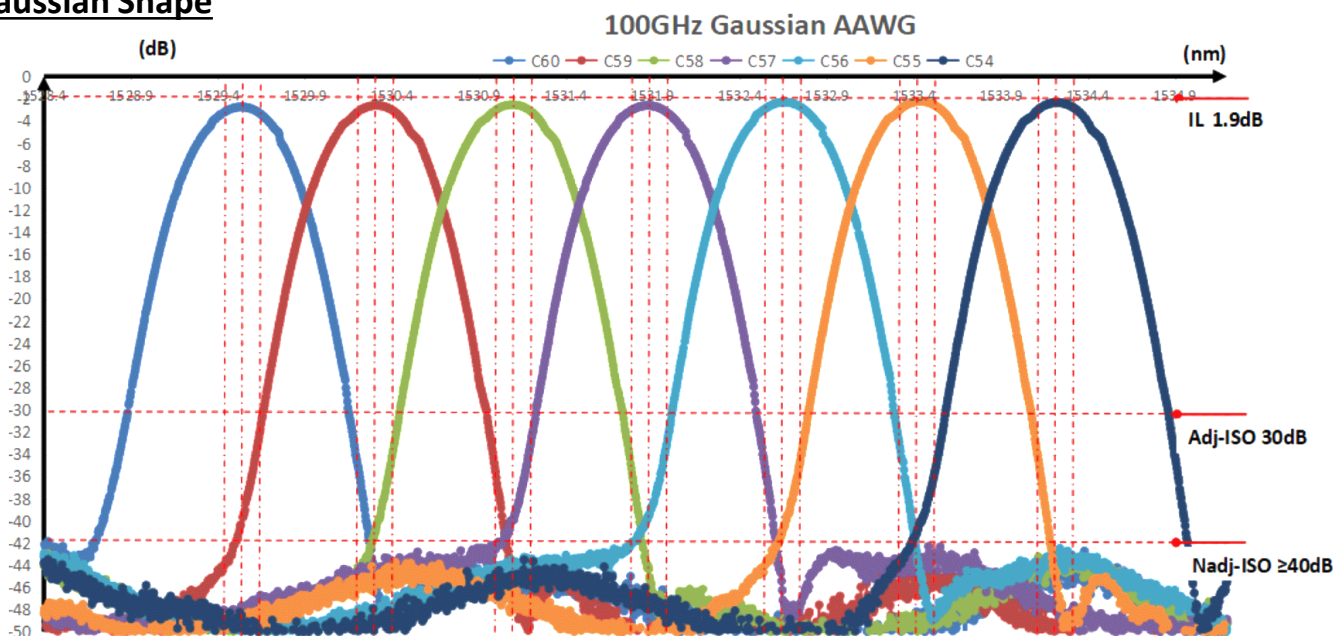
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Typical Spectral

Flat Top



Gaussian Shape



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Application Notes

Fiber Core Alignment

Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

Fiber Cleanliness

Fibers with smaller core diameters ($<5 \mu\text{m}$) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power

Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the how handling by expanding the core side at the fiber ends.

Optical Function Path Illustration

Wavelength multiplexing and Demultiplexing can be illustrated below in a single-channel optical add-drop case.

