Smart photonic integration

40-Channel 100GHz Athermal AWG

KEY FEATURES

- *40 Channels x 100GHz Mux/Demux*
- *44 & 48 Channel Options Available*
- *Gaussian & Wide Passbands*
- *Fully Passive Module*
- *Wide Operating Temperature Range*
- *Low Insertion Loss & PDL*
- *Low Crosstalk*
- *High Uniformity*
- *No Electronics Required*
- *Compact Footprint*
- *Versatile Alternative to TFF Mux*
- *Telcordia GR-1209/ GR-1221 Qualified*

The **KAIAM** Athermal AWG (Arrayed Waveguide Grating) is a high-performance DWDM mux/demux device operating on 100GHz channel spacing without the need for temperature stabilization. The planar processed silica-on-silicon chips comprise arrayed channel waveguides to separate or combine multiple wavelengths.

Athermal AWG s allow multiplexing and demultiplexing of DWDM signals over a wide operating temperature range, without the need for heater drive and monitoring electronics. These AWGs offer low insertion loss, excellent channel isolation, ease of fiber handling, and long-term reliability in a compact package. **KAIAM**'s athermalization technology simplifies deployment of AWG multiplexers/demultiplexers by DWDM network providers.

KAIAM

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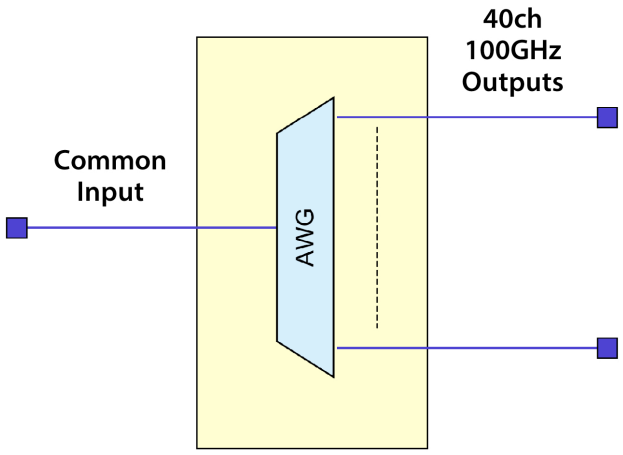
FUNCTIONAL SCHEMATIC DIAGRAM



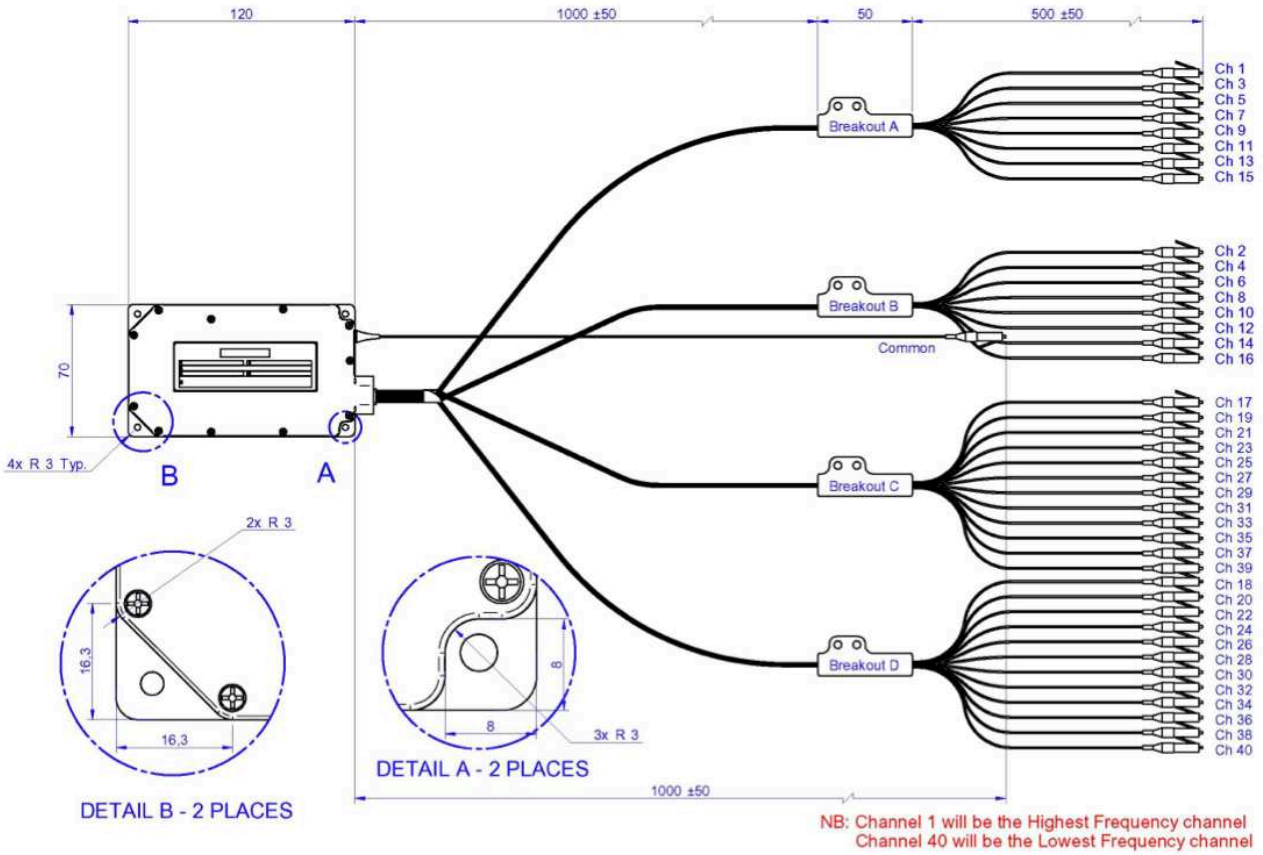
OPTICAL SPECIFICATIONS

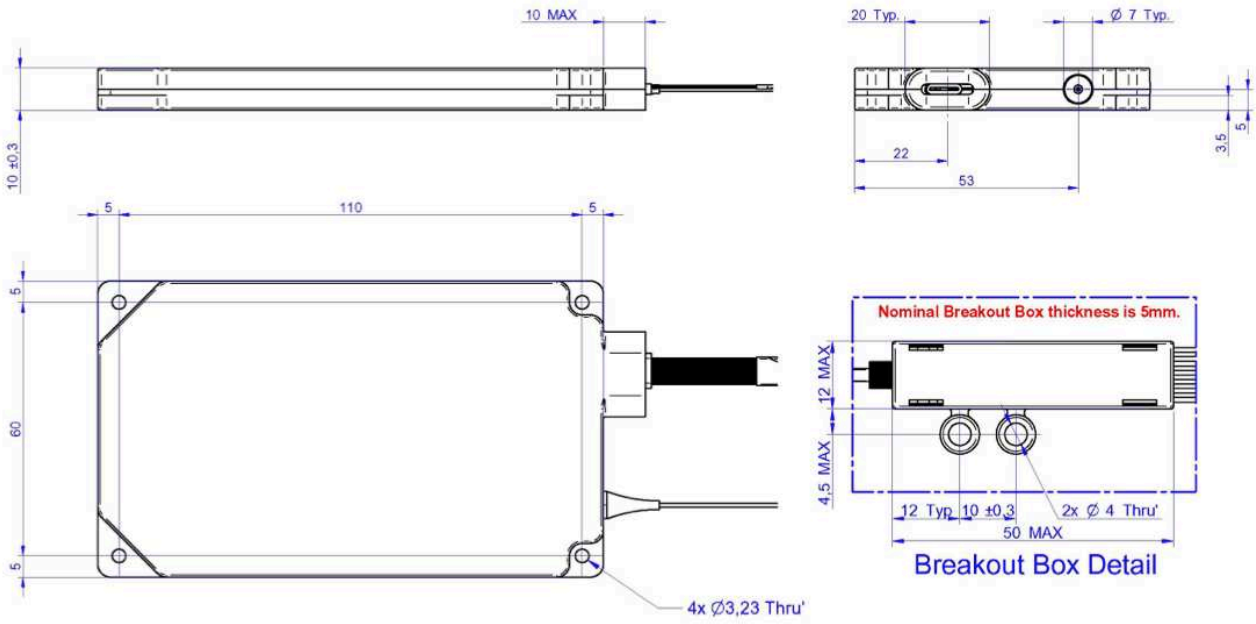
PARAMETERS	UNIT	MIN	MAX	CONDITIONS
Number of Channels			40	
Channel Spacing	GHz		100	
Nominal Center Frequencies	THz	192.00	195.90	C-Band On Grid
Clear Pass Band	nm	-0.1	0.1	
Center Wavelength Accuracy	pm	-50	50	Relative to ITU all SOP
Filter Bandwidth @ -1.0dB	nm	0.20 (Gaussian)		Avg. SOP
		0.36 (Wide Band)		Avg. SOP
Filter Bandwidth @ -3.0dB	nm	0.40 (Gaussian)		Avg. SOP
		0.51 (Wide Band)		Avg. SOP
Adjacent Channel Crosstalk	dB		-25	Over CPB, All SOP
Non-Adjacent Channel Crosstalk	dB		-30	Over CPB, All SOP
Total Integrated Crosstalk	dB		-22 (Gaussian)	Over CPB, All SOP
	dB		-21 (Wide Band)	Over CPB, All SOP
Insertion Loss	dB		3.0[1] (Gaussian)	At ITU
			4.5[1] (Gaussian)	Over CPB, All SOP
			6.0[2] (Wide Band)	Over CPB, All SOP
Insertion Loss Uniformity	dB		1.0	At ITU, Avg. SOP
Insertion Loss Ripple	dB		0.75 (Wide Band)	Over CPB, All SOP
Polarization Dependent Loss	dB		0.60 (Gaussian)	Over CPB
			0.50 (Wide Band)	Over CPB
Directivity	dB	-40		Over CPB, All SOP
Return Loss	dB	-40		Over CPB, All SOP
Chromatic Dispersion	ps/nm	-20	20	Over CPB, All SOP

CPB = Clear Pass Band **SOP = States of Polarization**

1. Include an additional insertion loss of 0.25dB (Max.) for one connector
2. Including one connector

MECHANICAL DRAWINGS





OPERATING & STORAGE CONDITIONS

PARAMETERS	UNIT	MIN	MAX
Operating Temperature	°C	-5	65
Operating Humidity	% R.H.	0	90
Storage Temperature	°C	-40	85
Storage Humidity	% R.H.	0	90

40CH 100GHZ ATHERMAL AWG PART NUMBERS	
On Grid Gaussian	MUX-G40-HH0-002
On Grid Wide Band	MUX-W40-HH0-004

Note: *all connectors LC/UPC*

For more information please visit www.kaiamcorp.com or call 1-510-344-2231.