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HCP
HC PHOTONICS CORP.

ICOPO Mixer

- **CW mid-infrared output at tens to hundreds mW**
- **Selected wavelength at 1.44-1.9 micron and 2.4-4.1 micron**
- **NIR /MIR dual outputs**
- **Optional fiber output for the NIR port**

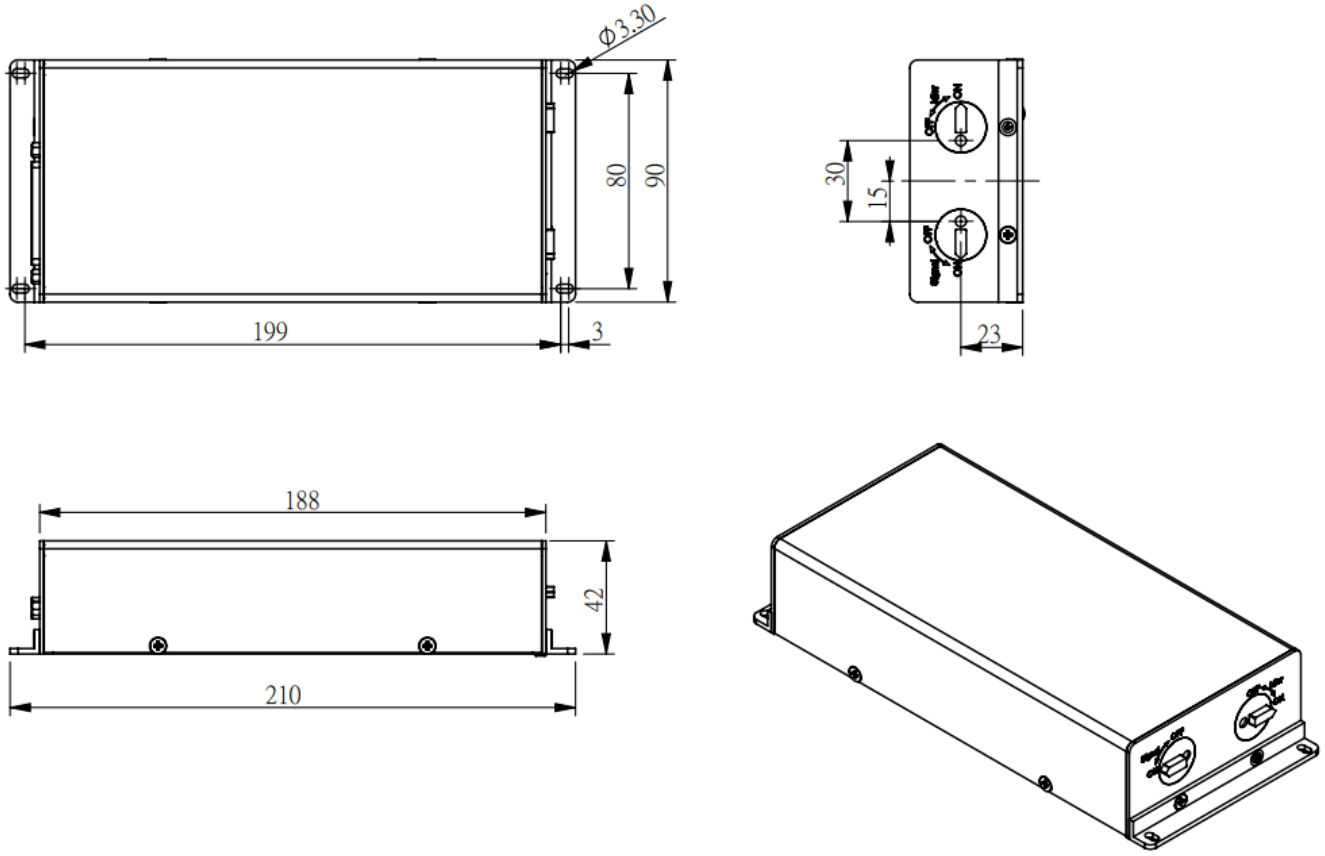
Reference Specification sheet

ICOPO-B series					
Optics (General)	**unit**	**Specification**			**Note**
Module type		ICOPO-B			
Output Wavelength - Signal	nm	Wavelength @ 1440-1900			[1], [2]
Output Wavelength - Idler	nm	Wavelength @ 2400-4100			[1], [2]
Output power - Signal	mW	Wavelength dependent, ranging from 50mW ~ 300mW			[3]
Output power - Idler	mW	Wavelength dependent, ranging from 30mW ~ 150mW			[3]
Output type		CW, free space, collimated			[4]
Optics (Output)	**unit**	**Minimum**	**Typical**	**Maximum**	**Note**
Beam quality, M^2 - Signal			1.1	1.2	
Beam quality, M^2 - Idler			1.2	1.5	
Linewidth	GHz		150	300	
Diameter of collimated output beam	mm	0.8	1	2	
Output beam (TEM00) ellipicity	%		10	20	
Residual power rejection ratio at different wavelength	dB	40	45		
Output polarization state		linear @ vertical axis			
Output PER	dB	20	25		
Output beam height	mm	22.5	23	23.5	
Output beam angle	mrad	-7.5	0	7.5	
Mechanics	**unit**	**Specification**			**Note**
Housing dimension (LxWxH)	mm	210 x 90 x 42			
Electrics	**unit**	**Minimum**	**Typical**	**Maximum**	**Note**
Controller			DTSC-42		[5]
Environment	**unit**	**Minimum**	**Typical**	**Maximum**	**Note**
Storage temperature (no humidity)	℃	-20	-	70	
Operating ambient temperature range	℃	10	25	35	
Operating relative humidity (non condensing)	%RH	0	-	85	
Vibration / Shock		Refer to ISTA-2A			
Restriction of hazardous substances directive (RoHs)		Declaration of Conformity to 2011/65/EU			

[1] Any single wavelength from 1440~1900 nm to 2400 ~ 4100 nm possible upon request
[2] Typically the mixer can be tuned ~ten nm (signal port) and tens of nm (idler port), but the specific tuning range need to be discussed in advance.
[3] Output power is wavelength dependent, please refer to the figure in next page for reference.
[4] Fiber output for the signal port is possible upon request, coupling efficiency is 70% typically.
[5] One DTSC-42 controller can support two ICOPO-B units.

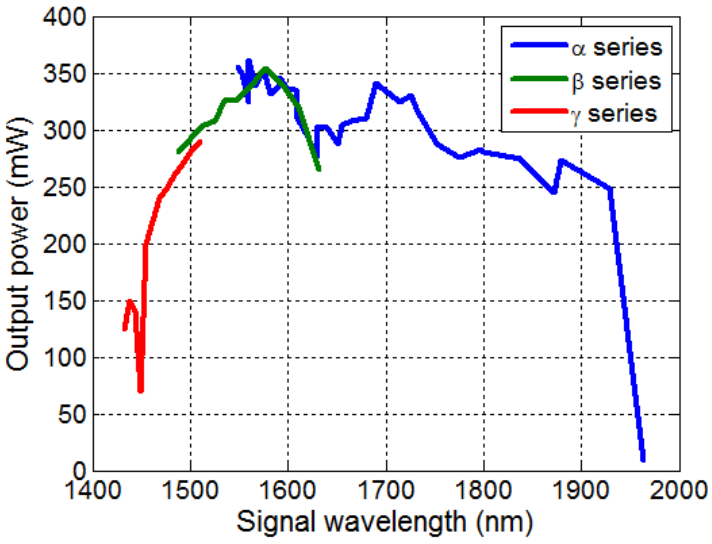
ICOPO Mixer

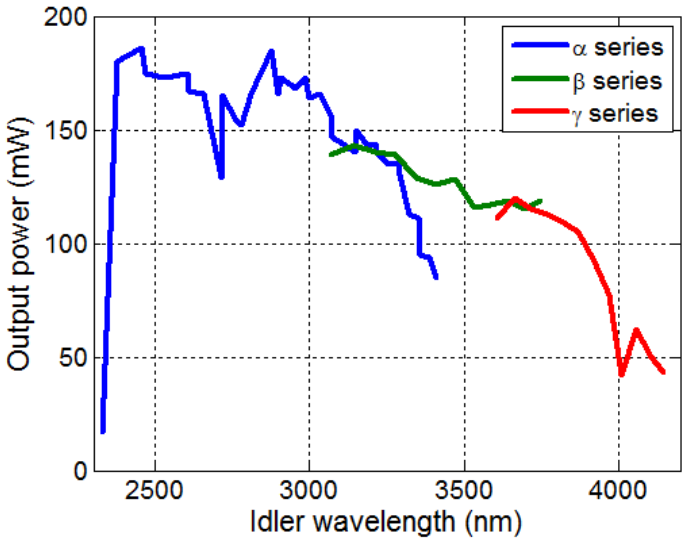
- Mechanical drawing



Unit: mm

- Reference for output power at different output wavelength





* α, β, γ series in the above figure corresponds to the type of ICOPO-TB, for ICOPO-B, the output power at each wavelength is similar to it.

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Tunable ICOPO Mixer

- CW mid-infrared output at 10s -100s mW
- Tuning for selected λs (1.44-1.9 and 2.5-4.1 micron)
- NIR /MIR dual outputs
- Optional fiber output for the NIR port

Reference Specification sheet

ICOPO-TB series					
Optics (General)	**unit**	**Specification**			**Note**
Module type		ICOPO - TB			
Output Wavelength - Signal	nm	α series - 1560 - 1880 β series - 1495 - 1640 γ series - 1440 - 1510			
Output Wavelength - Idler	nm	α series - 2500 - 3300 β series - 3000 - 3700 γ series - 3600 - 4080			
Output power - Signal	mW	α series - 250, β series - 250, γ series - 200			[1]
Output power - Idler	mW	α series - 100, β series - 90, γ series - 70			[1]
Output type		CW, free space, collimated			[2]
Optics (Output)	**unit**	**Minimum**	**Typical**	**Maximum**	**Note**
Beam quality, M^2 - Signal			1.1	1.2	
Beam quality, M^2 - Idler			1.2	1.5	
Linewidth	GHz		150	300	
Diameter of collimated output beam	mm	0.8	1.2	2	[3]
Output beam (TEM00) ellipicity	%		10	20	
Residual power rejection ratio at different wavelength	dB	40	45		
Output polarization state		linear @ vertical axis			
Output PER	dB	20	25		
Output beam height	mm	43.5	44	44.5	
Output beam angle	mrad	-7.5	0	7.5	
Mechanics	**unit**	**Specification**			**Note**
Housing dimension (LxWxH)	mm	280 x 140 x 65			
Electrics	**unit**	**Minimum**	**Typical**	**Maximum**	**Note**
Controller		DTSC-42-S			
Environment	**unit**	**Minimum**	**Typical**	**Maximum**	**Note**
Storage temperature (no humidity)	℃	-20	-	70	
Operating ambient temperature range	℃	10	25	35	
Operating relative humidity (non condensing)	%RH	0	-	85	
Vibration / Shock		Refer to ISTA-2A			
Restriction of hazardous substances directive (RoHs)		Declaration of Conformity to 2011/65/EU			

[1] Defined by the maximum output in the wavelength region. The real output power may vary upon wavelengths. Please refer to the figure for reference .
[2] Fiber output for the signal port is possible upon request, coupling efficiency is 70% typically.
[3] Defined at the center output wavelength. For the whole wavelength range, the beam diameter may be different but the divergence angle remains similar.

Ver. 1.0

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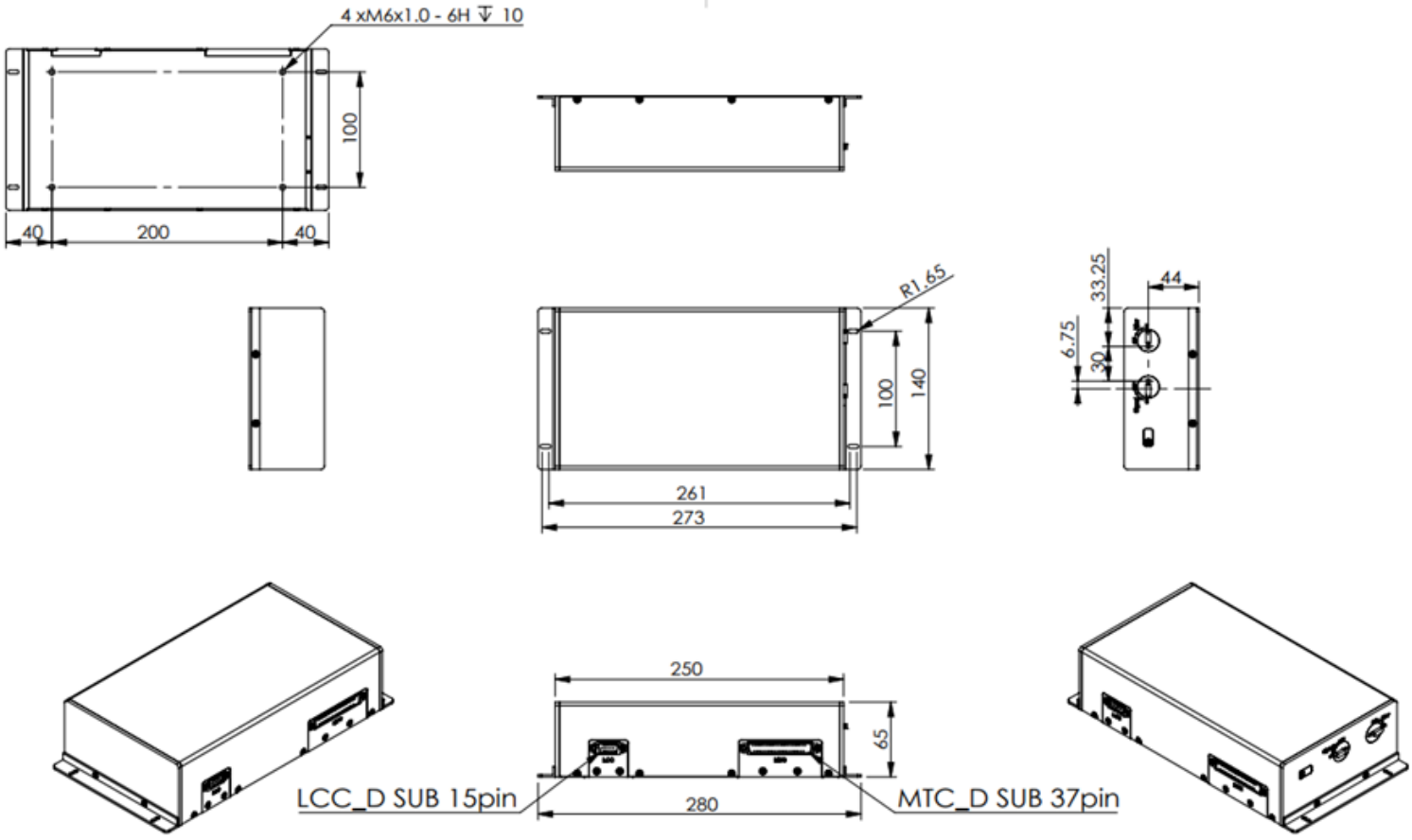
Tunable ICOPO Mixer

- Mechanical drawing



Unit: mm

- Reference for output power at different output wavelength