

## VIS-SWIR zoom – Commercial off the shelf lens

# TETRA

### Ultra-Compact SWIR-VIS Dual Channel lens

**SWIR channel:** Dual FOV 400 / 900mm HD Resolution

**VISIBLE Channel:** Monoscope 800mm Dual 4K Resolution

### FEATURES / APPLICATIONS / CAPABILITIES

- HD and 4K resolution optimized for small payloads installation
- A size of a palm with approx. 1.3Kg weight
- Ruggedized for demanding environmental conditions
- Can be offered as: SWIR ONLY, VIS ONLY or VIS-SWIR full configuration.



PARAMETER		VALUE	
Main	Sub	VIS	SWIR SD / HD
<b>OPTICAL</b>			
<b>Focal Length / F#</b>		Mono Focal 800mm F/10	Dual FOV 400 F/5 and 900 F/11
<b>Working spectral band</b>		0.4 – 0.7 $\mu$ m	0.7 – 1.7 $\mu$ m
<b>Maximum det size supported</b>		Up to 14.2 x 7.6 mm	9.6 x 7.2 mm      12.8 x 7.2 mm
<b>Resolution supported</b>		For pixel size of 3.45 $\mu$ m or bigger	640 x 480 x 15 $\mu$ pixel      1,280 x 720 x 10 $\mu$ pixel
<b>FOV (degrees)</b>		0.95° Hor x 0.54° Ver (when used with detector of 4,096 x 2,180 x 3.45 $\mu$ )	Narrow: 0.61° x 0.46° Wide :1.37° x 1.03°      Narrow: 0.81° x 0.46° Wide: 1.83° x 1.03°
<b>Instantaneous FOV</b>		4.31 $\mu$ Rad	Narrow: 16.6 $\mu$ Rad      11.1 $\mu$ Rad Wide: 37.5 $\mu$ Rad      Wide: 25 $\mu$ Rad
<b>Optical Average transmission</b>		>55%	>50%
<b>Optical filters</b>		NA	Up to 4: RG 650, RG 850, & 2 Narrow band filter
<b>MECHANICAL</b>			
<b>Mechanical Back Focal Length</b>		Please refer to MICD	
<b>Focus / Zoom mechanism</b>		Motorized Focus	Motorized Zoom / Focus / Filter wheel
<b>LOS shift during Zooming</b>		NA	Better than 0.5 milli Rad
<b>Focus / Zoom pos. indication</b>		Included	Included
<b>Thru zoom boresight</b>		NA	Better than 0.5 milli Rad
<b>NFOV boresight retention</b>		NA	Better than 0.05 milli Rad
<b>Total Lens Weight</b>		1.25Kg (For VIS / SWIR configuration) - Lens only	
<b>Structure</b>		Closed structure, not sealed, Cassegrain	
<b>Ext. Dimensions</b>		180mm Length x 90mm Diameter – Please refer to MICD	
<b>ELECTRICAL</b>			
<b>Power Input</b>		12VDC, 1.0A	12VDC, 1.0A
<b>Communication Protocol</b>		RS-422/232 Full Duplex Baud rate 19,200, n, 8, 1	RS-422/232 Full Duplex Baud rate 19,200, n, 8, 1
<b>Number of control busses</b>		2 Separate control busses: 1 for VIS channel and 1 for SWIR channel	
<b>Lens mounting</b>		Via 4 dedicated threads and 2 locating pins – please refer to MICD	
<b>ENVIRONMENTAL</b>			
<b>Operating/ Storage Temperature</b>		-25°C to +60°C / -30°C to +70°C	
<b>Shock and Vibrations</b>		Per applicable standard	