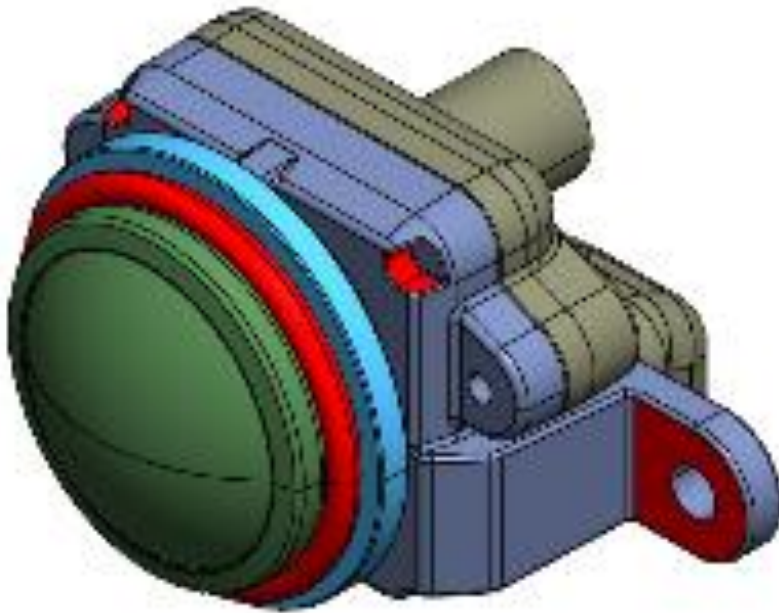


**S2M-UWF198-FPD**



**1. OPTICAL SPECIFICATIONS**

Parameter	
MTF (Wavelength = 420 – 650nm, spatial resolution = 60lp/mm)	Center MTF: $\geq 55\%$ Tan/Sag Corners MTF (70% field, object side): $\geq 35\%$ Tan/Sag
FOV (Sensor resolution = 1920x1200)	DFOV: $204\pm 3^\circ$ (with fisheye effect) HFOV: $198\pm 3^\circ$ VFOV: $139\pm 3^\circ$
Focus Range	200mm – infinity
Relative Illumination	$\geq 20\%$ at $\phi 6.01\text{mm}$
F/Num	$2.0\pm 5\%$

## 2. ELECTRICAL SPECIFICATIONS

### 2.1 ABSOLUTE MAXIMUM RATING

Parameter	Min	Max	Unit	Remarks
Supply Voltage	-24	16	V	

### 2.2 RECOMMENDED OPERATING CONDITIONS

Parameter	Min	Max	Unit	Remarks
Supply Voltage	5	12	V	
Operating Temperature	-40	85	°C	Ambient
Storage Temperature	-40	125	°C	Ambient

### 2.3 ELECTRICAL CHARACTERISTICS/OPERATING PARAMETERS

Parameter	Min	Max	Unit	Remarks
Supply Current (Idle)	-	80	mA	5V supply voltage, sensor in standby
Supply Current (Streaming)	-	290	mA	5V supply voltage
I <sup>2</sup> C Clock Frequency	-	400	kHz	Maximum frequency supported by the sensor
Cable Length	-	10	m	Channel S-parameters must meet FPD-Link III requirements
CSI Bandwidth	-	3.2	Gbps	25MHz serializer reference frequency in synchronous mode
Dynamic Range	105	-	dB	HDR mode

## 2.4 FUNCTIONAL CHARACTERISTICS

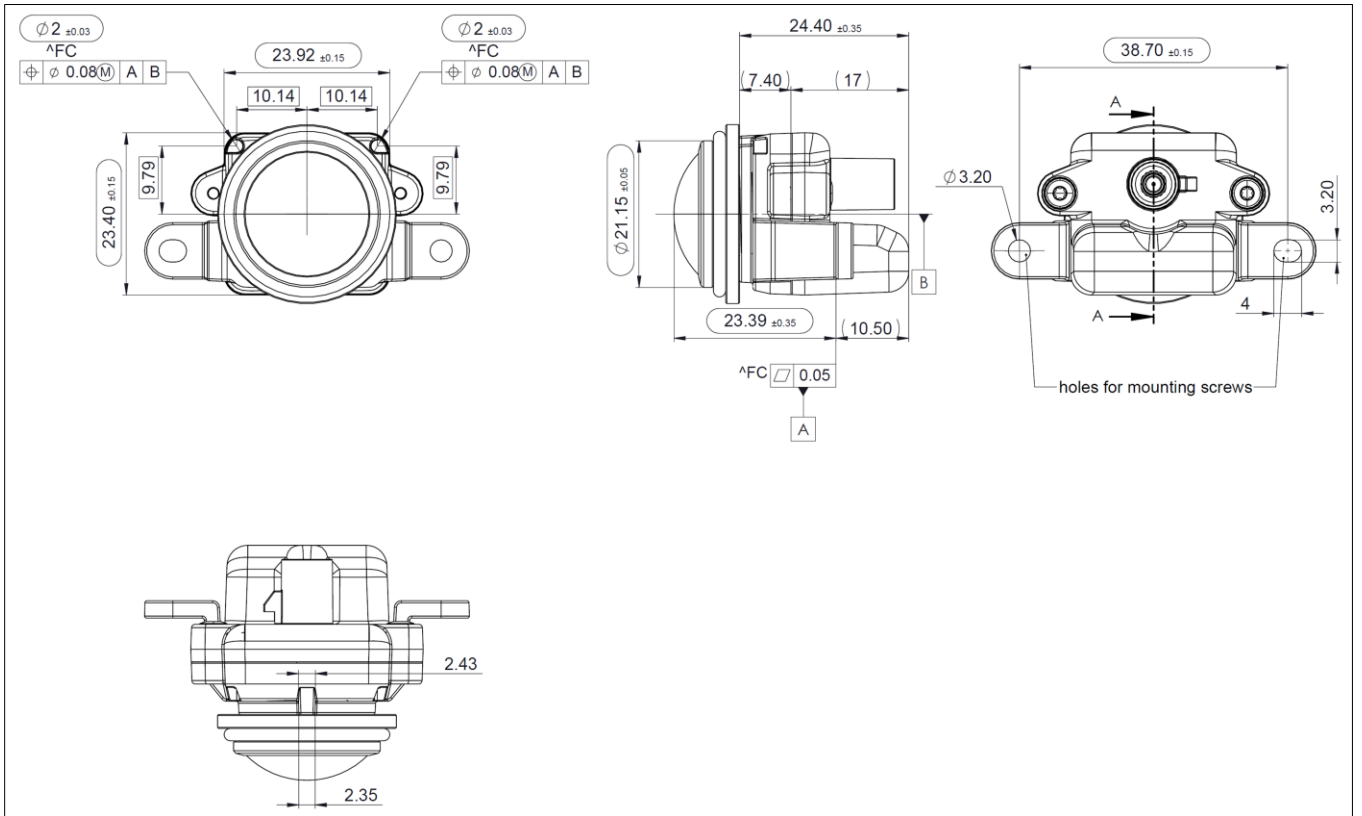
Characteristic	Value	Remarks
Image Sensor	Sony IMX390	RGGB CFA
Sensor Orientation	Landscape	
Image Resolution	1936x1216, 1920x1200	
Frame Rate	60fps	Depending on sensor output format. Refer to sensor documentation for more details
Output Format	RAW12 linear RAW12/14/16 HDR compressed RAW20 HDR linearized	
Serializer	Texas Instruments DS90UB953-Q1	Serializer
Serializer Mode	Synchronous mode, 25MHz reference frequency	Deserializer must be a FPD-Link III deserializer
EEPROM Size	4Kb (512B)	
Default I <sup>2</sup> C Address – Sensor	0x1A	7-bit address
Default I <sup>2</sup> C Address – Serializer	0x40	7-bit address
Default I <sup>2</sup> C Address – EEPROM	First 256 bytes = 0x50 Last 256 bytes = 0x51	7-bit address
Control Inputs	Serializer GPIO3 → Sensor Reset Serializer GPIO2 → Sensor Frame Sync	
Control Outputs	Sensor ERROR0 → Serializer GPIO0 Sensor ERROR1 → Serializer GPIO1	GPIO0/1 in digital input mode
Voltage Monitoring	1.2V → Serializer GPIO0 2.9V → Serializer GPIO1	GPIO0/1 in ADC mode

## 3. MECHANICAL SPECIFICATIONS

Characteristic	Value	Remarks
Ingress Protection	IP69K	Waterproof FAKRA connector required
Opto-mechanical tolerance (boresight)	±1°	Target center vs sensor center
Connector Specification	FAKRA Code Z	
Surface Finish/Color	E-coated / Black	

Weight

40g



Are you interested in the full product specification?  
Then contact: [marketing@via-optronics.com](mailto:marketing@via-optronics.com)

