

OCR-500 SERIES IRRADIANCE SENSOR - STANDARD AND AUV SERIES

The OCR-500 micro-sensor series is a fully digital optical sensor package that combines precision optics and high performance microelectronics. Satlantic designed this sensor series for applications where performance, size and power are key constraints. The OCR-500 series radiometers can be mounted on real-time profilers, moored, and autonomous deepwater buoys and autonomous underwater vehicles (AUV's).



DOWNWELLING IRRADIANCE SENSOR MODEL OCR-504 / 507 / AUV

SPATIAL CHARACTERISTICS		ELECTRICAL CHARACTERISTICS	
Field of view	In-air or in-water Cosine response (Spectrally corrected)	Telemetry options Network options Input voltage	RS232, RS485 SATNET 6 to 22 VDC (12-volt nominal)
Collector Area Detectors	86.0 mm ² Custom 17 mm ² Silicon photodiodes	Current (4 and 7 channel)	25 mA @ 12VDC 40 mA at 12V
SPECTRAL CHARACTERISTICS		PHYSICAL CHARACTERISTICS	
Bandwidth range Number of channels Spectral bandwidth Filter type	400 - 865 nm standard 4 or 7 channels 10 nm or 20 nm Ion Assisted Deposition (IAD) Custom low fluorescence	Height (4 and 7 channel) Diameter Weight Material Connector (standard) Maximum depth	11.0 cm, 12.5 cm 4.6 cm, 6.5 cm 260 grams, 420 grams Acetron / Anodized Aluminum Micro 8 pin male 350 m / 1000 m
OPTICAL CHARACTERISTICS		SYSTEM ELECTRONICS	
Out of band rejection Cosine Response Typical saturation Typical NEI	10 ⁻⁶ 3% from 0-60° 10% from 60-85° 300 μWcm ⁻² nm ⁻¹ 2.5 X10 ⁻³ μWcm ⁻² nm ⁻¹	Sample rate A/D conversion Dynamic range Telemetry Data format Baud rate	7Hz (24 Hz optional) 24 bit 18 bit 32 bit words Binary User selectable from 9.6 to 115.2 kbps
TEMPORAL CHARACTERISTICS			
System time constant	0.011 seconds		

OCR-500 SERIES RADIANCE SENSOR - STANDARD AND AUV SERIES

The OCR-500 micro-sensor series is a fully digital optical sensor package that combines precision optics and high performance microelectronics. Satlantic designed this sensor series for applications where performance, size and power are key constraints. The OCR-500 series radiometers can be mounted on real-time profilers, moored, and autonomous deepwater buoys and autonomous underwater vehicles (AUV's).



UPWELLING RADIANCE SENSOR MODEL OCR-504 / 507/ **AUV**

SPATIAL CHARACTERISTICS		ELECTRICAL CHARACTERISTICS	
Field of view	10° in water (Half angle, half maximum)	Telemetry options	RS232, RS485
Entrance aperture	14° in air (Half angle, half-maximum)	Network options	SATNET
Detectors	9.5 mm diameter	Input voltage	6 to 22 VDC (12-volt nominal)
	Custom 13 mm ²	Current (4 or 7 channel)	25 mA @ 12VDC 40 mA at 12V
	Silicon photodiodes		
SPECTRAL CHARACTERISTICS		PHYSICAL CHARACTERISTICS	
Bandwidth range	400 - 865 nm standard	Height (4 or 7 channel)	11.0 cm, 12.5 cm
Number of channels	4 or 7 channel	Diameter (4 or 7 channel)	4.6 cm, 6.4 cm
Spectral bandwidth	10 nm or 20 nm	Weight	260 grams, 400 grams
Filter type	Ion Assisted Deposition (IAD)	Housing Material	Acetron / Anodized Aluminum
	Custom low fluorescence	Connector (standard)	Micro 8 pin male
		Maximum depth	350 m / 1000 m
OPTICAL CHARACTERISTICS		SYSTEM ELECTRONICS	
Out of band rejection	10 ⁻⁶	Sample rate	7Hz (24 Hz optional)
Out of field rejection	5X10 ⁻⁴ >1.5 FOV	A/D conversion	24 bit
Typical saturation	5 μWcm ⁻² nm ⁻¹ sr ⁻¹	Dynamic range	18 bit
		Telemetry	32 bit words
		Data format	Binary
		Baud rate	User selectable from 9.6 to 115.2 kbps
TEMPORAL CHARACTERISTICS			
System time constant	0.011 seconds		