

# OCR-507 IRRADIANCE



## OCR-507 IRRADIANCE SENSOR

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-507I can be mounted on real-time profilers, moored and autonomous deepwater buoys, autonomous underwater vehicles as well as on ships and airplanes for above-water applications.



### DOWNWELLING IRRADIANCE SENSOR SENSOR MODEL OCR-507I

#### SPATIAL CHARACTERISTICS

Field of view	In-air or in-water Cosine response (Spectrally corrected)
Collector Area Detectors	86.0 mm <sup>2</sup> Custom 17 mm <sup>2</sup> Silicon photodiodes

#### SPECTRAL CHARACTERISTICS

Bandwidth range	400 - 865 nm
Number of channels	7
Spectral bandwidth	10 nm or 20 nm
Filter type	Ion Assisted Deposition (IAD) Custom low fluorescence

#### OPTICAL CHARACTERISTICS

Out of band rejection	10 <sup>-6</sup>
Cosine Response	3% from 0-60° 10% from 60-85°
Typical saturation	300 μWcm <sup>-2</sup> nm <sup>-1</sup>
Typical NEI	2.5X10 <sup>-3</sup> μWcm <sup>-2</sup> nm <sup>-1</sup>

#### TEMPORAL CHARACTERISTICS

System time constant	0.011 seconds
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#### ELECTRICAL CHARACTERISTICS

Telemetry options	CMOS, RS232, RS485
Network options	RS232/422
Input voltage	6 to 22 VDC (12-volt nominal)
Current	40 mA at 12V

#### PHYSICAL CHARACTERISTICS

Height	12.5 cm (4.9")
Diameter	6.5 cm (2.5")
Weight	420 grams
Material	Acetron
Connector	Micro 8 pin male (standard)
Maximum depth	350 m

#### SYSTEM ELECTRONICS

Sample rate	7 Hz (14 Hz optional)
A/D conversion	24 bit
Dynamic range	18 bit
Telemetry	32 bit words
Data format	Binary
Baud rate	User selectable from 9.6 to 115.2 kbps

*Specifications may change without notice.*

## OCR-507 RADIANCE SENSOR

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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-507R can be mounted on real-time profilers, moored and autonomous deepwater buoys, autonomous underwater vehicles as well as on ships and airplanes for above-water applications.



**UPWELLING RADIANCE SENSOR  
SENSOR MODEL OCR-507R**

**SPATIAL  
CHARACTERISTICS**

Field of view                    10° in water  
    (half angle, half maximum)  
    14° in air  
    (half angle, half-maximum)  
Entrance aperture            9.5 mm diameter  
Detectors                        Custom 13 mm<sup>2</sup>  
    Silicon photodiodes

**SPECTRAL  
CHARACTERISTICS**

Bandwidth range              400- 865 nm standard  
Number of channels            7  
Spectral bandwidth            10 nm or 20 nm  
Filter type                        Ion Assisted Deposition (IAD)  
    Custom low fluorescence

**OPTICAL  
CHARACTERISTICS**

Out of band rejection        10<sup>-6</sup>  
Out of field rejection        5X10<sup>-4</sup> > 1.5 FOV  
Typical saturation            5 μWcm<sup>-2</sup>nm<sup>-1</sup>sr<sup>-1</sup>

**TEMPORAL  
CHARACTERISTICS**

System time constant        0.011 seconds

**ELECTRICAL  
CHARACTERISTICS**

Telemetry options            CMOS, RS232, RS485  
Network options              RS232/422  
Input voltage                  6 to 22 VDC  
    (12-volt nominal)  
Current                          40 mA at 12V

**PHYSICAL  
CHARACTERISTICS**

Height                            12.5 cm (4.9")  
Diameter                        6.4 cm (2.5")  
Weight                            400 grams  
Material stand                Acetron  
Connector                        Micro 8 pin male  
    (standard)  
Maximum depth                350 m

**SYSTEM  
ELECTRONICS**

Sample rate                    7 Hz (14 Hz optional)  
A/D conversion                24 bit  
Dynamic range                18 bit  
Telemetry                        32 bit words  
Data format                    Binary  
Baud rate                        User selectable from  
    9.6 to 115.2 kbps

*Specifications may change without notice.*