MULTIESPECTRAL

LIGHT SENSOR

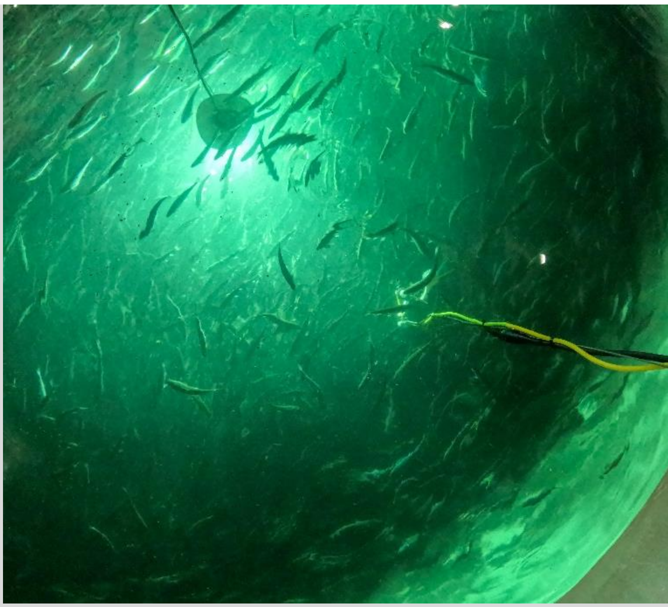
BMLS-21

The Bioled® multiespectral light sensor BMLS-21 is an instrument specially designed to measure permanent Irradiance in RAS systems. The permanent measurement of Irradiance in RAS systems is critical to maintain correct levels in the face of changes in water turbidity and increased fish density.

The BMLS-21 is capable of measuring Irradiance expressed in [W/ m^2] within the visible wavelength range from 380 to 770 [nm], and with a 210° capture angle thanks to its Fresnel lens located on the photoreceptor.

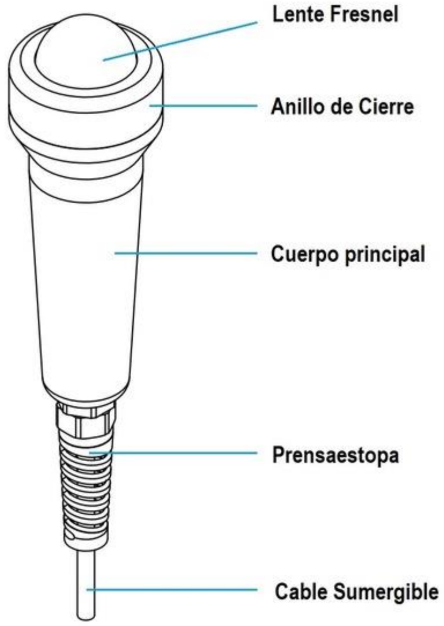
The sensor electronics are protected by a watertight encapsulation that allows it to work permanently submerged in water, without risk to equipment, fish and operators.

- ✓ It has Tri-stimulus XYZ + NIR performed by silicon interference filters.
- ✓ ADC of 16 bits with digital access.
- ✓ Factory calibrated.
- ✓ Stable filter conditions over temperature and lifetime.
- ✓ Compact true color detection, XYZ coordinates directly from the sensor.
- ✓ On-chip signal processing, reduced hardware costs.
- ✓ Sample illumination without external LED driver
- ✓ Easy connection to mobile devices or external µController.



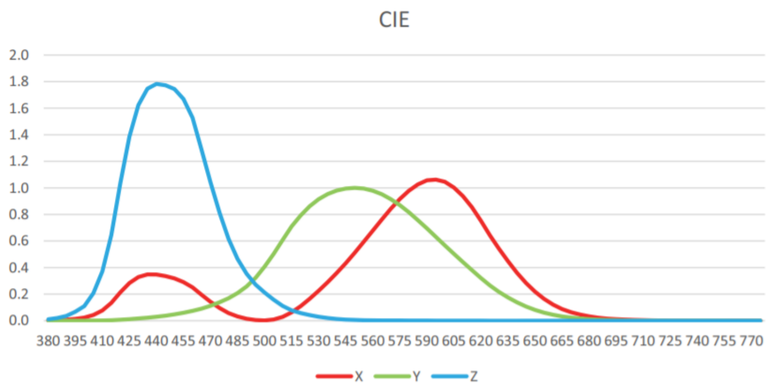
Technical Specifications

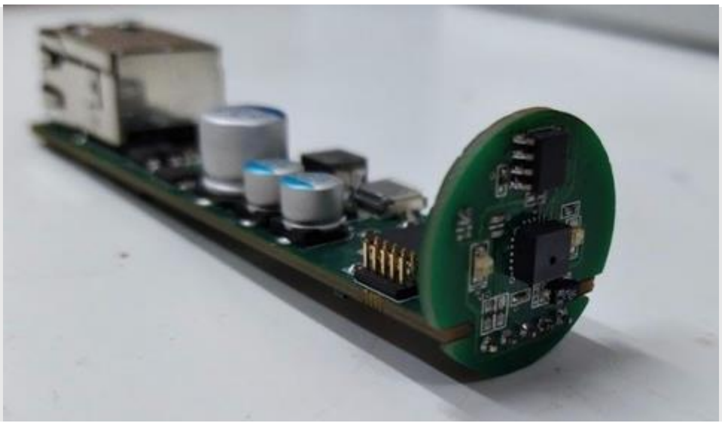
Height	220 [mm]
Maximun diameter	50 [mm]
Operation voltage	POE 48 VDC
Communication protocol	Modbus TCP/IP
Manufacturing material	HDPE
Type of cable	UTP 6 category, submersible
Vision angle	210°
Measurement spectrum	From 380 up to 770 [nm]
Measurement range	From 0,004 up to 2 [W/m^2]
Resolution	0,004237288 [W/m^2]
Parameterization	Using Windows 10



BMLS-21 integrates Gaussian interference filter technology to enable the chromatic white color sensor that provides direct XYZ color coordinates consistent with the color coordinates of the observer, according to CIE 1931 2° standard.

Control and access to spectral data is implemented through the I²C virtual register set or through the serial UART which allows the use of the high-level intelligent spectral command set.





Fotorreceptor

BMLS-21 complies with the quality standards required for its electronics under the CIE 1931 standard. The photoreceptor has an ADC converter that has the ability to deliver accurate records, since the signal sent from the sensor to the final display is already digitized.