Ennostar

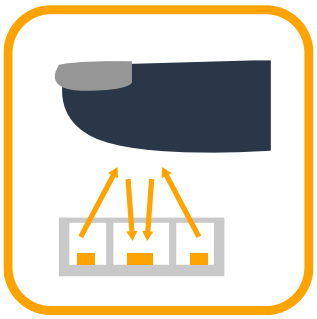
Smart Sensing

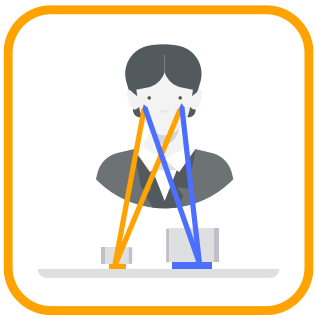
Smart Sensing- Light Receiver (PD)

As optical sensing technology evolves, not only light-emitting transmitter is critical, but the light receiver (photodiode, PD) is equally vital. Leveraging our extensive expertise in III-V semiconductors, Ennostar extends its sensing solutions from light sources to receivers, offering one-stop services from individual components to full modules. This approach comprehensively meets the precision sensing needs of top brands.

A Comprehensive Receiver for Diverse Wavelengths and Sensing Applications

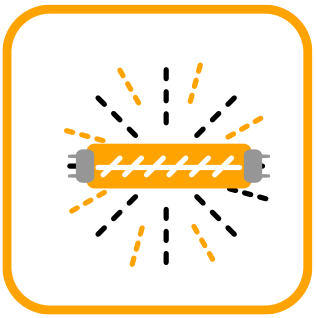
Biosensing





Proximity Switches

UV Sterilization



Full-spectrum Photodetector (FSPD)

Dimension (μm^2)	330±25 × 330±25
Wavelength (nm)	400 ~ 1700
Dark Current (pA)	50 @ -0.5V
Responsivity (A/W)	0.3@ 520nm ; 1@ 1310nm

Market Trends and Potential

The full-spectrum light receiving sensor module (FSPD) can sense wavelengths ranging from 400 to 1700nm and features outstanding optoelectronics characteristics. It becomes the preferred choice in many applications—including night vision imaging, agricultural sorting, and biomedical detection. For applications that previously required two independent sensors to measure two different spectrums, the photodiode with visible red to short-wave infrared responsiveness simplifies the system and effectively reduces both load size and weight.

Technical Highlights

- Compared to typical GeSi sensors, the full-spectrum light receiving module offers a wider response range and superior photodiode characteristics.

Technical Comparison	InGaAs	GeSi(SiGe)
Wavelength (nm)	**400-1700**	400-1550
Dark Current	**Low**	High
Responsivity	**High**	Low
Response Speed	**High**	Low

Sustainable Development Goals (SDGs)

UV – Receiver Sensor (UV PD)

Dimension (μm²)	500±25 x 500±25
Wavelength (nm)	220 ~ 370
Dark Current (pA)	<10 @-0.1V
Responsivity (A/W)	0.22 @350 nm

Market Trends and Potential

The threat of infectious diseases has dramatically increased the demand for efficient, chemical-free disinfection technologies. UV-C sterilization lamps are widely used in hospitals, schools, offices, and public transportation. The UV PD sensor can monitor UV light intensity in real time, ensuring effective disinfection while avoiding energy waste. In sectors such as healthcare, smart home appliances (e.g., air purifiers), commercial facilities, and environmental monitoring, UV receiver sensors will play an essential role.

Technical Highlights

- Immune to visible light interference, it offers high sensitivity and rapid response.

Sustainable Development Goals (SDGs)