



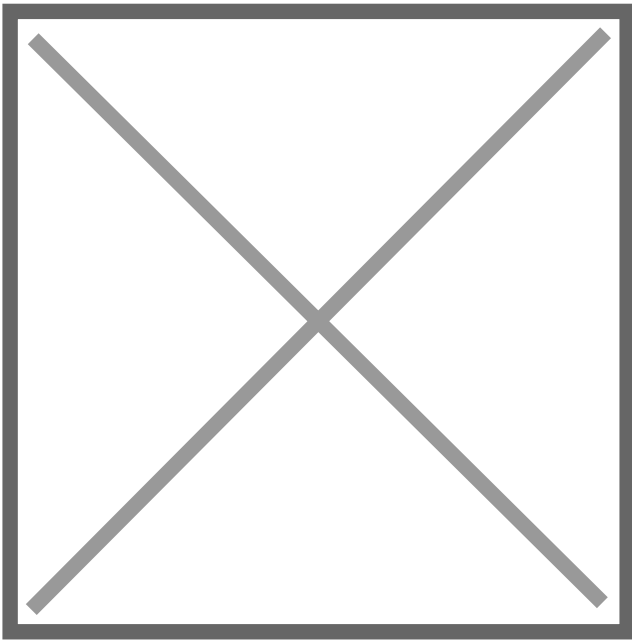
TORONTECH



PTZ HYPERSPECTRAL MEASUREMENT SYSTEM

FS series PTZ hyperspectral measurement system is an advanced setup that integrates a hyperspectral camera with PTZ equipment, enabling real-time monitoring of the target area.

This system supports automatic scanning and network connectivity. It is ideal for applications in fields that utilize hyperspectral technology, such as the monitoring and analysis of rivers, lakes, forestry, agriculture, and various research bases.



APPLICATIONS

The Torontech FS series PTZ Hyperspectral Measurement System provides a powerful solution for continuous, automated, and remote surveillance. By integrating a high-resolution hyperspectral camera with a pan-tilt-zoom platform, this system enables the long-term, unattended monitoring of large areas, capturing detailed spectral data to track subtle environmental and material changes over time.

This automated monitoring capability is essential for long-term observation in:

- **Environmental Monitoring:** For the continuous surveillance of water bodies to detect and track algal blooms, sediment plumes, or chemical spills in real-time, providing early warnings for environmental management agencies.
- **Forestry & Land Management:** To automate the monitoring of forests for early detection of disease outbreaks, insect infestations, and changes in vegetation moisture, serving as a critical tool for fire risk assessment.
- **Precision Agriculture:** For autonomous, field-scale monitoring of crop health, enabling timely detection of water stress, nutrient deficiencies, or pest encroachment across large agricultural operations without manual intervention.
- **Industrial & Critical Infrastructure:** To provide 24/7 monitoring of industrial sites, tailings ponds, or pipelines for the detection of environmental compliance violations, material degradation, or potential gas leaks through spectral analysis.

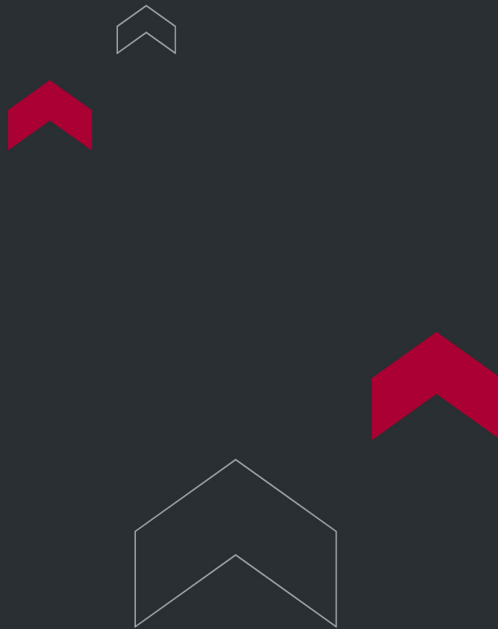
FEATURES

- Spectral range: 390-1010 nm
- Spectral channel number: 1200
- Spectral resolution: 2.5 nm
- Head rotation range: 360°
- Vertical tilt range of PTZ: +90° to -90°
- Network connection: Supported

TECHNICAL SPECIFICATIONS

Hyperspectral camera	
Spectroscopic method	Grating
Image resolution	1920 * 1920
Dynamic range	12 bits
Spectral channel number	1200
Spectral range	390-1010nm
Spectral resolution	2.5 nm
Slit width	25um
Transmission efficiency	60% or higher
Stray light level	0.5% or less
Pixel size	5.86 * 5.86 um um
Detector type	CMOS
Standard lens focal length	12mm, 16mm, 25mm, 35mm, 50mm optional
Minimum working distance	100mm
Field Angle	25 °
Minimum exposure time	21us
Maximum exposure time	Ten seconds
Signal-to-noise ratio	600/1
Camera lens interface	C/EF port
Imaging function	There are ROI capabilities that can achieve ROI for a single region

Auxiliary imaging function	The auxiliary view camera monitors the shooting area
Sensor imaging surface dimensions	11.3 * 7.1 mm
Holder	
Horizontal range	Horizontal 360°
Vertical range	Positive 90° to negative 90°
Cruise scan mode	Preset point, auto scan, Frame scan, panoramic scan
Network	
Client	Support wins10 and later systems
Support protocol	IPv4/IPv6, HTTP, HTTPS
Interface protocol	FIGSPEC SDK
Port	
Port	USB3.0/1000M Network interface
General norm	
Operating temperature and humidity	-20 °C~40°C; Humidity less than 80%



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