HYPERSPECTRAL SPECTRO-RADIOMETER SYSTEMS



HS-IR Family



VERSATILE SPECTRO-RADIOMETER (VSR)

KEY FEATURES



HIGH SPECTRAL RESOLUTION



HIGH TEMPORAL RESOLUTION

ULTRA-WIDE BANDWIDTH: WITH ITS UNIQUE 3 DETECTORS CONFIGURATION, THE VSR CAN COVER THE MWIR, LWIR AND SWIR RANGE (0.8 - 15 μm). The Versatile Spectroradiometer (VSR) is a compact high sensitivity spectroradiometer which uses Fourier Transform Infrared (FT-IR) technology. Its high speed, robust operation is ideal for multiscenario operation, from the laboratory to airborne applications even those with heavy vibrational constraints. The VSR can provide real-time high resolution spectral information on slow and fast occurring phenomenon, as well as perform material and target signature analysis.

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APPLICATION FOCUS: SMOKE STACK EMISSION MONITORING



The Ministry of Environment of South Korea utilizes VSR spectroradiometers to monitor smokestack emissions as part of a national initiative to standardize and measure fugitive emissions at major industrial sites. This technology enables the quantification of the three primary greenhouse gases; CO_2 , CH_4 , and N_2O enhancing environmental monitoring and regulatory efforts.

| SPECIFICATIONS | VSR SERIES |
|---|---|
| Detector Type | HgCdTe (MCT), InSb, InGaAS detector |
| Detector Format | Single-Pixel |
| Spectral Range | 0.8 - 15 μm |
| Field of view (FOV) | 90 mrad Telescope 0.5x magnification 45 mrad Instrument FOV without telescope 22 mrad Telescope 2x magnification 6.4 mrad Telescope 7x magnification |
| Max. Frame Rate | 1 to 110 spectra/s |
| Typical NESR (At 16 cm-1 spectral resolution and 1s observation time) | 2.5 @ 1300 cm ⁻¹ nW/sr/cm ² /cm ⁻¹ 0.25 @ 2000 cm ⁻¹ nW/sr/cm ² /cm ⁻¹ 0.03 @ 6300 cm ⁻¹ nW/sr/cm ² /cm ⁻¹ |
| Dimensions | 46 x 65 x 32 cm (L x W x H) |
| Weight | < 28 kg (Without telescope) |
| Power consumption | < 192 W (115 or 230 VAC) |
| Operational Temperature | -20 °C to +40 °C (Power consumption is increased when T < 20 °C) |

sales@telops.com



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