

# STEVEN SEPVEST CORPORATION

## FMP2X SpectroPyrometer — 1400 - 4000°C

Expert system multi-wavelength pyrometer with on-line tolerance and signal strength display, spectral and total emissivity correction, and absorption/emission compensation. Measurement is either continuous or on operator demand. Results are displayed on screen and logged in non-volatile memory. Thermal spectrum is displayed on screen, and can be saved to non-volatile memory for later analysis. Instrument consists of optical input (sensor), fiberoptic interconnection cable, and console. Console includes Intel/Windows PC. Data analysis during first 30 days of operation is included.

Temperature range:	1400 - 4000°C or 2550 - 7235°F
Accuracy:	± 0.15% on grey targets (measured between 800 and 2600°C) ± 0.25 - 0.75% on non-grey targets (typical)
Tolerance:	On-line tolerance in °C or °F; tolerance reported is the real-time accuracy of the individual measurement displayed
Signal strength:	Relates the measured intensity at a mid-range wavelength to the expected intensity for an ideal target at the same temperature. Signal strength is the emissivity at that wavelength if field of view is filled, no atmospheric absorption is present, and optics are clean.
Interference:	Automatic compensation for atmospheric absorptions or emissions from combustion products or process offgas
Reproducibility:	± 1°C
Resolution:	0.1°C or °F
Wavelength range:	500 - 1000 nanometers
Wavelength resolution:	1 nanometer
Number of wavelengths:	500
Data acquisition time:	1.6 milliseconds minimum
Analog output (optional):	0 - 20, 4 - 20 mA, 0 - 10 VDC

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## **Optics**

- **Input**

Lens:	NIR achromatic doublet, anti-reflective coated
Lens body size:	6 inches long by 1.5 inch diameter or 155 mm long by 38 mm diameter
Standard focal lengths:	6 inches to 20 feet or 150 to 6000 mm
Target (spot) size:	0.010 to 1 inch or 0.250 to 25 mm
Ambient temperature range:	-40 to 85°C
Custom optical inputs:	mirrors, light pipes, and high temperature lenses are available

- **Fiberoptic interconnection**

Fiberoptic cable:	5 to 100 meters, armored, keyed
Ambient temperature limit:	85°C standard; high ambient fiberoptic available



FMP series SpectroPyrometer in harsh service enclosure

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## ***Chassis specifications***

- **Standard enclosure**

Cooling: Exhaust fan  
Power supply: 300W, 110/220 VAC switchable  
Dimensions: 17 inches deep, 17 inches wide, 6 inches high  
Weight: 40 lbs.  
Ambient requirements: 5 - 35°C, 40 - 95°F, non-condensing

- **Harsh service enclosure**

Cooling: 88 CFM intake with washable filter  
Power supply: 400W, 90 to 264 VAC, 47 to 63 Hz  
Dimensions: 17.5 inches deep, 18 inches wide, 7 inches high  
Weight: 50 lbs.  
Construction: Heavy duty cold rolled steel, zinc plated and painted; locking drive and on/off switch cover. 19" rack mountable with front-mounted handles  
Certification: EIA RS-310C standard; CE for EMC and Safety standards  
Ambient requirements: 0 - 40°C, 32 - 105°F, non-condensing

### ***Accessories:***

- Fiberoptic illuminator: helium-neon laser (632.8 nm) for aiming pyrometer
- Fiberoptic multiplexer: multiplexes up to 9 optical inputs to one pyrometer; pyrometer console provides control
- Aiming lens holder: attaches lens assembly to sight tube or vacuum port; units are purged, adjustable on 3 axes, with removable quartz window
- Data analysis: spread sheet template for generation of absorption/emission and emissivity charts
- Custom peripherals: available on request