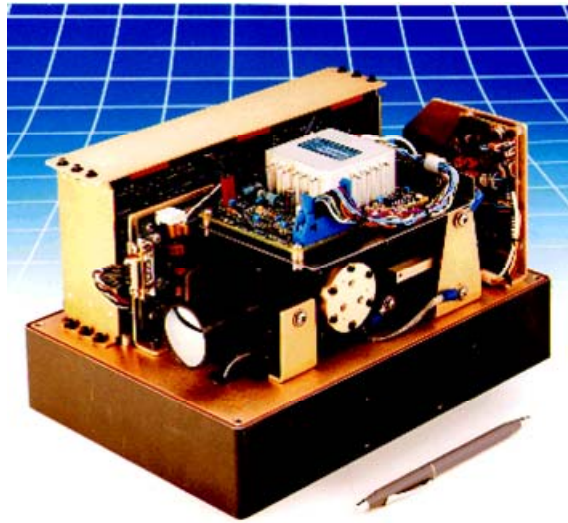


M90/100

**Compact, Rugged Fourier Transform
Infrared (FTIR) Spectrometer**

M90



M100



The M90/100 is a small, rugged, lightweight, highly sensitive Fourier Transform Infrared (FTIR) spectrometer that incorporates Block's decades long experience developing and delivering sophisticated instruments. The M90 is offered as an OEM engine and it is currently installed inside the Mobile Chemical Agent Detector (MCAD) system, which protects critical buildings in the Washington Capital Region. The M100 is a standalone device that provides spectral readings for subsequent data processing by the users and it is being used today by several government and DoD customers.

MODEL 90/100-LW SPECIFICATIONS – Rev 2010

(Model 90/100 Longwave)

© Block Engineering 1998-2010

| PARAMETER | SYSTEM VALUE | UNITS |
|--|--|---|
| Sensor Type | Michelson | N.A. |
| Spectral Range | 7 to 13 | µm |
| Spectral Resolution | (2 opt) 4, 8, 16 | cm ⁻¹ |
| Scan Format | Single Sided | N.A. |
| Field-of-View (see Narrow option) | 1.5 x 1.5 | Degrees |
| Scan Rate @ 4cm ⁻¹ , 10 cm/sec. | 22 (nominal) | Spectra/sec |
| Retardation Rate (see options) | 1.25, 2.5, 5, 10 (Pick one) | cm/sec |
| Sampling Freq. @ 1x | 20, 40, 80, 160 | kHz |
| NESR (13µm, 769 cm ⁻¹)* per scan | < 14.1 x 10 ⁻⁹ | watts/(cm ² cm ⁻¹ Sr) |
| NESR (11µm, 909 cm ⁻¹)* per scan | < 12.7 x 10 ⁻⁹ | watts/(cm ² cm ⁻¹ Sr) |
| NESR (8µm, 1250 cm ⁻¹)* per scan | < 7.92 x 10 ⁻⁹ | watts/(cm ² cm ⁻¹ Sr) |
| Laser Reference | 0.63µm HeNe Laser | N.A. |
| White Light | Yes | N.A. |
| Signal Detector | HgCdTe, D*peak > 4 10 ¹⁰ cm Hz ^{1/2} /Watt | N.A. |
| Detector Size | 0.5 | mm x mm |
| Detector Cooling | Closed Cycle Stirling | N.A. |
| System Power | < 30 (steady state) | Watts |
| System Voltage Input | 28 (+4, -7) | VDC |
| Physical Size (LxWxH) w/o Tscope | 9 x 6 x 6.25 | Inches |
| System Weight | ~ 12 | Pounds |
| Mounting | Hard Mounted | N.A. |
| Mounting Orientation | Any Orientation | N.A. |
| Operating Temperature | 0 to 50 | Deg. C |
| Output Signal | 16 Bit Digital RS-422 | N.A. |
| Cable | 12' Power/Comm cable, to 15 Pin D, 9 Pin D, % Pin Power | N.A. |
| Test Box & Cable | Included | N.A. |
| Option - Narrow Field-of-View | 0.5 x 0.5 | Degrees |
| Option - Aperture Size | 7.8 | cm |
| Option - Retardation Rates | 1.25, 2.5, 5, 10 | cm/sec |
| | | |
| | | |
| | | |

*At 4cm⁻¹ resolution, 10 cm/sec