CAPS NO₂ Monitor

Accurate and Precise
Continuous Monitoring of Ambient Nitrogen Dioxide.

APPLICATIONS

• Visible (450 nm) absorption measurement using patented Cavity Attenuated Phase Shift (CAPS) technology.
• Measurement of ambient concentrations to 3000 ppbv.
• Stack Gas Monitoring.
• Medical Inhalant Purity Monitoring.
• Combustion Plume Analysis (Fast Response [1 s] Version).
• LOD (3s, 10 s) = <0.1 ppb.

ADVANTAGES

• Direct measurement of analyte - no chemical conversion required.
• Insensitive to presence of varying levels of nitric oxide, aerosols, humidity and other trace atmospheric species.
• Essentially interference-free.
• Linear Response (0-3000 ppbv).
• Minimal maintenance (periodic change of particle filter).
• No Toxic Gas Emissions.

Observed linearity of CAPS monitor signal as a function of NO₂ concentration from zero to ~ 400 ppbv.

Comparison of data taken with CAPS-based NO₂ and quantum cascade laser-based (TILDAS) monitors during field study.
CAPS NO₂ Monitor

SPECIFICATIONS:

Sensitivity (S/N = 3):
- Ambient Monitoring: < 0.1 pppb (10 s)
- Fast Response Version: < 1 pppb (1 s) (No Dryer)

Response Time (10-90%):
- Ambient Monitoring: 8 s
- Fast Response Monitor: 1 s

Sample Flow:
- 0.85 lpm (ambient monitor)
- 2 lpm (fast response monitor)

Operating Pressure:
- Ambient

Materials Exposed to Analyte:
- Stainless Steel, PFA and Nafion

Data Output:
- RS-232, USB, Ethernet (Data Acquisition Program Included)
- On-board Data Storage (6 GB)
- Front Panel Display

Size/Weight:
- Rack mount, 19" x 24" x 9.06", 25 lbs.
- [61 cm x 43 cm x 23 cm, 12 kg]

Electric Power:
- 100 W; 100-250 VAC (50-60 Hz)

REFERENCES

