# HALO 3 $N_2O$

## Trace Level Nitrous Oxide Analyzer

GASES & CHEMICALS | CEMS | ENERGY | ATMOSPHERIC | SEMI & HB LED | SYNGAS | LAB & LIFE SCIENCE

**Designed for trace level nitrous oxide analysis, the HALO 3 $N_2O$ offers:**

- Sub-parts-per-million (ppm) $N_2O$ detection capability
- Absolute measurement (freedom from calibration gases)
- Wide dynamic range—over four orders of magnitude
- Low cost of ownership and operational simplicity
- Clean technology—no external calibration gases required
- Compact analyzer footprint
- User-programmable alarms immediately notify on high events

### Simple Trace $N_2O$ Detection in Inert Gases

With the HALO 3 $N_2O$, powerful advanced spectroscopy is available for a host of applications, from process control to quality and safety assurance in Air Separation Plants. Other applications include monitoring of cylinder filling, bulk delivery and distribution transfer points, as well as welding, medical, industrial and high-purity gas production, and more. Say goodbye to cumbersome, complex, costly and labor-intensive mid-20th century technology. Gone is the need for calibration, spare parts, limited measurement ranges, and worries about drift and downtime usually associated with NDIRs, FTIRs, or GCs.

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## Trace Level Nitrous Oxide Analyzer


| Performance in Nitrogen | |
|---|---|
| Operating range | 0 – 1000 ppm |
| Detection limit (LDL, | 250 ppb |
| 24 h peak-to-peak variation) | |
| Sensitivity (3σ) | 200 ppb |
| Precision (1σ, greater of) | ± 1% or 1/3 of Sensitivity |
| Accuracy (greater of) | ± 4% or 1/2 of LDL |
| Speed of response | < 3 minutes to 95% |
| Environmental conditions | 10°C to 40°C |
| | 30% to 80% RH (non-condensing) |
| Storage temperature | -10°C to 50°C |

| Gas Handling System and Conditions | |
|---|---|
| Wetted materials | 316L stainless steel |
| | (optional Hastelloy®) |
| | 10 Ra surface finish |
| Gas connections | 1/4" male VCR inlet and outlet |
| Leak tested to | 1 x $10^{-9}$ mbar l / sec |
| Inlet pressure | 10 – 125 psig (1.7 – 9.6 bara) |
| Flow rate | Up to 1.0 slpm |
| Sample gases | Inert matrices |
| Gas temperature | Up to 60°C |

| Dimensions | H x W x D [in (mm)] |
|---|---|
| Standard sensor | 8.73 x 8.57 x 23.6 (222 x 218 x 599) |
| Sensor rack | 8.73 x 19.0 x 23.6 (222 x 483 x 599) |
| (fits up to two sensors) | |
| | |
| **Weight** | |
| Standard sensor | 33 lbs (15.0 kg) |

| Electrical | |
|---|---|
| Alarm indicators | 2 user programmable |
| | 1 system fault |
| | Form C relays |
| Power requirements | 90 – 240 VAC, 50/60 Hz |
| Power consumption | 40 Watts max. |
| Signal output | Isolated 4–20 mA per sensor |
| User interfaces | 5.7" LCD touchscreen |
| | 10/100 Base-T Ethernet |
| | 802.11g Wireless (optional) |
| | RS-232 |
| | Modbus TCP (optional) |

Contact us for additional analytes and matrices.
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