

# Lasair<sup>®</sup> III 110 Inline

Particle Counter



The Lasair<sup>®</sup> III 110 is a laser diode-based true 0.1  $\mu\text{m}$  particle counter with 1.0 CFM flow rate.

With a comprehensive set of features and unequalled accuracy, the Lasair III 110 offers reduced operating costs and the reliability and longevity to support its three-year laser warranty.

## BENEFITS

### Reduce Defects

- Real-time measurement of yield-impacting particles
- Full range of accessories for monitoring in different applications
- Actual detection of 0.1  $\mu\text{m}$  particles

### Increase Productivity

- Quiet operation improves work environment
- Interfaces with Facility Net software for comprehensive data management

### Cost-Effective

- Use same particle counter for ISO Class 1 – 9 applications
- Eliminates need for frequent, costly laser cleaning
- Easy to clean/wipe down; designed to minimize particle traps
- Rugged, chemical-resistant, stainless steel casing
- Long-lasting cooled diode with 3-year laser warranty
- Critical orifice configuration can use house vacuum for aerosol manifold applications

## FEATURES

- Diode laser
- 8 user-adjustable sizing channels from 0.1 – 5.0  $\mu\text{m}$
- Integrates up to 4 environmental sensors

## APPLICATIONS

- Cleanroom and minienvironment monitoring
- High-sensitivity applications
- Manifold sampling (with Aerosol Manifold II)
- Process gas monitoring (with High Pressure Diffuser)
- Ultraclean zones (ISO 1–2)
- Filter testing

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Specifications

<b>Channel thresholds</b>	0.1, 0.15, 0.2, 0.25, 0.3, 0.5, 1.0, and 5.0 $\mu\text{m}$ by default – All 8 channels are user-adjustable
<b>Counting efficiency</b>	50% @ 0.1 $\mu\text{m}$
<b>Flow rate</b>	1 CFM (28.3 LPM)
<b>Calibration</b>	Materials traceable to US National Institute of Standards and Technology (NIST) ISO 21501-4 Compliant
<b>Test methodology</b>	0.1 $\mu\text{m}$ particles verified by Differential Mobility Analysis; larger sizes verified by transmission electron microscopy
<b>Maximum concentration</b>	@ 10% coincidence loss: > 950,000/ft <sup>3</sup> (optional diluter required for ISO Class 8+); automatic coincidence alarm
<b>Zero count level</b>	Exceeds JIS (Japanese Industrial Standards), allowing use in ISO Class 1 and ISO Class 2 rooms
<b>Laser source</b>	Laser diode, 6 W (de-rated to 2.5 W), 810 nm, infrared
<b>Laser cooling</b>	Thermoelectric chilling (Peltier cooler), heat sink, dedicated cooling fan
<b>Vacuum</b>	1/4" barbed fitting. Requires > 15 in Hg
<b>Warranty</b>	3-year warranty on laser module, 2-year warranty on other components
<b>Communication modes</b>	Ethernet (PMS Protocol, Modbus TCP) or RS-232; four 4-20 mA outputs (3 particle, 1 status) Pulse/TTL Output
<b>Environmental sensors</b>	Optional Temp/RH probe; integrates up to 4 external sensors via 4-20 mA input
<b>Remote operation</b>	Use Facility Net software to control remotely
<b>Data and sampling security</b>	Stored data records cannot be altered; sampling recipes can be password protected
<b>External surface</b>	Stainless steel chassis and anodized aluminum chassis all ESA/ESD compliant
<b>Cleaning materials</b>	Bleach, ethyl/isopropyl alcohol, peroxide/quaternary ammonium solutions
<b>Dimensions (l, w, h)</b>	11.0 x 12.5 x 18.5 in (28.0 x 31.8 x 47.0 cm)
<b>Weight</b>	29.6 lb (13.4 kg)
<b>Power</b>	100 – 240 V, 3 A, 50 – 60 Hz
<b>Operating environment and sample conditions</b>	Temperature: 15 – 30 °C (59 - 86 °F); Humidity: 1 – 95% non-condensing; Ambient pressure @ altitudes from 0 – 7,000 ft (0 – 2,134 m)

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