

# Particulate Monitoring & Baghouse Leak Detection

The BM-30 LGX is a particulate monitoring device designed for general process and environmental monitoring. This particulate monitoring system consists of a control unit, a particulate sensor and a sensor coaxial cable. Applications for the BM30-LGX include continuous emissions monitoring, baghouse filter leak detection and process particulate flow monitoring. It detects many types of particulate including solid particulates such as dusts, powders, granulars and pellets. Particulate monitoring helps companies meet regulatory requirements by detecting leaks before emissions are visible, and prevents the escape of valuable powders while providing a cleaner, safer workplace.



## Induction-Based Technology

The BM-30 LGX employs a highly reliable technology based on induction. A sensor probe is mounted in an airflow stream such as a pipe, duct or stack. As particulate flows near and over the sensing element, minute electrical currents are induced in the sensor and transferred to the control unit by a coaxial cable. A microprocessor filters and processes the signal into a normalized, absolute output that is linear to the mass concentration of particulate. The BM-30 LGX is CE conformant, CSA certified (optional) and complies with EN 61010, safety requirements for electrical equipment for measurement, control and laboratory use applications.

## Simple, Rugged & Maintenance-Free

The control unit – which includes the electronics – is housed in a rugged, cast aluminum enclosure. A LCD displays particulate levels in bar-graph and digital forms. A lockable membrane keypad is provided for setup and adjustment of parameters. Two (2) relay contact outputs are standard; an isolated 4-20 mA output is optional. The particulate sensor is very durable and virtually maintenance-free. The sensor is passive with no active circuits, to ensure high reliability and durability. It does not require special alignment and is not affected by normal vibration. The cable that connects the particulate sensor to the control unit is a high-quality coaxial cable specifically designed for the BM-30 LGX system. The maximum cable length is 300 feet/91 meters making it ideal for a wide variety of installations.

| Examples of Industries Needing Particulate Monitoring |                 |
|---|-----------------|
| Cement  | Minerals        |
| Foundry   | Power           |
| Steel   | Wood            |
| Chemical  | Aluminum        |
| Carbon Black  | Food Processing |
| Grain   | Coal            |
| Pharmaceutical  | Incineration    |

# BM-30 LGX Particulate Monitor



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# BM-30 LGX Particulate Monitor Benefits

- **Early detection:** detects broken bags and prevents cross contamination of materials
- **Scheduled maintenance:** prevents unforeseen downtime and expensive equipment repairs
- **Regulatory compliance:** detects leaks before they become visible, monitors air quality and helps companies meet EPA regulations
- **Plug & play:** simply set the desired alarm level that will trigger an alert
- **Reliable operation:** dust coating on sensor will not affect signal or trigger false alarms
- **Improved safety:** available in CSA approved Intrinsically Safe version for hazardous area applications
- **Loss control:** provides essential monitoring and control to prevent the loss of valuable powders, such as expensive pharmaceuticals and chemicals
- **Protect and prolong equipment life:** excessive dust can damage equipment such as expensive vacuum pumps, blowers, turbines, and catalytic filters

| CONTROL UNIT            |  |
|-------------------------|--|
| Power supply            | 115/230VAC 50/60Hz Standard, (6 Watts max) 24VDC Optional  |
| Resolution (Range)      | 5.0pA (0 to 5000pA) Standard, 0.5pA (0 to 5000.0pA) Optional   |
| Outputs                 | 2 Relay (SPST 5A@240VAC) Standard, 1 Isolated 4-20mA Optional  |
| Enclosure               | NEMA 4X Aluminum Standard, Other Optional  |
| Temperature             | -13°F (-25°C) to 160°F (70°C)  |
| User Interface          | LCD with digital, analog & text display, 4-button membrane keypad  |
| Area Classification     | Ordinary locations (CE Approved) Standard<br>Ordinary locations (CSA Approved for use with Class I, II, III sensor) Optional               |
| General                 | Circuit boards conformal coated for long life in harsh environments  |
| SENSOR                  |  |
| Housing                 | NEMA 4X Aluminum Standard  |
| Probe Lengths           | 3", 5", 10", 15", 20", 30", 36" (Approximately ½" duct/pipe I.D.)<br>Extended nipples & rope sensors for large multi-compartment baghouses |
| Mounting                | NPT, Tri-Clamp or Flange   |
| Wetted Materials        | 316SS and Teflon or Ceramic Standard, Hastelloy Optional   |
| Process Temperature     | -40°F (-40°C) to 250°F (120°C) Standard, 450°F (232°C) Optional, 800° to 1600°F Optional   |
| Process Pressure        | 10PSI (0.69bar) Standard, 100PSI (6.9bar) Optional, 1000PSI (69bar) Optional   |
| Sensor Cable            | 300' (100m) Maximum  |
| Area Classification     | Ordinary locations (CE Approved) Standard<br>Class I, II, III, Div I, II, All Groups (Intrinsically Safe, CSA Approved) Optional           |
| General                 | No special alignment, not affected by normal vibration   |
| APPLICATION RANGE       |  |
| Particulate             | Any type >0.3 micron - Conductive, non-conductive, moist, corrosive  |
| Minimum Detection Level | With 5.0pA resolution - Approx. 5-10mg/m3 (standard leak detection)<br>With 0.5pA resolution - Approx. 0.5mg/m3 (monitoring & analysis)    |

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