



## Multichannel Monitor

**TRIBO.dsp U3800** is a multichannel particulate monitor for emissions or flow applications using Auburn's proprietary *TRIBO.dsp, unified DC/AC* core technology.

The U3800 can be used as a complete stand-alone system or integrated into existing plant data management systems using the digital communication protocol (Modbus TCP, Ethernet/IP). Each unit is capable of connecting up to six remote probes. The U3800 has an intuitive industrial grade touch screen, displaying user selectable views, such as line chart; numerical; or bar chart views.

For a comprehensive bag leak detection system, multiple U3800 units can be managed by *AUBURN.vision* software.

### TRIBO.dsp U3800 features include:

- Unified DC and AC signal based processing algorithm, more stable and accurate than AC only signal
- Immune to electromagnetic noises, suitable for harsh industrial environments
- Continuous automatic zero baseline tracking, no periodic manual zero check required
- Continuous self-checking probe alerts to false signals from moisture contamination and fouling
- 6 channels for remote probe connections
- 3.5" active matrix touch screen display
- Multiple display options: numerical, bar chart, column chart, and line chart
- User configurable channel descriptions, engineering units, scaling, signal smoothing, alarm levels, and delays for each channel
- One SPDT relay output for user programmable alarm output scheme
- Modbus RTU, Modbus TCP, Industrial Ethernet (Ethernet/IP) communication protocol, for easy integration to PLC, HMI/SCADA and plant automation systems
- Optional OPC driver available
- 85 to 260 VAC standard. Optional: 12 VDC, 24 VDC, and P.O.E. (Power Over Ethernet)



**Configuration Screen**

### TRIBO.dsp U3000 Series

Auburn's *TRIBO.dsp U3000* series of electrostatic/triboelectric bag leak detectors, emission monitors, and solids flow monitors effectively measure dust emissions and dry solids flow from a wide variety of industrial processes.

### TRIBO.dsp's Working Principal:

As dust particles collide with, or closely pass by a probe, charge transfers occur. *Tribo.dsp* series products detect the signal created by the changes in particulate concentration, as in the onset of a bag leak or an increase or decrease in flow. Unlike monitors that use only the DC or only the AC induction signals, thereby using only a portion of the complete electrostatic signal, *TRIBO.dsp* unified 3000 series combines the benefits of each method, providing the user with a superior reliable and repeatable signal, with electrical interference resistance - even in harsh industrial environments. They can activate operational functions such as alarms and relays or can generate continuous 4-20 mA or digital signals for trending and recording purposes.

# TRIBO.dsp U3800™

## ELECTRONICS SPECIFICATIONS

<b>Electronic Enclosure</b>	Polycarbonate NEMA 4X with 3/4" conduit fittings
<b>Power</b>	85 to 260 VAC (12 VDC, 24 VDC, or P.O.E. optional)
<b>Power Consumption</b>	5 Watts maximum load
<b>Operating Temperature</b>	-4° - 158° F (-20° - 70° C)
<b>Humidity Range</b>	0 - 95% relative; non-condensing
<b>Dynamic Range</b>	1 pA - 10,000,000 pA - standard 0.1 pA - 1,000,000 pA - optional
<b>Resolution/Precision (pA)</b>	1 pA standard 0.1 pA optional
<b>Sensitivity Range</b>	Concentrations as low as .005mg/m <sup>3</sup> have been detected
<b>Output</b>	1 SPDT relay 5 amp @ 28 VDC or 250 VAC 100VA <ul style="list-style-type: none"><li>Independent alarm set points, high or low (0 -100%), per channel</li><li>Independent alarm time delays (0 - 999 sec.) per channel</li></ul> Industrial Ethernet/IP and Modbus TCP
<b>Display</b>	3.5" active matrix touch screen display
<b>Other Features</b>	User selectable calibration mode Automatic contamination check Unlimited scaling options

## SENSOR SPECIFICATIONS

<b>Remote Sensor Enclosure</b>	Cast aluminum, electrostatically applied powder coating, equivalent NEMA 4X
<b>Sensor Probe</b>	Probe - 316 stainless steel (standard); other materials available
<b>Wetted Metal Parts</b>	All others - 303 stainless steel minimum grade
<b>Insulation</b>	Extended High Performance (PFA)- standard, -40° - 450°F (-40° - 232°C) Ceramic (High Temperature or Pressure) -40° - 1000°F (-40° - 540°C) Consult factory or your local representative for proper recommendations
<b>Probe Insertion Length</b>	Standard probe lengths: 3, 6, 12, 18, 30, 36 inch (7.6, 15.2, 30.5, 45.7, 76.2, 91.4 cm) (specify to reach approximately mid-duct or further)
<b>Installation</b>	Weld the supplied fitting into the pipe or duct and insert sensor
<b>Remote Sensor Cable</b>	Special coaxial cable; temperature range: -60° - 400°F (-50° - 200°C) Maximum distance: contact factory
<b>Wiring Connections</b>	¾ inch NPT female conduit fitting
<b>Pipe/Duct Connections</b>	½ inch NPT male fitting or 1" quick release ferrule (other options available)
<b>Options</b>	Wire-Rope Sensor; In-Line Ring Sensor; Ambient Fugitive Dust Sensor

