



# PowderGauge SolidsGauge

The ProFLOW **PowderGauge** and **SolidsGauge** are reliable, high quality devices designed for flow/no flow detection, trending and mass balancing of pneumatically conveyed or injected powders, granulars and pellets.

Probes, studs and non-intrusive sensors cover line sizes from 1/8" I.D. to over 1 foot. Flow rates from ultra-minute injections (<0.1 lb/hr) to dense rates at hundreds of pounds per hour are suitable. All types of particles can be monitored: conductive powders, i.e. coal and carbon; abrasive granulars such as grains; hygroscopic particles, like lime and absorbents; and low density dust such as fumed silica.

The **SolidsGauge** model is for flow/no flow detection and low resolution trending. The SolidsGauge requires no tuning. The user simply applies power and looks at the gauge. With a normal flow rate, the baseline is measured and a high/low flow band alarm is set via the keypad. A relay closes when either the high or low point is exceeded.

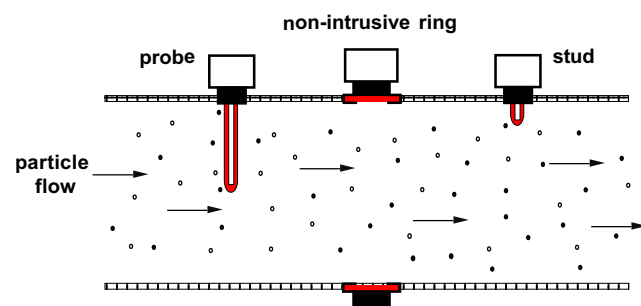
The **PowderGauge** features a precision signal amplifier and advanced filtering algorithms to provide repeatable high resolution trending, feed rate control and mass flow balancing with the standard 4-20mA. Two standard relays enable independent high/low flow alarming. Variable spans and linear or log outputs provide a wide range of output scales. A large graphic display and I/O slots add to the PowderGauge's capabilities and applicability including correlated output in lb/hr.



SolidsGauge with flange pipe sensor.  
Inset: Non-intrusive tubing sensor.

## PRINCIPLE OF OPERATION

ProFLOW particle flow technology combines *induction* and *protected-probe* technologies invented by IMPOLIT. As flowing particles pass near a probe or through a non-intrusive sensor, small signals are induced into the sensor by particle electrons. A Digital Signal Processor filters the signal into a user-friendly, *absolute* and linear output. Both probes and ring sensors feature an abrasionproof non-conductive layer over a conductive sensing element to enable repeatable operation with conductive powders, moist product and dust buildup.



Use of probe, non-intrusive ring or stud is determined by application.

## APPLICATIONS & BENEFITS

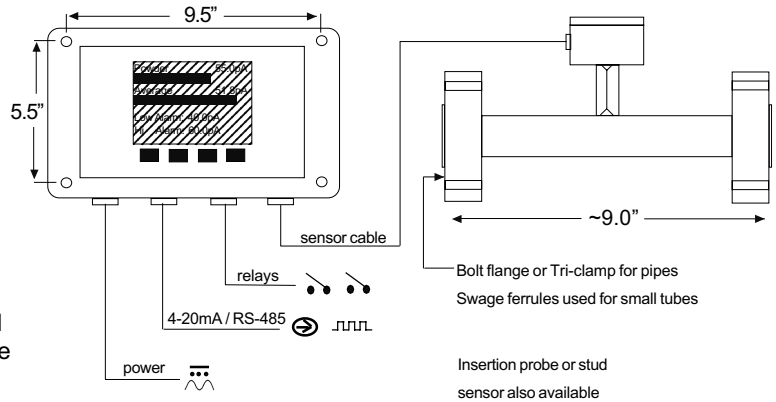
- Superior resolution over microwave and impact devices
- Verify injection of stack flue-gas neutralizing powders
- Optimize fluid-bed output, prevent cyclone overflow
- Balance injection of pulverized coal into boilers
- Control feeders, diverter valves and air flow dampers
- Monitor flow of catalyst, diaper absorbent, dry paint, mold release dust, abrasive cutting-jet particles & more

## PowderGauge

Model PF 70

### Control Unit Specifications:

Accuracy: +/-1% of output range  
 Resolution: +/-0.1pA (with fine span control)  
 Calibration: Absolute and Linear  
 Supply: 115/230VAC 50/60Hz, 24VDC opt,  
 Consumption: 12 watts max  
 Temperature: 10F to 120F (-12 to 49C)  
 Relays: 2 SPDT, 10A at 240VAC  
 4-20mA: Non-isolated, 500Ohms  
 Housing: NEMA 4X FRP, N 4/7/9 opt  
 Serial I/O opt: RS-485 Network  
 Flow Range: 50 to 50,000mg/m<sup>3</sup> (0.02 to 20gr/cf) std  
 Higher and lower ranges also available  
 Construction: Temperature tested, conformal coated  
 Designed intrinsically safe  
 Built-in I.S. barrier and UL, CSA components  
 FM, CSA, CE consult factory

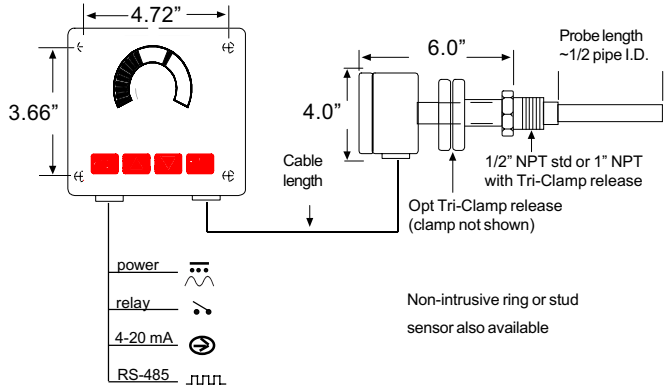


## SolidsGauge

Model SF 30

### Control Unit Specifications:

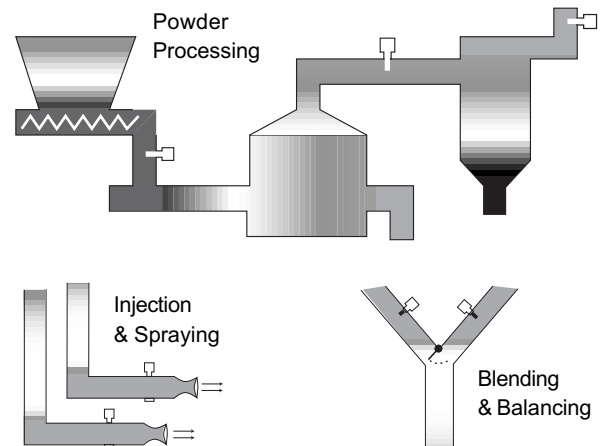
Accuracy: +/-5% of output range  
 Resolution: +/-1.0pA (with coarse span control)  
 Calibration: Absolute and Linear  
 Supply: 115/230VAC 50/60Hz, 24VDC opt  
 Consumption: 5 watts max  
 Temperature: -13F to +160F (-25 to 70C)  
 Relay: 1SPST, 5A at 240VAC  
 Housing: NEMA 4X alum, N 4/7/9 opt  
 4-20mA opt: Non-isolated, 500Ohms  
 Serial I/O opt: RS-485 Network  
 Flow Range: 50 to 50,000mg/m<sup>3</sup> (0.02 to 20gr/cf) std  
 Higher and lower ranges also available  
 Construction: Temperature tested, conformal coated  
 Designed intrinsically safe, built-in I.S. barrier  
 UL, CSA components - FM, CSA, CE consult factory



## Sensors

### Common Sensor Specifications:

Probe Style: 1/2, 3/4, 1, 3, 5, 10" std, >10" opt  
 Mount; 1/2" NPT, Tri-clamp opt  
 Non-intrusive: 1/8 to 1" I.D. (> 1" consult factory)  
 Mount; tubing swage or flange  
 Wetted parts: Teflon over 304SS  
 Ceramic over 304SS opt  
 External parts: 304SS, 316SS or other opt  
 Housing: NEMA 4X aluminum  
 NEMA 4X/7/9 opt  
 Process Temp: 250F (120C) std  
 450F (232C) & 1000F (538C) opt  
 Pressure: 30psi std (2.11kg/cm<sup>2</sup>)  
 Higher pressures opt  
 General: Designed intrinsically safe  
 Built-in surge protection  
 Passive sensor with no voltage  
 Sensor Cable: coaxial-400' max



Specifications Subject To Change

Made in USA

PARTICLE FLOW MONITORING TECHNOLOGY

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