

PM-1 Particle Monitor



Install on hydraulic & lube oil systems to monitor ISO Fluid Cleanliness Code

Eliminate bottle & dirty sampling port error with on-line particle monitoring

Ideal for dedicated in-line installations

Optional case & hose kit for field use

Large illuminated ISO Code display

Be Proactive Monitor Contamination

PM-1 allows you to recognize contamination level changes in hydraulic and lube oil systems. Monitoring on-line provides quick results and eliminates delay, error or potential doubt associated with bottle samples & oil analysis lab results.

Increasing ISO codes can indicate accelerated component or bearing wear, or symptomatic of some other issue such as insufficient filtration or breathers & worn seals.

Communication & Data Acquisition

PM-1 exports data to serial interface or optionally to a CAN-Bus (CANopen). In parallel, the configurable 4-20 mA interface can be connected. PM-1 operation based on time interval or start/stop with manual or digital input. PM-1 also has integrated data memory.

PM-1 Principle of Operation

PM-1 uses a laser to measure particle sizes and quantity by light extinction. A measuring cell is used to calculate corresponding voltage drop from the particles passing through the PM-1.

Pressure Range

PM-1 is designed for operating pressure up to 6,090 PSI / 420 BAR. For lower pressure lube oil systems alternative inlet & outlet fittings are available if the Minimes® standard connections are too restrictive. Minimes is a registered trademark of Hydrotechnik GMBH.

Specifications

Display	ISO Cleanliness Code (per ISO4406:1999) particle counts 4, 6, 14, 21 $\mu\text{m}_{[c]}$, SAE AS4059
Voltage	9 - 33 V
Operating Pressure	Up to 6,090 PSI / 420 BAR Dynamic
Protection Class	IP67
Flow rate	50 - 500 ml/min (require for operation)
Electric Connection	M12 x 1 (8 Pole)
Data memory	On-board 4MB storage capacity
Fluid Compatibility	Mineral oils and specified synthetics (phosphate ester by special option only)
Temperature Range	Oil: 14°F / -10°C to +176°F / 80°C Air: 14°F / -10°C to +140°F / 60°C (Storage: -4°F / -20°C to +176°F / 80°C)
Interface	RS-232, Analog output 4-20 mA configurable, Digitaler digital alarm output, Digital input to start and stop readings