Spinner II® Grid Switch™ Wear Detector

Grid Switch™ Wear Detector

The Spinner II® Grid Switch wear detector provides early warning of excessive wear in lubricated machinery. The detector continuously monitors lubricating fluids for metal debris — the first sign of trouble when bearings, connecting rods and other metal parts begin to experience accelerated wear.

When sufficient wear debris is present, the Grid Switch detector triggers a user-specified response. This response can be as simple as a warning lamp or audible alarm, or as sophisticated as an automated shutdown system. Early detection allows operators to perform proactive maintenance and avoid costly overhauls and downtime.

A Grid Switch detector system is effective with most lubricated machinery, including engines, transmissions, gear boxes, turbines, compressors and pumps. For hazardous environments, an intrinsically safe monitor and metal particle detector are available.

How Grid Switch Wear Detectors Cut Operating Costs*

- Takes the guesswork out of wear detection
- Improves process reliability
- May prolong equipment life
- Helps avoid catastrophic failures, unnecessary overhauls and equipment downtime
- Assists in identifying sources of wear

*Spinner II Grid Switch detectors are designed to assist operators in monitoring/identifying undesirable conditions. Like other monitoring devices, it is not guaranteed to increase engine life and/or eliminate catastrophic failures.

Specifications

PRIMARY APPLICATIONS: Engines, transmissions, gear boxes, turbines, compressors, pumps and other lubricated machinery

MATERIALS OF CONSTRUCTION: Anodized aluminum body and end cap (standard); 316 SST (intrinsically safe)

SEALS: Viton®

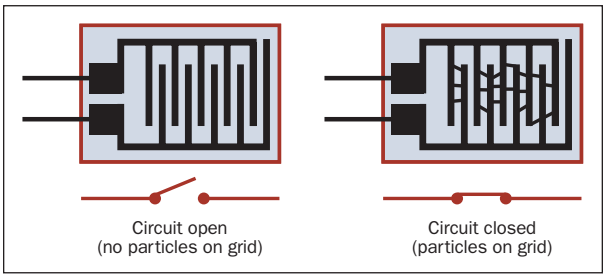
ELECTRICAL CONNECTIONS: Terminal plug, terminal block or 18-in. wire leads

GRID RATING: 3.5 volt-amps, 24vDC or AC

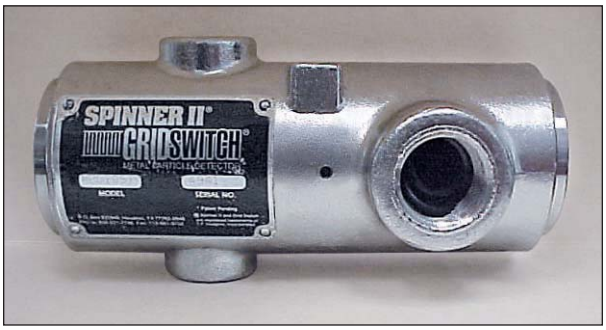
MAXIMUM WORKING PRESSURE: 200 psi (standard) up to 800 psi (high pressure)

Operation

1. Grid Switch detector installs directly into the pressure line of the lubrication circuit.
2. A small amount of lubricating fluid enters the unit and passes over an interlaced nickel/gold-plated electrical grid that intercepts metallic debris.
3. If the wear rate is sufficiently high, metal particles bridge the gaps between contacts, completing an electrical circuit and triggering an alert or safety shutdown circuit.
4. When a “Metal On Grid” condition is reached, visual inspection of the grid can reveal the source of wear so repairs can be made.
5. The grid is easily removed for inspection and (if installed with an inlet valve) can be serviced without system shutdown.



Metal particles bridge gaps on the grid, completing an electrical circuit and triggering an alert condition.



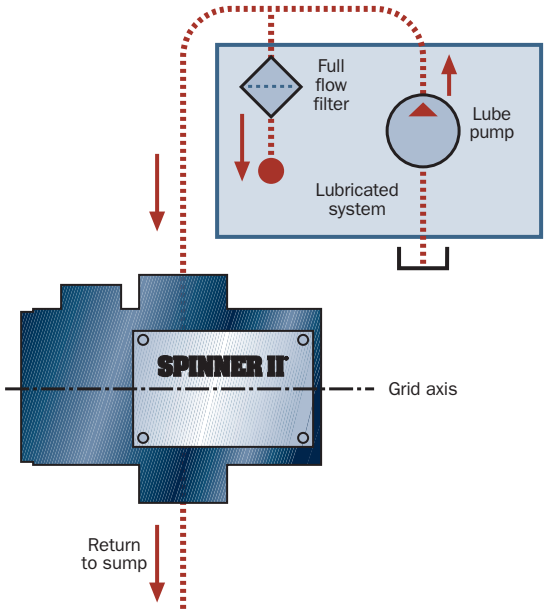
Intrinsically safe model approved for UL Class 1, Groups A, B, C and D when properly installed.

Grid Switch™ Wear Detector

Easy Installation*

The Grid Switch detector is small and lightweight (standard model is approximately 5 x 2 in. and less than 5 lbs.). It requires only hydraulic installation into a lube path and electrical connection to a power supply and alert/shutdown system. A Grid Switch alert is usually mounted on the operator's console so the grid status lamps are clearly visible.

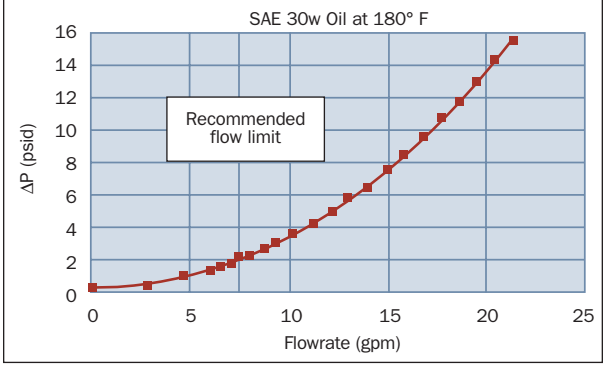
Typical Grid Switch Installation



Maintains Fluid Pressure

Fluid passing through the Grid Switch detector is returned to the oil sump or other components with negligible pressure drop. For maximum sensitivity to debris, the unit is located between the pump and filter. If used in conjunction with a Spinner II oil cleaning centrifuge, the detector is positioned upstream of the centrifuge.

Grid Switch Flow and Pressure Drop



SPINNER II® PRODUCTS

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ENGINE CARE SYSTEMS AUSTRALASIA PTY LTD

*For complete instructions, request Service & Installation Bulletin 71693.