

# SKF Multilog On-line System IMx-P

Portable multi-channel, multi-purpose on-line data acquisition and analysis system



**SKF Multilog On-line System IMx-P equipped with 16 analog inputs (dynamic and DC) and eight digital inputs.**

The SKF Multilog On-line System IMx-P is a powerful, versatile device designed to meet the needs of vibration analysts, service providers, and condition monitoring professionals.

Together with SKF @ptitude Observer software, the SKF Multilog IMx-P provides a complete portable solution for temporary installations and troubleshooting activities. The SKF Multilog IMx-P system helps provide early fault detection and prevention, automatic advice for correcting existing or impending conditions, and advanced condition-based maintenance to improve machine reliability, availability, and performance.

## Key features

- Up to 16 analog inputs (dynamic and DC) and eight digital inputs
- Single unit operation or as part of a network with multiple SKF Multilog IMx devices (including different types)
- Simultaneous measurement of all channels (up to 40 kHz)
- Multi-parameter gating
- Digital Peak Enveloping (DPE)
- Compact and lightweight
- Run up, Coast down
- Adaptive alarm levels
- Battery powered with up to four hours battery life (stand-alone)
- Data buffering in non-volatile memory when communication is down
- Fully supported by SKF @ptitude Observer software

## General description

The SKF Multilog IMx-P is battery powered with a battery life of approximately four

hours in continuous operation. The analog signal inputs are configurable for a wide variety of sensors.

Signals such as acceleration, velocity, and displacement or other parameters are easily adopted. Each input can be configured for standard accelerometers, eddy current probes, process inputs (4 to 20mA or 0 to 10 V DC), or  $\pm 25$  V.

In addition to the analog channels, eight digital channels may be used for measuring speed, trigger, or digital status (for example, indicating when a measurement can take place). Digital sensor power is software controlled.

Several measurement points may be configured per channel. In addition, Bias Output Voltage (BOV) can be measured and recorded for checking sensor/cable faults for standard accelerometers.

Individual conditions for warning and alarm may be set for each measurement point. Warning and alarm levels may be controlled by machine speed or load.

The SKF Multilog IMx-P can be used as a troubleshooting device or as part of a condition monitoring system with several other



## General description (continued)

units together in a network. The system can even run in an existing LAN together with other computers, printers, servers, etc. or over the internet.

The unit's unique built-in "hardware auto-diagnosis system" continuously checks all sensors, cabling and electronics for any faults, signal interruption, shortcuts, or power failure. Any malfunction triggers an alarm. If the main voltage fails or for some reason is disconnected, the battery power automatically takes over. In the case of system power failure, the system will automatically restart when the power returns.

## Analysis/diagnostics package

The SKF Multilog IMx-P is available bundled with SKF @ptitude Observer for SKF Multilog IMx-P, a powerful stand-alone version of SKF @ptitude Observer (supports SKF Multilog IMx-P only). SKF @ptitude Observer for SKF Multilog IMx-P includes both condition monitoring functions as well as advanced analysis/display features.

## Technical data

### Environmental

- Dimensions:
  - Height: 125 mm (4.92 in.)
  - Width: 350 mm (13.78 in.)
  - Depth: 250 mm (9.84 in.)
- Weight: 5 kg
- IP rating: IP 50
- Temperature range: 0 to +50 °C (32 to 122 °F)
- Humidity: 85% relative humidity, non-condensing

### Power supply

- Battery charger included (100 to 250 V AC, 50 to 60 Hz, 30 W)
- Rechargeable internal battery, 4 hours continuous operation

### Analogue inputs

- 16 analogue differential inputs (BNC connectors)
- Software controlled power supply for standard accelerometers (4 mA constant current) with status LED
- Input range:  $\pm 25$  V
- Impedance:  $>100$  k $\Omega$

### Digital inputs

- 8 digital isolated inputs (BNC connectors)
- Software controlled 24 V two-wire tachometer sensor power, with status LED
- TTL, two-wire tachometers, pulse, switches, etc.

### Analogue measurement

- 24-bit AD conversion enables continuous transient capture (no gain or AC/DC switching necessary)
- True simultaneous sampling of all 16 channels (no multiplexing)
- Parallel sampling of different channels with different sampling rates
- Frequency range: from DC to 40 kHz
- Dynamic range: 120 dB
- Signal to noise ratio: 90 dB
- Cross-talk rejection: 100 dB
- Accuracy amplitude:  $\pm 2\%$ , phase  $\pm 3^\circ$  (up to 100 Hz)

### Digital measurement

- Frequency range: 0.1 Hz to 20 kHz
- Accuracy frequency: 0.01%
- Pulse counting

### Signal processing and data acquisition

- Time waveform
- Vector analysis with circular alarms
- FFT: 400 to 6 400 lines
- Digital Peak Enveloping (DPE)
- Integration/derivation in frequency domain
- Window function: Hanning
- Customer formulated mathematical equations

- Dynamic alarm levels, active range determined on multiple parameters
- Data storage on time, event, or alarm condition
- Data buffering in flash memory when communication link is down
- Transient capture
- Parametric gating
- Detection of sensor and cable fault
- Watchdog and self testing

### Interface

- Two Ethernet: 100 Mbit RJ45, TCP/IP
- Built-in two port Ethernet switch for daisy chaining
- RS232 service interface
- Power switch (backside)
- Battery level indicator

### Miscellaneous

- Calibration, traceable to BIPM
- CE certified according to EN61000-6-3 and EN61000-6-2

## Ordering information

### Hardware only

- SKF Multilog On-line System IMx-P [CMON 2003]

### Hardware with stand alone software for SKF Multilog On-line System IMx-P

- SKF Multilog On-line System IMx-P and SKF @ptitude Observer for SKF Multilog IMx-P [CMON 2003-SW]

### SKF @ptitude Suite compatibility

- SKF @ptitude Observer for SKF Multilog IMx-P [CMSW 7620]
- SKF @ptitude Observer [CMSW 7600]
- SKF @ptitude Analyst [CMSW 7700]

## Installation and training

Installation and training available through your local SKF supplier or representative.

Please contact:

**SKF Reliability Systems**  
**SKF Condition Monitoring Center – Luleå**  
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