

# SKF Multilog On-line System IMx-S

24/7 condition monitoring to improve  
machine reliability



SKF Multilog On-line System IMx-S 16 (left) and the SKF Multilog On-line System IMx-S 32 (right).

The SKF Multilog On-line System IMx-S is the next generation of powerful, cost effective solutions for a variety of condition monitoring applications. Together, with SKF @ptitude Observer software, which is part of the SKF @ptitude Monitoring Suite, SKF Multilog IMx-S provides a complete system for early fault detection and prevention, automatic recognition to be able to correct existing or impending conditions, and advanced condition-based maintenance to improve machine reliability, availability, and performance.

## Key features

- Wall mounted
- 16 dynamic or DC inputs and 8 digital or speed inputs (Model SKF Multilog IMx-S with 16 channels)
- 32 dynamic or DC inputs and 16 digital or speed inputs (Model SKF Multilog IMx-S with 32 channels)
- True simultaneous measurements of all channels, true synchronous measurements programmable up to 16 analog channels
- Multi-parameter gating
- Multiple acceleration enveloping filters
- Adaptive alarm levels
- Data buffering in non-volatile memory when communication is down
- Output relay drivers
- Compatible with SKF @ptitude Monitoring Suite
- Special modules – turbine analysis
- Optional stainless steel enclosure





*SKF Multilog On-line System IMx-S 16 (left) and the SKF Multilog On-line System IMx-S 32 (right) are available with optional stainless steel enclosure.*

## General description

SKF Multilog On-line System IMx-S is a key component in an advanced condition monitoring system. It is a robust measurement unit designed for tough industrial environments.

Each SKF Multilog IMx-S 16 is equipped with 16 analogue signal inputs, and the SKF Multilog IMx-S 32 with 32 analogue signal inputs. The dynamic signal inputs are configurable for a variety of sensors. Signals such as acceleration, velocity, and displacement, or other parameters are easily adopted. Each input can be configured for standard accelerometers, proximity probes, 4 to 20 mA, or  $\pm 25$  V. In addition to the analogue channels, 8 digital channels on the SKF Multilog IMx-S 16 and 16 digital channels on the SKF Multilog IMx-S 32 may be used for measuring speed, trigger, or digital status, such as indicating when a measurement can take place. Several measurement Points may be attached to one channel and both AC and DC measurements can be measured on the same channel.

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

The SKF Multilog IMx-S performs as a machine condition monitoring system with several other units together in a network with the SKF @ptitude Observer Monitor. The system can 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, shorts or power failure. System alarms are automatically generated for any problems found. In the case of power failure, the SKF Multilog IMx-S will automatically restart when the power returns.

# Technical data

## Environmental

- Dimensions (height × width × depth):
  - Standard cabinet:
    - **IMx-S 16:** 500 × 400 × 155 mm (19.7 × 15.7 × 6.1 in.)
    - **IMx-S 32:** 500 × 500 × 220 mm (19.7 × 19.7 × 8.7 in.)
  - Stainless steel cabinet:
    - **IMx-S 16:** 500 × 400 × 210 mm (19.7 × 15.7 × 8.3 in.)
    - **IMx-S 32:** 500 × 500 × 220 mm (19.7 × 19.7 × 8.7 in.)
- Weight:
  - Standard cabinet:
    - **IMx-S 16:** 15,0 kg (33.1 lb.)
    - **IMx-S 32:** 21,0 kg (46.3 lb.)
  - Stainless steel cabinet:
    - **IMx-S 16:** 21,5 kg (47.4 lb.)
    - **IMx-S 32:** 23,1 kg (50.9 lb.)
- Stainless steel grade 304L
- IP rating: IP 65
- Temperature range: –20 to +60 °C (–4 to +140 °F)

## Power supply

- 100 to 250 V AC, 47 to 63 Hz
- Power consumption:
  - **IMx-S 16:** 30 W
  - **IMx-S 32:** 60 W

## Analogue inputs

- Analogue differential inputs:
  - **IMx-S 16:** 16
  - **IMx-S 32:** 32
- Individual 24 V power supply, maximum 35 mA / channel
- Sensor power controlled by DIP switches for each channel
- Input range: ±25 V
- Impedance: >100 kΩ

## Digital inputs

- Digital opto-isolated inputs:
  - **IMx-S 16:** 8 channels (4 channels for individual 24 V power supply, maximum 30 mA / channel)
  - **IMx-S 32:** 16 channels (8 channels for individual 24 V power supply, maximum 30 mA / channel)

## Outputs

- Relay driver outputs:
  - **IMx-S 16:** 4
  - **IMx-S 32:** 8

## Analogue measurement

- 24-bit AD conversion enables continuous transient capture (no gain or AC / DC switching necessary)
- True simultaneous sampling (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: ±2% (up to 20 kHz), ±5% (20 to 40 kHz)
- Accuracy phase: ±3° (up to 100 Hz)

## Digital measurement

- Frequency range: 0,1 Hz to 12,5 kHz
  - Required pulse width:
    - >4 μs for electrical positive
    - >40 μs for electrical negative
- Accuracy frequency: 0,05% of measurement value (typically 0,01% up to 2,5 kHz)
- Pulse counting

## Signal processing

- Time waveform
- Vector analysis with circular alarms
- FFT: 100 to 6 400 lines
- Acceleration enveloping
- Integration / differentiation in frequency domain
- Window function: Hanning, uniform
- 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
- Detection of sensor and cable fault
- Watchdog and self testing

## Interface

- Ethernet: 100 Mbit RJ45, TCP/IP
- RS 232 service interface
- Ethernet switch for daisy chaining
- RS 485

## Miscellaneous

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

## Ordering information

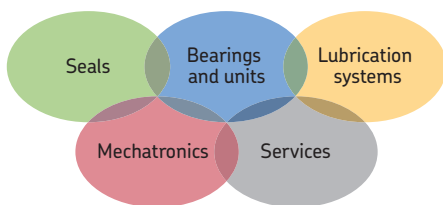
- SKF Multilog On-line System IMx-S with 16 channels [CMON 2002-16]
- SKF Multilog On-line System IMx-S with 32 channels [CMON 2002-32]
- SKF Multilog On-line System IMx-S with 16 channels, in stainless steel enclosure [CMON 2006-16]
- SKF Multilog On-line System IMx-S with 32 channels, in stainless steel enclosure [CMON 2006-32]

## Installation and training

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

## Product Support Plans (PSP)

A range of Product Support Plans is available to protect your investment. Contact your local SKF sales representative for additional information.



### The Power of Knowledge Engineering

Drawing on five areas of competence and application-specific expertise amassed over more than 100 years, SKF brings innovative solutions to OEMs and production facilities in every major industry worldwide. These five competence areas include bearings and units, seals, lubrication systems, mechatronics (combining mechanics and electronics into intelligent systems), and a wide range of services, from 3-D computer modelling to advanced condition monitoring and reliability and asset management systems. A global presence provides SKF customers uniform quality standards and worldwide product availability.

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