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SKF Multilog On-line System IMx-8

24/7 condition monitoring to improve machine reliability

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SKF Multilog On-line System IMx-8

The SKF Multilog On-line System IMx-8 is a powerful solution for condition monitoring applications requiring a lesser number of channels. It provides a complete system for early fault detection and prevention, automatic advice for correcting existing or impending machine conditions and advanced condition based maintenance to improve reliability, availability and performance.

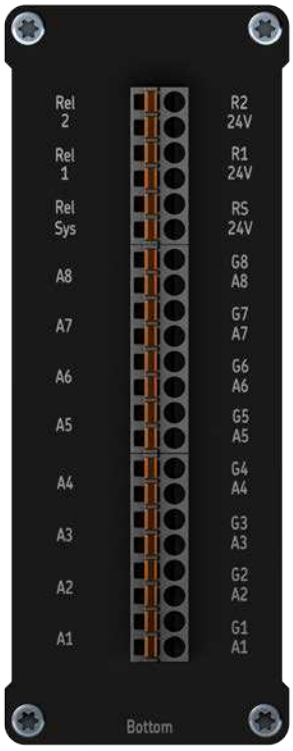
SKF Multilog IMx-8 packs high-spec condition monitoring into compact spaces. The booksized unit offers 8 analog and 2 digital channels, and interfaces with mobile devices as well as laptops for easy monitoring and setup. It can operate in either stand alone mode or together with SKF @ptitude monitoring suite software, providing insights that will help you avoid unplanned downtime and plan maintenance proactively. IMx-8 integrates easily with other IMx units and can connect you with SKF's Cloud service for storing and sharing data, and to SKF Remote Diagnostic Services.

The SKF IMx-8 has several industry specific certifications, and can be used in the following, typical industries:

- Wind energy
- Marine
- Machine Tool

Features

- Compact size – no bigger than a paper back novel
- Din rail or IP65 cabinet mounting
- 8 dynamic or DC inputs and 2 digital or speed inputs
- PoE (power over ethernet), 24–48 V DC
- Redundant power capability
- 4 GB internal memory – capable of storing a year's worth of machine data and numerous event captures
- Simultaneous measurements of all channels, true synchronous measurements programmable up to 8 analogue channels
- Multi-parameter gating
- Multiple SKF enveloping filters
- Adaptive alarm levels
- Data buffering in non-volatile memory when communication is down
- Output relay drivers – both alarming and system
- Stand alone mode or compatible with SKF @ptitude Monitoring Suite
- Crash detection capability (machine tools)
- Improved Modbus capability (TCP and over RS 485)
- Bluetooth configuration and data access in stand alone mode via iOS and Android device app
- SAT (Site acceptance test), and reports via iOS and Android device app
- DNV GL / ABS / Lloyds Marine type approval (pending approval)
- DNV GL Renewables Certifications (pending approval)



Wire connections for DC power input
DC input (CON8)

Pin	Description
+	+24 to +48 V DC (isolated from chassis/enclosure)
-	0 V DC (unrelated to GND)

Wire connections for analogue input 1 to 4
Analogue input 1 to 4 (CON1)

Channel	Pin	Description
A1	A1	Analogue in Ch1 (Signal)
	G1	Analogue in Ch1 (GND)
A2	A2	Analogue in Ch2 (Signal)
	G2	Analogue in Ch2 (GND)
A3	A3	Analogue in Ch3 (Signal)
	G3	Analogue in Ch3 (GND)
A4	A4	Analogue in Ch4 (Signal)
	G4	Analogue in Ch4 (GND)

Wire connections for analogue input 5 to 8
Analogue input 1 to 4 (CON2)

Channel	Pin	Description
A5	A5	Analogue in Ch5 (Signal)
	G5	Analogue in Ch5 (GND)
A6	A6	Analogue in Ch6 (Signal)
	G6	Analogue in Ch6 (GND)
A7	A7	Analogue in Ch7 (Signal)
	G7	Analogue in Ch7 (GND)
A8	A8	Analogue in Ch8 (Signal)
	G8	Analogue in Ch8 (GND)

Wire connections for relay driver 1, 2 and System
Relay driver 1, 2 and System (CON3)

Channel	Pin	Description
Rel Sys	24V	Digital out Relay_24V
	RS	Digital out Relay_Sys
Rel 1	24V	Digital out Relay_24V
	R1	Digital out Relay_1
Rel 2	24V	Digital out Relay_24V
	R2	Digital out Relay_2

Wire connections for Modbus/RTU and CAN
Modbus/RTU and CAN (CON4)

Channel	Pin	Description
RS485	RB	RS485_B
	RA	RS485_A
Ground	G3	GND
CAN	CL	CAN_L
	HL	CAN_H

Wire connections for digital/tacho in 1 to 2
Digital/Tacho in 1 to 2 (CON4)

Channel	Pin	Description
D1	G2	Digital in Ch2 (GND)
	D2	Digital in Ch2 (Signal)
	P2	Digital in Ch2 (Power)
D2	G1	Digital in Ch1 (GND)
	D1	Digital in Ch1 (Signal)
	P1	Digital in Ch1 (Power)

Hardware

Sofware controlled power supply for ICP sensors (4 mA)

Power	PoE and/or 24–48 V DC (Max. 13 W)
Analogue inputs	8 (sensor power with short circuit protection)
Analogue/Digital convertion	24 bits
Dynamic range	120 dB
Sensor and cable fault detection	Software configurable
Digital inputs	2 (sensor power with short circuit protection)
Relay/digital output	3 relay drivers (24 V) (2 for measurement alarming and 1 for system alarming total max. current 70 mA)
Data buffering	• 1 GB for trend and dynamic • 1 GB for event capture • 2 GB reserved

Built-in hardware auto diagnosis

Ethernet: RJ45	10/100 Mbit
Connection to data server	LAN (communication can easily be adopted through: TP cable, Fiber Optics, Two-lead copper wire, Wireless LAN, GPRS, ISDN, etc)
USB device interface	For service interface (Type mini-B)
USB host interface	For external interfaces for example Blootooth (Type A)
Connectors	• Removable terminal blocks • Push in connectors • Screw connectors

Part Number	Description
CMON 4108	SKF Multilog online system IMx-8 DIN rail version
CMON 4150	IP 65 cabinet with pre drilled holes for IMx-8
CMON 4151	IP 65 cabinet without pre drilled holes for IMx-8
CMON 4133	Mini USB cable (isolated) for IMx-8
CMON 4134	SKF Bluetooth dongle for IMx-8
CMON 4135	Set of double deck connectors and resistors for modbus termination and 4–20 mA inputs for IMx-8
CMON 4136	Analogue isolator module. 4–20 mA to voltage
CMON 4108-D	SKF Multilog On-line System IMx-8 Dummy device

Installation and training available through your local SKF supplier or representative

Measurement capabilities

- IMx-8 continuously acquires data from all channels simultaneously. It can also be configured to capture data under transient conditions.
- Data is stored based upon periodicity and alarm.
- All analogue channels can be associated to a transient measurement group.
- A maximum of 5 transient groups can be created
- IMx-8 can store pre and post data based on alarm conditions.
- Advanced parameter based data acquisition configurable for multiple operating conditions.
- Low and variable speed machinery monitoring capability down to 1 cpm.

Diagnosis Rules	Standard and customizable diagnoses rules
Analogue channels frequency range	From DC to 40 kHz
Maximum sampling frequency:	102,4 kHz
Cross talk rejection	< 110 dB @ 1 kHz
Accuracy	• Accuracy amplitude: ±2% (up to 20 kHz), ±5% (20 to 40 kHz) • Accuracy phase: ±3° (up to 100 Hz)
Digital channels frequency range	From 0,016 Hz to 20 kHz (1 cpm–1,2 Mcpm)
Speed accuracy	• Accuracy frequency: 0,05% of measurement value (typically 0,01% up to 2,5 kHz)
Harmonic data analysis	
Vector analysis	circular and sector alarms
Measurement point counts	• up to 56 active channels (including analogue, digital and virtual channels) • up to 100 active static measurement points • up to 80 active dynamic measurement points • up to 5 measurement groups (simultaneous, transient and/or event capture)

Physical and environmental specifications

Size DIN Rail enclosure (H x W x D)	104 x 173 x 40 mm *(4.1 x 6.8 x 1.6 in)*
Size wall mounted cabinet (H x W x D)	300 x 400 x 100 mm *(11.8 x 15.7 x 3.9 in)*
Weight	450 g *(0.99 lb)* (DIN rail enclosure)
Mounting	DIN rail or wall mounted
IP65 cabinet	6,7 kg *(14.77 lb)*
IP rate DIN rail enclosure	IP30
IP rate Wall mounted cabinet	IP65
Operating temperature range	–40 to +70 °C *(–40 to 158 °F)* for the DIN rail enclosure.
Storage temperature range	–60 to +70 °C *(–76 to 158 °F)*
Humidity	95% (relative) non-condensing

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Interfacing

IEC 61850-MMS	
CAN bus interface	Electrical interface
Modbus RTU over RS485	
Modbus TCP IP	
(S)NTP time synchronization protocol	
Oil particle counter	Modbus and digital inputs (Including Gastops and MetalSCAN)

Software/database/app support

Software	SKF @ptitude Monitoring Suite
SAT Tool and installation support	• via IMx Manager app for iOS and android • Reporting feature for measurement configurations
Reports	both in @ptitude Monitoring Suite and IMx Manager mobile app
Standalone mode	Configurable via IMx Manager app for iOS and Android, allows for basic measurement configuration or advanced configurations via machine templates
Plug and play mode	• Via IMx Manager app for iOS and Android
Network configurations	• Via On line device configurator • Via IMx Manager app for iOS and Android
Measurement configurations	• Via SKF @ptitude Monitoring Suite • Via IMx Manager app for iOS and Android
Automatic fw updates	• Via SKF @ptitude Monitoring Suite • Via IMx Manager app for iOS and Android
Viewer	• Via IMx Manager app for iOS and Android • Via controler side using modbus interfaces
Customer specific repository	• Machine templates • firmware • Network configurations
Customer security/protection	• IMx devices and repossitory user attached to specific companies and data encripted

Certifications

DNV GL Renewables	GL-IV-4:2013, Guidance for the Certification of Condition Monitoring Systems for Wind Turbines.
DNV GL Marine Type	DNV No 2.4:2006 Location class: “All locations except bridge and open deck” EMC A
ABS Marine Type	ABS Part 4:2011, *chapter 9*, *section 7*, *table 9* and *10*, Installation class: “General power distribution zone”
Lloyd’s Marine Type	Lloyds Register, Test Specification n:o 1, July 2013, Equipment in general power distribution zones
CE directive	EMC Directive 2014/30/EU
EMC	EN 61000-6-4:2007/A1:2011
ETL	EN 61000-6-2:2005 LVD-directive starts to apply from 75 V DC

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PUB CM/P2 17192 EN · February 2017