

SKF Microlog Analyzer

CMXA 51-IS

ATEX and IECEx certified – intrinsically safe portable data collector / FFT analyzer

Collects data in hazardous locations

Operations and maintenance personnel faced with hazardous environments in their plant locations must use specific data collection instruments with an “intrinsically safe” (IS) designation.

The SKF Microlog Analyzer CMXA 51-IS, an intrinsically safe, rugged and portable, hand-held instrument, allows for the collection of vibration, process, and dynamic data in hazardous environments. Such industries include petrochemical, water treatment and pharmaceutical, as well as others where IS regulations apply.

The SKF Microlog Analyzer CMXA 51-IS has achieved the Intrinsic Safety rating from the European regulatory agency, SIRA, and is rated Group I (Mining) and Group II (Petrochemical).

- ATEX and IECEx



- Ga Ex ia IIC T4 (Ta -20 to +50 °C)
- Ma Ex ia I (Ta 0 to +50 °C)
- Complete system includes ATEX approved sensor

Features

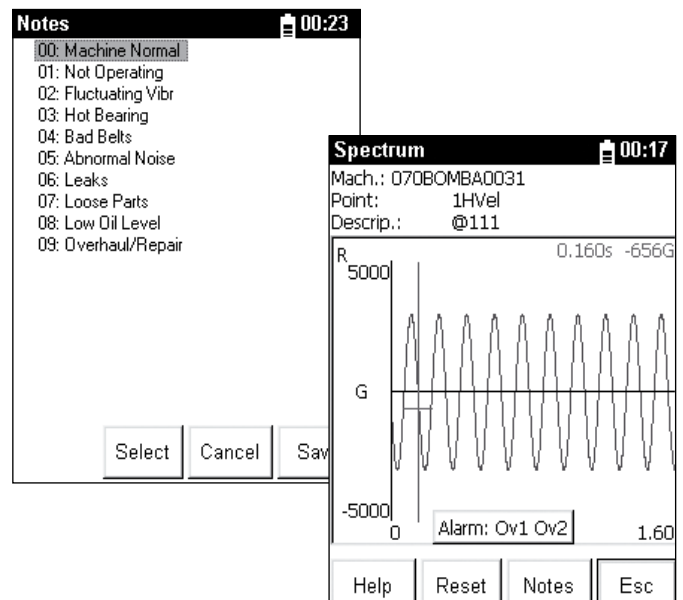
- 1/4 VGA (240 x 320) backlit monochrome touch screen LCD
- Intuitive user interface with left or right hand operation and context sensitive “Help” function
- Four cursor keys, and numeric keypad for easy screen navigation and user input
- Acceleration Enveloping (gE), SKF technology for bearing assessment
- Red, amber, green LED indicators
- One data acquisition and one phase channel for compatibility with ICP accelerometers, velocity transducers, displacement probes, infrared temperature sensors, photo-optical pick-ups, DC inputs and manual entry
- WindowsCE operating system



Integration with SKF @ptitude Monitoring Suite

The SKF Microlog Analyzer CMXA 51-IS integrates with SKF @ptitude Monitoring Suite, a comprehensive software solution with powerful diagnostic and analytical capabilities.

For additional information on the SKF Microlog Analyzer CMXA 51-IS, contact your local SKF sales representative or visit our web site at www.skf.com/cm/microlog.



Specifications

Input sources

Input signal types:	ICP accelerometers, velocity transducers, displacement probes, infrared temperature sensors, AC/DC inputs, acceleration, photo optical pick-ups, manual entry
Signal input:	ICP (20 V at 3,5 mA), AC signal, DC signal, tachometer (trigger input – photo optical, etc.) power input – battery charge

Input parameters

Input signal range:	- ICP: 0 to 20 V - Non ICP: ± 12 V, or 0 to 24 V for displacement
Signal:	RMS / peak / peak-to-peak / true peak / true peak-to-peak
Transducer check:	Bias voltage integrity (ICP)
Auto range:	Yes
Dynamic range:	>85 dB (20 bit ADC sigma-delta)
Amplitude accuracy:	5%
Input connectors:	- Signal: Four pin Fischer, 102 type - Power in / battery charge: Two pin Fischer, 102 type - Trigger: Three pin Fischer, 102 type

Measurement processing

Measurement parameters:	Acceleration, velocity, displacement, gE, temperature, phase, voltage, user specified
Measurement types:	Overall, spectrum, time waveform, phase, order nominalized
Range (route and non route):	3 to 40 Hz
Frequency range:	DC to 40 kHz maximum
Integrated measurements:	5% Accurate >10 Hz
Filters – high pass:	2 and 200 Hz hardware filter, second order
Bearing condition:	gE, dHFD
gE Filters:	5 Hz to 100 Hz 50 Hz to 1 000 Hz 500 Hz to 10 kHz 5 kHz to 40 kHz
FFT resolution:	100 to 6 400 lines (route), 100 to 12 800 (non-route)
Averaging:	Time, spectral, peak hold
Alarms:	Overall and spectrum
Note codes:	100 note codes (select up to 6 from 100)
Measurement windows:	Hanning, flattop and rectangular
Multi-point automation:	Up to 12 measurements can be linked for one button push automated data collection for each measurement location

Data processing and storage

Microprocessor:	MIPS
Memory:	- OS 16 MB flash - Disk (user data) 8 MB flash

Data processing and storage (continued)

Microprocessor:	MIPS
Memory:	- OS 16 MB flash - Disk (user data) 8 MB flash

Data displays

Data displays:	Spectrum, time, phase table, and process Up to 12 bands (fixed or order base) downloadable from host software Machine identification: Plant, train, machine and point ID, point description, units, alarm levels, previous measurements, alarm types
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Power

Battery size:	Custom rechargeable NiMH 1 800 mAh removable battery pack - No loss of data during battery charges - Battery charges in the collector
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Physical data

Keyboard:	Sealed chemical resistant elastomeric silicon, tactile touch, alpha-numeric
Dedicated keys:	Up, down, right and left two enter keys for right and left hand operation
LCD screen:	1/4 VGA Monochrome touch screen, 240 x 320 pixels (57 x 76 mm) viewable
Size:	- Narrowest point: 186 x 93 mm (7.44 x 3.72 in.) - Widest point: 186 x 134 mm (7.44 x 5.36 in.)
Weight:	700 grams (1.51 lb.)

Environmental

	II 1G	ATEX and IECEx
	I M1	Ga Ex ia IIC T4 (Ta -20 to +50 °C)
		Ma Ex ia I (Ta 0 to +50 °C)
		CE rated
IP rating:	IP 65 (Dust and Waterproof)	
Temperature range storage:	-20 to +60 °C (-4 to +140 °F)	
Temperature range operating:	-10 to +50 °C (+14 to +122 °F), or as required by the safety approval	
Humidity:	0 to 80% relative humidity, non-condensing	
EMC:	- EN61000-6-4 (Emission) - EN61000-6-2 (Susceptibility)	
Drop test:	1 meter (3.3 ft.), to ATEX specifications	

Communications

Communication:	RS 232, SKF Microlog protocol
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Printing

Printing:	PCL and PJ 200 compatible printers through interface
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Host software

Software:	SKF @ptitude Analyst, version 3.1.3 or higher
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Ordering information

Standard kit

The SKF Microlog CMXA 51-IS-K-SL Intrinsic Safe (IS) Portable Data Collector / FFT Analyzer standard kit includes:

- SKF Microlog CMXA 51-IS-SL unit, programmed for one-channel route measurements and one-channel off-route
- CD with user manual, utilities, asset information page and literature
- Accelerometer [CMSS 2210]
- Accelerometer, IS GPII ICP (100 mV/g)
- Accelerometer cable, Fischer four pin, 2 m (6.6 ft.) coil, to two pin MIL [CMAC 5115]
- Magnetic base [CMAC 5114]
- RS-232 Communication cable [CMAC 5201]
- Intrinsically safe battery pack [CMAC 5105]
- Power adapter / charger [CMAC 5110]
- Hard shell transit case [CMAC 5118]
- Leather hand strap [CMAC 5013]
- Leather neck strap [CMAC 5113]
- Intrinsically safe carrying pouch [CMAC 5111]
- Stylus [CMAC 5251]

Optional accessories

A number of accessories are available to complement the SKF Microlog CMXA 51-IS. These include:

Accelerometers

- Accelerometer, ATEX (100 mVg) [CMSS 793-EE]
- Accelerometer, IS GPII ICP, MTN/1100I (100 mVg) [CMSS 2210]
- Magnetic base accelerometer (pull-strength, 20 kg, 1/4 x 28 UNF male thread Ø 35 mm two pole) [CMSS 908-MD]



Cables

- Accelerometer cable, CA-40, Fischer four pin, 2 m (6.6 ft.) coil, to two pin MIL [CMAC 5115]
- AC / DC signal cable, CA-41, Fischer four pin, 2 m (6.6 ft.) straight, to BNC [CMAC 5116]
- Trigger cable, CA-43 Fischer three pin, 2 m (6.6 ft.) straight, to BNC [CMAC 5117]

Battery and power supply

- Power adapter / charger [CMAC 5110]
- Intrinsically safe battery pack [CMAC 5105]

Miscellaneous accessories

- Hard shell carrying case (transit case) [CMAC 5118]
- Leather hand strap [CMAC 5020]
- Leather neck strap [CMAC 5113]
- Intrinsically safe carrying pouch [CMAC 5111]
- Stylus [CMAC 5251]

Power cords

- Power cord, US [CMVA 3351]
- Power cord, Australia [CMAC 4222-AU]
- Power cord, Switzerland [CMAC 4222-CH]
- Power cord, Denmark [CMAC 4222-DU]
- Power cord, European [CMAC 4222-EUR]
- Power cord, Israel [CMAC 4222-IL]
- Power cord, Italy [CMAC 4222-IT]
- Power cord, Japan [CMAC 4222-JP]
- Power cord, United Kingdom [CMAC 4222-UK]

Note: Contact your local SKF Sales Representative for any export restrictions.