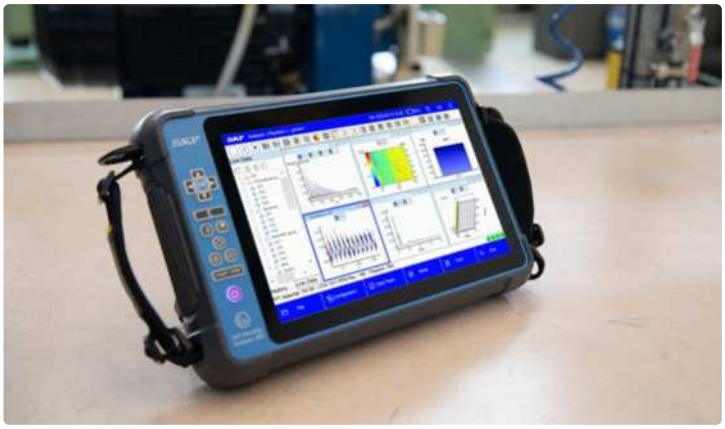
Advanced data collector / FFT analyzer

SKF Microlog Analyzer dBX

CMVA 90 and CMVA 90-EX



The SKF Microlog dBX is the most advanced large screen vibration analyzer offered by SKF today. Its features allow you to capture a wide range of vibration data quickly. The analyzer provides the flexibility to support applications that are most important to your company's specific predictive maintenance program. Developed for use in a wide range of industries.

Key features

- **Large screen** – 10.1 in. high resolution colour display for easy viewing and analysis in any light. Displays up to 6 plots on screen
- **Simultaneous triaxial measurements** for fast data collection
- **Multi-Point-Automation (MPA)** – SKF's fastest vibration analysis, saves time taking measurements
- **Easy to use** – get you started quickly with minimum training
- **Rugged** – dust and water ingress IP 65 design for reliability in industrial environments
- **Rechargeable lithium battery** supports up to eight hours of continuous data collection
- **For hazardous environments** – Designed to meet the needs of a wide range of industries, the SKF Microlog dBX is available for use in both safe and hazardous areas

Modular offers

The modular application design of the SKF Microlog dBX offers customers the option to upgrade and expand functionality without having to buy another instrument. Sensors and cable accessories are inter-changeable between previous SKF Microlog CMXA series models. To add additional functionality, units can be upgraded to more advanced models, by simply purchasing optional accessories.

Measurements

Input channels:	4 analogue input channels with IEPE bias voltage, tacho channel with built-in power supply for laser tachometer
Data acquisition:	24-bit A/D converter (>90 dB dynamic range)
Max. bandwidth:	40 kHz (102.4 kHz sampling rate)
Accuracy:	± 2.5% of full scales range
Measurements parameters:	Acceleration, velocity, displacement, SKF gE bearing condition, phase, voltage, and speed
Multi-Point-Automation:	Up to 12 measurements can be listed for (MPA) one button push automated data collection at each measurement location

Environmental

Operating temperature:	-10 to +50 °C *(13 to +122 °F)*
Storage temperature:	-20 to +60 °C *(-4 to +140 °F)*
IP rating:	IP65 dust and water ingress to EN 60529 specification
Rugged:	1.2 m *(4 ft)* drop test to MIL STD 810 specification
Approvals:	CE, UKCA, FCC, KC, RCM
Hazardous environment approvals:	ATEX II 3G Ex ic IIC T4 Gc IECEx Ex ic IIC T4 Gc. Class I, Division 2, Groups A,B,C,D T4. Class I, Zone 2, AEx ic IIC T4 Gc

Physical

Dimensions:	300 x 195 x 50 mm *(11.8 x 7.7 x 1.97 in)*
Weight:	1.9 kg *(4.2 lbs)*, 1.7 kg using single battery
Keypad:	Backlit keys, up, down, right and left, OK, cancel, menu key, right click, cursor toggling, zoom, start/stop measurement key, power on/off
Connectors:	BNC on 4 input channels, 6-pin Fischer, 7-pin Fischer (Microlog CMXA series compatible). Note BNC nor 7-pin Fischer can be used in hazardous environments.
LCD screen:	10.1 in. multi-point colour touch screen, 1280 x 800 pixels, for indoor and outdoor use
Audio Playback:	Built-in Bluetooth audio playback support (CMVA 90-EX and CMVA 90-F only)
Camera:	built-in, rear facing camera
RF tag identification:	Near-field communication (NFC) reader, built-in, located on rear
PC interface:	USB A-type connector

Power source

Battery:	2x Lithium-ion polymer rechargeable/swappable batteries. Working time up to 8 hours. Note: batteries can not be swapped in hazardous environments.

Application	CMVA 90-M CMVA 90-EX	CMVA 90-F
Data Collector is used as part of a condition-based maintenance program. It enables users to collect a sequence of pre-defined measurements along a 'route' through a plant area. Routes are downloaded on to the SKF Microlog dBX from SKF host software.	●	●
Microlog dBX Analyzer allows you to set-up user-defined measurements and immediately collect data for analysis purposes, at locations not downloaded as part of a route.	●	●
Balancing is an easy-to-follow procedure to perform precision balancing in 1,2,3,4 planes, and over-hung rotor appliczations. Features include a heavy-spot locator, multiple points on clear display screens and graphical representations.	●	●
Bump Test is a simple and easy tool for performing an impact test, in order to identify natural frequencies of a machine or structure.	●	●
gE Enveloping is an analysis tool, using field-proven SKF algorithms, to detect rolling element bearing defects at an early stage.	●	●
FRF & ODS Analysis acquires Frequency Response Function data that can be used to determine the Operating Deflection Shape (ODS) of a machine. The data is uploaded into a host software to visualize the behavior on a wire-frame model.	●	●
Order Tracking enables experienced users to diagnose complex rotating machinery issues by means of order analysis, with the SKF Microlog dBX connected to a speed and/or phase reference signal.		●
Data Recorder enables you to record vibration signal waveforms of user-defined lengths in time. Recorded waveforms can be imported into SKF host software for post-processing, where they are typically used to analyse low-speed machinery.		●
Orbit Analysis provides shaft orbit displays, for diagnosis of issues in fluid-film bearings. The SKF Microlog dBX would typically be connected to buffered signal outputs, X-Y and phase reference, of an installed machinery protection system.		●
RunUp CoastDown is used to identify excitation of critical resonant frequencies during the start-up or shut-down phase of a machine. It is normally applied to larger variable-speed equipment and SKF Microlog dBX would typically be connected to buffered signal outputs, X-Y and phase reference, of an installed machinery protection system.		●

Ordering information

All CMVA 90 kits includes:

- CMVA 90 Microlog dBX, programmed with SKF Data Collector, SKF dBX Analyzer, SKF Balancing, SKF gE Enveloping, SKF Bump Test and SKF FRF & ODS Analysis applications
- CMAC 9206 Two (2) batteries
- CMAC 9001 Universal power supply with 4 power cords
- CMAC 9002 Power adapter cable
- CMAC 9010 USB A-Type to A-Type communications cable
- CMAC 9015 SKF branded carry case
- Certificate of calibration and conformance

Standard kit CMVA 90-M-CK-SL includes:

CMVA 90-M Microlog Analyzer dBX in addition kit includes;

- CMAC 9016 Two (2) hand straps
- CMAC 9017 Neck strap
- CMSS 2200 General purpose accelerometer, cable and magnet mount

Extended kit CMVA 90-F-CK-SL includes:

CMVA 90-F Microlog Analyzer dBX in addition kit includes;

- In addition programmed with SKF Order Tracking, SKF Data Recorder, SKF RunUp CoastDown and SKF Orbit Analysis applications
- CMAC 9016 Two (2) hand straps
- CMAC 9017 Neck strap
- CMSS 2200 General purpose accelerometer, cable and magnet mount

Hazardous environment kit CMVA 90-EX-CK-SL includes:

CMVA 90-EX Microlog Analyzer dBX for hazardous environments in addition kit includes:

- CMAC 9026 Two (2) hand straps for hazardous environments
- CMAC 9027 Neck strap for hazardous environments
- CMSS 787A-IS Hazardous environment rated general purpose accelerometer, cable and magnet mount
- Hazardous environment safety sheet

CMVA 90-M-F-UPGRADE software application license includes:

- Upgrade from standard (M) or hazardous environment (EX) to extended (F) version, software license for SKF Order Tracking, SKF Data Recorder, SKF RunUp Coast-Down and SKF Orbit Analysis

Class I, Division 2, Groups A,B,C,D T4
Class I, Zone2, AEx ic IIC T4 Gc

ATEX II 3G Ex ic IIC T4 Gc
IECEx Ex ic IIC T4 Gc

Add the accessories you need

A number of accessories are available to complement the SKF Microlog Analyzer dBX. To allow for maximum application flexibility, the device is not supplied with vibration sensors or cables in the box, but these can be ordered separately.

PUB CM/P8 19761/2 EN · June 2025