## "SMART"

# Microlog CMVA 60
## Portable Data Collector/FFT Analyzer

The Microlog CMVA 60 is the newest addition to the SKF line of portable data collectors/analyzers.

With a range of new features and functions, the CMVA 60 offers the greatest value yet for your reliability investment. Imagine an instrument that not only collects vibration data and performs standard analysis functions, but also incorporates on-board intelligence to facilitate detection, analysis and correction of machine problems.

The CMVA 60 carries on the tradition established by its predecessor with "Wizards™" – embedded intelligence that facilitates critical analysis and correction with minimal setup effort. Intuitive menus and preset defaults ensure that all of the commands you need for a specific application are conveniently located and accessible with a single keystroke. Wizards make it easy for novices and experts alike to detect, analyze and correct machine problems.

Also new in the CMVA 60 is a downloadable Frequency Analysis Module (FAM) which automatically overlays not only bearing defect frequencies on a collected spectra, but any defect frequency including unbalance, misalignment, looseness and more! This makes identification of bearing and other mechanical/structural problems a snap.

Virtually all you need to perform like a maintenance superstar is at your fingertips with the CMVA 60. While competitors provide "teaser" capabilities that require the purchase of additional modules or products to actually utilize the function, the CMVA 60 provides it all in a single package. What does this mean to you? The power to dramatically improve your plant's reliability efforts while maintaining your budget.

For additional information on the Microlog CMVA 60, contact your local SKF Condition Monitoring Sales Representative or visit our web site at www.skfcm.com.

## SPECIFICATIONS

### INPUT SOURCES

Acceleration, Velocity, and Displacement from hand-held or installed sensors or monitoring systems.

*SEE*™ **Sensor:** CMSS 786M *SEE* sensor
**AC/DC Current Sensors**
**Pressure Sensors**
**Temperature Sensors**
**Keyboard Entry:** Measurements read from indicators or installed instruments entered in engineering units. Maximum of eight (8) places including sign (+ or –) and decimal point.
**Universal Tachometer Input:** Accepts pulse inputs up to ± 25 volts.
**Visual Inspections:** Added to measurement as coded notes or in plain language to a total of 32 characters per measurement point.

### PREPROCESSING

**Hardware Enveloper (Demodulator):** With four (4) selectable input filters for enhanced bearing and gear mesh fault detection.
**Filter Selection:** 5 Hz–100 Hz; 50 Hz–1,000 Hz; 500 Hz–10 kHz; 5 kHz–40 kHz.

### INPUT PARAMETERS

**Tachometer:** Minimum pulse amplitude 2 volt peak to peak, 10% rise/fall time, minimum 0.1 ms pulse width, and conditioning circuitry.
**Input Impedance:** 1 M Ohm.
**Input Coupling:** Low frequency 3 dB roll off at 0.5 Hz.
**Input Voltage Range:** AC ± 25 V peak, DC ± 50 V.
**Dynamic Range:** 80 dB (14 bit signal conversion) plus 60 dB of gain ranging for a total signal input range of 140 dB.
**Amplitude:** Accuracy within 1% input at one specified frequency.
**Input Connectors:** BNC (3) input, output, and tachometer/phase and multi-pin D connector.

### DATA PROCESSING AND STORAGE

**Microprocessor:** Intel, 32 bit 25 MHz microprocessor.
**Memory:** 6 Mb (Flash 4 Mb) 70 ns

### MEASUREMENT

**Range:** 0.5 Hz to 20 kHz (*continuously adjustable*).
**Averaging:** Programmable from 1 to 9,999.
• *Type:* Average, peak hold, synchronous time, and off.
• *Mode:* Continuous, finite, and repeat.
**Markers:** Fixed and cursor lock. Single, harmonic, relative, and sideband.
**Trigger Modes:** Amplitude trigger thresholds, trigger slope, and pre- and post trigger time delays are fully programmable. Free run, external, and input.
**FFT Analysis:**
• *Start Frequency:* Preprogrammed between 0 and the maximum frequency (true zoom).
• *Maximum Frequency:* Selected between 1 Hz and 20 kHz.
• *Resolution:* Programmable 100, 200, 400, 800, 1600, 3200, and 6400 lines.
• *Frequency Accuracy:* 0.01% of the frequency measured at the position of the display cursor.
• *Measurement Windows:* Hanning, Uniform, and Flat Top.
**Data Collection Rate:** Up to 5X rate of previous generation data collectors.
**Multi-Point Automation:** Up to 12 measurements can be linked for one button push automated data collection for each measurement location.

### DATA DISPLAYS

• Single or dual split screen – magnitude, time, and phase.
• Digital tracking filter (1x and 2x).
• Amplitude vs. degrees and amplitude vs. time.
• Motor current analysis (zoomed and enveloped).
• Up to 12 bands (fixed or order based) downloadable from host software.

# Microlog CMVA 60 Portable Data Collector/FFT Analyzer

## SPECIFICATIONS

### POWER
- Battery Size: 7.2 V 3.8 AH
- Long life removable NiMH battery packs
- No loss of data during battery charges.
- Field and office removable batteries with no tools required.
- Smart charger module.

### APPLICATION RESIDENT PROGRAMS
- *Basic Balancing Wizard ™*
- *Advanced Balancing Wizard ™*
- *Tracking Filter Wizard ™*
- *Cyclic Analysis Wizard ™*
- *Motor Current Wizard ™*
- *Bump Test Wizard ™*
- *Configuration Wizard ™*
- *Run-Up/Coast Down Wizard ™*

### MODES OF DATA COLLECTION
- *Route*
- *NonRoute*
- *Analyzer*

### PHYSICAL DATA
**Keyboard:** Sealed chemical resistant elastomeric silicon, tactile touch.
- *Dedicated Keys:* Right, left, up, and down arrow; right and left handed enter; backlight; markers on/off, freeze display, zoom in/out, save data, display expand, set RPM (running frequency index for orders), reset measurement, LIN/LOG, and shift cursor.
- *Hot Keys:* Find peak, find last route point measured, overall and cursor values, motor current fault criteria and Fmax.

**LCD Screen:** One button activated backlight, 5.000" (127mm) x 4.375" (111mm) with replaceable snap-on lens cover.
**Case:** High impact polycarbonate polyester injection molded with IP64 dust and splash rating.
**Size:** 7.88" (W) x 10.50" (H) x 2.50" (D) [200mm (W) x 267mm (H) x 64mm (D)]
**Weight:** 5 lbs. (2.3 kg)

### ENVIRONMENTAL
**CSA "C and US" Mark:** Class I, Division 2, Groups A, B, C, D (Similar to EEx nIIC, Zone 2)
**CE Mark [ C E ]:** EN50081-2, EN50082-2.
**IP Rating:** IP64 (dust and splash proof)
**Temperature Range Storage:** +14°F to +140°F (-10°C to +60°C)
**Temperature Range Operating:** +14°F to +122°F (-10°C to +50°C)
**Humidity:** 95% non-condensing

### COMMUNICATIONS
**Communication:** 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115,200 baud rates and ability to input modem commands.

### PRINTING
LaserJet or Dot Matrix, 8.5" x 11.0" and A4 metric formats (CMSS 6160 Printer Adapter must be used).
**The following printers have been tested for Microlog CMVA 60 compatibility:**
- *H-P Models:* LaserJet III, 4, 4 Plus, 5L, 5N, 6L, 2100SE, 4000, and 4000N.
- *Epson Models:* Stylus Color 440, Stylus Color 740, Stylus Color 900, LQ50, and LQ510.
- *Canon Models:* Bubble Jet BJC 620.
- *NEC Models:* 1260 Super Script.

*See SKF Condition Monitoring website for complete list of supported printers.*

## ORDERING INFORMATION

### Standard Kit

**CMVA 60** Microlog Data Collector/FFT Analyzer, Single Channel

**CMVA 6112-CE** Microlog Support Module

**CMVA 50230-4** Battery Pack, NiMH (Spare)

**CMVA 3355** AC/DC Adapter, Universal 115V/230V

**CMVA 3351** Cable Power Cord For CMVA 3355 UL110

**CMVA 6131** Microlog Carrying Case, Nylon, Black

**CMSS 50077A-CE** Cable, Microlog to Support Module, 4 feet

**CMSS 50080-CE** Cable, Support Module to PC, 4 feet

**CMAC 4301** BOV Adapter

**CMSS 50079-CE** Cable Microlog to BNC (No Power) 5 feet

**CMSS 2200** Accelerometer

**CMSS 31707500-CE** Cable Microlog to CMSS 2200 Accelerometer

**CMSS 60139-04** Stinger Accelerometer Tip 4.5 inches

**CMSS 908-MD** Magnetic Base, Accelerometer, 1.5 inches

**31641400** Installation and Implementation of Portable Condition Monitoring Programs

**31788700** Flash Code Disk

**CM-F 0072S** Machinery Data Sheets (25 Sheets)

**CM-F 0077** Literature, Using Machinery Data Sheets

**31824600** Microlog Standard Languages User Manual and Firmware on CD-ROM

### Optional Kits

CSA (Non-incendive Kits) Available.

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### Optional Accessories

**CMAC 4300** Microlog to MARLIN Stud Adapter

**CMAC 4360-K** Triax Accelerometer Kit

**CMCP 800-01** Microlog Field Balancing Accessory Kit with Optical Sensor

**CMCP 800-02** Microlog Field Balancing Accessory Kit with Laser Sensor

**CMAC 4200-SL** Infrared Therometer

**CMIN 400-K** Inspector 400 Ultrasonic Probe

**CMSS 6160** Printer Adapter

**CMSS TMDT2K** Digital Thermometer Kit

**CMSS 6187-CE** "Primary" Current Clamp Probe (0-60 amps and 0-600 amps AC and DC)

**CMSS 6187-1-CE** "Secondary" Current Clamp Probe (0-20 amps and 0-200 amps AC and DC)

**CMSS 6190L** Audio Headphones (No special cables required.)

**CMSS 6165K-0-CE** (115V) and **CMSS 6165K-1-CE** (230V) StrobeLite Kits

**CMSS 6155K-0-W** (115V) and **CMSS 6155K-1-W** (230V) Optical Phase Reference Kits

**CMSS 6195K-0-W** (115V) and **CMSS 6195K-1-W** (230V) Laser Phase Reference Kits

**CMSS 50401** 25 foot (7.5 meters) Extension Cable for CMSS 6155 Optical Phase Reference Kit and CMSS 6195 Laser Phase Reference Kits

**CMSS 6156** Magnetic Holder for CMSS 6155 Optical Phase Reference Kit and CMSS 6195 Laser Phase Reference Kits

**CMVA 6132-HD** Hard Shell Carrying Case

**CMSS 6188K** High Temperature Accelerometer Kit

**CMSS 797L** Low Frequency Accelerometer

**CMVA 60LS** One (1) Packet with Five (5) Replaceable Snap-On Lens Cover

**PSP051** One (1), Two (2) or Three (3) Year Product Support Plans

CERTIFIED ISO 9001