

SKF Machine Condition Advisor

CMAS 100-PROMO Machine check bundle

The CMAS 100-PROMO is a machine check bundle that features two instruments: the SKF Machine Condition Advisor (CMAS 100-SL) and the SKF Infrared Thermometer (TKTL 10).



SKF Infrared Thermometer, TKTL 10.



SKF Machine Condition Advisor, CMAS 100-SL.

Now both novice users and experts can easily, quickly and accurately check the condition of rotating equipment throughout your facility. Equipping your maintenance and operations personnel with these rugged, ergonomic and easy-to-use instruments can provide early warning of potential machine problems before a costly failure occurs.

The SKF Machine Condition Advisor, CMAS 100-SL, simultaneously measures vibration signals and short range temperature to indicate machine health or bearing damage.

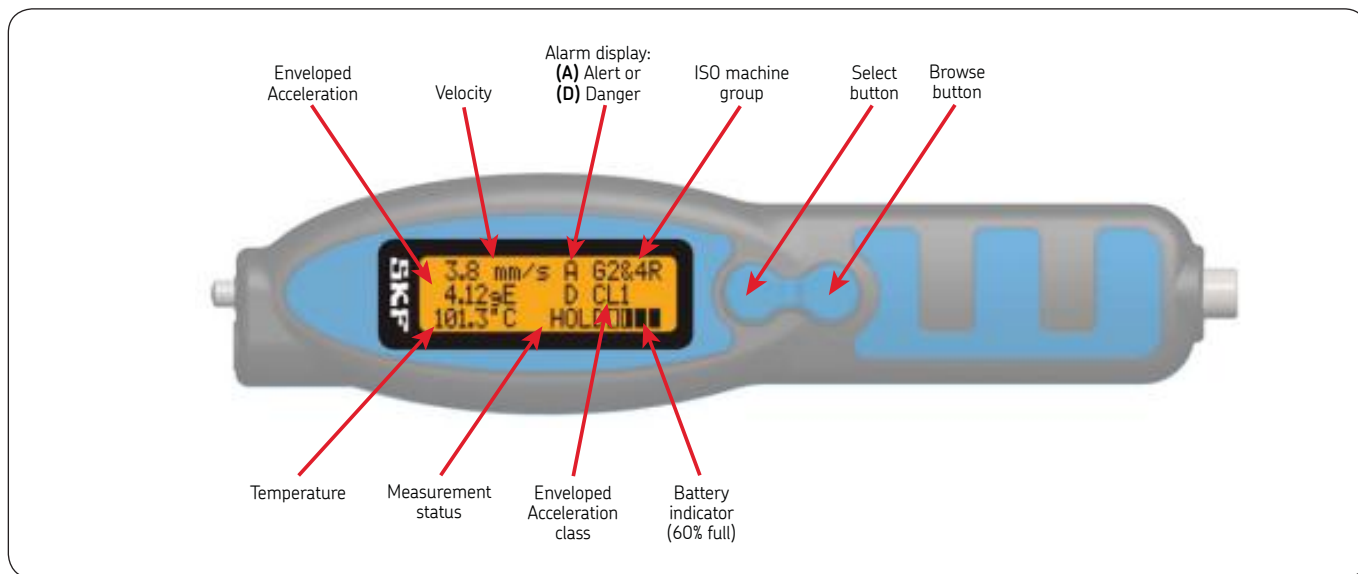
The SKF Infrared Thermometer, TKTL 10, measures the temperature from a longer distance, allowing to scan the machine for hot spots from a safe distance.

Basic Condition
Monitoring 2012
Promotion!
Now Extended to
February 15, 2013!



SKF Machine Condition Advisor

CMAS 100-SL



SKF Machine Condition Advisor's LCD display in measurement mode.

Features

- Quick and easy to set up and use, measurements are shown on a bright display viewable in low light to direct sunlight. Free on-line training is also available at SKF @ptitude Exchange.
- Lightweight, compact and ergonomically designed, the SKF Machine Condition Advisor fits neatly at the belt line, in a pocket or in a toolkit. Exceptionally durable, the unit is rated IP 54 for use in industrial environments.
- Alert and Danger prompts provide increased diagnostic confidence.
- Measuring velocity, enveloped acceleration and temperature simultaneously saves time.
- Efficient, economical and environmentally friendly, the rechargeable SKF Machine Condition Advisor operates 10 hours on a single charge.
- Flexible enough to work with standard 100 mV/g constant current accelerometers, an optional external sensor can be used for hard to reach locations and for more repeatable and accurate measurement results.
- Features English, French, German, Portuguese, Spanish and Swedish for user convenience.

Multiple measurements with a single device

The SKF Machine Condition Advisor provides an overall "velocity" vibration reading that measures vibration signals from the machine and automatically compares them to pre-programmed International Organization for Standardization (ISO) guidelines. An "Alert" or "Danger" alarm displays when measurements exceed those guidelines. Simultaneously, an "enveloped acceleration" measurement is taken and compared to established bearing vibration guidelines to verify conformity or indicate potential bearing damage.

The SKF Machine Condition Advisor also measures temperature using an infrared sensor to indicate uncharacteristic heat.

Accuracy, flexibility and confidence

When performing measurements, the SKF Machine Condition Advisor's acceleration sensor input signal is processed to produce two different measurements for each POINT on the machinery – overall velocity and enveloped acceleration.

At the same time, the SKF Machine Condition Advisor's non-contact infrared sensor measures the surface temperature of the

measurement location and simultaneously displays all three measurement values.

Depending on the SKF Machine Condition Advisor's System setting, the front-panel LCD simultaneously displays:

- Metric or Imperial units
- Velocity in mm/s RMS or in./s derived Peak
- Temperature in Celsius or Fahrenheit
- Acceleration enveloping readings in gE

Quick and easy – first time and every time

- 1 Press the **Select** or **Browse** button to turn the SKF Machine Condition Advisor "On".
- 2 Press the sensor tip against the point to be measured.
- 3 When the readings stabilize, press the **Select** button to hold the reading.
- 4 Read and record the measurement values.

Specifications

- Vibration pickup:
 - Internal: Integrated piezoelectric acceleration
 - External: Accepts a standard 100 mV/g constant current accelerometer
- Temperature sensor: Internal infrared temperature sensor

Specifications (continued)

- Measurements:
 - Velocity:
 - Range: 0,7 to 65,0 mm/s (RMS) (0.04 to 3.60 in./s (equivalent Peak)), meets ISO 10816
 - Frequency: 10 to 1 000 Hz, meets ISO 2954
 - Enveloped acceleration:
 - Range: 0,2 to 50,0 gE
 - Frequency: Similar to Band 3 (500 to 10 000 Hz)
 - Temperature:
 - Range: –20 to +200 °C (–5 to +390 °F)
 - Infrared temperature accuracy: 2 °C (4 °F)
 - Distance: Short range, maximum 10 cm (4 in.) from target
- Operating temperature range:
 - In use: –10 to +60 °C (15 to 140 °F)
 - While charging: 0 to 40 °C (30 to 105 °F)
- Storage temperature:
 - Less than one month: –20 to +45 °C (–5 to +115 °F)
 - More than one month, but less than six months: –20 to +35 °C (–5 to +95 °F)
- Humidity: 95% relative humidity, non-condensing
- Enclosure: IP 54
- Approvals: CE
- Drop test: 2 m (6.6 ft.)
- Weight: 125 g (4.4 oz.)
- Dimensions:
 - Length: 200,0 mm (7.90 in.)
 - Width: 47,0 mm (1.85 in.)
 - Height: 25,4 mm (1.00 in.)
- Battery life: 10 hours before charging again (≈1 000 measurements)
 - With external sensor: Up to 55% less battery life
- Supported external sensor: Any standard accelerometer with 100 mV/g sensitivity constant current
- External sensor power: 24 V DC at 3,5 mA
- Charger specifications:
 - Universal AC/DC wall plug-in
 - Input: 90 to 264 V AC, 47 to 60 Hz
 - Output: 5 V DC regulated
 - 3 to 4 hours for a full charge

SKF Infrared Thermometer TKTL 10

The Machine Condition Advisor features an infrared temperature reading; however, it was designed for short distances – 10 cm (4 in.). Infrared thermometers are portable, lightweight instruments for safely measuring temperature at a longer distance. They are extremely user-friendly; simply aim and pull the trigger and the temperature is shown on the display. The robust instrument is equipped with a backlit display and laser sighting. It is fitted with a bright LED illuminator to allow the application object to be seen even in poorly lit environments.

A handheld infrared thermometer is an essential tool for every technician

- Wide measurement range from –60 to +625 °C (–75 to +1 160 °F); allows temperature measurements of many industrial applications
- Distance-to-spot ratio of 16:1; allows accurate temperature readings at a distance
- Fixed emissivity of 0,95; suitable for many applications
- Maximum temperature always shown; helps identify the real hotspots
- Auto shut-off feature; helps optimize battery life

Specifications

- Temperature range using infrared: –60 to +625 °C (–75 to +1 160 °F)
- Environmental limits:
 - Operation: 0 to 50 °C (32 to 120 °F); 10 to 95% relative humidity
 - Storage: –20 to +65 °C (–5 to +150 °F); 10 to 95% relative humidity
- Full range accuracy:
 - $T_{obj} = 0$ to 625 °C (30 to 1 160 °F), ±2% of reading or 2 °C (4 °F), whichever is greater
 - $T_{amb} = 23 \pm 3$ °C; $T_{obj} = -60$ to 0 °C (–75 to +30 °F), ±2 °C (± 4 °F) +0,05/degree



SKF Infrared Thermometer TKTL 10.

- Response time (90%): < 1 000 ms
- Display: LCD
- Displayed resolution: 0,1 °C/F from –9,9 ~ 199,9, otherwise 1 °C/F
- Distance to spot size: 16:1
- Spectral response: 8 to 14 μm
- Emissivity: Preset 0,95
- User selectable backlit display: No, permanently on
- User selectable laser pointer: No, permanently on
- Measurement modes: Max temperature
- Laser wavelength: 635 to 650 nm
- Laser: Class 2
- Maximum laser power: 1 mW
- Dimensions: 195 × 70 × 48 mm (7.7 × 2.7 × 1.9 in.)
- Packaging: Carton box
- Weight: 230 g (0.5 lbs.)
- Battery: 2 × AAA Alkaline type IEC LR03
- Battery lifetime: 18 hours
- Switch off: Automatic after 15 s after trigger is released
- EMC standards: EN 61326-1,-2-2:2006
- Laser standards: 21CFR, Ch 1-J

Ordering information

SKF Machine Check Bundle CMAS 100-PROMO includes:

- SKF Machine Condition Advisor [CMAS 100-SL]
- SKF Infrared Thermometer [TKTL 10]

SKF Machine Condition Advisor CMAS 100-SL includes:

- SKF Machine Condition Advisor unit
- Belt holster [CMAC 102]
- Charger, international DC power supply [CMAC 8004]
- User manual, English hard copy [32131800-EN]
- CD containing:
 - User manual available in PDF files in English, French, German, Portuguese, Spanish and Swedish
 - Link to training on SKF @ptitude Exchange
 - SKF Machine Condition Advisor trend worksheet (Excel .xls file)
 - SKF Reliability Systems Condition Monitoring Essentials catalog available in PDF file in English [CM/P1 11704 EN]
 - CD, Integrating Condition Monitoring Products and Services, product catalog [CM5057]

Accessories:

- Extension kit, 100 mV/g accelerometer with 1,5 m (4.9 ft.) integral cable and magnet [CMAC 105-K]
- Connection cable, 1,5 m (4.9 ft.) with M8 socket type connector for standard constant current 100 mV/g accelerometer [CMAC 107]

Replacement:

- Charger, international DC power supply, +5 V, 1 600 mA, 90 to 264 V AC, 47 to 63 Hz [CMAC 8004]
- Magnet, magnet base, 25,4 mm (1,0 in) diameter, 13.6 kg (30 lbs.) pull-strength [CMAC 109]
- Belt holster [CMAC 102]

Optional kits that include the SKF Machine Condition Advisor, CMAS 100-SL

- SKF Basic Condition Monitoring kit [CMAK 400-ML]
- SKF Electric Motor Assessment kit [CMAK 200-EN]
- SKF Bearing Assessment kit [CMAK 300-SL]
- SKF Energy Monitoring kit [CMAK 450-ML]
- SKF Advanced Bearing Analysis kit [CMAK 600-EN]

SKF Infrared Thermometer TKTL 10 includes:

- Two (2) each AAA Alkaline type IEC LR03 battery
- Carton box

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