

# SKF Electric motor assessment kit

## CMAK 200-SL

For evaluation of electric motor bearings and general machine health

A fitting bundle of two measurement devices for electric motors and other industrial assets, the SKF Electric motor assessment kit makes the evaluation of electric motor bearings and general machine health simple.

### Features

- Inspect and assess electric motor machine condition
- Measures:
  - Overall machine health
  - Bearing condition
- Safely detect electrical discharges in electric motors
- Ideal for novice and expert users

### Multi-parameter measurements for electric motors

#### SKF Machine Condition Advisor CMAS 100-SL



The SKF Machine Condition Advisor (MCA) simultaneously measures machine vibration signals, specifically velocity, enveloped acceleration and temperature to indicate machine health and bearing condition.

For additional information on this instrument included in the kit, please refer to the previous, respective section.

#### SKF Electric Discharge Detector Pen TKED 1

The SKF Electric Discharge Detector Pen (EDD Pen) is a simple to use hand-held



instrument that provides a unique, reliable and safe way to detect electrical discharges in electric motor bearings.

Electrical discharges are a result of motor shaft voltages discharging to earth through the bearing; causing electrical erosion, lubricant degradation and ultimately bearing failure.

Electric motors are more vulnerable to suffer electrical erosion in bearings when controlled by a Variable Frequency Drive. When incorporated in a predictive maintenance program, the EDD Pen can help detect bearings that are more susceptible to failure, and can help to significantly prevent unplanned machine downtime.

- Unique remote solution allows operation at a distance from the motors, which protects the user from touching machinery in motion
- No special training required
- Capable of detecting electrical discharges on a time base of 10 seconds, 30 seconds, or indefinite
- LED backlit screen allows use in low light environments
- IP 55 can be used in most industrial environments



### Specifications

- Power supply: 4.5 V, 3 x standard AAA batteries (LR03, AM4)
- Time control:
  - Presets: 10 or 30 seconds
  - Default: Infinite
- Operational temperature: 0 to 50 °C (32 to 122 °F)
- Storage temperature: -20 to +70 °C (-4 to +158 °F)
- Ingress protection level: IP 55
- Display – LCD counter range: 0 to 99 999 discharges
- User selectable backlight and low battery warning
- Dimensions:
  - Length: 203,2 mm (8.0 in.)
  - Width: 48,3 mm (1.9 in.)
  - Depth: 20,3 mm (0.8 in.)
- Weight: 105 g (3.7 oz.)

Since the 1990's the use of variable-frequency drives (VFDs) to control alternating-current (AC) motors has become very common, as they can save energy. However, the drawback of using VFDs is the fact that electrical motors are more vulnerable to suffer from electrical erosion in the bearings caused by electrical discharge currents. Electrical erosion can cause bearings to fail very prematurely, causing motor failure and unplanned downtime.

Until now there hasn't been an easy cost effective method to detect electrical discharge currents in electric motor bearings. Thanks to the EDD Pen this is now possible. Operating with only two buttons, the EDD Pen allows everybody to detect electrical discharge currents remotely in a safe way.

Unlike other traditional methods, the electrical discharge currents can be directly detected rather than measuring the effects in later stages when damage has already occurred.

When incorporated into a predictive maintenance program, the EDD Pen can significantly prevent unplanned machine downtime.



*Lubricant degradation caused by electrical discharge currents.*

### Carrying case

The instruments are packaged in a durable nylon carrying case.



- Weight: 113 g (4 oz.) case only
- Dimensions:
  - Length: 279 mm (11.0 in.)
  - Width: 229 mm (9.0 in.)
  - Depth: 64 mm (2.5 in.)
- Color: Black

### Ordering information

- SKF Electric motor assessment kit CMAK 200-SL includes:
  - SKF Machine Condition Advisor [CMAS 100-SL]
  - SKF Electrical Discharge Detector Pen [TKED1]
  - Black nylon carrying case