Motor Condition Monitoring Devices
K6CM series

- Stay alert to signs of motor failure with real-time monitoring
- "Motor Condition Monitoring Tool" for PCs
- Clamp-type current transformer (CT) is easy to install on existing equipment
Are you having trouble preventing motor issues caused by degradation?

The conventional motor condition inspection has several items to examine. Therefore, an experienced maintenance engineer is required to determine the need for motor maintenance. Furthermore, typical motor inspection in production facilities is very time consuming due to the large quantity of motors.

Example of inspection items

<table>
<thead>
<tr>
<th>Phenomenon</th>
<th>Vibration</th>
<th>Heat generation</th>
<th>Decreased electrical resistance</th>
<th>Overcurrent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bearing wear</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation degradation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overload</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Open phase</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

Motor failure mode

- Abnormality of rotary shaft
- Overload
- Cavitation (for pumps)
- Bearing wear
- Insulation degradation

K6CM monitors your need for motor maintenance

Eliminating time-consuming maintenance inspection and need for motor expertise.
K6CM (comprehensive current diagnosis type) can identify motor condition by monitoring the current waveform of the motor. Furthermore, all maintenance personnel can easily understand the motor’s condition using the K6CM threshold settings.

**What is comprehensive current diagnosis?**

When an abnormality occurs in the load such as bearing, rotary shaft, or reducer, the motor does not rotate smoothly and a distortion occurs in its current waveform. K6CM measures its distortion as a degradation level.

<table>
<thead>
<tr>
<th>Degradation level</th>
<th>Current waveform of the motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Failure critical”</td>
<td>“Increased distortion”</td>
</tr>
<tr>
<td>“Failure warning”</td>
<td>“Distortion”</td>
</tr>
<tr>
<td>“Normal”</td>
<td>“Normal”</td>
</tr>
</tbody>
</table>

With an office PC
With the accessory software “Motor Condition Monitoring Tool”, you can monitor motor conditions remotely.

* The screen is a sample image.

**OMRON Solution**

Avoid motor failure by performing preventative maintenance activity in advance.

With a factory floor signal light

With an office PC

Pump

Rotary fan

Conveyor

Elevator

Monitors the 3-phase induction motor which is the driving force of every facility.
Motor Condition Monitoring Device Lineup

**Comprehensive current diagnosis type**

- **K6CM-CIM**
  - **Motor status alarm output 2**
  - **Signal light**
  - **Self-diagnosis alarm output 1**

**Example: Connections**

- Three-phase induction motor
- Inverter
- Contactor
- CT
- External trigger
- PC
- EtherNet/IP
- HUB

**Alarm bar**
- Green: Status normal
- Orange: Failure warning
- Red: Failure critical

**Display**
- [PV]: Present value
- [MIN]: Minimum value
- [MAX]: Maximum value
- [CIM]: Degradation level
- [A]: Current

**Switches the units of the measured value displayed**
- Clamp-type CT which is easy to retrofit

**Type 01** To make an integrated diagnosis with a single parameter

**K6CM-CICB**

<Actual Size>
Motor Condition Monitoring Device Lineup

**type 02** To measure the insulation resistance level

![K6CM-ISM](image)

**type 03** To measure the vibration and temperature level

![K6CM-VBM](image)

**K6CM-ISM**
- Insulation degradation monitoring type

**K6CM-VBM**
- Vibration/temperature monitoring type

**ZCT**
- Pre-amplifier & vibration/temperature sensor

**K6CM-ISZBI**

**K6CM Software**
Software for setup and monitoring
Software for PC
Motor Condition Monitoring Tool

[Windows7, Windows8.1, Windows10, (32bit/64bit) (English/Japanese)]

* Software included with main unit.

* Applicable motor: 3-phase induction motor

* For explanation purposes, all indication lights are on.

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Our shared Value Design for Panel (herein after referred to as Value Design) concept for the specifications of products used in control panels will create new value for our customers’ control panels. Combining multiple products that share the Value Design concept will further increase the value provided to control panels.