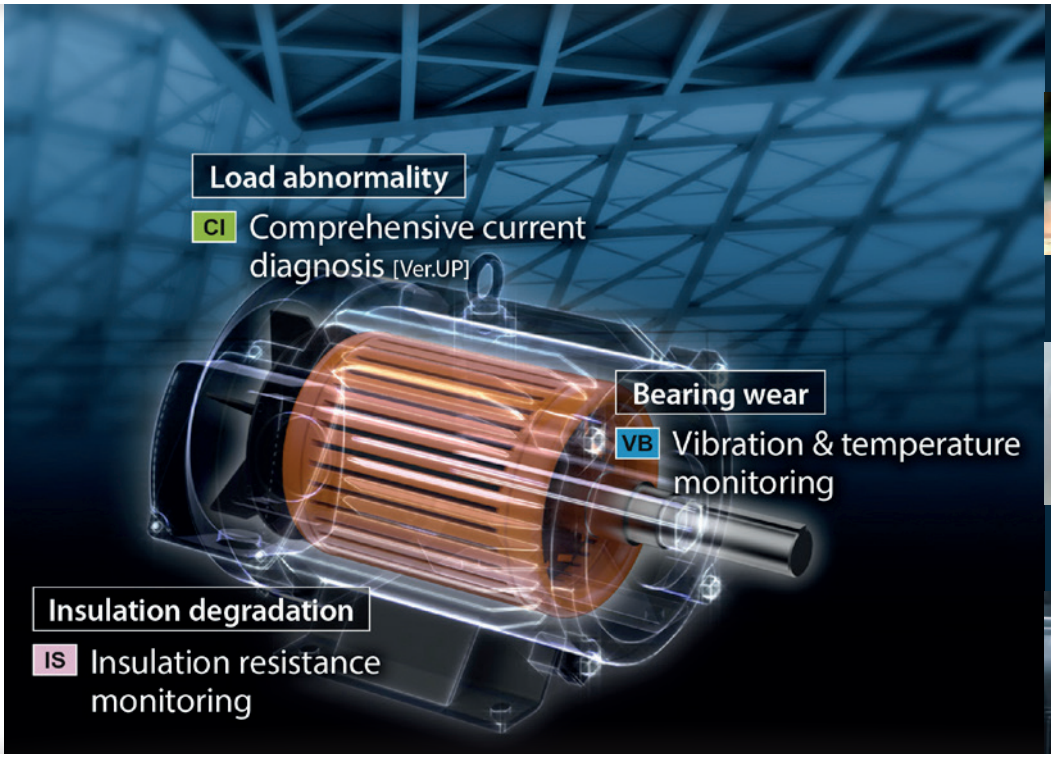
Motors condition monitoring

Continuously monitoring motor status is a wise investment that yields long-term benefits.



Cavitation monitoring for water supply and drainage pumps

Air-conditioning fan blade degradation monitoring

Transport chain degradation monitoring

Reliability-centered maintenance

- Regular monitoring allows you to catch early signs of motor degradation or faults. By addressing issues promptly, you prevent unexpected breakdowns and minimize unplanned downtime.
- Faulty motors can pose safety risks. Monitoring helps identify potential hazards early, allowing you to take corrective action before accidents occur.
- Regular checks and timely maintenance extend the lifespan of motors. Well-preserved motors serve your facility for longer, reducing the need for frequent replacements.
- Vibration analysis helps identify irregularities such as **misalignment, unbalance, bearing wear**, and other mechanical faults. When you promptly address vibration-related issues, you minimize unexpected downtime.

Three levels solution for motor monitoring

- Multiple approaches to monitor different motor failures: current analysis for abnormal load condition (foreign debris, pump cavitation); temperature/vibration for bearing wear malfunction (lack of lubrification); insulation degradation (dust intrusion, fluid leaking).
- When a motor exhibits abnormal behavior or reaches a critical state, timely alerts ensure that corrective actions can be taken promptly. To set up notifications, consider using email, SMS, or social media platforms like Telegram.
- Multiple motors monitoring at the same time even from remote. Access to a graph that displays the trend of measured values. Additionally, icons will visually indicate the status of the motor.

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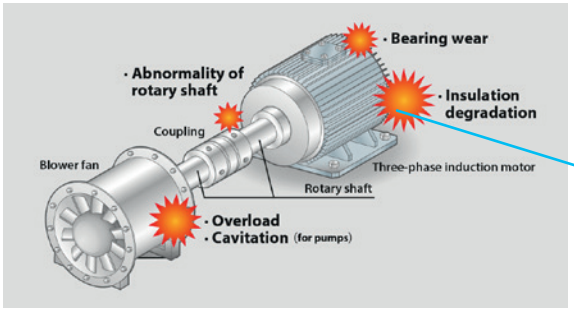
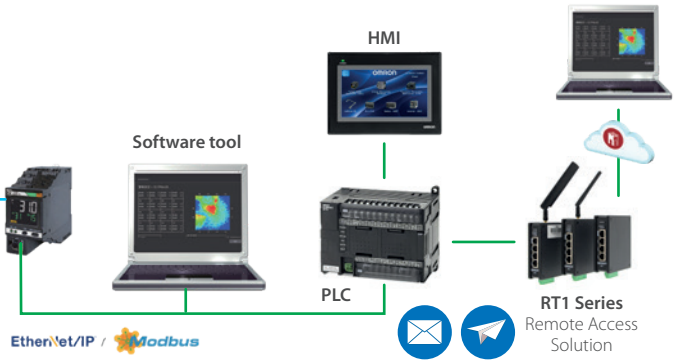
OMRON approach for motor monitoring

The **K6CM devices** facilitates straightforward installation, even in existing applications. Its real-time monitoring capability enables early detection of anomalies 24/7. In the event of any motor or connected mechanical fault, the **NX1P2 PLC** promptly triggers an instant notification alert via the **RT1 remote access solution**. Additionally, RT1 provides continuous remote connectivity to identify early signs of motor degradation or faults.





OMRON products	Items references
NX1P2- Compact controller	NX1P29024DT1: 24 Digital Transistor I/O (PNP), EtherCAT (4 PTP axes, 16 EtherCAT nodes), EtherNet/IP and 1 serial option port.
RT100 Remote Access Solution	RT100-EMM3010: SiteManager LAN, 10 Device Agents, 3x Ethernet Ports, 1x Micro SD slot, 1x USB port.
K6CM-CI Current	K6CM-CI2MA-EIP: 100 to 240 VAC, Transistor control output, Push-in Plus, LCD display, Ethernet IP K6CM-CICB025: CT sensor for Current analysis, 25A rated primary-side current.
K6CM-VB Temperature/Vibration	K6CM-VBMA-EIP 100 to 240 VAC, Transistor control output, Push-in Plus, LCD display, Ethernet IP K6CM-VBS1 Sensor head & Pre-amplifier for Vibration & temperature model.
K6CM-IS Insulation	K6CM-ISMA-EIP: 100 to 240 VAC, Transistor control output, Push-in Plus, LCD display, Ethernet IP K6CM-ISZBI52: ZCT sensor for Insulation Resistance model, 200 to 480 VAC, 52mm dia. Through hole.

Complete your equipment with:

M1 Series Inverter:
The Integrated AC Drivers Solution

Control your motor with M1 Inverter, designed for 10 years maintenance free use. Working operation up to 50 °C w/o derating. Coated PCB's for dust and moisture resistance (IEC 60721-3-3, Class 3C2).

Monitoring Relay
K8 series

Best redundant protection in combination with an inverter. K8 series lets you monitor for incorrect phase sequence and phase loss to protect the three-phase equipment such as Compressors and increase safety.

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