

Four series of condition-monitoring devices to be sold:

■ Motor condition-monitoring devices (scheduled date of sale: November 29, 2017)

Motor condition-monitoring devices detect errors caused by aging deterioration of three-phase induction motors (*2) used for many production facilities, including conveyors, lifters and pumps. The monitoring devices detect errors by status changes in vibration, temperature, current and insulation resistors by monitoring their changes on the display of the main unit or by remote monitoring through Ethernet/IP (TM) communications, and solve the following issues.

- Minimize opportunity loss caused by unexpected facility stoppages
- Digitalize knowledge of skilled maintenance engineers and homogenize motor maintenance from remote locations
- Shift from periodical inspection to preventive inspection and significantly reduce inspection work

➤ Monitoring data

Motor vibration, surface temperature, insulation resistance, current, degradation level (*3)

➤ Output method

EtherNet/IP (monitorable by a dedicated tool operated on PC), alarm output, transistor output, bar indicator, monitor display



■ **Power supplies with networking capability (scheduled date of sale: November 29, 2017)**

Power supplies with networking capability visualize necessary information to maintain and control power supply in addition to supplying DC electricity to devices in facilities, which is a basic function of a power supply. These power supplies can visualize information on their replacement time, output voltage/current and peak current by remote control using Ethernet/IP communications and by the main unit monitor, contributing to solving the following issues.

- Notify power supply replacement time in advance to reduce unexpected facility stoppages due to trouble of power supply
- Monitor replacement time, total run time, voltage, and current of a power supply remotely to reduce maintenance work in sites
- By using the power supplies in combination with the dedicated software Power Supply Monitoring Tool (scheduled to support soon), it is possible to visualize power supply conditions on the derating curve (*4). To extend the service life, you can consider and implement improving measures easily by improving the installation environment and changing power supply capacity.

➤ **Monitoring data**

No. of years until power supply replacement, total run time, output voltage/current, peak current, self-diagnostics (overheating, measured value error, memory error), product model, serial number

➤ **Output method**

Ethernet/IP, Modbus/TCP, monitor display



■ **Flow sensors, pressure sensors (scheduled date of sale: February 1, 2018)**

A single flow sensor can measure both the flow rate and temperature of cooling water used for a welding or molding machine. Monitoring errors caused by temperature in addition to the flow rate of cooling water makes it possible to capture signs of unexpected stoppages due to overheated current transformers, enabling the achievement of more stable welding quality and the prevention of defective molding.

Pressure sensors visualize pressure and temperature of hydraulic oil for machining centers (*5) and press machines simultaneously. They capture signs of packing deterioration due to a temperature rise and subsequent hydraulic oil leakage. They also detect temperature changes due to deterioration of the hydraulic oil viscosity to maintain stable processing quality. You do not need to install a pressure sensor and a temperature sensor on pipes separately, which halves the number of sensors to be installed and installation work.

By sensing a plurality of measurement data elements such as “the flow rate and temperature” and “pressure and temperature” by itself, these sensors can visualize facility conditions at less cost, work and space.

➤ **Monitoring data**

Flow rate + temperature

Pressure + temperature

➤ **Output method**

Status output, control output, analog output, IO-Link, monitor display, status indicator



■ Smart condition-monitoring amplifier (scheduled date of sale: November 29, 2017)

The smart condition-monitoring amplifier connects to general analog output sensors (*6). OMRON offers the N-Smart (*8) Next-generation Sensor Series that connects to fiber sensors and laser sensors. Now, the smart condition-monitoring amplifier that can connect to general analog output sensors is joining the lineup, making it possible to build an inexpensive and easy network with various sensors (*7) used to understand facility conditions. Previously, obtaining data of analog output sensors required system up with expensive data loggers and measuring equipment. The sensor can synchronize up to 30 units at a high speed of 1 m/s, collect data at the timing of facility operation, capture subtle changes of facilities and correlation of signs reliably, enabling optimum machine control according to facility status changes.

➤ Connectable sensor heads

Sensors which output and transmit measurement results by current (DC 4 to 20 mA) or voltage (1 to 5 VDC).

(Flow sensors and pressure sensors are also connectable.)

➤ Output method

Control output, monitor display, compatible with open networks (EtherCAT (R), CC-Link) by connecting to communications units.



(*2) An induction generator which uses 3-phase AC power supply to send electric power from the primary side (stator) to the secondary side (rotor) by electromagnetic introduction, thus generating power.

(*3) It is OMRON's unique index to show errors on the load side in addition to motors by measuring and analyzing motor current by a unique algorithm.

(*4) Stipulate the conditions of use by an ambient operating temperature and a load ratio under which specifications of a power supply can be guaranteed. Operation characteristics of internal circuits caused by a temperature rise of internal parts and a temperature environment are taken into account.

(*5) Processing equipment that makes holes and grind on metal or other materials.

(*6) Sensors which output and transmit measurement results by current (DC 4 to 20 mA) or voltage (1 to 5 VDC).

(*7) Air pressure sensors which monitor the air suction state, or other sensors for picking and placement of electrical parts

(*8) Next-generation sensor series consisting of sensor communications units that integrate presence, detection and measurement data of fiber sensors, laser sensors, contact sensors, and proximity sensors. They are also compatible with EtherCAT and CC-Link (high-speed communications open network).

- EtherCAT (R) is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

- EtherNet/IP (TM) is the trademark of ODVA.

- CC-link is a registered trademark of Mitsubishi Electric Corporation. The trademark is managed by the CC-link Partner Association.