

CONPROSYS™ Three-Phase Motor Insulation Deterioration Monitoring Module

Three-Phase Motor Breakdown Prediction Monitoring

An innovative IoT solution for measuring motor insulation deterioration during operation



Inspections no longer require equipment to be stopped.

This module measures insulation resistance components (IOr) from operating motors with high precision. It allows maintenance to be performed via continuous monitoring, thereby boosting equipment operating ratios.

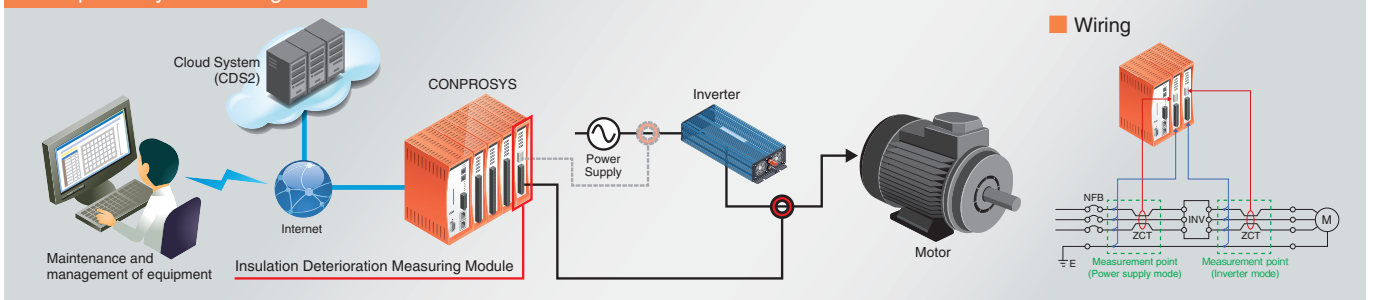
Supports low-pressure, three-phase motors Up to 30 kW, $\phi 25$ mm ZCT included

This module supports three-phase delta connections and three-phase Y connections. It can be applied to a wide range of devices such as pumps, compressors, A/C fans, metalworking machines, and transport equipment.

Autonomous device that does not require a PC Cloud compatible

This module supports controllers with built-in IoT functions such as data collection, web monitoring, and cloud linking. It can be operated without a PC.

Example of System configuration





Specification

Model	Circuit to be measured	Number of measurement channels	ZCT inside diameter	Measured voltage range	Measured leakage current range (resolution: 0.001 mA)	Measured insulation resistance range
CPS-MM-LC	Overall equipment measurement (power supply mode) / Inverter output section measurement (inverter mode) / AC servo amplifier output measurement (inverter mode)	1ch	Φ25mm	Line voltage 10 VAC to 600 VAC	Overall equipment measurement: 0 to less than 1A Inverter output section measurement: 0 to less than 100 mA AC servo amplifier output measurement: 0 to less than 100 mA	Less than 1,000 MΩ*

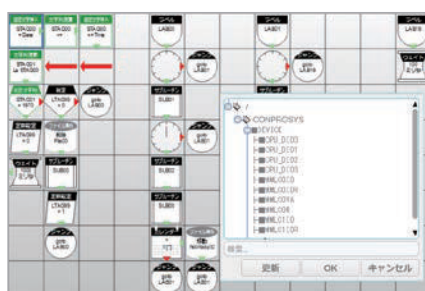
* Supports inverters and AC servo amplifiers that supply low-voltage, three-phase power. * The guaranteed accuracy range is less than 10 MΩ

* DC servo motor, and equipment that use single-phase power supply are not supported. * Please contact us if you need a ZCT that's diameter is larger than 25mm.

This module is used in combination with an M2M controller CPU module. For details on the diverse functions of our M2M controller CPU modules, see the CONTEC website.

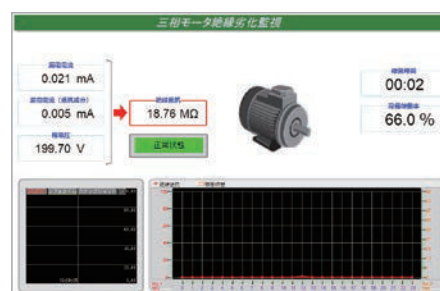


Combination with IoT controller



CONPROSYS VTC (Visual Task Control)

The controller is equipped with a web-based programming function for task processing. The user can easily develop task processing by combining icons such as those for operations, conditional branching, and data output.



CONPROSYS HMI (Human-Machine Interface)

The controller has a built-in web server function and a drawing tool for creating web pages. This makes it possible to easily view equipment information without using a cloud server or a similar device.

Current problems

Production lines stop unexpectedly due to motor breakdowns and electricity leakage accidents.

Production plans are disturbed, **leading to unnecessary costs.**

Disassembly costs occur each time inspections are performed.

There is a concern of secondary malfunctions due to incorrect wiring.

The status during operation can only be judged from **data measured while equipment was stopped.**

This data **cannot be used to determine** trends as it is obtained over a short period of time.

Solutions

By predicting breakdowns, **repairs and replacements can be performed before breakdowns occur.**

Operating ratios are boosted and **unnecessary costs are reduced.**

There is no need to stop the power supply or perform disassembly work during inspections.

Inspection costs are reduced.

Monitoring can be performed at all times during operation.

This makes deterioration trends clear, enabling **accurate judgment.**

Building pump equipment

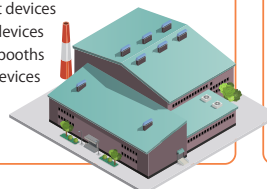


Parking structure



Factory equipment

- Water supply pumps
- Drainage pumps
- Transport devices
- Exhaust devices
- Painting booths
- Stirring devices



Water treatment facility

- Water treatment plants
- Water management

