Are your machines installed in; out of reach, narrow, dark or high temperature locations?

Connecting the analog sensors (6 channels) and temperature sensors (2 channels), will allow you to immediately monitor a machine on the spot.

Troublēsa II PLUS

Master unit

The master unit can control up to 10 slave units

Slave unit

A slave unit, stand alone can be used as abnormality detection and data logger.

Power supply

Automatically records the equipment monitoring data (Can be set to intervals of 1, 5, 10, 30 or 60 min)

Abnormal signal output

Current sensor

Usage examples

2F inside of a soundproof room

Rooftop (outdoors) installation

Blower’s body and vibration sensor

Slave unit installation

Temperature sensor

Vibration sensor

Outdoors installation notes.
When installing the slave unit outside, the purchase of the outdoors type (TCM-NF2S) would be necessary. Furthermore, waterproof treatments must be done ensuring that water won’t enter the unit from the wiring holes or gaps. Please avoid installing the unit on places with direct sunlight.
Blower’s vibration measurement record example

In this case, there was a margin of 2.5 months since signs of abnormality appeared. It was possible to fix it on about one month after the troubleresa detected the abnormality.

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Product introduction

- 6 analog sensor channels + 2 temperature sensor channels
- Able to determine the type of abnormality
- Upper and lower threshold settings.
- Supports environmental temperatures up to 50°C.
- Outdoors model equivalent to IP65.

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II PLUS New functions

<table>
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<tr>
<th>Slave unit</th>
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<table>
<thead>
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<th>Master unit</th>
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*if using 2 or more slave units a master unit is necessary
When an error occurs, it sends an alarm mail to the person in charge.

You can combine any type of filter to adapt the Troublereza to your specifications or environment.

Feel relieved even at night or on holidays!

Mail transmitter (Renra-kun) Operation example

You will need
- A computer
- LAN cable
- The transmitter (Renra-kun)
- A Router

Setting procedure
1. Download the transmitter application
2. Connect it to a PC with LAN cable
3. Open the transmitter’s browser screen and set it up
4. After the set up, wire the inputs / outputs
5. Complete it connecting the transmitter to the network

Abnormal Event.
Can be used as abnormality detector
(one single slave unit)

Used for constant monitoring
(for 2 or more slave units)
This product detects abnormalities caused on rotating machines, it doesn’t count with countermeasures or fixing function. Furthermore abnormalities that can not be detected with this product may occur.

**Features**

- **Components to prepare by the customer**
  - LAN Cable (Category 5e or more)
  - Generic USB Hub
  - Wireless LAN
- **Sensors**
- **Wiring installation**
- **Power cord**

**Specification**

**Slave unit**

- **Model**: TCM-NF2P
- **Voltage**: AC100V～240V 50/60Hz
- **Power supply cable not included**

**Input**

- **Measurement points**: 8ch (6 switched 0-5V/4-20mA channels, 2 temperature channels)
- **Resolution**: 0.5V: 0.0001V
- **Power consumption**: MAX 7W (36W)

**Output points**

- **External output contacts**: 2 no voltage form A connectors
- **Terminal shape**: Terminal block

**Power supply**

- **Allowable voltage range**: AC85V～265V
- **Frequency**: 47～63Hz

**Environmental specification**

- **Altitude**: Less than 2000m
- **Temperature**
  - Operating: -10～+50˚C
  - Storage: -265V～+50˚C
- **Humidity**: 10～90%RH (without condensation)

**Communication**

- **Protocols**: Modbus/TCP
- **Terminal**: Ethernet (RJ-45)

**Casing**

- **Material**: ABS (Acrylonitrile butadine styrene)
- **Dimension**: D160×W220×H130mm (excluding protrusions)
- **Weight**: 1.5kg

**Features**

- **Indication light**: Green colour (lighted up while monitoring, in any other case will flash)
- **Abnormality detection light**: Red colour
- **Sensor power supply**: DC24V/500mA

**Features**

- **Slave unit monitoring software (PC use)**
- **Master unit monitoring software (PC use)**

**Master unit (Miru Ten)**

- **Model**: FCM-BM2P
- **Features**
  - Up to 10 slave units can be connected
  - The measured values from all 8 channels can be stored on a CSV file inside the unit.
  - USB memory included
  - The data saving intervals can be set to 1, 5, 10, 30 or 60 min.
  - P-data display units, another additional 5 units can be set up freely.
- **Power supply**
  - **Voltage**: AC100V～240V 50/60Hz
  - **Power consumption**: MAX 10W in case of communicating 10 slave units.
- **Communication**
  - **Protocol**: Modbus/TCP
  - **Terminal**: Ethernet (RJ-45)
- **Environment**
  - **Temperature**: 0～50˚C
  - **Humidity**: 10～90%RH (without condensation)
- **Casing**
  - **Material**: ABS (Acrylonitrile butadine styrene)
  - **Dimension**: D280×W190×H100mm (excluding protrusions)
  - **Weight**: 1.5kg
- **Output points**: 2 no voltage form A connectors

**Features**

- **Master unit monitoring software (PC use)**
- **Operating specifications**
  - **CPU**: Intel Core i5 (recommended)
- **Free space on HDD**: 5GB (recommended)
- **Resolution**: 1280×720 or more (recommended)
- **OS**: Windows 7, 8 and 10
- **Others**: Microsoft NET Framework

**Components to prepare by the customer**

- LAN Cable (Category 5e or more)
- Generic USB Hub
- Wireless LAN
- Sensors
- Wiring installation
- Power cord

**Model**: FCM—BM2P (monitoring software)

**Power supply**

- **Allowable voltage range**: AC85V～265V
- **Frequency**: 47～63Hz

**Communication**

- **Protocols**: Modbus/TCP
- **Terminal**: Ethernet (RJ-45)

**Environment**

- **Temperature**: 0～50˚C
- **Humidity**: 10～90%RH (without condensation)

**Casing**

- **Material**: ABS (Acrylonitrile butadine styrene)
- **Dimension**: D280×W190×H100mm (excluding protrusions)
- **Weight**: 1.5kg

**Output points**: 2 no voltage form A connectors

**Features**

- **Vibration sensor (CTT-CLS-CV-100)**
- **Temperature sensor (YYU4KM04B20A)**
- **Vibration sensor (VS-V103-01)**
- **Magnet (to fix the vibration sensor)** (MG-01)
- **Slave unit wall mounting parts** (BFL-2G)
- **Slave unit outdoors model** (TCM-NF2S)
- **Slave unit outdoors model** (TCM-NF2S)
- **Slave unit outdoors model** (TCM-NF2S)

**Additional Notes**

- **Please contact us for outdoors specifications**
- **Overseas Sales Dept.**
  - 1-25 Shinden Kita-machi, Daito-city, Osaka, Japan 574-0052
  - Tel: +81-72-871-1511  Fax: +81-72-870-7243

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