Sumitomo Drive Technologies

# CMS (Condition Monitoring System) solution by gear reducer manufacturer
















Sumitomo Heavy Industries, Ltd.

Sumitomo Heavy Industries Gearbox Co., Ltd.



No.L2059E-3.1



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# Maintenance solution proposed by Sumitomo Heavy Industries

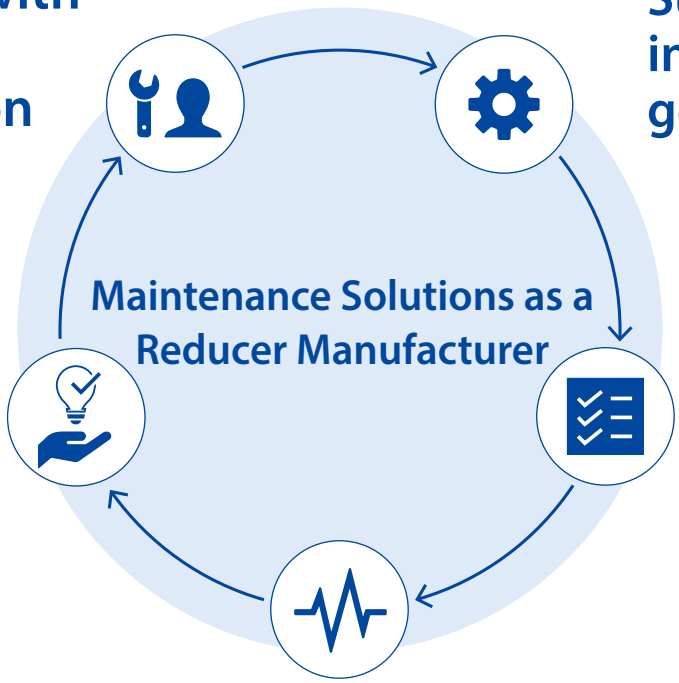
We offer consistent solutions to ensure the safe and long-lasting use, from supporting the introduction of reducer to supporting the maintenance plans and the introduction of new equipments.

## Maintenance with disassembly, new installation support

Quick response through our nationwide service and sales network

## Support for installation of gear reducer

Advice on introduction and renewal of reducer, and proposal of optimal maintenance services.




## Proposal for Solutions

Proposal for maintenance plans, maintenance with disassembly, and new installations that take advantage of the expertise of gear reducer manufactures

## Maintenance and Inspection

Maintenance and inspection by service centers and certified service shops

## Diagnosis

Proposal for abnormal conditions, periodic reports, and recommended countermeasures, utilized by CMS

| Selection of CMS equipments | Support for introduction | Diagnosis | Resolve the concern |
|---|---|---|---|
| Propose the appropriate CMS product from our extensive lineup according to the reducer model and operating environment. | Our engineers will install CMS equipment, build diagnostic databases, set thresholds, etc. | Flexible support from automatic threshold determination to detailed analysis according to customer needs | Consistent support from problem-solving proposals to maintenance with disassembly implementation at the time of abnormality |

Visualizaion of reducer status by CMS

## One step ahead to predictive maintenance

* CMS：Condition Monitoring System

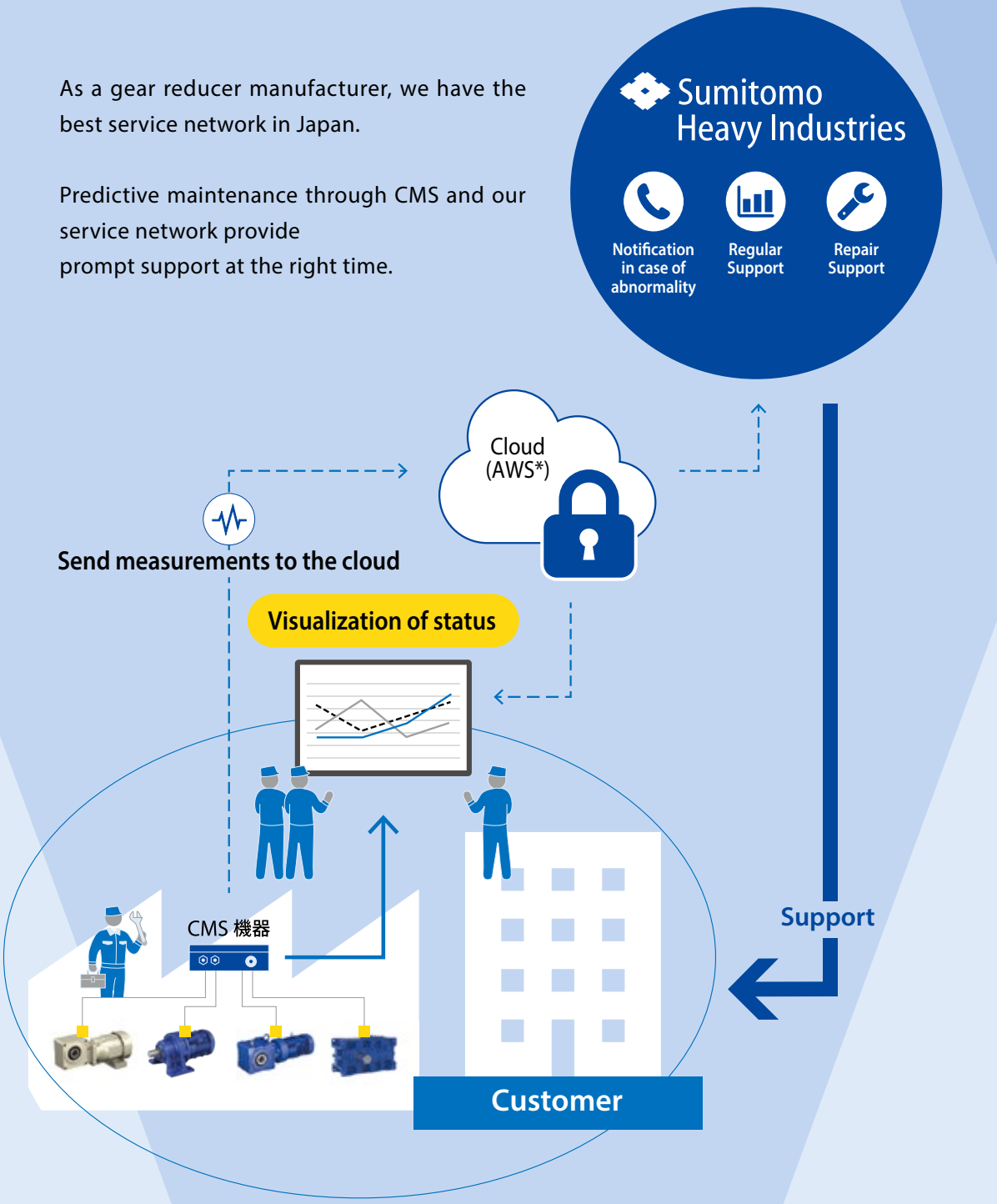
# Predictive Maintenance

# Nationwide service network

## Prompt support is always available

As a gear reducer manufacturer, we have the best service network in Japan.

Predictive maintenance through CMS and our service network provide
prompt support at the right time.




※ On-premise type where measurements are managed on the customer's PC is also available.

* AWS：Amazon Web Services

* Amazon Web Services, AWS, is a trademark of Amazon.com, Inc. or its affiliates in the United States and other countries."

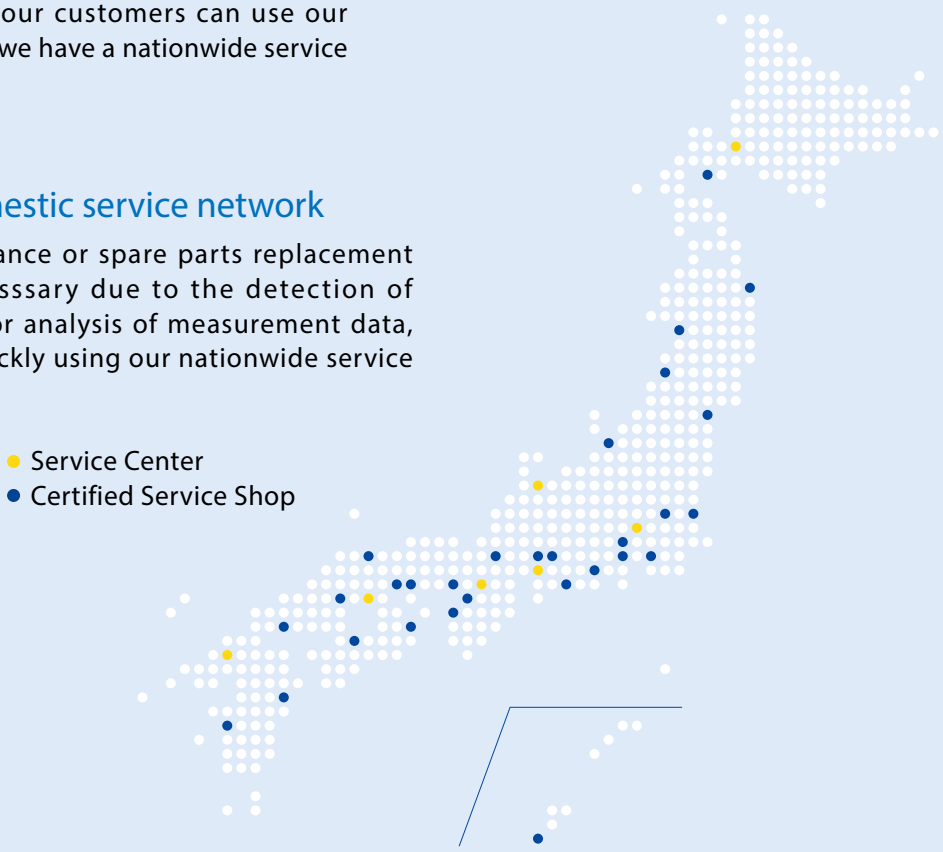


# Prompt support at service centers and certified service shops of nationwide

Since gear reducers are used in a wide variety of locations, it is important to have a system in place to provide immediate support.
To ensure that our customers can use our products safely, we have a nationwide service network.

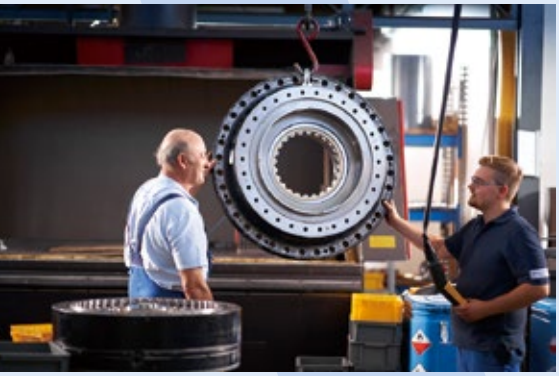
## Reliable domestic service network

When maintenance or spare parts replacement becomes necesssary due to the detection of abnormalities or analysis of measurement data, we respond quickly using our nationwide service network.




## We can also provide overseas support

Our service centers in more than 20 overseas locations protect the safety of our customers' reducers. Japanese staff are stationed at our major overseas locations, so we can provide support in Japanese.







# Predictive Maintenance

# Expertise as a reducer manufacturer

**You can rest assured that difficult analysis can be entrusted to reducer professional.**

## Optimization of maintenance with CMS

### Reduce downtime due to breakdowns

By identiying abormal values from measurement data, appropriate measures can be taken at the optimum time, thereby reducing downtime due to breakdowns.

### Extending the life of facilities through early detection

The early detection of reducer manufactions and appropriate treatment will prolong the life of the equipment.

### Reduction of spare parts and maintenance man-hours

Abnormalities can be detected in advance, reducing the man-hours required for sudden response. Regular inspections are also expected to reduce man-hours required due to constant monitoring

### Efficient renewal planning based on long-term inspection data

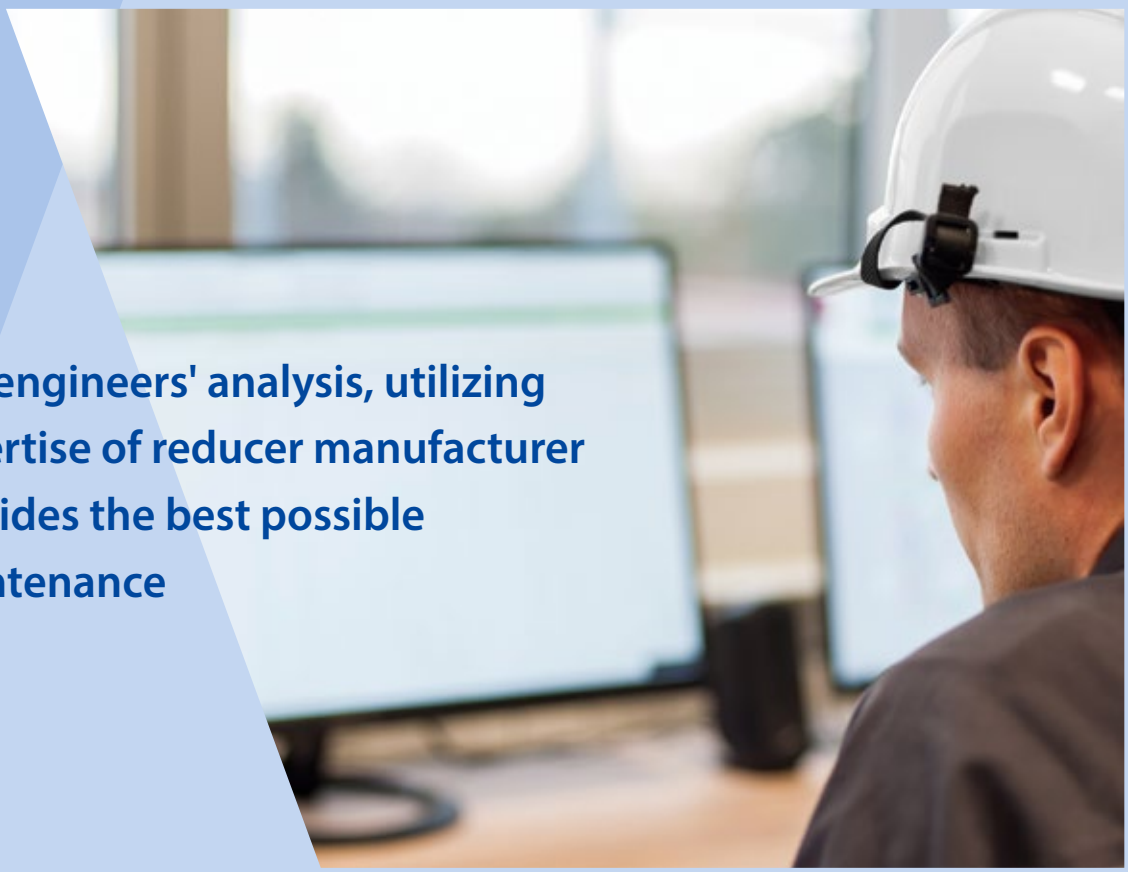
Inspection data accumulated over a long period of time serves as a reference value for understanding normal/abnormal conditions and is useful for mid- to long-term renewal planning.

### Remote monitoring for safe inspection work

Remote monitoring allows for safe inspection of reducers in dangerous or inaccessible locations, such as high places.

### Numerical management of reducer status

Numerical management of the condition of reducers enables data-based analysis and batch management of multiple units, leading to improved maintenance levels.



## Our engineers' analysis, utilizing expertise of reducer manufacturer provides the best possible maintenance

In addition to reporting on abnormalities and periodic reports, our engineers provide support in the form of feedback to maintenance plans based on analysis of measured data. Leave complex analysis to us.

By combining the expertise we have accumulated over the years as reducer manufacturer with data measured by CMS, we are able to enhance the sophistication of our customers' equipment maintenance activities.

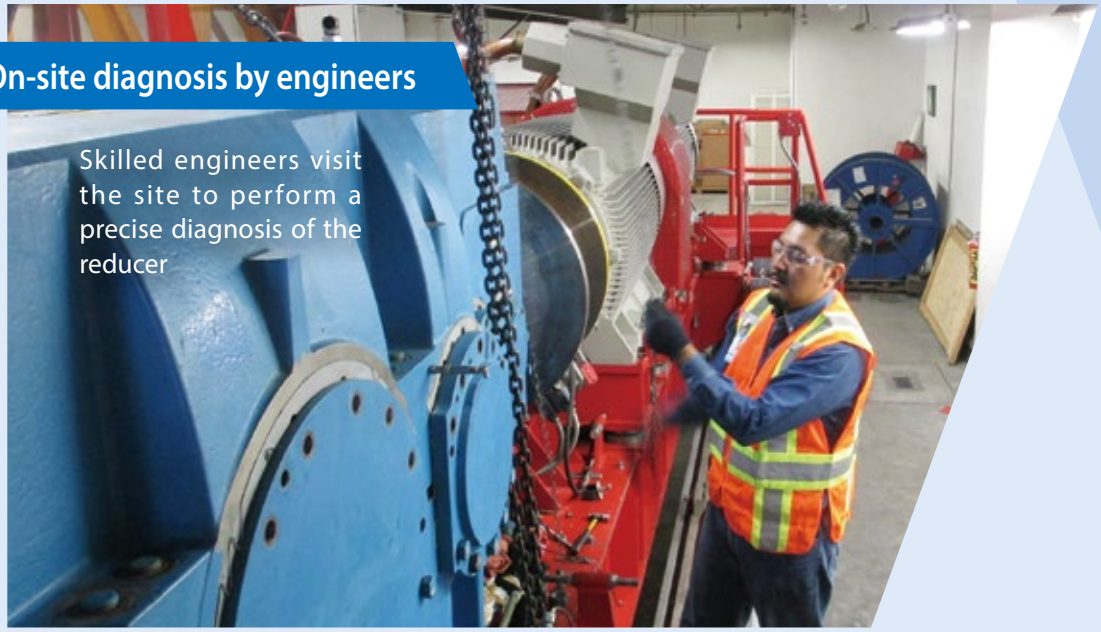


## Predictive Maintenance

# Full support system

**Our skilled engineers will provide diagnosis, maintenance support, and advice on maintenance.**

### On-site diagnosis by engineers



Skilled engineers visit the site to perform a precise diagnosis of the reducer

### Maintenance with disassembly



We provide speedy maintenance with disassembly and spare parts supply for reducers at our service centers and certified service shops nationwide

## Our skilled engineers will keep your reducers safe

# Full advice on installation and maintenance

## Consultation for renewal of reducers



We will select the right model for the renewal of reducer that has been used for many years.
We will also consult with you on models that are no longer in production or have incompatible dimensions.

## Advice for new equipment installation

We will utilize our expertise as a reducer manufacturer to make better proposals for the introduction of new equipment.



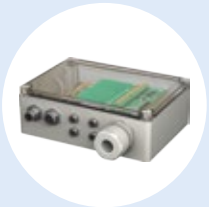
## Holding maintenance briefings

Upon request, maintenance briefings on daily inspections, handling, and troubleshooting of reducers are available.



# CMS Lineup

## Propose the most appropriate diagnostic service to meet your needs

| Measurement Form | Spot Measurement | |
|---|---|---|
| Name of Service | TYPE-P | S-CMS |
| Merit | Portable type for easy detection of abnormalities in the area to be measured<br>Vibration diagnosis to peripheral equipment of reduction gears such as motors is also possible. | Easy-to-implement constant monitoring system with focused functions and simple operation |
| Customer Challenges | Need to diagnose immediately on site<br>Need to diagnose multiple products in one unit | Low-cost maintenance operation<br>Introduce the system without complicated settings |
| |  |  |
| Diagnostic Level | Automatic threshold good/fail decision<br>Frequency Analysis Damage Suspicion Site Identification | Automatic threshold good/fail decision |
| Sensor Connection Method | Wireless | Wired |
| Explosion-proof vibration sensor | No Support | No Support |
| Operation Conditions – Input RPM | – | No Support |
| Operation Conditions – Output load | – | No Support |
| Data Storage | The Cloud Server/Customer's PC*1 | Customer's PC |
| Required Customer's Diagnostic Capability | The cloud-sharing with us eliminates the need for your vibration analysis capability | No customer vibration analysis capability required |
| Suitable Equipment Request | •Vibration inspection by customer<br>•Use it as a vibration measuring instrument as well<br>•Wish to perform frequency analysis | •Reducer is inexpensive and easy to update<br>•In case of possessing spare reducer |

## Continuous Monitoring

| CycloSMART | TYPE-I-8/16 | TYPE-I-G |
|---|---|---|
| High-performance type that can be completed on-site from diagnosis to data storage | High-performance type that can be capable of identifying abnormal areas and detecting damage conditions<br>Vibration diagnosis to peripheral equipment of reducers such as motors is also possible | Wireless type that required no wiring and offers high flexibility in installation |
| Manage their own data and perform advanced vibration analysis | Understand the exact location of the abnormality and the state of damage | Monitor many products at once<br>Diagnose with less wiring |
|  |  |  |
| Automatic threshold good/fail decision<br>Frequency Analysis Damage Suspicion Site Identification<br>Low RPM frequency band monitoring*2 | Automatic threshold good/fail decision<br>Frequency Analysis Damage Suspicion Site Identification<br>Low RPM frequency band monitoring*2 | Automatic threshold good/fail decision<br>Frequency Analysis Damage Suspicion Site Identification |
| Wired | Wired | Wireless |
| available to support*3 | available to support*3 | No Support |
| available to support | available to support | No Support |
| available to support | available to support | No Support |
| Detective Unit/Customer's PC | The Cloud Server | |
| Thresholds are set by us. Frequency analysis requires customer's vibration analysis capability | The Cloud-sharing with us eliminates the need for your vibration analysis capability | |
| •Facilities with significant sudden outage losses<br>•Large reducer which cannot be disassembled and serviced easily<br>•To identify spare parts that need to be replaced | •Facilities with significant sudden outage losses<br>•Large reducer which cannot be disassembled and serviced easily<br>•To identify spare parts that need to be replaced | •Reducer is installed in a location that is hard to access, such as high location<br>•Equipment that uses large number of reducers |

※ ¹ Measured values can be saved by ending an e-mail
※ ² Achieved detection of tooth surface damage at ⁴⁰r/min of shaft rotation in our verification test
※ ³ Detetion unit itself must be installed in a non-explosionproof area

# TYPE-P

## Portable type for easy detection of abnormalities in the area to be measured

Ideal for customers such as,



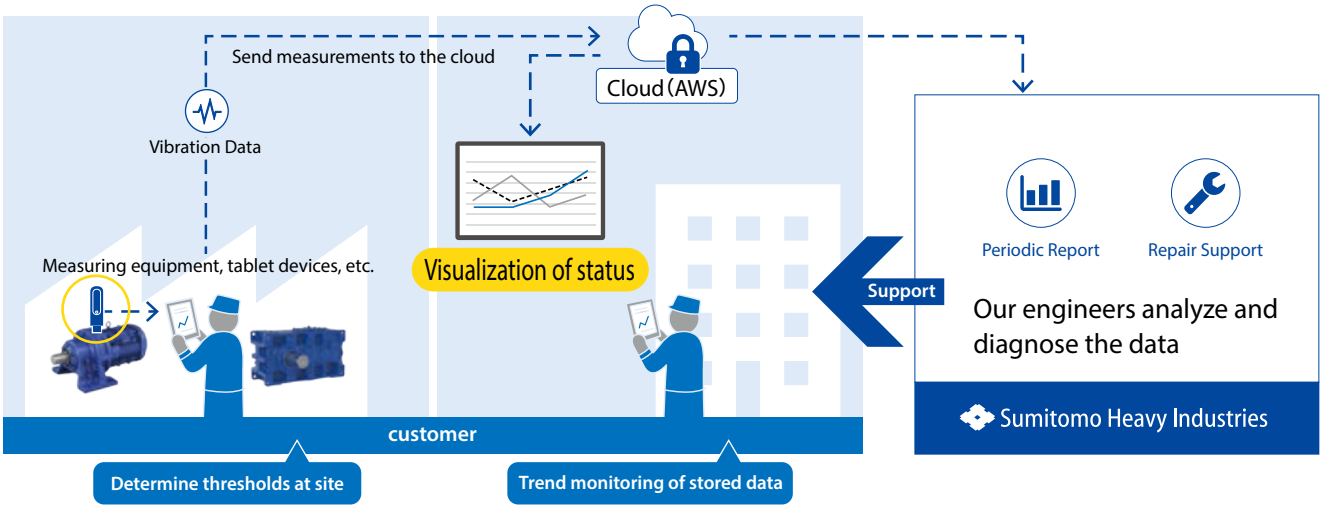
need to diagnose immediately on site

need to measure multiple products with one unit

| | | |
|---|---|---|
| Measurement form | | Sport measurement |
| Contents of diagnosis | | Vibration(overall, frequency analysis) |
| Data storage | | The cloud server/Customer's PC |
| Sensor connection method | | Wireless |
| Explosion-proof vibration sensor | | No Support |
| Operation Condition | Input RPM variation | - |
| | Output load variation | - |

## System Configuration

- On-the-spot determination of threshold values and trend monitoring as daily inspections are possible.
- Analyze data in the cloud and submit a report
- Measurements can be sent by e-mail and stored on the customer's PC




## Merit

### 1 Portable type

#### A single unit can measure multiple reducers

The CMS device itself is equipped with a sensor, and the device itself is attached to the object to be measured at the timing desired for measurement. A single CMS intrument can measure a large number of reducers, which reduces installation costs with a start small.

### 2 Suitable for both on-site measurement and trend monitoring

#### Simple diagnosis on the spot of measurement

Threshold judgments can be made on the spot from measurement results wih a smartphone or other device

#### Trend monitoring of stored data

Data can be accumulated over time to monitor trends as part of daily maintenance activities

### 3 Leave the analysis to the professionals

#### Analysis and reporting by our engineers

By cloud sharing, vibration data is analyzed by our engineers and the report is provided

## Diagnostic Result Monitor

| Devices used | At the time of measurement: Smartphone, tablet device<br>At the time of the cloud data confirmation: PC |
|---|---|

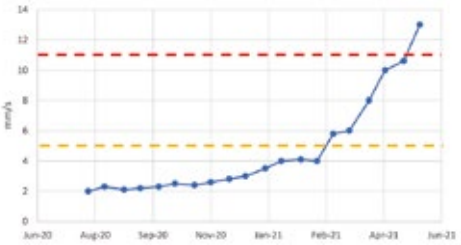
### Spot measurement screen

The measurements are instantly displayed on the device to allow immediate confirmation. Overall measurements are displayed with alarm status, alert thresholds, and danger thresholds.

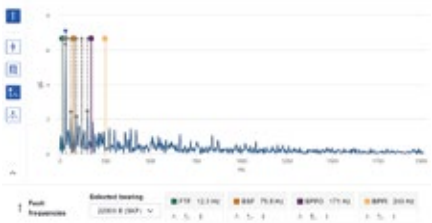



### Vibration trend values and frequency analysis results (stored in the cloud)

You can easily check the trend of the measurement results by accessing the cloud. You can also check the frequency analysis results for each measurement point.
The measurement results are automatically stored in the cloud. There is no need to store and categorize data manually.



Trend Monitoring Result



Frequency Analysis Result

## Equipment Specifications



Measuremet Equipment

| | |
|---|---|
| Number of sensor connections | 1 |
| Response frequency | 10kHz |
| Measurement details | Acceleration, Speed, Temperature |
| Frequency analysis | Yes (Normal frequency analysis and envelope processing) |
| Transmission method | Bluetooth |
| Range of operating temperature | -20℃～ 60℃ |
| Protective structure | IP65 |
| Size/Weight | 45 × 45 × 135mm / 0.2kg |

# S-CMS

## Easy-to-implement constant monitoring system with focused functions and simple operation

Ideal for customers such as,

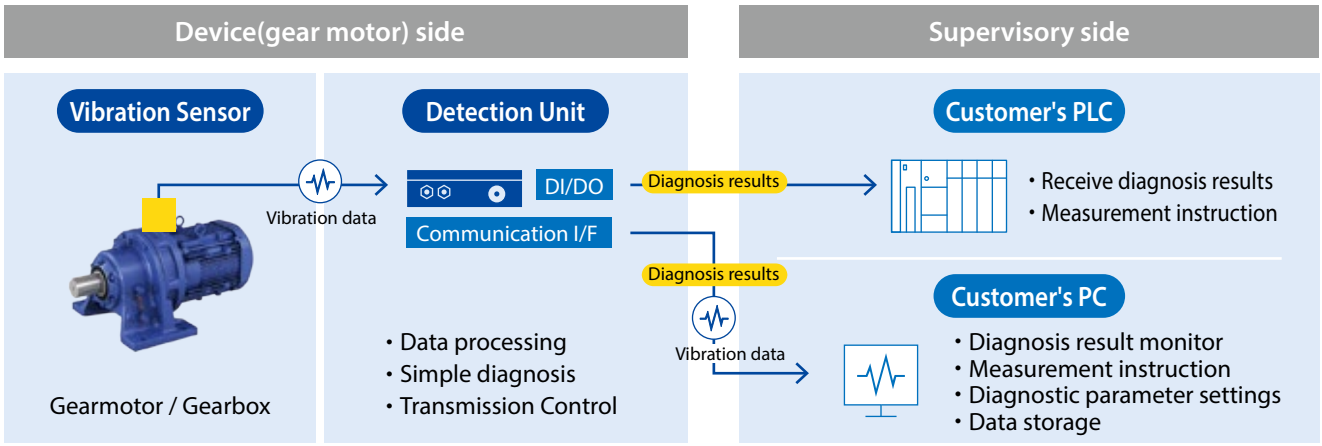


- Low-cost maintenance operation
- need to introduce the system without complicated settings

| | | |
|---|---|---|
| Measurement form | | Continuous monitoring |
| Contents of diagnosis | | Vibration (overall) |
| Data storage | | Customer's PC |
| Sensor connection method | | Wired |
| Explosion-proof vibration sensor | | No Support |
| Operation Condition | Input RPM variation | No Support |
| | Output load variation | No Support |

## System Configuration

- Easy to operate with a simple system configuration that can be completed at the customer's site
- Measurement data and diagnostic results are managed on the customer's PC
- You can use it without PC, if you only request to use the system to report alarms




## Merit

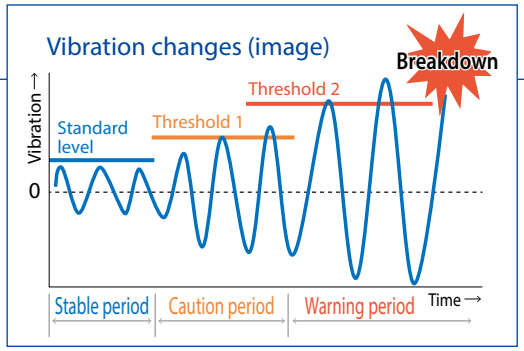
### 1 Simple diagnostic system

#### Simple diagnosis by RMS/peak values

Use only RMS/peak vibration values, with a reference value and two thresholds(coefficients)

#### Automatic threshold judgment

Automatic judgment of reducer's quality by setting thresholds




### 2 Easy setup

#### Correction for variable factors

The auto-calibration function allows automatic setting of the initial current value as the reference value. Filtering function eliminates disturbance vibration.

### 3 Visualization of many reducers in one unit

#### Support batch monitoring of multiple units

Depending on the number of reducers, 4-channel type or 12-channel type can be selected.

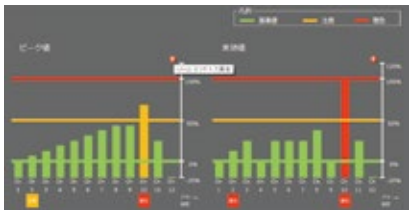
## Diagnostic Result Monitor

Intuitive user interface on site

Devises used | PC

### Simple diagnosis result indication

Visually identify the present peak/RMS vibration thresholds and the current state of the system



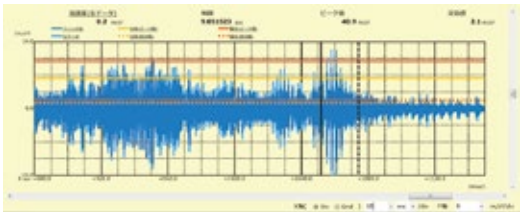
### Trend indication

Vibration data accumulated through simple diagnosis can be displayed in time series to trend manage fluctuations

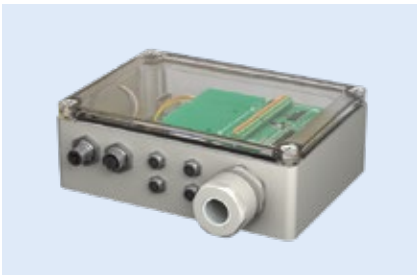


### Vibration waveform indication

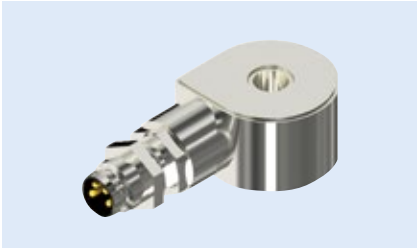
Vibration waveform data can be checked and saved. Saved data can also be used for more precise analysis.



## Equipment Specifications



Detective Unit



Vibration Sensor

| | |
|---|---|
| Number of sensor connections | max.4 or 12 |
| Response frequency | 1.6kHz |
| Measurement details | Acceleration (overall) |
| Frequency analysis | No |
| Measurement frequency | Optional settings (Triggerable) |
| Transmission method | Ethement or Wi-Fi (option) |
| Range of operating temperature | Vibration sensor ：-10 ～ 85℃<br>Detective unit：-10 ～ 50℃ |
| Protective structure | IP65 (equivalent) |
| Size/weight | Vibration sensor：⌀ 20mm × 12.8mm/ 30g<br>Detective unit 4ch ：125 × 175 × 60mm/ 0.6kg<br>Detective unit 12ch：175 × 175 × 75mm/ 0.9kg |

# CycloSMART Explosion-proof available

## High-performance type that can be completed on-site from diagnosis to data storage

Ideal for customers such as,

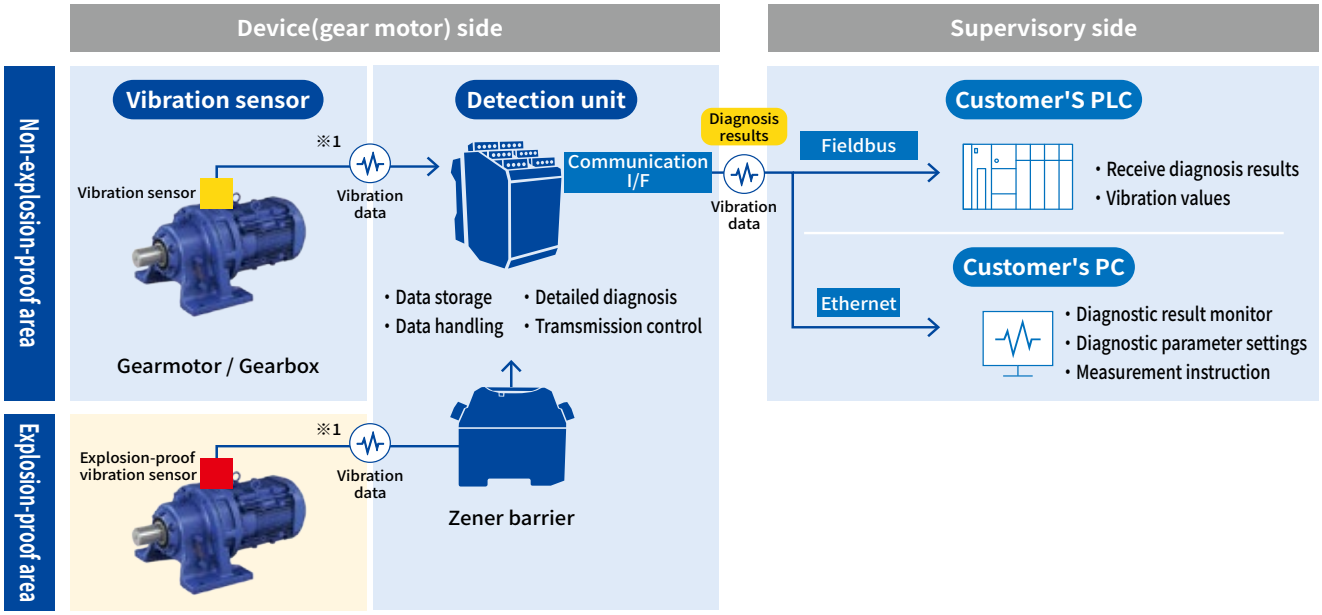


need to manage own data and perform advanced vibration analysis

| | | |
|---|---|---|
| Measurement form | | Continuous monitoring |
| Contents of diagnosis | | Vibration(overall, frequency analysis) |
| Data storage | | Detective unit / Customer's PC |
| Sensor connection method | | Wired |
| Explosion-proof vibration sensor | | Support |
| Operation Condition | Input RPM variation | Support |
| | Output load variation | Support |

## System configuration

- Easy to operate with a simple system configuration that can be completed at the customer's site
- The measurement data/diagnosis result will be managed on the customer's PC
- If you use the system only to report alarms, you can use it without PC




※ 1 RPM and load signals can be captured at the same time

## Merit

### 1 Simple diagnostic system with high performance

#### Trend monitoring of vibration components of machine elements such as gears and bearings

Frequency analysis in the detection unit allows trend monitoring of vibration components of machine elements

### 2 Suitable for various usage conditions

#### Monitoring is possible even under complex operating conditions

It can be monitored even under operating conditions where there are fluctuations in rotation speed and load

### 3 Store vibration value data in the detection unit

#### Trend values can be checked on-site without a permanent PC

Trend values can be checked with the detection unit even without a PC, it easy to perform highly accurate diagnosis on site

※ Trend values and detailed vibration data stored in the detection unit can be checked by connecting to a PC

### 4 Leave the diagnostic setup to the professionals

#### We will perform any setup that requires expertise

We support the necessary settings according to the gear and bearing specifications.

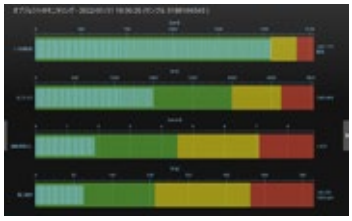
## Diagnosis result monitor

By connecting the detection unit to a PC, vibration waveforms can be checked in real time. Trend data stored in the detection unit can also be downloaded.

| | |
|---|---|
| Monitoring Items | Vibration acceleration, vibration velocity (overall value, frequency analysis) |
| Devices used | PC |

### Diagnosis Result Display

Pre-set vibration value (overall value and characteristic frequency components) thresholds and current status can be visually grasped



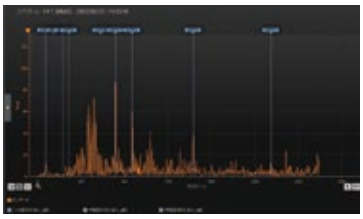
### Trend Display

Accumulated vibration data can be displayed in time series for trend management of fluctuations



### Frequency analysis waveform display

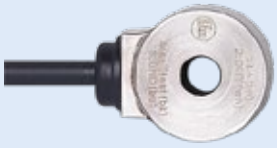
Frequency analysis waveforms can be checked.
Feature frequencies (linked to rotation signals) are automatically highlighed for visual confirmation



## Equipment Specifications



Detection Unit



Standard Vibration Sensor



Explosion-proof Vibration Sensor

| | |
|---|---|
| Number of sensor connection | max. 4 |
| Response frequency | 10kHz |
| Measurement details | Acceleration, Speed |
| Frequency analysis | Yes (normal frequency analysis and envelop processing) |
| Measurement frequency | stored in detection unit: option settings (triggerable)<br>stored in PC: automatic settings (depends on measurement specifications) |
| Transmission method | Ethernet |
| Range of operating tempareture | Standard vibration sensor : -20℃～ 80℃<br>Explosion-proof vibration sensor : -54℃～ 121℃<br>Detection unit : 0 ～ 70℃ |
| Protection structure | Detection unit: IP20 Standard vibration sensor: IP67<br>Exlosion-proof vibration sensor: IP68 |
| Size/Weight | Standard vibration sensor : Ø 17.8mm × 13.5mm / 120g<br>Exlosion-proof vaibration sensor : Ø 22.1mm × 49.3mm / 91g<br>Detection unit : 114 × 50 × 105 / 0.5kg |

# TYPE-I-8/16 Explosion-proof available

## High-performance type capable of identifying abnormal areas and detetion damage conditions

Ideal for customers such as,

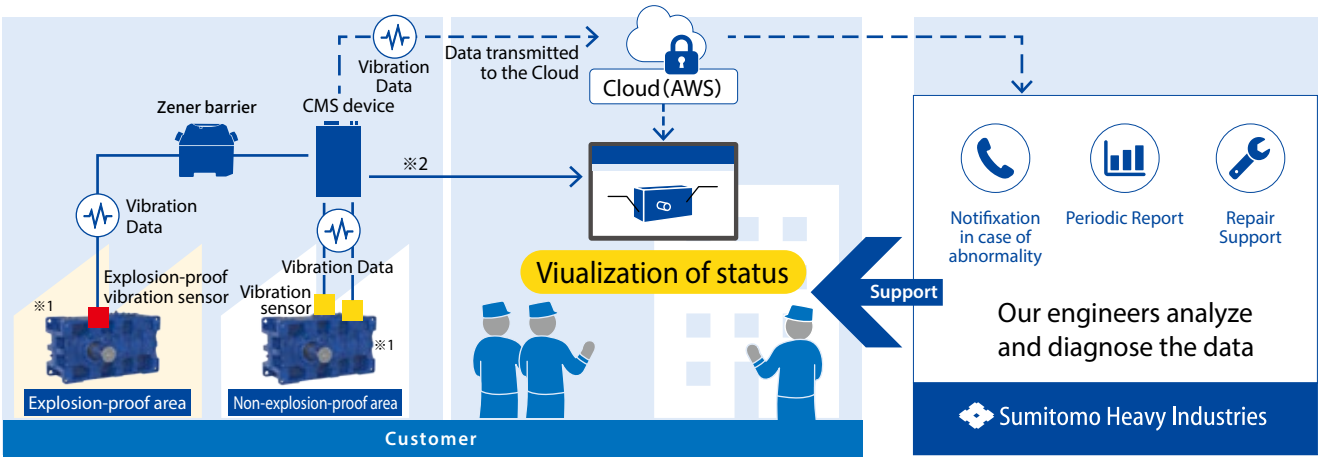


**Need to grasp the exact location of the abnormality and the state of damage**

| | | |
|---|---|---|
| Measurement form | | Continuous monitoring |
| Contents of diagnosis | | Vibration(overall, frequency analysis) |
| Data storage | | The cloud server |
| Sensor connection method | | Wired |
| Explosion-proof vibration sensor | | Support |
| Operation Condition | Input RPM variation | Support |
| | Output load variation | Support |

## System Structure

- Since measurement data is transmitted over a mobile line, there is no need for complicated network wiring
- Analyze the data in the cloud and sumit a report.




※ 1 RPM and load signals can be worked on simultaneously
※ 2 Diagnostic software (sold separately) enables data management on customer PCs without going through the cloud server
※ 3 It can also be installed on a gear motor in an explosion-proof area. Please contact us for details

## Merit

### 1 High efficiency

#### Early abnormality detection

Frequency analysis detects abnormalities before failure progresses by trend monitoring of vibration values at characteristic frequencies

#### Identification of abnormal areas and damage conditions

By analyzing vibration values obtained from multiple sensors, abnormal areas can be identified and the state of damage can be ascertained

### 2 Suitable for various usage conditions

#### Support batch monitoring of multiple units

Depending on the type reducer and application, the 8-channel type or 16-channel type can be selected

#### Possible to monitor even under the complex operating conditions

It can be monitored even under operating conditions where there are fluctuations in rotation speed and load

### 3 Leave the analysis to the professionals

#### Proposals based on precise analysis by our engineers

Through a precise analyss of the cloud data, we will propose recommended countermeasures

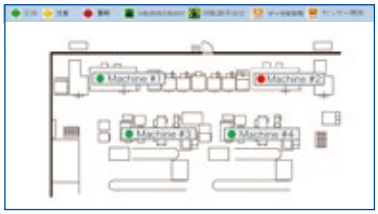
## Diagnosis Results Monitor

Status of reducer can be monitored on an easy-to-understand dashboard screen.
A list of monitored reducers can be checked and their details can be confirmed.
Trend values and frequency analysis results for each sensor can also be checked.

Deivices used | PC, Tablet device

### Equipment batch monitoring screen

The status of monitored objects can be displayed at once.
Equipment status is indicated by easy-to-understand signal displays.



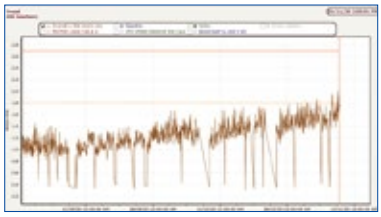
### Confirmation of detailed screen

By selecting the target on the batch monitoring screen, the diagnostic results and vibration values for each sensor are displayed.



### Trend display for each sensor

Selecting a sensor from the detailed check screen displays, indicate the vibration trend values and frequency analysis results for the individual sensor.



## Equipment Specifications



Data Collector



Vibration Sensor



Explosion-proof vibration sensor

| | |
|---|---|
| Number of sensor connections | max.8 or 16 |
| Response frequency | 10kHz |
| Measurement details | Acceleration, speed, displacement |
| Frequency analysis | Yes (normal frequency analysis and envelop processing) |
| Measurement frequency | optional settings (triggerable) |
| Range of operating tempareture | standard vibration sensor: -50 ～ 120℃<br>Explosion-proof vibration sensor: -54℃～ 121℃<br>Data collector: -40℃～ 65℃ |
| Protective structure | Data collector standalone: IP30<br>At the time of store in the decicated cabinet: IP65<br>Explosion-proof vibration sensor: IP68 |
| Size / Weight | Standard vibration sensor: 37 x 25 x 26mm / 135g<br>Explosion-proof vibration sensor: Φ 22.1 x 49.3mm / 91g<br>Data collector: 104 x 173 x 40mm / 0.6kg<br>Dedicated cabinet: 300 x 400 x 130mm / 6.7kg |

# TYPE-I-G

## Wireless type that requires no wiring and offers high flexibility in installation

Ideal for Customers such as,

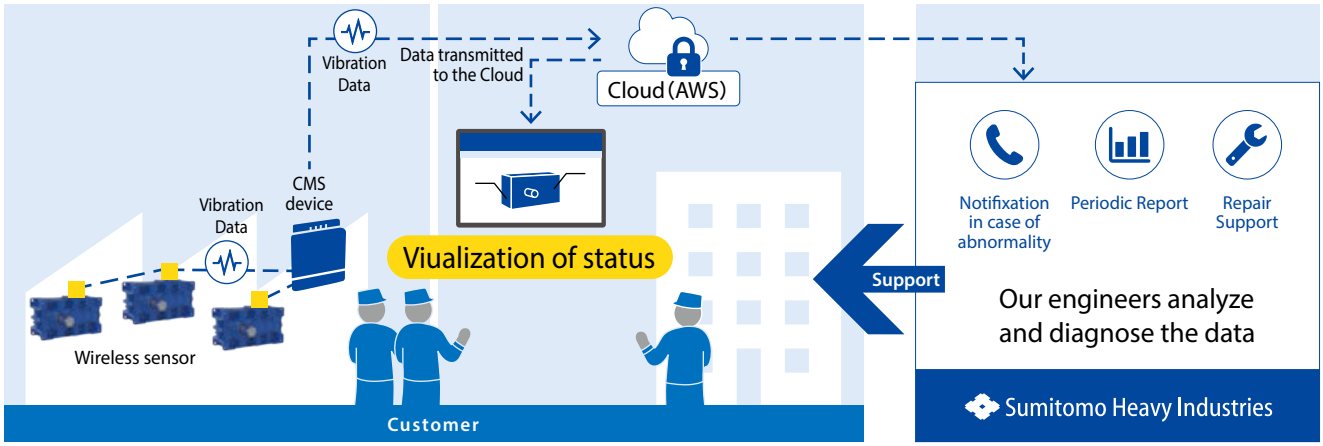


need to monitor many products at once

need to diagnose with less wiring

| | | |
|---|---|---|
| Measurement form | | Continuous monitoring |
| Contents of diagnosis | | Vibration(overall, frequency analysis) |
| Data storage | | The cloud server |
| Sensor connection method | | Wireless |
| Explosion-proof vibration sensor | | No support |
| Operation Condition | Input RPM variation | No support |
| | Output load variation | No support |

## System Structure




## Merit

### 1 High efficiency

#### Early abnormality detection

Frequency analysis detects abnormalities before failure progresses by trend monitoring of vibration values at characteristic frequencies

### 2 Suitable for various usage conditions

#### Batch monitoring of multiple units

- Up to 100 wireless sensors can be connected to a single gateway

#### Wireless connection & battery operation

- No sensor wiring is required, making it suitable for diagnosis in difficult-to-access locations
- The standard transmission distance is approximately 10-30m (depends on the surrounding environment)
- If there is a distance to the parent unit, the sensor relays and communicates with it to extend the reach
- 4-year standard sensor battery life (depends on sensor configuration and measurement interval)

### 3 Leave the analysis to the professionals

#### Proposals based on precise analysis by our engineers

Through a precise analysis of the cloud data, we will propose recommended countermeasures

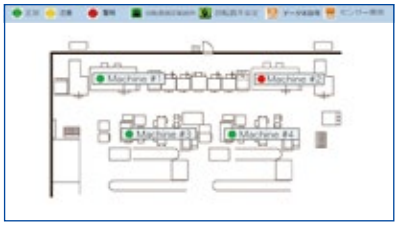
## Diagnosis Results Monitor

Status of reducers can be monitored on an easy-to-understand dashboard screen.
A list of monitored reducers can be checked and their details can be confirmed.
Trend values and frequency analysis results for each sensor can also be checked.

Deivices used | PC, Tablet device

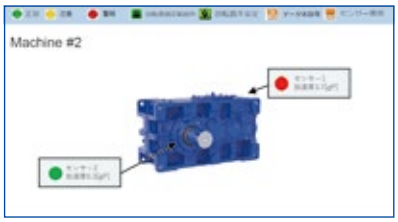
### Equipment batch monitoring screen

The status of monitored objects can be displayed at once.
Equipment status is indicated by easy-to-understand signal displays.



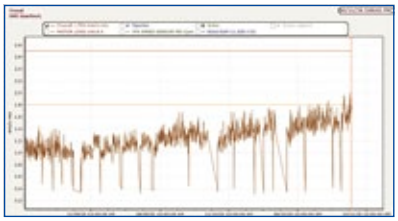
### Detailed confirmation screen

By selecting the target on the batch monitoring screen, the diagnostic results and vibration values for each sensor are displayed.




### Trend display for each sensor

Selecting a sensor from the detailed check screen displays the vibration trend values and frequency analysis results for the indivisual sensor.



## Equipment Specifications




Gateways

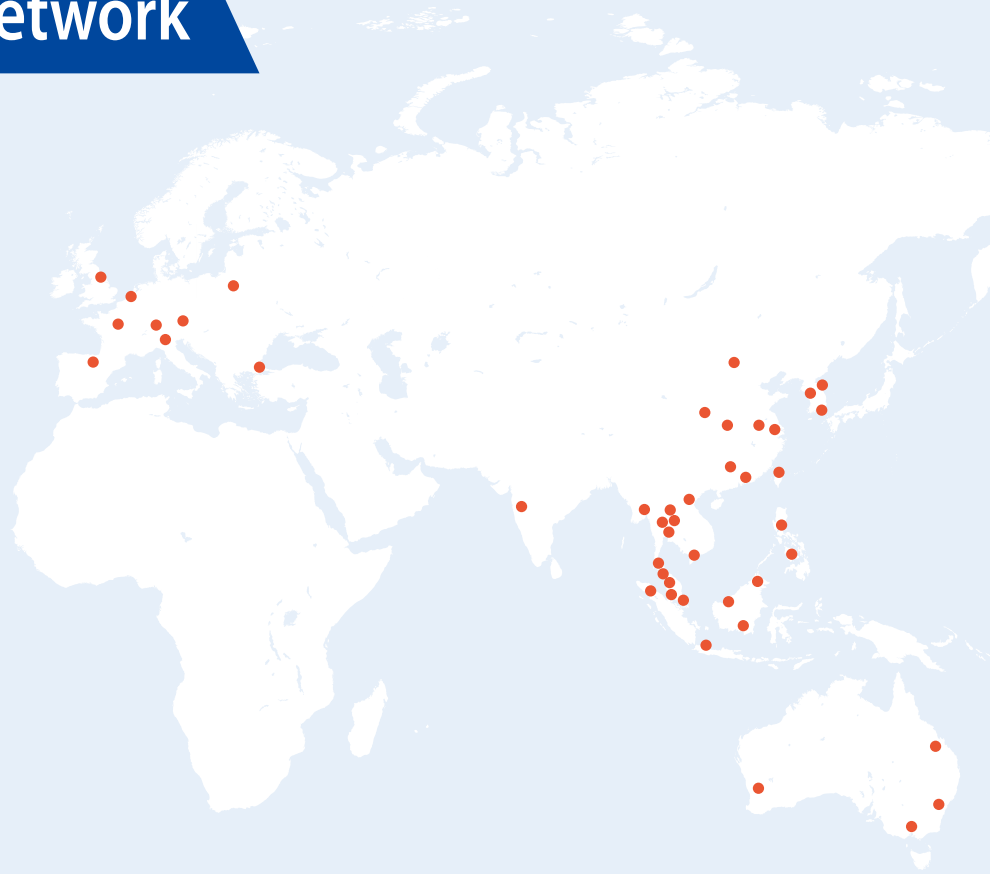



Vibration Sensor (wireless)

| | |
|---|---|
| Number of sensor connections | max.100 |
| Response frequency | 10kHz |
| Measurement details | Acceleration, velocity, temperature |
| Frequency analysis | Yes (normal frequency analysis and envelope processing) |
| Measuring frequency | overall value : 1 time/day, 2 times/day, 4 times/day or every hour<br>frequency analysis : 1 time/week, 1 time/2 days, 1 time/day or every hour |
| Range of operating temperature | vibration sensor (wireless) : -40 ～ 85℃<br>gateways : -20 ～ 60℃ |
| Protection structure | vibration sensor (wireless) : IP69K<br>gateways : IP65 |
| Size/Weight | vibration sensor (wireless) : Φ 32 x 78.2mm/142g<br>gateways : 220 x 220 x 52/2.0kg |
| Transmission method | 2.4 GHz ISM band low energy mesh radio network |

# Overseas Sales Network

● Major Overseas Sales Offices



## Major Overseas Sales Offices

| Woldwide Locations | | | TEL | FAX |
|---|---|---|---|---|
| U.S.A | Sumitomo Machinery Corporation of America (SMA) | 4200 Holland Blvd. Chesapeake, VA 23323, U.S.A. | (1)757-485-3355 | (1)757-485-7490 |
| Canada | SM Cyclo of Canada, Ltd. (SMC) | 1453 Cornwall Road, Oakville, ON L6J 7T5, Canada | (1)905-469-1050 | (1)905-469-1055 |
| Mexico | SM Cyclo de México, S.A. de C.V. (SMME) | Fresnos #201, Pocket Park Oriente, 67258 Juárez, N.L. México | (52)81-2188-2154 | - |
| Brazil | Sumitomo Indústrias Pesadas do Brasil Ltda. (SHIB) | Av. Sumitomo, 500 – Itaim Mirim – Itu/SP – CEP: 13312-839 – Brazil | (55)11-4403-9292 | - |
| Chile | SM-Cyclo de Chile Ltda. (SMCH) | Camino a Coronel Km.10 Modulo 3A, San Pedro de la Paz, Biobío, Chile | (56)41-246-9806 | (56)41-246-9808 |
| Argentina | SM-Cyclo de Argentina S.A. (SMAR) | Ing Delpini 2230, B1615KGB Malvinas Argentinas, Grand Bourg, Buenos Aires, Argentina | (54)3327-45-4095 | - |
| Guatemala | SM Cyclo de Guatemala Ensambladora, Ltda. (SMGT) | Parque Industrial Unisur, 0 Calle B 19-50 Zona 3, Bodega D-1 Delta Bárcenas, Villa Nueva, Guatemala | (502)6648-0500 | (502)6631-9171 |
| Colombia | SM Cyclo Colombia, S.A.S. (SMCO) | Parque Industrial Celta, Km 7.0 Autopista Medellín, Costado Occidental, Funza, CUN, 250027, Colombia | (57)1-300-0673 | (57)1300-0673 ext. 105 |
| Peru | SM Cyclo de Perú, S.A.C. (SMPE) | Jr. Monte Rosa 255, Oficina 702, Santiago de Surco-Lima 15038, Peru | (51)1-7130342 | (51)1-7150223 |
| Germany | Sumitomo (SHI) Cyclo Drive Germany GmbH (SCG) | Cyclostraße 92, 85229 Markt Indersdorf, Germany | (49)8136-66-0 | - |
| Austria | Sumitomo (SHI) Cyclo Drive Germany GmbH (SCG) Austria Branch Office | Gruentalerstraße 30A, 4020 Linz, Austria | (43)664-2840490 | - |
| Belgium | Hansen Industrial Transmissions NV (HIT) | Leonardo da Vincilaan 1, Edegem, Belgium | (32)3-450-12-11 | - |
| France | SM-Cyclo France SAS (SMFR) | 8 Avenue Christian Doppler, 77700 Serris, France | (33)1-64-17-17-20 | - |
| Italy | SM-Cyclo Italy Srl (SMIT) | Via dell' Artigianato 23, 20007 Cornaredo MI, Italy | (39)293-481101 | - |
| Spain | Sociedad Industrial de Transmisiones, S.A. (SIT) | Paseo de Ubarburu 67, 20014 San Sebastián Guipúzcoa, Spain | (34)9434-572-00 | - |
| United Kingdom | SM-Cyclo UK Ltd. (SMUK) | 29 Bergen Way, Hull, HU7 0YQ, United Kingdom | (44)1482-790340 | - |



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|---|---|---|---|---|
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| India | Sumi-Cyclo Drive India Private Limited (SDI) | Gat No. 186, Global Raisoni Industrial Park Alandi Markal Road, Fulgaon, Pune 411 033, India | (91)96077-45353 | - |
| China | Sumitomo (SHI) Cyclo Drive Shanghai, Ltd. (SCS) | Room 1101, SMEG Plaza, Office Building, No.1386 Hongqiao Road, Changning District, Shanghai, China 200336 | (86)21-3462-7877 | (86)21-3462-7922 |
| Hong Kong | SM-Cyclo of Hong Kong Co., Ltd. (SMHK) | Unit 19, 28/F, Metropole Square, 2 On Yiu Street, Sha Tin, New Territories, Hong Kong, China | (852)2460-1881 | (852)2460-1882 |
| Taiwan | Tatung SM-Cyclo Co., Ltd. (TSC) | 22, Chungshan N. Rd., 3rd Sec. Taipei, Taiwan, 104, R.O.C. | (886)2-2595-7275 | (886)2-2595-5594 |
| Korea | Sumitomo (SHI) Cyclo Drive Korea, Ltd. (SCK) | 913, 19 Saemunan-ro 5-gil, Jongno-gu, Seoul, Republic of Korea 03173 | (82)2-730-0151 | (82)2-730-0156 |
| Singapore | Sumitomo (SHI) Cyclo Drive Asia Pacific Pte. Ltd. (SCA) | 83 Joo Koon Circle, Singapore 629109 | (65)6591-7800 | (65)6863-4238 |
| Philippines | Sumitomo (SHI) Cyclo Drive Asia Pacific Pte. Ltd. Philippines Branch Office (SMPH) | C4 & C5 Buildings Granville Industrial Complex, Governor's Drive, Bo. Bancal, Carmona, 4116 Cavite, Philippines | (63)2-8584-4921 | (63)2-8584-4922 |
| Vietnam | SM-Cyclo (Vietnam) Co., Ltd. (SMVN) | Factory 2B, Lot K1-2-5, Road No. 2-3-5A, Le Minh Xuan Industrial Park, Binh Chanh Dist., Ho Chi Minh, Ho Chi Minh City, Vietnam | (84)28-3766-3709 | (84)28-3766-3710 |
| Malaysia | SM-Cyclo (Malaysia) Sdn. Bhd. (SMMA) | No.7C, Jalan Anggerik Mokara 31/56, Kota Kemuning, Seksyen 31, 40460 Shah Alam, Selangor, Malaysia | (60)3-5121-0455 | (60)3-5121-0578 |
| Indonesia | PT. SM-Cyclo Indonesia (SMID) | Cikarang Jalan Sungkai Blok F 25 No. 09K, Delta Silicon III, Lippo Cikarang, Bekasi, Jawa Barat, Indonesia | (62)21-29612100 | (62)21-29612211 |
| Thailand | SM-Cyclo (Thailand) Co., Ltd. (SMTH) | 1 Empire Tower, 21st Floor Unit 2103-4, South Sathorn Road, Yan Nawa, Bangkok 10120, Thailand | (66)2-670-0998 | (66)2-670-0999 |
| Australia | Sumitomo (SHI) Hansen Australia Pty. Ltd. (SHAU) | 181 Power Street Glendenning, NSW 2761, Australia | (61)1300-037-483 | - |

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Specifications, dimensions, and other items are subject to change without prior notice.

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