

Key Application :  
Operational Data Collection on machines 1st commission.

The portable diagnosis instrument has another key application:

1. The portable instrument can help the installer collect all operational data on machines' **1st commission**, a vital information for future maintenance reference, as well as for Big Data analysis.
2. As the use of Big Data Analysis technology trending up strongly, the operation data collection on **1st commission** would become a popular practice of main-stream motor manufactures, and the portable vibration diagnosis instruments would be indispensable for all installers or maintenance personnel of dealers, makers, factory, institutes, hotels, hospitals, schools, warehouses,....etc.

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## All-Smart Portable Vibration Diagnosis Instrument



TECOM's "All-Smart Portable Vibration Diagnosis Instrument" is a new generation vibration measurement instrument for machine equipment. The portable case contains IoT (Internet of Things) Gateway, smart vibration sensors, and standard mobile power-pack. Craft person can carry to site for measurement diagnosis operations. The Gateway connects 2 sensors, and its WiFi allows multiple craft persons for simultaneous analysis.

### Important Features

1. **Time-Frequency Selectable**

Gateway provides both time-domain and frequency-domain vibration signals; and these time-frequency signals are selectable at the smart phones.

2. **Precision Frequency-Analyzer Replacement**

Working together, the smart vibration sensors, IoT Gateway and smart phones jointly represent a replacement of expensive and precision Frequency Analyzers, at any place and any time.

3. **All-in-One**

The instrument integrates the three operations: vibration measurement, analysis, and diagnosis all into one operation; moreover, the diagnosis is operated interactively, in real time.

4. **Plug-and-Play**

All operations are powered by mobile power-pack, the diagnosis are done via wireless WiFi connections. No power wires, no network wires are needed, pure plug and play, amazingly easy to use.

**The application of IoT technology to the Smart Vibration Sensors creates a "Break-through Change" in the field of Vibration measurements, leads it to the next generation.**

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## All-Smart Portable

### Vibration Diagnosis Instrument

Package Content



RS485  
USB

Smart Vibration Sensor x 2

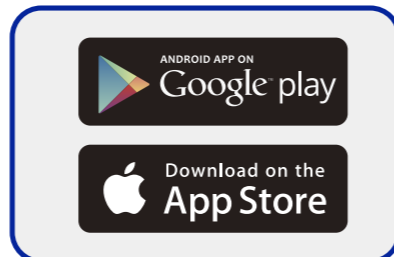


(Built-in WiFi)

IoT Gateway x1



Mobile Power Bank x 1

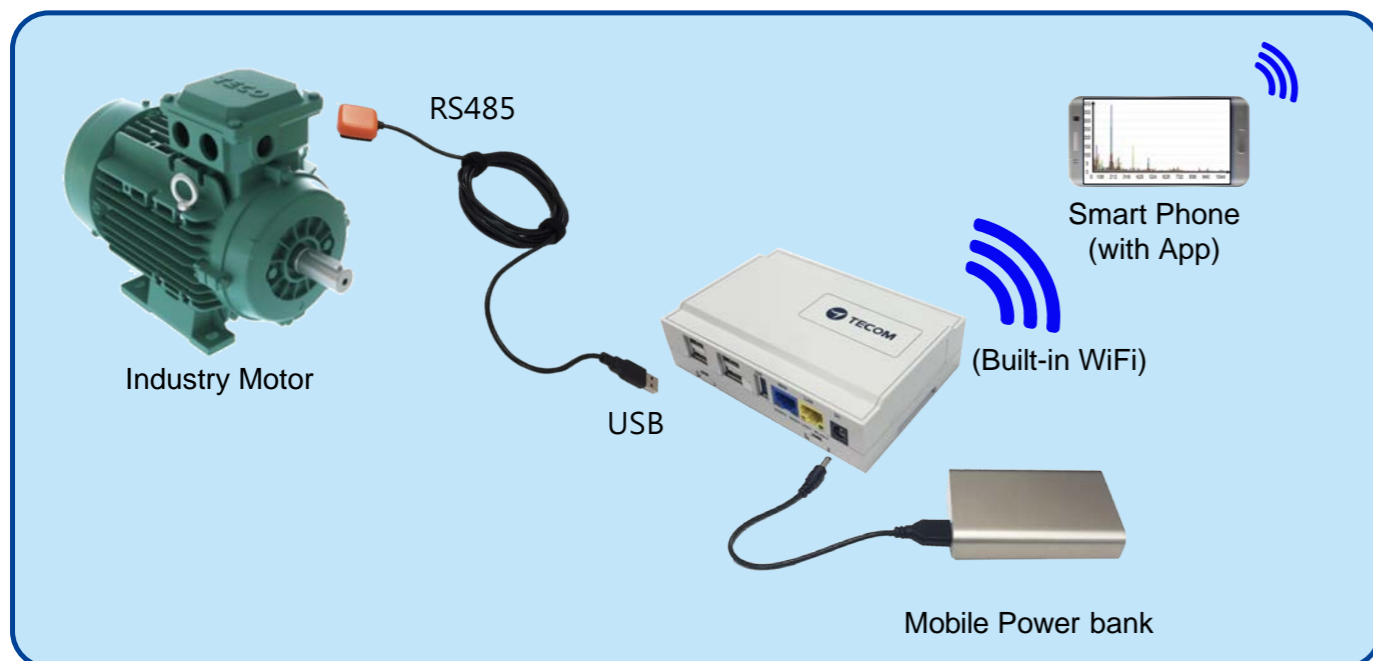


Smart Phone App (iOS, Android)

The instrument deploys IoT technology :

The smart vibration sensors are virtually connected to selected smart phones, and vibration measurements and diagnosis can be carried out interactively, in real-time.

Connection diagram (Plug-and-Play)



On-Site use of the instrument

Bring the portable instrument case to the site, measure :

- ◆ 3-axis RMS values and compare against the motor vibration specifications, judge for normal or over-value.
- ◆ Examine the FFT data, look into the vibration energy distributions on frequency domain and diagnosis for the five possible defects :  
Bearing defects, In-alignment, Un-balance, Loose parts and Softfoot.  
\* The four items represent 90% of a motor's mechanical failures.
- ◆ IoT and Smart Phones work together on the interactive diagnosis.
- ◆ Record all measured data and diagnosis results, for the motor's future health reference.

The new generation IoT features and strong interactive analysis and diagnosis capabilities of the portable instrument will vastly enhance on-site maintenance efficiency, it would be indispensable for any maintenance personnel.



Vibration



FFT/RMS



All in One



Plug & Play

Instant diagnosis of machine vibrations

