# TECO Group
# Smart equipment remote mobile monitoring system

## First-in-the-market Industry 4.0 class

# Energy-saving  Cost-saving
# Manpower-saving

# TECO Group

**TECO Group**

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**Temperature**  **Vibration**  **Power consumption**  **Current**  **Power**  **Alarm**  **Switch status**  **Power consumption record**

Upgrade your current equipment to address the concepts of Industry 4.0.
The only practical and feasible solution at present.

# Industry 4.0 class
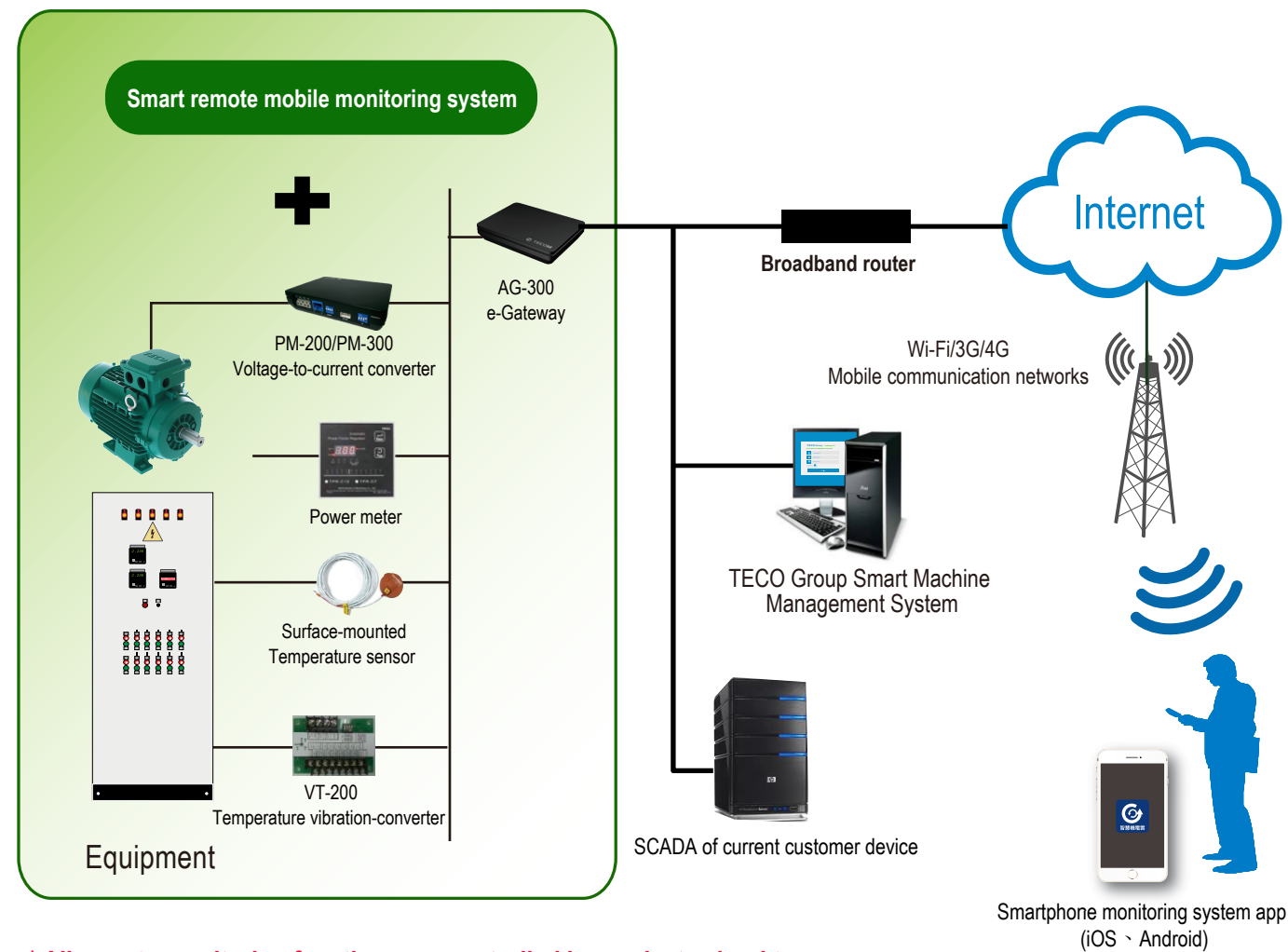## Smart equipment remote mobile monitoring system

### System introduction

**TECO Group employs the most advanced Industry 4.0 core technology, including IoT, cloud computing, big data and mobile communications, to develop this new generation equipment remote/mobile monitoring system.**
**This system can be applied to your current equipment (regardless of the brand) to provide new generation functions:**

- **Connect to the internet**
- **Run tasks such as remote/mobile monitoring, reporting and alarms for equipment operation via the internet**
- **Connect to the smartphone**
  **Enable the monitor/report/alarm function to be not only remote but also mobile (beyond distance restrictions)**
- **Two-way interactive receiving/transmitting control between the equipment and the smartphone**
  ***All remote monitoring functions are controlled by a private cloud to ensure equipment privacy.**

### System diagram

Smart remote mobile monitoring system

PM-200/PM-300
Voltage-to-current converter

AG-300
e-Gateway

Power meter

Surface-mounted
Temperature sensor

VT-200
Temperature vibration-converter

Equipment

Broadband router

Internet

Wi-Fi/3G/4G
Mobile communication networks

TECO Group Smart Machine
Management System

SCADA of current customer device

Smartphone monitoring system app
(iOS、Android)

**\* All remote monitoring functions are controlled by a private cloud to address information security management requirements.**

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**This professionally-designed module can be installed in all brands of equipments to gain the four following functions:**

### Connect to the internet
- Upgrade your new or current equipment to connected equipment that addresses the concepts of Industry 4.0
- Connect to smartphones

### Report
- Instant remote operation status reports for important components in the equipment, including temperature, current, voltage and switch status

### Alarm
- T, V and I: when the operating value exceeds the maximum, an alarm will be given immediately. When a catastrophic value exceeds the maximum variation, an emergency alarm will be given as well

### Interaction
- The equipment interacts with the remote smart mobile terminal to run remote diagnosis and troubleshooting

### System features

Industry 4.0 smart equipment remote/mobile monitoring system from TECO Group can control items such as internal voltage (V), current (I), power consumption, vibration (VBR), temperature (important parts) and electromechanical health (speed, torque, cooling, bearings). This system features the following seven functions:

**1. Operating status reports**
- On-demand reports of instant operating values (On-Demand)
- Pre-set time reports of instant operating values (Pre-Set Time)
- Via smartphone app

**2. Remote alarm**
- When the operating value exceeds the maximum normal value
- When the catastrophic rate exceeds the maximum of variation rate

**3. Remote shutdown**
- When an emergency alarm for the equipment occurs, the system will enable the emergency shutdown mechanism. The maintenance staff can activate remote shutdown via smartphone to avoid serious damage of the device and downtime.

**4. On-demand report of operating value tendency**
- Can generate preventive maintenance advice to increase the reliability and extend the service life of the machine

**5. Normal level setting of machine power consumption**
- When the actual power consumption exceeds the normal level, the system will give deviation alarm to remind the maintenance staff of checking and control energy wastage immediately

**6. Failure diagnosis and maintenance advice**
- The system will provide information such as failure diagnosis, examination & repair advice, and maintenance & operation records to smartphone.

**7. Management information such as statistics, report and chart**

### System benefit

| Functions | Benefits |
| --- | --- |
| Remote/Mobile Report & Alarm | Control the operation of important components in the equipment at any time, including temperature, current, voltage and switch status |
| Remote shutdown | 1. Avoid serious damage to the equipment that may lead to a factory downtime<br>2. Avoid unnecessary machine replacements; save money and time |
| Trend report | 1. Generate plans for preventive maintenance to avoid serious accidents and increase equipment reliability<br>2. Timely maintenance; extend the service life of the equipment and decrease the frequency of replacements |
| Normal level setting of power consumption | Check reminders and control energy wastage immediately |
| Failure diagnosis and maintenance advice | Decrease repair time and increase working hours<br>Significantly save maintenance costs |

**Each benefit perfectly corresponds to the Industry 4.0 spirit as well as providing a significant cost-saving benefit for equipment owners**