

## ● TITAN ASSET

# The meter that predicts failure.

Energy metering, vibration and temperature sensing in one DIN rail device — know what is consuming energy, and know when it is about to fail.

### Three sensors, one device

Electrical signature, vibration and temperature in a single unit

### Inrush capture

High-speed sampling at motor start reveals bearing and winding wear

### Edge anomaly detection

On-device baseline learning, no cloud round-trip required



# 01 The problem

UNMONITORED UNTIL IT FAILS

Industrial motors, pumps and compressors fail without warning. By the time a bearing seizes or a winding burns out the damage is done — unplanned downtime, emergency repairs and production losses that cost far more than the part.

Traditional condition monitoring needs dedicated vibration analysers, trained technicians and walk-around inspections. Few

facilities can justify that for every motor, so most equipment runs unmonitored until it fails.

Titan Asset combines energy metering with vibration and temperature sensing in one DIN rail device. Every metering point becomes a condition monitoring point, at a fraction of the cost of dedicated predictive hardware.

## Electrical signature

The full Titan parameter set — V, I, P, PF, f, kWh, harmonics and THD — plus inrush current capture with a configurable trigger threshold.

## Vibration and temperature

External MEMS accelerometer with on-device FFT: dominant frequencies, amplitude trends and baseline deviation scoring. PT100/PT1000 for bearing or winding temperature.

## Baseline learning

The device learns each asset's normal signature and scores deviation in vibration FFT, power factor, runtime pattern and inrush profile.

## Raw data, any platform

Every parameter is readable over Modbus RTU/TCP and MQTT — connect any CMMS, predictive maintenance suite or SCADA system directly.

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## 04 Applications

### Pump stations

Cavitation, bearing wear and impeller damage, detected from the DIN rail.

### Motors and drives

Inrush profiling and vibration trending on conveyors, fans and blowers.

### Compressors

Efficiency degradation in HVAC, compressed air and refrigeration.

### OEM embedded

Machine builders ship equipment with condition intelligence built in.

**ELECTRICAL MEASUREMENT**

|                  |                                                                  |
|------------------|------------------------------------------------------------------|
| Accuracy class   | Class 0.5S                                                       |
| Voltage range    | 48–500 V AC                                                      |
| Current range    | 100 / 200 / 400 / 800 A                                          |
| Parameters       | V, I, P, PF, f, kWh, kVARh, kVAh, THD                            |
| Harmonics        | Up to 31st, per phase                                            |
| Inrush capture   | High-speed sampling, configurable trigger                        |
| Advanced metrics | Earth leakage, load hours, max demand, power cycles              |
| Load profile     | Configurable 1–60 min                                            |
| Event log        | U/V, O/V, over-current, power cycles, harmonics, on/off, runtime |

**CONDITION SENSORS**

|                   |                                             |
|-------------------|---------------------------------------------|
| Vibration         | MEMS accelerometer with on-device FFT       |
| Temperature       | PT100 / PT1000 input                        |
| Anomaly detection | Edge baseline comparison, deviation scoring |

**COMMUNICATION**

|               |                         |
|---------------|-------------------------|
| Internet      | WiFi & Ethernet         |
| Wired / local | RS485 (master or slave) |
| Protocols     | Modbus RTU/TCP, MQTT    |

**MECHANICAL**

|                 |                   |
|-----------------|-------------------|
| Mounting        | DIN rail          |
| Display         | 3 row             |
| Dimensions      | 94 × 89 × 69 mm   |
| IP rating       | IP51 (front face) |
| Operating temp. | –25 °C to +55 °C  |