# Inpod

## Switchroom-Mounted Condition & Energy Monitoring


Inpod turns electrical signals into actionable condition intelligence. It's Faraday Predictive's latest evolution in continuous condition monitoring - compact, rugged, and DIN-rail mounted, purpose-built for three-phase rotating machinery.

Building on the proven performance of the S200, Inpod delivers the same trusted MBVI (Model-Based Voltage and Current) insights in a smaller, more robust form factor, with fewer components, a direct input voltage range of up to 1000V, and a wider operating temperature range - making it easier than ever to fit inside your electrical enclosures.

Inpod isn't limited to LV and MV machines connected directly. Because HV motors and generators almost always have a step-down voltage transformer for protection and metering, Inpod can simply take its voltage signal from the VT secondary - bringing the same MBVI diagnostics to HV assets. And having been designed from the ground up for it, Inpod works just as well on VFD/inverter-driven machines as it does on fixed-speed ones.

## What's improved over the S200

**Smaller. Fewer parts.**
A simplified, compact DIN-rail enclosure - just 40mm deep - with fewer components than the S200.

**LV to HV, direct or via VT**
Direct measurement 100-1000V, plus HV machines via a step-down VT secondary - works with VFD-driven motors too.

**-20°C to +85°C**
A wider operating temperature range and more robust build for harsh switchroom conditions.

**PoE or 12V DC**
PoE delivers power and data together - no separate supply needed. 4G/5G available via router.

## What does it do?

By continuously measuring the three-phase voltage and current drawn by your motor, or output by your generator, Inpod uses Faraday Predictive's proprietary MBVI analytics to detect early-stage mechanical and electrical faults across the motor, drivetrain, driven asset, and connected process - with no sensors, downtime, or disruption.

**Faults identified include:**

- Mechanical unbalance / misalignment
- Bearing problems
- Foundation looseness
- Transmission looseness or rubbing
- Motor rotor bar faults
- Motor stator problems
- Electrical odd & even harmonics
- Active power, reactive power & power factor
- Voltage & current balance
- Voltage & current THD
- Any other significant spectrum peak

If detailed machine-specific information is available - such as bearing type codes, pump vane counts, or transmission ratios - Inpod automatically identifies and reports on faults specific to that equipment. Without this information, Inpod still performs well using generic fault parameters.

Further issues - including cavitation, resonance, and other operational effects - can be identified by expert interpretation of the spectral signature, even where they don't yet appear as a named, automated fault marker.

## How and where is it installed?

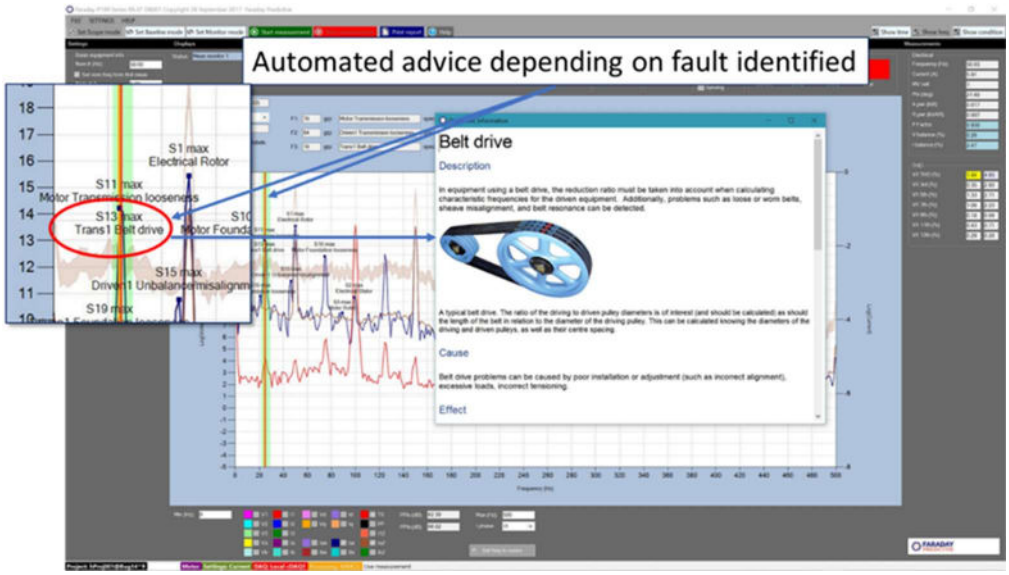
Inpod is DIN-rail mounted inside the motor starter cabinet, or in a nearby enclosure where space is limited. Current transformers are fitted around the motor supply cables or connected to the secondary of existing protection CTs where fitted. Designed for fast deployment with minimal disruption, Inpod can be delivering insights in as little as 30 minutes.

Local processing is performed at the device, with Ethernet communication to a central database for scalable, multi-asset deployment.

## What outputs will I get?

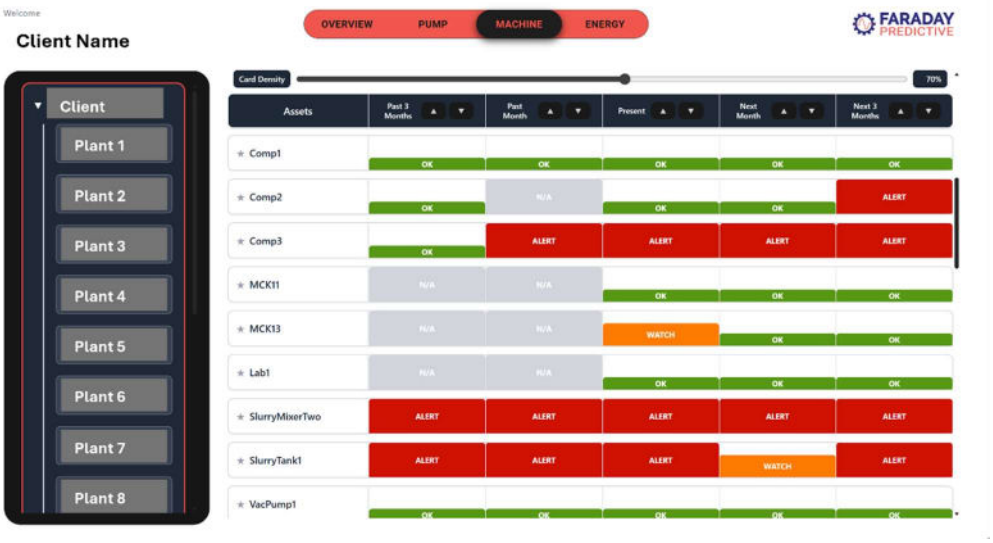
Inpod's outputs are viewed through Faraday Predictive's software - today, the same proven desktop application used with the S200, so Inpod data can be viewed alongside data from any existing S200 units you already have installed. The system provides:

- Overviews of condition across all assets (tree structure and summary)
- Individual asset condition - each fault category, plus electricity supply quality
- Simple traffic-light (Green-Amber-Red) status now, 1 month and 3 months ahead
- Trend plots for every developing fault and available parameter
- Time-domain voltage and current waveform plots
- Frequency-domain fault spectrum plots, with automatic peak labelling




Looking ahead, this software is migrating to a web-based platform, bringing substantially more functionality - accessible from anywhere, without desktop installation.

The image below is provided as an example of a user web dashboard, with entries retrieved via an API:




## S200 vs Inpod, at a glance

| Attribute | S200 | Inpod |
|---|---|---|
| **Dimensions** | 116 x 112 x 85mm | H176 x W128 x D40mm - DIN-rail mounted, slim 40mm depth |
| **Voltage measurement** | 3-phase, 100-480V | 3-phase, 100-1000V direct, or any HV level via a step-down VT secondary (max 1000 Vac RMS line-line) |
| **Current measurement** | 3-phase, 10mA via CTs | 3-phase, 10mA via split-core CTs, <0.5% accuracy |
| **Connectivity** | Ethernet | Ethernet (RJ45, Modbus/intranet/internet), 2 x USB 3.0, optional 4G/5G LTE |
| **Power** | 100-240VAC or 5VDC barrel | PoE (IEEE 802.3 Type 1) or 12VDC barrel, 2A max - power and data on one cable via PoE |
| **Environmental** | Standard industrial range | -20°C to +85°C, <90% RH non-condensing |
| **Sensing technique** | Model-Based Voltage & Current (MBVI) | Same proven MBVI analytics |
| **Software** | Faraday Predictive software (B10) | B10H - Same software family today, viewable alongside existing S200 data - migrating to a web platform with expanded diagnostic functionality |

## What's in the box?

- Inpod unit, DIN-rail mounted
- 3-phase voltage cable & connector
- 3-phase current cable with split-core CTs & connector (10A, 30A, 300A or 600A:10mA, sized to your motor's nominal current)
- Quick-start installation guide

**Interested in an Inpod installation?** Get in touch with the details of the motors you'd like to monitor, and we'll put together a complete package price and ordering description.