embin

INDUSTRIAL & ENERGY

Networked Power Monitoring System

Custom Hardware Design | Embedded Firmware | Network Connectivity | Desktop Monitoring Application

CLIENT

An in-house product developed by Embin for facilities and plant operators needing visibility into their electrical systems.

THE PROBLEM

Plant teams often only discover a problem with their electrical supply — a voltage sag, an unexpected current spike, a fault on one phase — well after it has already caused damage or downtime, because the only way to check was to send someone to the panel with a meter. There was no running record of what the supply had actually been doing, no way to spot a developing problem early, and no easy way to pull together the kind of report that compliance or management asked for.

WHAT WE BUILT

We built a hardware unit that sits at the point of measurement and watches a wide range of electrical parameters continuously, rather than only when someone happens to check. The unit keeps its own running log of events and faults in onboard memory, so even if nobody is watching at the moment something happens, the record is still there afterwards. We connected the unit to the site network and built a desktop application that lets plant staff pull up live readings and historical logs from any networked PC — turning what used to require a walk to the panel into something checked from a desk.

WHAT IT DOES

- ✓ Continuously measures up to 20 electrical parameters at the point where it's installed — no manual readings required
- ✓ Keeps a running log of events and faults in onboard memory, so nothing is missed even when no one is actively monitoring
- ✓ Connects over the site's existing local network — no separate cabling or infrastructure needed
- ✓ Lets staff view live readings and historical logs remotely from a desktop application on any networked PC
- ✓ Generates reports formatted for compliance documentation and internal MIS use

OUTCOME

Plant teams get continuous visibility into their electrical system's health instead of periodic spot-checks, with a reliable history they can look back on when something does go wrong. Because the system reports over the existing network, it slots into a site's infrastructure without requiring new wiring or a dedicated monitoring station.

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