

OmniVerify — Industrial Dispense Control & Monitoring

Apex Technology Enterprises Ltd

What it is

OmniVerify is a production industrial control and monitoring platform for fluid and fuel dispensing equipment. It connects on-site programmable logic controllers (PLCs) to a secure cloud backend through a hardened edge gateway, authorising and metering every dispense in real time and continuing to operate when power or network fails.

How it works

- **Edge gateway (on-site).** A hardened Raspberry Pi appliance running a Go service that speaks **Modbus TCP** to the site PLC and HTTPS to the cloud. UPS-backed, read-only root filesystem, automatic restart under a systemd watchdog, no public ports (Tailscale only).
- **Real-time control loop.** The backend authorises each dispense; the gateway writes the instruction to the PLC, meters the result (litres, totaliser, flow) and streams the outcome back, including alarm and theft detection.
- **Offline-first.** Transactions are journalled locally (SQLite, write-ahead log, full sync) so nothing is lost between a power cut and the next backend sync.
- **Cloud backend.** A Laravel platform that is the source of truth for transactions, authorisations, reconciliation and reporting.
- **Operator app.** An offline-capable field app for manual capture and supervision.

Why it matters (operations / Industry 4.0)

- Brings **legacy dispensing equipment online** by retrofitting control, not replacing it.
- **Standard Industry 4.0 connectivity:** Modbus TCP, multivendor equipment, edge-to-cloud.
- **Removes manual reconciliation and shrinkage** through real-time metering and alarms.
- **Resilient by design** for unmanned and remote sites: UPS, watchdog, offline buffering.

Engineering

Go (edge gateway), Laravel 12 / PHP 8.4 (cloud), Flutter (field app), Modbus TCP, SQLite WAL, systemd, Tailscale, ARM64.

Status

Cloud backend and operator app in production. PLC / Modbus edge integration in final hardware-integration stage with the controls partner.

Capability

We build industrial edge-to-cloud systems: PLC / Modbus integration, edge gateways, offline-first data capture, and the cloud platforms and dashboards that sit on top. Available remotely across all English regions.

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