

TECHNICAL DATASHEET

OptiZeus SCADA

Enterprise SCADA Platform — v2.5.4 Specifications

System Overview

Platform	Node.js + Express backend, React frontend, Electron desktop wrapper
Database	SQLite (WAL mode) local, PostgreSQL optional for enterprise
Ports	Backend: 3002, Frontend: 3004 (served by backend)
OS	Windows 10/11, Windows Server 2016+, Linux (Ubuntu 20.04+)
License	Hardware-locked AES-256-CBC, 3 tiers (Starter/Professional/Enterprise)
i18n	English, Hebrew, Arabic with RTL support
Version	v2.5.4.38 (April 2026)

Communication Protocols

Protocol	PLCs / Devices	Features
OPC-UA	Universal	Browse, read, write, subscribe. Certificate security.
EtherNet/IP (CIP)	Allen-Bradley, Rockwell	CompactLogix, ControlLogix. Worker thread. Tag refresh without restart.
S7 (ISOTCP)	Siemens	S7-300/400/1200/1500. DB, Merker, I/Q access.
Modbus TCP	Universal	Coils, registers, holding, input. Multi-slave.
Modbus RTU	Universal	RS-232/485 serial. Auto-retry. CRC validation.
MQTT	IoT / Edge	Pub/sub QoS 0/1/2. TLS. Topic mapping.
BACnet	HVAC / BMS	BACnet/IP read/write. Object discovery.
HTTP / REST	Custom APIs	GET/POST/PUT JSON/XML. OAuth2.
Database Direct	SQL Server, MySQL, PG	Direct SQL for data integration.

Visualization Engine

Screen Builder	Drag-and-drop, compact 2-row toolbar, grid snap, zoom, pan, CAD/DXF import, SVG paste
Super Objects	Reusable templates with multiple visual variants. Shared animations/tag variables across variants.
Animations	25+ types: bool_color, bool_rotation (CW/CCW), bool_horizontal_pulse, analog_fill, visibility, blink, glow, multistate
Symbol Library	800+ professional 3D SVG symbols across 37 categories with metallic gradients and animation hooks
Tag Monitor	Light-theme sidebar with real-time values, quality indicators, search filter

3D Symbol Library — 800+ Symbols

Category	Count	Includes
3D Pipes	156	Straight H/V, elbows 90/45, tees, crosses, reducers, flanges, bellows, orifice, strainer, sight glass — 6 colors
Instruments	110	50 ISA-5.1 codes (PT, TT, FT, LT, AT, pH, CT) × field + panel mounting
Impellers	45	Centrifugal, 6/8-blade, propeller 3/4/5-blade, turbine, anchor, Rushton, hydrofoil, high shear, helical ribbon
Containers	33	Shipping container, drum 200L, IBC 1000L, process vessel, ISO tank, hopper, waste bin, crate box
HVAC Ducts	31	Elbows (4 dirs), tees (4 dirs), cross, reducers, flex, S-bend, VAV box, damper, filter, diffuser, register
Pumps	29	Centrifugal (6 colors), gear, screw, lobe, piston, vacuum, peristaltic, sump, submersible, jet
Valves	31	Gate, ball, butterfly, check, control, needle, PSV, 3-way, globe — motor/pneumatic/hydraulic actuators
Blowers	28	Centrifugal, roots, side-channel, multistage, axial inline — 5 colors + skid packages
Autoclaves	24	Horizontal, vertical, double-door pass-through, jacketed, industrial (cart rails), benchtop lab
Tanks	23	Vertical, horizontal, sphere, cone, silo, reactor, open top, dished, jacketed, tower, mixing, IBC, drum

Data Management

Tag System	UDT with folder organization (drag-and-drop). Bulk select/delete. CSV import/export. Tag names preserved for PLC.
Historian	File-based, swinging door compression. 8+ retrieval modes. Time-period comparison. Tag correlation heatmap.
Alarms	ISA-18.2. Smart grouping, flood detection, bulk ACK/shelve. Priority + escalation. CSV export/import.
Batch Control	ISA-88/S88. SFC recipes. Phase logic. Equipment model. Parameter tracking. Procedure automation.
Reports	HTML email with scheduler. Auto-charts. Custom templates.

Security & Compliance

Authentication	Local + Active Directory / LDAP SSO. TOTP/MFA. Security letters (A-Z) per role. Session timeout.
Audit Trail	Full audit with user, action, timestamp, details. Exportable. Non-repudiation.
E-Signatures	21 CFR Part 11 compliant. Dual approval. Reason codes.
Encryption	AES-256-CBC license. HTTPS/SSL. bcrypt password hashing. JWT tokens.
Compliance	GAMP5 IQ/OQ/PQ protocols. Risk assessment templates included.

System Requirements

Server (Minimum)

CPU: 2 cores 2GHz • RAM: 4GB • Disk: 10GB SSD • OS: Win 10 / Ubuntu 20.04 • Node.js v18+

Client (Browser)

Chrome/Edge/Firefox 90+ • 1920×1080 • Touch/tablet PWA • No client install needed

Integration

OPC-UA Server

Built-in server exposes all tags to third-party systems.

REST API

Complete API for tags, alarms, historian, events. JWT auth.

Webhooks

Alarm, event, tag change triggers. ITSM/cloud integration.

Request a Technical Demo

www.optizeus.org | Live Demo: www.optizeus-scada.com (operator / demo)

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