

AX-S4 61850

IEC 61850 Connectivity for OPC-Based Systems

Most SCADA, EMS, and DMS platforms were not built for IEC 61850. **AX-S4 61850** (“Access for 61850”) closes that gap. It gives any Windows application that supports OPC Data Access (DA) real-time access to IEC 61850 devices, with an IEC 61850 client, IEC 61850 server, and GOOSE publisher/subscriber in a single package.

Your team configures it. Nobody has to write protocol code. You bring modern substation data into the control systems you already run, without replacing them. Built for **utility SCADA, EMS, and DMS engineers, system integrators, and OT architects** upgrading to IEC 61850-based substations.

Why It Matters

- **No custom protocol coding.** AX-S4 61850 handles most IEC 61850-specific behavior automatically, so off-the-shelf OPC products work without complex scripting, logic, or special handling.
- **Data keeps flowing.** Reports re-enable automatically after a device power-down or disconnect, with no OPC client interaction.
- **Lower integration cost.** Everything needed to interface IEC 61850 with OPC applications ships in one package.
- **Predictable licensing.** One license per computer, with no device or tag limit.



AX-S4 61850 translates between OPC DA and IEC 61850 in both directions, in real time.

Three IEC 61850 Functions, One License

IEC 61850 Client OPC/DDE Server	IEC 61850 Server OPC Client	GOOSE Pub/Sub OPC Server
<ul style="list-style-type: none">• Object discovery and configuration• SCL import to configure objects and devices• Read/write of any IEC 61850 object• Buffered and unbuffered reporting• Controls: Direct and SBO, normal and enhanced security• File transfer	<ul style="list-style-type: none">• Exposes OPC application data as IEC 61850 data for proxies, data concentrators, and gateways• SCL configuration (IEC 61850-6) maps objects to an external OPC server (dynamic data) or fixed values (static data)• Configurable read/write access and group update rate per object• Buffered/unbuffered reporting• dead-band processing• Controls: Direct and SBO, normal security• Client object discovery via ACSI services	<ul style="list-style-type: none">• SCL configuration (IEC 61850-6)• Mappable to the IEC 61850 Server for fully functional GOOSE control blocks• Automated timestamp, quality, state, and sequence number handling

Built for Operational Reliability

- **Automatic report and dataset handling.** Subscriptions re-establish after power-down or disconnect, and data flows without OPC client interaction.
- **Standards-correct data fidelity.** IEC 61850 quality and timestamp attributes map automatically to OPC quality and timestamps.
- **Simplified controls.** Control functions execute as single-object write operations.
- **Resilient device associations.** Up to 8 IP addresses per remote device, automatic retry and timeouts, and keep-alive for report-only associations. OPC clients can override automatic association management when needed.
- **Interactive Object Explorer** for device and object visualization, debug, testing, configuration, and control.

Specifications

Item	Specification
IEC 61850	Parts 6, 7-2, 7-3, 7-4, 7-410, 7-420, and 8-1 (Edition 1, 2003)
IEC 61400-25-2	Information models for wind power plant communications
IEC 62351	TLS 1.2 encryption and X.509 digital certificates for client and server associations
Application interfaces	OPC DA V2.05a and V3.0; DDE for legacy Windows applications
Operating system	Any currently supported Microsoft Windows operating system
Run mode	Service or application process; all functions and OPC applications run concurrently on one computer
Licensing	Per computer; no device limit; no tag limit

Next Step

Request a technical walkthrough scoped to your SCADA, DMS, or OPC environment.

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