

ABB Ability™ System 800xA – with OPC UA protocol

For superior connectivity, security, and compatibility



ABB's System 800xA features the OPC UA protocol to deliver broad communications benefits which help you reduce security risks, while improving overall compatibility and flexibility.

What OPC UA is and what it does

OPC UA (Open Platform Communication - Unified Architecture) is a machine to machine communication protocol for industrial automation, developed by the OPC Foundation. OPC UA is platform independent, thus allowing machines with different hardware setups, different operating systems and on different platforms to communicate with each other.

This wide and flexible connectivity allows traditional PC hardware, as well as cloud-based servers, PLCs and even micro-controllers, to communicate together more easily and more securely. The multi-layered architecture offers a "future-proof" framework for UA products while also providing backward compatibility with existing products, thereby alleviating the need for upgrading or replacing older equipment.

Security is the top priority

A key benefit of OPC UA is increased security - protecting your plant, equipment and processes from both internal and external threats that could impede productivity and operations. OPC UA is firewall-friendly and provides a collection of new controls. Messages are now transmitted securely at various specified encryption levels and the recipients can verify both the integrity and place of origin of those messages.

Client and server IDs are authenticated through certificates which provide control over which systems and applications can communicate with each other. All actions and activities taken by both the user and the system are logged, providing a secure access audit trail if needed.

Supporting many typical applications

OPC UA is well suited for supervisory control, which eliminates the need for an intermediate Windows-based system to streamline data transfer from various plant levels.

OPC UA can also be used for machine-to-machine communications between multiple vendor's controllers, giving a common language to use between control devices and sensors. This allows data to be communicated and transferred in a reliable and secure way between systems and subsystems in smart machine applications.

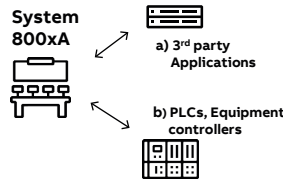
Secure connectivity between system, controller, and historian – via OPC UA

With System 800xA, a wide variety of OPC UA connectivity points are available, such as: Between client and server on the system level; to an AC 800M controller via the new CI874 communication interface module; and for historian capabilities via 800xA History.

OPC UA protocol in System 800xA 6.1.1

Examples of how you can securely improve system, controller and historian connectivity and communications

800xA OPC UA Server / Client



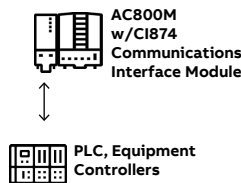
System 800xA OPC UA Client Connect (Server)

OPC UA Client Connect enables external OPC UA Clients to connect to System 800xA in order to read and write OPC DA data from/to System 800xA.

System 800xA OPC UA Connect (Client)

OPC UA Connect enables external OPC UA servers to be connected and integrated into System 800xA so that 800xA can read and write OPC DA data from/to them.

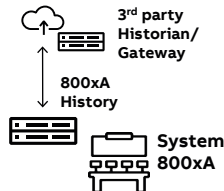
800xA AC 800M CI874 OPC UA



System 800xA AC 800M CI874 OPC UA Client

The OPC UA DA Client for the AC 800M controller family is accomplished via the CI874 communications interface module primarily used in, but not limited to, MDIS subsea applications.

800xA History OPC UA



System 800xA History OPC UA

The embedded OPC UA Server in 800xA History (and MOM) is supporting OPC UA DA, HDA, and AE for 3rd party OPC UA Clients applications to retrieve data.

Article no.	Description
2PAA124305R1	OPC UA Client Connection 6.1.1
2PAA124894R1	OPC UA Connect 6.1.1
2PAA124306R1	CI874 OPC UA Client SW Lic. 800xA 6.1.1
3BSE090784R1	CI874K01 OPC UA Client Interface
2PAA122339R1*	800xA Hist. Data Access 100 logs 6.1.1, Max 9
2PAA122340R1*	800xA Hist. Data Access 1000 logs 6.1.1, Max 14
2PAA122341R1*	800xA Hist. Data Access 15000 logs 6.1.1, Max 10

*For external clients to access data via ODBC, OPC Classic, and OPC UA.



01 The new CI874 Communication Interface for OPC UA