

## REFERENCE dataFEED OPC Suite

All-in-one package for OPC communication expands functionality for data collection and logging

**BENNINGER**



Benninger Automation forms part of the Swiss Benninger Group which has been the textile industry's leading partner across the globe for more than one hundred and fifty years. Benninger develops and manufactures textile finishing and cord production ranges as well as providing complete system solutions. The vast knowledge of Benninger in the field of controls and automation is based on many years of experience with machines and ranges, also in other industries. The German subsidiary uses the company's long-standing experience in automation and develops complex designs for both control systems and mechatronic applications. These are implemented as wide-ranging projects that include consulting and training, hardware and software development, switchgear construction, commissioning worldwide and after sales services.

Access to data in control systems is essential for the implementation of automation applications. Yet many of the control systems used offer no standardized interfaces for this task, which often results in time-consuming driver development. The integration of Softing's dataFEED OPC Suite into the certon product from Benninger Automation reduces this interfacing work to a straightforward configuration step.



Image: Softing, Benninger Automation

The certonBOX product is installed in the switch cabinet itself. Controller access is handled by the dataFEED OPC Suite.

For over 150 years, the Swiss Benninger Group has been the world's recognized leader in all-in-one textile finishing solutions and tire cord production. Benninger's many years of machinery and plant development in these areas has given the Group a wealth of experience in automation, which its German subsidiary Benninger Automation, based in Zell im Wiesental, has also made available to other branches of industry. Benninger Automation develops complex automation designs for both control systems and mechatronic applications, implementing these as wide-ranging projects that include consulting and training, hardware and software development, switchgear construction, commissioning worldwide and after sales services.

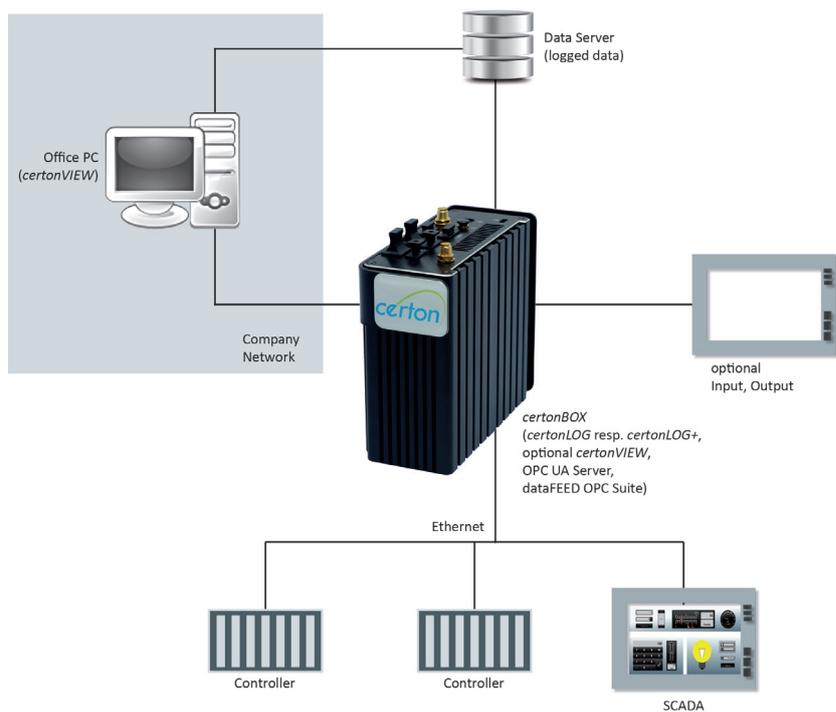
### An All-in-One System for Data Collection and Logging

Supplementing its customer-specific development work, Benninger Automation also deploys prefabricated components in its projects. These components cover

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frequently required functions and are also offered as products. Benninger Automation offers the modular *certon* product for the collection, logging, display and forwarding of data from control systems or SCADA systems. The product can be used to record incoming data such as actual values and setpoints for temperature and pressure, flow rates and meters, messages, recipe values and user input for a specific period of time (e.g. a day or a shift) or for a production unit (such as a batch or a lot, for example). All of these data items are stored together with the date, time of day, a comparison of new and previous values, and a code representing the currently logged-in user.

The data logging itself is handled by the *certonLOG* module. This software is installed on a host PC and collects data from the connected sources via an OPC UA client. The mechanisms used in the OPC UA (Unified Architecture) communication standard not only safeguard the actual exchange of data but also ensure that it is transferred securely.



*certonBOX* is the core module for the collection, recording and downstream processing of process data.

All of the data captured by *certonLOG* within a logging session is stored to an SQL database that is created as an individual file. This means the data can be transferred to an archiving server simply by copying or moving the file.

One of the most important markets for Benninger Automation is the pharmaceutical and food industry. A key requirement here is ensuring compliance with a number of regulations and frameworks, including Good Manufacturing Practice (GMP) in the EU, Title 21 CFR Part 11 (or just “Part 11”) from the US Food and Drug Administration (FDA), and “Good Automated Manufacturing Practice” (GAMP), which covers the development and validation of computerized systems in the pharmaceutical industry. All of these stipulate that the systems deployed must make manufacturing trackable and traceable by electronically logging the data and confirming user interventions as necessary. This is made possible by the use of electronic signatures that ensure that data can no longer be modified once logged. To comply with these regulations, Benninger Automation has launched a GMP-compliant version of its *certon* product, with data signing during the logging process being handled by the *certonLOG+* component.

Apart from *certonLOG/certnLOG+*, the *certon* product also includes the software module *certonVIEW*, which offers a number of useful filter functions for

selecting and displaying the data recorded. Data can also be exported to Excel, XML or RTF files for further processing.

While developing *certon*, Benninger Automation has focused closely on usability features. As one example, no programming knowledge is required to configure *certon* for the local data logging environment. Instead, setup merely involves specifying the individual data items together with their OPC UA addresses as comma-separated values (CSV) in a text file.

Apart from the software-only *certon* solution, Benninger Automation now also offers *certonBOX*. This product builds on the experience gained in *certon* software projects, bundling this together with appropriately high-performance hardware and the Windows 10 operating system. Also sharing this DIN rail PC with *certon* is an OPC UA Server installation that handles client access to the logged data. This approach can be used to integrate machinery and equipment into a single, coherent system, and the OPC UA interface also has a key role to play for future integration with Industry 4.0 applications.

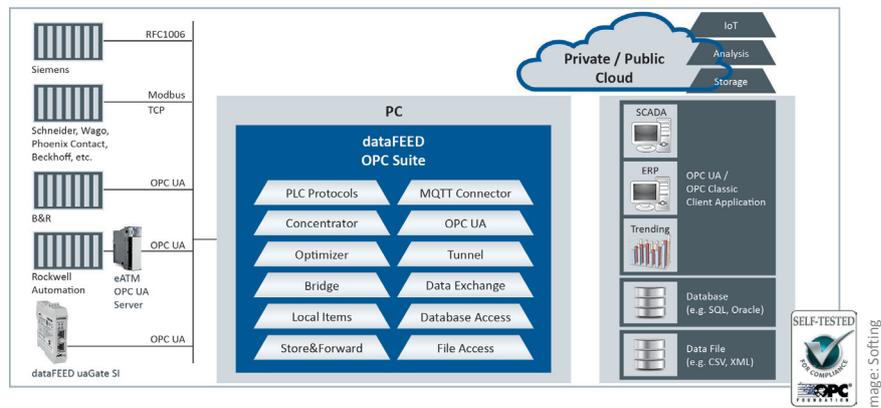


“Market feedback for *certonBOX* has been consistently positive and there is a lot of interest. Our customers are very enthusiastic about the user-friendly approach to configuration and controller integration.”

**Roland Kraft**, Head of Sales at Benninger Automation

### An All-in-One Solution Plus Controller Access

The success of the *certon* product is heavily dependent on its compatibility with a wide range of applications. This applies in particular to the broad-based integration of controllers from a variety of manufacturers, who often offer only proprietary communication options for data exchange. In the past, customer-specific drivers were often developed for these control systems. This approach would have made a potential *certon* deployment more costly. Accordingly, Benninger Automation was looking for ways to reduce this development effort by taking a standardized approach and meeting the market’s requirements with an all-in-one solution. To evaluate the options currently available on the market, a series of internal benchmarks were run, coupled with analyses of experience gained in the field. The solution also needed to support as many controllers as possible without requiring any additional development effort.



The dataFEED OPC Suite offers a range of components for control system access and downstream data processing via the OPC communication protocol.

One of the products shortlisted was Softing’s dataFEED OPC Suite, since Benninger Automation had already deployed products from Softing in a number of successful projects in the past. Softing is also one of the market’s established OPC UA software providers and is well known for offering solid product support. The dataFEED OPC Suite offers a wide-ranging, all-in-one package consisting of a number of components for OPC communication that can be selected and combined in accordance with the customer’s specific requirements. These include components enabling rapid and user-friendly access to process and diagnostic data from a large number of well-known brand-name controllers, including Siemens, Rockwell, Mitsubishi and B&R, as well as controllers featuring a Modbus TCP interface. Since the dataFEED OPC Suite is also compliant with the OPC UA standard, it ensures secure, reliable industrial communication that is both manufacturer- and platform-neutral.

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**Georg Neu**, Lead Developer  
at Benninger Automation

Realizing the advantages offered by the dataFEED OPC Suite, Benninger Automation soon decided to integrate this package into the *certonBOX* product. Today, the dataFEED OPC Suite is part of the standard *certonBOX* model. As with other *certon* functions, users can activate this functionality for data access to control systems via a simple configuration step, which makes the functionality immediately available. Lead Developer Georg Neu recalls the simplicity of the integration process: “Integration with *certonBOX* proceeded without a hitch: our development team was able to complete all of the integration work plus the market launch within the space of three short months.”

Roland Kraft, Head of Sales at Benninger Automation, is a firm believer in this all-in-one solution: “Market feedback for this new product has been consistently positive and there is a lot of interest. Our customers are very enthusiastic about the user-friendly approach to configuration and controller integration.”

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