

AlarmInsight® enables effective response to process disturbances

In a world where focus on efficient and safe operation is stronger than ever, a well-designed and well-operated alarm system is a necessity.

The alarm system should focus the operators' attention on the most important matters at hand. Hence, it should only generate an alarm when the plant condition requires an action by the operator. However, many alarm systems are not optimally configured. This often leads to a high number of nuisance alarms resulting in increased workload for the operator. In recent incidents the alarms did not help the control room operators understand what was happening, nor did they help draw attention to what should have been top priority. Several catastrophic accidents have resulted.

AlarmInsight® helps make sense of alarms.

AlarmInsight® - a complete system

AlarmInsight provides a tool set for managing and optimizing the alarm configuration. It utilizes ABB's control system expertise to transform raw alarm and event data to meaningful information supporting reporting and analysis needs and improving decision making processes. The life-cycle approach includes providing real time operator response help per alarm.

Compliance to standards

Government regulations, as well as company internal alarm philosophy, often require documentation on current alarm system status and alarm system design. AlarmInsight® helps keeping track of the alarm system status and performance by generating mandatory reports. AlarmInsight® is compliant with ISA 18.2 and adhering to the EEMUA 191 guidelines.

Database is an alarm and event historian that consolidates data from multiple data sources and provides the foundation for unified alarm reporting.



The AlarmInsight® applications

Real-time alarm information

The day-to-day operation of an automated process facility is a complex task that requires control room operators to have extensive knowledge of the process, automation system and proper response to various alarms. The immediate and integrated availability of alarm decision support will ease this task:

Alarm Helper – easy access to alarm and tag information, including likely cause of alarm, correct operator response and time to react. Operators may also add and share their personal notes. Alarm Helper is accessed directly from the 800xA operator control panel/face plate.

Analysis and reporting

Reports on alarm system performance are necessary to optimize and benchmark the plant. The AlarmInsight® applications portfolio supports this in several ways:

Alarm Analysis – web-based analytics and reporting. Manually set filters for predefined reports like alarm flooding, alarm rates, chattering alarms, priority distribution, etc. Exclude chosen alarms from the reports to evaluate their impact on overall KPI's and to drill down further in order to find candidates for alarm rationalization. Summary reports and KPI's can be exported to Excel.

KPI-Reports – automatically generate alarm KPI reports on daily, weekly and monthly basis. Reports can be stored on disk as pdf files or sent via email.

Event Log Viewer – web-based tool for investigating the raw logs from all alarms and events.

Expert Tool – used by consultants and experts to execute alarm analysis.

Management of alarms

The alarm design starts during the plant design phase, and evolves throughout the life span of the plant. The AlarmInsight® portfolio provides tools to automatically capture and report on alarm changes from alarm rationalization and optimization processes.

Alarm Change Recorder – lists and presents current and historical alarm attribute values for objects monitored. The system provides continuous documentation on changes made throughout the lifecycle of a plant. The values can be compared to the “design” values stored in the Alarm Rationalization Tool.

Alarm Rationalization Tool

Built on more than 20 years of alarm consulting experience, this tool enables efficient alarm review processes and management of change capabilities. Alarm Rationalization Tool enables continuous alarm improvement programs throughout the lifecycle of the plant. The tool can be used stand-alone on a PC or installed onsite acting as the database for Alarm Helper.

Key functionality includes:

- Interface providing all relevant data in a single view and management of change capabilities
- Database to ensure secure handling of large datasets
- Audit trail and undo functionality
- Reporting
- Import/Export

Lifecycle Pack

ABB offers the AlarmInsight® Lifecycle Pack including all applications except Expert Tool. This lifecycle pack ensures efficient and safe operation of alarms throughout the entire lifecycle of an installation.

The entire AlarmInsight® system can be installed on a single server. AlarmInsight® features connectivity interfaces for ABB 800xA, 800xA History, generic OPC AE servers and printer port connections and its own Event Consolidation database

Why choose ABB AlarmInsight®?

Be part of the ABB technology stack that is continuously updated and verified over time:

- Increased uptime, predictability and performance
- Increased equipment and plant lifetime
- Improved operator confidence
- Safe and reliable operation of the plant
- Improved operating efficiency and plant reliability

References

ABB has a long list of global references, both for simple alarm system diagnostic services, for longer-term alarm system improvement projects and in-depth alarm rationalization activities.



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