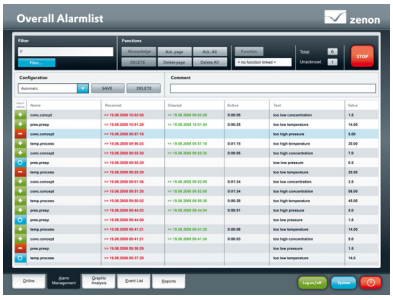
Alarms and Chronological Event List

Audit Trail



Identifying errors and their causes quickly and consistently is a precondition for ensuring high productivity and saving resources. With its alarm capabilities and the documentation of events in the Chronological Event List, zenon provides all the necessary tools. Pre-configured functions, simple setting of parameters and full compatibility with standards such as FDA CFR 21 Part 11 keep implementation costs low.

ADMINISTRATION AND DISPLAY

zenon offers three options for displaying alarms and events:

- Alarm status line: Shows a current alarm in a status line that is overlaid on all other screens.
- Alarm Message List (AML): Displays alarms with all relevant information.
- Chronological Event List (CEL/Audit Trail): Lists process relevant events and zenon system messages in chronological sequence.

These lists can be individually adapted. The functionalities are fully pre-configured in zenon and can be used without extra programming.

LIMIT VALUES AND REACTION MATRICES

If limit values of variables are breached, an alarm or a fault report is triggered. In the engineering phase it is defined which limit violations trigger an alarm and cause an entry in the Chronological Event List. For automatic, event-controlled reactions, you can link these breaches with actions. The linked function can also be executed manually, at the press of a button in an alarm screen. Alarms can also be defined via reaction matrices. If flittering values often exceed limit values, alarms and messages are suppressed in a defined hysteresis range or by a threshold value.

ALARMS

Alarms can be configured and presented in many ways in zenon. The allocation takes place, for example, according to alarm groups, alarm classes and alarm areas. If alarms require acknowledgment or deletion it is ensured that the alarm has been noted in a traceable manner. All actions are logged in detail. The acknowledgment of an alarm in zenon Service Engine can be combined with acknowledgment from the PLC by setting an acknowledgment bit. A status line displays current alarms where they can also be acknowledged.

ALARM MESSAGE LIST

The Alarm Message List displays current and historical alarms. Diverse criteria for filtering alarms are pre-defined in the Engineering Studio. In addition, filters can also be created in Service Engine and saved there for any given user.

CHRONOLOGICAL EVENT LIST

The Chronological Event List (CEL/Audit Trail) shows process-related events, fault messages that cannot be acknowledged and zenon system messages in chronological order. Just as with the alarms there are also a variety of filter criteria in the CEL. The alarms and Chronological Event List benefit from full redundancy capability, simple administration, excellent performance and fulfill FDA 21 CFR Part 11 requirements.

FAST FACTS

- Compatibility with FDA CFR 21 Part 11
- Administration of alarms, Audit Trail and chronological events
- Definition via limit values or central reaction matrices
- Grouping and prioritization
- Comprehensive filter possibilities
- High performance
- Immediate redundancy capability
- Graphical display with a clear overview

Alarms and Chronological Event List

Audit Trail

Time stamping	▸ Real time stamping (externally from the PLC) ▸ Time stamping possible in milliseconds
Saving and export	If not otherwise defined, zenon records all alarms without exception. Alarm logs can be configured to your individual requirements. All data can be exported to different file formats.
Limit values	Limit values can be defined by: ▸ States of bit variables ▸ Value ranges of analog variables ▸ Conditions of string variables
Memory	zenon administers entries for alarms and to the CEL without limitation. To make them visible, current alarms are saved in a freely configurable ring buffer.
Filter	In addition to the freely-definable filters, the following predefined filters can be used: ▸ Online alarms ▸ Historical alarms ▸ Only current alarms ▸ Only unacknowledged alarms ▸ Minimum time that alarms need to queue ▸ Groups, classes, variable name, identification ▸ Limit value text ▸ Times ▸ Equipment Model
Groups and classes	Alarm groups and alarm classes serve to logically group alarms and allow prioritization. A name, color, and a function can be allocated to each group or class.
Siemens S7-PDIAG	▸ Display and management of process diagnosis reports of Siemens S7-PDIAG in zenon ▸ Import of projected reports from S7-PDIAG and use as normal limit values
Deactivation	Deactivation possibilities for alarms and CEL during maintenance works (optionally related to groups, classes or individual reports); selective alarm suppression in the Service Engine (e.g. for maintenance works).
Redundancy	Alarm message lists fully support redundancy.