

Alarms and Events

SKU: KWP-ALMEV0-PRD

Product Overview

Alarms and Events for KEPServerEX can help reduce costs and improve performance. OPC Alarms and Events (AE) clients can receive and monitor process alarms, operator actions, informational messages, and tracking/auditing messages directly from Alarms and Events. Users can monitor areas of a process that may require operator attention when defined thresholds are met, including safety limits of equipment, event detection, and abnormal situations. Alarms and Events can also be used to help identify faulty equipment, create maintenance work orders, and improve operators' effectiveness. Furthermore, it can be used to collect and record alarm and event information for audits or used in correlation with other historical data.

Alarms and Events is an advanced plug-in to Kepware's industry-leading connectivity platform, KEPServerEX, and works in conjunction with the platform's free OPC AE client interface. Creating an alarm is as simple as browsing the existing tags within KEPServerEX and selecting the item that will be used as the alarm. Once an item is chosen, a condition and sub-condition need to be set for the item. A trigger is then set comparing the current data value and the threshold. When the condition's trigger is met, an alarm will be sent to the corresponding Alarms and Events client application providing the user with unique alarm input, output, and acknowledgement messages.

Features

ITEM BROWSING AND IMPORTING

Browse KEPServerEX to find and import available tags for testing. Tags can represent specific areas and equipment on the plant floor. To make third-party OPC DA and OPC UA Servers available for use with Alarm and Events, use and configure the OPC DA and/or OPC UA Client drivers.

FULL OPC AE CLIENT SEVERITY SUPPORT

The severity value is an indication of the urgency of the sub-condition. This is also commonly called "priority," especially in relation to process alarms. Values range from 1 to 1000, with 1 being the lowest severity and 1000 being the highest. Typically, a severity of 1 would indicate an event that is informational in nature while a value of 1000 would indicate a disastrous event.

EXTENSIVE ALARMS AND EVENTS CONDITION SUPPORT

KEPServerEX supports nine OPC AE standard conditions, providing flexibility in how Alarms and Events Conditions are calculated and prioritized. Each condition has a unique name and a unique set of sub-conditions.

- **MULTI_LEVEL**
The multilevel condition supports multiple sub-conditions. This condition is used if the source has multiple states of interest and there is a need to know the transition between the condition states. For example, if you have a temperature tag with multiple temperatures of interest, use this condition. The HIGH_HIGH sub-condition has the highest priority and the LOW_LOW sub-condition has the lowest.
- **HIGH_HIGH, HIGH, LOW, LOW_LOW**
These are single level conditions with a sub-condition that matches the condition name. These conditions are used if a single state of a source is of interest. For example, if you have a temperature tag with a single temperature of interest, use this condition.

Note: Use HIGH_HIGH for higher priority states and LOW_LOW for lower priority states.
- **ROC_HIGH, ROC_LOW**

This condition compares the source data to a static or dynamic ROC. For example, if you have a source tag that represents production output and you want to trigger the condition if the output falls below 100 units a minute, use this condition.

Note: Use ROC_HIGH for high priority conditions and ROC_LOW for low.

- **DEV_HIGH, DEV_LOW**

These conditions monitor the deviation of the source data. The condition is triggered if the condition of the source is outside the limits set. The limits can be either a percentage or a static value. For example, if you have a source that monitors power consumption and you want to trigger the condition if the power consumption is outside of 100W \pm 20%, use a deviation condition.

Protocols

- OPC Alarms and Events (AE)

ADDITIONAL TECH INFO

- **Event Log Data Support**

Delivered as a standard feature, KEPServerEX exposes Event Log data (events) to OPC AE client applications. The Event Server works in runtime and service modes, supporting three event categories: Information, Warning, and Error. The interface also includes Alarm and Event Conditions.

- **CSV Import/Export**

Import and export tag data into a Comma Separated Variable (CSV) file. Using CSV import and export creates tags quickly in the desired application.

- **Filter OPC AE Clients**

Filter by area, source, event type (simple and conditional), severity, and category.

- **Enable and Disable Sources and Conditions**

Enable and disable communication areas, sources, and conditions through the Alarms and Events user interface.

- **Define Alarm Inputs, Outputs, and Acknowledgements**

Create unique alarm input, output, and acknowledgement messages in addition to alarm acknowledgment rules.

Definitions

- An **alarm** is an abnormal condition and is thus a special case of a condition.
- A **condition** is a named state of the Event Server (or of one of its contained Items if it is also an OPC DA Server) that is of interest to its client. An alarm is merely a special case of a condition, which is deemed to be abnormal and requiring special attention.
- An **event** is a detectable occurrence that is significant to the Event Server, the device it represents, and its OPC clients. An event may or may not be associated with a condition, such as set point changes, informational messages, logins, and operator requests.
- An **area** is a grouping of plant equipment configured by the user, typically according to areas of operator responsibility.