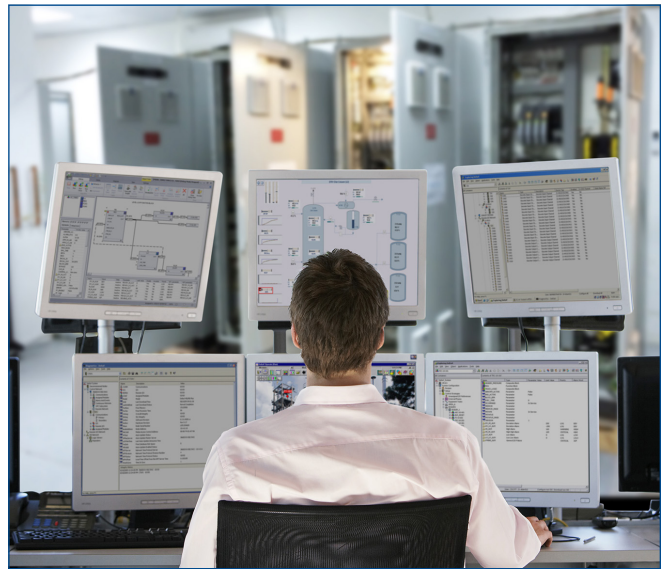


# Alarm Services

- Alarm System Status Awareness.
- Increased operator efficiency.
- Regulatory and standards compliance.
- Alarm System Performance Improvement.



*The Alarm Services provides awareness of the status of your alarm performance so that you can comply with ISA-18.2 Management of Alarm Systems for the Process Industries.*

## Introduction

The ISA-18.2 standard has been a milestone for industries using modern control systems with alarm functionality. It defines the alarm management lifecycle, reviews alarm management issues, and establishes terminology, concepts and requirements. It is recognized as “Good Engineering Practice” by insurance companies and regulatory agencies e.g. OSHA. As industries rush to meet these standards, Alarm Services can help customers by leveraging DeltaV™ alarm tools to assist in managing their alarm load, identify “bad actor” alarms and help comply with the ISA-18.2 standard.

A less than effective alarm strategy can result in alarms that fail to guide operators as to what is most urgent, how to correctly respond, and minimizing response time. It is not unusual for up to 80% of all alarm activations to originate from less than a dozen sources. These contributory factors result in accidents / incidents costing up to \$1 million per incident and over \$2 billion in equipment damage annually.

By using offerings provided by Alarm Services, you can significantly calm the control room, allowing operators to focus on production. Your operators will be able to respond to alarms quickly and effectively instead of being inundated by alarm floods.

## Benefits

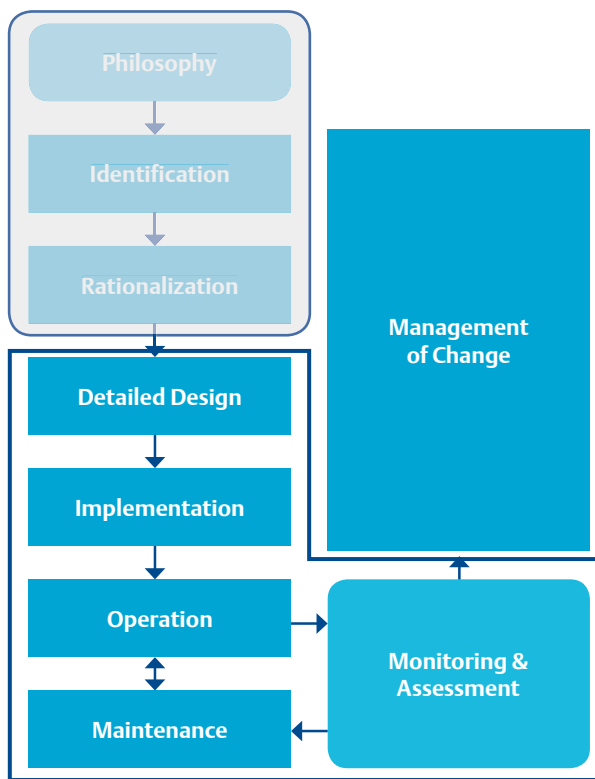
**Identify and Analyze Alarm Performance** – “Knowing is half the battle.” Alarm Services provides alarm reports based on an analysis of your event chronicle file through DeltaV Analyze. From that analysis, we create a report that details your current alarm performance and compares your alarm KPIs against the industry standard KPIs as defined by ISA-18.2.

**Pinpoint control modules and devices causing excessive and nuisance alarming** – The report identifies the modules and devices with the most frequently occurring alarms and presents them, in order of frequency. Thus, you can simply start at the top and work your way down the list of “noisy” tags.

**Help you comply with ISA 18.2 industry Standards** – The alarm report in conjunction with follow on remediations administered by your Emerson local office will help you address shortcomings in your alarm performance and improve your alignment to the ISA-18.2 standard.

## Service Description

The Alarm Services focuses on the Detailed Design, Implementation, Maintenance, Operations and Assessment portions of the Alarm Management Lifecycle as defined by ISA-18.2.



ANSI/ISA-18.2 Alarm Management Lifecycle.

Alarm Services is comprised of 3 offerings:

- Assessment and Monitoring.
- Alarm Flood/Nuisance Alarm Remediation.
- Alarm Rationalization through Exida.

## Assessment and Monitoring

Individual and /or multiple reports can be purchased from your local Emerson office. The alarm report provides an evaluation of your alarm performance, a comparison of your key alarm performance indicators versus ISA-18.2 targets and offers recommendations for improving deficiencies found in your alarm performance.

**EMERSON Process Management Alarm Performance Assessment**

**Executive Summary**

An examination of the DeltaV Event Chronicle data for DeltaV system ID 0001-000X-XXXX was performed and resulted in the following alarm system assessment. This assessment is a comparison of the customer's alarm statistics as compared to current ISA-18.2 industry standard. The following report spans a maximum of 30 days of reporting.

The metrics listed in this assessment depict the overall health of the customer's alarm system followed by individual key performance indicators.

**Overall Alarm Performance for DeltaV System 0001-000X-XXXX**

This assessment examines 13 KPIs based on ISA-18.2 standard. The results are documented in the table below.

Status	Quantity	Performance
Number of KPIs that are in compliance with ISA-18.2	3	<b>OVERALL ALARM PERFORMANCE</b> 
Number of KPIs that are in compliance with ISA-18.2 but should be improved	1	
Number of KPIs that are not in compliance with ISA-18.2	9	

**A. Alarm Statistics Key Performance Indicators per ISA-18.2**

The assessment covers the alarms and events generated from the following period:

Start	3/18/2015
End	4/18/2015

Metric	Target Value	High Limit	As Found System Totals	Average <sup>1)</sup> for 5 Workstations	Performance <sup>2)</sup>
A. Annunciated Alarms per day per operating position	< 150 alarms per day	< 300 alarms per day	1131	226	●
B. Annunciated alarms per hour per operating position	< 6 (average)	< 12 (average)	47.1	9.4	●
C. Annunciated Alarms per 10 Minutes per operating position	-1 (average)	-2 (average)	7.86	1.6	●

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To obtain a report, your local Emerson office will require access to your Event Chronicle/Event Journal. The typical turnaround time to receive your report is 5 business days.

You can use a report to establish a baseline for your alarm performance and /or multiple reports to monitor your system's alarm performance over time.

4 and 12 report alarm report bundles are available at a discount. Please contact your local Emerson office for details.

## Alarm Flood / Nuisance Alarm Remediation

An alarm flood is when there are 10 or more annunciated alarms in any 10 minute period per operator station. A nuisance alarm is an alarm that annunciates excessively, unnecessarily, or does not return to normal after the correct response is taken (e.g. chattering, fleeting, or stale alarms).

Alarm performance deficiencies identified in the alarm reports can be addressed through a variety of remediations by leveraging DeltaV Alarm features e.g. conditional alarming, first out alarming and dynamic flood suppression. Please contact your local Emerson office for details.

### Alarm Rationalization

If it is determined that alarm rationalization remediations are warranted, Emerson has partnered with Exida to provide rationalization services. Exida utilizes their SILAlarm master alarm database for rationalization applications. SILAlarm is an off-line application to perform alarm rationalization and manage alarm specification changes. Alarm rationalization results documented in SILAlarm can be directly imported into the DeltaV system configuration database, saving substantial control engineering effort and eliminating opportunity for human error.

DeltaV’s bulk editing system enables efficient import and export of an alarm’s settings and alarm help, for information exchange with spreadsheets or an external master alarm database. SILAlarm provides built-in capability to read and write native DeltaV bulk export/import files.

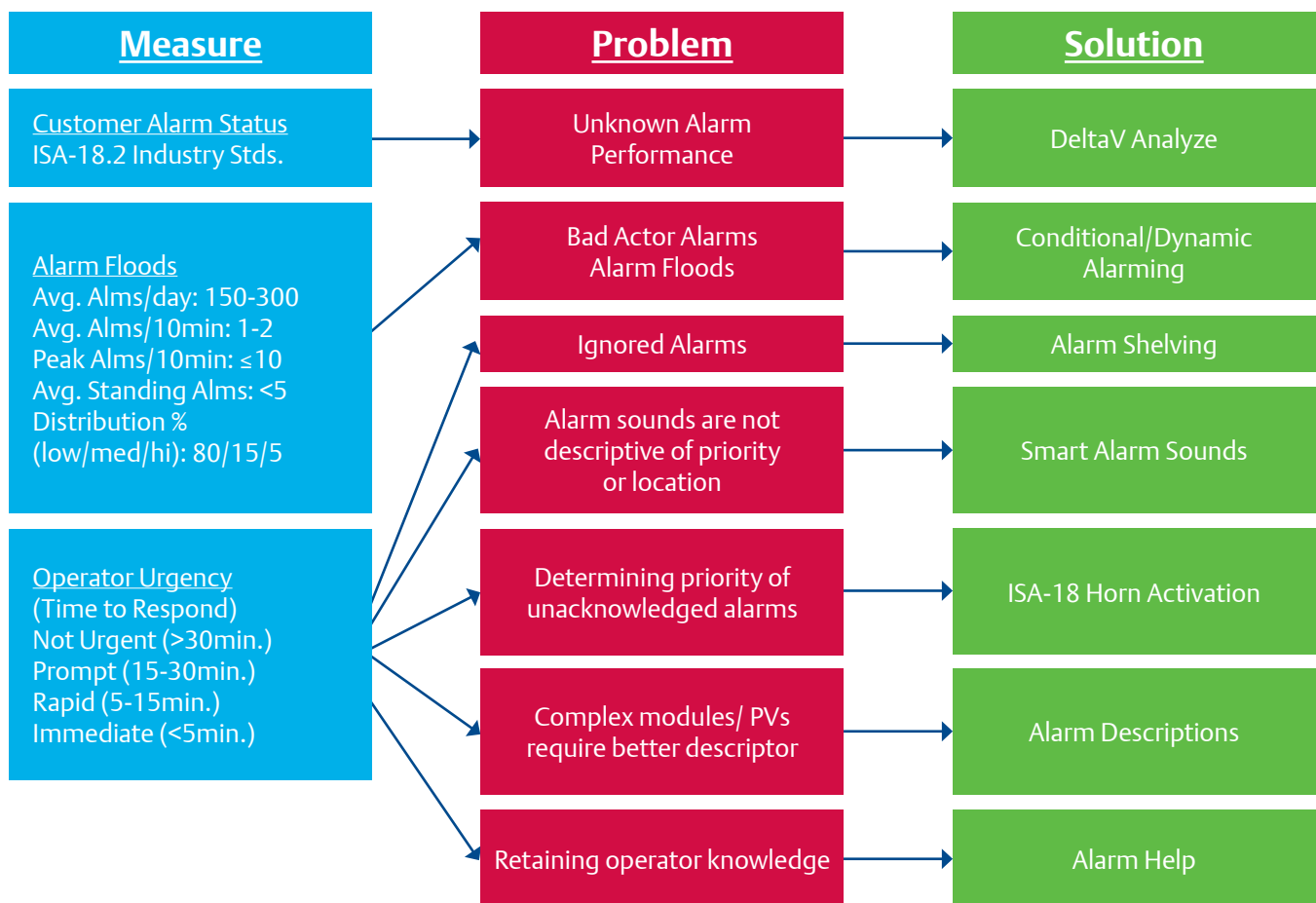
### Related Alarm Products

Related alarm products such as DeltaV Analyze, Alarm Help and Alarm Mosaic are available in addition to the services and solutions documented here. Please contact your local Emerson office for details.

### DeltaV Alarm Remediation Features

DeltaV has several alarm remediation features that are native to the software and can be used to address alarm floods and nuisance alarms. These features are highlighted in the DeltaV Alarm Features Chart and are compared to the specific ISA-18.2 KPIs and alarm related problems that can manifest themselves.

Application Chart of DeltaV Alarm Tools.



## System Compatibility

These DeltaV alarm features are also version dependent. Earlier versions of DeltaV will have fewer features to address alarm issues at your disposal compared to the latest version of DeltaV. Please review the DeltaV Alarm Features Version Comparison chart below to understand what capabilities reside in your version of DeltaV.

DeltaV Alarm Features and Solutions *	DeltaV v13.x	DeltaV v12.x	DeltaV v11.x	DeltaV v10.x	DeltaV v9.x	DeltaV v8.x
Conditional Alarming	✓	✓	✓	✓	✓	✓
Alarm Suppression	✓	✓	✓	✓	✓	✓
SIS Alarming	✓	✓	✓	✓	✓	✓
Hardware Alarms	✓	✓	✓	✓	✓	✓
DeltaV Analyze Updates*	✓	✓	✓	✓	✓	✓
Built-in Conditional Alarming	✓	✓	✓	✓		
Dynamic Alarming Module Template	✓	✓	✓	✓		
First-Out Alarming Module Template	✓	✓	✓	✓		
Alarm Help*	✓	✓	✓			
Contextual Alarm Knowledge	✓	✓	✓			
Smart Switch Alarms to Operator	✓	✓	✓			
Alarm Descriptions	✓	✓				
Alarm Sounds	✓	✓				
Alarm Sounds for expected actions	✓	✓				
Unambiguous ID of each module alarm	✓	✓				
Alarm Mosaic*	✓					
Native Alarm Setting Alarm Reports	✓					
Enhanced Suppressed Alarm Lists	✓					
Suppressed Alarm Ownership	✓					
Alarm Timeline	✓					
Capability to Change Module Alarm Priorities in the Online Mode	✓					

## Certifications

### ■ Alarm Certification

- Process University DeltaV Alarm Features Videos
- Work Requirements

### ■ Field Service Certification

## Ordering Information

Description	Model Number
Complimentary Alarm Report	See note
Individual Alarm Report	VE9125S01
4 Alarm Report Bundle*	VE9125S04
12 Alarm Report Bundle*	VE9125S12
Alarm Remediations**	Consult your local Emerson sales office or sales representative for availability, quotation and order entry.

\*The 4 and 12 Alarm Report Bundles are valid for 1 year after purchase.

\*\*Alarm Help, Alarm Mosaic and DeltaV Analyze products can be purchased separately from this service.

**NOTE:** The Complimentary alarm report is a one time complimentary alarm report per DeltaV system.

## Related Products

- Alarm Help.
- DeltaV Analyze.
- Alarm Mosaic.


### Not Supported Products

- This service does not apply to non-DeltaV systems.

### Related Hardware Products

- N/A.

### Related 3rd Party Products

- SILAlarm by 

## Prerequisites

- DeltaV v8.4 or later.
- Access to customer's Event Chronicle file.
- Enrollment in Guardian™ support is not required.

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