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**TECHNICAL
REPORT**

ISA-TR18.2.8-2023

Guidelines for Non-alarm Notifications

Approved: 20 NOVEMBER 2023

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ISA-TR18.2.8-2023, Guidelines for Non-alarm Notifications

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ISA
3252 S. Miami Blvd., Suite 102
Durham, NC 27703 USA

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The following served as contributing members of ISA18 Working Group 8 in the development of this 2023 technical report:

NAME	AFFILIATION IN 2023
D. Reed, WG8 Co-Chair	Rockwell Automation
L. Dubois, WG8 Co-Chair	Manage4U BV
M. Ramey, WG8 Secretary	Celanese
J. Alford	Consultant
S. Apple	Schneider Electric
M. Barham	Marathon Petroleum
D. Berg	mCloud
B. Bosler	Consultant
K. Brown	mCloud
A. Bryant	Occidental
M. Carter	Hargrove Controls + Automation
M. Charney	Enbridge
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M. Hochleitner	SIS Silverstone
B. Hollifield	PAS / Hexagon
S. Kandasamy	Chevron
L. Lang	Cargill
D. Logerot	ProSys Inc.
M. Marvan	Shell Canada
D. Metzger	DPM Consulting
L. Myers	Consultant
G. Nasby	CN Rail
P. Noury	Consultant
D. Ogwude	Creative Systems International
S. Reilly	aeSolutions
M. Richer	GCM Consultants
J. Richter	Consultant
G. Robertson	Chevron
E. Roche	SIS-Tech
D. Rothenberg	D Roth Inc.
N. Sands	DuPont
R. Schiedermayer	Consultant
T. Stauffer	Virtual Facility
C. Stearns	Rockwell Automation
H. Storey	Herman Storey Consulting, LLC
I. Verhappen	Willowglen Systems
D. Visnich	Burns & McDonnell
R. Weibel	TiPS Inc.

The following served as voting members of ISA18 during the development of this 2023 technical report:

NAME	AFFILIATION IN 2023
K. Brown, Co-Chair	mCloud
D. Dunn, Co-Chair	WS Nelson
G. Nasby Co-Managing Director	CN Rail
N. Sands, Co-Managing Director	DuPont
J. Alford	Consultant
M. Carter	Hargrove Controls + Automation
L. Dubois	Manage4U BV
B. Hollifield	PAS / Hexagon
S. Kandasamy	Chevron
D. Logerot	ProSys Inc.
M. Marvan	Shell Canada
D. Metzger	DPM Consulting
L. Myers	Consultant
M. Ramey	Celanese
D. Reed	Rockwell Automation
D. Rothenberg	D Roth Inc.
T. Stauffer	Virtual Facility
D. Strobhar	Beville Engineering Inc.
D. Visnich	Burns & McDonnell
R. Weibel	TiPS Inc.

This standard was approved for publication by the ISA Standards and Practices Board on 20 November 2023.

NAME	AFFILIATION IN 2023
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FOREWORD

In 2009, ANSI/ISA-18.2-2009, *Management of Alarm Systems for the Process Industries*, commonly referred to as ISA-18.2, was issued, and then updated in 2016. The ISA18 committee established working groups to develop and maintain a series of technical reports with guidance on how to implement the practices outlined in ISA-18.2. The independent technical reports are described here.

- ISA-TR18.2.1, *Alarm Philosophy* [TR1], provides guidance on the alarm philosophy. TR1 is limited to the scope of Clause 6 in ISA-18.2. The alarm philosophy provides guidance for successful management of the alarm system. It covers the definitions, principles, and activities by providing overall guidance on methods for alarm identification, rationalization, classification, prioritization, monitoring, management of change, and audit.
- ISA-TR18.2.2, *Alarm Identification and Rationalization* [TR2], provides guidance on alarm identification and rationalization. TR2 was limited to the scope of Clauses 8 and 9 in ISA-18.2. Identification and rationalization cover the activities to determine the possible need for an alarm or a change to an alarm; systematically compare alarms to the alarm philosophy; and determine the alarm set point, consequence, operator action, priority, and class. Activities include, but are not limited to, identification, justification, prioritization, classification, and documentation.
- ISA-TR18.2.3, *Basic Alarm Design* [TR3], provides guidance on basic alarm design. TR3 focuses on the scope of Clause 10 of ISA-18.2 and may include other clauses as needed (e.g., Clause 14 on operations and Clause 15 on maintenance). Basic alarm design covers the selection of alarm attributes (e.g., types, dead bands, and delay times) and may be specific to each control system.
- ISA-TR18.2.4, *Enhanced and Advanced Alarm Methods* [TR4], provides guidance on advanced and enhanced alarm methods. TR4 focuses on the scope of Clause 12 of ISA-18.2. Enhanced alarm design covers guidance on additional logic, programming, or modeling used to modify alarm behavior. These methods may include dynamic alarming, state-based alarming, adaptive alarms, logic-based alarming, predictive alarming, as well as most of the designed suppression methods.
- ISA-TR18.2.5, *Alarm Monitoring, Assessment, and Audit* [TR5], provides guidance on monitoring, assessing, and auditing alarms. TR5 focuses on the scope of Clauses 16 and 18 in ISA-18.2. Monitoring, assessment, and audit cover the continuous monitoring, periodic performance assessment, and recurring audit of the alarm system.
- ISA-TR18.2.6, *Alarm Systems for Batch and Discrete Processes* [TR6], provides guidance on the application of ANSI/ISA-18.02 alarm life cycle activities to batch and discrete processes, expanding on multiple clauses of ISA-18.2.
- ISA-TR18.2.7, *Alarm Management When Utilizing Packaged Systems* [TR7], provides guidance on how to integrate packaged systems into a basic process control system (BPCS)–based centralized alarm system.

The guidance as presented in this technical report is general in nature and should be applied to each system as appropriate by personnel knowledgeable in the manufacturing process and control systems to which it is being applied. This guidance will evolve with experience and technology advancements.

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INTRODUCTION

This technical report (TR) provides a system of nomenclature for notifications other than alarms and guidance on managing notifications generated by automation systems. This TR goes beyond the scope of ISA-18.2 to include notifications to non-operator recipients. Guidance is provided on common terminology and recommended practices for generating and using such notifications.

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GUIDELINES FOR NON-ALARM NOTIFICATIONS

1 Scope

This technical report (TR) was written in support of the standard ANSI/ISA-18.2-2016, *Management of Alarm Systems for the Process Industries*. ISA-18.2 deals with alarms for the operator role.

Modern automation systems are capable of creating many types of notifications and routing them to roles other than the operator. This technical report defines notification types for non-operator roles, including alerts, prompts, and notices. Alerts, prompts, and notices to the operator role are also defined and discussed. In addition, recommendations and guidance for effective notifications are provided.

The definitions and terminology in this TR are general enough to encompass all possible notifications from the automation system to any role, without limiting the methods and equipment involved.

This TR is of interest to several other ISA standards committees, including:

- ISA84 on safety instrumented systems,
- ISA88 on batch control,
- ISA95 on control system and enterprise system integration,
- ISA99 on control system cybersecurity,
- ISA101 on control system human machine interface,
- ISA106 on procedural automation,
- ISA108 on intelligent device management, and
- ISA112 on SCADA systems.

Visit www.isa.org/standards for information about the listed committees.

This TR's intended audience includes the designers, implementers, and maintainers of systems that generate automation system notifications, as well as the recipients of those notifications.

2 References

The following normative documents are referred to in this technical report:

ANSI/ISA-18.2-2016, *Management of Alarm Systems for the Process Industries*

ANSI/ISA-101.01-2015, *Human Machine Interfaces for Process Automation Systems*

3 Terms, definitions, and abbreviated terms

For the purposes of this document, the terms and definitions given in ANSI/ISA-18.2-2016 and the following apply, except for the definitions of “alert” and “event,” which are redefined for the purpose of this TR.

3.1 Terms and definitions

3.1.1

alarm

audible and/or visible means of indicating to the operator an equipment malfunction, process deviation, or abnormal condition requiring a timely response

[SOURCE: ANSI/ISA-18.2-2016]

3.1.2

event

record of a change of condition or state related to process data

3.1.3

human machine interface**HMI**

collection of hardware and software used by the operator and other users to monitor and interact with the control system and with the process via the control system

[SOURCE: ANSI/ISA-101.01-2015]

3.1.4

non-operator alert

urgent or important notification that may require timely response from a non-operator role

3.1.5

notice

notification that is informational, useful, or of interest to the recipient

Note 1 to entry: A “notice” is a notification that is informational, useful, or of interest to the recipient, but that does not meet all the criteria of an alarm, operator alert, non-operator alert, or prompt.

3.1.6

notification

transmission referencing an event to a recipient

3.1.7

operator alert

audible and/or visible means of indicating to the operator an equipment or process condition for evaluation when time allows, which may result in a response

Note 1 to entry: “Operator alert” as defined in this document aligns to term “alert” in ANSI/ISA-18.2.

3.1.8

prompt

notification related to process continuance that requires timely response

Note 1 to entry: The response may be a task, data input, authorization, approval, or permission to proceed.

3.1.9

user interface

non-process automation related interface of a device used by a notification recipient

Note 1 to entry: The term “user interface” is used in this report to differentiate between the operator’s HMI and the more varied devices used by non-operator roles.