IEC 62541-009 OPC Unified Architecture - Part 9: Alarms and Conditions

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Table 1: Data sheet for OPC Unified Architecture - Part 9: Alarms and Conditions

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> **Note**: The following is an excerpt from the official IEC catalog. It is provided here as a convenience and is not authoritative. Refer to the original document as the authoritative reference.

Abstract

EC 62541-9:2020 specifies the representation of Alarms and Conditions in the OPC Unified Architecture. Included is the Information Model representation of Alarms and Conditions in the OPC UA address space. Other aspects of alarm systems such as alarm philosophy, life cycle, alarm response times, alarm types and many other details are captured in documents such as IEC 62682 and ISA 18.2. The Alarms and Conditions Information Model in this specification is designed in accordance with IEC 62682 and ISA 18.2.

This third edition cancels and replaces the second edition published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) added optional engineering units to the definition of **RateOfChange** alarms
b) to fulfill the IEC 62682 model, the following elements have been added:

- **AlarmConditionType** States:
  - **Suppression**
  - **Silence**
  - **OutOfService**
  - **Latched**
2. **AlarmConditionType** Properties:
  - **OnDelay**
  - **OffDelay**
  - **FirstInGroup**
  - **ReAlarmTime**
3. New alarm types:

- **DiscrepencyAlarm**
- **DeviationAlarm**
- **InstrumentDiagnosticAlarm**
- **SystemDiagnosticAlarm**

c) added Annex that specifies how the concepts of this OPC UA part maps to IEC 62682 and ISA 18.2;
d) added new **ConditionClasses**:

- **Safety**
- **HighlyManaged**
- **Statistical**
- **Testing**
- **Training**

e) added **CertificateExpiration AlarmType**
f) added Alarm Metrics model

See also:

- IEC 62541-001 OPC Unified Architecture - Part 1: Overview and concepts
- IEC 62541-002 OPC Unified Architecture - Part 2: Security Model
- IEC 62541-003 OPC Unified Architecture - Part 3: Address Space Model
- IEC 62541-004 OPC Unified Architecture - Part 4: Services
- IEC 62541-005 OPC Unified Architecture - Part 5: Information Model
- IEC 62541-006 OPC Unified Architecture - Part 6: Mappings
- IEC 62541-007 OPC Unified Architecture - Part 7: Profiles
- IEC 62541-008 OPC Unified Architecture - Part 8: Data Access
- IEC 62541-010 OPC Unified Architecture - Part 10: Programs
- IEC 62541-011 OPC Unified Architecture - Part 11: Historical Access
- IEC 62541-012 OPC Unified Architecture - Part 12: Discovery and global
- IEC 62541-013 OPC Unified Architecture - Part 13: Aggregates
- IEC 62541-014 OPC Unified Architecture - Part 14: PubSub
- IEC 62541-100 OPC Unified Architecture - Part 100: Device Interface