

# Quickstart Guide for Secure JSON Format in DeltaV™ SaaS SCADA

Zedi is Now DeltaV SaaS SCADA

**JSON is a human-readable text format that stores and transmits data objects using attribute-value pairs and arrays.**

## Standard Usage Example

To represent the following two time series for a specific device:

Time Stamp	POINT_IDENTIFIER_1	POINT_IDENTIFIER_2
2015-08-27 06:30:00	100	200
2015-08-27 07:30:00	110	190

The following JSON format is required:

```
{
  "Version": "1.0",
  "AuthorizationMethod": "License",
  "IdType": "Tag",
  "ValueType": "Raw",
  "SerialNumber": "DEVICE_IDENTIFIER",
  "License": "ZEDI_SUPPLIED_KEY",
  "Trends": [
    {
      "TimeStampUtc": "2015-08-27T06:30:00",
      "Readings": [{"Tag": "POINT_IDENTIFIER_1", "Value": "100"}, {"Tag": "POINT_IDENTIFIER_2", "Value": "200"}]
    },
    {
      "TimeStampUtc": "2015-08-27T07:30:00",
      "Readings": [{"Tag": "POINT_IDENTIFIER_1", "Value": "110"}, {"Tag": "POINT_IDENTIFIER_2", "Value": "190"}]
    }
  ]
}
```

## Component Definitions

### Root Object

Element	Required	Description
Version	Yes	Must be "1.0". Reserved for future alternate processing rules.
AuthorizationMethod	No	The validation mechanism for reports. Currently only "License" is supported and is default.
IdType	No	The identifier used for individual points. Currently only "Tag" is supported and is default.
ValueType	No	The type of stream data being delivered. Currently only "Raw" is supported and is default.
SerialNumber	Yes	The common alpha numeric device identifier shared between the Zedi platform and the data sender.
License	Yes	The Zedi supplied write authorization token for this device.
Trends	Yes	An array of one or more Trend Objects describing the contained data (see below)

### Trend Object

Element	Required	Description
TimeStampUtc	Yes	The UTC time stamp for the data. Please note that the string format of this timestamp is YYYY-MM-DDTHH:mm:SS  (The character "T" divides the date and time portions, but there is no trailing character "Z"). Also note that HH is as per a 24 hour clock).
Readings	Yes	An array of one or more Reading Objects that supply the tag and value for the data (see below).

### Reading Object

One or more SENSOR elements contained in the report identify a single value in the time series corresponding with a specific measuring point.

Element	Required	Description
Tag	Yes	The identifier for this time series element.  This must be the common alpha numeric series identifier shared between the Zedi platform and the data sender.
Value	No <sup>1</sup>	The string representation of the data to be stored at this point in the time series.
Units	No	An optional override for the units of measure represented by the value property. See the Unit Conversions section below for more information.
AlarmStatus	No	An optional override for the alarm status of this individual value in the time series. Please see Alarming section below for more information.
TriggerCalculations	No <sup>1</sup>	This payload will not be used, but will trigger any calculations related to the specified sensor. If used, must be set to (bool>true.  If other values are supplied (value, with or without units), then that value will be used for this sensor for the calculation.

<sup>1</sup> One of these must be supplied.

### Unit Conversions

DeltaV SaaS SCADA typically deals with all unit of measurement conversion rules automatically. When devices are added to our cloud-native IIoT platform, each time series source is configured with the expected unit of measurement that will be supplied for each point on the end device.

If for some reason a data supplier needs to send data in a different unit of measurement than configured, they can supply the unit of measurement being used for the current sample in Reading.Units.

Please contact DeltaV SaaS SCADA Support for an up to date list of valid options for Reading.Units for your specific instance.

## Alarming


DeltaV SaaS SCADA will perform automatic alarm evaluation on all incoming data as per the time series configuration. However, it is sometimes desirable for the remote data supplier to specify alarm conditions instead of leveraging our cloud-native IIoT platform's alarm evaluation.

If the remote data sender would like to control the alarm state of a data series, they do so by supplying `Reading.AlarmStatus`. Valid options are:

<b>alarmStatus</b>	<b>Notes</b>
clear	This represents both a case where an alarm state ends (clears), as well as when no alarm condition exists.
low	Range alarms
high	
lowlow	
highhigh	
rtutimeout	Data acquisition alarms
rtubackoff	
rtuoverflow	

It is vital to note that it is not possible to mix automatic alarm evaluation with specified alarm evaluation for a given `Reading.Tag`. Therefore, for each `Reading.Tag`, the data sender must either never send a manual `AlarmStatus`, or always send a manual `AlarmStatus`.

**DeltaV™ SaaS SCADA is an IIoT cloud-native platform designed to enable asset-intensive industries to quickly and securely connect, acquire analytics and provide control of remotely located devices anywhere, anytime by anyone of your authorized users. We help our customers become more productive, profitable and sustainable to improve life around the globe.**

 <b>SECURITY</b>	 <b>SCALABILITY</b>	 <b>SERVICE</b>
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