Document title Document type

**SignalStatus SD**

Date Version

**2021-03-23 4.3.0**

Author Status

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Contact Page

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SignalStatus

Service Description

## Abstract

This document describes the SignalStatus service produced by the OPC UA System.

ARTEMIS Innovation Pilot Project: Arrowhead



THEME [SP1-JTI-ARTEMIS-2012-AIPP4 SP1-JTI-ARTEMIS-2012-AIPP6]

[Production and Energy System Automation Intelligent-Built environment and urban infrastructure for sustainable and friendly cities]

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# Overview

This document describes the SignalStatus service, which enables reading the values of the OPC UA server nodes, which means the status of all sensors and actuators connected to the OPC UA server.

The rest of this document is organized as follows. In Section [2,](#bookmark1) we describe the abstract message functions provided by the service. In Section [3,](#bookmark6) we end the document by presenting the data types used by the mentioned functions.

# Service Interface

This section describes the interfaces to the SignalStatus service. In particular, each subsection names an abstract operation, an input type and an output type, in that order. The input type is named inside parentheses, while a colon precedes the output type. Input and output types are only denoted when accepted or returned, respectively, by the interface in question.

All abstract data types named in this section are defined in Section [3.](#bookmark6)

## getValue (ComponetID)

This interface is called to get the value of the node (sensor or actuator) specified by the input id.

* 1. **getSensors**

This interface is called to get the value of all sensor nodes scanned from the OPC UA server.

* 1. **getActuators**

This interface is called to get the value of all actuator nodes scanned from the OPC UA server.

* 1. **getSensorValue (SensorID)**

This interface is called to get the value of the sensor specified by the input id.

* 1. **getActuatorValue (ActuatorID)**

This interface is called to get the value of the actuator specified by the input id.

* 1. **updateActuator (ActuatorID, value)**

This interface is called to update the value of the actuator specified by the input id.

* 1. **Echo**

This interface provides an “is alive” response for the OPC UA System.

# Information Model

Here, the data objects that can be part of SignalStatus service calls are listed in alphabetic order. Note that each subsection, which describes one type of object, begins with the struct or union keywords. The former is used to denote a collection of named fields, each with its own data type, while the latter is used to express that a value is allowed to be any one out of a number of listed variant types. For this service there is one object which is called:

**Component**

JSON object with the following fields.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Description** | **Mandatory** | **Default** |
| Id | String | The Id of the individual node | True |  |
| Description | String | The OPC UA node description name | False |  |
| Value | Boolean | The value read from the particular node | False |  |
| timestamp | String | Current Timestamp associated with the node value. | False |  |

# Revision History

## Amendments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Date | Version | Subject of Amendments | Author |
| 1 | 2021-03-23 | 1.0.0 |  | Aparajita Tripathy |

* 1. **Quality Assurance**

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| No. | Date | Version | Approved by |
| 1 |  |  |  |