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| Project | **Specification of Sensor Interface for Cyber and Physical World**<<https://sagroups.ieee.org/2888.1/> **>** |
| Title | **Syntax and semantics of common classes** |
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| Re: |  |
| Abstract | This contribution illustrates the basic JSON schema structure for representing the common classes in a standardized data format. The semantics and examples of the common class types and attributes are presented. |
| Purpose | To start discussion on purpose of the standard |
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# Introduction

This contribution illustrates the basic JSON schema structure for representing the common classes in a standardized data format. The semantics and examples of the common class types and attributes are presented.

# Data formats for common classes

## integer3DVector type

### General

This sub-clause specifies a data type, which describes an integer 3D vector.

### Syntax

|  |
| --- |
| "integer3DVectorType" : {"type": "array", "items": { "type": "integer" }, "minItems": 3, "maxItems": 3}, |

### Semantics

Semantics of the integer3DVectorType:

| Name | Definition |
| --- | --- |
| value | Describes a 3D vector made up of integers. The value has three values in order: x, y, z |

### Examples

In this example, integer3DVectorType has x, y, and z values of 5, -2, and 3, respectively.

|  |
| --- |
| "integer3DvectorType": { "value": [5, -2, 3]} |

## float4DVector type

### General

This sub-clause specifies a data type, which describes a float 4D vector.

### Syntax

|  |
| --- |
| "float4DVector": {"type": "array", "items": { "type": "number" }, "minItems": 4, "maxItems": 4}, |

### Semantics

Semantics of the float4DVectorType:

| Name | Definition |
| --- | --- |
| value | Describes a 4D vector made up of floating-point numbers. The value has four values in order: x, y, z, w |

### Examples

In this example, float4DVectorType has x, y, z, and w values of 30.3, -20.5, 10.0, and 2.0, respectively.

|  |
| --- |
| "integer3DvectorType": { "value": [30.3, -20.5, 10.0, 2.0]} |

# Conclusions

We recommend accepting the proposed corrections for the existing common classes.