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| Project | **Standard for Actuator Interface for Cyber and Physical World**<https://sagroups.ieee.org/2888.2/ **>** |
| Title | **Step Motor Capabilities** |
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| Re: |  |
| Abstract | This contribution proposes syntax, semantics and example of the step motor actuator capability. |
| Purpose | To start discussion on purpose of the standard |
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# Introduction

This contribution proposes syntaxes, semantics, and examples of the step motor actuator capability description vocabulary.

# Data formats for actuator capabilities

* 1. Step motor actuator capability
		1. General

This Subclause specifies the syntax and semantics of motor capabilities of step motor actuators.

* + 1. Syntax

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| "stepMotorActuatorCapabilityData":{ "type": "object", "properties":{ "stepAngle":{ "type": "number", "minumum": 0, "minumum": 360 }, "speedVariationRatio":{ "type": "number", "minumum": 0 }, "maxSpeed":{ "type": "integer", "minumum": 0 } }, "additionalProperty": false }, |

* + 1. Semantics

The semantics of the stepMotorActuatorCapabilityData:

| *Name* | *Definition* |
| --- | --- |
| stepMotorActuatorCapabilityData | Provide a structure for describing a command for a step motor actuator. |
| stepAngle | Describes the angle that the step motor actuator rotates per step. |
| speedVariationRatio | Describes the ratio that the step motor actuator divides n times to rotate 1 step. |
| maxSpeed | Describes the maximum speed that the step motor actuator can provide in terms of RPM. |

* + 1. Examples

This example shows the description of a step motor capability with the following semantics. The step angle of the motor is 5.625 degrees and the speed variation ratio is 0.015625 with the maximum speed is 14 RPM.

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| { "actuatorCapabilityBaseData": {}, "stepMotorActuatorCapabilityData": { "stepAngle": 5.625, "speedVariationRatio": 0.015625, "maxSpeed": 14 }} |