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| Project | **Standard for Actuator Interface for Cyber and Physical World**  <https://sagroups.ieee.org/2888/ **>** |
| Title | **Application Programming Interfaces for Step Motor** |
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| Re: |  |
| Abstract | This contribution proposes the application programming interfaces for step motor actuator. |
| Purpose | To start discussion on purpose of the standard |
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# Introduction

This contribution proposes the application programming interfaces for step motor actuator.

# API for individual actuators

Table 1 – Step motor API

|  |  |
| --- | --- |
| Nested Classes | |
| Modifier and Type | Method and Description |
|  |  |
| Constructor | |
| Constructor and Description | |
| StepMotor() | |
| *Default constructor.* | |
|  | |
| StepMotor(String id) | |
|  | |
| StepMotor(String id, String serverIPAddress, integer serverPort) | |
|  | |
| Fields | |
| Modifier and Type | Field and Description |
|  |  |
| Methods | |
| Modifier and Type | Method and Description |
| int | setMotorComplexCommand(int speed, int step, int orientation) |
|  | *This function sets a command to control the rotation speed, the number of steps and the rotate orientation of the step motor actuator at once. This function shall include the speed, step, orientation parameter. If the command succeeds, this function returns 1, otherwise, it returns 0.* |
|  |  |
| int | setMotorSpeed(int speed) |
|  | *This function sets a command to control the rotation speed of step motor actuator. This function shall include the speed parameter. If the command succeeds, this function returns 1, otherwise, it returns 0.* |
|  |  |
| Int | setMotorSteps(int step) |
|  | *This function sets a command to control the number of steps on the step motor actuator. This function shall include the step parameter. If the command succeeds, this function returns 1, otherwise, it returns 0.* |
|  |  |
| Int | setMotorOrientation(int orientation) |
|  | *This function sets a command to control the rotate orientation of the step motor actuator. This function shall include the orientation parameter. If the orientation is 1, the stepper motor rotates counterclockwise, and -1 means that it rotates clockwise. If the command succeeds, this function returns 1; otherwise, it returns 0.* |
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