

1. 使用環境條件

Apply Environmental Condition :

| No. | 項目 item | 規格 standard |
|-----|-------------------------------------|--------------|
| 1-1 | 保存溫度 Storage Temperature Range | -20°C ~ 60°C |
| 1-2 | 操作溫度 Operating Temperature Range | -10°C ~ 50°C |
| 1-3 | 操作電壓 Operating Voltage Range | 4.5V ~ 6V |

2. 測試環境

Standard Test Environment :

| | | |
|-----|-----------------------------------|--|
| 2-1 | 測試環境 Standard Test Environment | <p>每一个检查必须是正常的温度和湿度进行测量，温度 $25 \pm 5^\circ\text{C}$，相对湿度 $65 \pm 10\%$，在按照本规范的标准测试条件下判断特征。</p> <p>Every characteristic of the inspect must be normal temperature and humidity carry out the test, temperature $25 \pm 5^\circ\text{C}$ and relative humidity $65 \pm 10\%$ of judgment made in accordance with this specification standard testing conditions.</p> |
|-----|-----------------------------------|--|

3. 外觀檢查

Appearance Inspection :

| No. | 項目 item | 規格 standard |
|-----|-------------------------|--|
| 3-1 | 外觀尺寸 Outline Drawing | 尺寸见附件 Dimension see the attachment |
| 3-2 | 外觀 Appearance | 无损坏，不允许影响功能 No damage which affects functions allowed |

4. 電氣特性

Electrical Specification (Function of the Performance) :

| No. | 項目 item | 4.8V | 6.0V |
|-----|--------------------------------------|--------------|--------------|
| 4-1 | 空載轉速 Operating speed (at no load) | 0.14 sec/60° | 0.12 sec/60° |
| 4-2 | 空載電流 Running current (at no load) | 160 mA | 180 mA |
| 4-3 | 停止扭力 Stall torque (at locked) | 2.7 kg-cm | 3.0 kg-cm |
| 4-4 | 停止電流 Stall current (at locked) | 680 mA | 800 mA |
| 4-5 | 待機電流 Idle current (at stopped) | 4 mA | 5 mA |

注：項目 4-2 定义平均值时，伺服器无负荷运行

Note: Item 4-2 definition is average value when the servo running with no load

5. 機械特性

Mechanical Specification :

| No. | 項目 item | 規格 standard |
|-----|-------------------------------|---|
| 5-1 | 外觀尺寸 Overall Dimensions | 见附件 See the drawing |
| 5-2 | 機構極限角度 Limit angle | 180°± 10° |
| 5-3 | 重量 Weight | 16.0 ± 1g |
| 5-4 | 導線規格 Connector wire gauge | # 26 PVC |
| 5-5 | 導線長度 Connector wire length | 150 ± 5 mm |
| 5-6 | 舵片規格 Horn gear spline | 25T/φ 5.77 |
| 5-7 | 舵片種類 Horn type | 十字，圓盤，星型，條型 Cross , Disk , Star, Single, |
| 5-8 | 減速比 Reduction ratio | 1/313 |



Product Name
模拟伺服器 Analog Servo

Model No.
HD-1160A

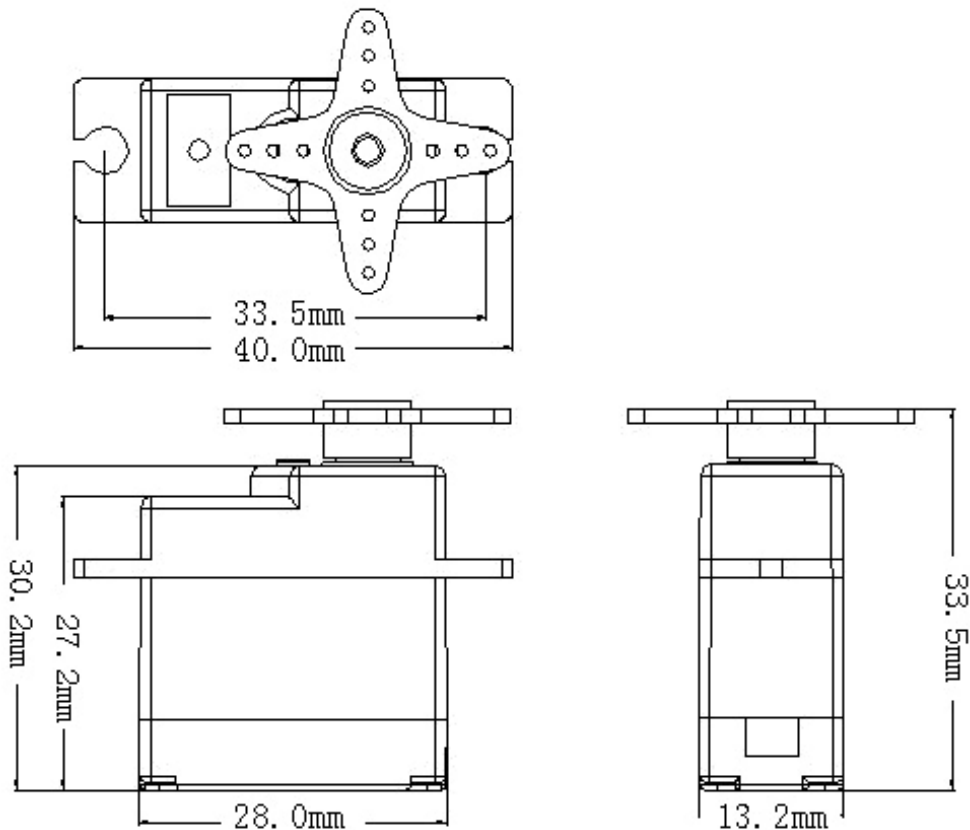
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6. 控制特性

Control Specification :

| No. | 項目 | 規格 |
|-----|-----------------------------|--|
| 6-1 | 控制系統 Control system | 改变脉冲宽度 Pulse Width Modification |
| 6-2 | 放大器種類 Amplifier type | 模拟控制器 Analog Controller |
| 6-3 | 操作角度 Operating travel | 90° (在 1000→2000 μ sec) |
| 6-4 | 中立位置 Neutral position | 1500 μ sec |
| 6-5 | 脈波訊號虛位 Dead band width | 7 μ sec |
| 6-6 | 旋轉方向 Rotating direction | 顺时针 (在 1500→2000 μ sec) Counterclockwise (when 1500→2000 μ sec) |
| 6-7 | 脈波寬度範圍 Pulse width range | 800 - 2000 μ sec |
| 6-8 | 可作動角度範圍 Maximum travel | 大約 165°(在 800→2200 μ sec) Approx 165°(when 800→2200 μ sec) |



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