

## SG 90 ;MG90

### 1.Apply Environmental Condition :

No.	Item	Specification
1.1	Operating Temperature Range	-10°C ~ 50°C
1.2	Operating Voltage Range	4.8V ~ 6.0V

### 2. Appearance Inspection :

No.	Item	Specification
2.1	Dimensions	Please refer to the last page.
2.2	Appearance	No damage and mustn't affect functions.

### 3.Electrical Specification (Function of the Performance) :

No.	Item	4.8V	6.0V
3.1	Operating speed (at no load)	0.09±0.01 sec/60°	0.08±0.01 sec/60°
3.2	Running current (at no load)	400±30mA	500±30mA
3.3	Stall torque (at locked)	2.0±0.20kg·cm	2.2±0.20kg·cm
3.4	Stall current (at locked)	1300±40mA	1600±50mA
3.5	Idle current (at stopped)	6±1mA	6±1mA
3.6	Running life(at no load)	>350000次 Turns	>320000次 Turns
3.7	Temperature drift(at 25°C)	≤5°C	≤7°C

### 4. Mechanical Specification :

No.	Item	Specification
4.1	Overall Dimensions	Please refer to drawing.
4.2	Limit angle	200°± 1°
4.3	Weight	9 ± 1 g
4.4	Connector wire gauge	# 28 PVC
4.5	Connector wire length	250 ± 5 mm
4.6	Spline	21T
4.7	Horn type	Cross,star and bar-type
4.8	Excessive play	≤0.5°

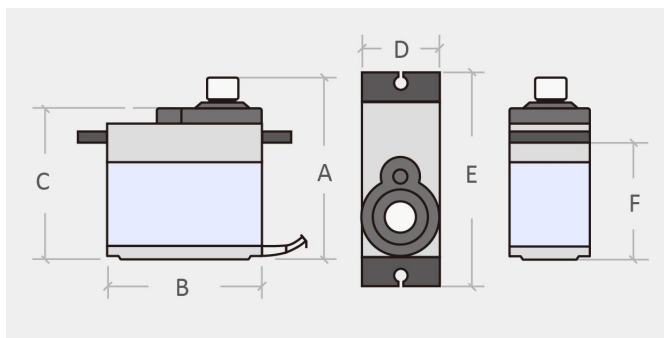
### 5.Control Specification :

No.	Item	Specification
5.1	Control system	Change the pulse width
5.2	Amplifier type	Analog controller
5.3	Operating travel	120°±10° (900→2100 μsec)

5.4	Left&Right travelling Angle deviation	$\leq 6^{\circ}$
5.5	Centering deviation	$\leq 1^{\circ}$
5.6	Neutral position	1500 $\mu\text{sec}$
5.7	Dead band width	7 $\mu\text{sec}$
5.8	Rotating direction	Counter Clockwise (900 $\rightarrow$ 2100 $\mu\text{sec}$ )
5.9	Pulse width range	900 $\rightarrow$ 2100 $\mu\text{sec}$
5.10	Maximum travel	About 120 $^{\circ}$ (900 $\rightarrow$ 2100 $\mu\text{sec}$ )

## 6. Dimensional Drawing :

尺寸 : L23xW12.2xH29mm



Weight (g)	9
Torque (kg) (4.8v)	1.8
Speed (sec/60deg)	0.1
A (mm)	34.5
B (mm)	22.8
C (mm)	26.7
D (mm)	12.6
E (mm)	32.5
F (mm)	16

Position "0" (1.5 ms pulse) is middle, "90" (~2ms pulse) is middle, is all the way to the right, "-90" (~1ms pulse) is all the way to the left.

PWM=Orange (⏏)  
Vcc = Red (+)  
Ground=Brown (-)

