

# THETA

シータ西塔

Tech eases the fly

SINCE 2018

HELI <sup>x</sup>

ACRO

BUGGY <sup>x</sup>

DRIFT <sup>x</sup>

## SERVOS SELECTION GUIDE



# 3D Aerobatic Airplanes and Turbojet Aircraft SERVO application table

(CORELESS)



7.9g

1.4 kg-cm @ 3.7V  
2.6 kg-cm @ 7.4V

(CORELESS)



Micro

21g

7.5Kg@ 7.4V 8.9Kg

(BRUSHLESS)



Slim  
(CORELESS)



26g

12Kg-cm@ 7.4V

Mini  
(Brushless)



46g

15Kg@ 7.4V

Low Profile  
(Brushless)



53g

15Kg@ 7.4V

Low Profile  
(Brushless)



60g

28Kg@ 7.4V

Mini  
(Brushless)



54g

23Kg@ 7.4V

Standard  
(Brushless)



65g

30Kg@ 7.4V

Standard  
(Brushless)



76g

40Kg@ 7.4V

Standard  
(Brushless)



85g

52Kg@ 7.4V

2021  
NEW & HOT

BRUSHLESS  
NFC HV  
Standard

THETA  
シータ 西塔  
Tech eases the fly



# RAZOR-X1

## NFC FULL METAL BRUSHLESS DIGITAL STANDARD SERVO

Neutral Pulse Width: 760us/1520us adjustable (Narrow/Wide)

Frequency Range: 50~400Hz

Limit angle:  $180 \pm 10^\circ$  (500-2500μsec)

Connector wire length:  $350 \pm 5$  mm

Operating travel:  $90^\circ$  (1000-2000μsec)

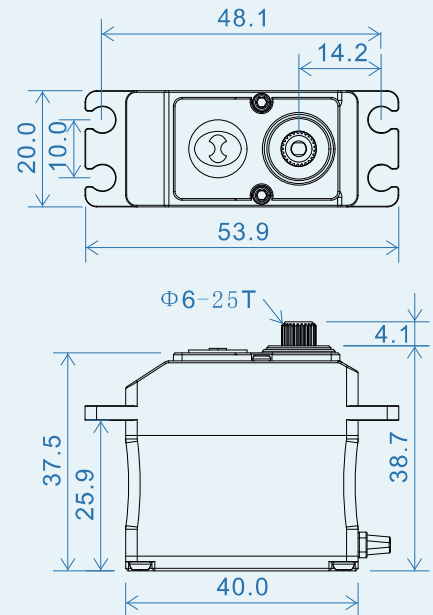
Connector wire gauge: #20PVC


Rotating direction: adjustable


Dead band width: 1-4μsec


VOLTAGE	CURRENT	SPEED	TORQUE
5.0V	6.0A	0.16s/60°	37Kgf.cm
6.0V	7.0A	0.14s/60°	42Kgf.cm
7.4V	7.5A	0.13s/60°	47Kgf.cm
8.4V	8.0A	0.12s/60°	52Kgf.cm


85g





 M3X12X4Pcs

 M3X5X4Pcs

 28X16mmX1Pcs

 7X9X6X4Pcs

 M3X6X1Pcs

 45X10mmX1Pcs

2021  
NEW & HOT

BRUSHLESS  
NFC HV  
Standard

THETA  
シータ 西塔  
Tech eases the fly



# THL798

## FULL METAL BRUSHLESS DIGITAL STANDARD SERVO

Neutral Pulse Width: 1520us (Wide)

Frequency Range: 50~400Hz

Limit angle:  $140 \pm 10^\circ$  (750-2250μsec)

Connector wire length:  $350 \pm 5$  mm

Operating travel:  $90^\circ$  (1000-2000μsec)

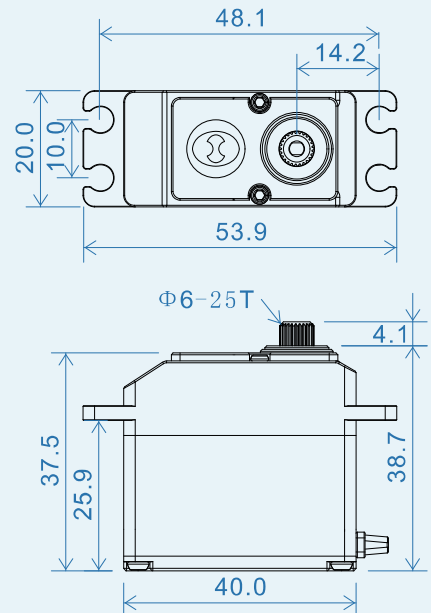
Connector wire gauge: #22PVC


Rotating direction: CCW


Dead band width: 2μsec


VOLTAGE	CURRENT	SPEED	TORQUE
5.0V	6.0A	0.12s/60°	28Kgf.cm
6.0V	7.0A	0.11s/60°	32Kgf.cm
7.4V	7.5A	0.10s/60°	36Kgf.cm
8.4V	8.0A	0.09s/60°	40Kgf.cm


76g




 M3X12X4Pcs

 M3X5X4Pcs

 28X16mmX1Pcs

 7X9X6X4Pcs

 M3X6X1Pcs

 45X10mmX1Pcs

2023  
NEW & HOT



BRUSHLESS  
NFC HV  
Standard

THETA

シータ 西塔

Tech eases the fly



# THL398

## PLASTIC CASE BRUSHLESS STANDARD SERVO

Neutral Pulse Width: 1520us (Wide)

Frequency Range: 50~400Hz

Limit angle:  $140 \pm 10^\circ$  (750-2250μsec)

Connector wire length:  $350 \pm 5$  mm

Operating travel:  $90^\circ$  (1000-2000μsec)

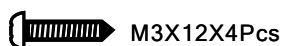
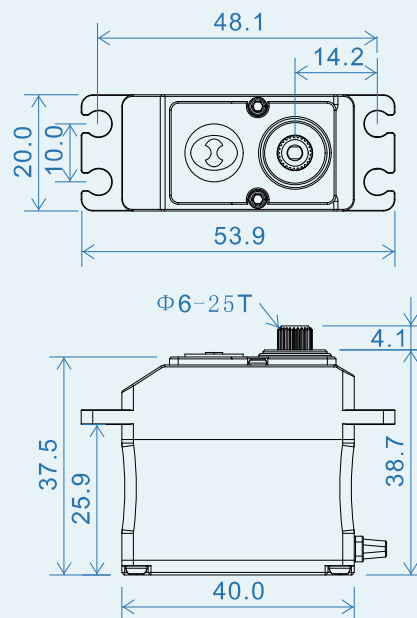
Connector wire gauge: #22PVC

Rotating direction: CCW

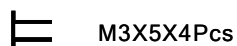
Dead band width: 2μsec

VOLTAGE	CURRENT	SPEED	TORQUE
5.0V	3.0A	0.13s/60°	20Kgf.cm
6.0V	3.0A	0.12s/60°	23Kgf.cm
7.4V	3.0A	0.11s/60°	27Kgf.cm
8.4V	3.0A	0.10s/60°	30Kgf.cm

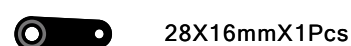
65g



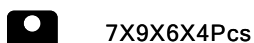
M3X12X4Pcs



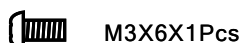
M3X5X4Pcs



28X16mmX1Pcs



7X9X6X4Pcs



M3X6X1Pcs



45X10mmX1Pcs

2020  
NEW & HOT

THETA  
シータ 西塔  
Tech eases the fly

BRUSHLESS  
NFC HV  
Low Profile



# RAZOR - DH1

## NFC FULL METAL BRUSHLESS LOW PROFILE SERVO

Neutral Pulse Width: 760us/1520us adjustable (Narrow/Wide)

Frequency Range: 50~400Hz

Limit angle:  $180 \pm 10^\circ$  (500-2500μsec)

Connector wire length:  $300 \pm 5$  mm

Operating travel:  $90^\circ$  (1000-2000μsec)

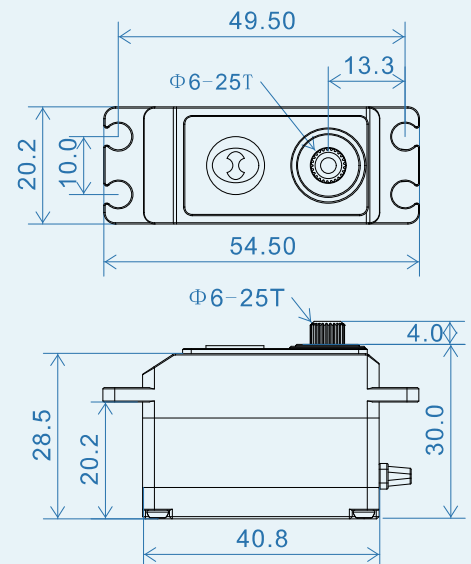
Connector wire gauge: #22PVC


Rotating direction :adjustable


Dead band width: 1-4μsec


SPEED	TORQUE
5.0V-0.108s/60° @3A	5.0V-24Kgf.cm @3A
6.0V-0.09s/60° @3A	6.0V-26Kgf.cm @3A
7.4V-0.08s/60° @3A	7.4V-28Kgf.cm @3A
8.4V-0.07s/60° @3A	8.4V-30Kgf.cm @3A
5.0V-0.092s/60° @5A	5.0V-30Kgf.cm @5A
6.0V-0.081s/60° @5A	6.0V-34Kgf.cm @5A
7.4V-0.072s/60° @5A	7.4V-37Kgf.cm @5A
8.4V-0.063s/60° @5A	8.4V-40Kgf.cm @5A


60g





 M3X12X4Pcs

 M3X5X4Pcs

 28X16mmX1Pcs

 7X9X6X4Pcs

 M3X6X1Pcs

 45X10mmX1Pcs

2020  
NEW & HOT

THETA

シータ 西塔

Tech eases the fly

BRUSHLESS  
NFC HV  
Low Profile



# RAZOR - D1

## NFC FULL METAL BRUSHLESS LOW PROFILE SERVO

Neutral Pulse Width: 760us/1520us adjustable (Narrow/Wide)

Frequency Range: 50~400Hz

Limit angle:  $180 \pm 10^\circ$  (500-2500μsec)

Connector wire length:  $300 \pm 5$  mm

Operating travel:  $90^\circ$  (1000-2000μsec)

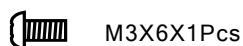
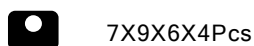
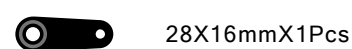
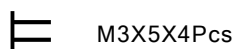
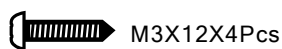
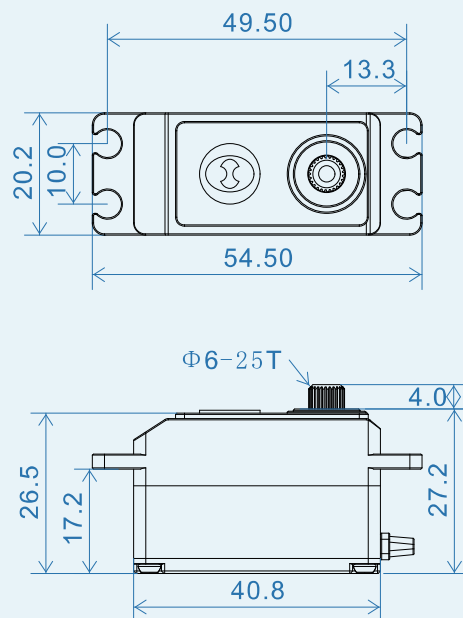
Connector wire gauge: #22PVC

Rotating direction :adjustable

Dead band width: 1-4μsec

SPEED	TORQUE
5.0V-0.108s/60° @3A	5.0V-12Kgf.cm @3A
6.0V-0.09s/60° @3A	6.0V-13.5Kgf.cm @3A
7.4V-0.08s/60° @3A	7.4V-15Kgf.cm @3A
8.4V-0.07s/60° @3A	8.4V-16Kgf.cm @3A
5.0V-0.092s/60° @5A	5.0V-14Kgf.cm @5A
6.0V-0.081s/60° @5A	6.0V-15.5Kgf.cm @5A
7.4V-0.072s/60° @5A	7.4V-18Kgf.cm @5A
8.4V-0.063s/60° @5A	8.4V-20Kgf.cm @5A

53g



2020  
NEW & HOT

THETA

シータ 西塔  
Tech eases the fly

BRUSHLESS  
HV MINI



# THM988

## METAL BRUSHLESS HV MINI SERVO

Neutral Pulse Width: 1520us (Wide)

Frequency Range: 50~400Hz

Limit angle:  $180 \pm 10^\circ$  (500-2500μsec)

Connector wire length:  $300 \pm 5$  mm

Operating travel:  $90^\circ$  (1000-2000μsec)

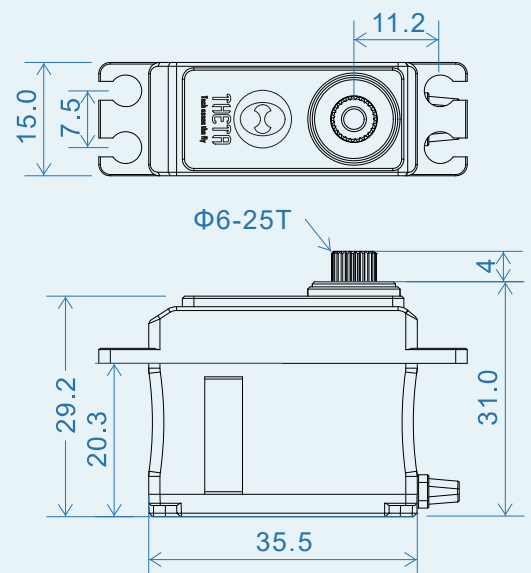
Connector wire gauge: #26PVC

Rotating direction: adjustable

Dead band width: 2-4μsec

VOLTAGE	CURRENT	SPEED	TORQUE
5.0V	2.0A	0.10s/60°	10Kgf.cm
6.0V	2.0A	0.09s/60°	12Kgf.cm
7.4V	2.1A	0.08s/60°	14Kgf.cm
8.4V	2.3A	0.07s/60°	15Kgf.cm

46g





2021  
NEW & HOT

THETA  
シータ西塔  
Tech eases the fly

BRUSHLESS  
HV MINI



# THM989

## METAL BRUSHLESS HV MINI SERVO

Neutral Pulse Width: 1520us (Wide)

Frequency Range: 50~400Hz

Limit angle:  $180 \pm 10^\circ$  (500-2500μsec)

Connector wire length:  $300 \pm 5$  mm

Operating travel:  $90^\circ$  (1000-2000μsec)

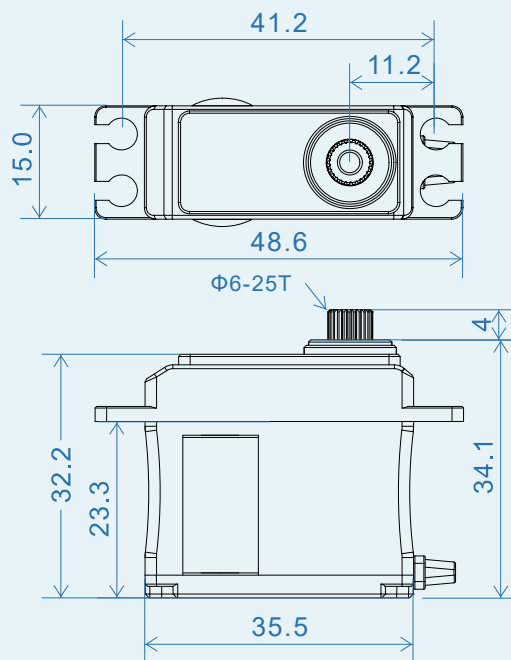
Connector wire gauge: #26PVC

Rotating direction: adjustable

Dead band width: 2-4μsec

Voltage	Current	SPEED	TORQUE
5.0V	2.6A	0.10s/60°	15Kgf.cm
6.0V	2.6A	0.09s/60°	18Kgf.cm
7.4V	2.6A	0.08s/60°	21Kgf.cm
8.4V	2.6A	0.07s/60°	23Kgf.cm

54g



2023  
NEW & HOT

CORELESS  
HV MICRO

THETA  
シータ西塔  
Tech eases the fly



# THS921A

## METAL CORELESS HV MICRO SERVO

Neutral Pulse Width: 1520us (Wide)

Frequency Range: 50~400Hz

Limit angle:  $140 \pm 10^\circ$  (750-2250μsec)

Connector wire length:  $190 \pm 5$  mm

Operating travel:  $90^\circ$  (1000-2000μsec)

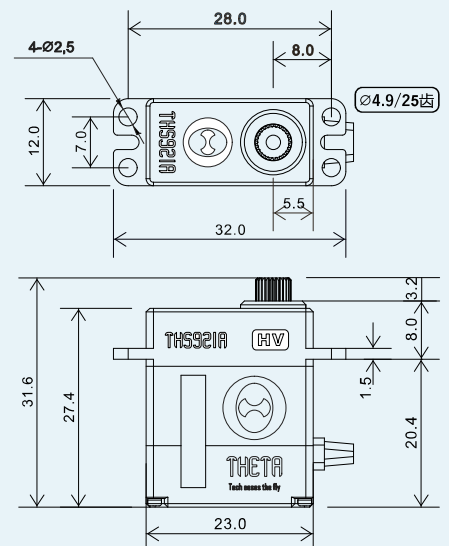
Connector wire gauge: #26PVC

Rotating direction: CCW

Dead band width: μsec

Speed	Torque
0.12sec/60° @ 6.0V	6.6kg-cm @ 6.0V
0.10sec/60° @ 7.4V	7.8 kg-cm @ 7.4V
0.09sec/60° @ 8.4V	8.6 kg-cm @ 8.4V

21g



2023  
NEW & HOT

BLS HV MICRO

THETA  
シータ 西塔  
Tech eases the fly



# THS9218

## METAL BLS HV MICRO SERVO

Neutral Pulse Width: 1520us (Wide)

Frequency Range: 50~400Hz

Limit angle:  $140 \pm 10^\circ$  (750-2250μsec)

Connector wire length:  $190 \pm 5$  mm

Operating travel:  $90^\circ$  (1000-2000μsec)

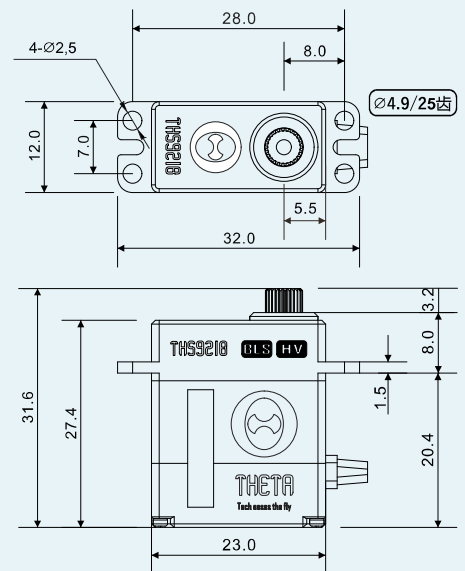
Connector wire gauge: #26PVC

Rotating direction: CCW

Dead band width: μsec

Speed	Torque
0.10sec/60° @ 6.0V	7.7kg-cm @ 6.0V
0.09sec/60° @ 7.4V	8.9 kg-cm @ 7.4V
0.08sec/60° @ 8.4V	9.8 kg-cm @ 8.4V

21g



2022  
NEW & HOT

CORELESS  
HV MICRO

THETA  
シータ 西塔  
Tech eases the fly



# THS926

## METAL CORELESS HV SLIM SERVO

Neutral Pulse Width: 1520us (Wide)

Frequency Range: 50~400Hz

Limit angle:  $140 \pm 10^\circ$  (750-2250μsec)

Connector wire length:  $190 \pm 5$  mm

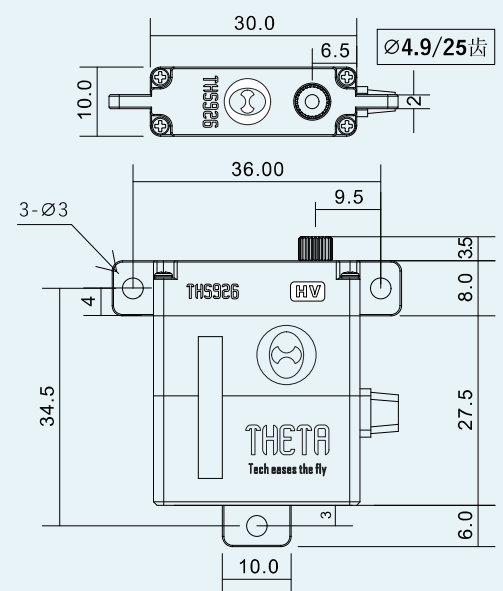
Operating travel:  $90^\circ$  (1000-2000μsec)

Connector wire gauge: #26PVC

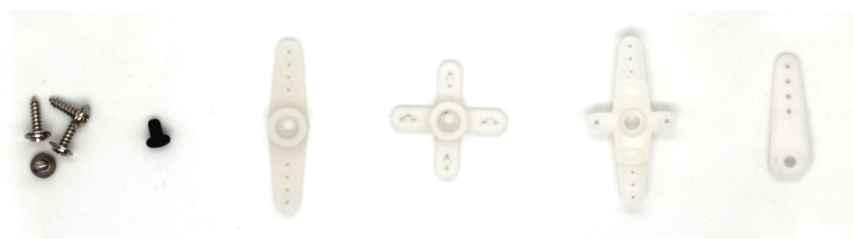
Rotating direction: CCW

Dead band width: μsec

Speed	Torque
0.15sec/60° @ 6.0V	8.2kg-cm (81 oz-in) @ 6.0V
0.12ec/60° @ 7.4V	10 kg-cm (94 oz-in) @ 7.4V
0.10ec/60° @ 8.4V	12 kg-cm (104 oz-in) @ 8.4V

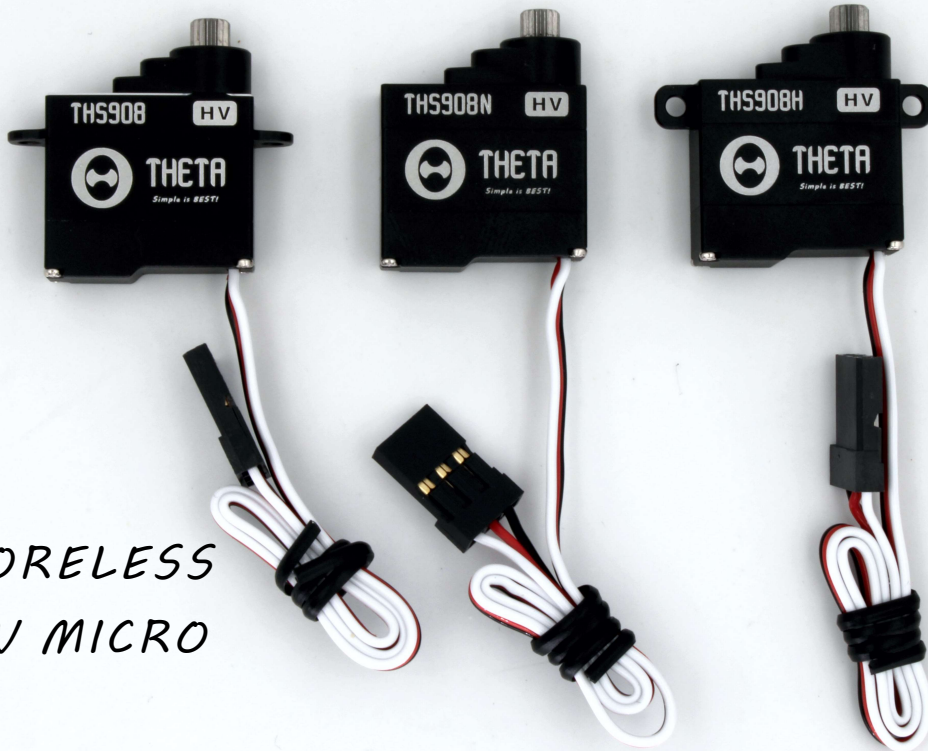


26g



2023  
NEW & HOT

THETA  
シータ 西塔  
Tech eases the fly



CORELESS  
HV MICRO

# THS908/N/H

## METAL CORELESS HV SERVO

Neutral Pulse Width: 1520us (Wide)

Frequency Range: 50~400Hz

Limit angle:  $140 \pm 10^\circ$  (750-2250μsec)

Connector wire length:  $170 \pm 5$  mm

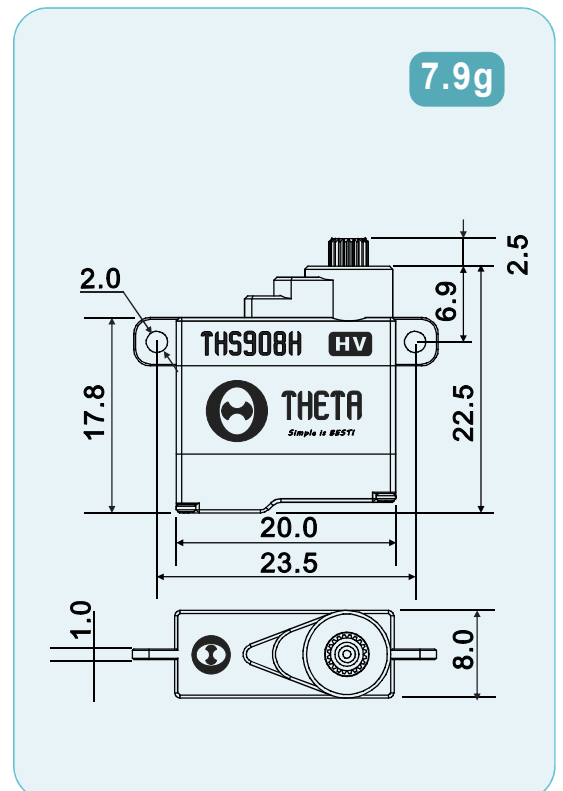
Operating travel:  $90^\circ$  (1000-2000μsec)

Connector wire gauge: #26PVC

Rotating direction: CCW

Dead band width: 1μsec

Speed	Torque
0.10sec/60° @ 3.7V	1.4 kg-cm @ 3.7V
0.08ec/60° @ 6.0V	2.2 kg-cm @ 6.0V
0.07ec/60° @ 7.4V	2.6 kg-cm @ 7.4V
0.06ec/60° @ 8.4V	3.0 kg-cm @ 8.4V



# Theta Servo takes the lead in launching NFC tunable Servo

## Tuning tool:

An Android phone with NFC function.

## APP download:

[fastech.cc](http://fastech.cc)

## Registered:

The international area code (86139...) should be added before the mobile phone number, We are using an international SMS platform.

## Recommendation code:

Please use the recommendation code of the friend who recommended this product to you, "My Homepage" in the APP.

If not recommended by a friend, the recommendation code can be used: WCFPV7

## Operating:

1. Enable the NFC function of the mobile phone;
2. Open the APP and click to enter the parameter setting;
3. Use the mobile phone's NFC sensing area, close to the bottom cover of the servo (the servo should be Power off) until the reading is successful;
4. New servos need to be registered before they can be rewritten. The registered servos, Other users cannot rewrite.

## Adjustable parameters:

See the picture on the right;

Recommended adjustment parameters:

Stretching: the value is small, the servo turns more softly, the value is large, and it follows the hand;

Brake: the value is large, the servo turns more slowly, the value is small, follow the hand Too small, overshoot;

Output angle: It is recommended to adjust the remote control EPA to the maximum, while use the zero adjustment function of the servo to adjust the zero position, and then adjust this parameter is used to obtain the required output range of the servo; Can get the most delicate remote control feel;

## Maximum current:

Adjust the maximum power of the servo ; The maximum current is not recommended to exceed 7.5A.

The screenshot shows the Theta Servo app interface on an Android phone. The top status bar displays "China Telecom China Mobile", "22.6 K/s", and "11:26". The app header shows "MODEL Razor-C1" and "SN. A0000006". Below the header, there are sections for "UPDATES 0 TIMES" and "USES 0 TIMES". The main interface features several control buttons: "HELI", "ACRO", "BUGGY", "DRIFT", "Reverse", "Narrow Band", "Accurate", "Smooth", and "SANWA SSR". A "PowerOn" button is also visible. The parameters are displayed as sliders with numerical values:

- Neutral: 0.0
- P: 32
- D: 14
- Dead Zone: 25
- Input PWM: 801 (range 801-2215)
- Output Angle: -70.0 (range -70.0-70.0)
- Soft Start: 16
- Max Current: 3.0
- Startup Power: 128.0
- Over-load Current: 0.5, 1.3, 2.8
- Over-load Time: 4.0, 10.0, 18.0
- SSR INPUT PWM

At the bottom, there are two buttons: "Restore Factory Settings" and "Restore Factory Settings & Log Off".

# Servo Program box (For all Theta Servos)



```

EXIT
905 1511.- 2096
8.35V 380Hz
    
```

Signal detection and goes straight to the servo

```

EXIT
Read File [ ] Read Servo
FASTECH.CC
    
```

Servo Program

```

[I+-] [S+-]
From To
REC or FBL SERVO
SPB-1 V1.1
    
```

Connection method

```

EXIT
1020 1520 2020
PARA
    
```

Using internal signals to test servo

# Servo Program box (For all Theta Servos)

**PROM**

```

EXIT
Read File [ ] Read Servo
FASTECH.CS
    
```

L-Key

R-Key

```

EXIT
1 2 3 4 5 6 7 8
PN:THS921A
    
```

L-Key

M-Key

```

EXIT
Write File [ ] Write Servo
    
```

R-Key

```

EXIT
Write File [ ] Write Servo
--Write OK--
    
```

```

--THETA SERVO--
PN:Razor-DT1
SN:G250
UP: 0 Use: 9

Heli Accro
Buggy Drift
Reverse NarrowB
Acc Smooth SANWA

P 48
D 48
Dead Zone 16
InPWM+(uS) 2267
InPWM-(uS) 759
Max(A) 3.0
Startup 128
OutAngle+ 75.1
OutAngle- 75.1
Soft Start 8
Ovload1(A) 2.7
Ovload2(A) 1.3
Ovload3(A) 0.4
Ovload1(S) 4.0
Ovload2(S) 10.0
Ovload3(S) 18.0
SSRPWM+ 582
SSRPWM- 20
Neutral 0.0
    
```

Servo Information

Applied labels

Reverse NarrowB  
Accurate Smooth Sanwa

P

D

Dead Zone

Pulse Input Range

Maximum current

Starting Force

Output angle range

Soft Start

Three levels of current triggering protection

Three levels of time triggering protection

SSR Pulse Input Range

Neutral

## PARA

```

ModeNOR Min 1020
Hz 333 Mid 1520
Step 1 Max 2020

ModeSR Min 510
Hz 833 Mid 760
Step 1 Max 1010

ModeSHR Min 1000
Hz 100 Mid 1500
Step 1 Max 2000

ModeSSR Min 100
Hz 384 Mid 300
Step 1 Max 500

ModeSUR Min 100
Hz 769 Mid 300
Step 1 Max 500
    
```

**TEST**

Three point test

```

EXIT
1020 1520 2020
PARA
    
```

M-Key long press

sweep test

```

EXIT
1020 ( 1 ) 2020
PARA
    
```