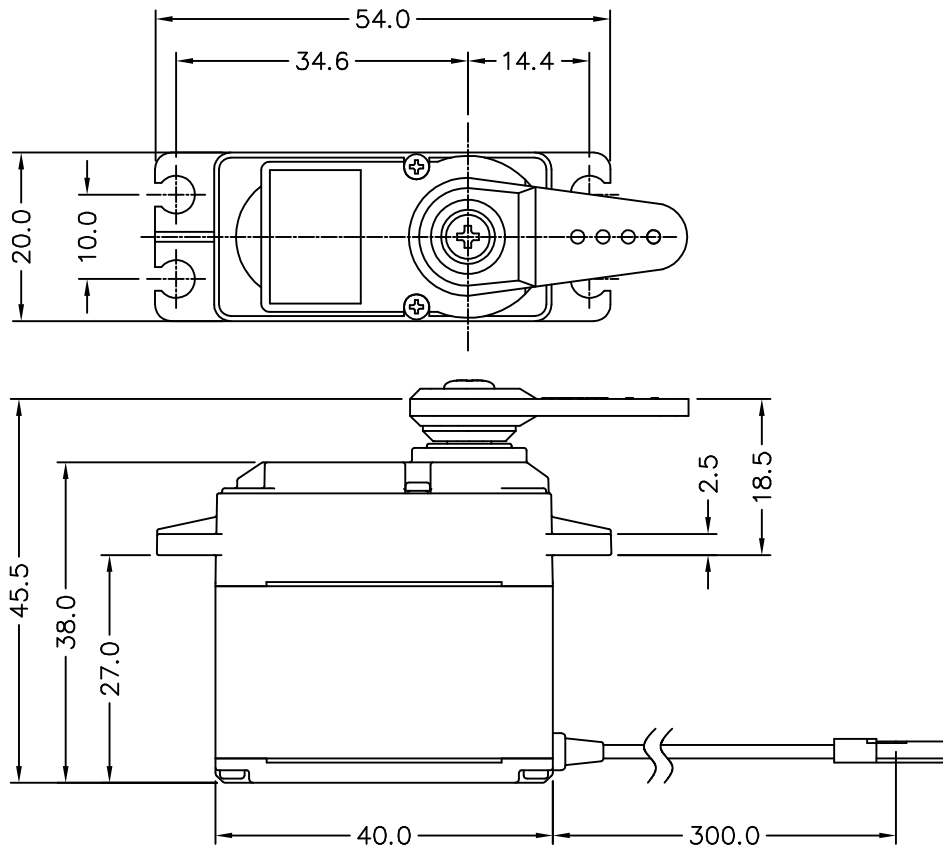


# GENERAL SPECIFICATION OF HSR-M9382TH ULTRA TORQUE BLDC SERVO

## 1. TECHNICAL VALUE

CONTROL SYSTEM	:+PULSE WIDTH CONTROL 1500usec NEUTRAL	
OPERATING VOLTAGE RANGE	:6.0V TO 7.4V	
OPERATING TEMPERATURE RANGE	:-20°C TO +60°C(-4°F TO +140°F)	
TEST VOLTAGE	:AT 6.0V	AT 7.4V
OPERATING SPEED	:0.17sec/60° AT NO LOAD	0.14sec/60° AT NO LOAD
STALL TORQUE	:34.0kg.cm(472.16oz.in)	34.0kg.cm(472.16oz.in)
STANDING TORQUE	:—	—
IDLE CURRENT	:27mA AT STOPPED	27mA AT STOPPED
RUNNING CURRENT	:250mA/NO LOAD RUNNING	250mA/NO LOAD RUNNING
STALL CURRENT	:2700mA	2100mA
DEAD BAND WIDTH	:1usec	1usec
OPERATING TRAVEL	:ONE SIDE PULSE TRAVELING 400usec	
DIRECTION	:CLOCK WISE/PULSE TRAVELING 1500 TO 1900usec	
MOTOR TYPE	:BLDC	
POTENTIOMETER TYPE	:MAGNETIC ENCORDER	
AMPLIFIER TYPE	:DSPIC33 MCU DIGITAL AMPLIFIER WITH MOSFET DRIVE	
DIMENSIONS	:40x20x38mm(1.57x0.79x1.50in)	
WEIGHT	:72g(2.54oz)	
BALL BEARING	:DUAL/MR106	
GEAR MATERIAL	:1 MPD & 3 TITANIUM ALLOY	
HORN GEAR SPLINE	:25 SEGMENTS/∅6.1	
SPLINED HORNS	:HEAVY DUTY/HD-LS25,HD-IM25,HD-IM25,HD-OS25,HD-IL25,HD-LL25	
CONNECTOR WIRE LENGTH	:300mm(11.81in)	
CONNECTOR WIRE STRAND COUNTER	:80EA	
CONNECTOR WIRE GAUGE	:20AWG	



## 2. FEATURES

PROGRAMMABLE DIGITAL AMPLIFIER WITH MOSFET DRIVE  
 DURABLE TITANIUM ALLOY METAL GEARS WITH DUAL BALL BEARING  
 ULTRA HARDNESS GEAR SHAFT WITH 2 AXIAL METAL BUSHING  
 WATER & DUST RESISTANT  
 MIDDLE METAL CASE

## 3. APPLICATIONS

LARGE AIR PLANE MODELS

REVISIONS

SYM.	DATE	APPROVED BY	DESCRIPTION
△			

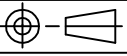
<ELECTRICAL CHARACTERISTICS>

1. Operating temperature range: -20°C TO +60°C
2. Test temperature: +20±5°C
3. Operating voltage range: 3.5V TO 8.4V
4. Test voltage: 7.4V (Use 7.4V external power on the jig)
5. Control system: +pulse width control 1500usec neutral/20000usec frame
6. Operating speed: 0.14sec±10%/60° at no load
7. Stall torque: 34.0kg.cm±10%
8. Dead band width: 1usec Max
9. Idle current: 27mA±10%
10. There should be no jamming at the below 40mA of the stopped current.
11. No load current: There should be no jittering as a range of 250mA±10%
12. When the pulse is traveling 400/600usec, the operational angle should be 125/185±5°
13. Bounding should be within 1 degree right before stopping.
14. Sliding should be within 1 degree right before stopping.
15. Returning tolerance of Neutral point : 0.5° Max
16. Stall current: 2100mA±20%
17. Frictional noise of the gears should not exceed the noise of the sample
18. Pulse traveling should rotate clockwise between 1500usec to 1900usec
19. When controlling (operating) slowly for 10 sec while the pulse is traveling 1100-1900usec in low voltage of 3.6V, it should not stop.
- 9-20. It should be programmable with HFP-30/DPC-11
  - Traver direction, CW or CCW
  - Middle position
  - Right or left position
  - Failsafe position
  - Failsafe on or off
  - Servo speed
  - EPA Position
  - DB Width on/off
  - OLP Rate on/off

Note: 9-10 to 9-19 are general test items

<MECHANICAL CHARACTERISTICS>

1. Dimensions: 40x20x38±0.3mm
  2. Weight: 72±1g
  3. Connector wire length: 300±10%
  4. Looseness of Gear
    - 4-1. 4th gear (vertical direction): 0.1mm Max
    - 4-2. 4th gear (rotation direction): 0.5° Max
  5. There should be no space between top, middle and lower cases
  6. There should not be any foreign substance within the product
  7. Name plate should be adhered exactly in its place
  8. O-ring should not project.
  9. Exterior of the servo must be clean
- Note: 4 to 9 are general test items.

PART NO.	PART NAME	PART SPECIFICATION	MATERIAL	FINISH	TREATMENT	QUANTITY		
TOLERANCES NOT OTHERWISE SPECIFIED		APPROVALS	DATE	DWG. SIZE A4	HITEC RCD KOREA, INC.			
FRACTIONAL		APPROVED BY		SCALE 1/1	TITLE PRODUCTION SPECIFICATION			
DECIMAL		CHECKED BY						
ANGLES		DESIGNED BY J G, YOO	2017.09.21	UNIT mm	MODEL NO. HSR-M9382TH	DWG. NO.	REF. NO.	SHEET OF