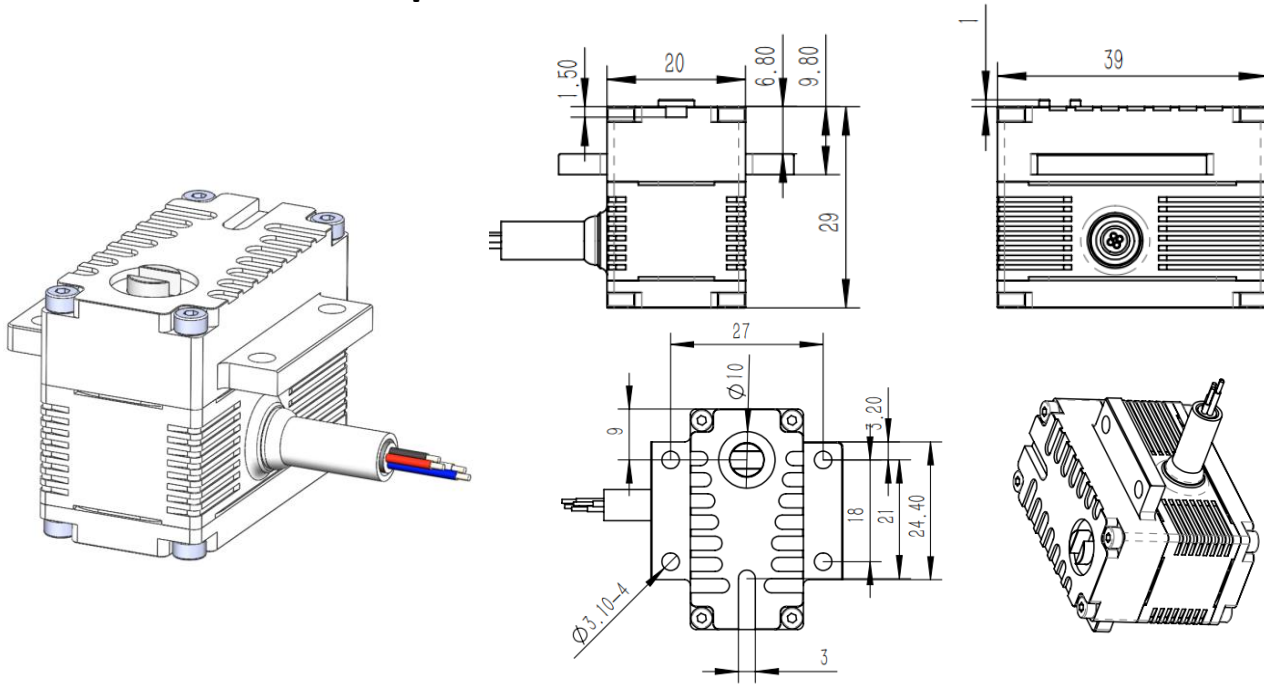


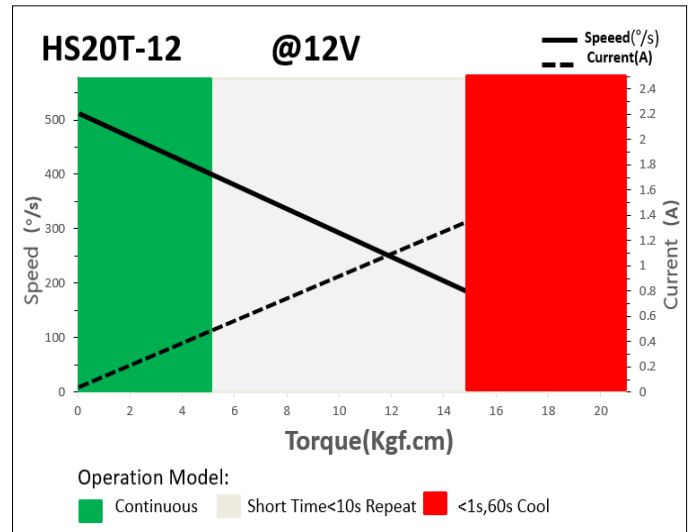
### HS20T-12 Technical Specification



#### 1. Servo Data

Rated Voltage	DC12V
Voltage Range	DC9V-13V
Stalling Torque	15Kgf.cm@12V
Rated Torque	5Kgf.cm@12V
Stalling Current	1.50A
Rated Current	0.50A
No-load Speed	520°/s @12V@25°C
Rated Speed	400°/s @12V@25°C
Default Travel Angle	±45° =90° total travel
Temperature Range	-30°C .....+65°C
Case Material	Aluminum Alloy
Motor Type	Brushless DC Motor
Gear Set Material	Hardened Steel
Position Sensor	Contactless
Ball Bearing	2BB
Case Dimensions	39mm*20mm*29mm±0.2mm
Weight	70g±10%

#### 2. Performance



#### 3. Command Signal

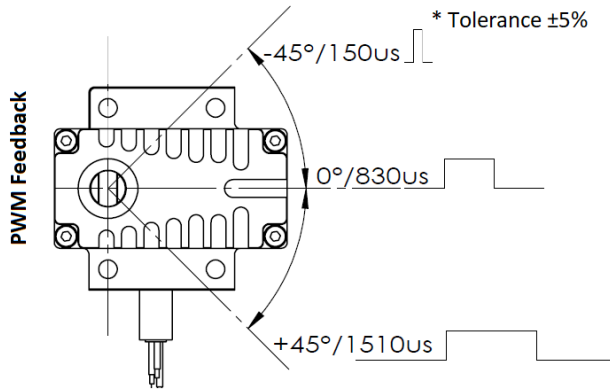
##### PWM Command Interface

Signal Voltage	HIGH:min.3.3V,max.5.0V Low:min.0.0V,max.1.5V
Pulse Lengths	1000us-2000us
Pulse Lengths for Position	1000us/1500us/2000us -45°/ 0°/+45°

### 4. Feedback Signal

The Position Feedback signal is an output signal with a square wave which is directly related to the output shaft's angular position. Reference is Supply Ground.

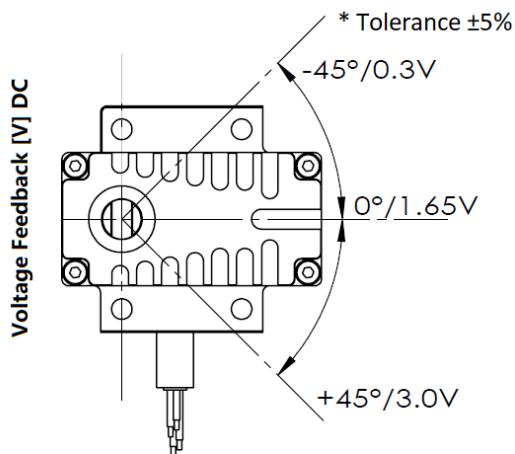
#### 4.1 Position Feedback PWM Signal



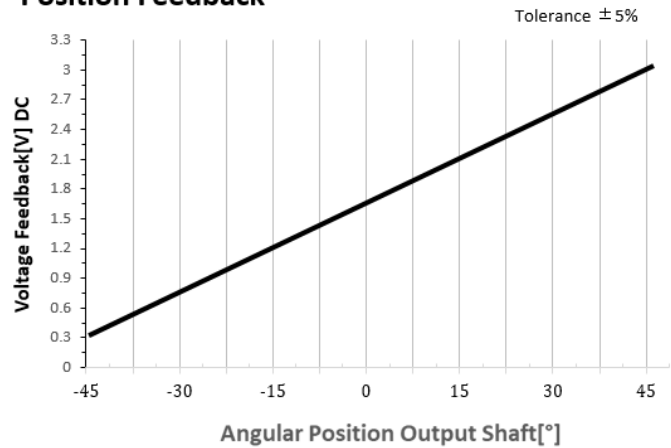
**Position Feedback**



#### 4.2 Position Feedback Voltage Signal



**Position Feedback**



### 5. Electrical Connection

	1	Red	DC+	Supply Voltage
	2	Black	DC-(GND)	Supply Ground, Signal Ground
	3	White	SIG	PWM Command Signal
	4	Blue	Pos Feedback	Position Feedback ( V_FB & PWM_FB Options )