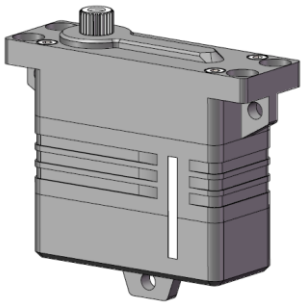
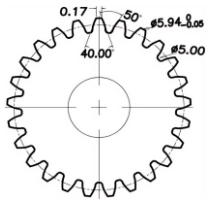
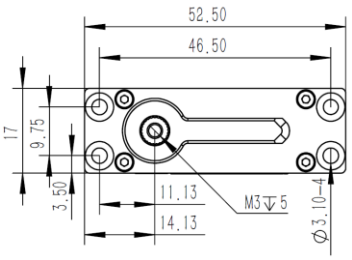
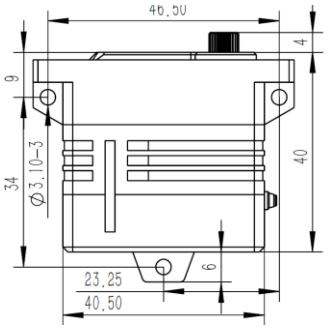
HS17-xx-P-5020-x Technical Specification





0625 Output Shaft Spline

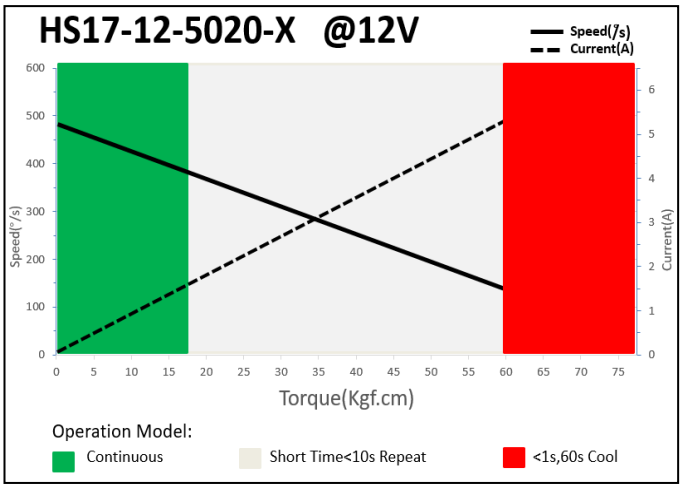


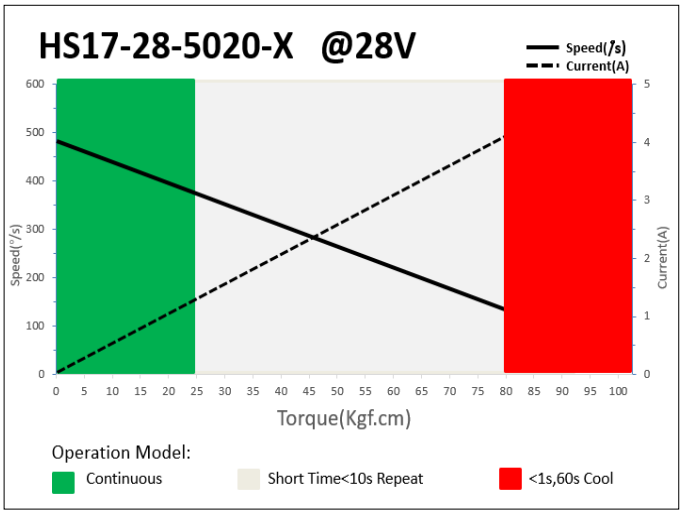


1. Operating Data

	HS17-12-P-5020-*	HS17-28-P-5020-*
Rated Voltage	DC12.0V	DC28.0V
Voltage Range	DC9.0V-13V	DC24V-30V
Stalling Torque	60Kgf.cm@12V	80Kgf.cm@28V
Rated Torque	18Kgf.cm@12V	25Kgf.cm@28V
Stalling Current	6.45A	4.65A
Rated Current	1.55A	1.05A
No-load Speed	0.12sec/60°@12V	0.12sec/60°@28V
Rated Speed	0.20sec/60°@12V	0.20sec/60°@28V
Working	1520us/333Hz	
Default Travel	± 50°=100°Total	
Temperature	-30℃.....+65℃	
Case Material	Aluminum Alloy	
Motor Type	4 Pole Brushless DC Motor	
Gear Set Material	Hardened Steel	
Position Sensor	Potentiometer	
Ball Bearing	2 BB	
Case Dimensions	40.5mm*17mm*40mm±0.2mm	
Weight	75g±10%	

2. Performance





3. Command signal

3.1. PWM Command Interface

Signal Voltage	TTL-level: 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 -50°/ 0°/+50°

3.2. RS485 Command Interface

Baud-Rate	115200 ±1.5% bits/s
Protocol (Documentation available)	10 Byte (incl. 1 byte Check Sum)

3.2.1. RS485 Protocol Specifications

Number of Data Bits	8
Number of Stop Bits	1
Parity	None

3.2.2. Command / Response Frame

Byte #	Description	Byte #	Description
1	Frame Head(0xFE)	6	Data
2	Version(0xCA)	7	Data
3	Address	8	Data
4	Command code	9	Check Sum
5	Data	10	（0A）Frame End

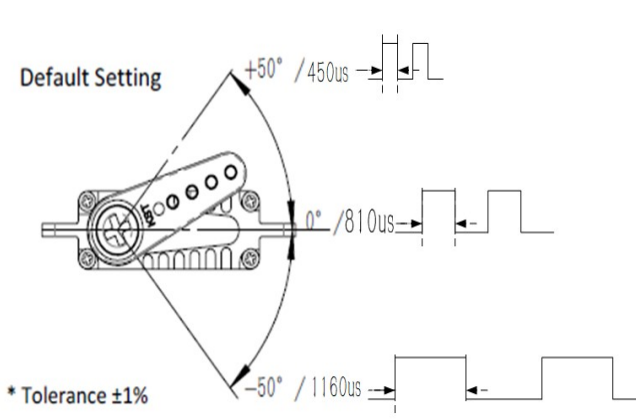
3.3. CAN Bus Command Interface

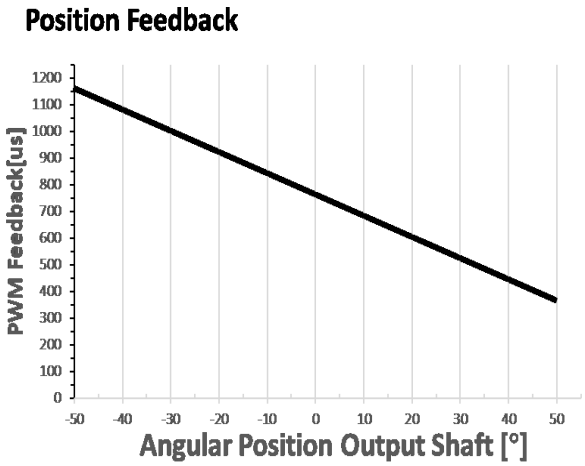
Baud-Rate	500Kbps
Node number	0 x25 (range 1 ~ 127, 0 is radio)
Communication	3.1: CAN Open standard frame format 3.2: CAN Open Extended frame

3.4. Feedback Singnal

3.4.1. Position Feedback Signal (PWM Versions)

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.



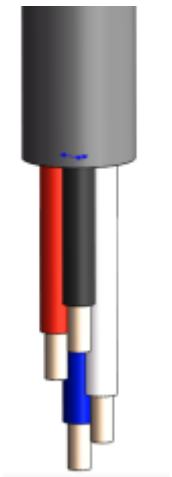


* Tolerance ±1%

3.4.2 Feedback Value (Bus Versions)

Integrated in the Bus protocol a Feedback Value, including the Angle position, Temperature, current value. Value read by sending request command. Provide the details of the bus in the document.

4. Electrical Connection（Shielded Cable，Open leads ）



Pin Assignment (PWM)			
1	White	SIG	Command Signal
2	Red	DC+	Supply Voltage
3	Black	DC-(GND)	Supply Ground, Signal Ground
4	Blue(Options)	Feedback	Position Feedback
Pin Assignment (RS485)			
1	White	RS485B	Inverted Input / Output line
2	Red	DC+	Supply Voltage
3	Black	DC-(GND)	Supply Ground, Signal Ground
4	Blue	RS485A	Non-Inverted Input / Output line
Pin Assignment (CAN_BUS)			
1	White	CAN_L	CAN Low
2	Red	DC+	Supply Voltage
3	Black	DC-(GND)	Supply Ground, Signal Ground
4	Blue	CAN_H	CAN High

5. Accessories（Options）

Item	Item-No.
Aluminum Servo Arm (Single side)	**0625.11**
Aluminum Servo Arm (Single side)	**0625.23**
Aluminum Servo Arm (Single side)	**0625.40**
Aluminum Servo Arm (Double side)	**0625.60**

6. Item Number System

HS 17 - 12 - P - 5020 - *

- Servo Class: 17mm Class
- Supply Voltage: 12: DC12V; 28: DC28V
- Sensor: P: Potentiometer
- Servo Type: 5020
- Command: 1: PWM; 2: RS485; 3.1: CAN Open Standard Frame; 3.2: CAN Open Extended Frame