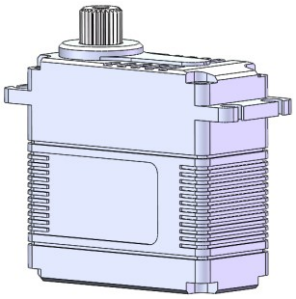
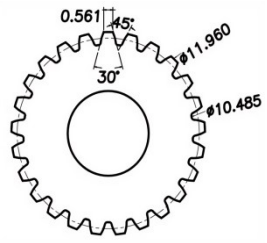
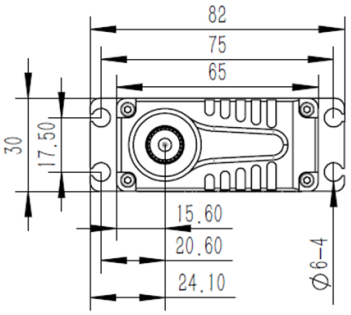
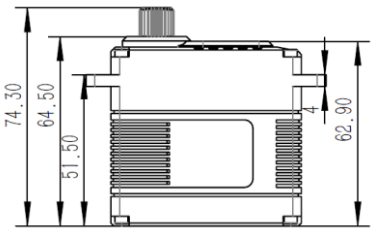
X25-xx-65-x Technical Specification







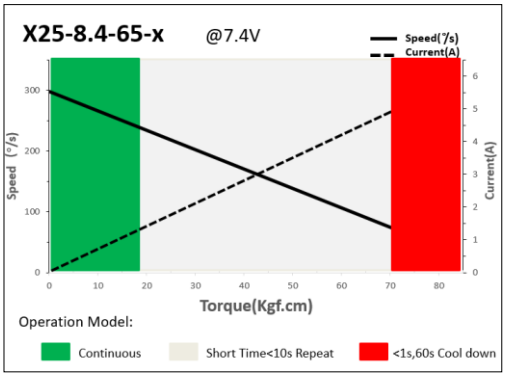


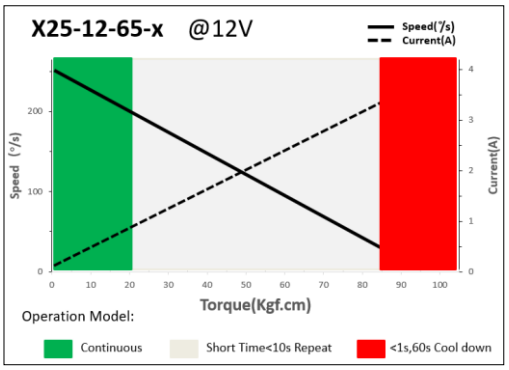
Output Shaft Spline (25T&12mm)

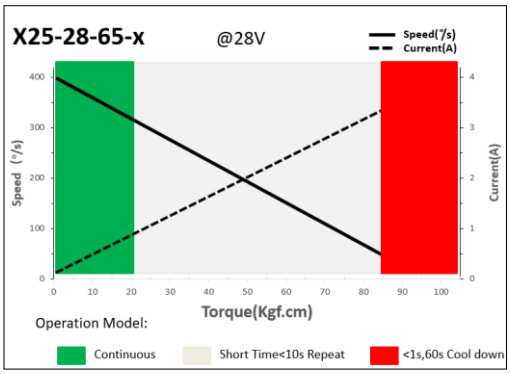
1. Servo Data

	X25-8.4-65-x	X25-12-65-x	X25-28-65-x
Rated Voltage	DC8.4V	DC12.0V	DC28.0V
Voltage Range	DC6.0V-8.4V	DC9.0V-13.0V	DC24.0-32.0V
Torque	60kgf.cm@6.0V	70kgf.cm@9.0V	80kgf.cm@24.0V
	70kgf.cm@7.4V	85kgf.cm@12.0V	95kgf.cm@28.0V
	78kgf.cm@8.4V	90kgf.cm@13.0V	100kgf.cm@32.0V
Speed	0.24sec/60°@6.0V	0.32sec/60°@9V	0.30sec/60°@24V
	0.20sec/60°@7.4V	0.24sec/60°@12V	0.25sec/60°@28V
	0.18sec/60°@8.4V	0.23sec/60°@13V	0.23sec/60°@32V
Working Frequency	1520us/333Hz		
Default Travel Angle	±50° 100°Total		
Temperature Range	-20℃.....+65℃		
Soft Start	Programmable		
Programmable	Yes		
Case Material	Aluminum Alloy		
Motor Type	Brushless DC Motor		
Gear Set Material	Hardened Steel/ HLS		
Position Sensor	Potentiometer		
Case Dimensions	7BB		
Weight	65mm*30mm*64.5mm±0.2mm		
Ball Bearing	280g±10%		

2. Performance







3. Command signal

3.1. PWM Command Interface

Signal Voltage	HIGH: min.3.3V, max.5.0V Low: min.0.0V, max.1.5V
Pulse Lengths	900us-2100us
Pulse Lengths for Position	1000us/1500us/2000us -50°/ 0°/+50°

3.2. RS485 Command Interface

Baud-Rate	115200 ±1.5% bits/s
Protocol	10 Byte (incl. 1 byte Check Sum)
(Documentation	8
Number of Data	1
Number of Stop	None

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

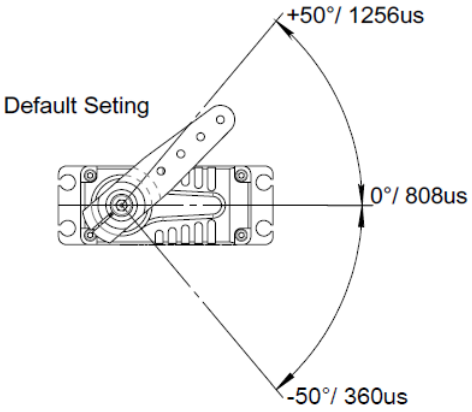
3.3 CAN Bus Command Interface

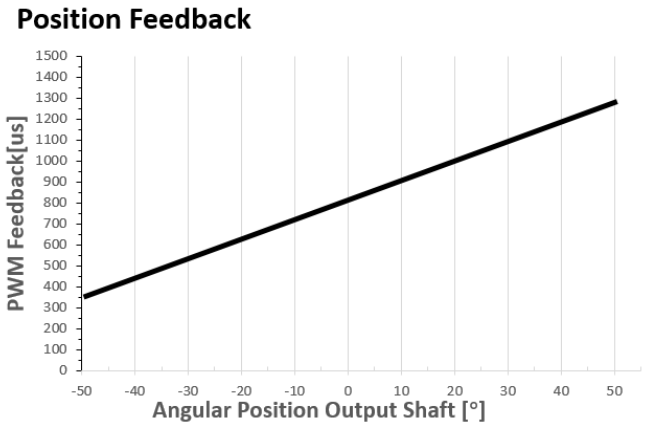
Baud-Rate	500Kbps	Communication	CAN Open standard frame CAN Extended frame Drone CAN （UAVCAN）
Node number	0 x25 (range 1 ~ 127, 0 is radio)		

3.4. Feedback Signal

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.





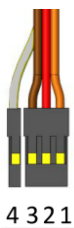
* Tolerance ±1%

3.4.2 Feedback Value (Bus Version)

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 Options

Silicone wire + standard DuPont plug (wire length 300mm)

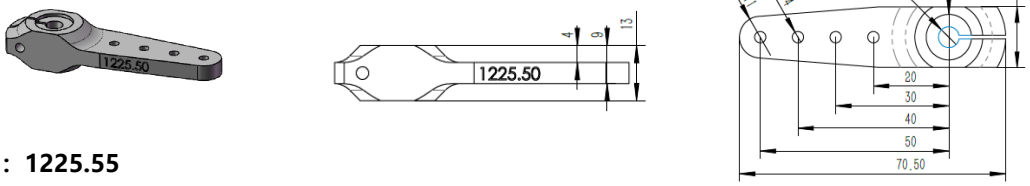


Pin Assignment (PWM)			Pin Assignment (485)			Pin Assignment (CAN)		
1	Yellow	PWM Signal	1	Yellow	RS485A	1	Yellow	CAN_H
2	Red	DC+	2	Red	DC+	2	Red	DC+
3	Brown	DC-, Signal Ground	3	Brown	DC-	3	Brown	DC-
4	White(Options)	Position Feedback	4	White	RS485B	4	White	CAN_L

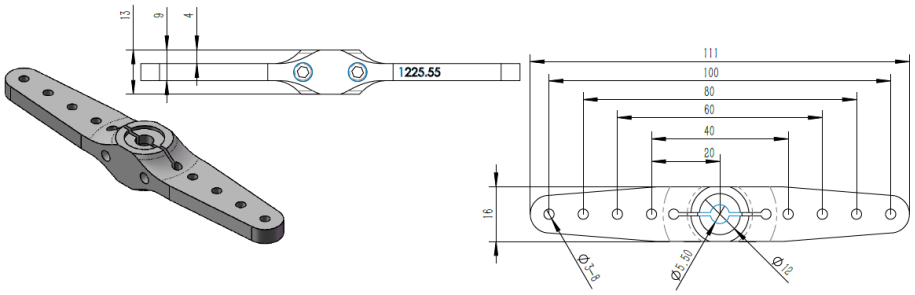
5. Accessories List

Model	Output Shaft Spline	Item	Item No.
X25-xx-65-x	25T 12mm	Aluminum Servo Arm (Single side)	1225.50
		Aluminum Servo Arm (Double side)	1225.55
		Aluminum Servo Disc	1225.16.5

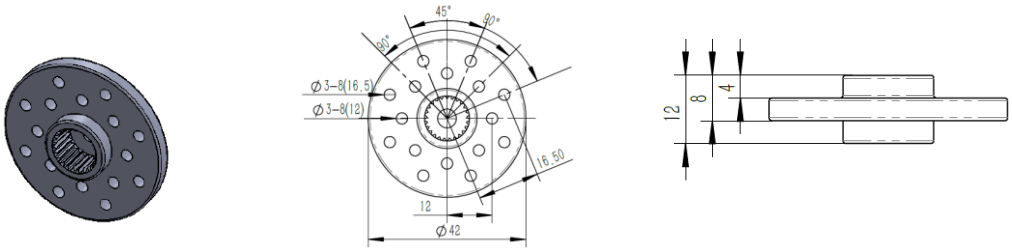
Item No.: 1225.50



Item No.: 1225.55



Item No.: 1225.16.5



6. Item Number System

X 25 - XX - 65 - X

Servo Class
30mm Class

Supply Voltage
7.4: DC7.40V
12 : DC12.0V
28 : DC28.0V

Type
65

Interface
1: PWM
2: RS485 Bus
3: CAN Bus
3.1: CAN Open Standard Frame
3.2: CAN Open Extended Frame
3.3: Drone CAN (UAVCAN)
3.5: Isolated CAN Bus
3.51: CAN Open Standard Frame
3.52: CAN Open Extended Frame