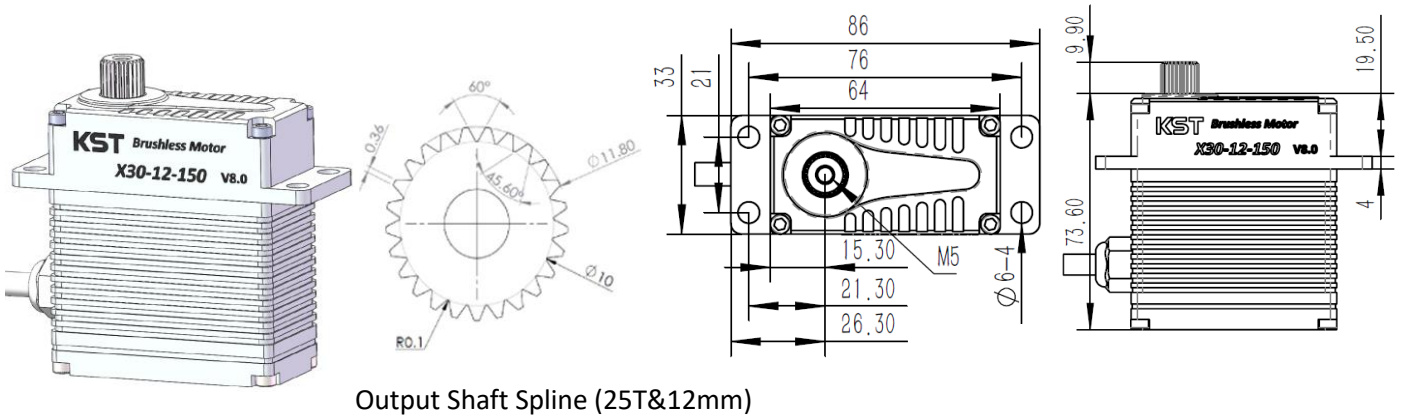


### X30-12-150-\* Technical Specification

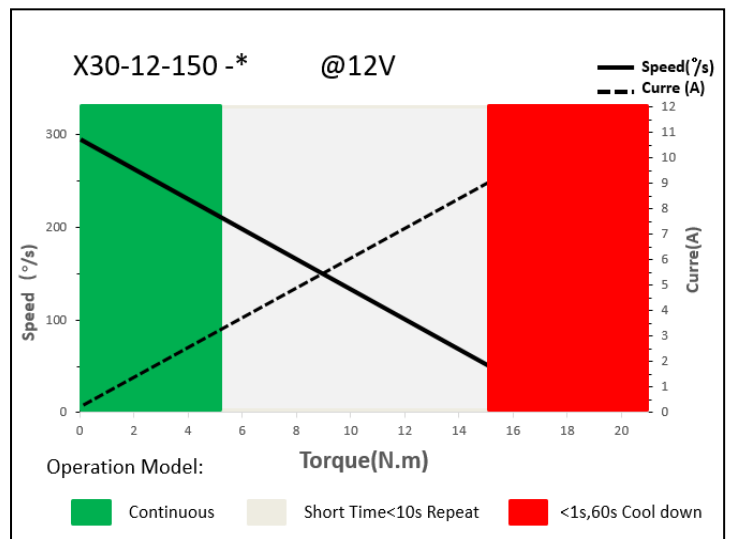


Output Shaft Spline (25T&12mm)

### 1. Servo Data

	X30-12-150-*
Rated Voltage	DC12V
Voltage Range	DC8.4V-12V
Torque	10.5N.m@8.4V
	15.0N.m@12V
Speed	0.25sec/60°@8.4V
	0.17sec/60°@12V
Working Frequency	1520us/333Hz
Default Travel Angle	±50°=100° Total
Temperature Range	-20°C.....+65°C
Case Material	Aluminum Alloy
Motor Type	Brushless DC Motor
Gear Set Material	Hardened Steel
Position Sensor	Potentiometer
Case Dimensions	64mm*33mm*74mm±0.2mm
Weight	360g±10%
Ball Bearing	6 BB

### 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

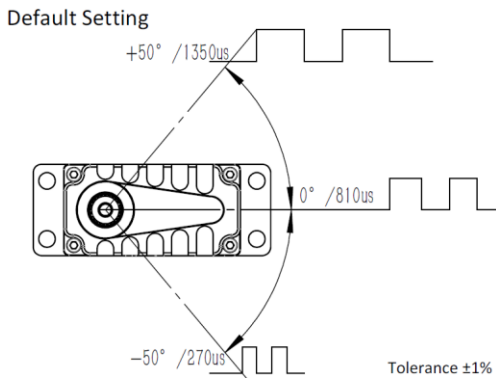
### 3.3 CAN Bus Command Interface

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

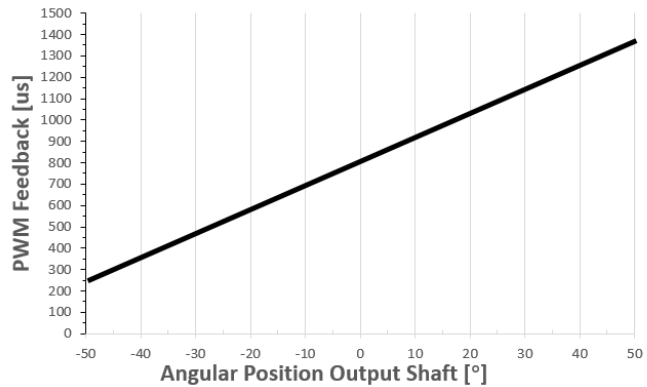
### 3.4. Feedback Signal

#### 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.



Position Feedback



#### 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

Pin No.	Assignment PWM		Assignment RS485 BUS		Assignment CAN BUS	
	1	2	1	2	1	2
1	DC+ SupplyVoltage		DC+ SupplyVoltage		DC+ SupplyVoltage	
2	DC- Supply Ground		DC- Supply Ground		DC- Supply Ground	
3	PWM Signal		RS485A		CAN-H	
4	Signal Ground		RS485B		CAN-L	

\*: 1-PWM. 2- RS485. 3.1- CANBUS Standard Frame. 3.2- CANBUS Extended Frame