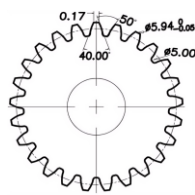
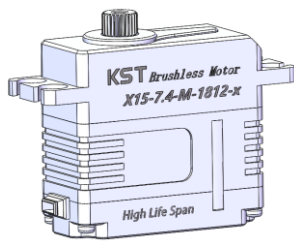
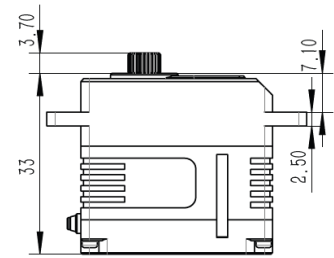
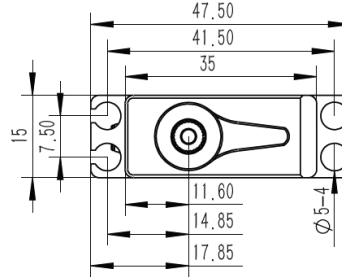


X15-7.4-M-1812-x Technical Specification



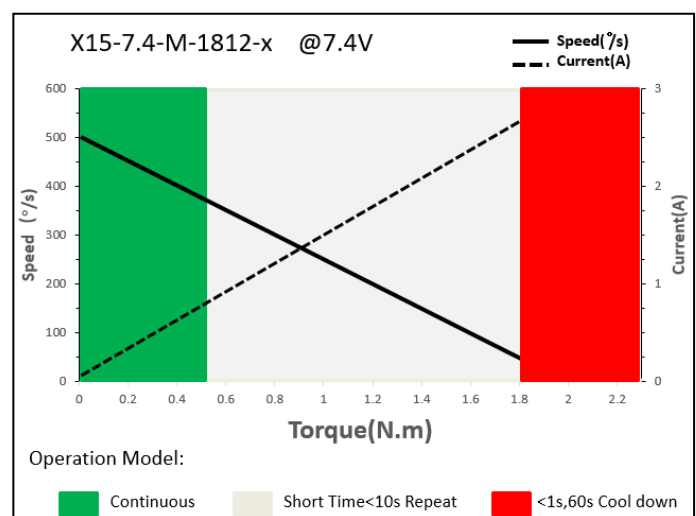
25T6mm Output Shaft Spline



1. Operating Data

| | |
|----------------------|-----------------------|
| Rated Voltage | DC7.4V |
| Voltage Range | DC6.0V-8.4V |
| Stalling Torque | 1.8N.m@7.4V |
| Rated Torque | 0.5N.cm@7.4V |
| Stalling Current | 2.85A@7.4V |
| Rated Current | 0.92A@7.4V |
| No-load Speed | 0.12sec/60°@7.4V@25°C |
| Rated Speed | 0.18sec/60°@7.4V@25°C |
| Working Frequency | 1520us/333Hz |
| Default Travel Angle | ±100° = 200° Total |
| Temperature Range | -20°C+65°C |
| Soft Start | Programmable |
| Programmable | Yes |
| Case Material | Aluminum Alloy |
| Motor Type | Brushless DC Motor |
| Gear Set Material | Hardened Steel |
| Position Sensor | Potentiometer |
| Ball Bearing | 6BB |
| Case Dimensions | 35.5*15*32.5mm±0.2mm |
| Weight | 42g±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 | 500us-2500us |
| Pulse Lengths for Position -100°/ 0°/+100° | 500us/1500us/2500us |

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 |

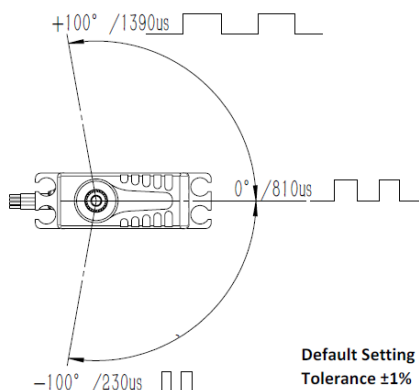
3.3. CAN Bus command interface

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

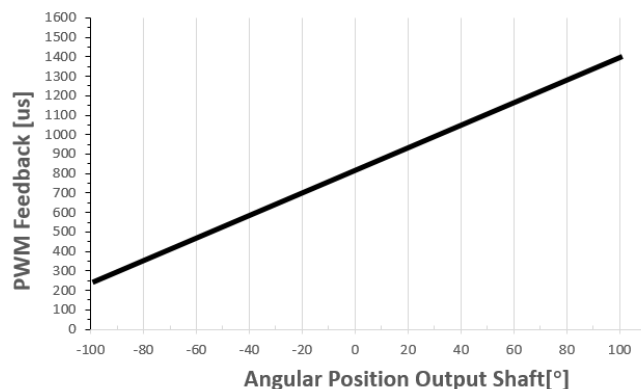
3.4. Feedback signal

3.4.1. Position Feedback signal

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.



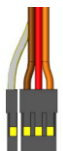
Position Feedback



3.4.2. Feedback Value (Bus 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.

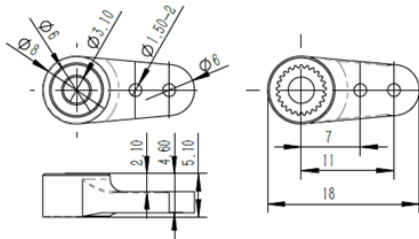
4. Electrical Connection Options

| | | | | | | | |
|--|---|----------------------|----------|------------------------|----------|--------------------------|----------|
|  4 3 2 1 | | Pin Assignment (PWM) | | Pin Assignment (RS485) | | Pin Assignment (CAN_BUS) | |
| | 1 | Yellow | SIG | Yellow | RS485A | Yellow | CAN_H |
| | 2 | Red | DC+ | Red | DC+ | Red | DC+ |
| | 3 | Brown | DC-(GND) | Brown | DC-(GND) | Brown | DC-(GND) |
| | 4 | White(Options) | Feedback | White | RS485B | White | CAN_L |

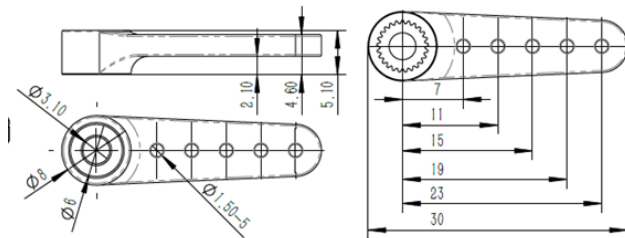
5. Accessories List

| Model | Output Shaft Spline | Item | Item No. |
|------------------|---------------------|-----------------------------------|----------|
| X15-7.4-M-1812-x | 25T 6mm | 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 |

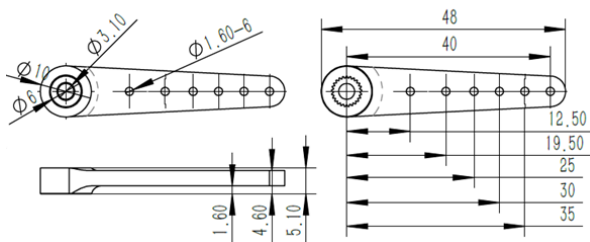
Item No.: 0625.11



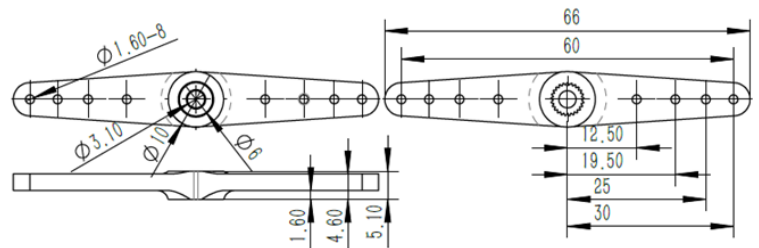
Item No.: 0625.23



Item No.: 0625.40



Item No.: 0625.60



6. Item Number System

