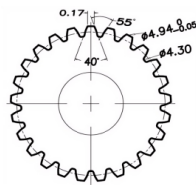
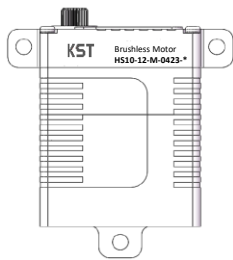
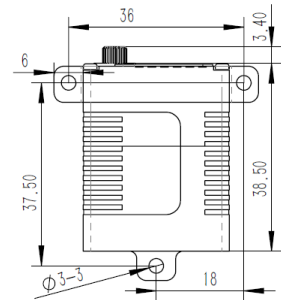
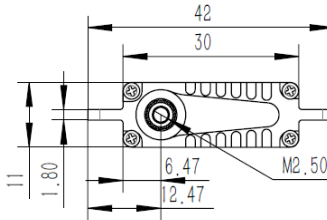


### HS10-12-M-0423-x Technical Specification



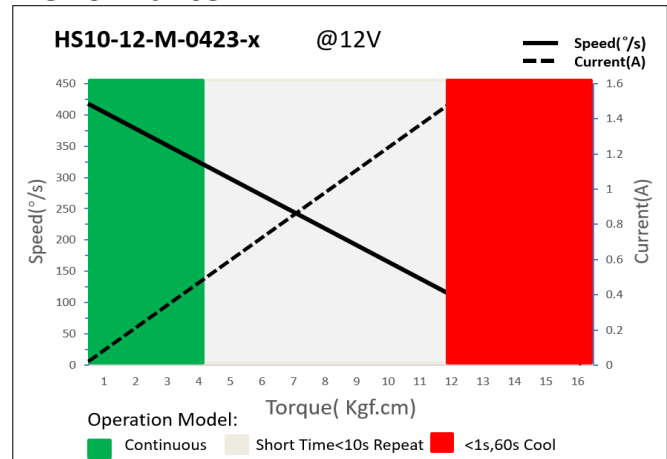
25T 5mm Output Shaft Spline



#### 1. Servo Data

Rated Voltage	DC12V
Voltage Range	DC9.0V-13V
Stalling Torque	12Kgf.cm@12V
Rated Torque	4.0Kgf.cm@12V
Stalling Current	1.45A
Rated Current	0.33A
No-load Speed	420°/S@25°C
Rated Speed	320°/S@25°C
Default Travel Angle	±100°= 200° total travel
Temperature Range	-30.....+65°C
Case Material	Aluminum Alloy 7075
Motor Type	Brushless DC Motor
Gear Set Material	Hardened Steel
Position Sensor	Contactless
Ball Bearing	2BB
Case Dimensions	30mm*11mm*38.5mm(±0.2mm)
Weight	30g(±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	500us/1500us/2500us -100°/0°/+100°

##### 3.2 RS485 / RS422 Command Interface

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

##### 3.2.1 RS485 / RS422 Protocol Specifications

Number of Data Bits	8
Number of Stop Bits	1
Parity	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

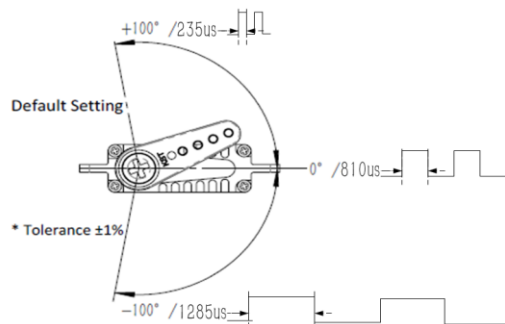


### 3.3. Feedback Signal

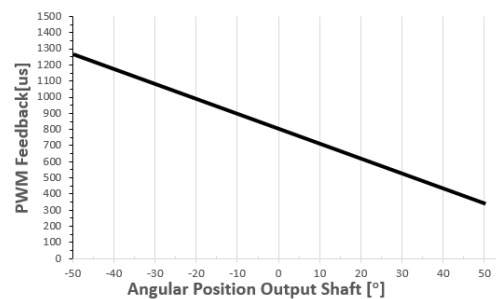
#### 3.3.1 Position Feedback Signal (PWM Versions)

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.

##### 3.3.1.1 HS10-12-M-0423-1 (PWM Version)




Position Feedback



#### 3.3.2 Feedback Value HS10-12-M-0423-2 (RS485 Bus Version)

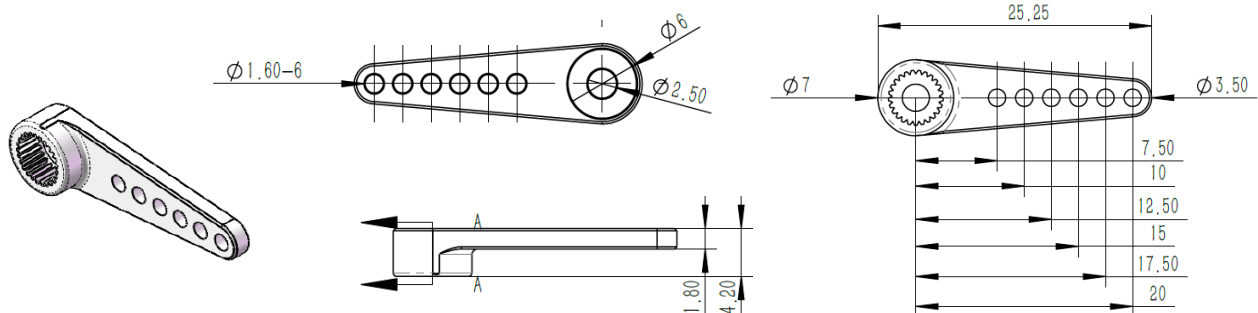
Integrated in the Bus protocol a Feedback Value, including the Angle position value. Value read by sending request command. Provide the details of the bus in the document.

### 4. Electrical Connection Options. (Silver plated, open leads)

 1 2 3 4	Pin Assignment RS485				Pin Assignment PWM			
	1	Red	DC+	Supply Voltage V+	1	Red	DC +	Supply Voltage
	2	Black	DC-	Supply Ground, Signal Ground	2	Black	DC-	Supply Ground Signal Ground
	3	White	RS485B	Inverted Input / Output line	3	White	SIG	Command Signal
	4	Blue	RS485A	Non-Inverted Input / Output line	4	Blue	FB	PWM Feedback Signal(Options)

### 5. Accessories Spec

Item No.: 0525.23



### 6. Item Number System

HS	10	-	**	-	M	-	0423	-	x
Servo Class					Sensor		Servo Type	Command	
11mm Class								1: PWM	
Supply Voltage								2: RS485	
12: DC12 V					M: Contactless		0423		