VAXOR MOTOR

Disruptive Innovation, Driving the Future

VAXOR

16mm Micro Joint Module Specifications

16mm Micro Joint Module

*This product is primarily used in dexterous hands, highly integrated robots, and other fields requiring mechanical motion control actuators.
*Caution:Please refer to the specifications during use and avoid exceeding the parameter range to prevent damage.
We welcome inquiries and discussions regarding product-related questions.

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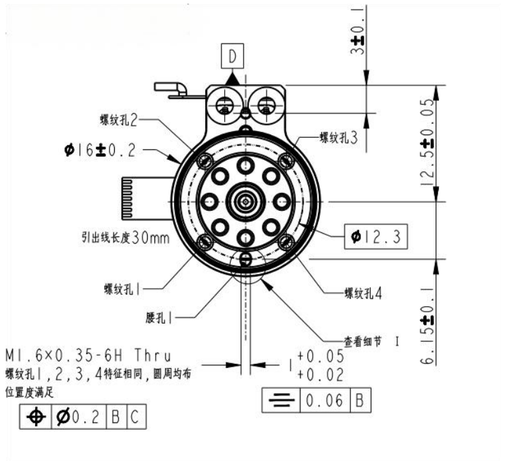
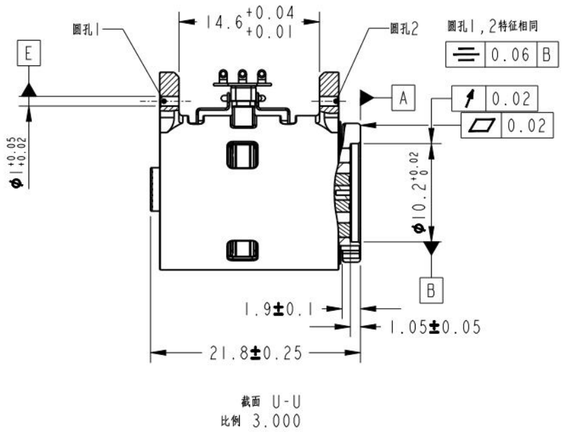
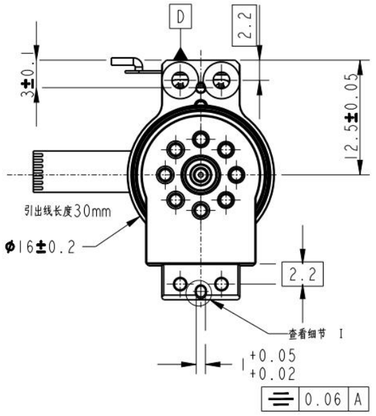
01. Appearance Reference

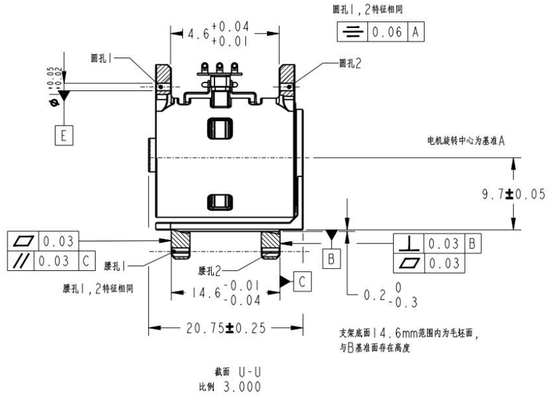
X16S-UM30/40/50-MH-1



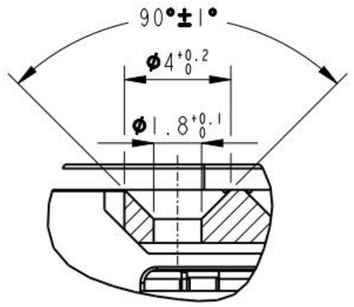


X16L-UM30/40/50-MH-1





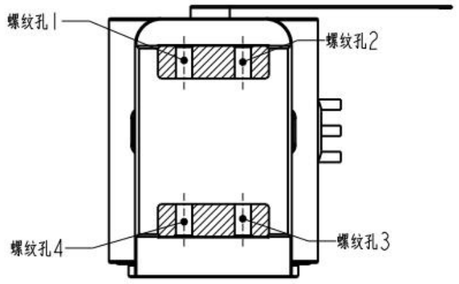
Housing Mounting Holes Detail



细节 III
比例 6.000

沉头孔1，2，3，4特征相同
位置度满足
φ0.2 D E

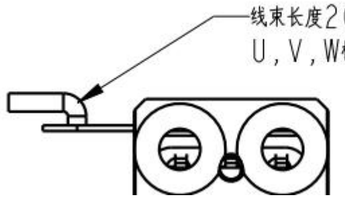
L-shaped Bracket Mounting Holes Detail



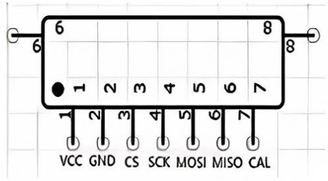
M1.6×0.35-6H Thru
螺纹孔1，2，3，4特征相同
位置度满足
φ0.2 B F

截面 V-V
比例 3.000

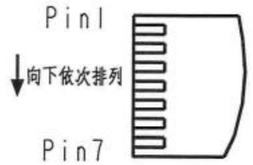
02. Wiring Appearance Reference



接口



尺寸 :FPC 7PIN 间距:0.5mm
VCC: 电源3.3V-5V
GND: 电源地
CS: 片选
SCK:时钟
MOSI:数据
MISO:数据
CAL:校准

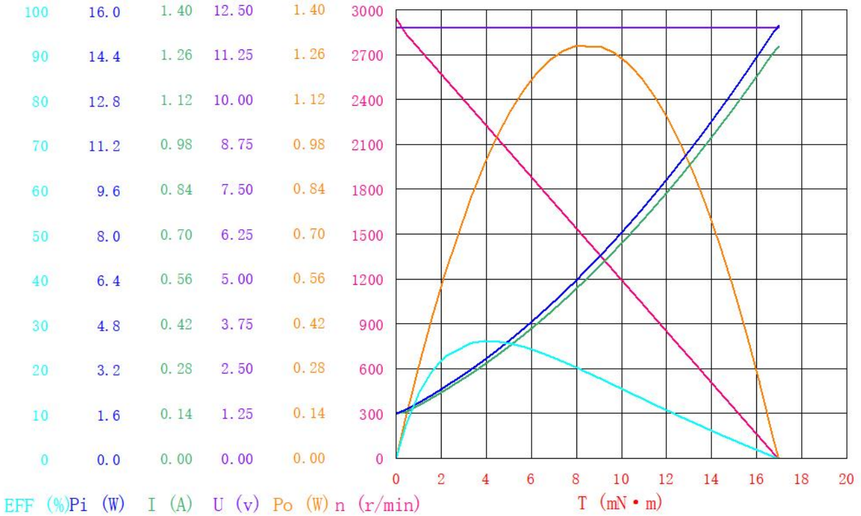


03. Technical Specifications

Motor Data		Unit	X16S-UM30/40/50-MH-1 X16L-UM30/40/50-MH-1		
1	Nominal Voltage	V	12/24		
2	No Load Speed	Rpm	≤3000		
3	Nominal Speed	Rpm	≤2000		
4	*Continuous Stalling Torque	mNm	>7.1		
5	*Initial Torque (cold state)	mNm	>10.3		
6	*Continuous Stalling Current	A	0.65		
7	*Stalling Torque (Max)	mNm	>16.5		
8	*Stalling Current(Max)	A	·1.5		
9	*Terminal Resistance	Ω	6		
10	Unbalanced Three-Phase Resistance	%	≤2		
11	*Terminal Inductance	mH	0.57		
12	Unbalanced Three-phase Inductance	%	≤1		
13	Torque Constant	mNm/A	13		
14	Speed Constant	rpm/V	734		
15	Rotor Inertia	gcm^2	0.84		
Electric Drive Assembly					
16	Gear Ratio	/	30	40	50
17	Gear Efficiency (maximum)	%	72	72	68
18	Gear Efficiency (Stalling Point)	%	62	62	58
19	Continuous Stalling Torque	mNm	130	170	200
20	Initial Torque (cold state)	mNm	250	320	400
21	Counter-Drive Torque	mNm	<100	<130	<150
22	Backlash of Gears	Arcmin	20		
23	Encoder	Absolute Magnetic Encoder			
24	Communication Protocol	SPI			
25	Total Weight	g	24.3(S)/26.1(L)		
26	Total Inertia	gcm^2	1.77		
Thermal Data					
27	Loss Power	w	2.2	3.7	5.7
28	Chassis Temperature	℃	80	115	145

*Indicates a deviation of ±10% between actual and theoretical values

Single Motor Test Data (DC Bus Voltage: 12 V, Duty Cycle: 0.7)



Electric Drive Assembly Test Data (Gear Ratio: 50, DC Bus Voltage: 12 V, Duty Cycle: 0.7)