



Shenzhen Feite Model Co., Ltd.

SHENZHEN FEETECH RC MODEL CO.,LTD. product

specification

PRODUCT SPECIFICATION

Customer (CUSTOMER) ,

model (MODEL) ÿSTS3215

Name (PRODUCT NAME): 7.4V 19KG.CM plastic shell metal tooth magnetic coding dual-axis TTL serial servo

EDITION ÿA/0

Before you place an order for this product, please read this specification and sign and return it in the confirmation box below.

**Sign back before you place an order to purchase this product,
please read this specification and in the following admit column.**

ÿÿÿÿ/ FEETECH APPROVED

write EDIT	review CHECKED	confirm APPROVED
Li Yongchuan	Wu Gengyan	Feng Tanxin

Customer confirmation/CUSTOMER APPROVED


review REVIEW	audit confirmation CHECKED	APPROVED

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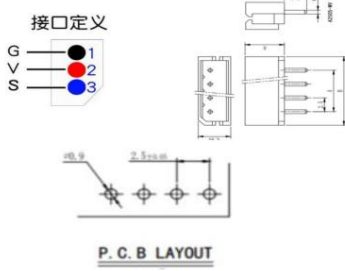
Website: www.feetech.cn

		SHENZHEN FEETECH RC MODEL CO.,LTD.		Version EDITION: A/0	
Model/MODEL: STS3215		Product specification PRODUCT SPECIFICATION		Date/Date: 2020-04-10	
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1. Use environmental conditions Apply Environmental Condition:					
No.	Item (Item)			Specification	
1-1	Storage Temperature Range 1-2 Operating Temperature Range 2. Standard Test Environment:			-30ÿÿ80ÿÿ	
				-20ÿÿ60ÿÿ	
No.	Item			Specification	
2-1	Temperature Range 2-2 Humidity Range			25ÿ ±5ÿ	
				65%±10%	
3. Security features and certification Secure Performance and Certificate					
No.	Project/Item	AuthenticationCertificate	Remarks		
3-1	ASTM F963	No	US toy testing standards EU		
3-2	EN71	No	market toy product norms and standards for electromagnetic		
3-3	FCC	No	interference in electronics and electrical appliances, management and control of radio frequency range, to protect the normal operation of telecommunication networks and		
3-4	EMC	Yes	electrical products. For any substance, it is not given unacceptable electromagnetic interference waves, and in the electromagnetic environment, it is also necessary to have the ability to meet its functions as a machine.		
3-5	ROHS	Yes	device or system. The content of harmful substances in electronic and		
3-6	REACH	NO	electrical equipment. EU regulation "Registration, Evaluation, Authorization and Restriction of Chemicals"		
4. Appearance Inspection:					
No.	Item			Specification	
4-1	Appearance size OutlineDrawing			See the appendix for dimensions (item 12) See the appendix	
4-2	Appearance Appearance			No damage, not allowed to affect function No damage and mustn't affect functions.	
5. Electrical Specification					
No.	Item	Specification (Specification)	Specification (Specification)	Remark	Remark
5-1	Typical operating voltage Operating Voltage	6V	7.4V		
5-2	No Load Speed	0.238sec/60° (42RPM)	0.192sec/60° (52RPM)		
5-3	Running Current (no load)	130mA	150mA		
5-4	Stall Torque (at locked)	16.5kg.cm	19.5kg.cm		
		229.54oz.in	271.28oz.in		
5-5	Stall current Stall Current (at locked)	2a	2.5A		
5-6	Idle Current (at stopped)	6mA	6mA		
5-7	Working Voltage Input Voltage	4V-7.4V			
5-8	Rated Torque	4kg.cm	5kg.cm		
5-9	Rated Current	500mA	650mA		
5-10	Motor internal resistance Terminal resistance	2.5ÿ			
5-11	Kt constant	8kg.cm/A			

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6 Mechanical Specification:

No.	Item	Specification	Remarks
6-1	Appearance Size 6-2	45.2X24.7X35	See drawings See drawings
	Limit Angle No limit 6-3 Case material 6-4 Gear material		
	Copper Copper 6-5 Bearing type Ball bearings	PA+GF	
6-6	Angle Sensor Angle Sansor	TypeType 12Bits Magnetic Coding Angle Angle 360° Lifespan Life No limit	
6-7	Connectors and Cables Connector and Cable	TypeType 5264-3P Material material PP line length Length 15CM pin definition Pin Definition 1 GND 2 Vcc 3 Signal/TT L	 <p>接口定义 G 1 V 2 S 3 P. C. B LAYOUT</p>
6-8	The Weight 6-9 Output shaft Horn Type 6-10 Gear Ratio	55±1g 25T/OD5.9mm	
6-11	Back Lash Rocker arm dummy	1/345 ÿ0.5°	
6-12	The rocker phantom	0°	
6-13	output shaft screw The rocker screw	M3X6	
6-14	Motor Motor	Core Motor	

7-1 Control Specification: Item

No.	Item	Specification	Remarks
7-1	Command Signal	Digital Packet	
7-2	Protocol Type Protocol Type	Half Duplex Asynchronous Serial Communication	8bit, 1stop, No Parity
7-3	ID range ID range	0-253	Customizable
7-4	Communication Baud Rate	38400bps ~ 1 Mbps	Customizable (factory default 1Mbps)
7-5	Control Algorithm	PID	Customizable (support modification)
7-6	Median Neutral Position	180°ÿ2048ÿ	
7-7	Rotation angle Running degree	360°(when 0ÿ4096)	
7-8	Electronic resolution Resolution [deg/pulse]	0.088°(360°/4096)	
7-9	Rotating Direction	Clockwise(0ÿ4096ÿ)	Customizable
7-10	Feedback Feedback	Load (load), Position (position), Speed (working speed), Input Voltage (input voltage), Current (operating current), Temperature (operating temperature)	

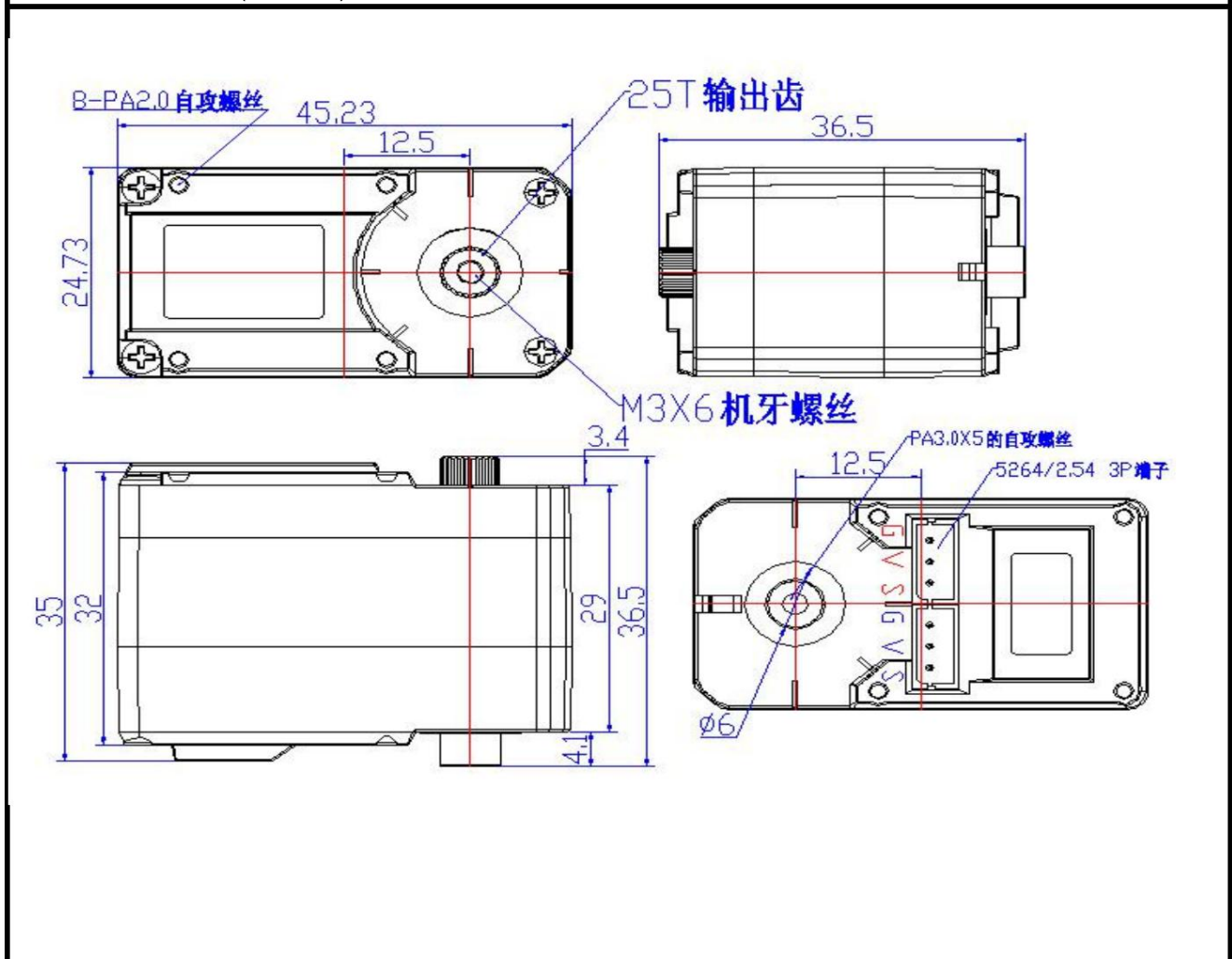
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7-2. Control Specification:					
No.	Item	Specification	Remarks (remarks) It enters the		
7-11	Electronic Protection	Overload Over Load	protection after being blocked at more than 80% of the locked rotor and lasts for 2s. Re-issue the position command and the overload protection flag will be cleared. The percentage and duration of the locked rotor can be customized		
		Over Current	and sat. The running current is greater than 2A and lasts for 2s After that, turn off the output and enter the over-current protection, re-send the position command, the over-current protection flag will be cleared, the current value and duration can be customized		
		Over Voltage	to be greater than 7.4V or less than 4V to enter the protection, and the protection will be automatically released after the voltage returns to the normal range , the voltage value range can be customized		
		Overheating Over Hot	Turn off the torque output when the temperature is higher than 70°C		
7-12	Operating Modes	Mode 0: Angle Servo Mode	Default this mode, 0-360 degree absolute position controllable		
		Mode 1: Speed closed-loop motor mode	In motor mode, as the load increases, the speed is intelligently maintained without deceleration.		
		Mode 2: Speed open loop motor mode	Motor mode, as the load increases, the speed will continue to slow down		
		Mode 3: Step mode	Step movement relative to the current position		
7-13	Multi-Loop Mode	Under the highest precision, it can control the absolute position of plus	Expand the resolution and double the number of turns		
7-14	Centering function Step Middle Position	or minus 7 turns, but the number of turns will not be saved when the power is off.	Enter 128 for address 40		

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8 Reliability Testing Reliability Testing

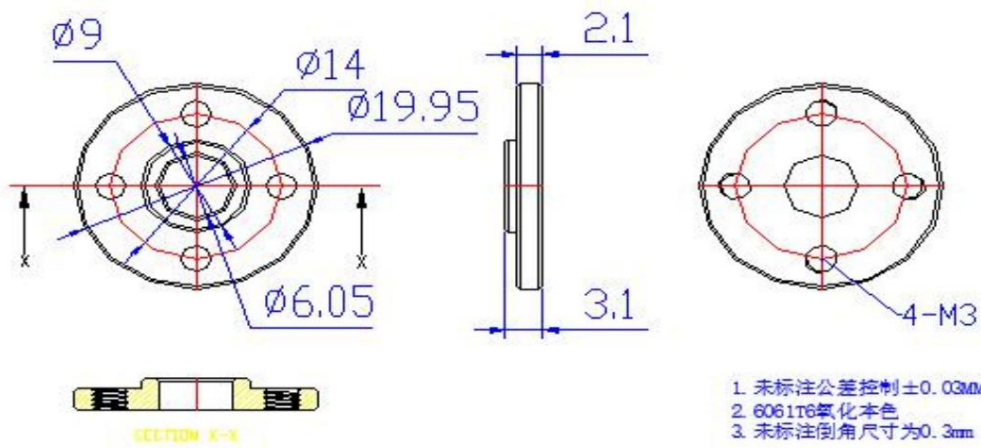
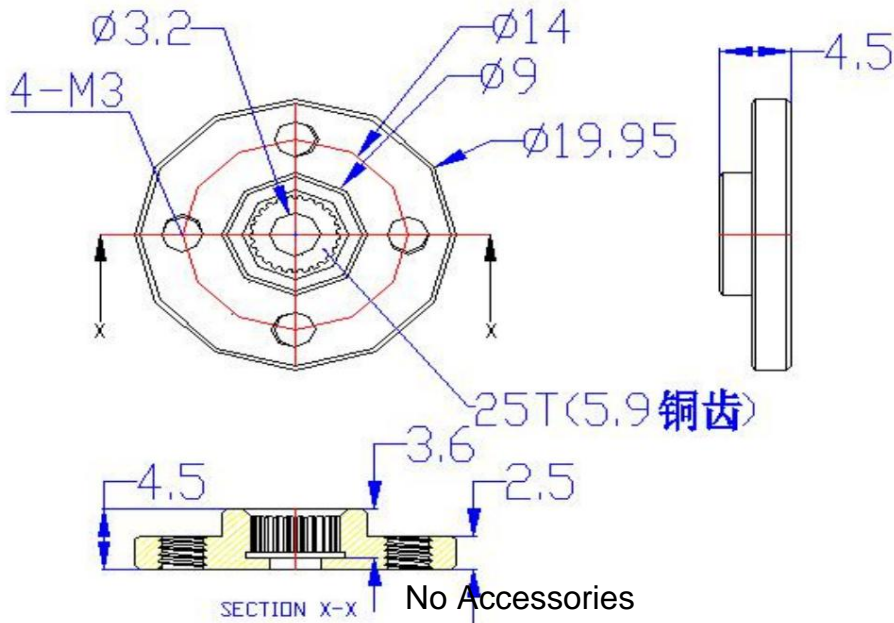
No.	Item	Specification (Specification)	Remarks
8-1	Load life test Life test	>100000 times	Forward rotation 60 degrees 0.25S, stop 0.5S, reverse 60 degrees 0.25S, stop 0.5S for one time, continuous cycle work, load 1/5 stall torque.
8-2	The motor noises 45±5dB		Ambient noise 40-45 dB Tested at a distance of 30cm from the noise meter
8-3	Steering gear noises	60±5dB	Ambient noise 40-45 dB Tested at a distance of 30cm from the noise meter
8-4	Waterproof performance Waterproof performance	No	

9 Outside Dimension (Unit: mm)



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10 AccessoriesAccessories



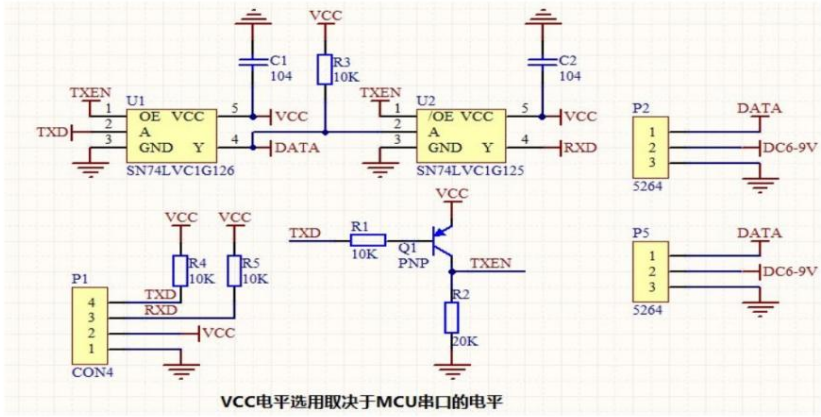
1. 未标注公差控制 $\pm 0.03\text{MM}$
2. 6061T6氧化本色
3. 未标注倒角尺寸为 0.3mm

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11 Interface definition Interface Definition Control

signal parameter (Control signal parameter)

Maximum position update rate Max Position Update	1 ms	
Rate Signal high level voltage Signal high	2V-5V	
Voltage Signal low level voltage Signal Low Voltage	0.0V-0.45V	



12 The Packaging Detail/Product List

