

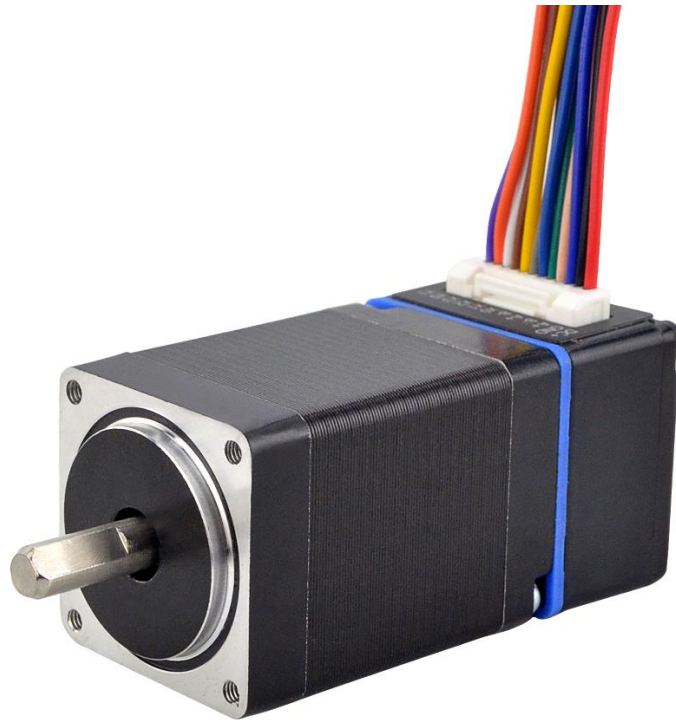
User's Manual

For

ESS11-01PR

Integrated Stepper Motor

©2020 All Rights Reserved Attention: Please read this manual carefully before using the Motor!



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ESS11-01PR

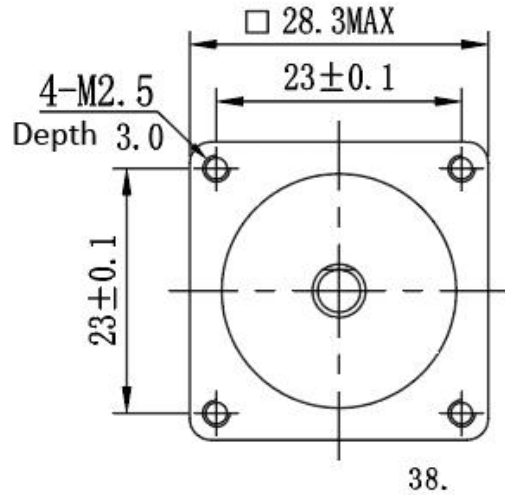
Integrated Stepper Motor

Features

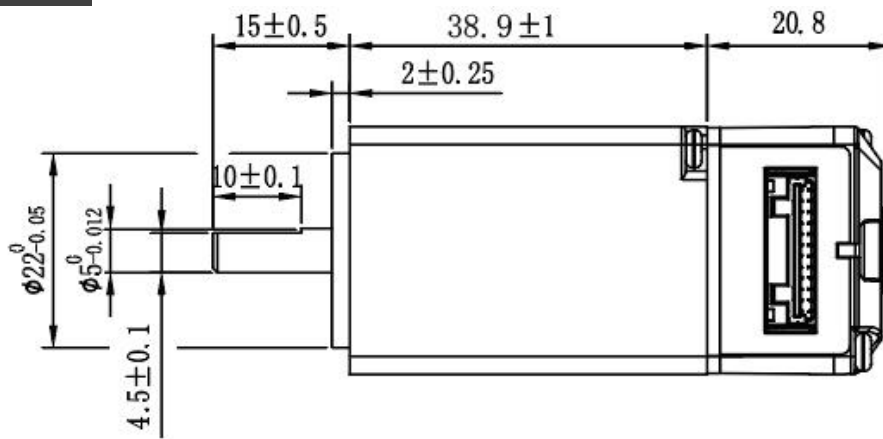
- Using a new 32-bit motor control, dedicated DSP chip
- Support standard MODBUS-RTU protocol
- Four input and two output function terminals
- Small torque attenuation, speed up to 3000 RPM
- Built-in alarm output, for monitoring and controlling
- Intelligently adjust current, reduce vibration, noise and this can increase efficiency by 35%
- Voltage range: DC24V
- 16 selectable microstep solutions, Default microstep resolution: 1000
- Excellent high speed performance and rigidity, combined with advantages of servo motor and stepper motor
- Over-voltage, under-voltage and over-current protection
- Drive and motor integrated, simple wiring

Installation size (unit: mm)

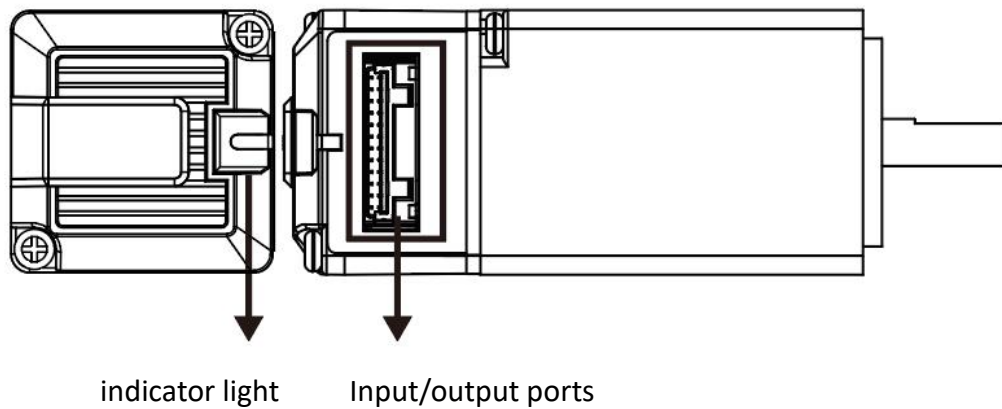
Front view



Side view



Position of indicator light and ports



Indicator light description

Color	Symbol	Specification
RED	RUN / ALM	When the power is on, the indicator is always on;
		In case of over-current, the indicator light flashes once and circulates; In case of over-voltage, the indicator light flashes twice and circulates; In case of under-voltage, the indicator light flashes three times and circulates; In case of out of tolerance, the indicator light flashes five times and circulates;

Input/output ports

Function	Specification	Remark
DC+	Supply voltage	DC: 24V
GND	Ground	
A+	RS485 Communication interface1	2 sets of RS485 communication interface, used for before and after cascade, default baud rate 115200, data format: 8-bit data, no check bit, 1 stop bit.
B-		
A+	RS485 Communication interface2	
B-		
X0	Input port	Input signal power 5V, non-isolated interface, the controller and DC power supply should be Shared ground. 5V
X1		
X2		
X3		
Y0	Output port	Output signal power 5V, non-isolated interface, the controller and DC power supply should be Shared ground. 5V
Y1		

Electrical Specifications

Parameters	ESS11-01PR			
	MIN	TYP	MAX	UNIT
Output Current	0	-	1.2	A
Input Voltage	-	24	-	Vdc
Logic Signal Current	7	10	16	mA
Logic Signal Voltage	-	5	24	V
Pulse Input Frequency	0	-	200	kHz
Isolation Resistance	100	-	-	MΩ

Others Specifications

Parameters	UNIT	ESS11-01PR
NO. of Phase	--	2
Step Angle	°	1.8
Motor length	mm	38.9
Holding Torque	N.m	0.074
Rated Current	A	1.0
Resistance/Phase	Ω	2.9
Inductance/Phase	mH	2.7
Rotor Inertia	g.cm ²	10
Insulation Class	--	B
Operating Temperature	°c	0 ~ 55
Weight	Kg	0.18

Fault diagnosis

Fault code	Fault Information	RUN / ALM Output	Reset
Err1:0x01	Over-current / short circuit		Power down reset
Err2:0x02	Over-voltage		Lock machine /auto recoery
Err3:0x03	Under-voltage		Lock machine /auto recoery
Err5:0x05	position following error		Power down reset

Operating Environment

Cooling	Fin cooling	
Working Environment	Workplace	Stay away from other heating sources, Avoid dust, oil fog , corrosive and combustibile gases and Strong vibration site
	Temperature	0°c ~ 50°c
	Humidity	40-90%RH(no condensation, no frosting)
	Vibration	10 ~ 55Hz/0.15mm
Storage Temperature	-20°c ~ +80°c	
<p> Warning:</p> <p>Motor installation, do not knock motor back cover, so as to avoid damage encoder.</p>		

Control signal connection

