cpc Rotary Positioner RP-120 series

Features

- Less rotor Inertia
- Highest torque density
- Highest motor constant
- Low profile
- Direct drive
- High heat dissipation
- Large hollow diameter
- Cylindrical or flange type

Ordering Information

RP	120	37	F	O	A	S	S	S	D	R	01

- 01: N/A : N Cable length: 01,02,03,04,05,06, 07,08,09(m)
- R: Cable exit direction: R : Radial A : Axial
- D: Cable interface: D: Direct C: Joint
- S: Winding type: S: High speed type F: Low current type
- S: Brake: S: Standard B: With brake
- S: Cooling: S: Standard WC: Water cooling
- A: Encoder specifications: A: Analog B: 720000 C: 1440000 D: 3600000 E: 7200000 F: 200000 G: 417792 H: 835584 I: 1671168
- O: Encoder type: O: Optical M: Magnetic
- F: Frame type: F: Flange type
- 37: Height (mm) 37,42,45,50,53,58,61,66,77,82
- 120: Outer diameter (mm) 120
- RP: Rotary Positioner

For more details please contact cpc.

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RP-120 series

	Unit	RP-120-37	RP-120-45	RP-120-53	RP-120-61	RP-120-77	RP-120-42	RP-120-50	RP-120-58	RP-120-66	RP-120-82
Encoder type		Optical					Magnetic				
External	mm	120									
Height	mm	37	45	53	61	77	42	50	58	66	82
Max. Torque	N-m	2.9	5.9	8.8	11.6	17.5	2.9	5.9	8.8	11.6	17.5
Rated torque	N-m	2	3.9	5.9	7.7	11.6	1.3*	2.6*	3.9*	5.1*	7.7*
Radial run out (No load)	μm	<20									
Axial run out (No load)	μm	<20									

* The operating temperature of the sensor: 60℃ Max.

Encoder specifications

	Cycle / rev. (sin/cos, 1 Vpp)	Counts / rev. (5 V, RS422)	Resolution (arc.sec)	Repeatability (arc.sec)
Incremental optical	3600	720,000	1.8	±2.5
		1,440,000	0.9	±1.5
		3,600,000	0.36	±1
		7,200,000	0.18	±1
Incremental magnetic	102	200,000	6.48	±8
		417,792	3.102	±5
		835,584	1.551	±3
		1,671,168	0.776	±2

* For digital A/B output, cpc can provide the external interpolator.

Speed table

Type	Winding type	Resolution (arc.sec)	Max. speed (rpm)
RP-120-42 RP-120-50 RP-120-58	S	6.48	1100
		3.102	1100
		1.551	1100
		0.776	700
RP-120-66	S	6.48	900
		3.102	900
		1.551	900
		0.776	700
RP-120-82	S	6.48	600
		3.102	600
		1.551	600
		0.776	600

* Max speed depends on limit of motor type, encoder and bearing.

Speed table

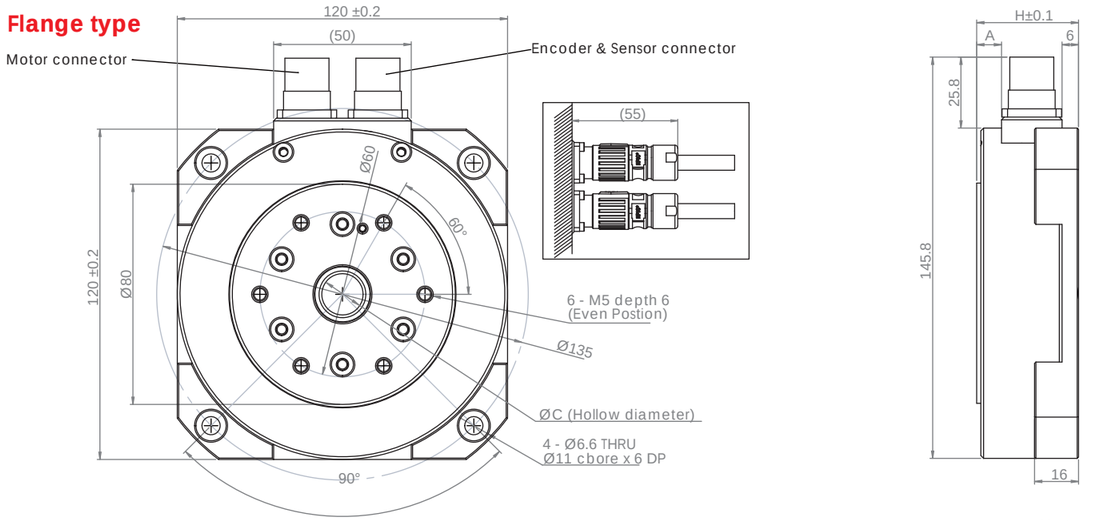
Type	Winding type	Resolution (arc.sec)	Max. speed (rpm)
RP-120-37 RP-120-45 RP-120-53 RP-120-61 RP-120-77	S (F)	1.8	600
		0.9	300
		0.36	120
		0.18	60

Type	Winding type	Resolution (arc.sec)	Max. speed (rpm)
RP-120-42	F	6.48	1100
		3.102	1100
		1.551	1100
		0.776	700
RP-120-50	F	6.48	600
		3.102	600
		1.551	600
		0.776	600
RP-120-58	F	6.48	400
		3.102	400
		1.551	400
		0.776	400
RP-120-66	F	6.48	300
		3.102	300
		1.551	300
		0.776	300
RP-120-82	F	6.48	200
		3.102	200
		1.551	200
		0.776	200

Rotary Positioner RP-120 series

Dimension of joint connector

Flange type

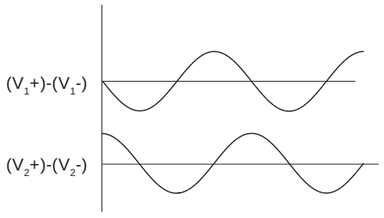


Unit: mm

Magnetic encoder					
Type	42	50	58	66	82
H	42	50	58	66	82
A	14	22	30	38	54
C	25	25	25	25	25

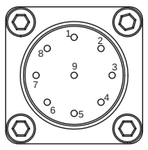
Optical encoder					
Type	37	45	53	61	77
H	37	45	53	61	77
A	9	17	25	33	49
C	15	15	15	15	15

Encoder output signals

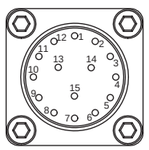


Incremental 2 channels V_1 and V_2 differential sinusoids in quadrature, centred ~ 1.65 V (90° phase shifted)

Wiring information



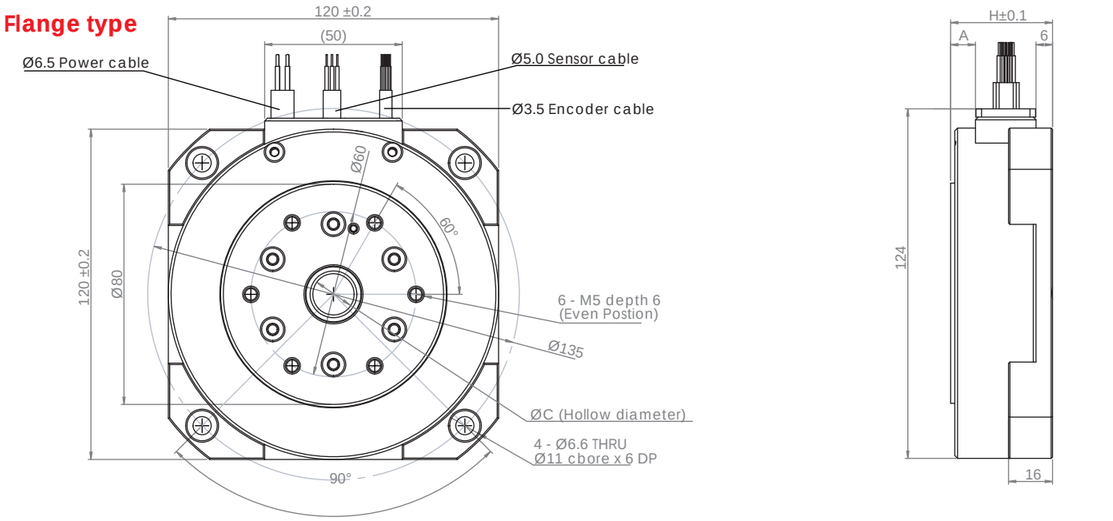
Power wiring diagram	
Function	Pin
U	8
V	1
W	2
GND	5



Encoder wiring diagram (Analog)		
Function	Signal	Pin
Power	5V	5
	0V	1
Incremental signal	V_1^+	8
	V_1^-	4
	V_2^+	7
	V_2^-	3
Reference mark	Z^+	6
	Z^-	2
	Shield	9
Temperature Switch	PTC Temp.	14
		15

Dimension of direct cable

Flange type



Unit: mm

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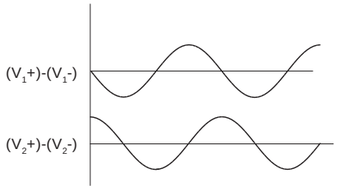
Type	42	50	58	66	82
H	42	50	58	66	82
A	14	22	30	38	54
C	25	25	25	25	25

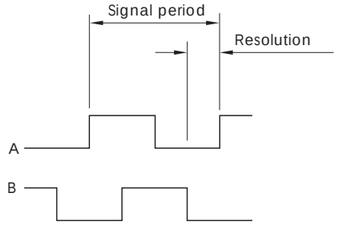
Optical encoder					
Type	37	45	53	61	77
H	37	45	53	61	77
A	9	17	25	33	49
C	15	15	15	15	15

Encoder output signals

Incremental 2 channels V_1 and V_2 differential sinusoids in quadrature, centred ~ 1.65 V (90° phase shifted)



Incremental 2 channels A and B in quadrature (90° phase shifted)



Wiring information

Power wiring diagram	
Function	Color
U	White
V	Yellow
W	Brown
GND	Green

Encoder wiring diagram		
Function	Signal	Color
Power	5V	Red
	0V	Blue
Incremental signal	A^+	Brown
	A^-	Green
	B^+	Grey
	B^-	Yellow
Reference mark	Z^+	Pink
	Z^-	White
	Shield	
Temperature Switch	PTC Temp.	Brown
		Blue