

Low-Cost DC Servo Motor - RX Series

Overview

Description

The RX DC motors, combined with RTS drives, provide an economical solution for any servo applications. They are particularly suitable for low power systems in clean atmospheres.

Advantages

- Excellent price/performance ratio
- Very low torque modulation
- High quality construction
- Very long service life
- 2nd shaft end for tacho and encoder mounting
- Tacho and brake as option

Applications

- Factory Automation
- Life Science Diagnostic

Features

- **Shaft**
 - RX1 and RX3: Smooth full shaft
 - RX5 and RX6: Full keyed shaft
- **2nd Shaft end**
 - RX1 and RX3: possibility to mount standard tacho or encoder
 - RX5 and RX6: possibility to mount standard tacho, adaptation for encoder mounting in option
- **Output cables 1 m without connector**
- **Options**
 - Brake
 - Tachometer
 - Adaptation 2nd shaft end for encoder mounting (RX5 and RX6)



Technical Characteristics - Overview

Motor type	CC Motors with rare ferrite magnets
Protection degree	RX1 and RX3: IP40 RX5 and RX6: IP54
Insulation	Class F

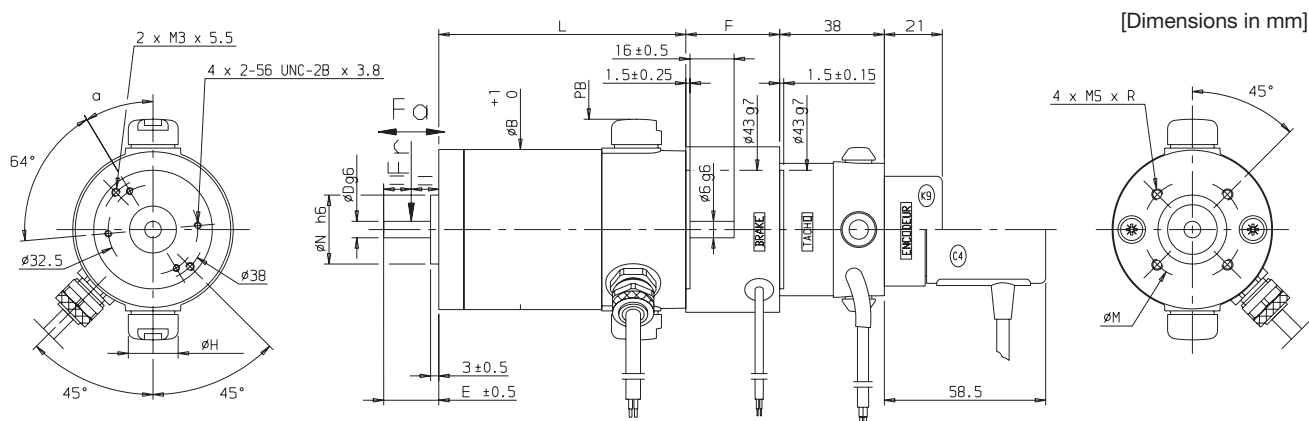
Technical Data

Torque at low speed M_0 [Nm]	Permanent current at low speed I_0 [A]	Rated Voltage U [V]	Rated Speed N [min ⁻¹]	Rotor Inertia [kgmm ²]	Product Code			Typical combination
0.285 0.4	2.8 3.6	44.5 46	3000 3000	50 68	RX120LR1 RX130HR1	■ ■	00 00	RTS 3/10-40 M RTS 10/20-60 ⁽¹⁾
1.08 1.54	7.8 9.4	54 59	3000 2900	500 720	RX320ER1 RX330CR1	■ ■	00 00	RTS 10/20-60 ⁽¹⁾ RTS 10/20-60 ⁽¹⁾
2.7 3.7	7.7 10.3	119 116	2800 2700	1280 1740	RX520KR1 RX530FR1	■ ■	00 00	RTS 12/24-130 T RTS 12/24-130 T
5 7.8	10.5 16	134 134	2400 2400	3500 5000	RX620JR1 RX630ER1	■ ■	00 00	RTS 12/24-130 T RTS 20/40-130 T

⁽¹⁾ M = single phase or T = three phase

Dimensions

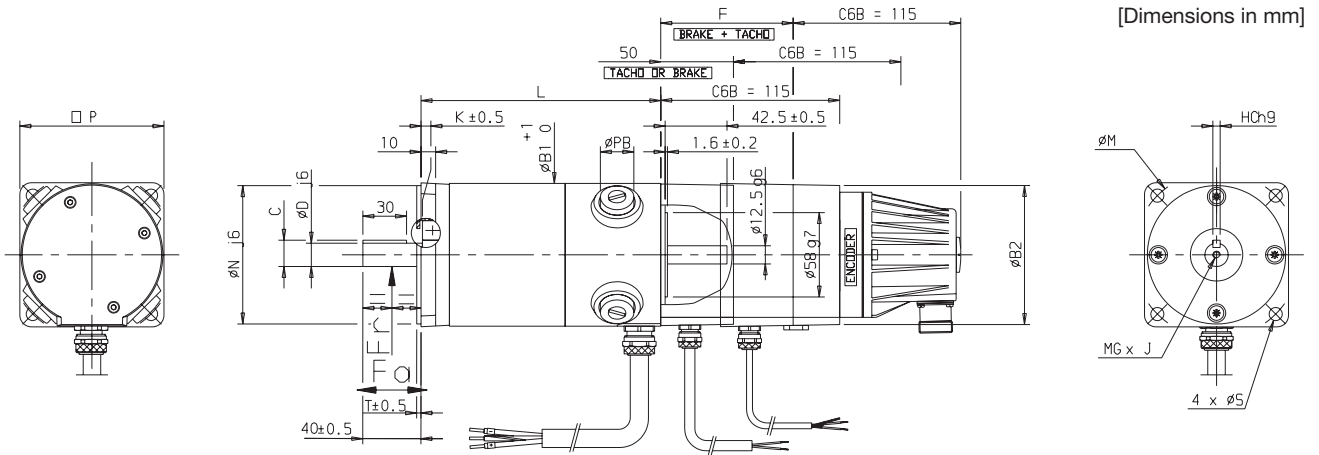
RX1 and RX3



RX1 and RX3 with brake, tacho and encoder dimensions

Motor	H	a	N	D	E	B	PB	L	F	MSxR	M	Weight [kg]	Fr ⁽¹⁾ [daN]	Fa ⁽¹⁾ [daN]
RX120	18.5	31°	25	6	20	58	80	122.5	34	M4x6	36	1.35	18	16
RX130	18.5	31°	25	6	20	58	80	147.5	34	M4x6	36	1.6	20	16
RX320	23	26°	50	11	32	84	100	178.5	40	M5x10	65	4	45	23
RX330	23	26°	50	11	32	84	100	218.5	40	M5x10	65	5.2	50	23

RX5 and RX6



RX5 and RX6 with brake, tacho and encoder dimensions

Motor	P	N	C	D	T	K	B1	PB	L	F	B2	S	M	MGxJ	HC	Weight [kg]	Fr ⁽¹⁾ [daN]	Fa ⁽¹⁾ [daN]
RX520	100	95	18	16	3	1	98	25	216	91	96	9	115	M5x15	5	6.6	80	30
RX530	100	95	18	16	3	1	98	25	266	91	96	9	115	M5x15	5	8.7	85	30
RX620	120	110	21.5	19	3.5	0.5	116	30	272	93	117	10	130	M6x18	6	13	95	40
RX630	120	110	21.5	19	3.5	0.5	116	30	358	93	117	10	130	M6x18	6	18.5	100	40

⁽¹⁾ Fr and Fa not cumulative

Options

Tachometers and brakes

Motors	Tachometer		Brakes [Voltage 24 VDC +/- 10 %]			
	Model	EMF [V/1000 min ⁻¹]	Holding torque [Nm]		Inertia [kgmm ²]	Weight [kg]
			20 °C	100 °C		
RX1	TBN 206	6	1	0.9	10	0.4
RX3	TBN 206	6	1.5	1.4	10	0.18
RX5	TBN 306	6	6	5.5	53	0.45
RX6	TBN 306	6	12	11.5	157	0.9

Encoders

Model	Associated Motors	Pulse per rev	Encoder Reference	Mounting kit Reference	Connector Reference
C 2	RX1 / RX3	500	220215P0001	220071R0025	-
	RX1 / RX3	1000	220215P0004	220071R0025	-
C 6	RX5 / RX6	500	220024P0001	220071R0002	220065R4621
	RX5 / RX6	1000	220024P0003	220071R0002	220065R4621
	RX5 / RX6	2000	220024P0006	220071R0002	220065R4621
	RX5 / RX6	5000	220024P0005	220071R0002	220065R4621
C 6 B	RX5 / RX6	500	220031R0001	220071R0004	220065R4621
	RX5 / RX6	1000	220031R0003	220071R0004	220065R4621
	RX5 / RX6	2000	220031R0008	220071R0004	220065R4621
	RX5 / RX6	2500	220031R0004	220071R0004	220065R4621
	RX5 / RX6	5000	220031R0005	220071R0004	-

Order Code

RX Series

	1	2	3	4	5	6	7
Order example	RX	120	E	R	1	0	11

1	Motor type	
	RX	Motor with ferrite magnets
2	Motor size and length	
	120	
	130	see table "Technical data"
	320	
	...	
3	Winding	
	L	Depend of motor size, speed and voltage/current, see table "Technical data"
	H	
	M	
	...	
4	Fix code	
	R	
5	Mechanical features	
	1	Output cables (standard)
	2	Terminal box
	3	Motor with resolver
	5	Special motor
6	Options	
	0	No accessories (standard)
	1	Tacho
	2	Brake (RX3, RX5, RX6)
	3	Tacho + brake (RX3, RX5, RX6)
	4	Encoder adaptation ⁽¹⁾ (size 5 and 6 only)
	5	Tacho + Encoder adaptation (size 5 and 6 only)
	6	Brake + Encoder adaptation (size 5 and 6 only)
	7	Tacho + Brake + Encoder adaptation (size 5 and 6 only)
7	Customer specification	
	00	Standard catalogue definition - smooth shaft (size 1 -> 4) - shaft with key way (size 5-6)

⁽¹⁾ Encoder adaptation is standard for RX1 and RX3.