

SP Series

Wrap Spring Clutch/Brake Package

The SP Series features three models of pre-assembled, solenoid actuated, wrap spring clutch packages. SP units are specifically for computer peripheral and business machine applications where rapid cycling is required. A single AC or DC pulse will accurately start loads at speeds up to 1200 RPM, depending on size. Adjustable stop collars provide easy and accurate output stop positioning.

- Brings loads up to speed in 3 milliseconds
- AC or DC operated
- Permanently lubricated
- Available in hub input or shaft input
- High cycle rate capability
- High torque to size ratio
- RoHS compliant



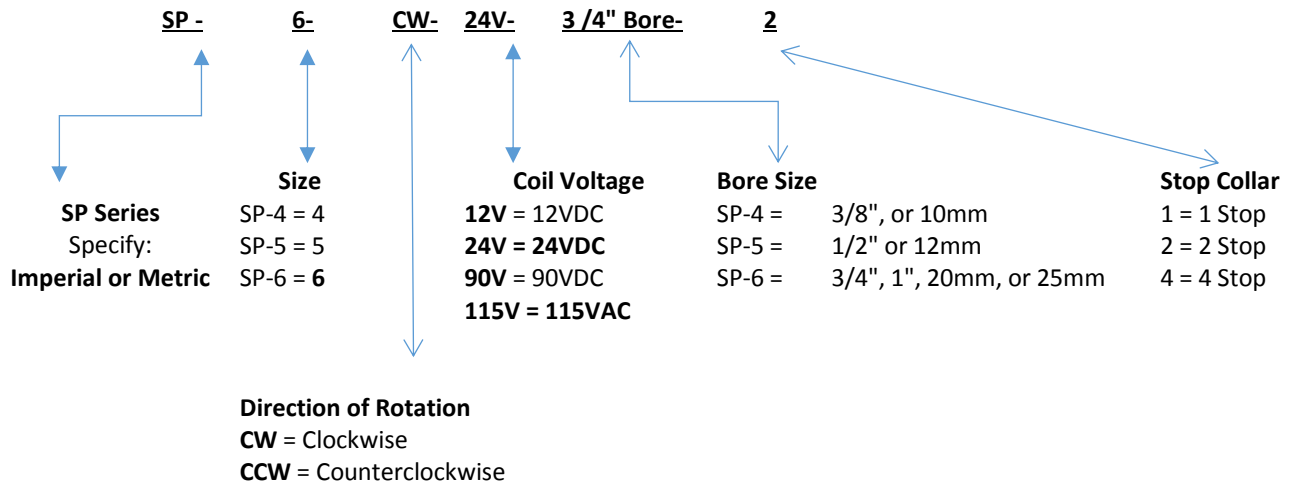
Features:

- Available in 3 sizes, (4, 5, and 6)
- Cost-effective design
- Adjustable control collars for easy and accurate output stop position

Typical Applications:

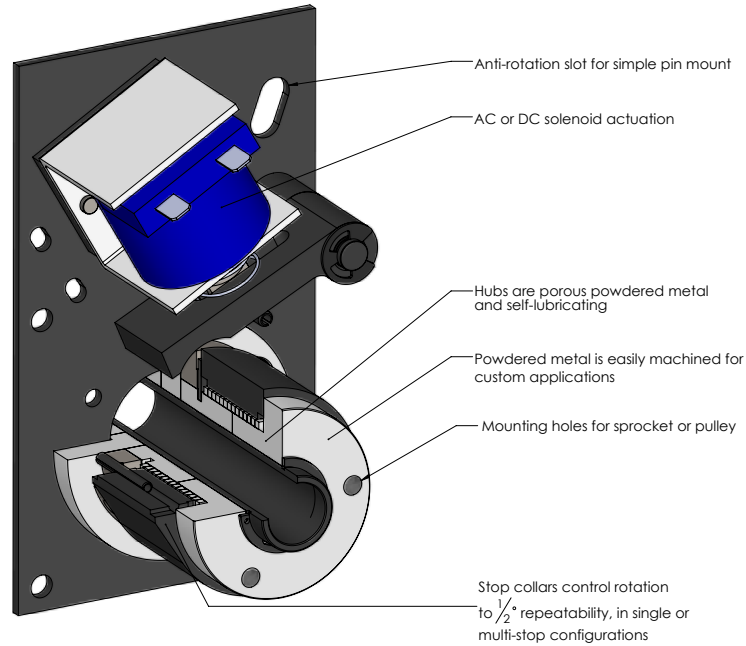
- Computer peripherals
- Business machines
- Paper drives
- Card readers and sorters
- Ribbon drives
- Copying machines

How to order:



SP Series

Solenoid Operated Clutch/Brake Package

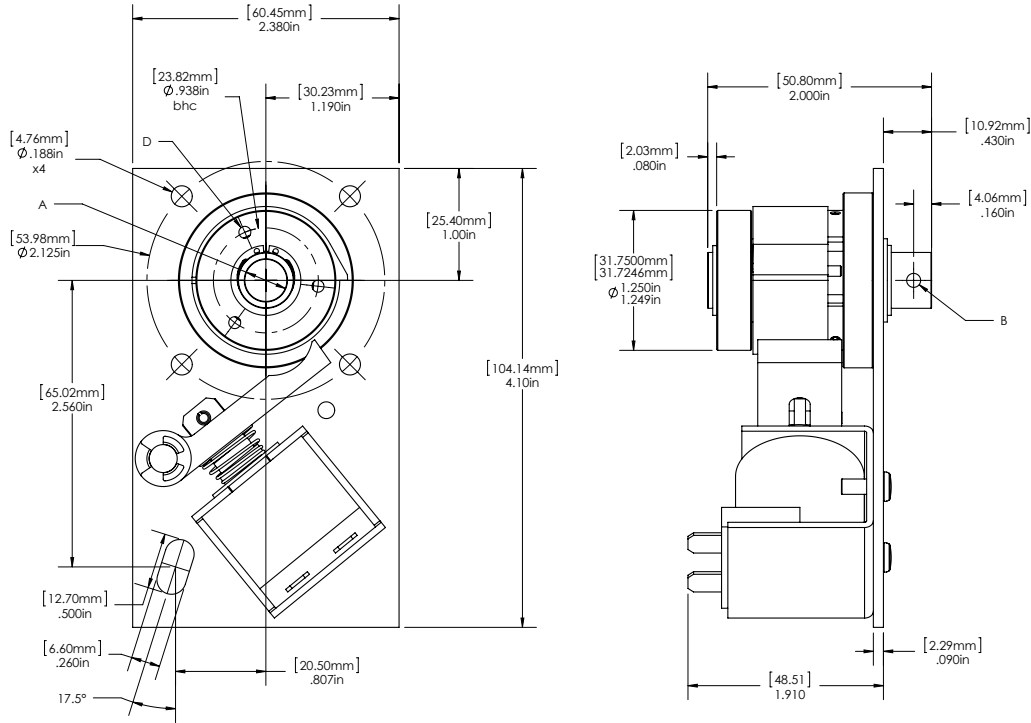


SP PERFORMANCE				
		SP-4	SP-5	SP-6
Static Torque		120 lb-in (13.56Nm)	250 lb-in (28.25Nm)	500 lb-in (56.5Nm)
Maximum anti-override holding capability		25 lb-in (2.825Nm)	60 lb-in (6.78Nm)	300 lb-in (33.9Nm)
Inertia, rotating parts		0.0522 lb-in ²	0.0977 lb-in ²	2.0 lb-in ²
Maximum radial bearing load at maximum speed		14 lbs.	32 lbs.	63 lbs.
Maximum operating speed		1,200 RPM	750 RPM	500 RPM
Response time, voltage on at full speed		30 ms	30 ms	60 ms
Weight		0.88lbs.	1.32 lbs.	5.29 lbs.

Note: By adding an optional over travel stop (OTS), braking torque is increased from 10% to 20% of rated clutch torque

RPM vs. SHAFT BORE			
Size	Max RPM	Shaft Bores, English	Shaft Bores, Metric
SP-4	1,200	3/8" (9.525mm)	10mm (.394")
SP-5	750	1/2" (12.7mm)	12mm (0.427")
SP-6	500	3/4" (19.05mm)	20mm (.787")
		1" (25.4mm)	25mm (.984")

SP-4 Clutch Package Dimensions and Specifications



PERFORMANCE	
Static Torque	120 lb-in (13.56Nm)
Maximum anti-overnrun holding capability	25 lb-in (2.825Nm)
Maximum anti-back holding torque	10 lb-in (1.13 Nm)
Inertia, rotating parts	.0522 lb-in ²
Maximum radial bearing load at max speed	13 lbs.
Maximum operating speed	1,200 RPM
Response time, voltage on at full speed	30 ms
Weight	0.88 lbs.

Note: By adding optional over travel stop (OTS), braking torque is increased from 10% to 20% of rated clutch torque.

Electrical Data		
Voltage	Current (Amps)	Resistance (Ohms)
115 AC 60Hz	0.103*	280.0
24 DC	0.325	74.0
12 DC	0.732	16.4
90 DC	0.096	936.0

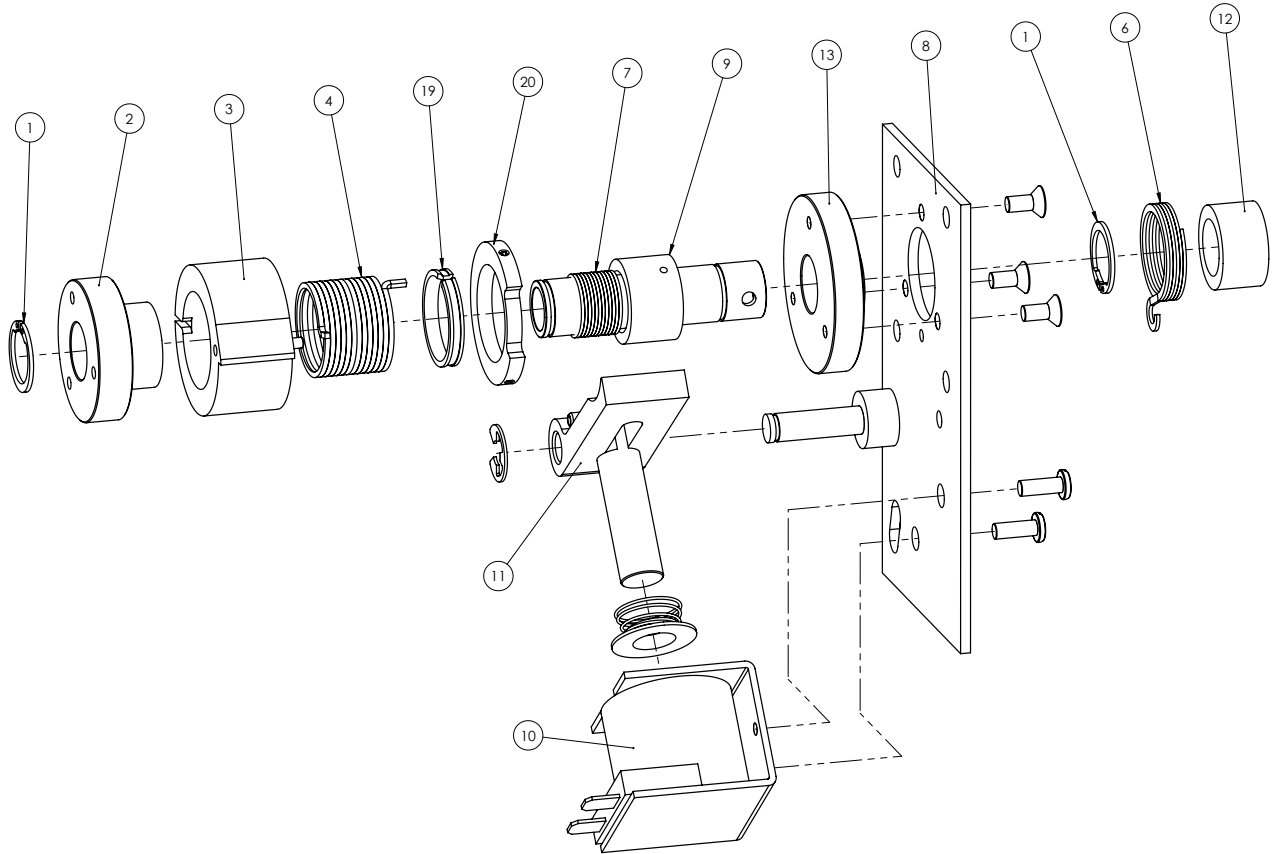
(Coils are rated for continuous duty)

*115AC - In rush current .232 amps/Holding current .098 amps

Bore & Keyway Data		
Bore A	Pin Hole B	Mounting Holes D
0.376-0.378 (9.55-9.61)	0.124-0.129 (3.14-3.28)	3 x #6-32 UNC-2B on 0.938 b.c.
Metric Bores		
10.0 H9 (0.3937-0.3951)	2.97-3.08 (0.117-0.121)	3x M4 x 0.7 on 23.83 bc

SP-4 Clutch Package

Component Parts

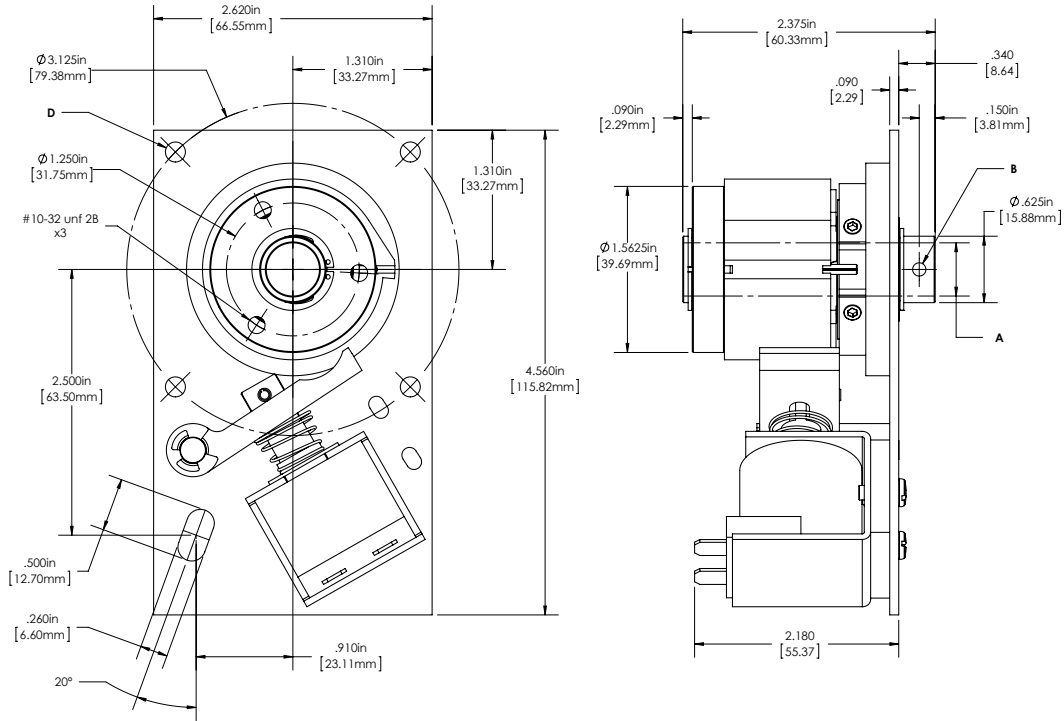


SP-4 Component Parts			
Item	Description	Rotation	Part Number
1	Retaining Ring		03040-65000
2	Input Hub		51040-21000
	Input Hub metric		55040-21000
	Output Hub		53040-21000
	Output Hub metric		57040-21000
3	Control Collar Assy 1-stop (specify stops last digit)	CW	15041-06061
		CCW	15042-06061
4	Drive Spring SR design	CW	51041-31026
		CCW	51042-31026
	Drive Spring SS design	CW	51041-31025
		CCW	51042-31025
8	Mounting Plate Assy	CW	15041-03000
		CCW	15042-03000
9	Shaft Assembly		
	3/8" bore output shaft		51040-04203
	10mm H9 output shaft		55040-04240
	3/8" bore input shaft		53040-04203
	10mm H9 input shaft		57040-04240

SP-4 Component Parts			
Item	Description	Rotation	Part Number
10	Coil only		
	115V AC cont		03050-94121
	24V DC cont		03050-94122
	12V DC cont		03050-94123
	24V DC pulse		03050-94126
11	Actuator lever w/ plunger		15050-12000
13	Plate Hub		15040-16000
14	Coil mount plate		03040-97000
19	Split Ring		15040-21062
20	Adjusting Collar		00040-20000
	Adjusting Collar metric		10040-20000
Options:			
7	Anti-overrun Spring	CW	03041-34000
		CCW	03042-34000
6	Anti-back Spring	CW	15041-34000
		CCW	15042-34000
12	Anti-back Hub		15040-28000
	Anti-back Hub metric		17040-28000

SP-5 Clutch Package

Dimensions and Specifications



PERFORMANCE	
Static Torque	250 lb-in (28.25Nm)
Maxium anti-overnun holding capability	60 lb-in (6.78Nm)
Maxium anti-back holding torque	20 lb-in (2.26Nm)
Inertia, rotating parts	0.097 lb-in ²
Maxium radial bearing load at max speed	32 lbs.
Maxium operating speed	750 RPM
Response time, voltage on at full speed	30 ms
Weight	1.32 lbs.

Note: By adding optional over travel stop (OTS), braking torque is increased from 10% to 20% of rated clutch torque.

Electrical Data		
Voltage	Current (Amps)	Resistance (Ohms)
115 AC 60Hz	0.103*	280.0
24 DC	0.325	74.0
12 DC	0.732	16.4
90 DC	0.096	936.0

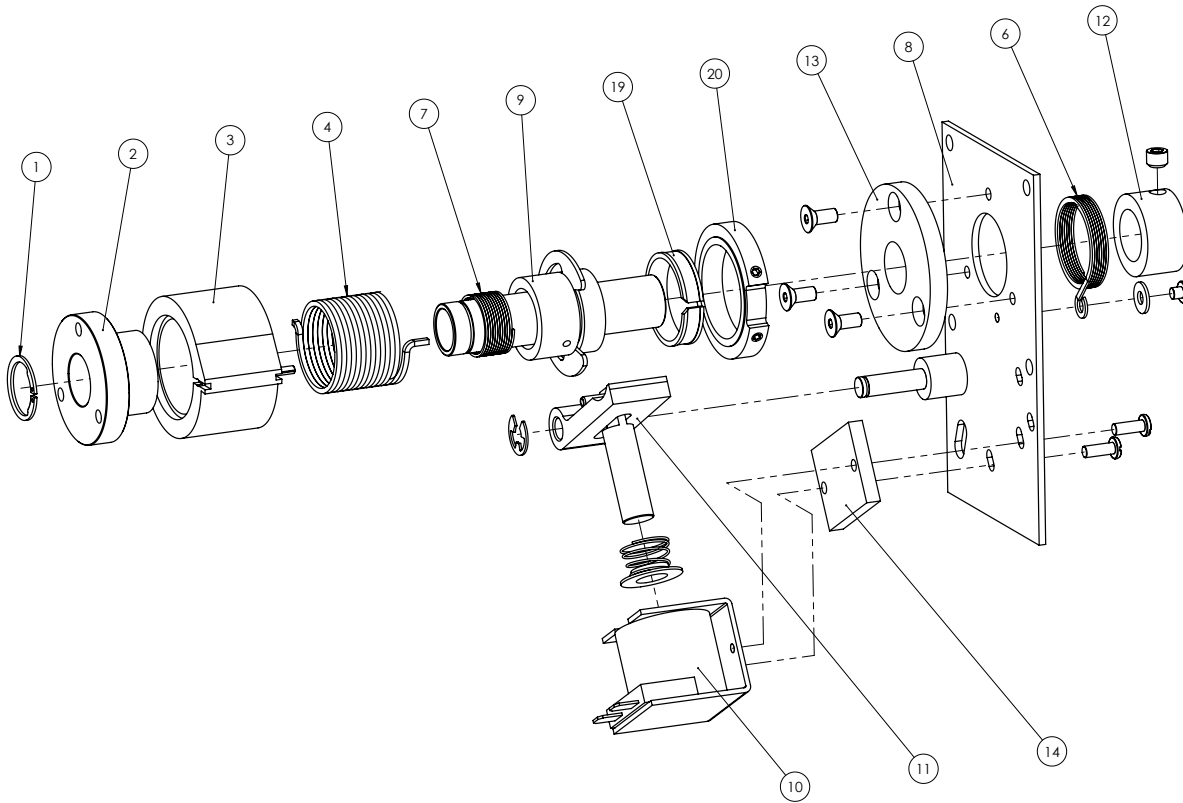
(Coils are rated for continuous duty)

*115AC - In rush current .232 amps/Holding current .098 amps

Bore & Keyway Data		
Bore A	Pin Hole B	Mounting Hole D
0.5005-0.5025 (12.712-12.764)	0.124-0.129 (3.14-3.28)	3 x #10-32 UNF-2B on 1.25 b.c.
Metric Bores		
12.0 H9 (0.4724-0.4741)	2.97-3.08 (0.117-0.121)	3x M5 x 0.8 on 31.75 bc

SP-5 Clutch Package

Component Parts

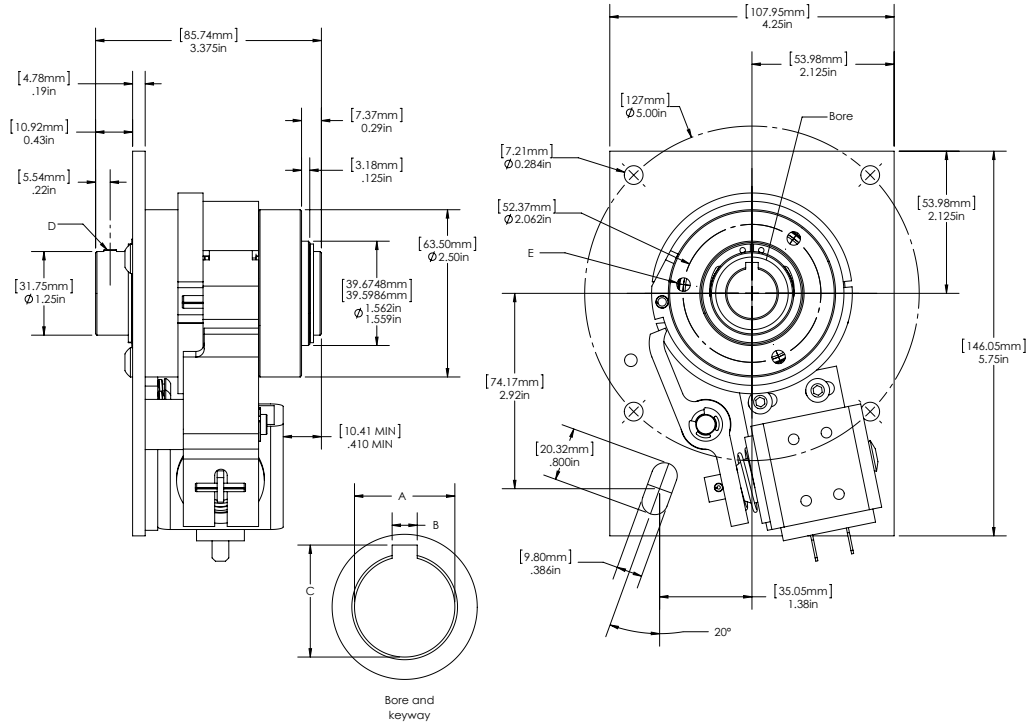


SP-5 Component Parts			
Item	Description	Rotation	Part Number
1	Retaining Ring		03050-65000
2	Input Hub no AO		51050-21000
	Input Hub metric		55050-21000
	Output Hub		53050-21000
	Output Hub metric		57050-21000
3	Control Collar Assy 1-stop (specify stops last digit)	CW	15051-06061
		CCW	15052-06061
4	Drive Spring SR Design	CW	51051-31026
		CCW	51052-31026
	Drive Spring SS Design	CW	51051-31025
		CCW	51052-31025
8	Mounting Plate Assy	CW	15051-03000
		CCW	15052-03000
9	Shaft Assembly		
	1/2" bore output shaft		51050-04205
	12mm output shaft		55050-04242
	1/2" bore input shaft		53050-04205
	12mm input shaft		57050-04242

SP-5 Component Parts			
Item	Description	Rotation	Part Number
10	Coil only		
	115V AC cont		03050-94121
	24V DC cont		03050-94122
	12V DC cont		03050-94123
	24V DC pulse		03050-94126
11	Actuator lever w/ plunger		15050-12000
13	Plate Hub		15050-16000
14	Coil mount plate		03050-97000
19	Split Ring		15050-21062
20	Adjusting Collar		00050-20000
	Adjusting Collar metric		10050-20000
Options:			
7	Anti-overflow Spring	CW	03051-34000
		CCW	03052-34000
6	Anti-back Spring	CW	15051-34000
		CCW	15052-34000
12	Anti-back Hub		15050-28000
	Anti-back Hub metric		17050-28000

SP-6 Clutch Package

Dimensions and Specifications



PERFORMANCE	
Static Torque	500 lb-in (56.5Nm)
Maxium anti-overnun holding capability	300 lb-in (33.9Nm)
Inertia, rotating parts	2.0 lb-in ²
Maxium radial bearing load at max speed	63 lbs.
Maxium operating speed	500 RPM
Response time, voltage on at full speed	60 ms
Weight	5.29 lbs.

Note: By adding optional over travel stop (OTS), braking torque is increased from 10% to 20% of rated clutch torque.

Electrical Data		
Voltage	Current (Amps)	Resistance (Ohms)
115 AC 60Hz	0.334*	57.5
24 DC	0.586	41.0
12 DC	1.15	10.4
90 DC	0.151	598.0

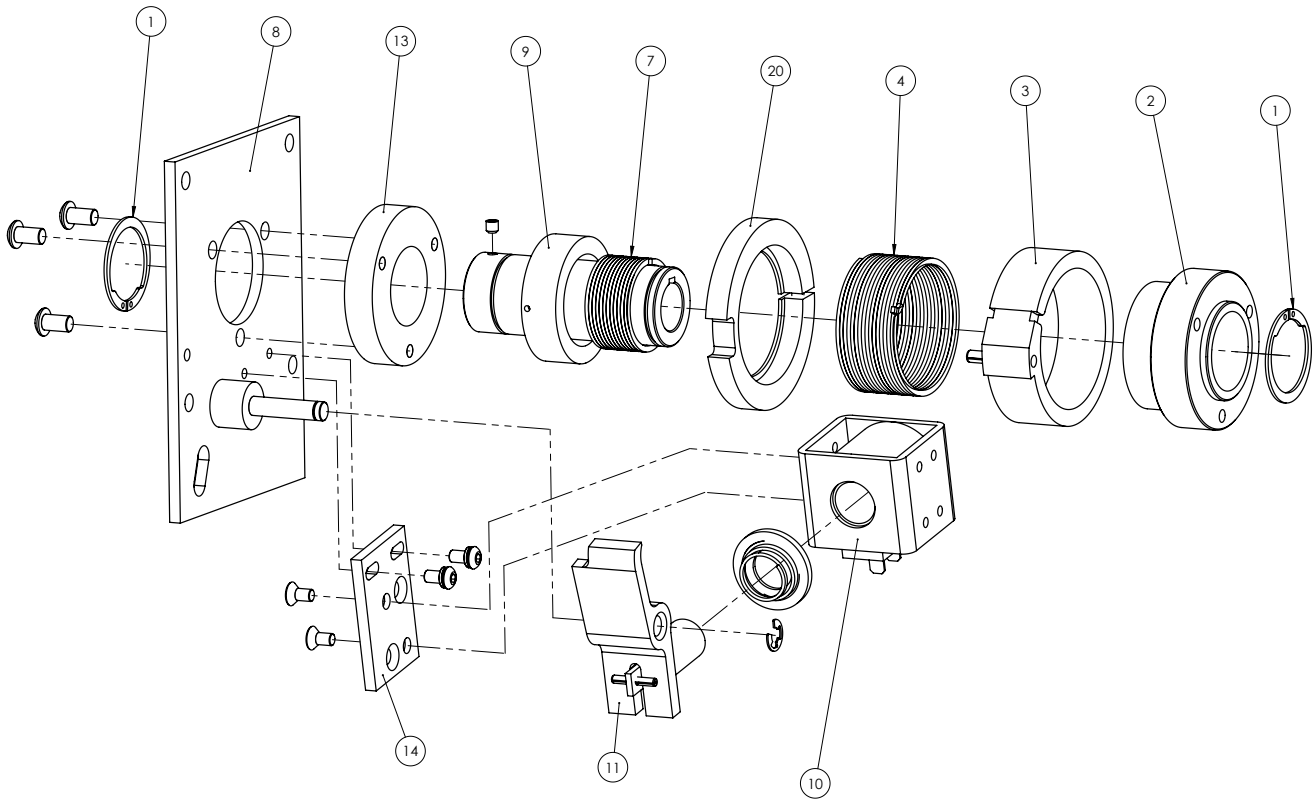
(Coils are rated for continuous duty)

*115AC - In rush current 1.1 amps/Holding current 0.2 amps

Bore & Keyway Data				
Bore A	Keyway Width B	Keyway Depth C	Set and Pin D	Mounting Holes E
0.7505-0.7525 (19.062-19.114)	0.1885-0.1905 (4.787-4.839)	0.837-0.842 (21.25-21.39)	1 x #10-32 UNC-2B x .19 hex set screw	3x #1/4-20 UNC-2B on 2.062 b.c.
1.005-1.0025 (25.412-25.464)			1x 0.187-0.192 hole (4.74-4.88)	3x #1/4-20 UNC-2B on 2.062 b.c.
Metric Bores				
20.0 H9 (0.7874-0.7894)	5.985-6.015 (0.2356-0.2368)	22.800-22.900 (0.8976-0.9015)	1x M5 x 0.8 x 5.0 hex set screw	3 x M6 x 1.0 on 52.38 bc
25.0 H9 (0.9843-0.9863)			1x 4.87-5.14 hole (0.191-0.203)	3 x M6 x 1.0 on 52.38 bc

SP-6 Clutch Package

Component Parts



SP-6 Component Parts			
Item	Description	Rotation	Part Number
1	Retaining Ring		03060-65000
2	Input Hub		51060-21000
	Input Hub metric		55060-21000
	Output Hub		53060-21000
	Output Hub metric		57060-21000
3	Control Collar Assy 1-stop (specify stops last digit)	CW	15061-06061
		CCW	15062-06061
4	Drive Spring SR design	CW	51061-31026
		CCW	51062-31026
	Drive Spring SS design	CW	51061-31025
		CCW	51062-31025
8	Mounting Plate Assy	CW	15061-03000
		CCW	15062-03000
9	Shaft Assembly		
	3/4" bore output shaft		51060-04209
	20 H9 output shaft		55060-04245
	3/4" bore input shaft		53060-04209
	20 H9 input shaft		57060-04245

SP-6 Component Parts			
Item	Description	Rotation	Part Number
10	Coil only		
	115V AC cont		03060-94101
	24V DC cont		03060-94102
	12V DC cont		03060-94103
	24V DC pulse		03060-94104
11	Actuator lever w/ plunger		03060-12000
13	Plate Hub		15060-16000
14	Coil mount plate		03060-97000
20	Adjusting Collar		00060-20000
	Adjusting Collar metric		10060-20000
Options:			
7	Anti-overrun Spring	CW	03061-34000
		CCW	03062-34000
9	1" bore output shaft		51060-04213
	25 H9 output shaft		55060-04247
	1" bore input shaft		53060-04213
	25 H9 input shaft		57060-04247