

UTSEB Series

Ultra Thin Spring-Engaged Power-Off Brakes with PWM Controller

Seven standard frame sizes available:

- 1.02 to 3.29" diameter; 0.47 to 0.84" length
- Bore sizes from 0.19 to 0.79"
- Static torque from 0.53 to 44.25 lb-in
- 24 VDC coil voltage for 0.5 sec max; 7 VDC holding voltage with PWM controller
- Modified designs and customized assemblies available



Performance/ Mechanical Specifications

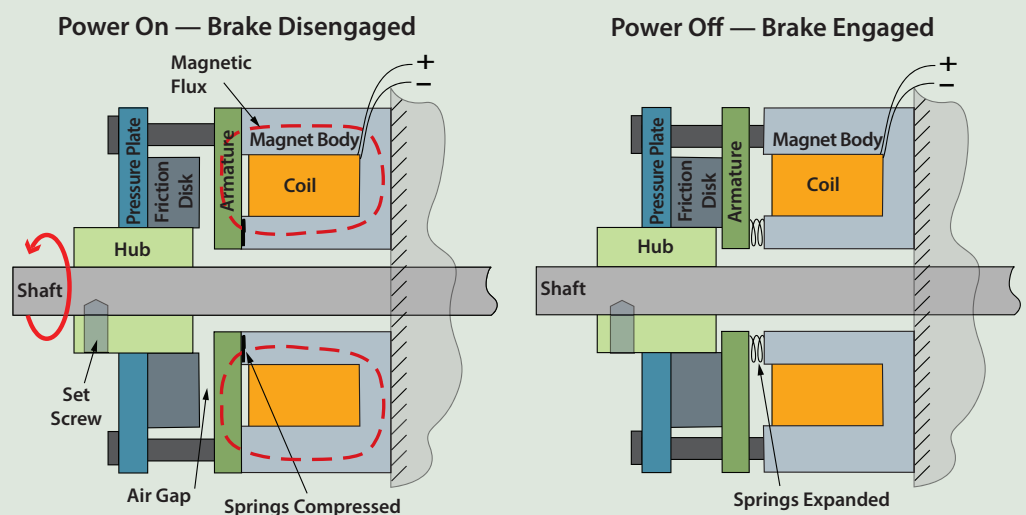
		UTSEB Series — Model Size						
		102-24- M05	114-24- M08	154-24- M08	189-24- M14	221-24- M14	280-24- M20	328-24/7- M19
Torque Rating (Static)	lb-in	0.53	1.42	2.83	5.49	11.68	28.32	44.25
	Nm	0.06	0.16	0.32	0.62	1.32	3.20	5.00
Recommended Max Speed	RPM	5000	5000	5000	5000	5000	5000	5000
Coil Data- 24VDC 7VDC	Amps	0.60	0.42	0.33	0.41	0.83	0.70	0.60
		0.18	0.12	0.10	0.12	0.24	0.20	0.18
Friction Disc Inertia	lb-ft ²	1.07×10^{-5}	4.4×10^{-6}	1.43×10^{-3}	4.5×10^{-5}	8.3×10^{-5}	2.4×10^{-3}	$5.93E-04$
	kg-m ²	0.45×10^{-7}	0.184×10^{-6}	0.6×10^{-6}	1.9×10^{-6}	3.5×10^{-6}	10.3×10^{-6}	25.0×10^{-6}
Approximate Weight	lb	0.07	0.08	0.16	0.24	0.35	0.89	1.15
	kg	0.03	0.04	0.07	0.11	0.16	0.4	0.52

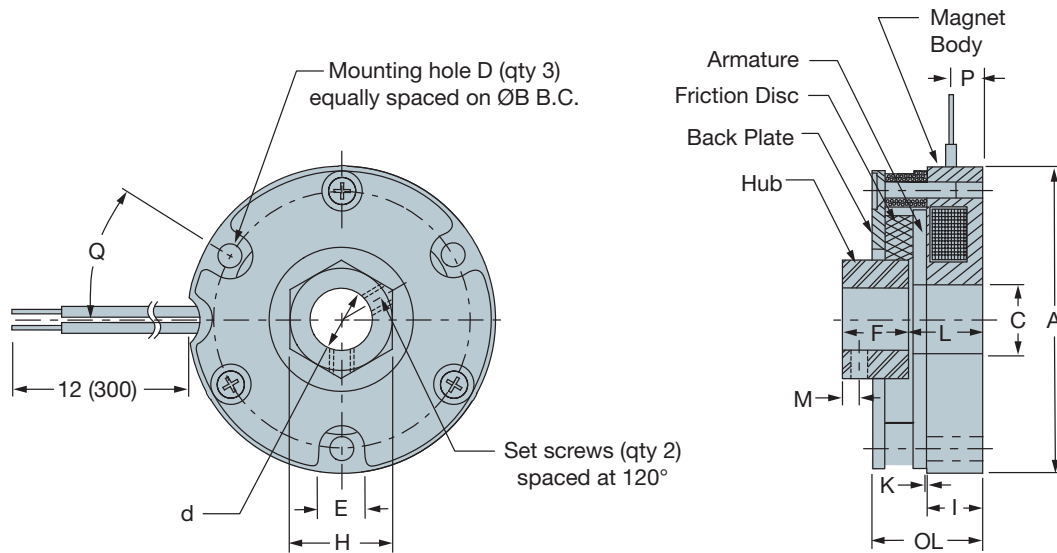
UTSEB Operation:

The magnet body is attached to the rear of the motor or bulkhead, and the hub is attached to the shaft with two set screws. When the coil is energized, the electromagnetic field attracts the armature plate and compresses the springs. This allows the friction plate to rotate freely with the hub and shaft.

Once energized with 24 VDC, the PWM controller will provide the 7VDC to hold the brake in the release position.

When power is turned off, the electromagnetic field dissipates, allowing the springs to push the armature plate into contact with the friction disk. This squeezes the friction disk between the pressure plate and the armature plate, thus transmitting torque, and stopping/holding the friction disc, hub, and shaft.



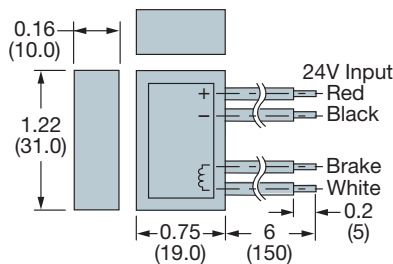
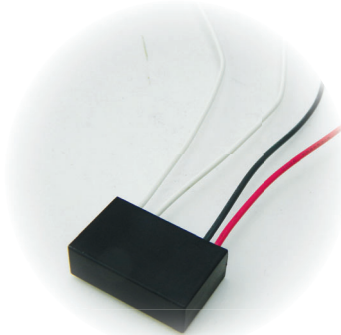


UTSEB Series — Model Size (add "UTSEB-" to model size below to complete model number)

Dimensions — Inches (mm)		102-24-M05	114-24-M08	154-24-M08	189-24-M14	221-24-M14	280-24-M20	328-24/7-M19
Overall Body Diameter	A	1.02 (26.0)	1.14 (29.0)	1.54 (39.0)	1.89 (48.0)	2.20 (56.0)	2.80 (71.0)	3.29 (83.5)
Overall Length (ref)	OL	0.49 (12.6)	0.47 (12.0)	0.55 (14.0)	0.55 (14.0)	0.57 (14.5)	0.75 (19.0)	0.84 (21.3)
Thickness	I	0.30 (7.5)	0.30 (7.5)	0.28 (7.0)	0.28 (7.0)	0.30 (7.5)	0.42 (10.5)	0.48 (12.2)
Depth	L	0.37 (9.3)	0.35 (8.9)	0.36 (9.2)	0.36 (9.2)	0.38 (9.7)	0.55 (14.0)	0.27 (7.0)
Magnet Body Lead Wire Location	P	0.18 (4.5)	0.18 (4.5)	0.16 (4.0)	0.16 (4.0)	0.18 (4.5)	0.25 (6.3)	0.27 (7.0)
	Q	30°	30°	45°	45°	45°	30°	30°
Magnet Body Mounting Hole Ø	D	0.09 (2.3)	0.08 (2.1)	0.12 (3.0)	0.12 (3.0)	0.13 (3.4)	0.17 (4.2)	0.18 (4.5)
Magnet Body Mounting Holes Bolt Circle	B	0.866 (22.00)	0.984 (25.00)	1.299 (33.00)	1.653 (42.00)	1.968 (50.00)	2.560 (65.00)	2.993 (76.00)
Clearance Slot	E	0.17 (4.3)	0.18 (4.5)	0.24 (6.0)	0.24 (6.0)	0.26 (6.5)	0.32 (8.0)	0.35 (9.0)
Pilot I.D.	C	0.28 (7.0)	0.35 (9.0)	0.35 (9.0)	0.59 (15.0)	0.59 (15.0)	0.87 (22.0)	1.85 (47.0)
Length	F	0.30 (7.7)	0.33 (8.5)	0.33 (8.5)	0.35 (9.0)	0.35 (9.0)	0.41 (10.5)	0.51 (13.0)
Width	H	0.32 (8.0)*	0.38 (9.7)*	0.51 (13.0)	0.75 (19.0)	0.75 (19.0)	1.00 (25.4)*	SPLINE
Hub Bore Ø	d	0.197 (5.00)	0.315 (8.00)	0.315 (8.00)	0.551 (14.00)	0.551 (14.00)	0.790 (20.00)	0.748 (19.00)
Hub Set Screws (Qty 2)	Thread Size	M3	M3	M3	M3	M3	M4	No Set Screws
	Location	M	0.10 (2.5)	0.07 (1.8)	0.08 (2.0)	0.10 (2.5)	0.10 (2.5)	0.13 (3.2)
Air Gap (nominal ref)	K	0.003 (0.07)	0.003 (0.07)	0.003 (0.08)	0.003 (0.08)	0.004 (0.10)	0.004 (0.10)	0.004 (0.10)

* Hub is square, not hex

PWM Controller



Specifications

Input Voltage	24 VDC ±15%
Output Current— DC Max	0.8 A (@ 80°C)
Output Voltage	Energize coil with 24 VDC for 0.5 sec max.; then reduce to 7 VDC (±5%) for holding status
Temperature Range	-20 to 80°C
Insulation Resistance	500 VDC/50MΩ (min)
High Potentiometer	1500 V / 1 mA / 1 second
Lead Wire	UL3266 (22 AWG)