

BTA® Size 2EVM

Part Numbers: Clockwise Rotation 195927-0XX
Counter-Clockwise Rotation 195936-0XX

All products are RoHS Compliant

ROTARY BTA®

Performance

	50%	25%	10%
Maximum Duty Cycle*	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously ¹	15	6	2
Maximum ON Time (sec) for single pulse ²	44	15	4
Typical Energise Time (msec) ³	15	11	8
Watts (@ 20°C)	20	40	100
Ampere Turns (@ 20°C)	469	663	1048

Specifications

Dielectric Strength	1000 VRMS
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminium plate measuring 86 mm square by 3.2 mm thick
Thermal Resistance	10.8 °C/watt
Rotor Inertia	2.56 gm-cm ²
Weight	85 g

Coil Data

awg (0XX) ⁴	Resistance (@20°C)	# Turns ⁵	VDC (Nom)	VDC (Nom)	VDC (Nom)
24	0.47	72	3.1	4.3	6.9
25	0.67	82	3.7	5.2	8.2
26	0.94	92	4.3	6.1	9.7
27	1.33	104	5.2	7.3	11.5
28	2.86	174	7.6	10.7	16.9
29	4.01	195	9.0	12.7	20.0
30	7.69	292	12.4	17.5	27.7
31	10.80	328	14.7	20.8	32.9
32	19.26	460	19.6	27.8	43.9
33	26.96	515	23.2	32.8	52.0
34	45.82	690	30.3	42.8	68.0
35	63.76	768	35.7	50.0	80.0

*Not recommended for 100% duty cycle.

- ¹ Continuously pulsed at stated watts and duty cycle
- ² Single pulse at stated watts (with coil at ambient room temperature 20°C)
- ³ Typical energise time based on a 3.53 mNm torque load including 1.4×10^{-6} kgm² of inertia
- ⁴ Other coil awg sizes available — please consult factory
- ⁵ Reference number of turns



How to Order

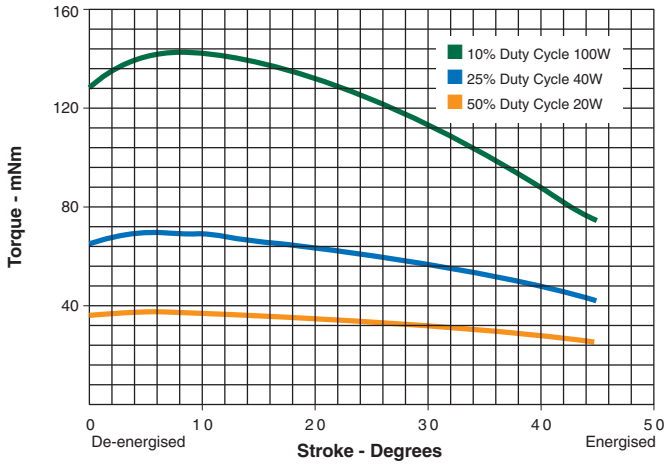
Add the coil awg number (0XX) to the part number (for example: to order a 25% duty cycle clockwise rotation unit rated at 12.7 VDC, specify 195927-029).

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All specifications subject to change without notice.

BTA® Size 2EVM

Typical Torque @ 20°C (see notes)



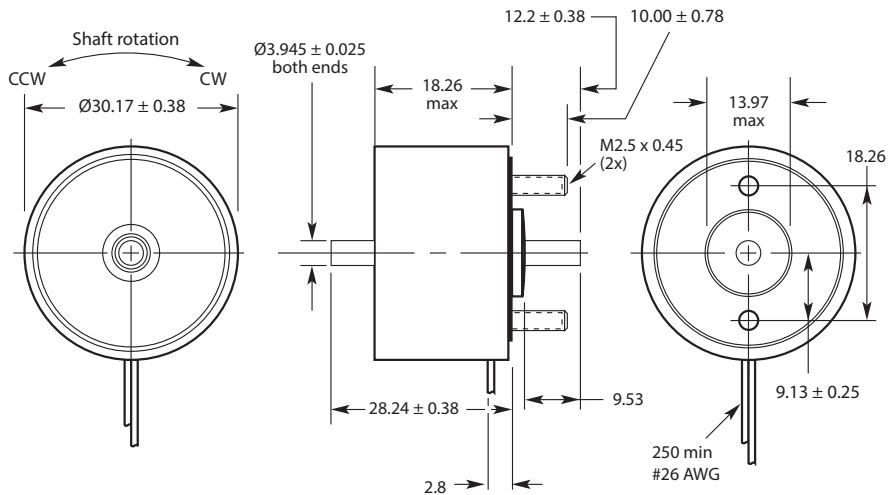
Notes:

Torque curves shown are without spring.

Typical standard spring has a torque of 7.06 mNm.

Torque values are for reference only.

Dimensions (mm)



BTA® Size 3EVM

Part Numbers: Clockwise Rotation 195928-0XX
Counter-Clockwise Rotation 195937-0XX

All products are RoHS Compliant

ROTARY BTA®

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously ¹	∞	10	3	1
Maximum ON Time (sec) for single pulse ²	∞	26	10	4
Typical Energise Time (msec) ³	25	17	12	9
Watts (@ 20°C)	13	26	52	130
Ampere Turns (@ 20°C)	362	512	729	1,144

Specifications

Dielectric Strength	1,000 VRMS (23-28 awg); 1,200 VRMS (29-34 awg)
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminium plate measuring 117 mm square by 3.2 mm thick
Thermal Resistance	8.53 °C/watt
Rotor Inertia	9.14 gm-cm ²
Weight	142 g

Coil Data

awg (0XX) ⁴	Resistance (@20°C)	# Turns ⁵	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	0.26	44	1.9	2.6	3.7	5.9
24	0.38	50	2.2	3.1	4.4	7.0
25	0.53	56	2.6	3.7	5.2	8.3
26	1.54	126	4.5	6.3	9.0	14.2
27	2.15	140	5.3	7.5	10.6	16.7
28	3.04	158	6.3	8.9	12.6	19.9
29	4.24	176	7.4	10.5	14.9	23.5
30	9.16	297	10.9	15.4	21.8	34.5
31	12.90	333	12.9	18.3	25.9	40.9
32	18.04	372	15.3	21.6	30.6	48.4
33	34.10	552	21.0	29.8	42.1	66.5
34	47.70	616	25.0	35.2	49.8	78.7



How to Order

Add the coil awg number (0XX) to the part number (for example: to order a 25% duty cycle clockwise rotation unit rated at 25.9 VDC, specify 195928-031).

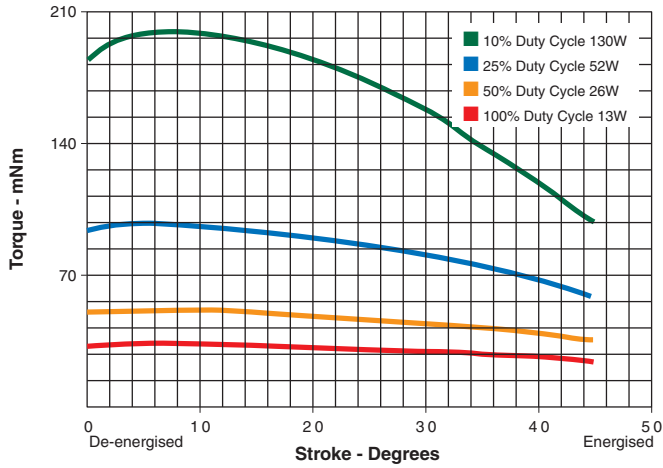
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- ¹ Continuously pulsed at stated watts and duty cycle
- ² Single pulse at stated watts (with coil at ambient room temperature 20°C)
- ³ Typical energise time based on a 5.65 mNm torque load including 1.4 x 10⁻⁶ kgm² of inertia
- ⁴ Other coil awg sizes available — please consult factory
- ⁵ Reference number of turns

All specifications subject to change without notice.

BTA® Size 3EVM

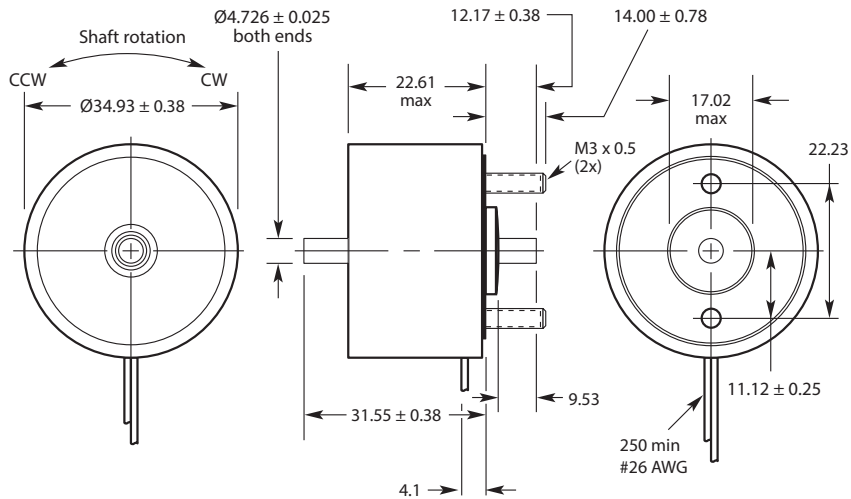
Typical Torque @ 20°C (see notes)



Notes:

Torque curves shown are without spring.
 Typical standard spring has a torque of 13.4 mNm
 Torque values are for reference only.

Dimensions (mm)



BTA® Size 4EVM

Part Numbers: Clockwise Rotation 195929-0XX
Counter-Clockwise Rotation 195938-0XX

All products are RoHS Compliant

ROTARY BTA®

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec)	∞	40	15	4
when pulsed continuously ¹				
Maximum ON Time (sec)	∞	108	34	9
for single pulse ²				
Typical Energise Time (msec) ³	27	19	14	10
Watts (@ 20°C)	14.5	29	58	145
Ampere Turns (@ 20°C)	510	721	1020	1613

Specifications

Dielectric Strength	1000 VRMS (23-24 awg); 1200 VRMS (25-33 awg)
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminium plate measuring 159 mm square by 3.2 mm thick
Thermal Resistance	7.63 °C/watt
Rotor Inertia	13.92 gm-cm ²
Weight	227 g

Coil Data

awg (0XX) ⁴	Resistance (@20°C)	# Turns ⁵	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	0.71	104	3.2	4.5	6.4	10.1
24	1.54	174	4.7	6.7	9.4	14.9
25	2.15	195	5.6	7.9	11.2	17.6
26	3.01	219	6.6	9.3	13.2	20.9
27	5.78	328	9.2	12.9	18.3	28.9
28	8.09	368	10.8	15.3	21.7	34.3
29	14.40	515	14.5	20.4	28.9	45.7
30	20.11	575	18.9	26.7	37.7	59.6
31	34.40	774	22.3	31.6	44.6	71.0
32	56.60	1008	28.7	40.5	57.0	91.0
33	91.40	1288	36.0	52.0	73.0	115.0



How to Order

Add the coil awg number (0XX) to the part number (for example: to order a 25% duty cycle clockwise rotation unit rated at 13.2 VDC, specify 195929-026).

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- ¹ Continuously pulsed at stated watts and duty cycle
- ² Single pulse at stated watts (with coil at ambient room temperature 20°C)
- ³ Typical energise time based on a 5.65 mNm torque load including 1.4 x 10⁻⁶ kgm² of inertia
- ⁴ Other coil awg sizes available — please consult factory
- ⁵ Reference number of turns

All specifications subject to change without notice.

BTA® Size 5EVM

Part Numbers: Clockwise Rotation 195930-0XX
Counter-Clockwise Rotation 195939-0XX

All products are RoHS Compliant

ROTARY BTA®

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously ¹	∞	40	15	4
Maximum ON Time (sec) for single pulse ²	∞	109	36	10
Typical Energise Time (msec) ³	27	18	14	10
Watts (@ 20°C)	21	42	84	210
Ampere Turns (@ 20°C)	621	878	1242	1964

Specifications

Dielectric Strength	1000 VRMS (23 awg); 1200 VRMS (24-33 awg)
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminium plate measuring 191 mm square by 3.2 mm thick
Thermal Resistance	5.36 °C/watt
Rotor Inertia	30.36 gm-cm ²
Weight	382 gms

Coil Data

awg (0XX) ⁴	Resistance (@20°C)	# Turns ⁵	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	1.05	128	4.7	6.6	9.4	14.8
24	2.24	213	6.9	9.7	13.7	21.7
25	3.16	240	8.1	11.5	16.3	25.8
26	4.45	270	9.7	13.7	19.3	30.6
27	8.50	404	13.4	18.9	26.7	42.2
28	11.90	452	15.8	22.3	31.6	50.0
29	21.10	630	21.0	29.7	42.1	67.0
30	29.50	705	24.9	35.2	49.8	78.7
31	50.30	948	32.5	46.0	65.0	103.0
32	82.70	1232	41.7	59.0	83.0	132.0
33	134.00	1576	53.0	75.0	106.0	168.0



How to Order

Add the coil awg number (0XX) to the part number (for example: to order a 25% duty cycle clockwise rotation unit rated at 26.7 VDC, specify 195930-027).

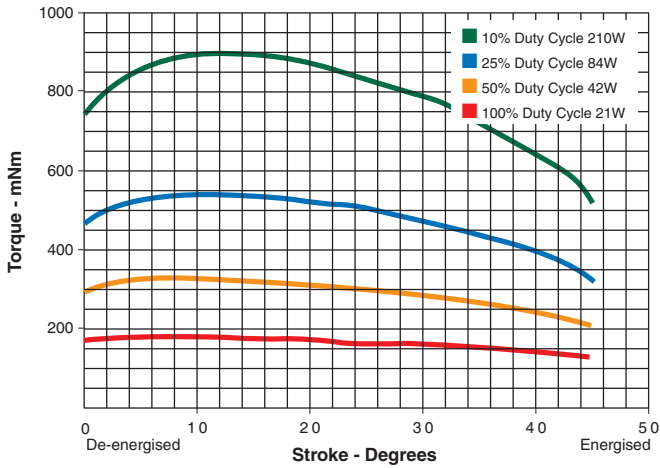
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- ¹ Continuously pulsed at stated watts and duty cycle
- ² Single pulse at stated watts (with coil at ambient room temperature 20°C)
- ³ Typical energise time based on a 35.3 mNm torque load including 1.4 x 10⁻⁶ kgm² of inertia
- ⁴ Other coil awg sizes available — please consult factory
- ⁵ Reference number of turns

All specifications subject to change without notice.

BTA® Size 5EVM

Typical Torque @ 20°C (see notes)



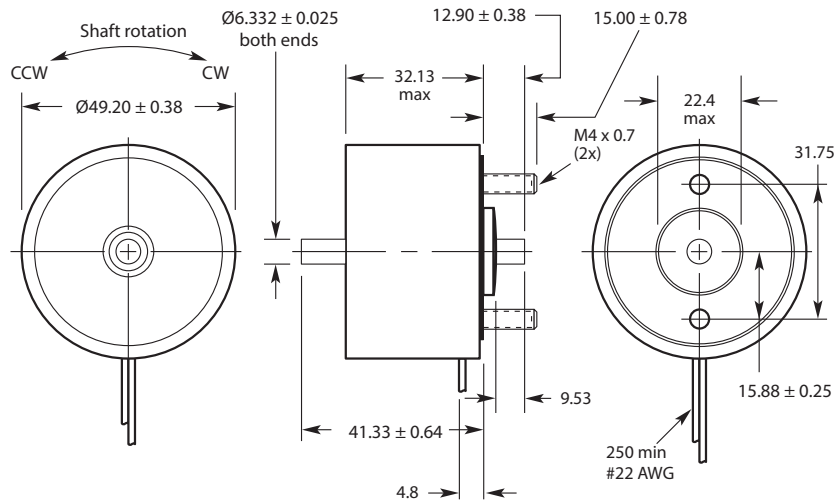
Notes:

Torque curves shown are without spring.

Typical standard spring has a torque of 28.3 mNm..

Torque values are for reference only.

Dimensions (mm)



BTA® Size 6EVM

Part Numbers: Clockwise Rotation 195931-0XX
Counter-Clockwise Rotation 195940-0XX

All products are RoHS Compliant

ROTARY BTA®

Performance

Maximum Duty Cycle	100%	50%	25%	10%
Maximum ON Time (sec) when pulsed continuously ¹	∞	40	15	5
Maximum ON Time (sec) for single pulse ²	∞	143	47	11
Typical Energise Time (msec) ³	48	21	15	11
Watts (@ 20°C)	32	64	128	320
Ampere Turns (@ 20°C)	980	1386	1960	3100

Coil Data

awg (0XX) ⁴	Resistance (@20°C)	# Turns ⁵	VDC (Nom)	VDC (Nom)	VDC (Nom)	VDC (Nom)
23	2.65	267	9.2	13.0	18.4	29.1
24	5.02	396	12.7	17.9	25.4	40.1
25	7.03	444	15.0	21.2	30.0	47.4
26	12.60	625	20.1	28.4	40.2	63.5
27	17.60	700	23.8	33.6	47.5	75.1
28	29.90	936	30.9	43.7	61.9	97.8
29	49.50	1225	39.8	56.0	80.0	126.0
30	79.70	1560	51.0	71.0	101.0	160.0
31	126.50	1962	64.0	90.0	127.0	201.0
32	198.30	2440	80.0	113.0	159.0	252.0
33	306.20	2992	99.0	140.0	198.0	313.0

Specifications

Dielectric Strength	1,000 VRMS (23 awg); 1200 VRMS (24-33 awg)
Recommended Minimum Heat Sink	Maximum watts dissipated by solenoid are based on an unrestricted flow of air at 20°C, with solenoid mounted on the equivalent of an aluminium plate measuring 314 mm square by 3.2 mm thick
Thermal Resistance	3.58 °C/watt
Rotor Inertia	67.15 gm-cm ²
Weight	709 gms

How to Order

Add the coil awg number (0XX) to the part number (for example: to order a 25% duty cycle clockwise rotation unit rated at 25.4 VDC, specify 195931-024).

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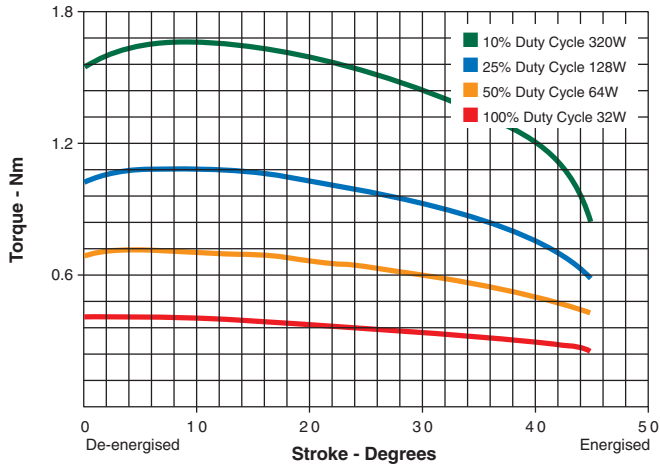
- ¹ Continuously pulsed at stated watts and duty cycle
- ² Single pulse at stated watts (with coil at ambient room temperature 20°C)
- ³ Typical energise time based on a 99 mNm torque load including 1.4×10^{-6} kgm² of inertia
- ⁴ Other coil awg sizes available — please consult factory
- ⁵ Reference number of turns

All specifications subject to change without notice.



BTA® Size 6EVM

Typical Torque @ 20°C (see notes)



Notes:

Torque curves shown are without spring.
 Typical standard spring has a torque of 56.5 mNm.
 Torque values are for reference only.

Dimensions (mm)

