



Frameless Torque Motors



FlexCore



PowerCore



XtremeCore

WHY LIN?

FIND OUT WHY MORE PEOPLE ARE CHOOSING LIN ENGINEERING

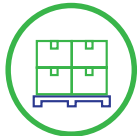
Proven Supply Chain & Capacity



Full Production
in California



Full Value Add Options
& Assemblies



Over 30M motors
produced annually



Rapid Prototypes &
California Based Kanban
for Production

Unrivaed Support



Applications Engineers
throughout the US for local
support



Full Design Engineering
in California

U.S. CORPORATE HEADQUARTERS

- Morgan Hill, California (Silicon Valley)
- Full Production of Motors & Assemblies
- Full Staff of Engineering and CAD
- On-Site Quality, Customer Service and Sales
- Kanban and Safety Stock
- Prototypes in 2 Weeks



OVERSEAS FACILITIES

- Over 1.5M sq feet of facilities space
- Locations in Vietnam, China and Europe



USA MOTOR ASSEMBLY AVAILABLE

- Winding
- Honing
- Soldering
- Inspections
- Final Assembly



Right Here in
Morgan Hill, CA



Frameless Torque Motors

In the world of motion, precision, and reliability, our motors form the **Core**—the backbone of movement across diverse applications. The name “Core” reflects our belief that, whether driving a gimbal, supporting cobots, or powering demanding, high-performance systems, each motor series is an essential element that enhances the function and reliability of any system it serves.



 **USA Production Available**

Frameless Torque Motor Line-Up:

Lin Engineering offers three motor lines designed to seamlessly integrate into your application, providing a foundation for efficiency, high performance, and innovation.



- 20 to 137mm OD sizes
- Starter Designs
- Balance of Cost & Performance



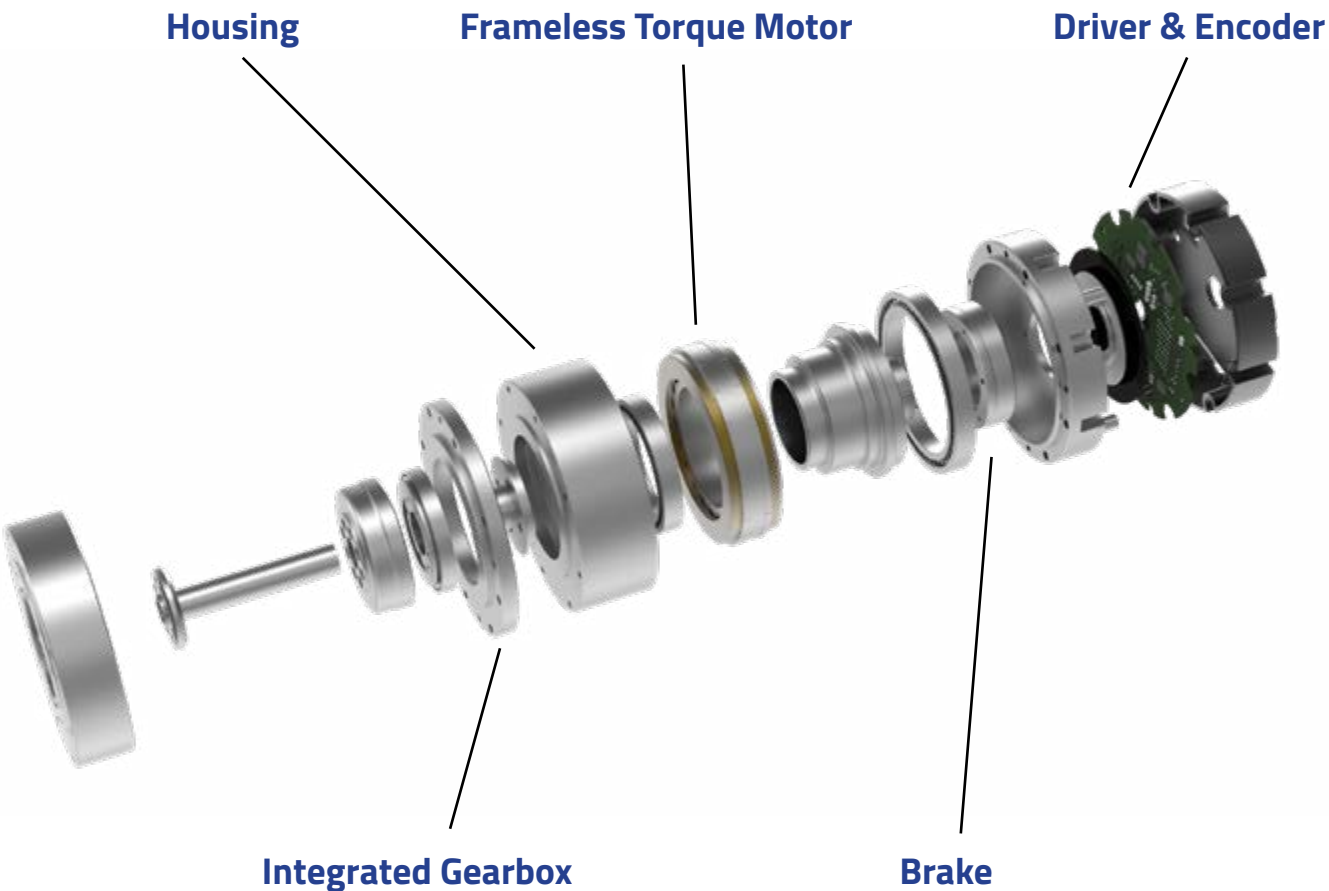
- 50 to 115mm OD sizes
- Higher torque to weight ratio
- Compact & lightweight



- 20 to 160mm OD sizes
- Advanced thermal management for peak efficiency
- Engineering for up to 20% more torque compared to standard designs

Integrated Solutions: Full Actuators

One of the benefits of using a frameless torque motor is better integration within your application. Let us take this to the next level by integrating even more!



Lin Engineering’s Rotary Actuators combine our high-performance frameless torque motors with precision strain wave gears to deliver compact, high-torque solutions for demanding motion control applications. Designed for seamless integration, these actuators offer a low-profile, zero-backlash design with exceptional torque density, making them ideal for space-constrained robotic joints and industrial automation systems.

- Integrated strain wave gearbox
- Large thru-bore shaft
- Compact & lightweight design
- Encoder, driver, brake, hall sensor and thermistor available

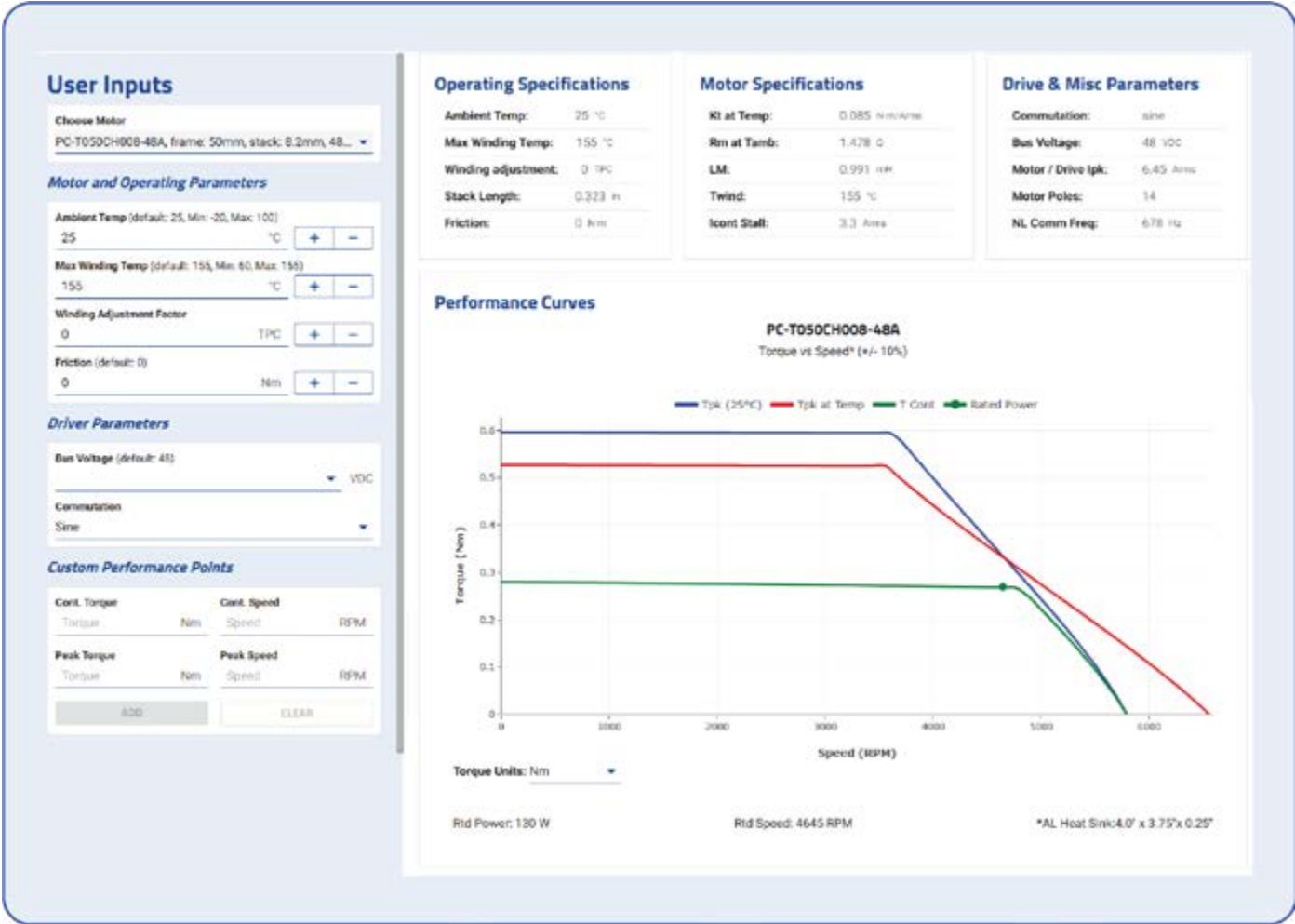
Lin Engineering can assist with the full actuator design. There are a number of different options including strain wave gearbox.

Configure Your Frameless Motor

Our online frameless torque motor configuration tools allow you to customize motor parameters based on your operating conditions or constraints, providing performance calculations tailored to your specific application.



Scan the QR code to start configuring your motor.



Online Resources at your Fingertips

The Lin Engineering website is constantly being updated with great resources to help you streamline product development. From 3D models to mounting guides to our Motion Configurator

Improve Your Motor's Performance

20% Higher Motor Constant (Km) / Power Density

Lin Engineering's PowerCore motor offers a higher motor constant (Km) compared to the equivalent Competitor motor, resulting in superior performance and thermal management.

More Torque

PowerCore motors accommodate higher current while maintaining a rated winding temperature of 155°C, providing significantly increased torque output.

- Move larger loads with same size motor
- Smaller - reduce motor length by up to 15%
- Lighter - reduce overall mass by up to 15%

Cooler Temperature

PowerCore motors operate significantly cooler than the Competitor while delivering the same torque output.

- Lower touch temperature by up to 20%
- Reduce current by up to 15%
- Increase actuator life by up to 400%
- Increased Battery Life

Lin's PowerCore vs. the Competition

	Parameter	Symbol	Units	60 O.D. x 8.2 Stack		60 O.D. x 12.7 Stack		60 O.D. x 26.3 Stack	
				PC-T060CX008-48A	Competitor	PC-T060CX013-48A	Competitor	PC-T060CX026-48A	Competitor
Performance	Rated Bus Voltage	Vbus	VDC	48	48	48	48	48	48
	Motor Constant	Km	Nm/√W	0.105	0.087	0.139	0.114	0.215	0.176
	Performance @ Max Winding Temp								
	Winding Temp	Twind	°C	155	155	155	155	155	155
	Max Cont Torque	Tcont	Nm	0.451	0.450	0.675	0.600	1.10	0.960
	Max Cont Current	Icont	Arms	3.66	3.73	3.53	3.38	3.04	2.72
	Performance at Continuous Torque Rating of Competitor								
	Winding Temp	Twind	°C	155	155	122	155	105	155
	Max Cont Torque	Tcont	Nm	0.452	0.450	0.602	0.600	0.960	0.960
	Max Cont Current	Icont	Arms	3.66	3.73	3.17	3.38	2.53	2.72
Mechanical	Stator O.D.	-	mm	60.00	60.00	60.00	60.00	60.00	60.00
	Stator Length Max	-	mm	19.70	19.71	24.20	24.21	37.80	37.81
	Rotor Thru-Bore	-	mm	30.00	30.00	30.00	30.00	W30.00	30.00
	Total Weight	WT	gram	131	139	184	195	345	351

Part Numbering System

PC	-	T	050	C	H	026	-	48A
Series: FC - FlexCore FCP - FlexCoreP PC - PowerCore PCP - PowerCoreP XC - XtremeCore XCP - XtremeCoreP		Design: H-: High speed T-: Torque null- : Universal	Type: C: default (in-runner) E: External Rotor		Stator Length: 008: 8mm 026: 26mm <i>Round up to nearest 1mm</i>		Winding: XXA: voltage + A XXB: voltage + B...	
			Frame Size: 050: 50mm 076: 76mm 115: 115mm		Hall Sensor: H: Hall Sensor N: No Hall Sensor D: Integral drive			

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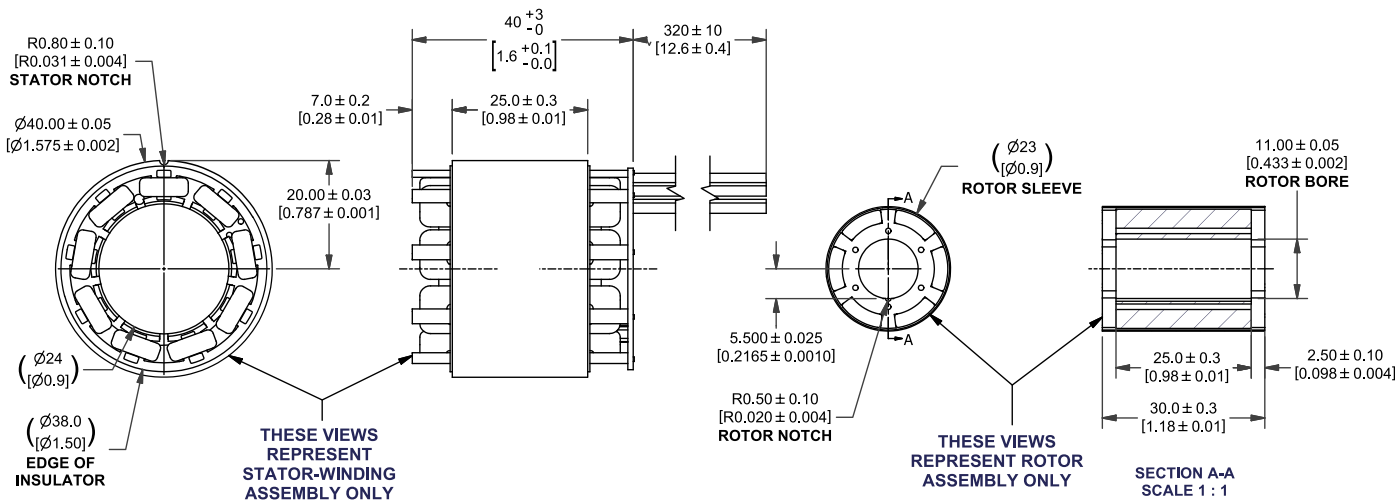
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FCP-040 Series

Frame Size	40 mm
Stack Length	25 mm
Rotor Thru-Bore	11 mm
Bus Voltage	18 VDC
Rated Torque	0.217 Nm
Rated Speed	3605 RPM
Rated Power	82 W

FCP-040 Series Dimensional Drawing

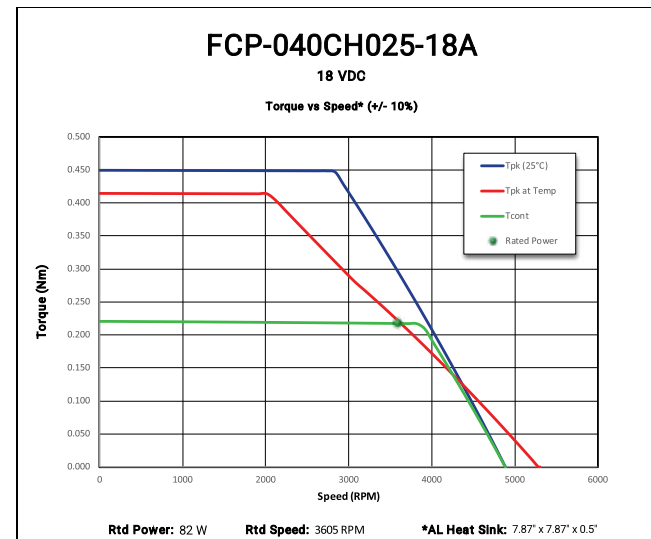


Configure Online



FCP-040 Series Specifications Table

FCP-040CH025-XXX			
	Parameter	Symbol	Units
			18A
Performance	Rated Bus Voltage	Vbus	VDC
	Max Cont Torque	Tcont	Nm
	Max Cont Current	Icont	Arms
	Peak Torque	Tpk	Nm
	Peak Current	Ipk	Arms
	Rated Power	Prtd	watts
	Rated Speed	Nrtd	RPM
Electrical	Rated Torque	Trtd	Nm
	Connection	-	-
	Terminal Res	RLL	Ω
	Terminal Ind	Lm	mH
	Back EMF Cold	Ke	Vpk/kRPM
		Ke	Vrms/kRPM
		Kb	Vpk/rad/s
	Kt at Temp	KtHot	Nm/Arms
	Motor Constant	Km	Nm/ $\sqrt{W}$
	Electrical Time Const	Te	ms
Thermals	Insulation Class	-	-
	Max Winding Temp	Twind	$^{\circ}C$
	Watts Loss	WLoss	watts
	Bulk Thermal Res	TPR	$^{\circ}C/watt$
	Heat Sink Size	-	in
Mechanical			7.87 x 7.87 x 0.50
	Stator O.D.	-	mm
	Stack Length	-	mm
	Stator Length Max	-	mm
	Thermal Device	-	-
	Pole Count	Poles	-
	Rotor Thru-Bore	-	mm
	Direction of Rotation	DOR	CW/CCW
	Stator Weight	WS	g
	Rotor Weight	WR	g
	Total Weight	WT	g
	Rotor Inertia	Jm	kg-cm ²



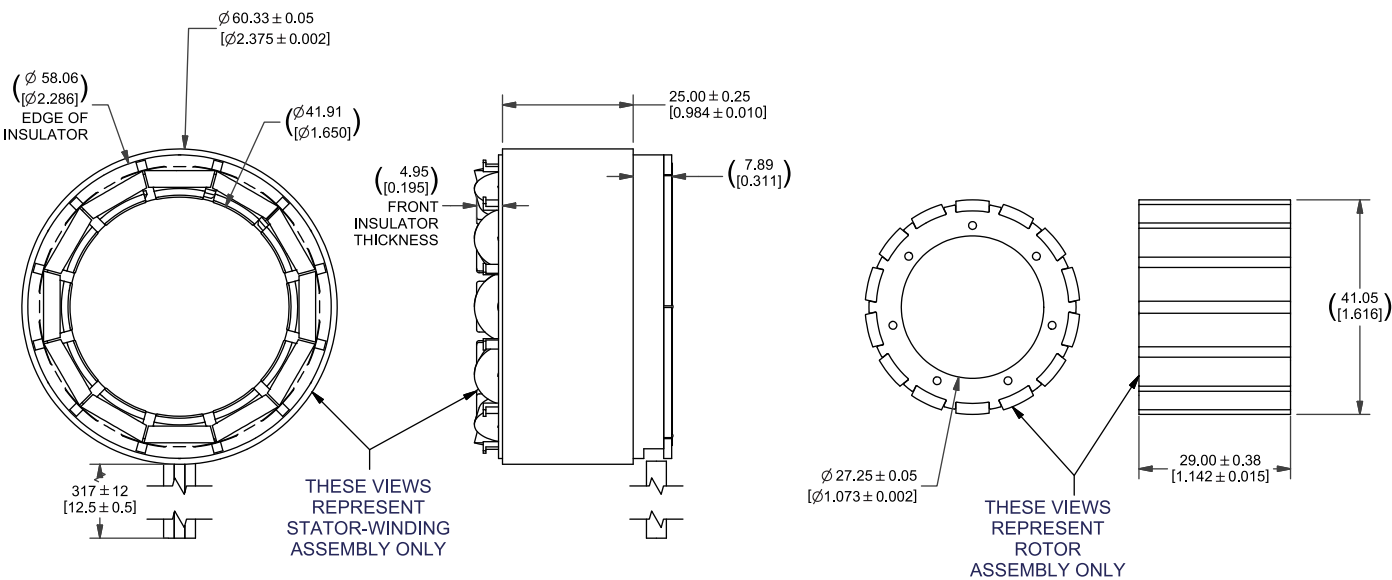
Notes



FCP-060 Series

- Frame Size 60 mm
- Stack Length 25 mm
- Rotor Thru-Bore 27.25 mm
- Bus Voltage 48 - 96 VDC
- Rated Torque 0.6 Nm
- Rated Speed 3353 - 3428 RPM
- Rated Power 209 - 215 W

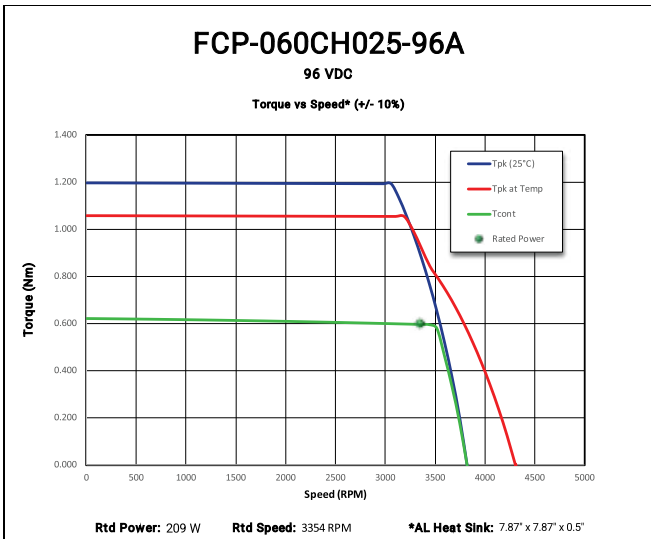
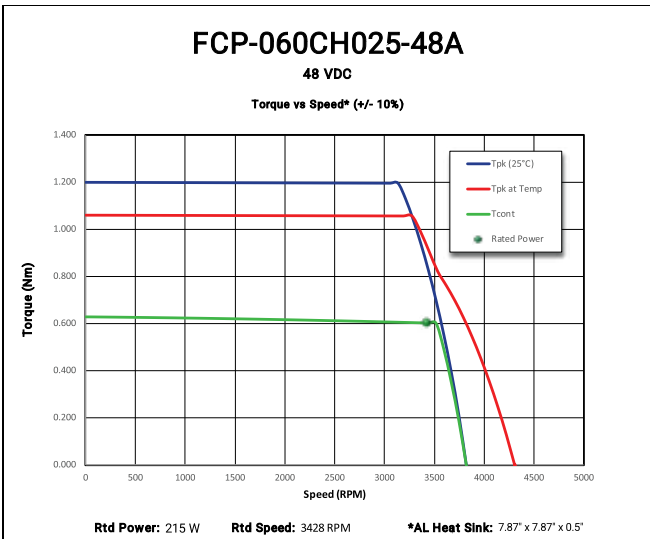
FCP-060 Series Dimensional Drawing



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			FCP-060CH025-XXX	
			48A	96A
Performance	Parameter	Symbol	Units	
	Rated Bus Voltage	Vbus	VDC	48
	Max Cont Torque	Tcont	Nm	0.626
	Max Cont Current	Icont	Arms	5.27
	Peak Torque	Tpk	Nm	1.20
	Peak Current	Ipk	Arms	10.4
	Rated Power	Prt	watts	215
	Rated Speed	Nrtd	RPM	3,428
Electrical	Rated Torque	Trtd	Nm	0.600
	Connection	-	-	WYE
	Terminal Res	RLL	Ω	0.490
	Terminal Ind	Lm	mH	0.44
	Back EMF Cold	Ke	Vpk/kRPM	12.6
		Ke	Vrms/kRPM	8.88
		Kb	Vpk/rad/s	0.120
	Kt at Temp	KtHot	Nm/Arms	0.119
Thermals	Motor Constant	Km	Nm/√W	0.171
	Electrical Time Const	Te	ms	0.90
	Insulation Class	-	-	Class F
	Max Winding Temp	Twind	°C	155
	Watts Loss	WLoss	watts	30.6
	Bulk Thermal Res	TPR	°C/watt	4.25
	Heat Sink Size	-	in	7.87 x 7.87 x 0.50
	Stator O.D.	-	mm	60.00
Mechanical	Stack Length	-	mm	25.00
	Stator Length Max	-	mm	37.84
	Thermal Device	-	-	N/A
	Pole Count	Poles	-	14
	Rotor Thru-Bore	-	mm	27.25
	Direction of Rotation	DOR	CW/CCW	CW
	Stator Weight	WS	g	-
	Rotor Weight	WR	g	-
	Total Weight	WT	g	403
	Rotor Inertia	Jm	kg-cm²	0.521



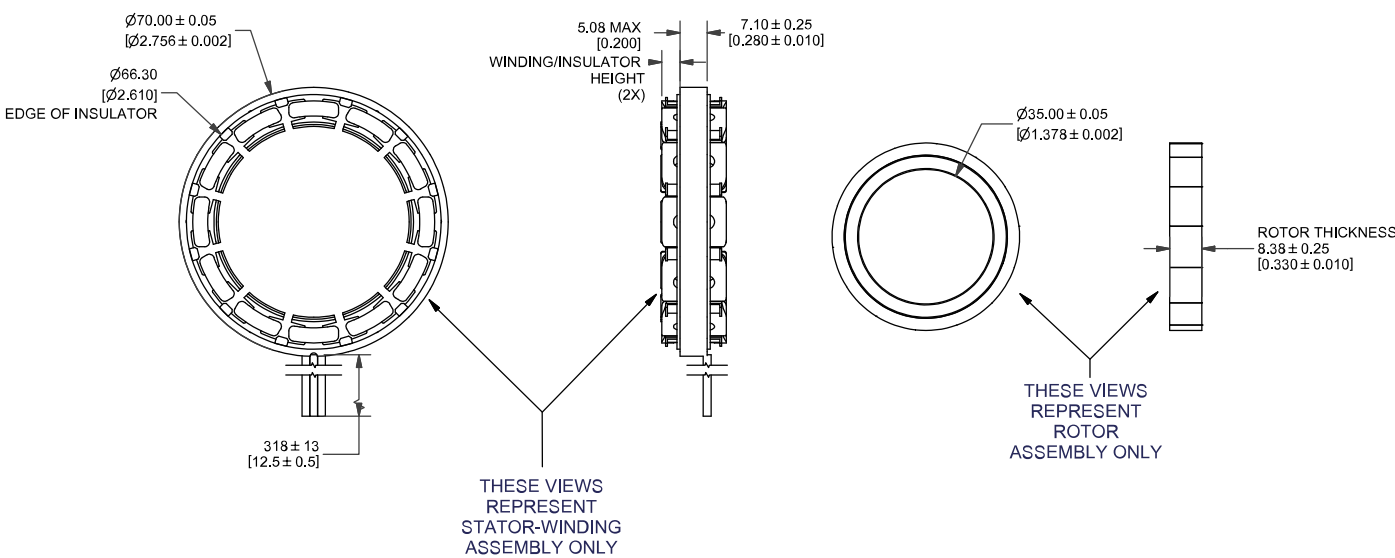
Notes



FC-070 Series

Frame Size	70 mm
Stack Length	7.1 mm
Rotor Thru-Bore	35 mm
Bus Voltage	24 - 96 VDC
Rated Torque	0.183 - 0.186 Nm
Rated Speed	3156 - 4016 RPM
Rated Power	61.4 - 77.4 W

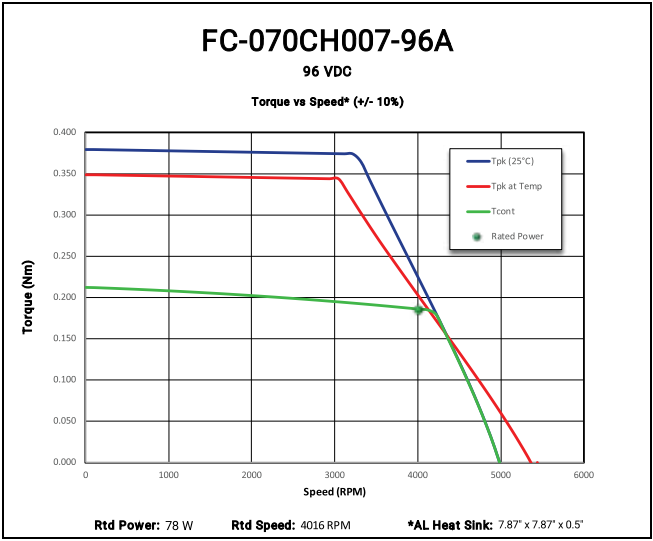
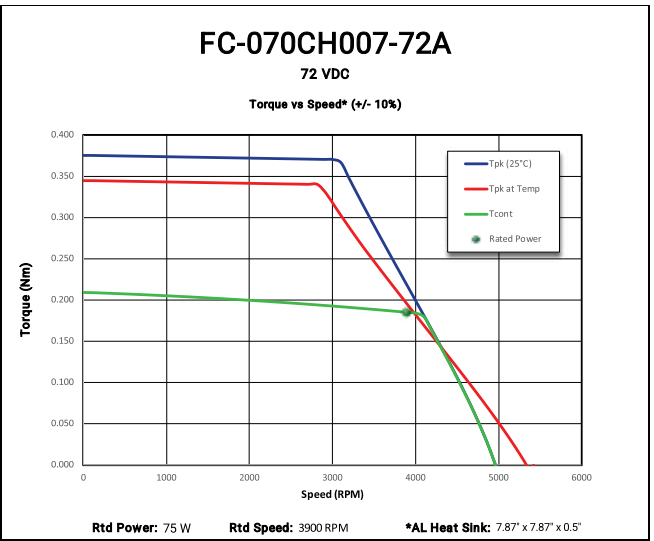
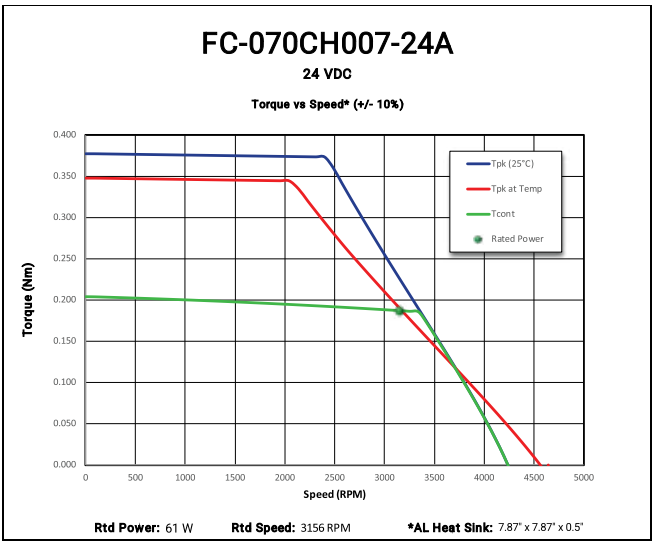
FC-070 Series Dimensional Drawing



Configure Online



				FC-070CX007-XXX		
	Parameter	Symbol	Units	24A	72A	96A
Performance	Rated Bus Voltage	Vbus	VDC	24	72	96
	Max Cont Torque	Tcont	Nm	0.204	0.208	0.211
	Max Cont Current	Icont	Arms	3.50	1.39	1.06
	Peak Torque	Tpk	Nm	0.378	0.375	0.379
	Peak Current	Ipk	Arms	6.47	2.50	1.90
	Rated Power	Prtd	watts	61.4	74.7	77.4
	Rated Speed	Nrtd	RPM	3,156	3,900	4,016
	Rated Torque	Trtd	Nm	0.186	0.183	0.184
Electrical	Connection	-	-	WYE		
	Terminal Res	RLL	Ω	0.980	5.95	9.81
	Terminal Ind	Lm	mH	0.72	4.8	7.3
	Back EMF Cold	Ke	Vpk/kRPM	5.61	14.4	19.1
		Ke	Vrms/kRPM	3.97	10.2	13.5
		Kb	Vpk/rad/s	0.054	0.138	0.182
	Kt at Temp	KtHot	Nm/Arms	0.058	0.149	0.198
	Motor Constant	Km	Nm/√W	0.054	0.056	0.058
	Electrical Time Const	Te	ms	0.73	0.80	0.74
Thermals	Insulation Class	-	-	Class F		
	Max Winding Temp	Twind	°C	155		
	Watts Loss	WLoss	watts	27.1	26.0	25.0
	Bulk Thermal Res	TPR	°C/watt	4.80	5.00	5.20
	Heat Sink Size	-	in	7.87 x 7.87 x 0.50		
Mechanical	Stator O.D.	-	mm	70.00		
	Stack Length	-	mm	7.10		
	Stator Length Max		mm	17.3 (no Halls) / 20.45 (w/Halls)		
	Thermal Device	-	-	N/A		
	Pole Count	Poles	-	14		
	Rotor Thru-Bore	-	mm	35.00		
	Direction of Rotation	DOR	CW/CCW	CW		
	Stator Weight	WS	g	-		
	Rotor Weight	WR	g	-		
	Total Weight	WT	g	139		
	Rotor Inertia	Jm	kg-cm²	0.316		



Notes

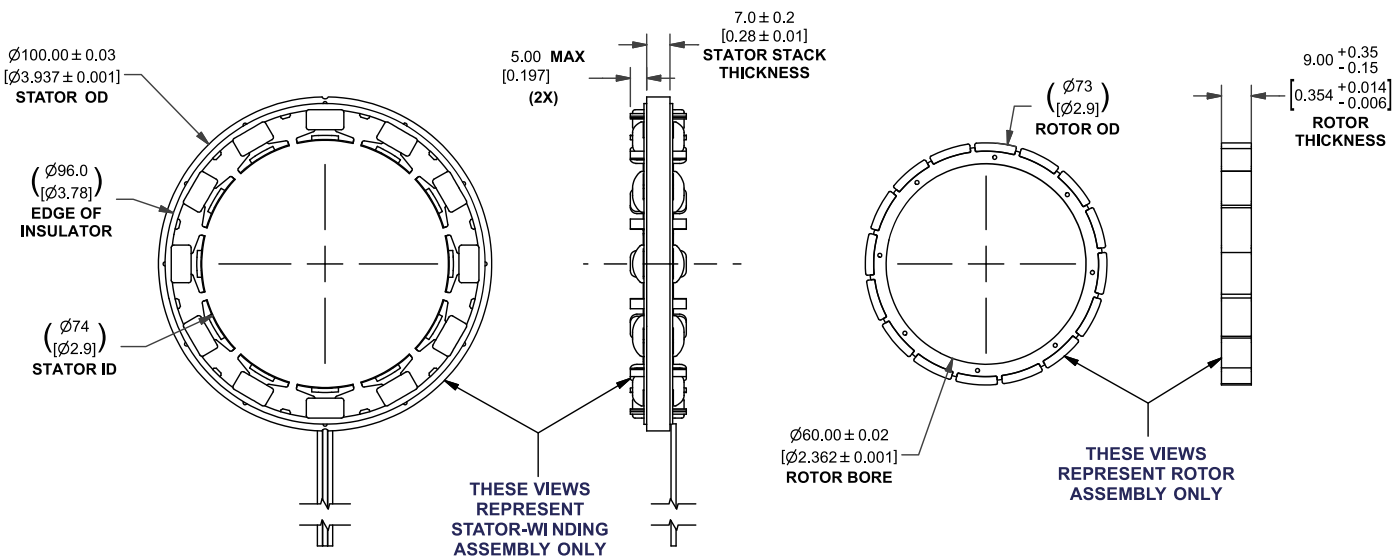
FCP-100 Series Specifications Table



FCP-100 Series

Frame Size	100 mm
Stack Length	7 mm
Rotor Thru-Bore	60 mm
Bus Voltage	72 VDC
Rated Torque	0.856 Nm
Rated Speed	603 RPM
Rated Power	54 W

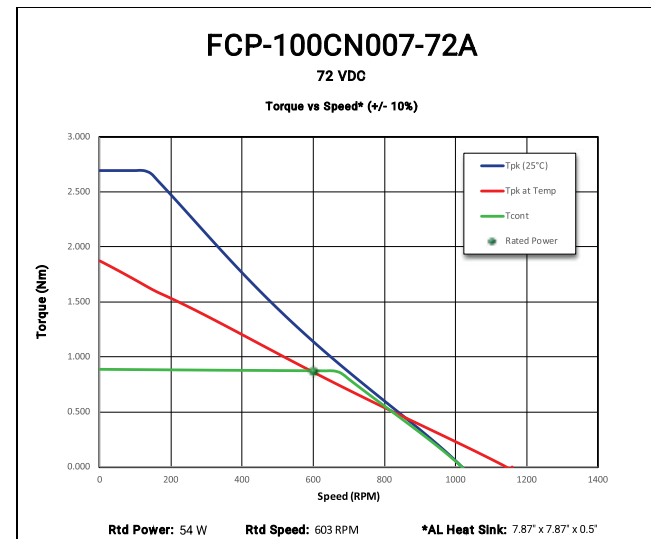
FCP-100 Series Dimensional Drawing



Configure Online



FCP-100CN007-XXX				72A
Performance	Parameter	Symbol	Units	
	Rated Bus Voltage	Vbus	VDC	72
	Max Cont Torque	Tcont	Nm	0.895
	Max Cont Current	Icont	Arms	1.26
	Peak Torque	Tpk	Nm	2.70
	Peak Current	Ipk	Arms	3.68
	Rated Power	Prtd	watts	54.0
	Rated Speed	Nrtd	RPM	603
Electrical	Rated Torque	Trtd	Nm	0.856
	Connection	-	-	WYE
	Terminal Res	RLL	Ω	13.5
	Terminal Ind	Lm	mH	26
	Back EMF Cold	Ke	Vpk/kRPM	70.0
		Ke	Vrms/kRPM	49.5
		Kb	Vpk/rad/s	0.668
	Kt at Temp	KtHot	Nm/Arms	0.711
Thermals	Motor Constant	Km	Nm/√W	0.182
	Electrical Time Const	Te	ms	2.0
	Insulation Class	-	-	Class F
	Max Winding Temp	Twind	°C	155
	Watts Loss	WLoss	watts	48.1
Mechanical	Bulk Thermal Res	TPR	°C/watt	2.70
	Heat Sink Size	-	in	7.87 x 7.87 x 0.50
	Stator O.D.	-	mm	100.00
	Stack Length	-	mm	7.00
	Stator Length Max	-	mm	17.00
	Thermal Device	-	-	N/A
	Pole Count	Poles	-	16
	Rotor Thru-Bore	-	mm	60.00
	Direction of Rotation	DOR	CW/CCW	CW
	Stator Weight	WS	g	-
	Rotor Weight	WR	g	-
	Total Weight	WT	g	250
	Rotor Inertia	Jm	kg-cm²	2.70



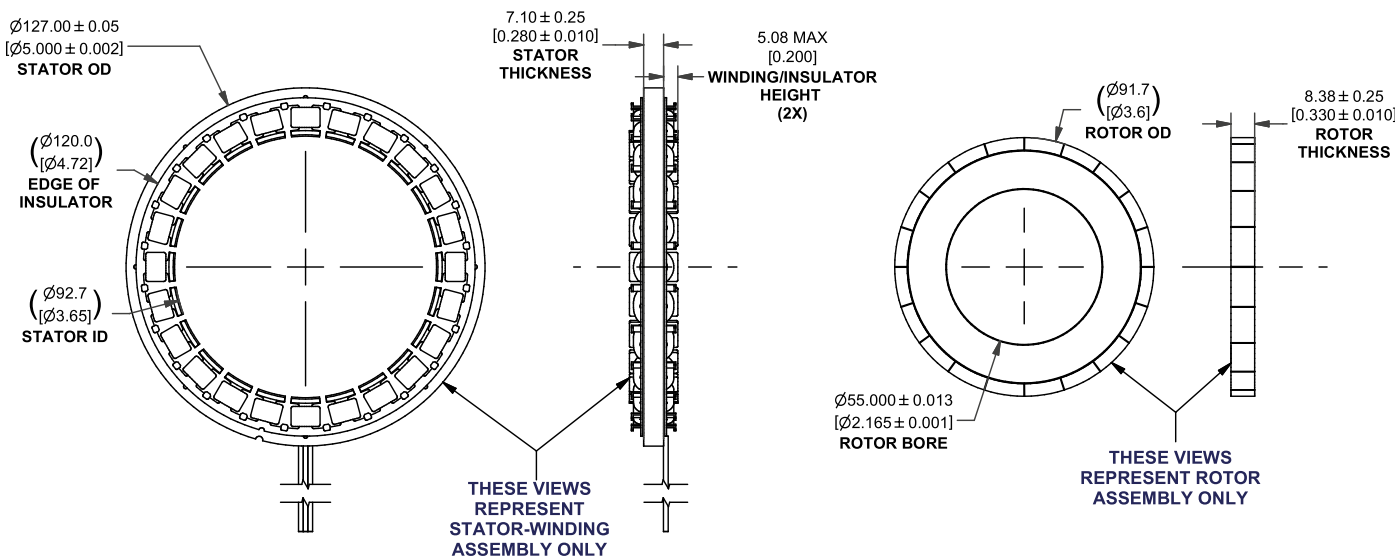
Notes



FC-127 Series

Frame Size	127 mm
Stack Length	7.1mm
Rotor Thru-Bore	55 mm
Bus Voltage	48 - 96 VDC
Rated Torque	0.98 - 1.00 Nm
Rated Speed	845 - 1924 RPM
Rated Power	88.3 - 197.0 W

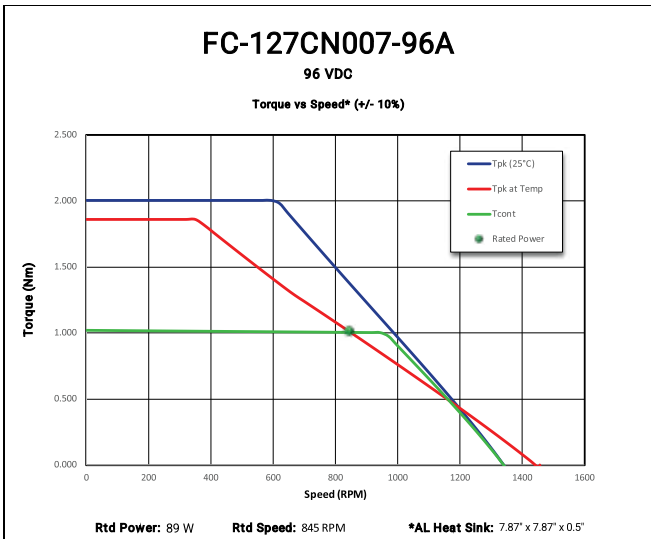
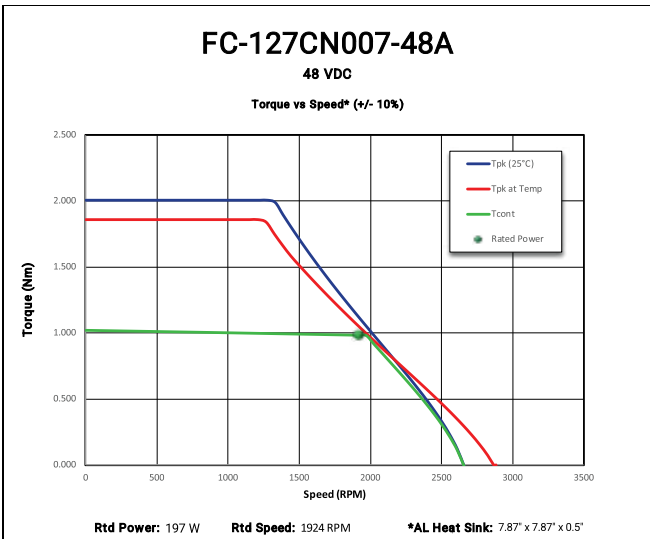
FC-127 Series Dimensional Drawing



Configure Online



			FC-127CN007-XXX	
			48A	96A
Performance	Parameter	Symbol	Units	
	Rated Bus Voltage	Vbus	VDC	48
	Max Cont Torque	Tcont	Nm	1.02
	Max Cont Current	Icont	Arms	5.53
	Peak Torque	Tpk	Nm	2.02
	Peak Current	Ipk	Arms	10.6
	Rated Power	Prtd	watts	197
	Rated Speed	Nrtd	RPM	1,924
Electrical	Rated Torque	Trtd	Nm	0.980
	Connection	-	-	WYE
	Terminal Res	RLL	Ω	0.930
	Terminal Ind	Lm	mH	1.7
	Back EMF Cold	Ke	Vpk/kRPM	18.0
		Ke	Vrms/kRPM	12.7
		Kb	Vpk/rad/s	0.172
	Kt at Temp	KtHot	Nm/Arms	0.184
Thermals	Motor Constant	Km	Nm/√W	0.178
	Electrical Time Const	Te	ms	1.7
	Insulation Class	-	-	Class F
	Max Winding Temp	Twind	°C	155
	Watts Loss	WLoss	watts	63.9
Mechanical	Bulk Thermal Res	TPR	°C/watt	2.03
	Heat Sink Size	-	in	7.87 x 7.87 x 0.50
	Stator O.D.	-	mm	127.00
	Stack Length	-	mm	7.10
	Stator Length Max	-	mm	17.26
	Thermal Device	-	-	N/A
	Pole Count	Poles	-	20
	Rotor Thru-Bore	-	mm	55.00
	Direction of Rotation	DOR	CW/CCW	CW
	Stator Weight	WS	g	-
	Rotor Weight	WR	g	-
	Total Weight	WT	g	341
	Rotor Inertia	Jm	kg-cm²	1.00



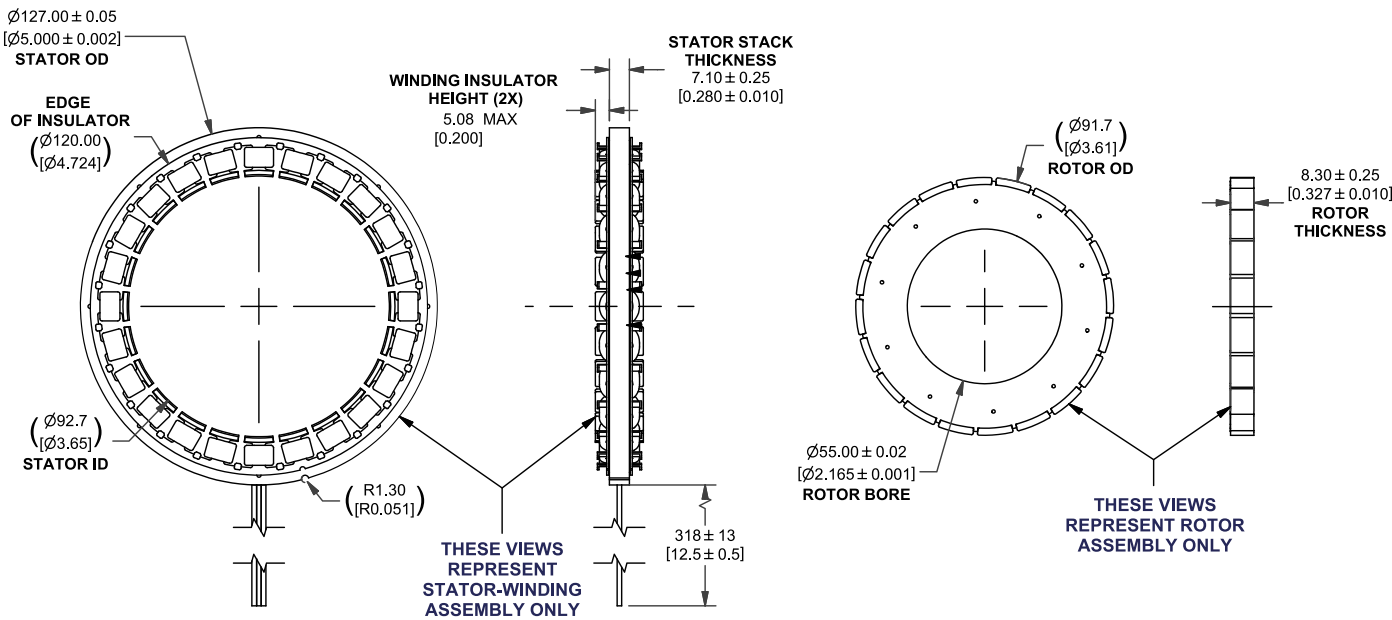
Notes



FCP-127 Series

Frame Size	127 mm
Stack Length	7.1 mm
Rotor Thru-Bore	55 mm
Bus Voltage	96 VDC
Rated Torque	1.44 Nm
Rated Speed	613 RPM
Rated Power	92.5 W

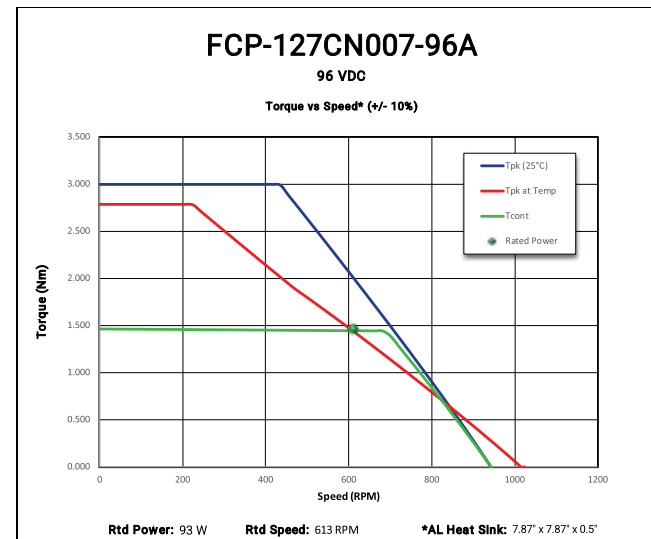
FCP-127 Series Dimensional Drawing



Configure Online



FCP-127CN007-XXX			
	Parameter	Symbol	Units
	96A		
Performance	Rated Bus Voltage	Vbus	VDC
	Max Cont Torque	Tcont	Nm
	Max Cont Current	Icont	Arms
	Peak Torque	Tpk	Nm
	Peak Current	Ipk	Arms
	Rated Power	Prt	watts
	Rated Speed	Nrtd	RPM
	Rated Torque	Trtd	Nm
Electrical	Connection	-	-
	Terminal Res	RLL	Ω
	Terminal Ind	Lm	mH
	Back EMF Cold	Ke	Vpk/kRPM
		Ke	Vrms/kRPM
		Kb	Vpk/rad/s
	Kt at Temp	KtHot	Nm/Arms
	Motor Constant	Km	Nm/√W
	Electrical Time Const	Te	ms
	Insulation Class	-	-
Thermals	Max Winding Temp	Twind	°C
	Watts Loss	WLoss	watts
	Bulk Thermal Res	TPR	°C/watt
	Heat Sink Size	-	in
			7.87 x 7.87 x 0.50
Mechanical	Stator O.D.	-	mm
	Stack Length	-	mm
	Stator Length Max	-	mm
	Thermal Device	-	-
	Pole Count	Poles	-
	Rotor Thru-Bore	-	mm
	Direction of Rotation	DOR	CW/CCW
	Stator Weight	WS	g
	Rotor Weight	WR	g
	Total Weight	WT	g
	Rotor Inertia	Jm	kg-cm²

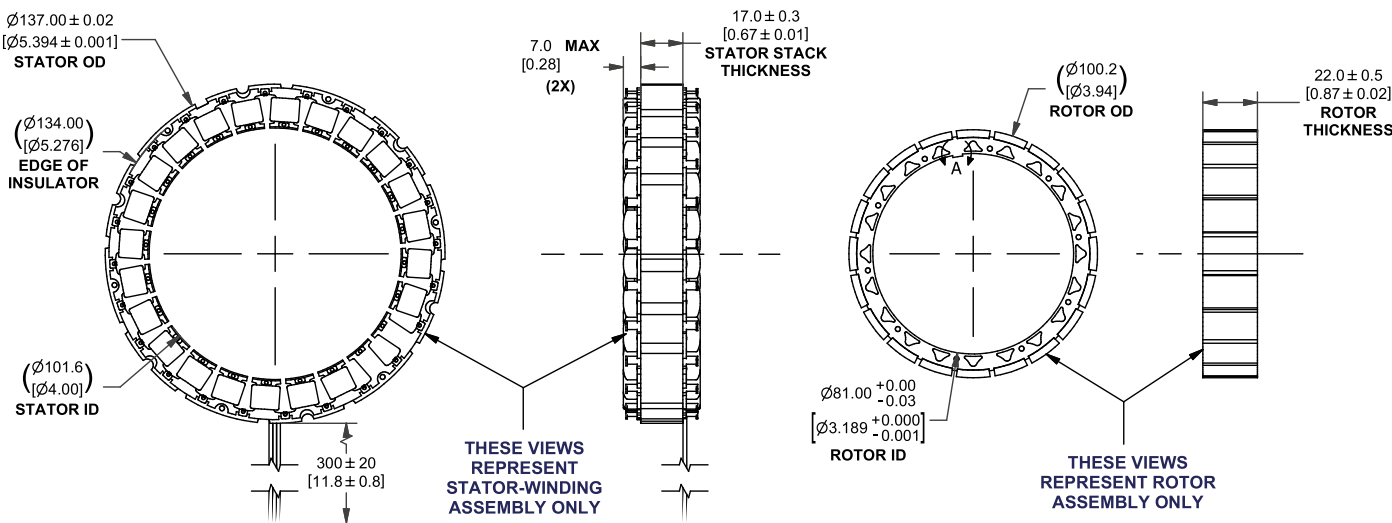


Notes

FCP-137 Series

Frame Size 137 mm
Stack Length 17 mm
Rotor Thru-Bore 81 mm
Bus Voltage120 VDC
Rated Torque5.04 Nm
Rated Speed297 RPM
Rated Power156 W

FCP-137 Series Dimensional Drawing

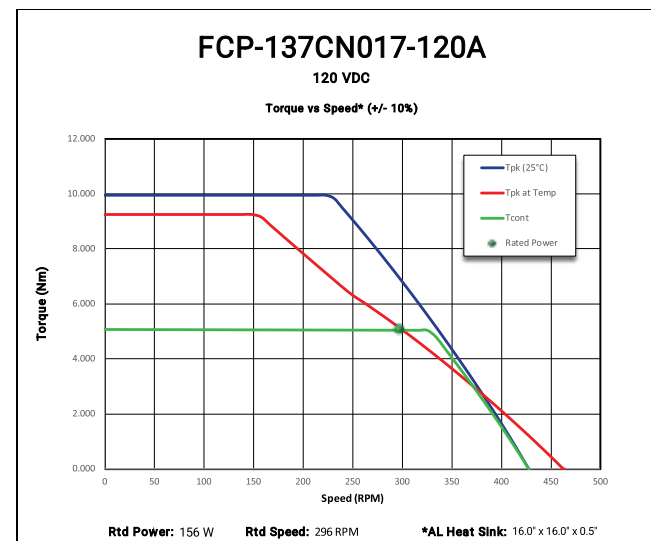


Configure Online



FCP-137 Series Specifications Table

FCP-137CN017-XXXX			
120A			
Performance	Parameter	Symbol	Units
	Rated Bus Voltage	Vbus	VDC
	Peak Torque	Tpk	Nm
	Peak Current	Ipk	Arms
	Max Cont Torque	Tcont	Nm
	Max Cont Current	Icont	Arms
	Rated Power	Prt	watts
	Rated Speed	Nrtd	RPM
Electrical	Rated Torque	Trtd	Nm
	Connection	-	-
	Terminal Res	RLL	Ω
	Terminal Ind	Lm	mH
	Back EMF Cold	Ke	Vpk/kRPM
		Ke	Vrms/kRPM
		Kb	Vpk/rad/s
	Kt at Temp	Kt	Nm/Arms
Thermals	Km Cold	KmCold	Nm/ $\sqrt{W}$
	Electrical Time Const	Te	ms
	Insulation Class	-	-
	Max Winding Temp	Twind	$^{\circ}C$
	Watts Loss	WLoss	watts
	Bulk Thermal Res	TPR	$^{\circ}C/watt$
	Heat Sink Size	-	in
	16 x 16 x 0.500		
Mechanical	Stator O.D.	-	mm
	Stack Length	-	mm
	Stator Length Max	-	mm
	Thermal Device	-	-
	Pole Count	Poles	-
	Rotor Thru-Bore	-	mm
	Direction of Rotation	DOR	CW/CCW
	Stator Weight	WS	g
	Rotor Weight	WR	g
	Total Weight	WT	g
	Rotor Inertia	Jm	kg-cm ²

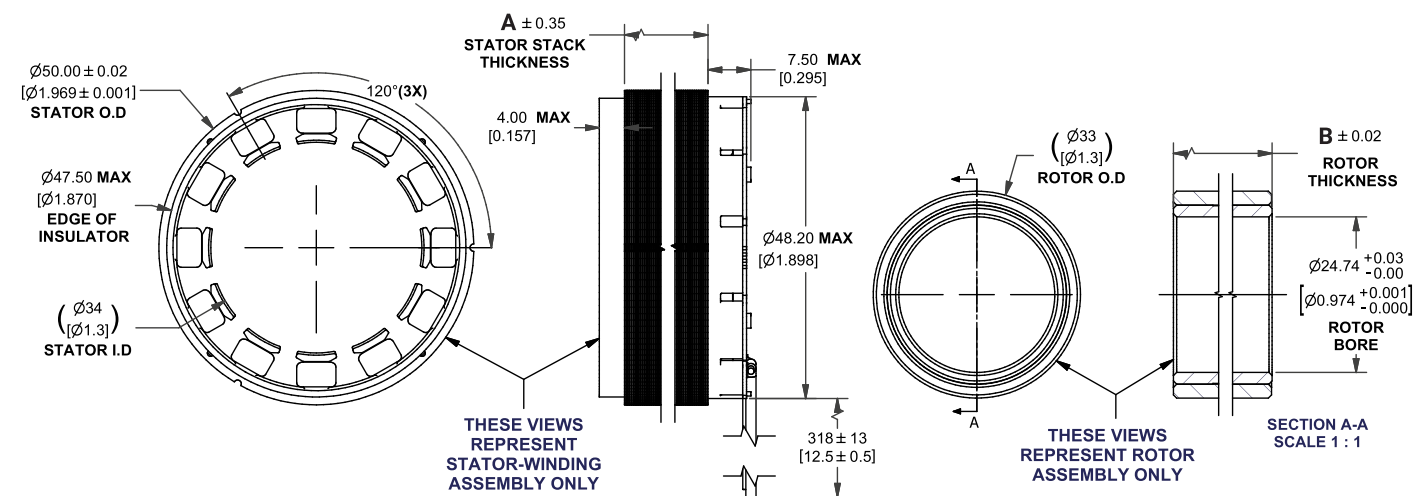


Notes

PC-T050 Series

Frame Size 50 mm
Stack Length 8.2 - 26.3 mm
Rotor Thru-Bore 24.74 mm
Bus Voltage 48 VDC
Rated Torque 0.243 - 0.722 Nm
Rated Speed 1507 - 7800 RPM
Rated Power 114 - 414 W

PC-T050 Series Dimensional Drawing



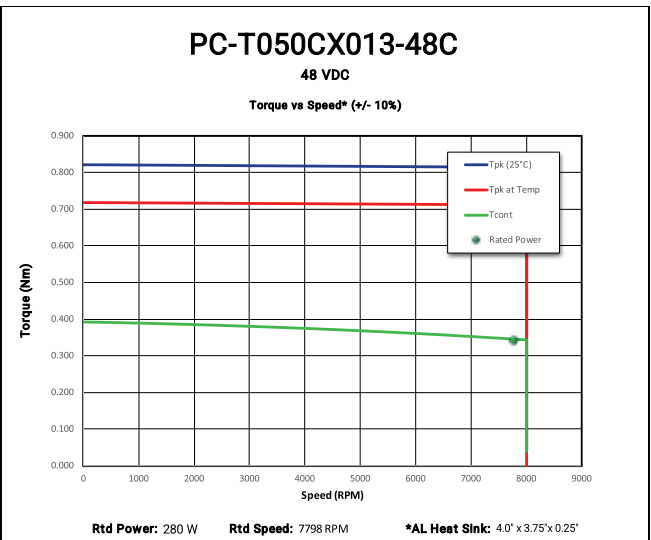
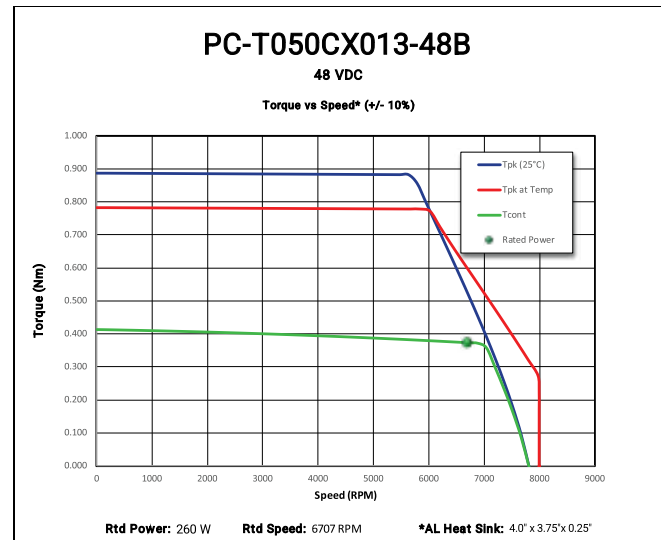
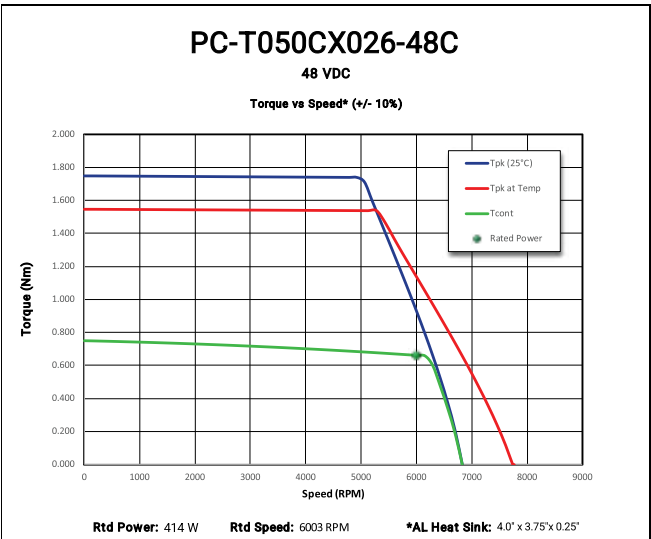
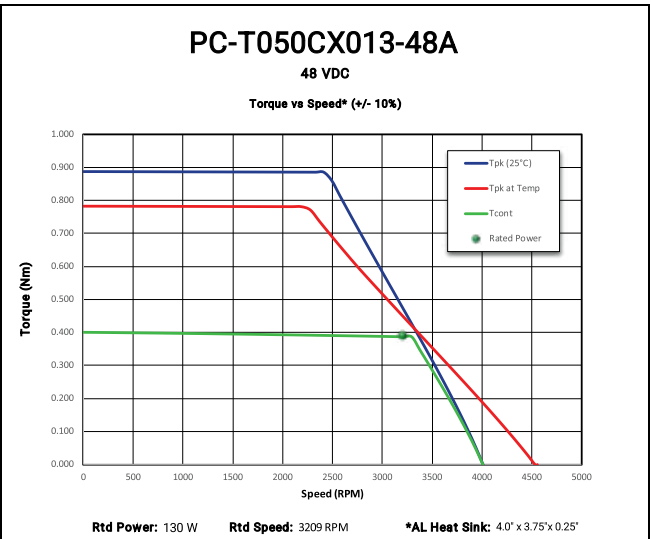
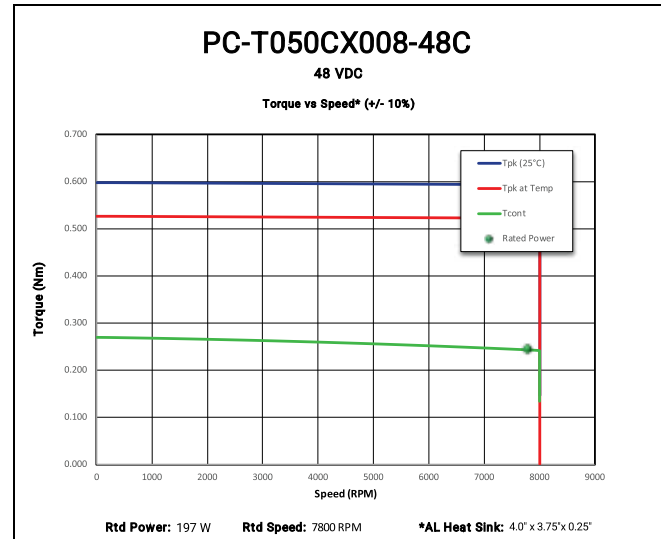
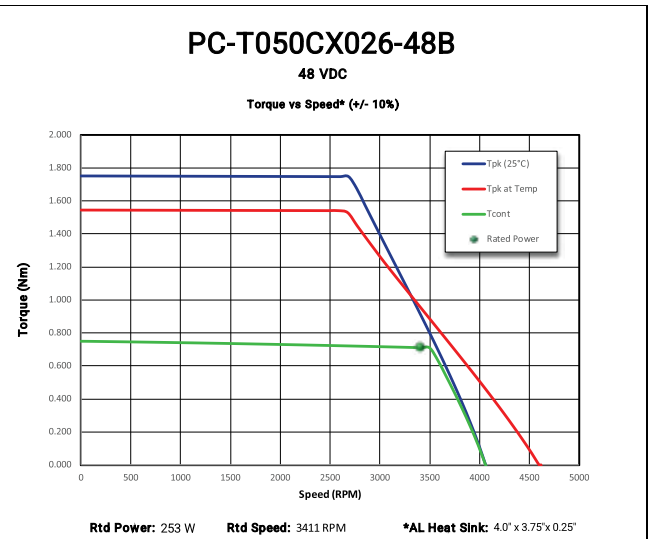
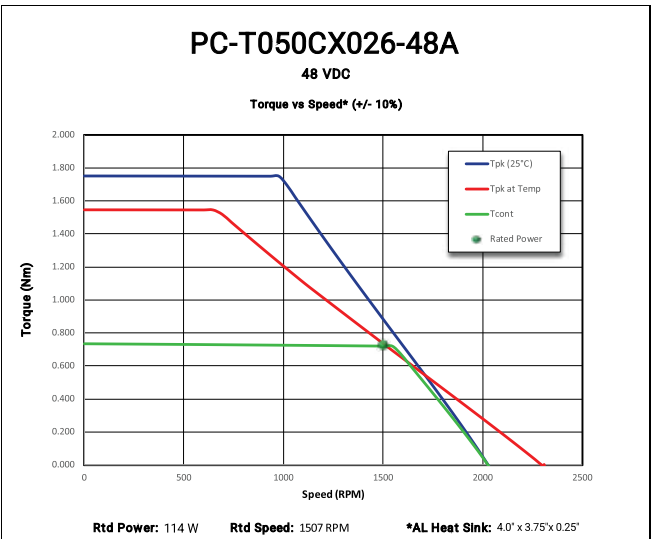
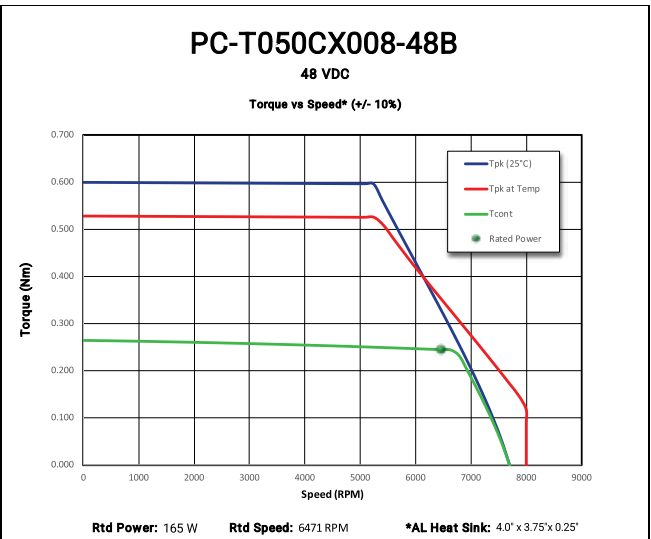
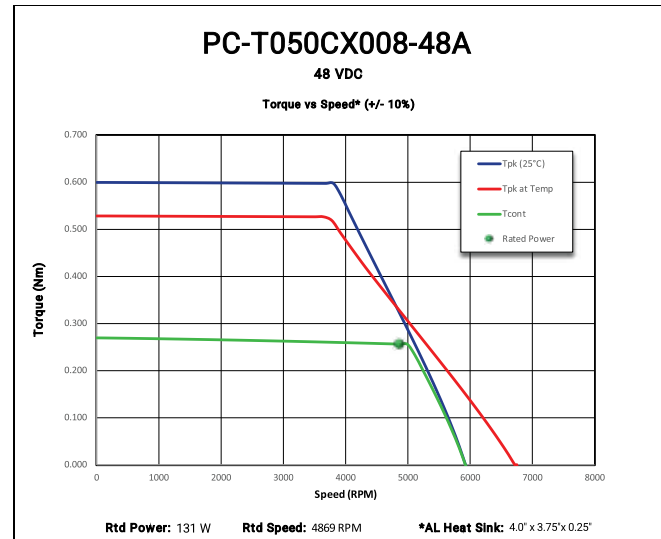
Dimensional Data

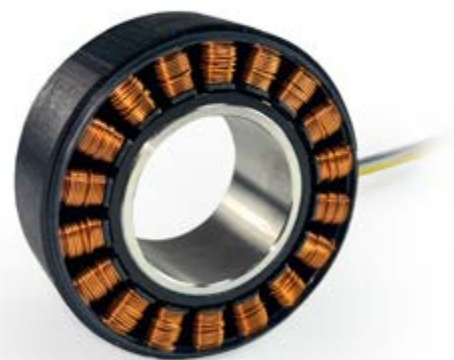
	Dim. A (mm)	Dim. B (mm)
PC-T050CX008-XXX	8.20	14.76
PC-T050CX013-XXX	12.70	19.26
PC-T050CX026-XXX	26.30	32.86

Configure Online



				PC-T050CX008-XXX			PC-T050CX013-XXX			PC-T050CX026-XXX		
	Parameter	Symbol	Units	48A	48B	48C	48A	48B	48C	48A	48B	48C
Performance	Rated Bus Voltage	V_{bus}	VDC	48	48	48	48	48	48	48	48	48
	Max Cont Torque @ $T_{wind} = 155^{\circ}\text{C}$	T_{cont}	Nm	0.270	0.264	0.270	0.400	0.412	0.395	0.736	0.749	0.752
	Max Cont Current @ $T_{wind} = 155^{\circ}\text{C}$	I_{cont}	Arms	3.25	4.13	6.50	3.26	6.52	9.16	3.04	6.19	10.4
	Max Cont Torque @ $T_{wind} = 85^{\circ}\text{C}$	T_{cont}	Nm	0.216	0.211	0.216	0.321	0.330	0.316	0.589	0.599	0.600
	Max Cont Current @ $T_{wind} = 85^{\circ}\text{C}$	I_{cont}	Arms	2.44	3.10	4.87	2.45	4.89	6.87	2.28	4.64	7.83
	Peak Torque	T_{pk}	Nm	0.599	0.599	0.597	0.887	0.888	0.864	1.75	1.75	1.75
	Peak Current	I_{pk}	Arms	6.62	8.59	13.2	6.62	12.9	18.4	6.62	13.2	22.3
	Rated Power & Speed: 48 VDC @ 155°C Winding											
	Rated Power	P_{rtd}	watts	131	165	199	130	260	283	114	253	414
	Rated Speed	N_{rtd}	RPM	4,869	6,471	7,800	3,209	6,707	7,798	1,507	3,411	6,003
	Rated Torque	T_{rtd}	Nm	0.256	0.243	0.244	0.387	0.370	0.346	0.722	0.709	0.659
	Rated Power & Speed: 48 VDC @ 85°C Winding											
	Rated Power	P_{rtd}	watts	104	125	136	105	186	184	95.8	197	276
	Rated Speed	N_{rtd}	RPM	5,217	6,922	7,800	3,443	7,165	7,798	1,626	3,569	6,270
	Rated Torque	T_{rtd}	Nm	0.190	0.173	0.167	0.292	0.248	0.226	0.563	0.526	0.421
	Rated Power & Speed: 24 VDC @ 155°C Winding											
	Rated Power	P_{rtd}	watts	56.2	79.0	131	52.5	130	186	30.0	114	211
	Rated Speed	N_{rtd}	RPM	2,023	2,934	4,869	1,334	3,125	4,790	392	1,476	2,802
	Rated Torque	T_{rtd}	Nm	0.265	0.257	0.256	0.376	0.398	0.371	0.732	0.735	0.720
	Rated Power & Speed: 24 VDC @ 85°C Winding											
Rated Power	P_{rtd}	watts	50.5	65.9	104	48.6	106	143.2	38.7	97.7	168	
Rated Speed	N_{rtd}	RPM	2,319	3,160	5,217	1,487	3,354	5,013	646	1,626	2,935	
Rated Torque	T_{rtd}	Nm	0.208	0.199	0.190	0.312	0.303	0.273	0.573	0.570	0.546	
Electrical	Connection	-	-	WYE			WYE			WYE		
	Terminal Res	R_{LL}	Ω	1.44	0.892	0.360	1.75	0.438	0.222	2.73	0.683	0.240
	Terminal Ind	L_m	mH	0.85	0.51	0.21	1.2	0.31	0.15	2.3	0.58	0.21
	Back EMF Cold	K_e	$V_{pk}/kRPM$	8.07	6.22	4.04	12.0	6.14	4.20	23.6	11.8	7.02
		K_e	$V_{rms}/kRPM$	5.71	4.40	2.85	8.46	4.34	2.97	16.7	8.34	4.96
		K_b	$V_{pk}/rad/s$	0.077	0.059	0.039	0.114	0.059	0.040	0.225	0.113	0.067
	Kt at Temp	K_{tHot}	Nm/Arms	0.083	0.064	0.042	0.123	0.063	0.043	0.242	0.121	0.072
	Motor Constant	K_m	Nm/ $\sqrt{W}$	0.064	0.063	0.064	0.086	0.089	0.085	0.136	0.136	0.137
	Electrical Time Const	T_e	ms	0.59	0.57	0.59	0.71	0.71	0.69	0.85	0.85	0.86
	Thermals	Insulation Class	-	-	Class F			Class F			Class F	
Max Winding Temp		T_{wind}	$^{\circ}\text{C}$	155			155			155		
Watts Loss		W_{Loss}	watts	34.2			41.9			56.8		
Bulk Thermal Res		TPR	$^{\circ}\text{C}/\text{watt}$	3.80			3.10			2.29		
Heat Sink Size		-	in	4.0" x 3.75" x 0.25"			4.0" x 3.75" x 0.25"			4.0" x 3.75" x 0.25"		
Mechanical	Stator O.D.	-	mm	50.00			50.00			50.00		
	Stack Length	-	mm	8.20			12.70			26.30		
	RTD (Optional)	-	-	PT1000			PT1000			PT1000		
	Pole Count	$Poles$	-	14			14			14		
	Rotor Thru-Bore	-	mm	24.74			24.74			24.74		
	Direction of Rotation	DOR	CW/CCW	CW			CW			CW		
	Stator Weight	WS	g	60.0			85.4			164		
	Rotor Weight	WR	g	38.4			50.2			85.2		
	Total Weight	WT	g	98.4			136			250		
Rotor Inertia	J_m	kg-cm ²	0.081			0.106			0.180			

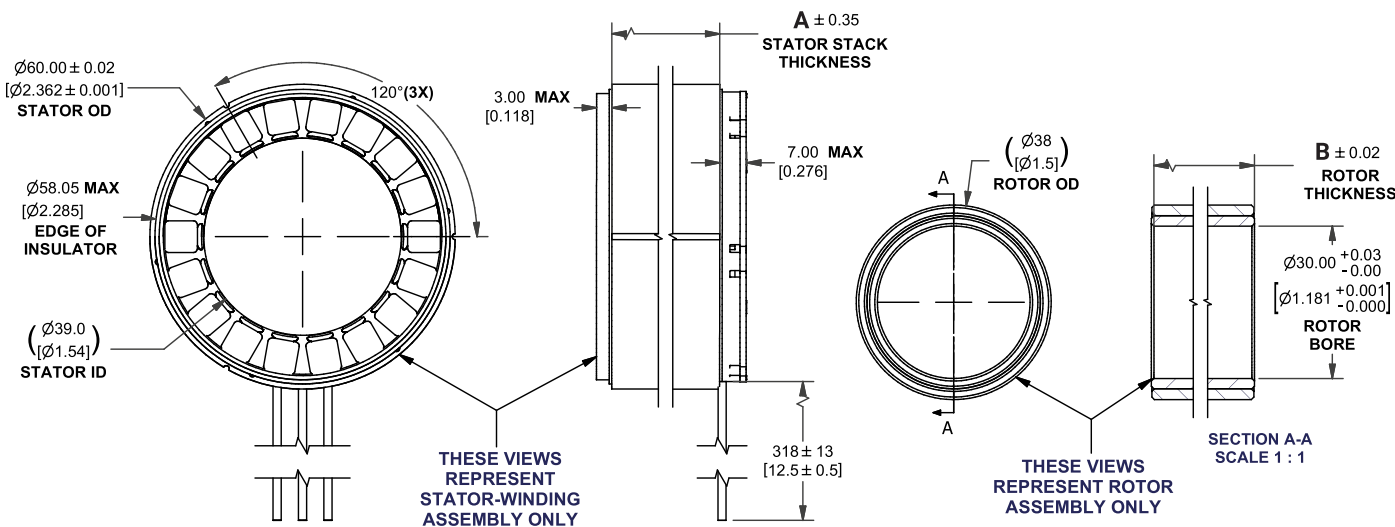




PC-T060 Series

Frame Size	60 mm
Stack Length	8.2 - 26.3 mm
Rotor Thru-Bore	30 mm
Bus Voltage	48 VDC
Rated Torque	0.362 - 1.08 Nm
Rated Speed	980 - 7800 RPM
Rated Power	111 - 430 W

PC-T060 Series Dimensional Drawing



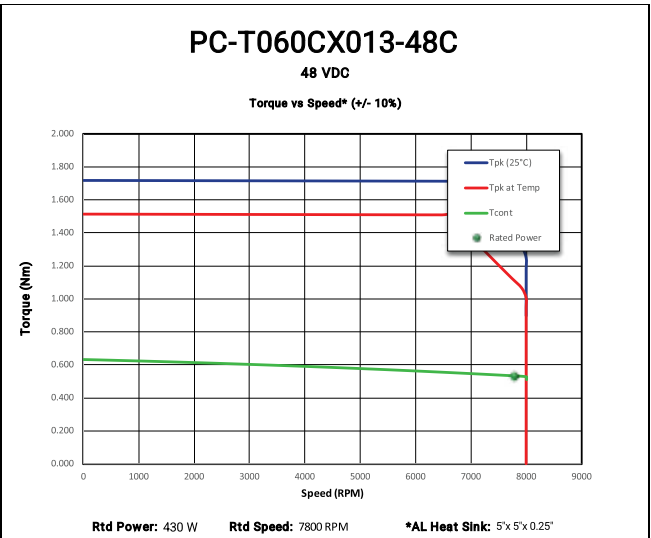
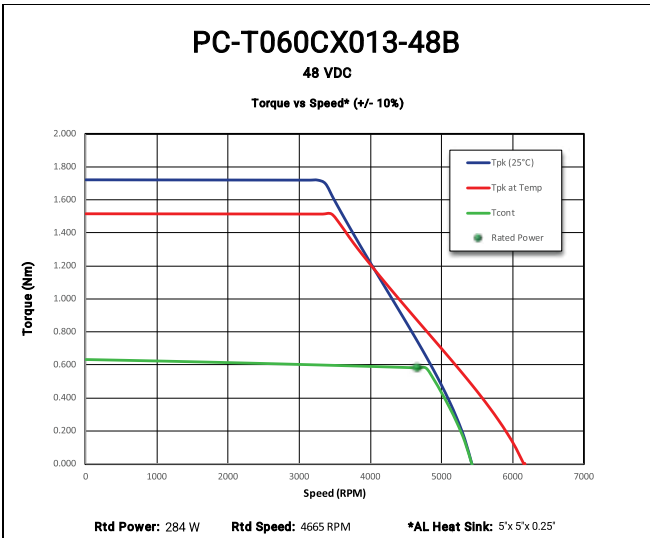
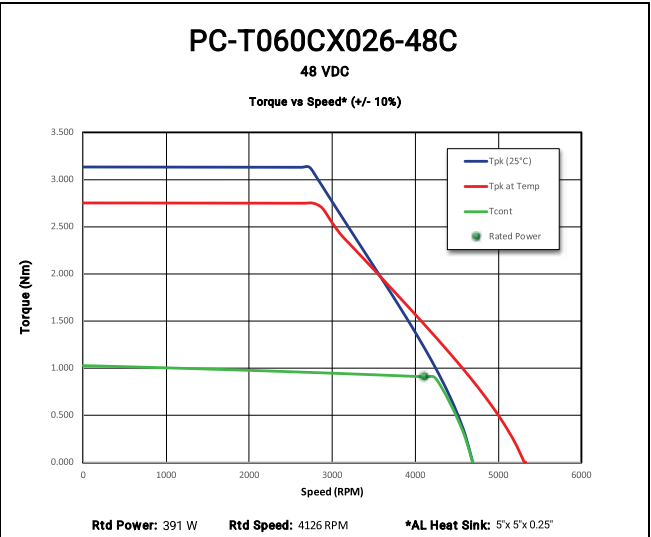
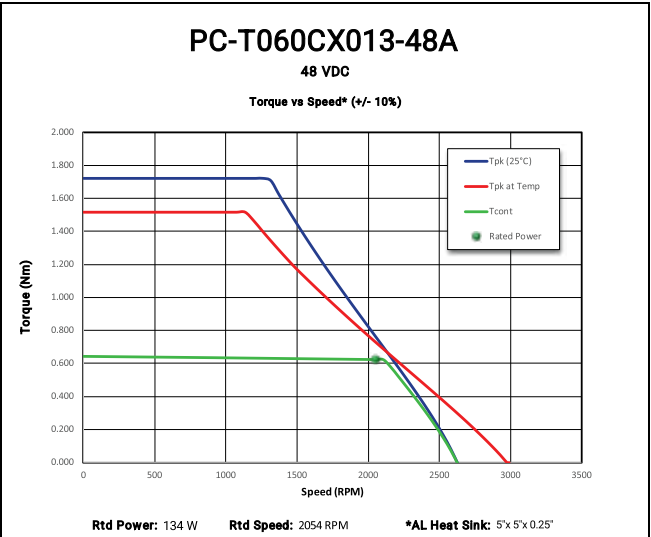
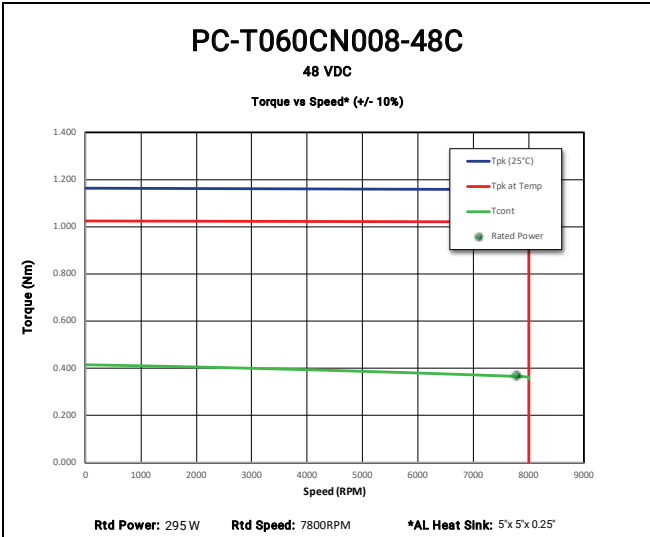
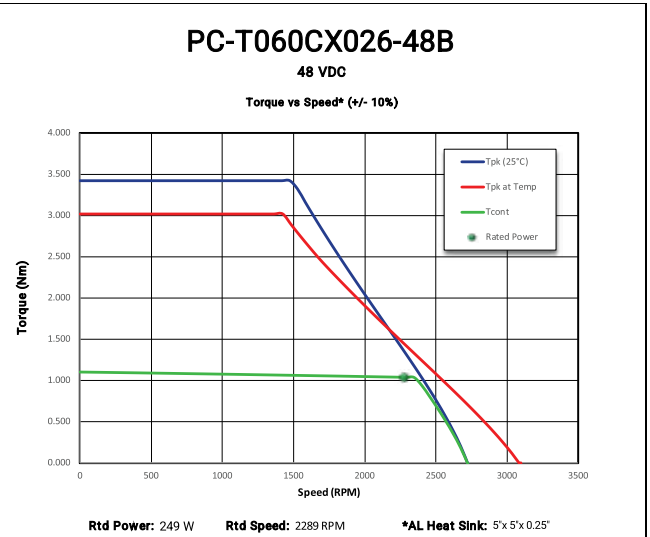
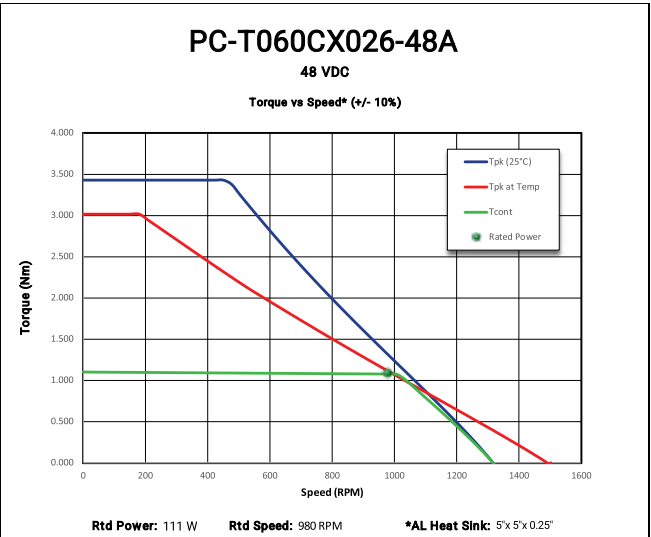
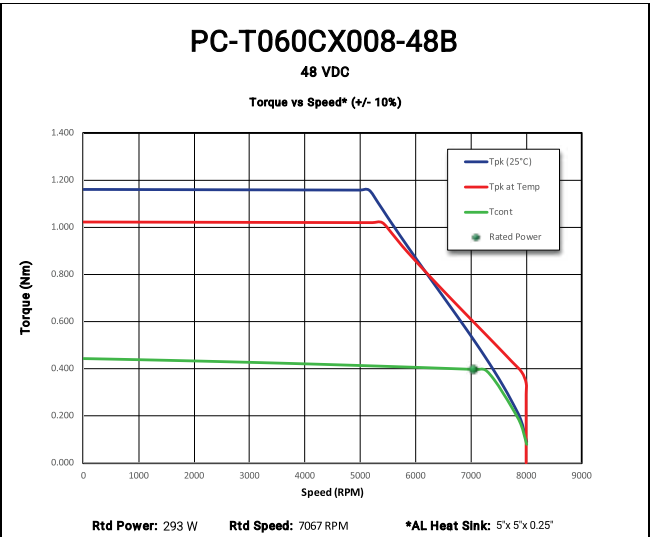
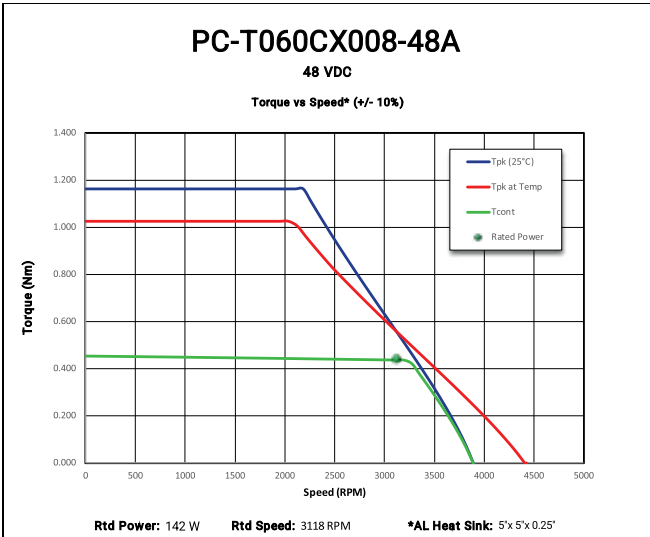
Dimensional Data

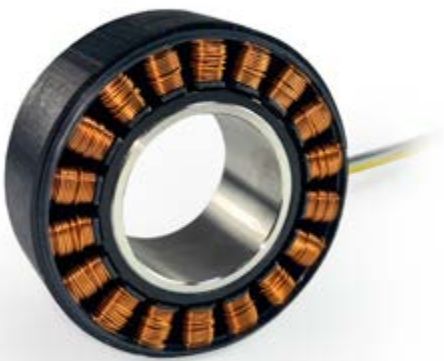
	Dim. A (mm)	Dim. B (mm)
PC-T060CX008-XXX	8.20	14.76
PC-T060CX013-XXX	12.70	19.26
PC-T060CX026-XXX	26.30	32.86

Configure Online



	Parameter	Symbol	Units	PC-T060CX008-XXX			PC-T060CX013-XXX			PC-T060CX026-XXX		
				48A	48B	48C	48A	48B	48C	48A	48B	48C
Performance	Rated Bus Voltage	Vbus	VDC	48	48	48	48	48	48	48	48	48
	Max Cont Torque @ Twind = 155°C	Tcont	Nm	0.451	0.444	0.445	0.645	0.634	0.631	1.10	1.10	1.04
	Max Cont Current @ Twind = 155°C	Icont	Arms	3.66	7.44	12.0	3.53	7.18	12.4	3.04	6.28	10.2
	Max Cont Torque @ Twind = 85°C	Tcont	Nm	0.362	0.357	0.358	0.517	0.509	0.508	0.883	0.883	0.835
	Max Cont Current @ Twind = 85°C	Icont	Arms	2.75	5.58	8.99	2.65	5.38	9.27	2.28	4.71	7.67
	Peak Torque	Tpk	Nm	1.16	1.16	1.16	1.72	1.72	1.72	3.43	3.43	3.43
	Peak Current	Ipk	Arms	8.75	18.1	31.1	8.75	18.1	9.27	8.75	18.1	31.1
	Rated Power & Speed: 48 VDC @ 155°C Winding											
	Rated Power	Prtld	watts	142	293	295	134	284	430	111	249	396
	Rated Speed	Nrtd	RPM	3,118	7,067	7,800	2,054	4,665	7,800	980	2,289	4,126
	Rated Torque	Trtd	Nm	0.434	0.396	0.362	0.624	0.582	0.526	1.08	1.04	0.916
	Rated Power & Speed: 48 VDC @ 85°C Winding											
	Rated Power	Prtld	watts	115	203	193	111	209	249	92.9	190	262
	Rated Speed	Nrtd	RPM	3,347	7,381	7,722	2,208	4,877	7,547	1,083	2,395	4,309
	Rated Torque	Trtd	Nm	0.329	0.263	0.238	0.479	0.408	0.315	0.820	0.759	0.580
Electrical	Rated Power & Speed: 24 VDC @ 155°C Winding											
	Rated Power	Prtld	watts	61.8	144	237	53.2	136	243	30.8	114	200
	Rated Speed	Nrtd	RPM	1,327	3,220	5,950	806	2,121	3,925	270	1,011	1,925
	Rated Torque	Trtd	Nm	0.445	0.427	0.380	0.630	0.614	0.592	1.09	1.08	0.992
	Rated Power & Speed: 24 VDC @ 85°C Winding											
	Rated Power	Prtld	watts	55.6	114	172	52.8	112	243	38.0	97.3	159
	Rated Speed	Nrtd	RPM	1,521	3,534	6,220	976	2,333	3,925	420	1,118	2,063
	Rated Torque	Trtd	Nm	0.349	0.307	0.265	0.517	0.459	0.592	0.864	0.831	0.736
	Connection	-	-	WYE			WYE			WYE		
	Terminal Res	RLL	Ω	1.25	0.302	0.117	1.58	0.382	0.129	2.60	0.611	0.230
	Terminal Ind	Lm	mH	0.94	0.23	0.078	1.5	0.33	0.113	2.9	0.68	0.23
	Back EMF Cold	Ke	Vpk/kRPM	12.3	5.96	3.46	18.2	8.83	5.13	36.3	17.6	10.2
		Ke	Vrms/kRPM	8.70	4.21	2.45	12.9	6.24	3.63	25.7	12.4	7.22
		Kb	Vpk/rad/s	0.118	0.057	0.033	0.174	0.084	0.049	0.347	0.168	0.097
	Kt at Temp	KtHot	Nm/Arms	0.123	0.060	0.037	0.182	0.088	0.051	0.363	0.176	0.102
	Motor Constant	Km	Nm/√W	0.105	0.104	0.097	0.139	0.136	0.136	0.215	0.215	0.203
	Electrical Time Const	Te	ms	0.75	0.75	0.67	0.97	0.87	0.88	1.1	1.1	1.0
Thermals	Insulation Class	-	-	Class F			Class F			Class F		
	Max Winding Temp	Twind	°C	155			155			155		
	Watts Loss	WLoss	watts	37.7			44.4			54.2		
	Bulk Thermal Res	TPR	°C/watt	3.45			2.93			2.40		
Mechanical	Heat Sink Size	-	in	5"x 5"x 0.25"			5"x 5"x 0.25"			5"x 5"x 0.25"		
	Stator O.D.	-	mm	60.00			60.00			60.00		
	Stack Length	-	mm	8.20			12.70			26.30		
	Stator Length Max	-	mm	19.71			24.21			37.81		
	RTD (Optional)	-	-	PT1000			PT1000			PT1000		
	Pole Count	Poles	-	20			20			20		
	Rotor Thru-Bore	-	mm	30.00			30.00			30.00		
	Direction of Rotation	DOR	CW/CCW	CW			CW			CW		
	Stator Weight	WS	g	85.0			124			242		
	Rotor Weight	WR	g	45.7			60.0			103		
	Total Weight	WT	g	131			184			345		
	Rotor Inertia	Jm	kg-cm²	0.135			0.177			0.305		

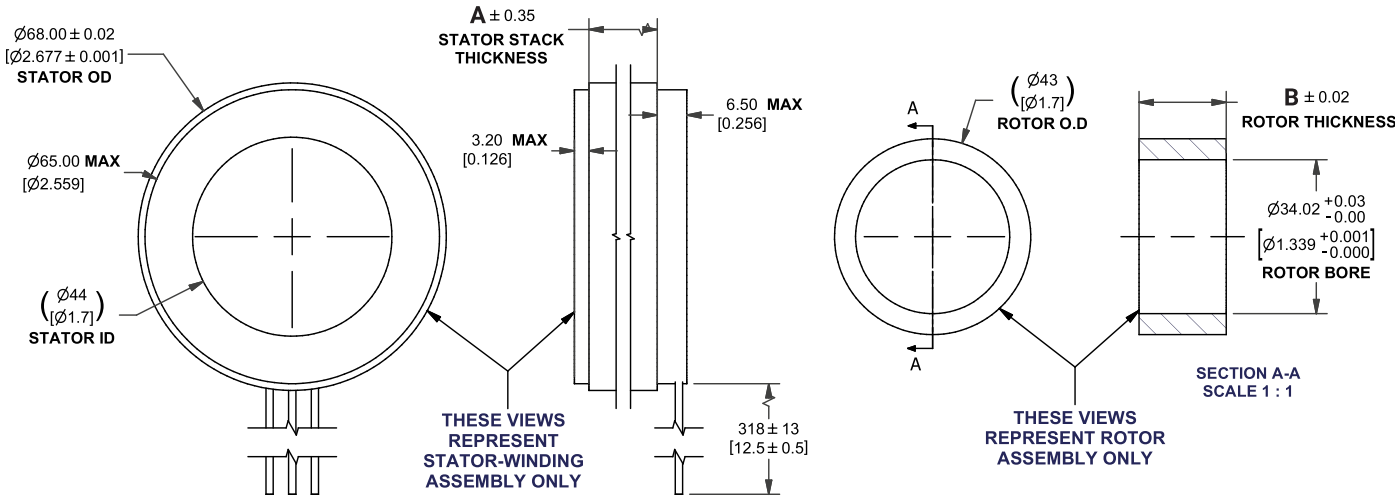




PC-T068 Series

Frame Size	68 mm
Stack Length	8.2 - 26.3 mm
Rotor Thru-Bore	34 mm
Bus Voltage	48 VDC
Rated Torque	0.556 - 1.75 Nm
Rated Speed	815 - 7800 RPM
Rated Power	149 - 553 W

PC-T068 Series Dimensional Drawing



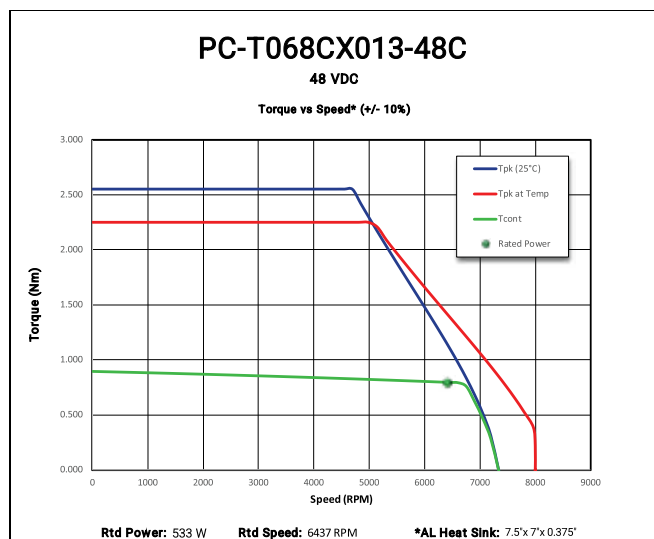
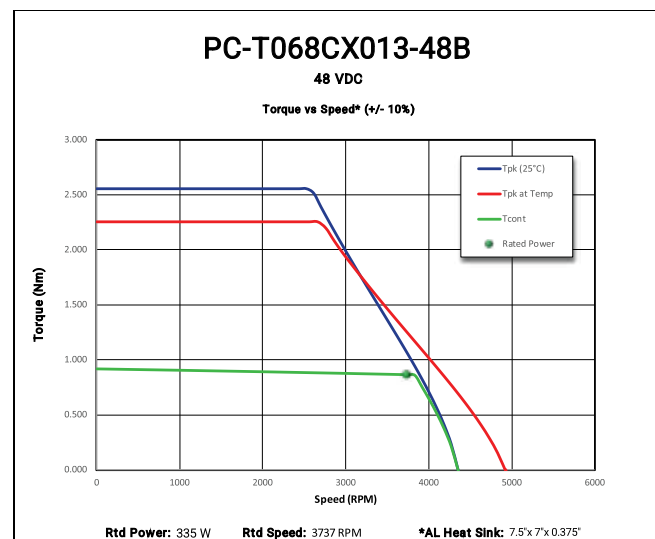
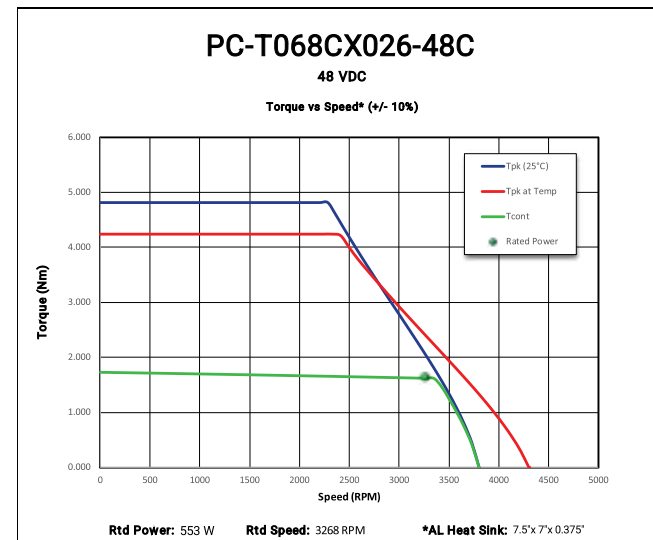
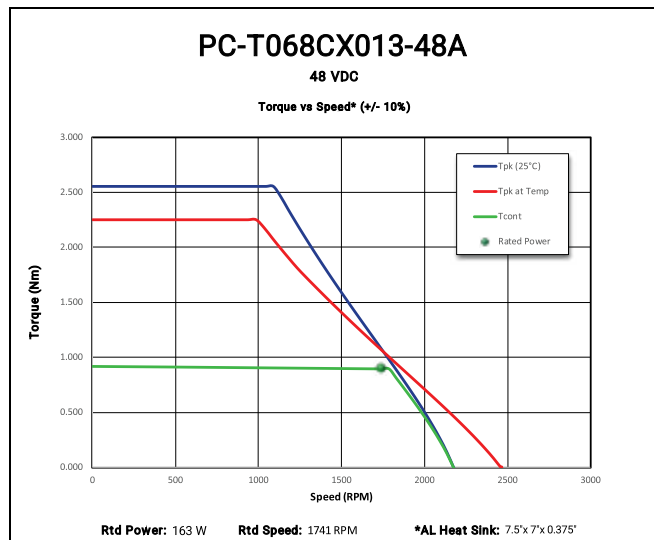
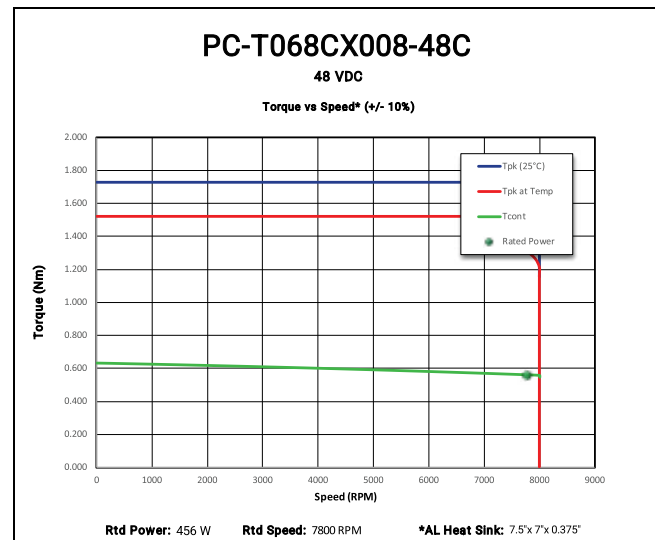
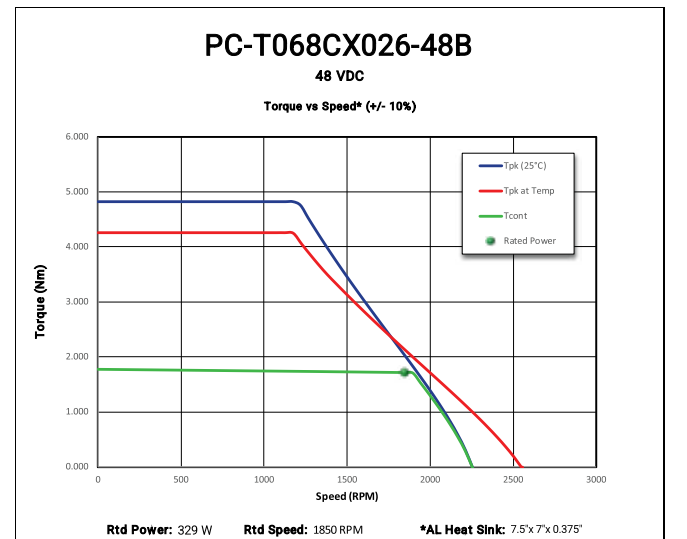
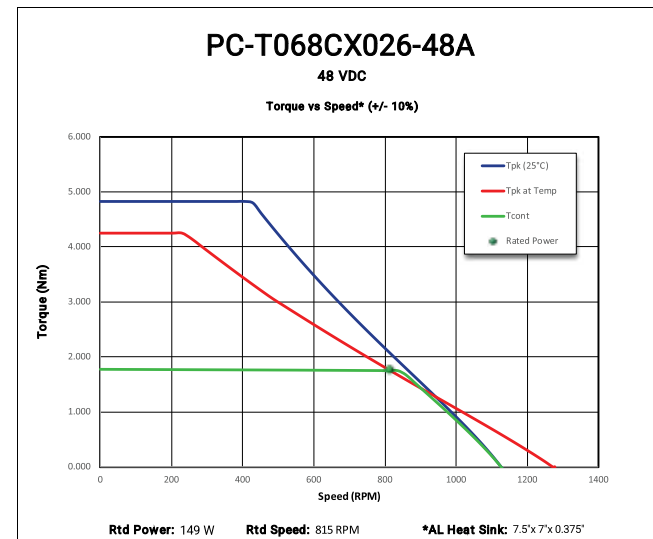
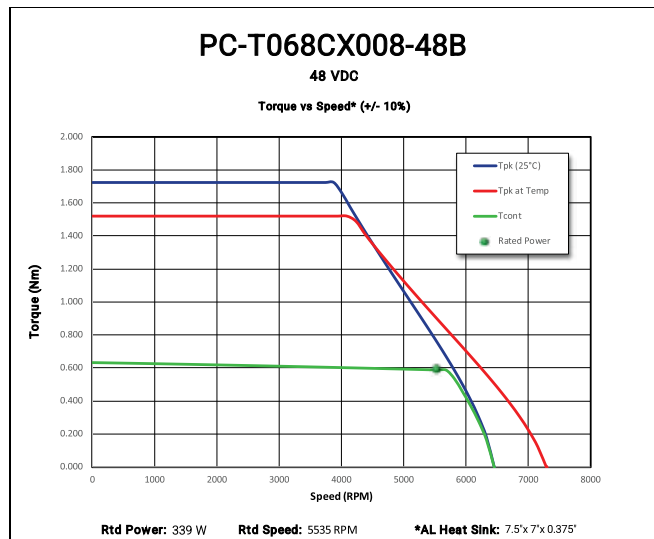
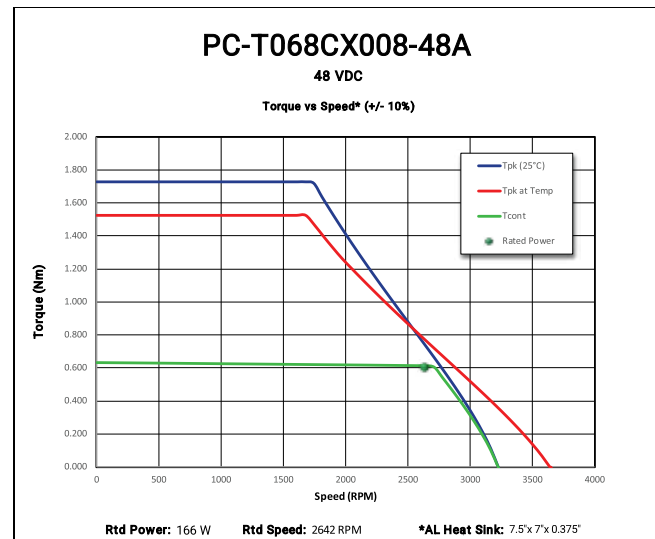
Dimensional Data

	Dim. A (mm)	Dim. B (mm)
PC-T068CX008-XXX	8.20	14.76
PC-T068CX013-XXX	12.70	19.26
PC-T068CX026-XXX	26.30	32.86

Configure Online

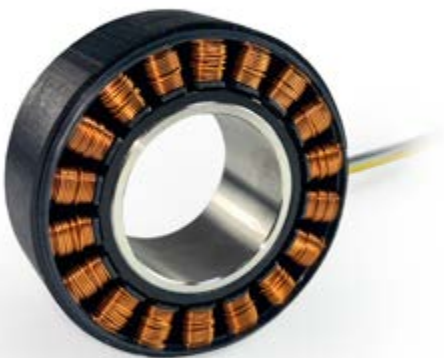


	Parameter	Symbol	Units	PC-T068CX008-XXX			PC-T068CX013-XXX			PC-T068CX026-XXX		
				48A	48B	48C	48A	48B	48C	48A	48B	48C
Performance	Rated Bus Voltage	Vbus	VDC	48	48	48	48	48	48	48	48	48
	Max Cont Torque @ Twind = 155°C	Tcont	Nm	0.631	0.630	0.628	0.914	0.914	0.894	1.77	1.77	1.73
	Max Cont Current @ Twind = 155°C	Icont	Arms	4.19	8.39	13.4	4.11	8.22	13.5	4.13	8.25	13.6
	Max Cont Torque @ Twind = 85°C	Tcont	Nm	0.506	0.506	0.505	0.734	0.734	0.717	1.42	1.42	1.39
	Max Cont Current @ Twind = 85°C	Icont	Arms	3.14	6.29	10.1	3.08	6.16	10.1	3.10	6.19	10.2
	Peak Torque	Tpk	Nm	1.73	1.73	1.73	2.56	2.56	2.56	4.83	4.83	4.82
	Peak Current	lpk	Arms	10.8	21.6	34.5	10.8	21.6	36.3	10.8	21.6	36.3
	Rated Power & Speed: 48 VDC @ 155°C Winding											
	Rated Power	Prtd	watts	166	339	454	163	335	533	149	329	553
	Rated Speed	Nrtd	RPM	2,642	5,535	7,800	1,741	3,737	6,437	815	1,850	3,269
	Rated Torque	Trtd	Nm	0.602	0.585	0.556	0.892	0.855	0.791	1.75	1.70	1.62
	Rated Power & Speed: 48 VDC @ 85°C Winding											
	Rated Power	Prtd	watts	136	257	301	135	258	362	130	267	420
	Rated Speed	Nrtd	RPM	2,768	5,913	7,722	1,869	3,907	6,866	903	1,982	3,417
	Rated Torque	Trtd	Nm	0.470	0.415	0.373	0.690	0.631	0.504	1.37	1.29	1.17
	Rated Power & Speed: 24 VDC @ 155°C Winding											
	Rated Power	Prtd	watts	75.9	166	270	67.7	163	274	38.8	151	268
	Rated Speed	Nrtd	RPM	1,164	2,642	4,328	715	1,741	3,076	217	815	1,523
	Rated Torque	Trtd	Nm	0.623	0.601	0.595	0.905	0.895	0.851	1.71	1.77	1.68
Electrical	Rated Power & Speed: 24 VDC @ 85°C Winding											
	Rated Power	Prtd	watts	66.2	136	213	62.1	135	219	52.5	130	222
	Rated Speed	Nrtd	RPM	1,290	2,768	4,630	828	1,869	3,290	358	908	1,634
	Rated Torque	Trtd	Nm	0.491	0.470	0.439	0.716	0.690	0.635	1.40	1.37	1.29
	Connection	-	-	WYE			WYE			WYE		
	Terminal Res	RLL	Ω	0.952	0.238	0.093	1.19	0.297	0.110	1.92	0.481	0.178
	Terminal Ind	Lm	mH	1.1	0.27	0.10	1.6	0.39	0.13	3.1	0.77	0.26
	Back EMF Cold	Ke	Vpk/kRPM	14.9	7.44	4.65	22.0	11.0	6.54	42.5	21.3	12.6
		Ke	Vrms/kRPM	10.5	5.26	3.29	15.6	7.79	4.63	30.1	15.0	8.91
		Kb	Vpk/rad/s	0.142	0.071	0.044	0.210	0.105	0.062	0.406	0.203	0.120
Thermals	Kt at Temp	KtHot	Nm/Arms	0.151	0.075	0.047	0.222	0.111	0.066	0.429	0.215	0.127
	Motor Constant	Km	Nm/√W	0.146	0.146	0.145	0.193	0.193	0.189	0.293	0.293	0.286
	Electrical Time Const	Te	ms	1.1	1.1	1.1	1.3	1.3	1.2	1.6	1.6	1.4
	Insulation Class	-	-	Class F			Class F			Class F		
	Max Winding Temp	Twind	°C	155			155			155		
	Watts Loss	WLoss	watts	37.7			45.2			73.8		
Mechanical	Bulk Thermal Res	TPR	°C/watt	3.45			2.88			1.76		
	Heat Sink Size	-	in	7.5 x 7.0 x 0.375			7.5 x 7.0 x 0.375			7.5 x 7.0 x 0.375		
	Stator O.D.	-	mm	68.00			68.00			68.00		
	Stack Length	-	mm	8.20			12.70			26.30		
	RTD (Optional)	-	-	PT1000			PT1000			PT1000		
	Pole Count	Poles	-	20			20			20		
	Rotor Thru-Bore	-	mm	34.00			34.00			34.00		
	Direction of Rotation	DOR	CW/CCW	CW			CW			CW		
	Stator Weight	WS	g	114.00			165.00			318.00		
	Rotor Weight	WR	g	59.2			77.2			132		
	Total Weight	WT	g	173			242			450		
	Rotor Inertia	Jm	kg-cm²	0.22			0.29			0.50		



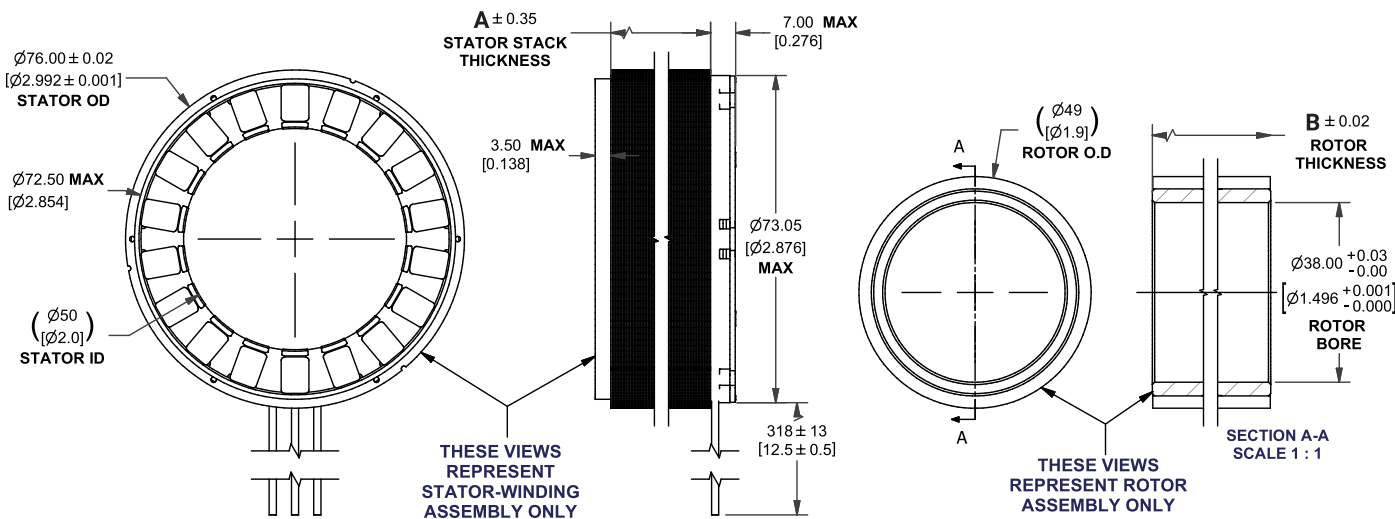
PC-T076 Series Specifications Table

PC-T076 Series



Frame Size 76 mm
Stack Length 8.2 - 26.3 mm
Rotor Thru-Bore 38 mm
Bus Voltage 48 VDC
Rated Torque 0.632 - 2.33 Nm
Rated Speed 631 - 7706 RPM
Rated Power 154 - 580 W

PC-T076 Series Dimensional Drawing



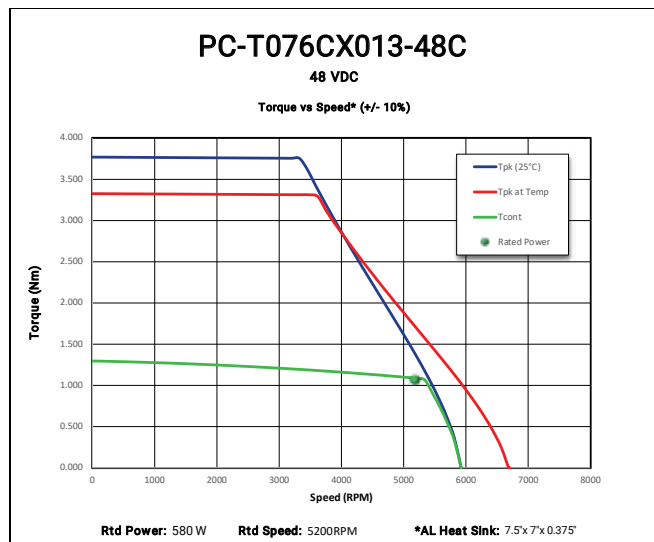
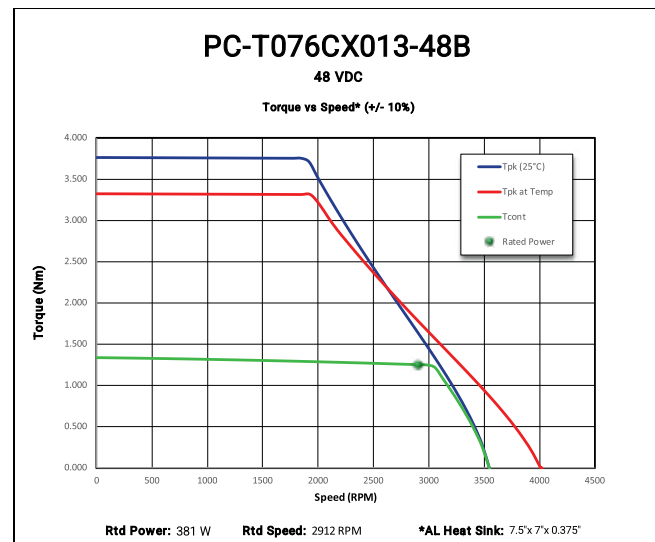
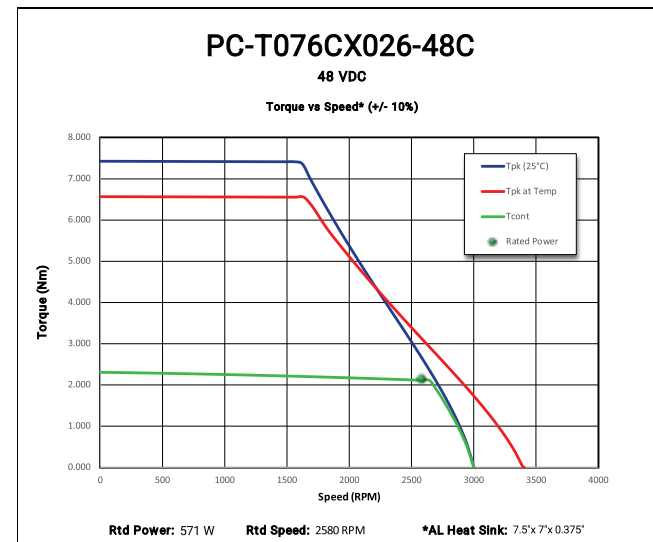
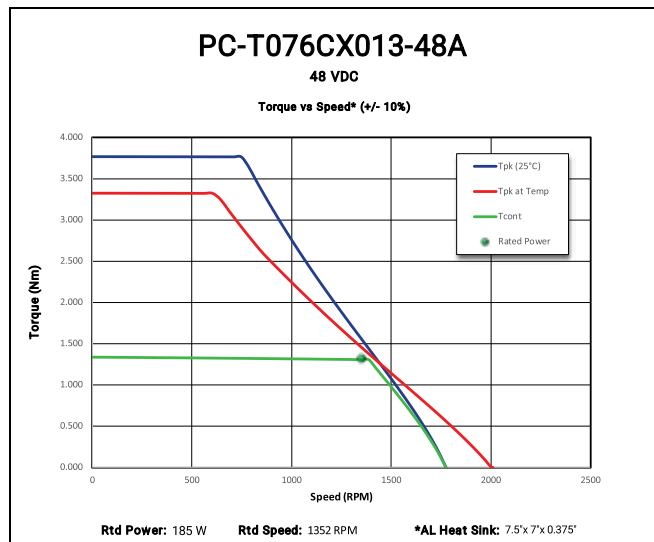
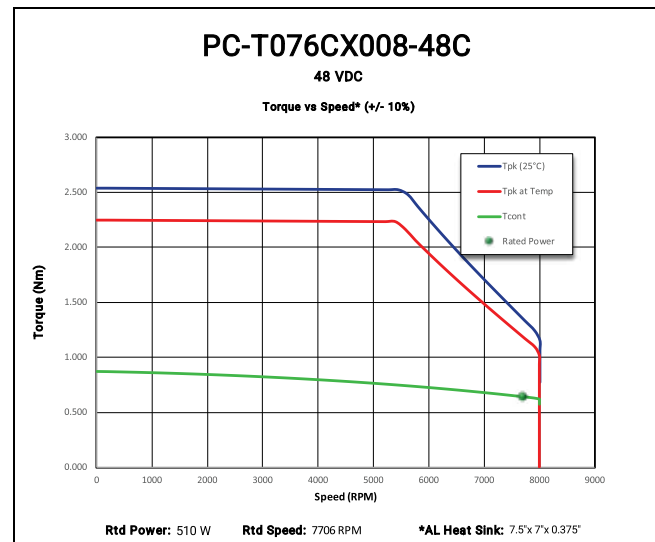
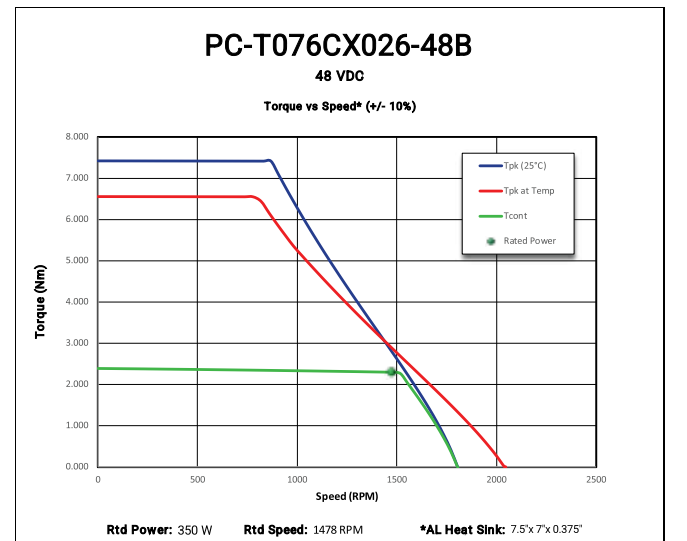
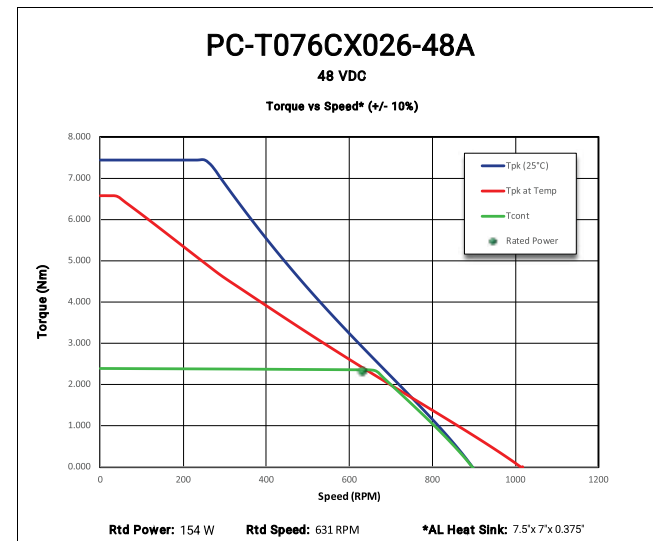
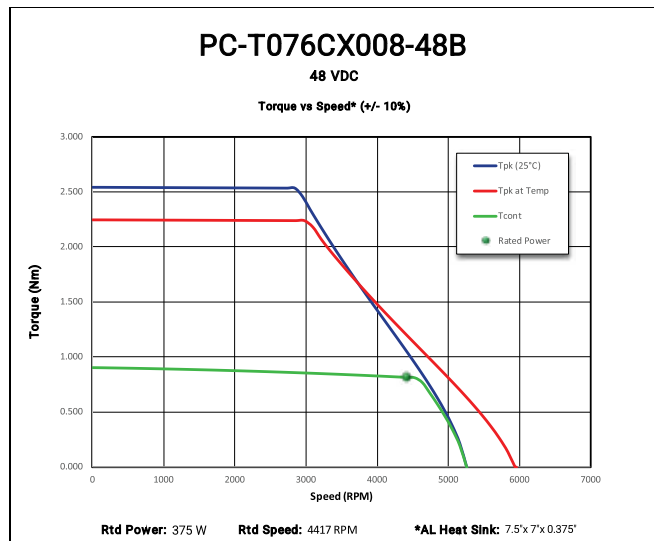
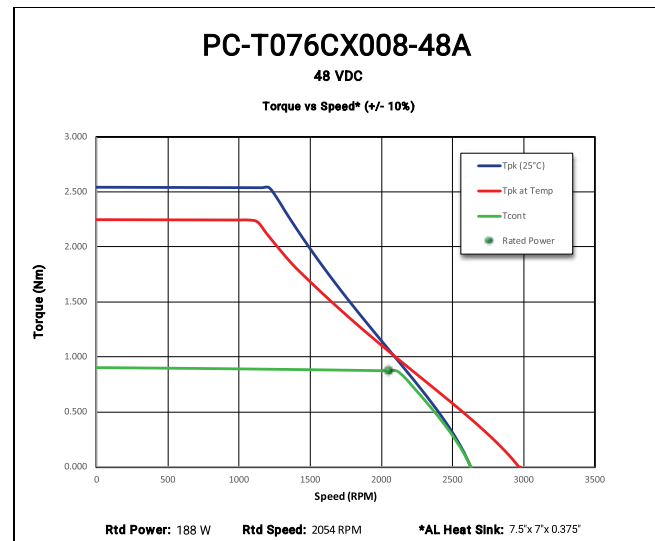
Dimensional Data

	Dim. A (mm)	Dim. B (mm)
PC-T076CX008-XXX	8.20	14.76
PC-T076CX013-XXX	12.70	19.26
PC-T076CX026-XXX	26.30	32.86

Configure Online



	Parameter	Symbol	Units	PC-T076CX008-XXX			PC-T076CX013-XXX			PC-T076CX026-XXX		
				48A	48B	48C	48A	48B	48C	48A	48B	48C
Performance	Rated Bus Voltage	Vbus	VDC	48	48	48	48	48	48	48	48	48
	Max Cont Torque @ Twind = 155°C	Tcont	Nm	0.900	0.900	0.873	1.34	1.34	1.30	2.40	2.39	2.31
	Max Cont Current @ Twind = 155°C	Icont	Arms	4.93	9.86	15.9	4.94	9.87	16.0	4.47	8.94	14.4
	Max Cont Torque @ Twind = 85°C	Tcont	Nm	0.726	0.725	0.702	1.08	1.08	1.04	1.93	1.92	1.86
	Max Cont Current @ Twind = 85°C	Icont	Arms	3.70	7.40	11.9	3.70	7.40	12.0	3.35	6.71	10.8
	Peak Torque	Tpk	Nm	2.54	2.54	2.54	3.76	3.76	3.76	7.44	7.44	7.44
	Peak Current	Ipk	Arms	13.3	26.6	44.3	13.3	26.6	44.3	13.3	26.6	44.3
	Rated Power & Speed: 48 VDC @ 155°C Winding											
	Rated Power	Prtd	watts	188	374	510	185	381	580	154	350	571
	Rated Speed	Nrtd	RPM	2,055	4,417	7,706	1,352	2,912	5,200	631	1,478	2,580
	Rated Torque	Trtd	Nm	0.873	0.810	0.632	1.31	1.25	1.06	2.33	2.26	2.11
	Rated Power & Speed: 48 VDC @ 85°C Winding											
	Rated Power	Prtd	watts	155	268	266	156	297	345	137	283	417
	Rated Speed	Nrtd	RPM	2,209	4,725	5,480	1,456	3,189	4,738	702	1,548	2,698
	Rated Torque	Trtd	Nm	0.671	0.541	0.464	1.02	0.888	0.696	1.86	1.75	1.48
Electrical	Rated Power & Speed: 24 VDC @ 155°C Winding											
	Rated Power	Prtd	watts	80.6	188	308	68.1	185	313	40.7	156	277
	Rated Speed	Nrtd	RPM	864	2,055	3,682	503	1,352	2,427	163	633	1,202
	Rated Torque	Trtd	Nm	0.891	0.872	0.800	1.29	1.31	1.23	2.38	2.35	2.20
	Rated Power & Speed: 24 VDC @ 85°C Winding											
	Rated Power	Prtd	watts	74.1	155	236	70.9	155	250	54.9	137	231
	Rated Speed	Nrtd	RPM	1,002	2,209	3,939	641	1,456	2,600	276	721	1,290
	Rated Torque	Trtd	Nm	0.707	0.671	0.572	1.06	1.02	0.918	1.90	1.82	1.71
	Connection	-	-	WYE			WYE			WYE		
	Terminal Res	RLL	Ω	0.969	0.242	0.093	1.19	0.298	0.114	1.89	0.472	0.181
	Terminal Ind	Lm	mH	1.2	0.30	0.11	1.8	0.44	0.16	3.6	0.86	0.31
	Back EMF Cold	Ke	Vpk/kRPM	18.2	9.11	5.47	27.0	13.5	8.10	53.4	26.6	16.0
		Ke	Vrms/kRPM	12.9	6.44	3.87	19.1	9.55	5.73	37.7	18.8	11.3
		Kb	Vpk/rad/s	0.174	0.087	0.052	0.258	0.129	0.077	0.509	0.254	0.152
	Kt at Temp	KtHot	Nm/Arms	0.183	0.091	0.055	0.271	0.135	0.081	0.536	0.267	0.160
	Motor Constant	Km	Nm/√W	0.177	0.177	0.171	0.236	0.236	0.229	0.371	0.370	0.358
	Electrical Time Const	Te	ms	1.3	1.3	1.2	1.5	1.5	1.4	1.9	1.8	1.7
Thermals	Insulation Class	-	-	Class F			Class F			Class F		
	Max Winding Temp	Twind	°C	155			155			155		
	Watts Loss	WLoss	watts	53.0			65.4			84.9		
	Bulk Thermal Res	TPR	°C/watt	2.45			1.99			1.53		
	Heat Sink Size	-	in	7.5 x 7.0 x 0.375			7.5 x 7.0 x 0.375			7.5 x 7.0 x 0.375		
Mechanical	Stator O.D.	-	mm	76.00			76.00			76.00		
	Stack Length	-	mm	8.20			12.70			26.30		
	RTD (Optional)	-	-	PT1000			PT1000			PT1000		
	Pole Count	Poles	-	20			20			20		
	Rotor Thru-Bore	-	mm	38.00			38.00			38.00		
	Direction of Rotation	DOR	CW/CCW	CW			CW			CW		
	Stator Weight	WS	g	145			207			400		
	Rotor Weight	WR	g	80.0			104			176		
	Total Weight	WT	g	225			311			576		
	Rotor Inertia	Jm	kg-cm²	0.383			0.500			0.846		



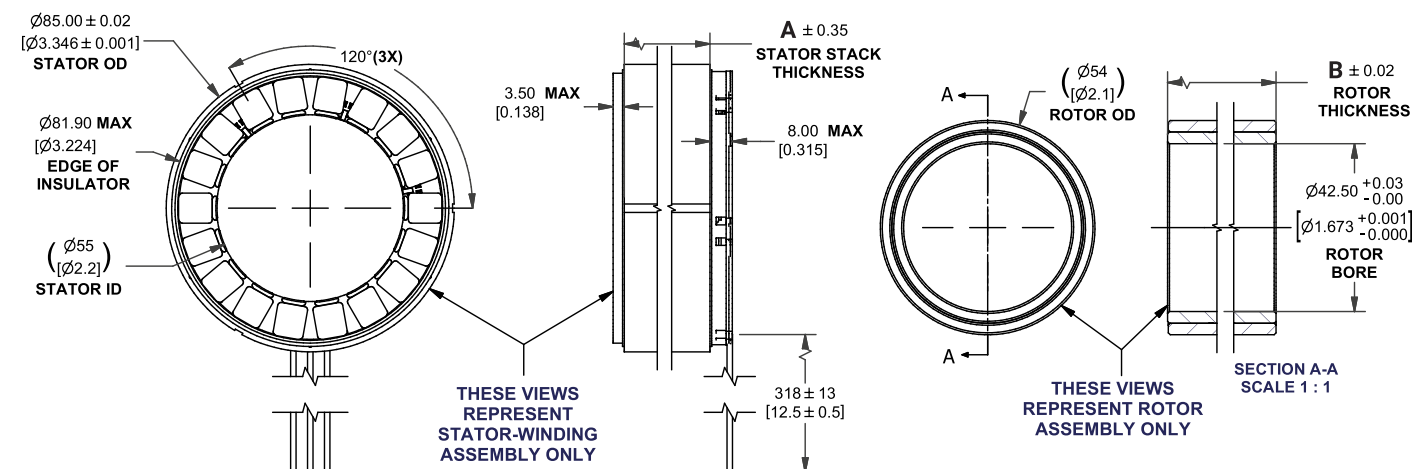
PC-T085 Series Specifications Table

PC-T085 Series



Frame Size 85 mm
Stack Length 8.2 - 26.3 mm
Rotor Thru-Bore 42.5 mm
Bus Voltage 48 VDC
Rated Torque 0.838 - 3.03 Nm
Rated Speed 606 - 7718 RPM
Rated Power 192 - 744 W

PC-T085 Series Dimensional Drawing



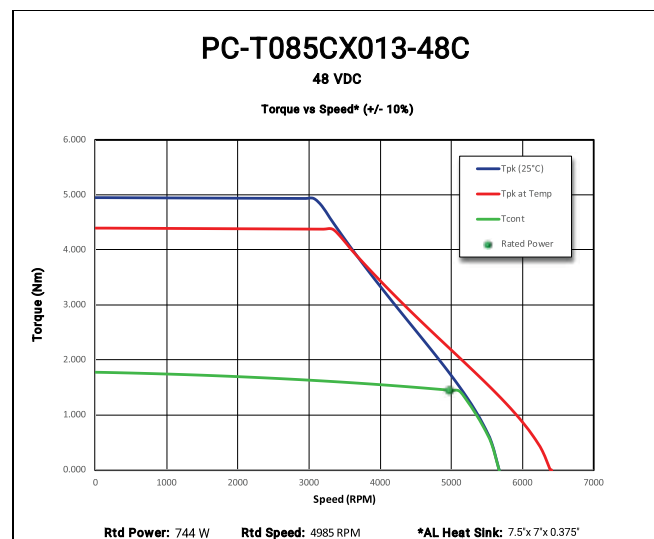
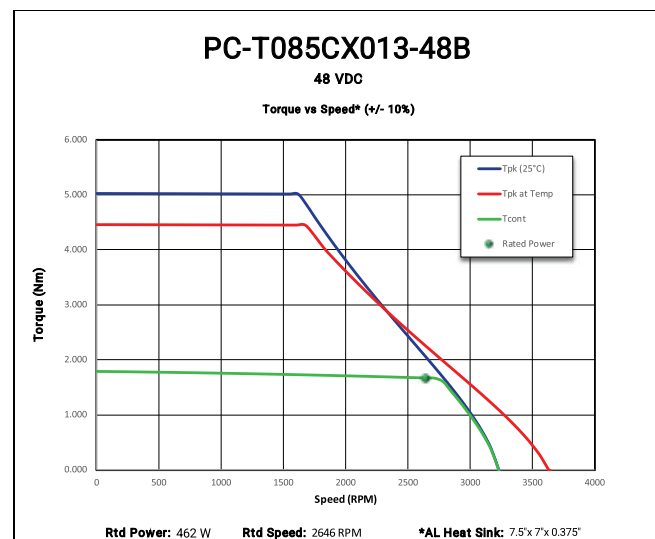
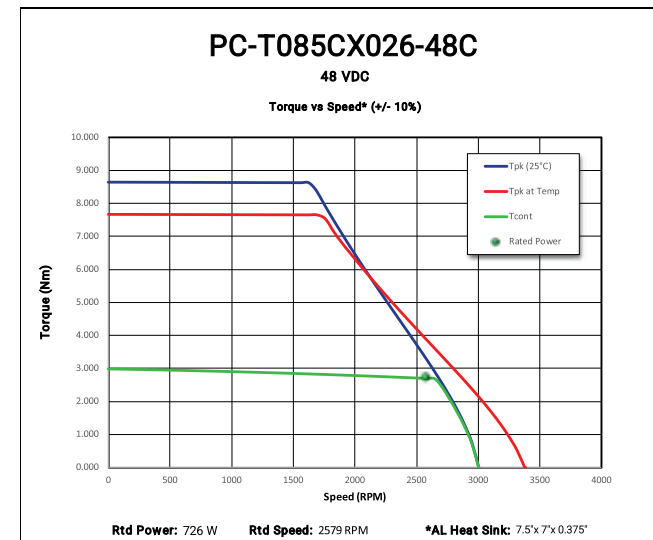
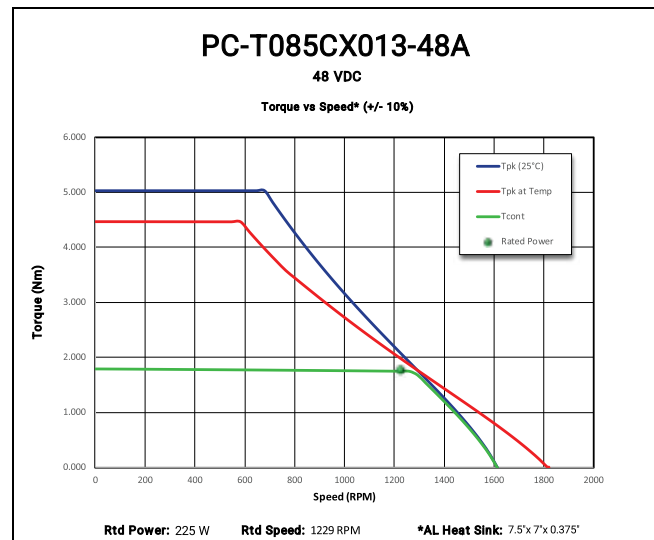
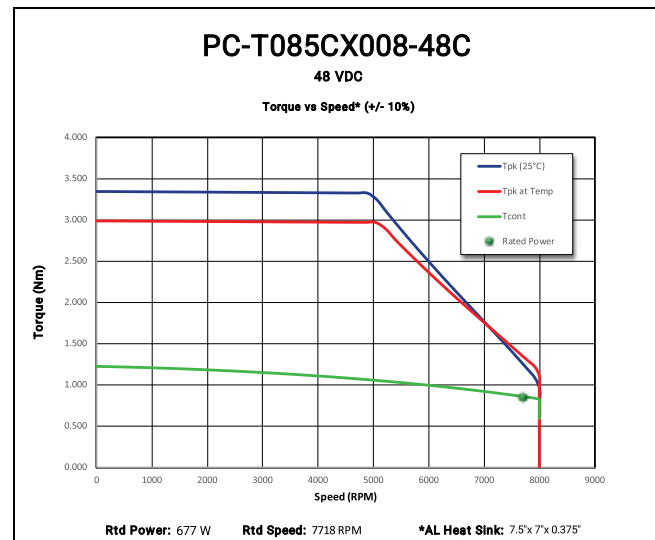
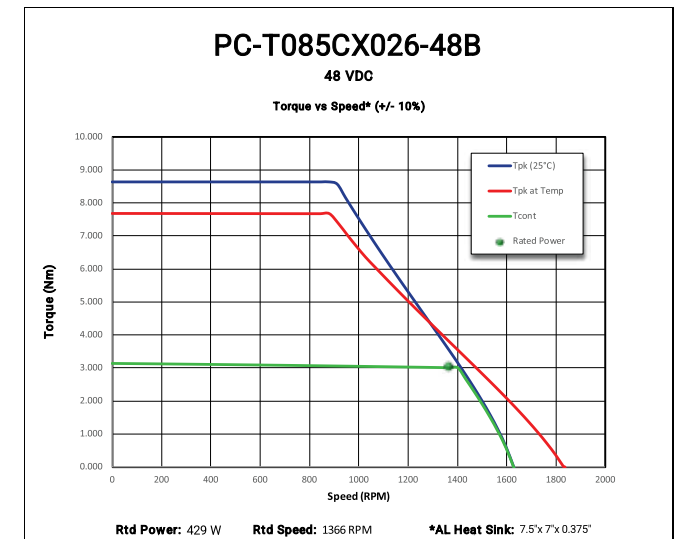
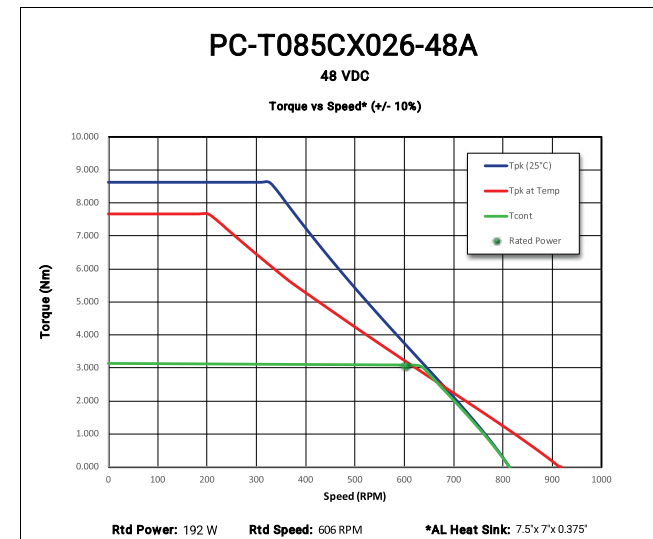
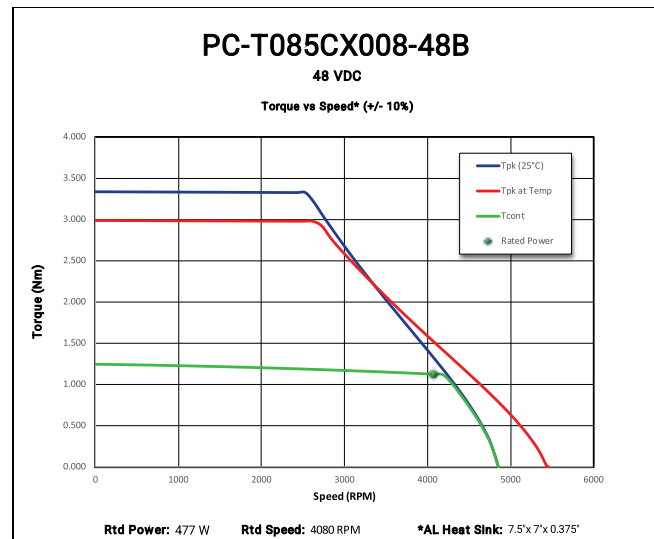
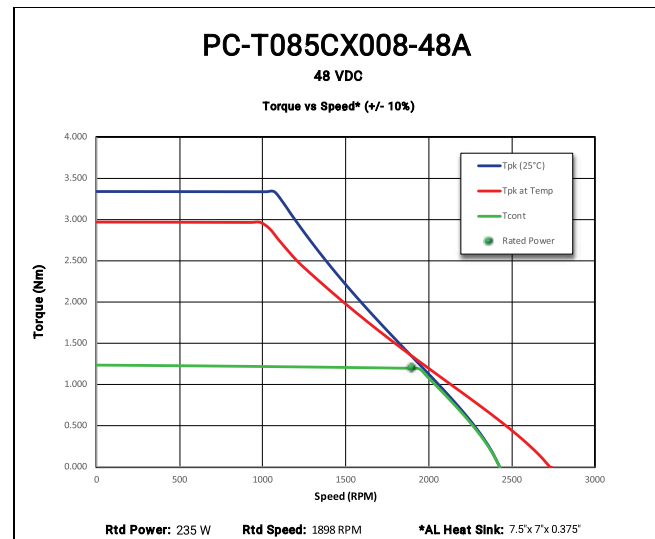
Dimensional Data

	Dim. A (mm)	Dim. B (mm)
PC-T085CX008-XXX	8.20	14.76
PC-T085CX013-XXX	12.70	19.26
PC-T085CX026-XXX	26.30	32.86

Configure Online

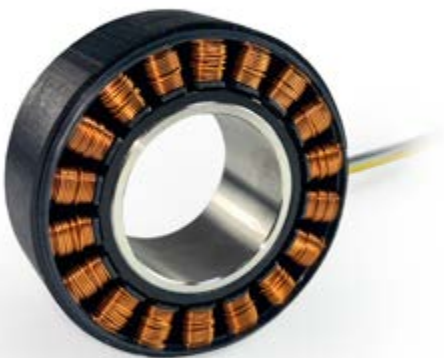


	Parameter	Symbol	Units	PC-T085CX008-XXX			PC-T085CX013-XXX			PC-T085CX026-XXX		
				48A	48B	48C	48A	48B	48C	48A	48B	48C
Performance	Rated Bus Voltage	Vbus	VDC	48	48	48	48	48	48	48	48	48
	Max Cont Torque @ Twind = 155°C	Tcont	Nm	1.22	1.22	1.22	1.79	1.79	1.77	3.13	3.13	3.00
	Max Cont Current @ Twind = 155°C	Icont	Arms	6.15	12.3	21.0	5.94	11.9	20.6	5.23	10.5	18.4
	Max Cont Torque @ Twind = 85°C	Tcont	Nm	0.990	0.992	0.978	1.44	1.44	1.42	2.51	2.51	2.40
	Max Cont Current @ Twind = 85°C	Icont	Arms	4.61	9.22	15.7	4.46	8.91	15.4	3.93	7.85	13.8
	Peak Torque	Tpk	Nm	3.34	3.34	3.34	5.03	5.03	4.95	8.64	8.64	8.64
	Peak Current	Ipk	Arms	16.9	33.8	58.5	16.9	33.8	58.5	14.4	28.7	53.4
	Rated Power & Speed: 48 VDC @ 155°C Winding											
	Rated Power	Prt	watts	235	477	677	225	462	744	192	429	726
	Rated Speed	Nrtd	RPM	1,898	4,080	7,718	1,229	2,646	4,985	606	1,366	2,579
	Rated Torque	Trtd	Nm	1.18	1.12	0.838	1.75	1.67	1.43	3.03	3.00	2.69
	Rated Power & Speed: 48 VDC @ 85°C Winding											
	Rated Power	Prt	watts	196	340	346	193	360	415	169	339	517
	Rated Speed	Nrtd	RPM	2,040	4,364	5,090	1,355	2,898	4,210	667	1,429	2,755
	Rated Torque	Trtd	Nm	0.916	0.743	0.649	1.36	1.19	0.940	2.42	2.27	1.79
	Rated Power & Speed: 24 VDC @ 155°C Winding											
	Rated Power	Prt	watts	102	238	416	87.2	225	406	58.5	192	363
	Rated Speed	Nrtd	RPM	796	1,898	3,531	474	1,229	2,326	184	606	1,202
	Rated Torque	Trtd	Nm	1.22	1.20	1.12	1.76	1.75	1.66	3.04	3.03	2.88
	Rated Power & Speed: 24 VDC @ 85°C Winding											
	Rated Power	Prt	watts	93.4	196	311	88.0	192	319	67.3	169	297
	Rated Speed	Nrtd	RPM	925	2,087	3,777	596	1,355	2,493	266	667	1,289
	Rated Torque	Trtd	Nm	0.964	0.898	0.787	1.41	1.36	1.22	2.41	2.42	2.20
Electrical	Connection	-	-	WYE			WYE			WYE		
	Terminal Res	RLL	Ω	0.727	0.182	0.063	0.879	0.220	0.073	1.36	0.340	0.113
	Terminal Ind	Lm	mH	1.2	0.30	0.091	1.7	0.44	0.14	3.0	0.76	0.27
	Back EMF Cold	Ke	Vpk/kRPM	19.7	9.87	5.70	29.7	14.9	8.45	58.9	29.5	16.0
		Ke	Vrms/kRPM	14.0	6.98	4.03	21.0	10.5	5.97	41.7	20.8	11.3
		Kb	Vpk/rad/s	0.188	0.094	0.054	0.284	0.142	0.081	0.563	0.281	0.153
	Kt at Temp	KtHot	Nm/Arms	0.198	0.099	0.058	0.302	0.151	0.086	0.598	0.299	0.163
	Motor Constant	Km	Nm/√W	0.221	0.221	0.217	0.303	0.302	0.298	0.483	0.483	0.453
Thermals	Electrical Time Const	Te	ms	1.6	1.6	1.4	2.0	2.0	1.9	2.2	2.2	2.4
	Insulation Class	-	-	Class F			Class F			Class F		
	Max Winding Temp	Twind	°C	155			155			155		
	Watts Loss	WLoss	watts	61.9			69.8			83.8		
	Bulk Thermal Res	TPR	°C/watt	2.10			1.86			1.55		
Mechanical	Heat Sink Size	-	in	7.5 x 7.0 x 0.375			7.5 x 7.0 x 0.375			7.5 x 7.0 x 0.375		
	Stator O.D.	-	mm	85.00			85.00			85.00		
	Stack Length	-	mm	8.20			12.70			26.30		
	Stator Length Max	-	mm	19.70			24.20			37.80		
	RTD (Optional)	-	-	PT1000			PT1000			PT1000		
	Pole Count	Poles	-	20			20			20		
	Rotor Thru-Bore	-	mm	42.50			42.50			42.50		
	Direction of Rotation	DOR	CW/CCW	CW			CW			CW		
	Stator Weight	WS	g	200			270			500		
	Rotor Weight	WR	g	95.0			124			204		
	Total Weight	WT	g	295			394			704		
	Rotor Inertia	Jm	kg-cm²	0.563			0.736			1.255		



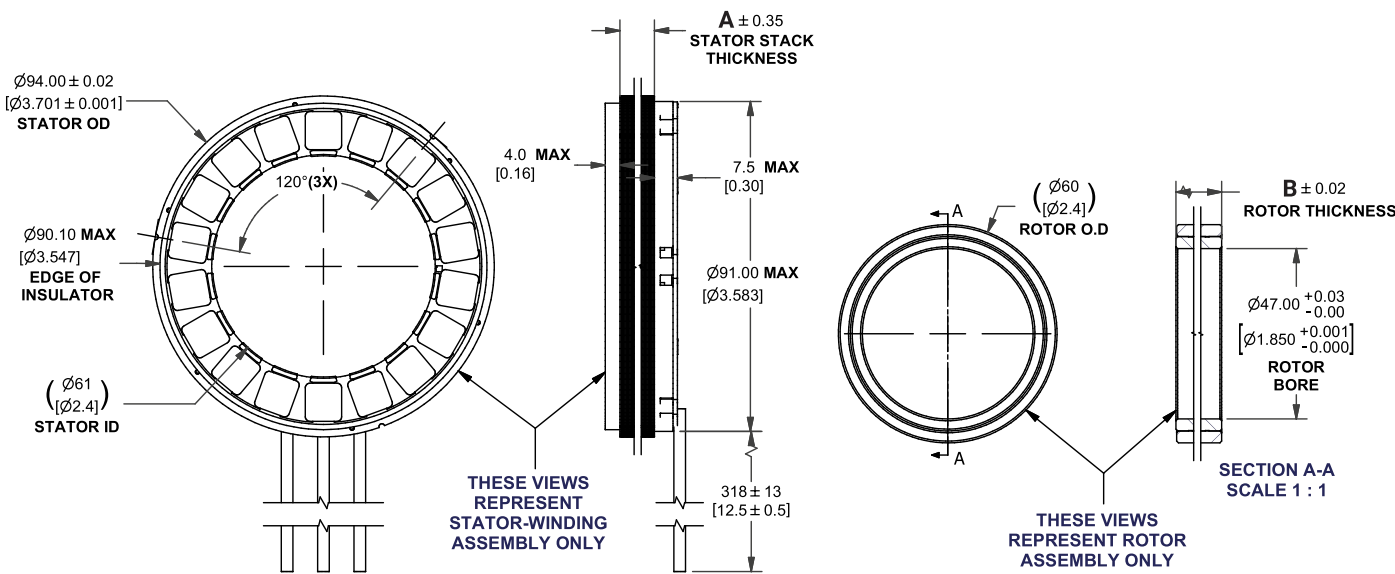
PC-T094 Series Specifications Table

PC-T094 Series



Frame Size 94 mm
Stack Length 8.2 - 26.3 mm
Rotor Thru-Bore 47 mm
Bus Voltage 48 VDC
Rated Torque 1.14 - 4.20 Nm
Rated Speed 629 - 7800 RPM
Rated Power 161 - 1056 W

PC-T094 Series Dimensional Drawing



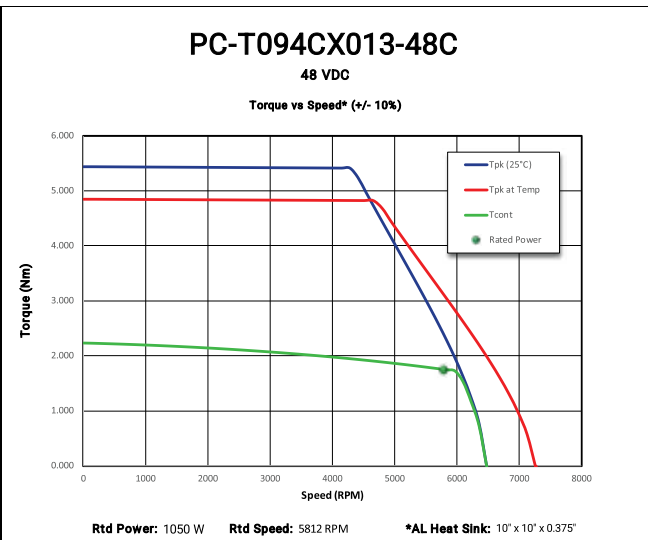
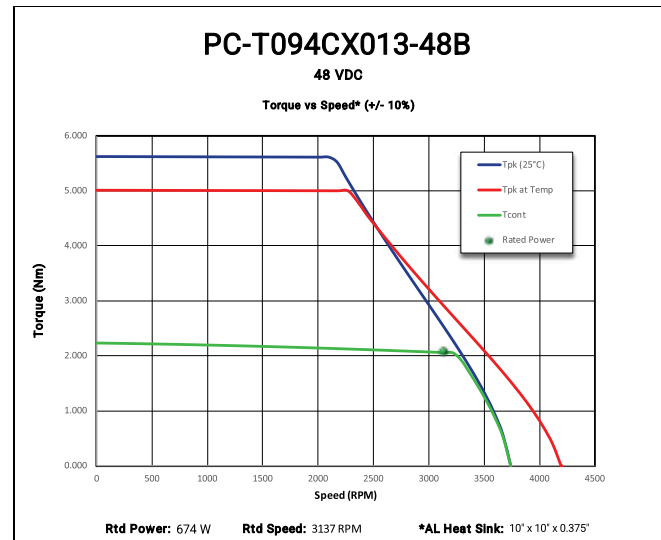
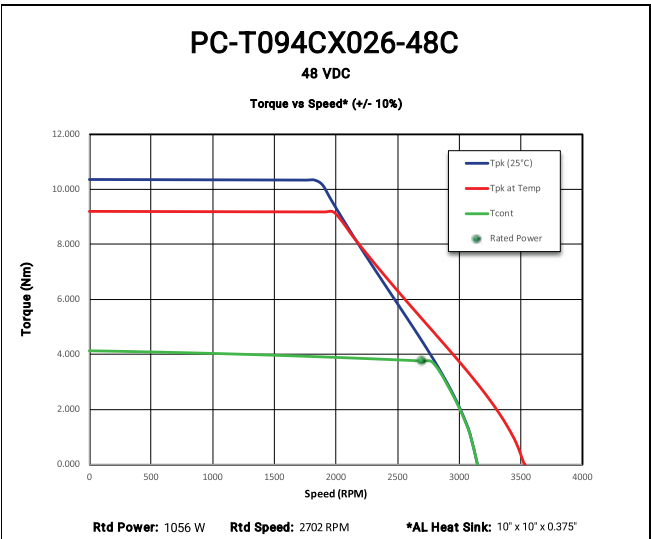
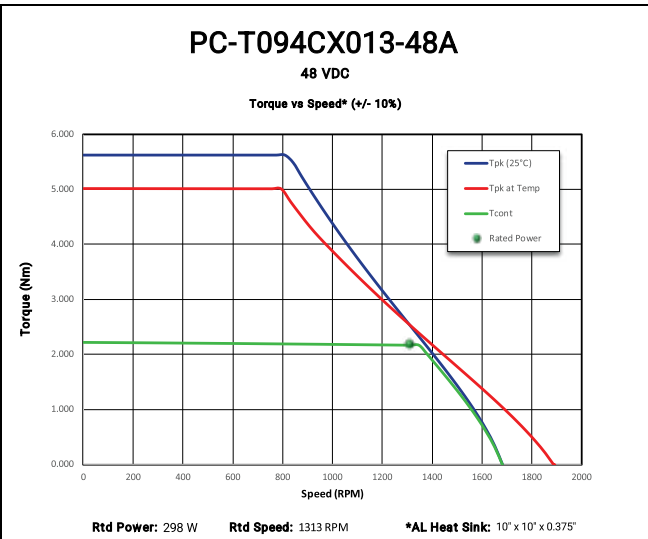
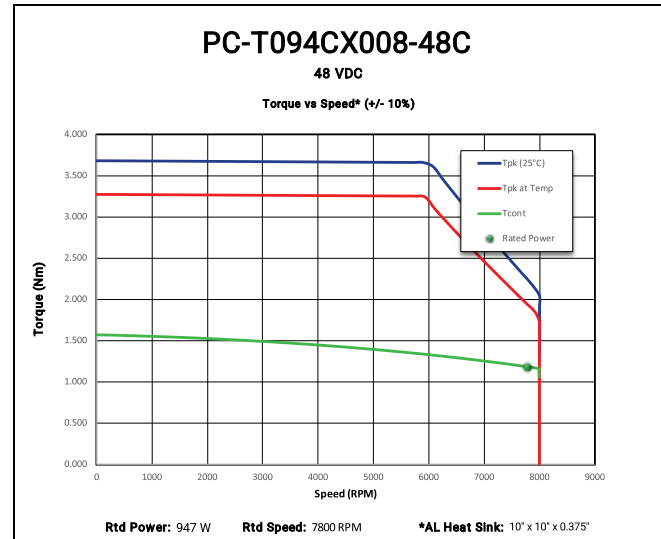
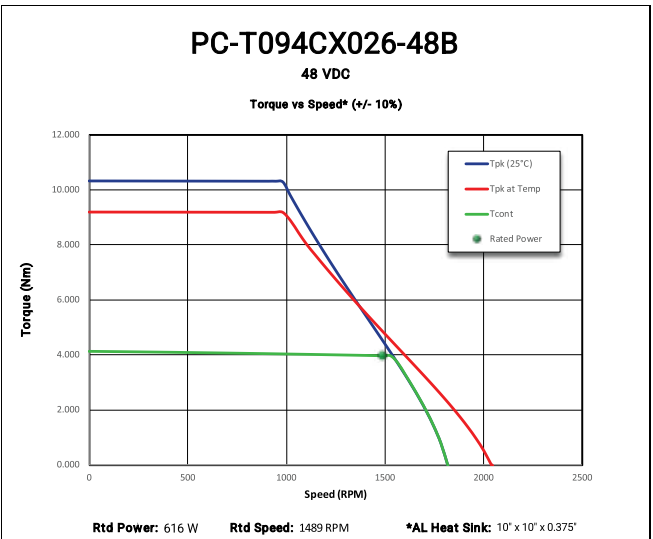
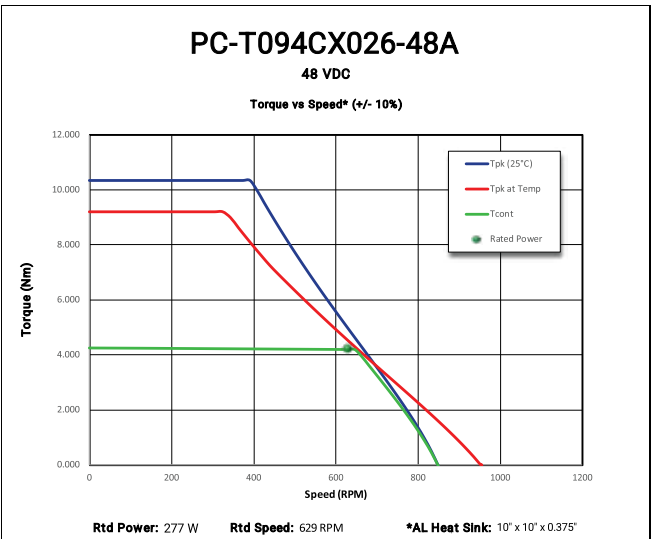
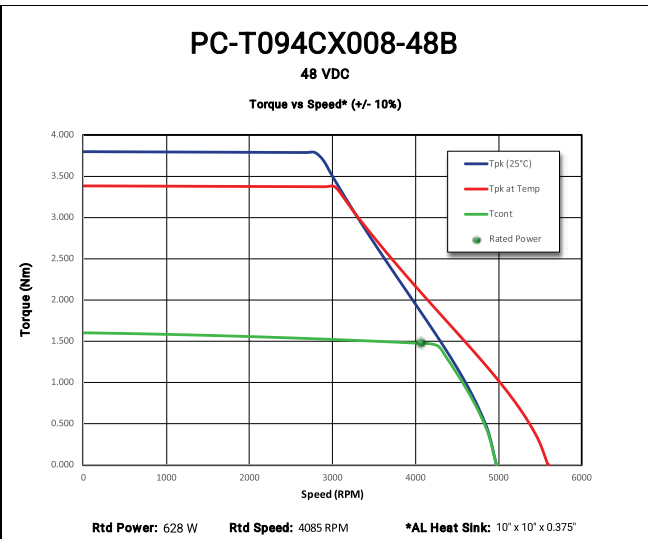
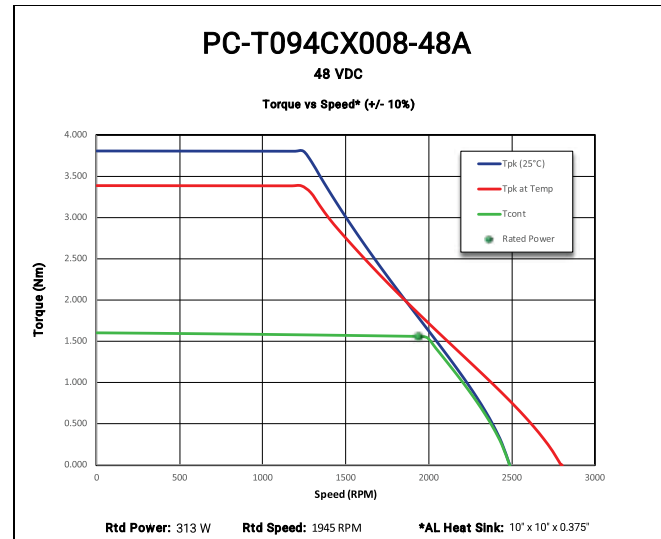
Dimensional Data

	Dim. A (mm)	Dim. B (mm)
PC-T094CX008-XXX	8.20	15.73
PC-T094CX013-XXX	12.70	20.23
PC-T094CX026-XXX	26.30	33.30

Configure Online



	Parameter	Symbol	Units	PC-T094CX008-XXX			PC-T094CX013-XXX			PC-T094CX026-XXX		
				48A	48B	48C	48A	48B	48C	48A	48B	48C
Performance	Rated Bus Voltage	Vbus	VDC	48	48	48	48	48	48	48	48	48
	Max Cont Torque @ Twind = 155°C	Tcont	Nm	1.59	1.59	1.54	2.22	2.22	2.22	4.26	4.12	4.12
	Max Cont Current @ Twind = 155°C	Icont	Arms	8.16	16.3	28.8	7.64	17.1	29.5	7.38	15.3	26.5
	Max Cont Torque @ Twind = 85°C	Tcont	Nm	1.28	1.28	1.25	1.78	1.79	1.79	3.41	3.30	3.29
	Max Cont Current @ Twind = 85°C	Icont	Arms	6.12	12.3	21.6	5.73	12.8	22.2	5.54	11.5	19.9
	Peak Torque	Tpk	Nm	3.80	3.80	3.68	5.63	5.63	5.45	10.4	10.4	10.4
	Peak Current	Ipk	Arms	19.0	38.0	65.6	19.0	42.2	70.5	17.1	40.7	67.9
	Rated Power & Speed: 48 VDC @ 155°C Winding											
	Rated Power	Prtd	watts	313	628	934	161	674	1050	277	616	1056
	Rated Speed	Nrtd	RPM	1,945	4,085	7,800	1,313	3,137	5,812	629	1,489	2,702
	Rated Torque	Trtd	Nm	1.54	1.47	1.14	1.17	2.05	1.72	4.20	3.95	3.73
	Rated Power & Speed: 48 VDC @ 85°C Winding											
	Rated Power	Prtd	watts	263	472	492	248	502	555	239	498	762
	Rated Speed	Nrtd	RPM	2,091	4,474	5,576	1,412	3,356	4,422	696	1,595	2,887
	Rated Torque	Trtd	Nm	1.20	1.01	0.84	1.68	1.43	1.20	3.28	2.98	2.52
Electrical	Rated Power & Speed: 24 VDC @ 155°C Winding											
	Rated Power	Prtd	watts	142	313	550	131	337	606	97.3	285	533
	Rated Speed	Nrtd	RPM	868	1,945	3,660	567	1,496	2,780	219	674	1,290
	Rated Torque	Trtd	Nm	1.56	1.54	1.44	2.20	2.15	2.08	4.24	4.05	3.95
	Rated Power & Speed: 24 VDC @ 85°C Winding											
	Rated Power	Prtd	watts	128	263	431	117	281	458	104	248	437
	Rated Speed	Nrtd	RPM	973	2,091	4,009	640	1,605	2,906	295	745	1,382
	Rated Torque	Trtd	Nm	1.25	1.20	1.03	1.74	1.67	1.50	3.37	3.18	3.02
	Connection	-	-	WYE			WYE			WYE		
	Terminal Res	RLL	Ω	0.476	0.119	0.038	0.569	0.114	0.038	0.864	0.202	0.067
	Terminal Ind	Lm	mH	0.94	0.24	0.070	1.4	0.27	0.074	2.7	0.55	0.19
	Back EMF Cold	Ke	Vpk/kRPM	19.2	9.62	5.37	28.5	12.8	7.41	56.5	26.4	15.2
		Ke	Vrms/kRPM	13.6	6.81	3.80	20.2	9.07	5.24	40.0	18.7	10.8
		Kb	Vpk/rad/s	0.184	0.092	0.051	0.272	0.123	0.071	0.540	0.252	0.146
	Kt at Temp	KtHot	Nm/Arms	0.195	0.097	0.054	0.291	0.130	0.075	0.577	0.269	0.156
	Motor Constant	Km	Nm/-W	0.266	0.266	0.262	0.361	0.363	0.363	0.581	0.561	0.561
	Electrical Time Const	Te	ms	2.0	2.0	1.8	2.4	2.3	1.9	3.1	2.7	2.8
Thermals	Insulation Class	-	-	Class F			Class F			Class F		
	Max Winding Temp	Twind	°C	155			155			155		
	Watts Loss	WLoss	watts	71.4			74.7			106		
	Bulk Thermal Res	TPR	°C/watt	1.82			1.74			1.23		
	Heat Sink Size	-	in	10 x 10 x 0.375			10 x 10 x 0.375			10 x 10 x 0.375		
Mechanical	Stator O.D.	-	mm	94.00			94.00			94.00		
	Stack Length	-	mm	8.20			12.70			26.30		
	RTD (Optional)	-	-	PT1000			PT1000			PT1000		
	Pole Count	Poles	-	20			20			20		
	Rotor Thru-Bore	-	mm	47.00			47.00			47.00		
	Direction of Rotation	DOR	CW/CCW	CW			CW			CW		
	Stator Weight	WS	g	241			338			632		
	Rotor Weight	WR	g	125			160			264		
	Total Weight	WT	g	366			498			896		
	Rotor Inertia	Jm	kg-cm ²	0.911			1.16			1.93		

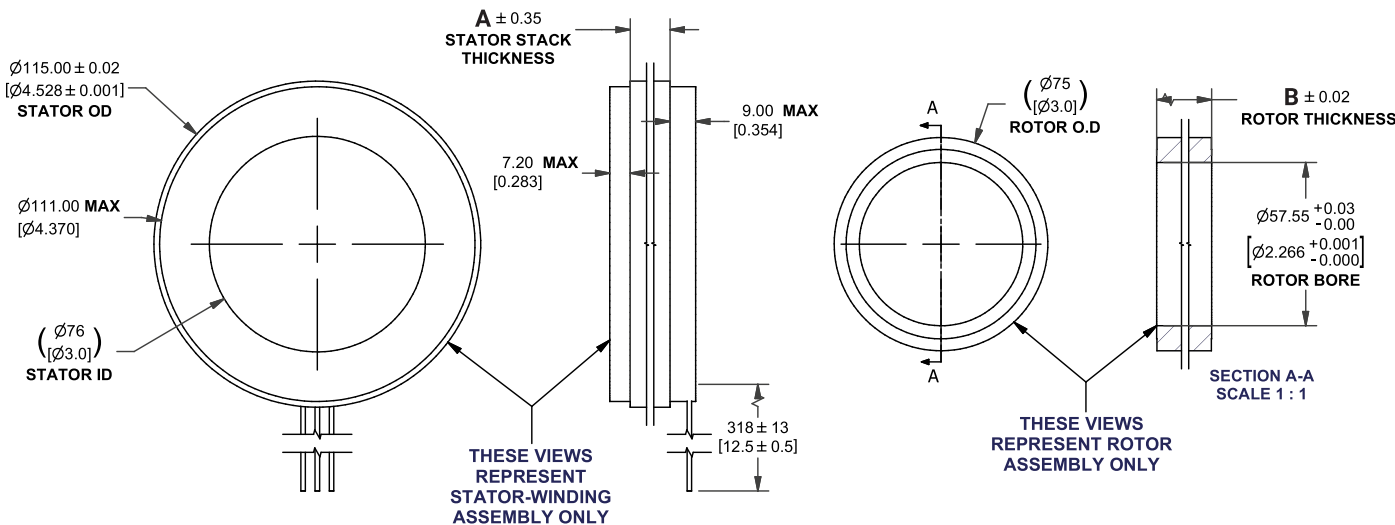




PC-T115 Series

Frame Size	115 mm
Stack Length	8.2 - 26.3 mm
Rotor Thru-Bore	57.55 mm
Bus Voltage	48 VDC
Rated Torque	1.20 - 6.88 Nm
Rated Speed	244 - 5683 RPM
Rated Power	176 - 1769 W

PC-T115 Series Dimensional Drawing



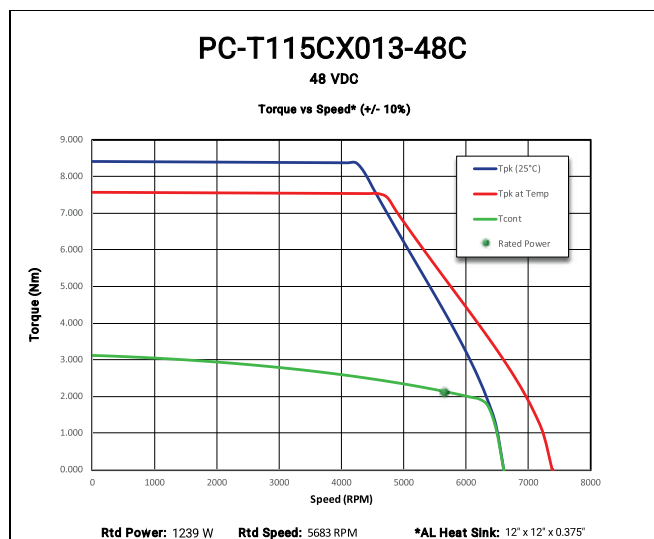
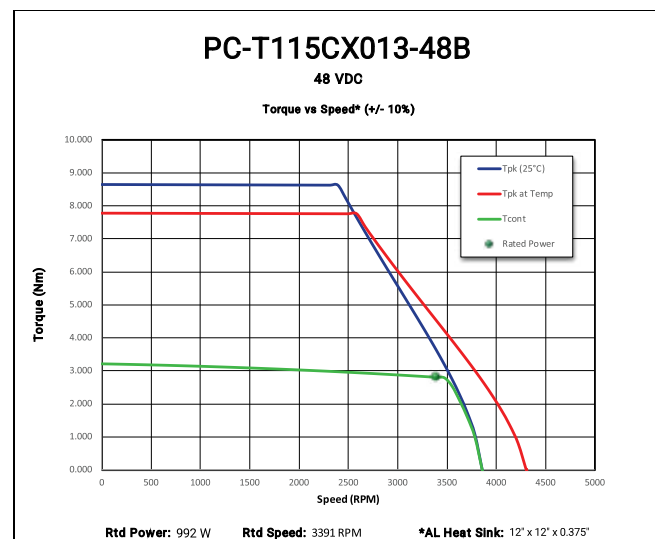
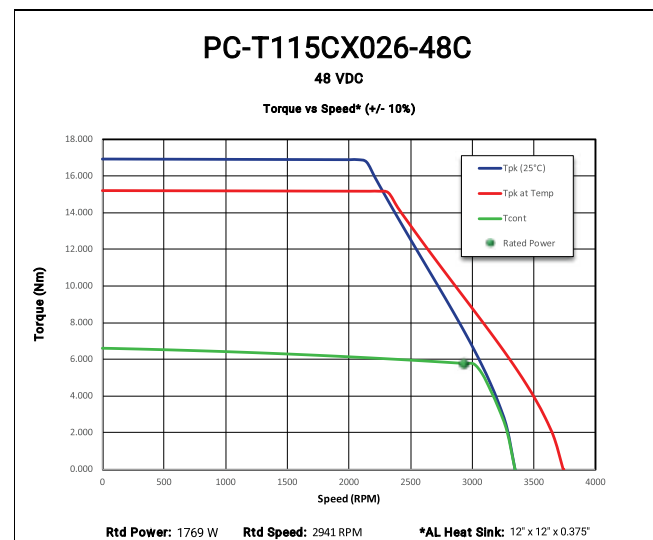
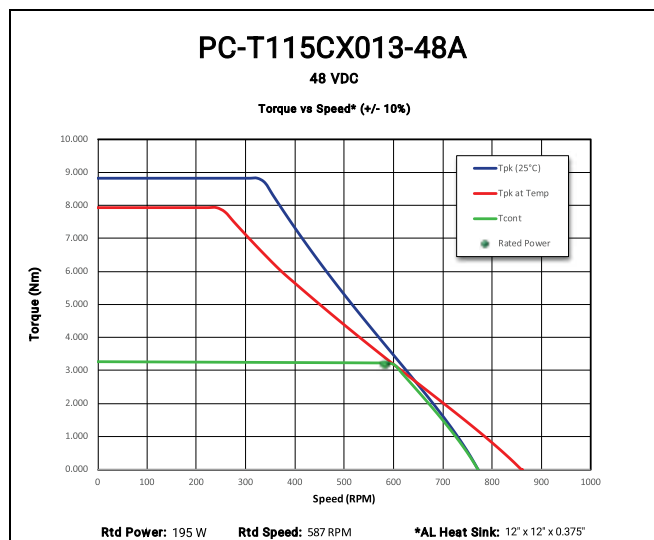
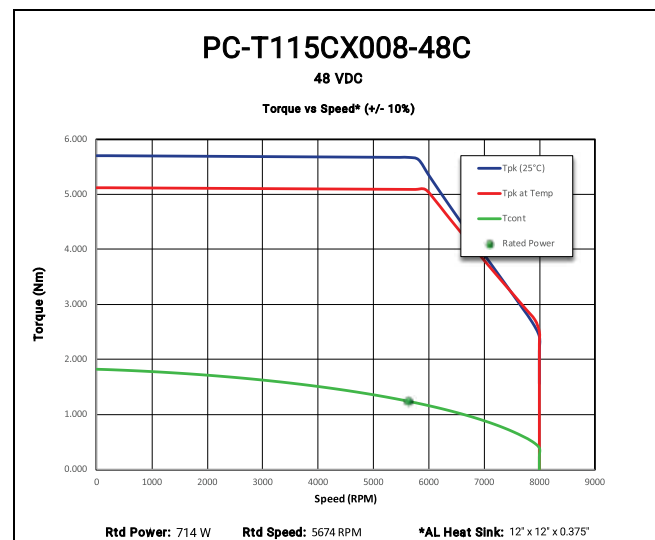
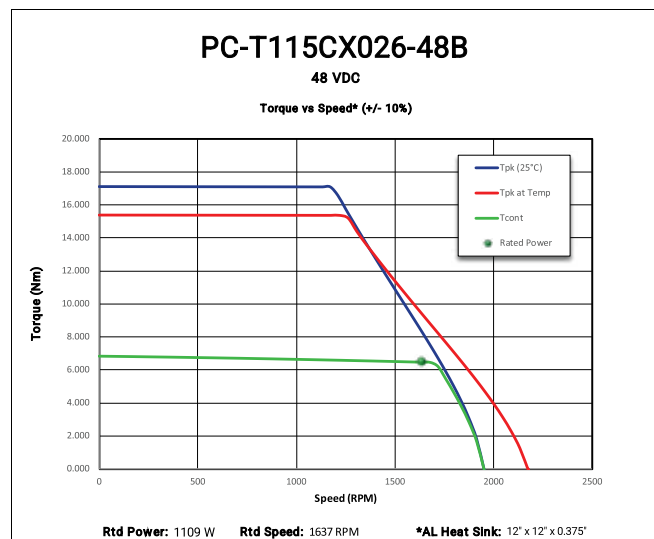
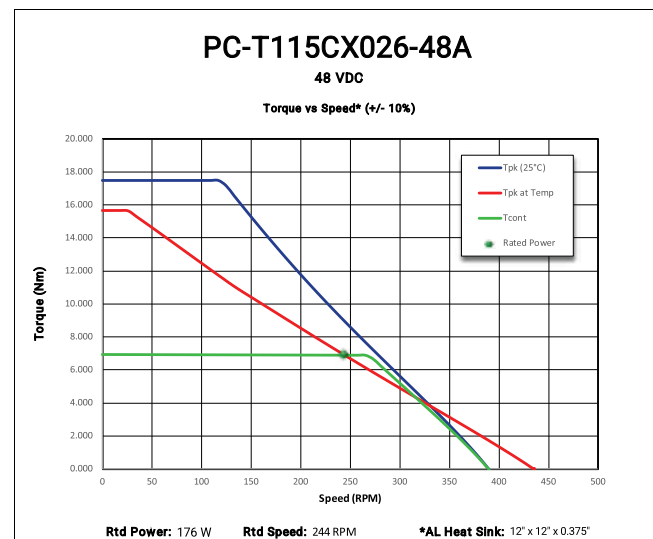
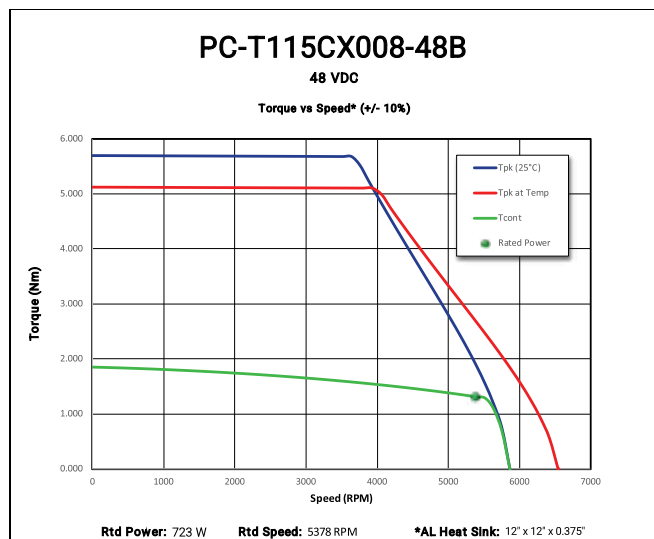
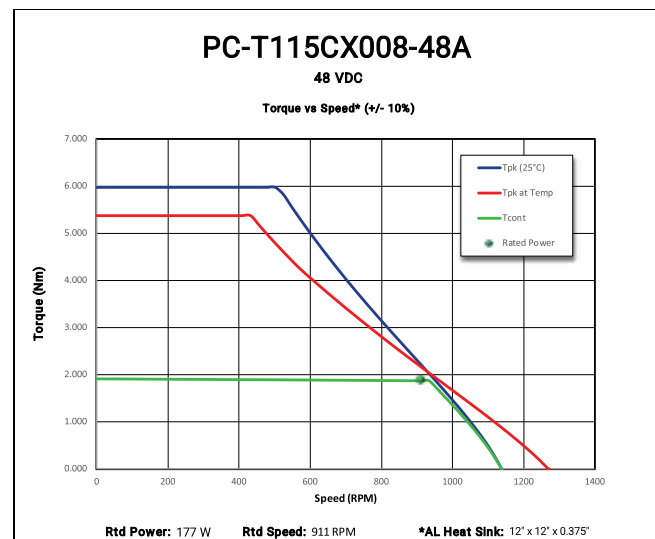
Dimensional Data

	Dim. A (mm)	Dim. B (mm)
PC-T115CX008-XXX	8.20	17.26
PC-T115CX013-XXX	12.70	21.76
PC-T115CX026-XXX	26.30	35.36

Configure Online



	Parameter	Symbol	Units	PC-T115CX008-XXX			PC-T115CX013-XXX			PC-T115CX026-XXX		
				48A	48B	48C	48A	48B	48C	48A	48B	48C
Performance	Rated Bus Voltage	Vbus	VDC	48	48	48	48	48	48	48	48	48
	Max Cont Torque @ Twind = 155°C	Tcont	Nm	1.90	1.85	1.82	3.27	3.22	3.12	6.93	6.84	6.61
	Max Cont Current @ Twind = 155°C	Icont	Arms	4.37	21.9	31.5	5.10	25.2	41.8	5.47	27.1	44.8
	Max Cont Torque @ Twind = 85°C	Tcont	Nm	1.50	1.46	1.44	2.58	2.55	2.47	5.45	5.42	5.23
	Max Cont Current @ Twind = 85°C	Icont	Arms	3.28	16.5	23.7	3.82	18.9	31.3	4.10	20.3	33.6
	Peak Torque	Tpk	Nm	5.83	5.70	5.70	8.83	8.66	8.42	17.5	17.1	16.9
	Peak Current	Ipk	Arms	13.3	64.8	23.7	13.3	65.0	108	13.3	65.0	110
	Rated Power & Speed: 48 VDC @ 155°C Winding											
	Rated Power	Prtd	watts	177	723	713	195	992	1239	176	1109	1769
	Rated Speed	Nrtd	RPM	911	5,378	5,674	587	3,391	5,683	244	1,637	2,941
	Rated Torque	Trtd	Nm	1.86	1.28	1.20	3.17	2.79	2.08	6.88	6.47	5.74
	Rated Power & Speed: 48 VDC @ 85°C Winding											
	Rated Power	Prtd	watts	146	355	350	166	627	607	165	860	1119
	Rated Speed	Nrtd	RPM	978	3,547	3,504	632	3,617	3,616	297	1,752	3,137
	Rated Torque	Trtd	Nm	1.43	0.957	0.954	2.51	1.66	1.60	5.30	4.69	3.41
Electrical	Rated Power & Speed: 24 VDC @ 155°C Winding											
	Rated Power	Prtd	watts	72.8	455	611	65.4	522	851	30.4	548	929
	Rated Speed	Nrtd	RPM	369	2,575	3,838	198	1,620	2,906	44	781	1,405
	Rated Torque	Trtd	Nm	1.89	1.69	1.52	3.15	3.08	2.80	6.66	6.70	6.31
	Rated Power & Speed: 24 VDC @ 85°C Winding											
	Rated Power	Prtd	watts	66.8	324	350	72.2	413	585	58.2	452	734
	Rated Speed	Nrtd	RPM	434	2,689	3,504	270	1,733	3,035	103	838	1,503
	Rated Torque	Trtd	Nm	1.47	1.15	0.954	2.56	2.28	1.84	5.38	5.15	4.67
	Connection	-	-	WYE			WYE			WYE		
	Terminal Res	RLL	Ω	1.11	0.044	0.021	1.28	0.053	0.019	1.85	0.076	0.028
	Terminal Ind	Lm	mH	2.8	0.10	0.047	3.8	0.15	0.052	7.4	0.30	0.10
	Back EMF Cold	Ke	Vpk/kRPM	42.1	8.18	5.61	62.2	12.4	7.25	123	24.6	14.3
		Ke	Vrms/kRPM	29.8	5.78	3.97	44.0	8.78	5.12	87.0	17.4	10.1
		Kb	Vpk/rad/s	0.402	0.078	0.054	0.594	0.119	0.069	1.17	0.235	0.137
	Kt at Temp	KtHot	Nm/Arms	0.435	0.084	0.058	0.640	0.128	0.075	1.27	0.253	0.148
	Motor Constant	Km	Nm/√W	0.382	0.372	0.367	0.525	0.517	0.501	0.864	0.854	0.825
	Electrical Time Const	Te	ms	2.5	2.3	2.2	3.0	2.9	2.7	4.0	4.0	3.6
Thermals	Insulation Class	-	-	Class F			Class F			Class F		
	Max Winding Temp	Twind	°C	155			155			155		
	Watts Loss	WLoss	watts	47.6			75.0			124.5		
	Bulk Thermal Res	TPR	°C/watt	2.73			1.73			1.04		
	Heat Sink Size	-	in	12 x 12 x 0.50			12 x 12 x 0.50			12 x 12 x 0.50		
Mechanical	Stator O.D.	-	mm	115.00			115.00			115.00		
	Stack Length	-	mm	8.20			12.70			26.30		
	RTD (Optional)	-	-	PT1000			PT1000			PT1000		
	Pole Count	Poles	-	20			20			20		
	Rotor Thru-Bore	-	mm	57.55			57.55			57.55		
	Direction of Rotation	DOR	CW/CCW	CW			CW			CW		
	Stator Weight	WS	g	365			505			924		
	Rotor Weight	WR	g	227			287			465		
	Total Weight	WT	g	592			792			1389		
	Rotor Inertia	Jm	kg-cm²	2.54			3.21			5.22		

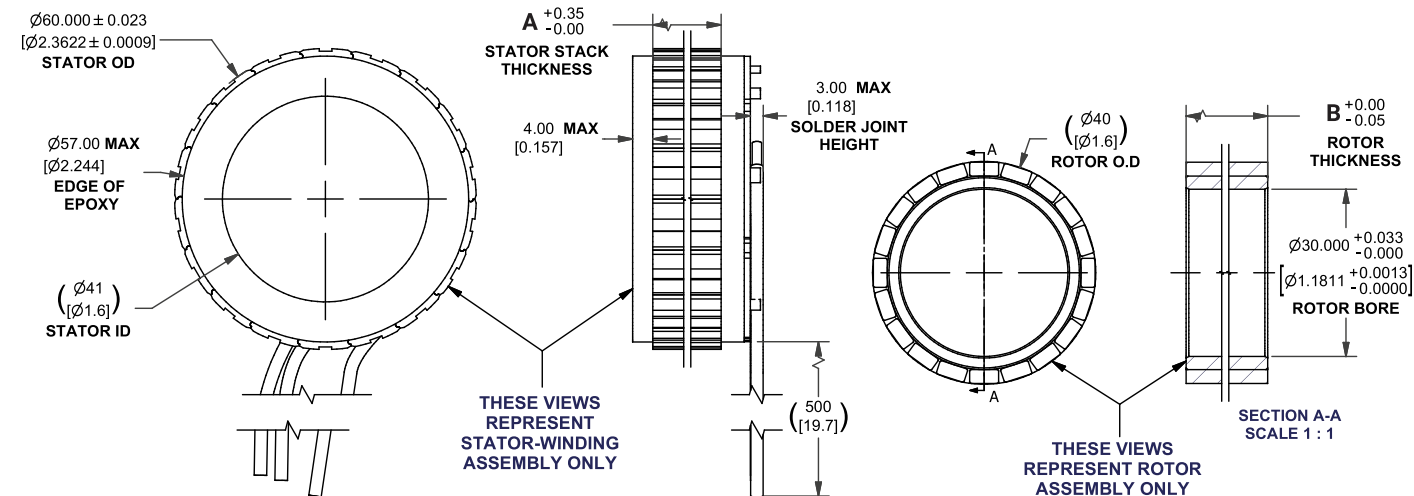




XC-T060 Series

Frame Size	60 mm
Stack Length	8 - 26 mm
Rotor Thru-Bore	30 mm
Bus Voltage	48 VDC
Rated Torque	0.473 - 1.19 Nm
Rated Speed	1055 - 3562 RPM
Rated Power	131-176 W

XC-T060 Series Dimensional Drawing



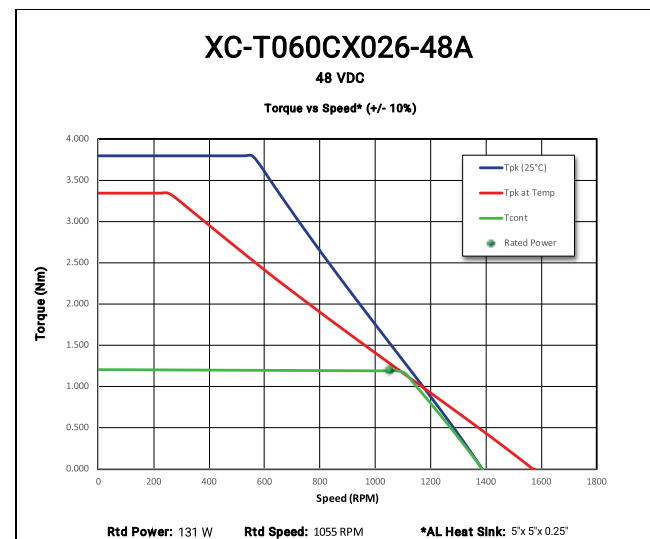
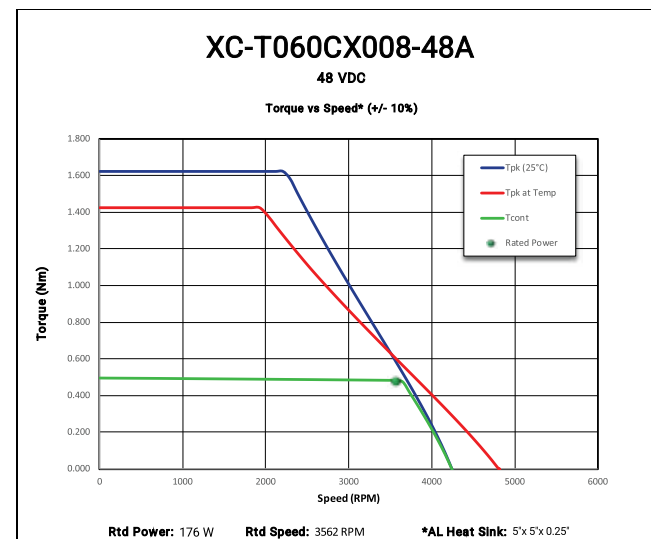
Dimensional Data

	Dim. A (mm)	Dim. B (mm)
XC-T060CX008-XXX	8.00	10.00
XC-T060CX026-XXX	26.00	28.00

Configure Online



	Parameter	Symbol	Units	XC-T060CX008-XXX	XC-T060CX026-XXX
				48A	48A
Performance	Rated Bus Voltage	Vbus	VDC	48	48
	Max Cont Torque @ Twind = 155°C	Tcont	Nm	0.495	1.20
	Max Cont Current @ Twind = 155°C	Icont	Arms	4.38	3.46
	Max Cont Torque @ Twind = 85°C	Tcont	Nm	0.399	0.966
	Max Cont Current @ Twind = 85°C	Icont	Arms	3.29	2.60
	Peak Torque	Tpk	Nm	1.62	3.80
	Peak Current	Ipk	Arms	13.4	10.1
	Rated Power & Speed: 48 VDC @ 155°C Winding				
	Rated Power	Prt	watts	176	131
	Rated Speed	Nrtd	RPM	3,562	1,055
	Rated Torque	Trtd	Nm	0.473	1.19
	Rated Power & Speed: 48 VDC @ 85°C Winding				
	Rated Power	Prt	watts	146	112
	Rated Speed	Nrtd	RPM	3,728	1,136
	Rated Torque	Trtd	Nm	0.375	0.938
	Rated Power & Speed: 24 VDC @ 155°C Winding				
Electrical	Rated Power	Prt	watts	76.6	38.5
	Rated Speed	Nrtd	RPM	1,494	315
	Rated Torque	Trtd	Nm	0.490	1.17
	Rated Power & Speed: 24 VDC @ 85°C Winding				
	Rated Power	Prt	watts	68	47.0
	Rated Speed	Nrtd	RPM	1,698	470
	Rated Torque	Trtd	Nm	0.384	0.955
	Connection	-	-	WYE	WYE
	Terminal Res	RLL	Ω	1.03	2.15
	Terminal Ind	Lm	mH	0.52	1.7
	Back EMF Cold	Ke	Vpk/kRPM	11.3	34.6
		Ke	Vrms/kRPM	7.99	24.5
		Kb	Vpk/rad/s	0.108	0.330
	Kt at Temp	KtHot	Nm/Arms	0.113	0.347
	Motor Constant	Km	Nm/√W	0.106	0.225
	Electrical Time Const	Te	ms	0.50	0.79
Thermals	Insulation Class	-	-	Class F	Class F
	Max Winding Temp	Twind	°C	155	155
	Watts Loss	WLoss	watts	44.5	57.9
	Bulk Thermal Res	TPR	°C/watt	2.92	2.25
	Heat Sink Size	-	in	5"x 5"x 0.25"	5"x 5"x 0.25"
Mechanical	Stator O.D.	-	mm	60.00	60.00
	Stack Length	-	mm	8.00	26.00
	Stator Length Max	-	mm	21.20	39.20
	Thermal Device	-	-	KTY21 & PTC	KTY21 & PTC
	Pole Count	Poles	-	20	20
	Rotor Thru-Bore	-	mm	30.00	30.00
	Direction of Rotation	DOR	CW/CCW	CW	CW
	Stator Weight	WS	g	110	270
	Rotor Weight	WR	g	40	110
	Total Weight	WT	g	150	380
	Rotor Inertia	Jm	kg-cm²	0.116	0.324

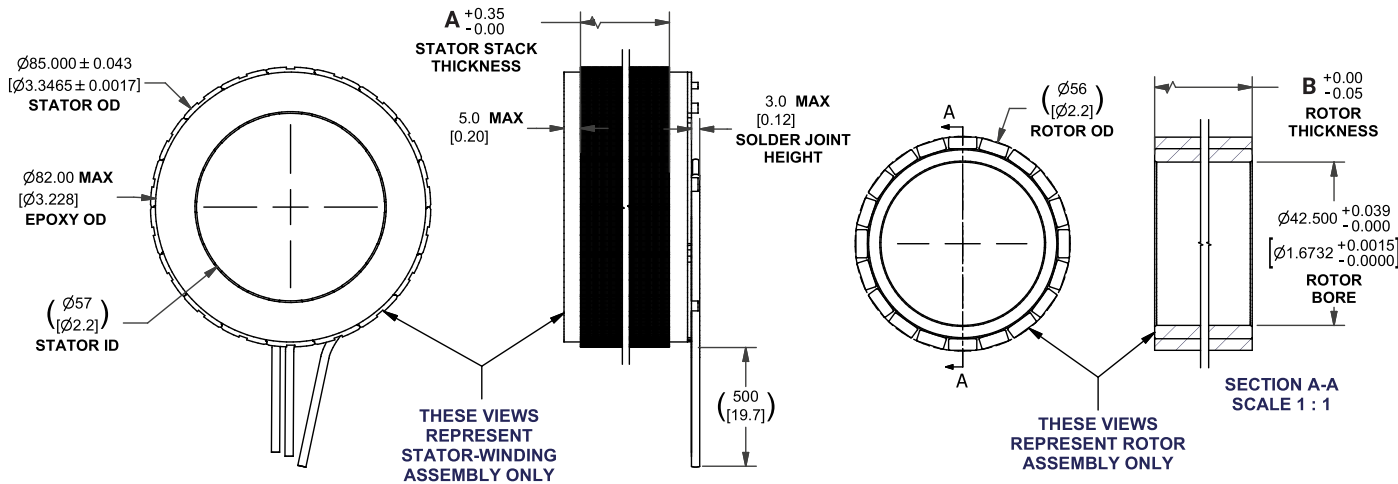




XC-T085 Series

Frame Size	85 mm
Stack Length	8 - 26 mm
Rotor Thru-Bore	42.5 mm
Bus Voltage	48 VDC
Rated Torque	1.29 - 3.31 Nm
Rated Speed	596 - 2003 RPM
Rated Power	206 - 271 W

XC-T085 Series Dimensional Drawing



Dimensional Data

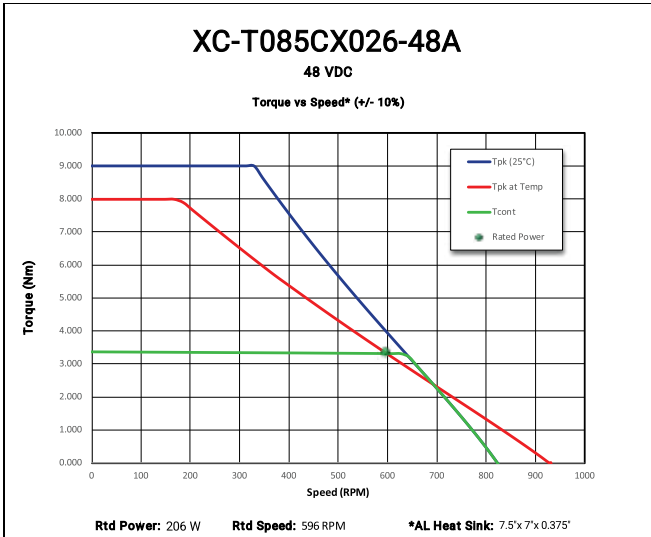
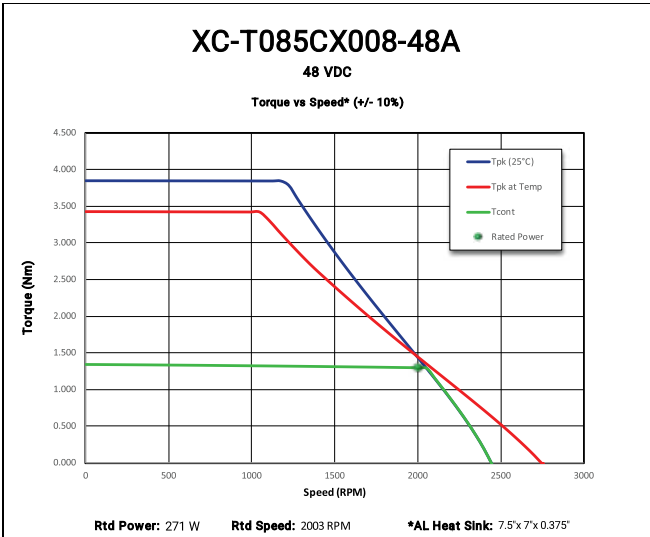
	Dim. A (mm)	Dim. B (mm)
XC-T085CX008-XXX	8.00	10.00
XC-T085CX026-XXX	26.00	30.00

Configure Online



XC-T085 Series Specifications Table

			XC-T085CX008-XXX	XC-T085CX026-XXX
Performance	Parameter	Symbol	Units	48A
	Rated Bus Voltage	Vbus	VDC	48
	Max Cont Torque @ Twind = 155°C	Tcont	Nm	1.34
	Max Cont Current @ Twind = 155°C	Icont	Arms	6.63
	Max Cont Torque @ Twind = 85°C	Tcont	Nm	1.07
	Max Cont Current @ Twind = 85°C	Icont	Arms	4.97
	Peak Torque	Tpk	Nm	3.85
	Peak Current	Ipk	Arms	19.9
	Rated Power & Speed: 48 VDC @ 155°C Winding			
	Rated Power	Prtd	watts	271
Performance	Rated Speed	Nrtd	RPM	2,003
	Rated Torque	Trtd	Nm	1.29
	Rated Power & Speed: 48 VDC @ 85°C Winding			
	Rated Power	Prtd	watts	217
	Rated Speed	Nrtd	RPM	2,099
	Rated Torque	Trtd	Nm	0.990
	Rated Power & Speed: 24 VDC @ 155°C Winding			
	Rated Power	Prtd	watts	108
	Rated Speed	Nrtd	RPM	800
	Rated Torque	Trtd	Nm	1.29
Performance	Rated Power & Speed: 24 VDC @ 85°C Winding			
	Rated Power	Prtd	watts	104
	Rated Speed	Nrtd	RPM	954
	Rated Torque	Trtd	Nm	1.04
Electrical	Connection	-	-	WYE
	Terminal Res	RLL	Ω	0.684
	Terminal Ind	Lm	mH	0.75
	Back EMF Cold	Ke	Vpk/kRPM	19.6
		Ke	Vrms/kRPM	13.9
		Kb	Vpk/rad/s	0.187
	Kt at Temp	KtHot	Nm/Arms	0.202
	Motor Constant	Km	Nm/√W	0.227
	Electrical Time Const	Te	ms	1.1
Thermals	Insulation Class	-	-	Class F
	Max Winding Temp	Twind	°C	155
	Watts Loss	WLoss	watts	67.7
	Bulk Thermal Res	TPR	°C/watt	1.92
	Heat Sink Size	-	in	7.5 x 7.0 x 0.375
Mechanical	Stator O.D.	-	mm	85.00
	Stack Length	-	mm	8.00
	Stator Length Max	-	mm	23.00
	Thermal Device	-	-	KTY21 & PTC
	Pole Count	Poles	-	20
	Rotor Thru-Bore	-	mm	42.50
	Direction of Rotation	DOR	CW/CCW	CW
	Stator Weight	WS	g	270
	Rotor Weight	WR	g	70
	Total Weight	WT	g	340
Mechanical	Rotor Inertia	Jm	kg-cm²	0.354

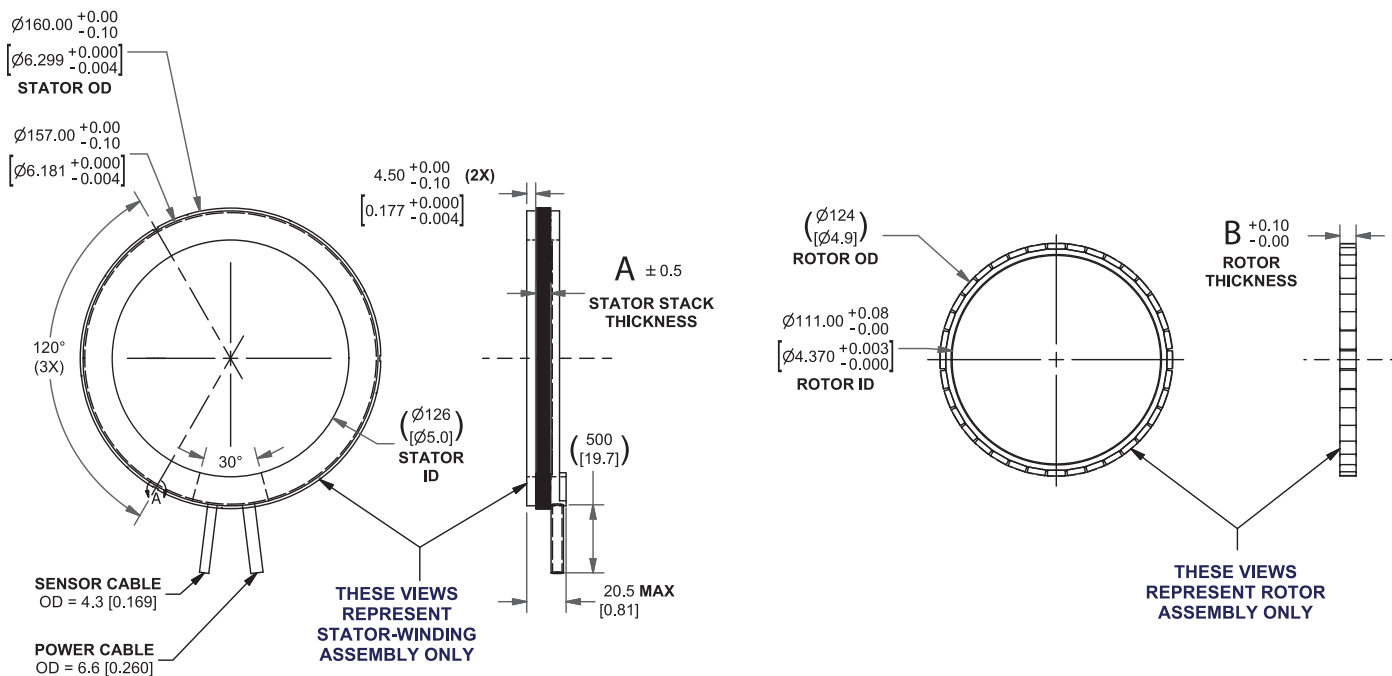




XC-T160 Series

Frame Size 160 mm
Stack Length 8 - 28 mm
Rotor Thru-Bore 111 mm
Bus Voltage 48 - 325 VDC
Rated Torque 3.13 - 12.5 Nm
Rated Speed 366 - 3204 RPM
Rated Power 481 - 1196 W

XC-T160 Series Dimensional Drawing



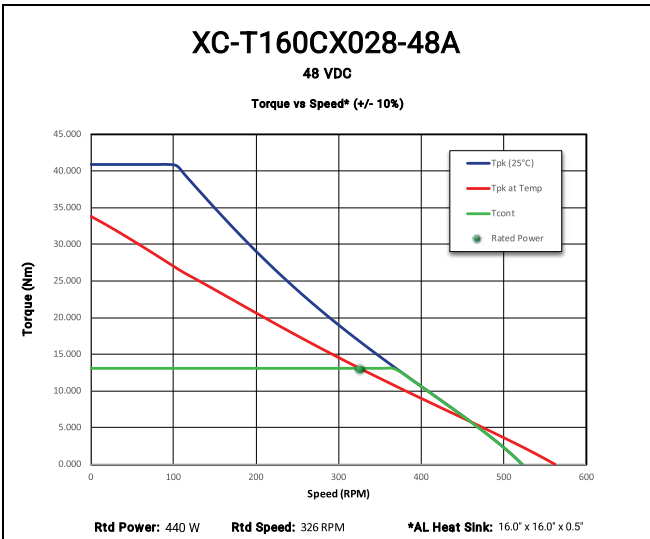
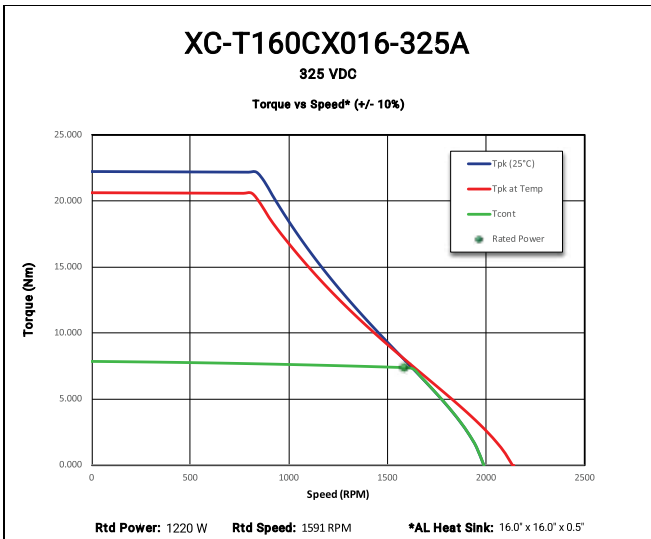
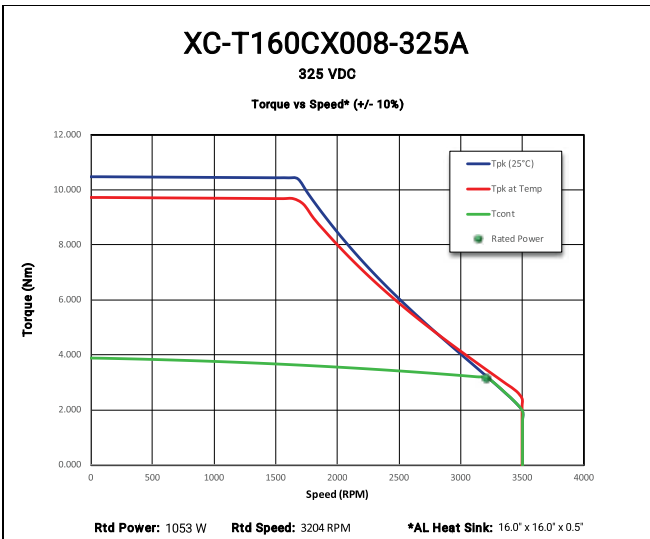
Dimensional Data

	Dim. A (mm)	Dim. B (mm)
XC-T160CN008-XXXX	8.00	8.60
XC-T160CN016-XXXX	16.00	16.60
XC-T160CN028-XXXX	30.00	30.60

Configure Online



				XC-T160CX008-XXXX	XC-T160CX016-XXXX	XC-T160CX028-XXXX
				325A	325A	48A
Performance	Rated Bus Voltage	Vbus	VDC	325	325	48
	Max Cont Torque	Tcont	Nm	3.87	7.67	12.7
	Max Cont Current	Icont	Arms	4.29	4.40	13.0
	Peak Torque	Tpk	Nm	10.9	22.2	40.5
	Peak Current	Ipk	Arms	13.8	13.8	45.0
	Rated Power	Prtd	watts	1050	1196	481
	Rated Speed	Nrtd	RPM	3,204	1,591	366
Electrical	Rated Torque	Trtd	Nm	3.13	7.18	12.5
	Connection	-	-	WYE		
	Terminal Res	RLL	Ω	3.20	4.44	0.650
	Terminal Ind	Lm	mH	4.5	8.4	1.4
	Back EMF Cold	Ke	Vpk/kRPM	85.1	164	92.0
		Ke	Vrms/kRPM	60.2	116	65.0
		Kb	Vpk/rad/s	0.813	1.56	0.878
Thermals	Kt at Temp	KtHot	Nm/Arms	0.903	1.744	0.977
	Motor Constant	Km	Nm/ $\sqrt{W}$	0.454	0.741	1.09
	Electrical Time Const	Te	ms	1.4	1.9	2.1
	Insulation Class	-	-	Class F		
	Max Winding Temp	Twind	$^{\circ}C$	155	155	155
	Watts Loss	WLoss	watts	133	194	249
	Bulk Thermal Res	TPR	$^{\circ}C/watt$	0.98	0.67	0.52
Mechanical	Heat Sink Size	-	in	16 x 16 x 0.50		
	Stator O.D.	-	mm	160.00	160.00	160.00
	Stack Length	-	mm	8.00	16.00	28.00
	Stator Length Max	-	mm	23.00	31.00	43.00
	Thermal Device	-	-	KTY21 & PTC		
	Pole Count	Poles	-	36	36	36
	Rotor Thru-Bore	-	mm	111.00	111.00	111.00
	Direction of Rotation	DOR	CW/CCW	CW	CW	CW
	Stator Weight	WS	g	-	-	1500
	Rotor Weight	WR	g	-	-	400
	Total Weight	WT	g	680	1144	2900
	Rotor Inertia	Jm	kg-cm ²	4.70	9.20	17.6



For the Frameless series motors provided by LIN Engineering, the following guidelines apply to the use of UL-compliant un-terminated flying lead wires:

- 1. **Lead Wire Routing and Connection:**
 - Ensure all lead wires are routed and connected in accordance with the diagrams provided on LIN Engineering drawings.
 - Avoid positioning wires across sharp edges, corners, or other potential pinch points where the insulation could be pierced or damaged.
- 2. **Securing Wire Bundles in High-Vibration Environments:**
 - Secure wire bundles with clamps or appropriate fasteners in high-vibration applications to prevent contact with surfaces that may cause abrasion.
 - Maintain wire bundles away from moving or vibrating parts to avoid wear on insulation.
- 3. **Strain Relief and Bend Radius:**
 - Implement strain relief for all wire bundles to protect against mechanical stress.
 - Allow for a generous bend radius to reduce strain on the wires and prevent damage.
- 4. **Additional Electrical Interface Enhancements:**
 - The user is responsible for any additional modifications or enhancements to the wiring beyond the configuration specified in the LIN's motor outline drawing. This may include:
 - Connector installation
 - Crimping or soldering
 - Shielding or sleeving

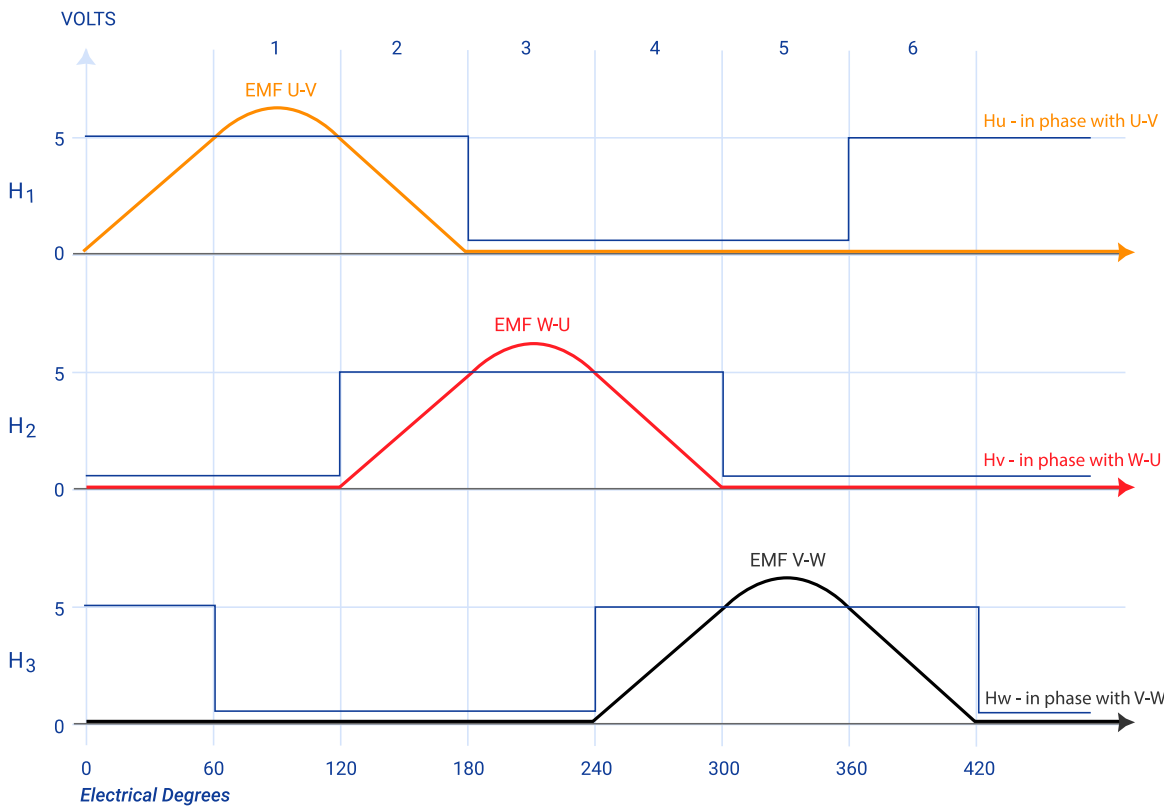


Figure 11. Hall Sensors Commutation Diagram

Standard Lead Wiring Chart

STANDARD WIRING CHART		
	Option #1	Option #2
Function	Color	
Phase A (U)	Yellow	Yellow
Phase B (V)	Red	Green
Phase C (W)	Black	Blue

OPTIONAL ADDED-IN HALL SENSOR		
	Option #1	Option #2
Function	Color	
Hall A (U-V)	Blue	Yellow
Hall B (V-W)	Green	Blue
Hall C (W-U)	White	Green
Hall +5 VDC	Red/White	Red
Hall Ground	Black/White	Black

SIX STATE COMMUTATION CHART			
STEP	PHASE A (U)	PHASE B (V)	PHASE C (W)
1	+	-	
2	+		-
3		+	-
4	-	+	
5	-		+
6		-	+

* Counter-Clockwise rotation viewed from PCB/Lead-end.

* Alternative color code options are available based on customer requirements.



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