

The LRPX carefully integrates the unique RPX series motor with a custom planetary gearbox. The result is a small form factor BLDC motor that can produce high torque at low RPM and offer strong, smooth operation with low noise!

Features:

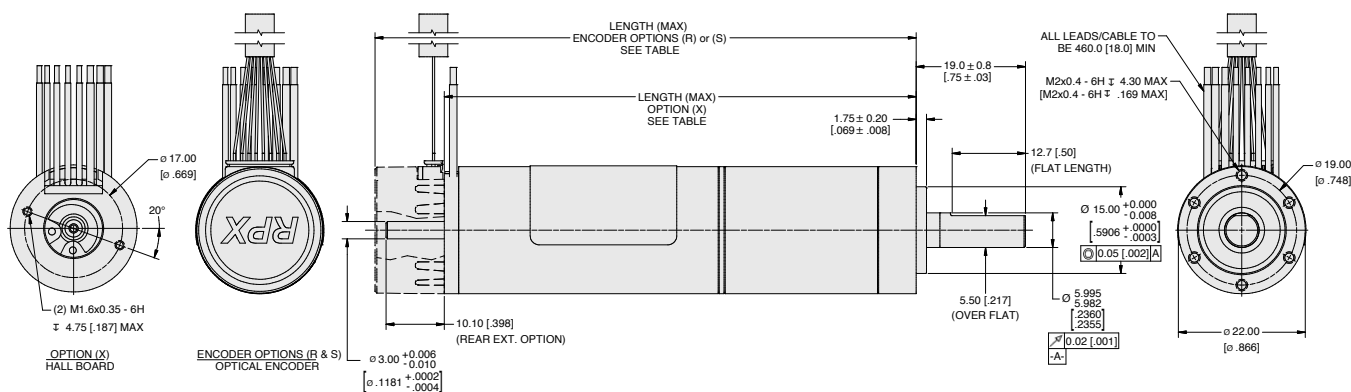
- High torque density delivers class- leading torque from compact frame size.
- 8 pole motor; high torque at low speeds.
- High load capacity.
- Low heat generation.
- Low noise & High efficiency compared to similar gearmotors.



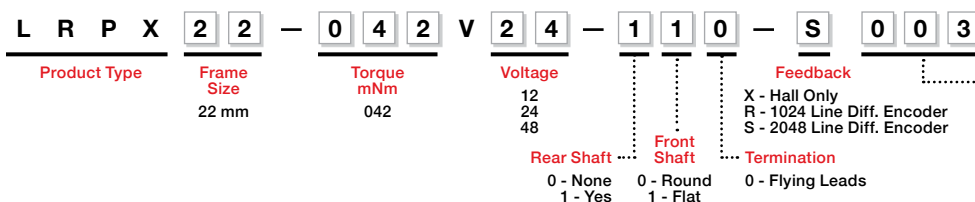
LRPX22 BRUSHLESS DC MOTOR

Size:	22mm (0.87 in) diameter
Peak Torque:	3.0 Nm (424.8 oz.in)
Continuous Stall Torque:	2.5 Nm (354 oz.in)
Speed:	to 2286 RPM

All measurements in mm [inches]



LRPX Model Number



Ratio		Ratio	
003	3.500:1	094	93.92:1
004	4.333:1	116	116.3:1
008	7.667:1	144	144.0:1
012	12.25:1	186	185.8:1
015	15.17:1	230	230.0:1
019	18.78:1	285	284.8:1
027	26.83:1	329	328.7:1
033	33.22:1	353	352.6:1
053	53.08:2	407	407.0:1
066	65.72:1	504	503.9:1
081	81.37:1	624	623.8:1

LRPX22

BRUSHLESS DC GEAR MOTOR

High torque density - high performance.



Applications:

Medical Science

Automated Equipment

- Fluid Pumps
- Air / Ventilation Pumps
- Blood Transfusers
- Diagnostic and Imaging Systems

Surgical Robots and Robotic Assistants

- Traction Motors for Mobile Systems
- Arm/Gripper Positioning and Force Control

Lab Automation Equipment

- Dispensing Systems
- Sample Handling Systems
- Analysis Systems
- Centrifuges

Robotics

- Traction Motors for Mobile Applications
- Steering Systems for Mobile Applications
- Arm/Gripper Positioning and Force Control

Industrial Automation

- Industrial Machinery
- Material Handling and Conveyor Equipment
- Automated Guided Vehicles (AGVs)
- Sorting and Packing Systems
- Dispensing Machines

Electronics / Semiconductor Manufacturing

- Wafer Handling and Processing Systems
- Assembly, Test and Packaging Systems

Transportation

Automotive & Commercial Vehicles

- Power Seats
- Fan & Pump Motors
- Emission Control Systems
- Drive by Wire and Driver Assist Systems
- Autonomous Vehicle Camera & Sensor Controls

Aerospace

- Flight Control Systems
- Commercial UAV Flight Motors
- Pumps / Actuators

Marine & Shipbuilding

- Gyro Stabilization Systems
- Steering Pumps

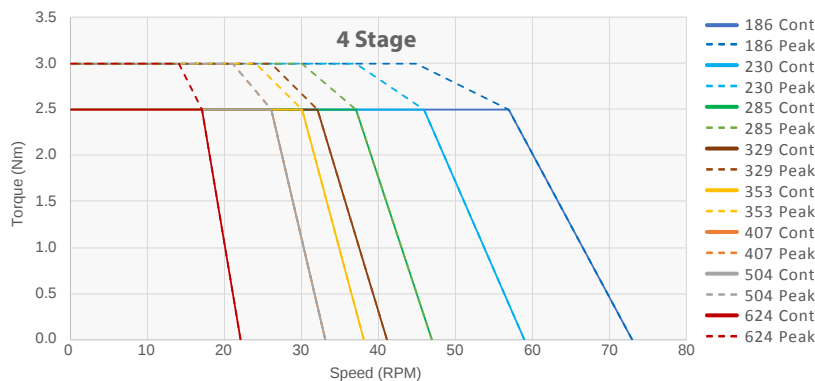
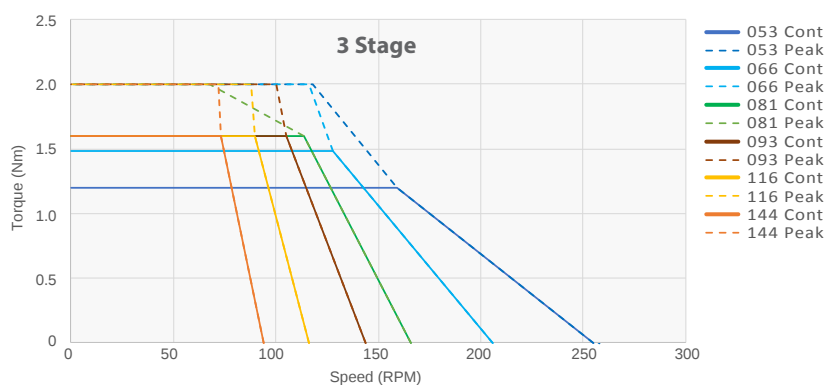
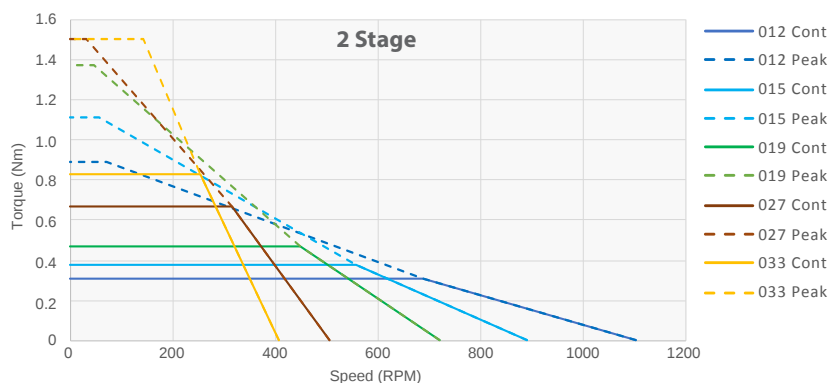
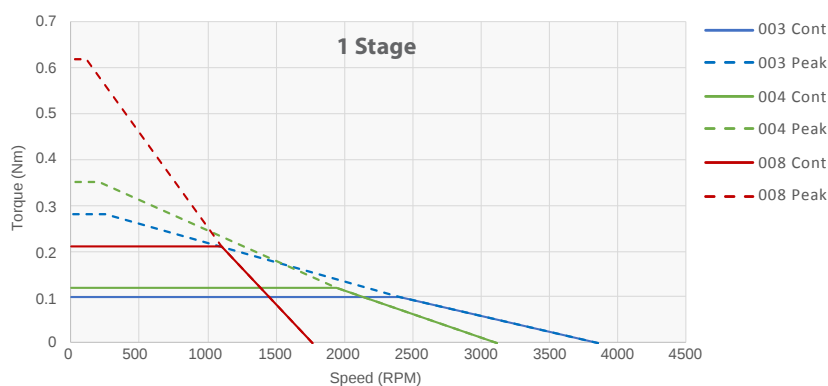
Military/Defense

- Military Robots
- Mobile Radar and Communication Systems
- Flight Control Systems
- Military UAV Flight Motors
- Guidance Systems

Agriculture

- Automated Planting Equipment
- Automated Harvesting Equipment
- Farm Machinery Control Systems
- Agricultural Robots

LRPX22 Speed Torque Performance



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Winding Specifications

Part Number	Voltage	Resistance	Inductance	No. of Poles	Torque Constant		Voltage Constant		Continuous Running			Peak		
Units	Volts	Ohms	mH		Nm/A	oz-in/A	V-sec/rad	V/kRPM	Torque (Nm)	RPM	Current (A)	Torque (Nm)	RPM	Current (A)

Motor Only

LRPX22-42V12	12	0.56	0.22	8	0.008	1.19	0.008	0.80	0.04	9000	5.0	0.09	1700	10.8
LRPX22-42V24	24	2.39	0.90	8	0.017	2.35	0.015	1.60	0.04	9000	2.5	0.09	1700	5.5
LRPX22-42V48	48	9.72	3.60	8	0.032	4.53	0.032	3.30	0.04	9000	1.3	0.09	1700	2.8

One Stage Gearbox

LRPX22-042V12-___-003	12	0.6	0.22	8	0.029	4.16	0.033	3.42	0.09	2408	3.87	0.28	249	10.34
LRPX22-042V24-___-003	24	2.39	0.90	8	0.059	8.33	0.065	6.84	0.09	2408	1.93	0.28	249	5.17
LRPX22-042V48-___-003	48	9.72	3.60	8	0.118	16.66	0.131	13.69	0.09	2408	0.97	0.28	249	2.585
LRPX22-042V12-___-004	12	0.56	0.22	8	0.036	5.16	0.040	4.24	0.12	1945	3.87	0.35	201	10.34
LRPX22-042V24-___-004	24	2.39	0.90	8	0.073	10.31	0.081	8.47	0.12	1945	1.93	0.35	201	5.17
LRPX22-042V48-___-004	48	9.72	3.60	8	0.146	20.62	0.162	16.94	0.12	1945	0.97	0.35	201	2.585
LRPX22-042V12-___-008	12	0.56	0.22	8	0.064	9.12	0.072	7.50	0.21	1099	3.87	0.62	114	10.34
LRPX22-042V24-___-008	24	2.39	0.90	8	0.129	18.25	0.143	14.99	0.21	1099	1.93	0.62	114	5.17
LRPX22-042V48-___-008	48	9.72	3.60	8	0.258	36.49	0.286	29.98	0.21	1099	0.97	0.62	114	2.585

Two Stage Gearbox

LRPX22-042V12-___-012	12	0.6	0.22	8	0.093	13.1	0.127	13.3	0.31	688	3.87	0.893	71	10.34
LRPX22-042V24-___-012	24	2.4	0.90	8	0.185	26.2	0.254	26.6	0.31	688	1.93	0.893	71	5.17
LRPX22-042V48-___-012	48	9.7	3.60	8	0.371	52.5	0.508	53.2	0.31	688	0.97	0.893	71	2.585
LRPX22-042V12-___-015	12	0.6	0.22	8	0.115	16.2	0.157	16.5	0.38	556	3.87	1.106	57	10.34
LRPX22-042V24-___-015	24	2.4	0.90	8	0.229	32.5	0.315	33.0	0.38	556	1.93	1.106	57	5.17
LRPX22-042V48-___-015	48	9.7	3.60	8	0.459	65.0	0.630	65.9	0.38	556	0.97	1.106	57	2.585
LRPX22-042V12-___-019	12	0.6	0.22	8	0.142	20.1	0.195	20.4	0.47	449	3.87	1.369	46	10.34
LRPX22-042V24-___-019	24	2.4	0.90	8	0.284	40.2	0.390	40.8	0.47	449	1.93	1.369	46	5.17
LRPX22-042V48-___-019	48	9.7	3.60	8	0.568	80.4	0.779	81.6	0.47	449	0.97	1.369	46	2.585
LRPX22-042V12-___-027	12	0.6	0.22	8	0.203	28.7	0.278	29.1	0.67	314	3.87	1.50	142	9.5
LRPX22-042V24-___-027	24	2.4	0.90	8	0.406	57.5	0.557	58.3	0.67	314	1.93	1.50	142	4.8
LRPX22-042V48-___-027	48	9.7	3.60	8	0.812	114.9	1.113	116.6	0.67	314	0.97	1.50	142	2.4
LRPX22-042V12-___-033	12	0.6	0.22	8	0.251	35.6	0.345	36.1	0.83	254	3.87	1.50	171	8.1
LRPX22-042V24-___-033	24	2.4	0.90	8	0.502	71.1	0.689	72.2	0.83	254	1.93	1.50	171	4.1
LRPX22-042V48-___-033	48	9.7	3.60	8	1.005	142.3	1.379	144.3	0.83	254	0.97	1.50	171	2.0

Three Stage Gearbox

LRPX22-042V12-___-053	12	0.6	0.22	8	0.361	51.2	0.496	51.9	1.20	159	3.87	2.00	118	6.1
LRPX22-042V24-___-053	24	2.4	0.90	8	0.723	102.3	0.991	103.8	1.20	159	1.93	2.00	118	3.0
LRPX22-042V48-___-053	48	9.7	3.60	8	1.445	204.6	1.982	207.6	1.20	159	0.97	2.00	118	1.5
LRPX22-042V12-___-066	12	0.6	0.22	8	0.447	63.3	0.614	64.3	1.49	128	3.87	2.00	116	5.0
LRPX22-042V24-___-066	24	2.4	0.90	8	0.895	126.7	1.227	128.5	1.49	128	1.93	2.00	116	2.5
LRPX22-042V48-___-066	48	9.7	3.60	8	1.789	253.4	2.454	257.0	1.49	128	0.97	2.00	116	1.3
LRPX22-042V12-___-081	12	0.6	0.22	8	0.554	78.4	0.760	79.6	1.60	120	3.42	2.00	108	4.1
LRPX22-042V24-___-081	24	2.4	0.90	8	1.108	156.8	1.519	159.1	1.60	120	1.71	2.00	108	2.1
LRPX22-042V48-___-081	48	9.7	3.60	8	2.215	313.7	3.039	318.2	1.60	120	0.86	2.00	108	1.0
LRPX22-042V12-___-094	12	0.6	0.22	8	0.639	90.5	0.877	91.8	1.60	109	3.04	2.00	100	3.7
LRPX22-042V24-___-094	24	2.4	0.90	8	1.279	181.0	1.754	183.6	1.60	109	1.52	2.00	100	1.8
LRPX22-042V48-___-094	48	9.7	3.60	8	2.557	362.1	3.508	367.3	1.60	109	0.76	2.00	100	0.9
LRPX22-042V12-___-116	12	0.6	0.22	8	0.792	112.1	1.086	113.7	1.60	93	2.56	2.00	88	3.1
LRPX22-042V24-___-116	24	2.4	0.90	8	1.583	224.2	2.172	227.4	1.60	93	1.28	2.00	88	1.5
LRPX22-042V48-___-116	48	9.7	3.60	8	3.166	448.4	4.343	454.8	1.60	93	0.64	2.00	88	0.8
LRPX22-042V12-___-144	12	0.6	0.22	8	0.980	138.8	1.344	140.8	1.60	79	2.17	2.00	73	2.6
LRPX22-042V24-___-144	24	2.4	0.90	8	1.960	277.6	2.689	281.6	1.60	79	1.08	2.00	73	1.3
LRPX22-042V48-___-144	48	9.7	3.60	8	3.921	555.1	5.378	563.1	1.60	79	0.54	2.00	73	0.6



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Winding Specifications Continued

Part Number	Voltage	Resistance	Inductance	No. of Poles	Torque Constant		Voltage Constant		Continuous Running			Peak		
Units	Volts	Ohms	mH		Nm/A	oz-in/A	V-sec/rad	V/kRPM	Torque (Nm)	RPM	Current (A)	Torque (Nm)	RPM	Current (A)

Four Stage Gearbox

LRPX22-042V12-_-_- 186	12	0.6	0.22	8	1.14	161.2	1.73	181.7	2.50	57	2.73	3.00	45	3.2
LRPX22-042V24-_-_- 186	24	2.4	0.90	8	2.28	322.3	3.47	363.3	2.50	57	1.37	3.00	45	1.6
LRPX22-042V48-_-_- 186	48	9.7	3.60	8	4.55	644.7	6.94	726.6	2.50	57	0.68	3.00	45	0.8
LRPX22-042V12-_-_- 230	12	0.6	0.22	8	1.41	199.5	2.15	224.9	2.50	46	2.31	3.00	37	2.7
LRPX22-042V24-_-_- 230	24	2.4	0.90	8	2.82	399.0	4.29	449.7	2.50	46	1.15	3.00	37	1.3
LRPX22-042V48-_-_- 230	48	9.7	3.60	8	5.64	798.0	8.59	899.5	2.50	46	0.58	3.00	37	0.7
LRPX22-042V12-_-_- 285	12	0.6	0.22	8	1.74	247.0	2.66	278.4	2.50	37	1.97	3.00	30	2.3
LRPX22-042V24-_-_- 285	24	2.4	0.90	8	3.49	494.1	5.32	556.9	2.50	37	.98	3.00	30	1.1
LRPX22-042V48-_-_- 285	48	9.7	3.60	8	6.89	988.2	10.64	1113.8	2.50	37	0.49	3.00	30	0.6
LRPX22-042V12-_-_- 329	12	0.6	0.22	8	2.01	285.1	3.07	321.4	2.50	32	1.78	3.00	26	2.0
LRPX22-042V24-_-_- 329	24	2.4	0.90	8	4.03	570.2	6.14	642.7	2.50	32	0.89	3.00	26	1.0
LRPX22-042V48-_-_- 329	48	9.7	3.60	8	8.05	1140.5	12.28	1285.4	2.50	32	0.44	3.00	26	0.5
LRPX22-042V12-_-_- 353	12	0.6	0.22	8	2.16	305.9	3.29	344.7	2.50	30	1.69	3.00	24	1.9
LRPX22-042V24-_-_- 353	24	2.4	0.90	8	4.32	611.7	6.58	689.5	2.50	30	0.85	3.00	24	1.0
LRPX22-042V48-_-_- 353	48	9.7	3.60	8	8.64	1223.4	13.12	1378.9	2.50	30	0.42	3.00	24	0.5
LRPX22-042V12-_-_- 407	12	0.6	0.22	8	2.49	353.0	3.80	397.9	2.50	26	1.54	3.00	21	1.7
LRPX22-042V24-_-_- 407	24	2.4	0.90	8	4.99	706.1	7.60	795.8	2.50	26	0.77	3.00	21	0.9
LRPX22-042V48-_-_- 407	48	9.7	3.60	8	9.97	1520	15.20	1591.6	2.50	26	0.38	3.00	21	0.4
LRPX22-042V12-_-_- 504	12	0.6	0.22	8	3.09	470	4.70	492.6	2.50	21	1.35	3.00	17	1.5
LRPX22-042V24-_-_- 504	24	2.4	0.90	8	6.17	941	9.41	985.3	2.50	21	0.67	3.00	17	0.8
LRPX22-042V48-_-_- 504	48	9.7	3.60	8	12.35	1882	18.82	1970.6	2.50	21	0.34	3.00	17	0.4
LRPX22-042V12-_-_- 624	12	0.6	0.22	8	3.82	582	5.82	609.9	2.50	17	1.19	3.00	14	1.3
LRPX22-042V24-_-_- 624	24	2.4	0.90	8	7.64	1165	11.65	1219.7	2.50	17	0.59	3.00	14	0.7
LRPX22-042V48-_-_- 624	48	9.7	3.60	8	15.29	2330	23.30	2439.5	2.50	17	0.30	3.00	14	0.3

General Specifications

Part Number	Ratio (approx.)	Ratio (Exact)	Backlash (avg) (Degrees)	Length (Motor + Gearhead) (mm)	Weight (g)	Temperature Range (°C)
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One Stage Gearbox

LRPX22-042V_-_-_- 003	3.50	7 / 2	0.9	77.2	136.4	-40 °C to +100 °C
LRPX22-042V_-_-_- 004	4.33	13 / 3	0.9	77.2	136.4	-40 °C to +100 °C
LRPX22-042V_-_-_- 008	7.67	23 / 3	0.7	77.2	136.4	-40 °C to +100 °C

Two Stage Gearbox

LRPX22-042V_-_-_- 012	12.25	49 / 4	1.1	82.9	148.1	-40 °C to +100 °C
LRPX22-042V_-_-_- 015	15.17	91 / 6	1.1	82.9	148.1	-40 °C to +100 °C
LRPX22-042V_-_-_- 019	18.78	169 / 9	1.2	82.9	148.1	-40 °C to +100 °C
LRPX22-042V_-_-_- 027	26.83	161 / 6	1.1	82.9	148.1	-40 °C to +100 °C
LRPX22-042V_-_-_- 033	33.22	299 / 9	1.1	82.9	148.1	-40 °C to +100 °C

Three Stage Gearbox

LRPX22-042V_-_-_- 053	53.08	637 / 12	1.2	88.2	159.8	-40 °C to +100 °C
LRPX22-042V_-_-_- 066	65.72	1183 / 18	1.2	88.2	159.8	-40 °C to +100 °C
LRPX22-042V_-_-_- 081	81.37	2197 / 27	1.2	88.2	159.8	-40 °C to +100 °C
LRPX22-042V_-_-_- 094	93.92	1127 / 12	1.2	88.2	159.8	-40 °C to +100 °C
LRPX22-042V_-_-_- 116	116.28	2093 / 18	1.2	88.2	159.8	-40 °C to +100 °C
LRPX22-042V_-_-_- 144	143.96	3887 / 27	1.2	88.2	159.8	-40 °C to +100 °C

Four Stage Gearbox

LRPX22-042V_-_-_- 186	185.79	4459 / 24	1.2	93.6	171.5	-40 °C to +100 °C
LRPX22-042V_-_-_- 230	230.03	8281 / 36	1.2	93.6	171.5	-40 °C to +100 °C
LRPX22-042V_-_-_- 285	284.80	15379 / 54	1.2	93.6	171.5	-40 °C to +100 °C
LRPX22-042V_-_-_- 329	328.71	7889 / 24	1.2	93.6	171.5	-40 °C to +100 °C
LRPX22-042V_-_-_- 353	352.60	28561 / 81	1.2	93.6	171.5	-40 °C to +100 °C
LRPX22-042V_-_-_- 407	406.97	14651 / 36	1.2	93.6	171.5	-40 °C to +100 °C
LRPX22-042V_-_-_- 504	503.87	27209 / 54	1.2	93.6	171.5	-40 °C to +100 °C
LRPX22-042V_-_-_- 624	623.84	50531 / 81	1.2	93.6	171.5	-40 °C to +100 °C



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