

LiveDrive® Direct Drive

**Motion
Redefined**



Genesis LiveDrive® LDD 1800 Series



Genesis Robotics &
Motion Technologies

[genesisrobotics.com](https://www.genesisrobotics.com)

The LiveDrive® Advantage

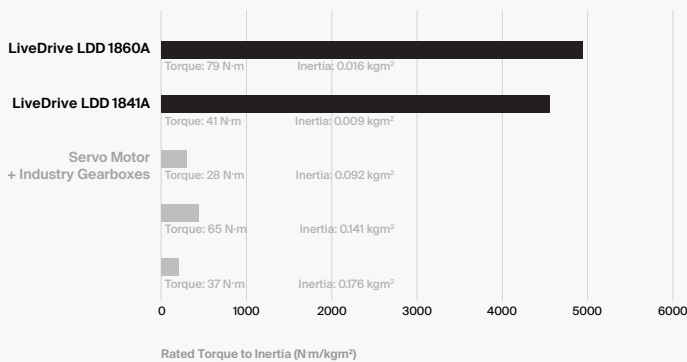


High torque direct-drive motors eliminate the need for gearbox components, creating higher throughput machines that are simple, compact and maintenance free.

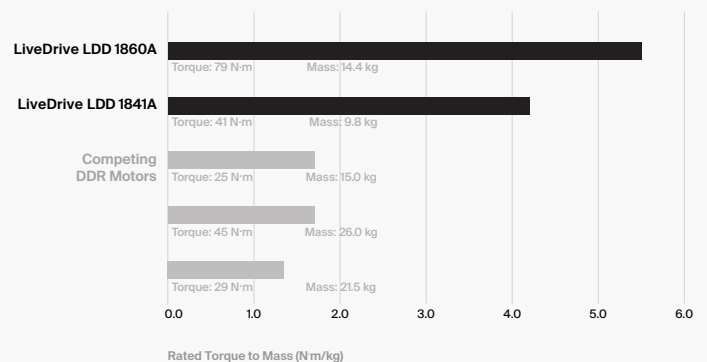
Features

- 56 Nm - 210 Nm peak torque
- IP67 housing
- High precision encoders with EnDat 2.2, HIPERFACE®, HIPERFACE DSL® and BiSS-C® protocol
- One cable technology with HIPERFACE DSL®
- Optional integrated holding brake, 18 Nm

Lower Inertia - Higher Acceleration



Higher Torque Density - More Compact





High Torque

High torque density removes the need for a gearbox



Compact

Compact form factor reduces machine footprint



Low Inertia

Increases acceleration and stopping time for higher productivity and safety



Maintenance Free

Design reduces total cost of ownership



High Precision

Zero backlash and high precision absolute encoder feedback, supporting Hiperface®, Hiperface DSL®, Endat 2.2 and BiSS-C® protocols



LiveDrive Design

Robust and innovative design simplifies machine operation and maintenance

Compact
Traditional Servo-Gearhead
Drivetrain vs LiveDrive
Direct Drive Actuator



LDD 1830 Series

Models		1830A-xx7-BA	1830A-xx7-NA	1830B-xx7-BA	1830B-xx7-NA
Size					
Outer Diameter	mm	180	180	180	180
Length	mm	106	106	106	106
Mass	kg	8.2	7.3	8.2	7.4
Rotor Inertia	kgm ²	0.0069	0.0058	0.0069	0.0058
Performance					
Nominal Voltage	VAC	480	480	230	230
Rated Power	W	837	969	868	997
Continuous Torque ¹	Nm	22.5	27.0	21.5	25.5
Peak Torque	Nm	56	56	56	56
Continuous Current ¹	A	2.1	2.5	3.7	4.4
Peak Current	A	4.9	4.9	11.1	11.1
Rated Speed	rpm	390	370	425	405
Maximum Speed	rpm	482	482	530	530
Max. Winding Temp	°C	110	110	110	110
Holding Brake	-	18 Nm	No Brake	18 Nm	No Brake
Electrical					
Line Resistance ²	mΩ	30.291	30.291	7.164	7.164
Torque Constant ³	Nm/A	10.9	10.9	5.8	5.8
Back EMF Constant ³	V/krpm	0.83	0.83	0.37	0.37
Mechanical					
Allowable Radial Load ⁴	N	± 1300	± 1300	± 1300	± 1300
Allowable Thrust Load ⁴	N	+250 / -800	+250 / -800	+250 / -800	+250 / -800
Allowable Moment Load ⁴	Nm	± 75	± 75	± 75	± 75
Operating Noise	dBA	<65	<65	<65	<65
Protection Class	-	IP67	IP67	IP67	IP67
Operation					
Operating Ambient Temperature	0°C to 40°C (no freezing)				
Temperature Sensors	PT1000 RTD				
Servo Drive Requirements ⁵	Compatible with industry servo drives, Minimum PWM frequency 8 kHz				
Heat Sink	300mm x 300mm x 13mm aluminum on all models				

1. Continuous performance rated at 20°C ambient temperature and 0 rpm.

2. Line to line at motor terminals.

3. Normalized to 25°C ambient temperature.

4. Single allowable load in continuous operation, where + direction is towards the motor (compression). For simultaneous loading please consult with Genesis Robotics applications engineering.

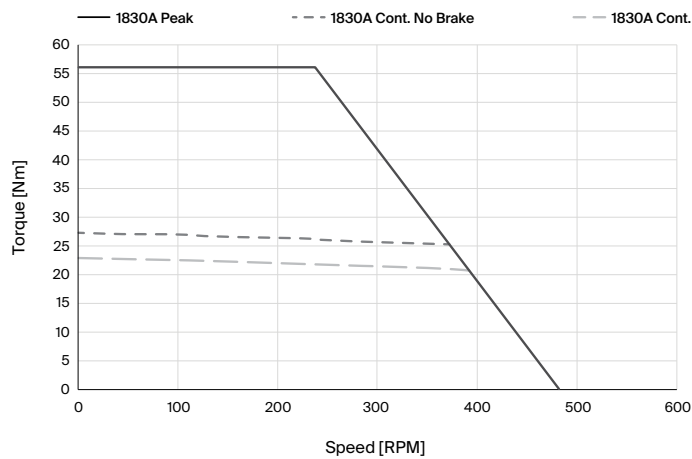
5. Performance depends on tuning parameters and may vary slightly between servo drive models. For additional details, contact Genesis Robotics applications engineering.

LDD 1830 Features

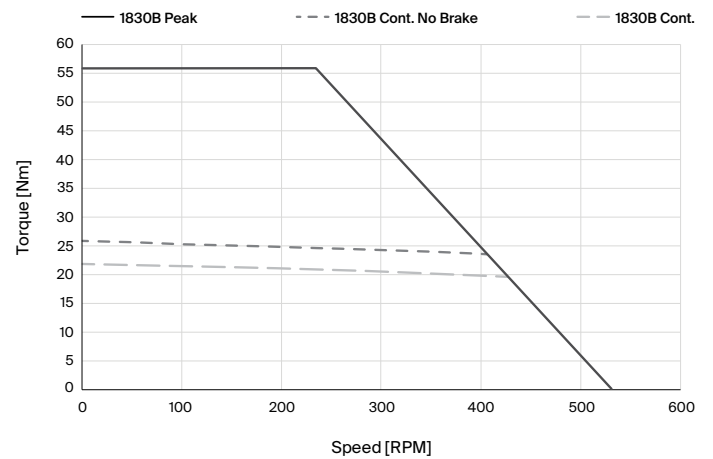
These features apply to all LDD 1800 series models. See the model configurations section for options.

Model Code	Encoder Options	Encoder Resolution	Connector Interface
-E1	EnDat 2.2 absolute single-turn	524 288 (19 bit)	M23 power, M12 encoder
-H1	HIPERFACE® absolute single-turn	128 sine/cosine periods/revolution	M23 power, M12 encoder
-D1	HIPERFACE DSL® absolute single-turn	1 048 576 (20 bit)	M23 one cable technology
-B1	BiSS-C® absolute single-turn	2 097 152 (21 bit)	M23 power, M12 encoder

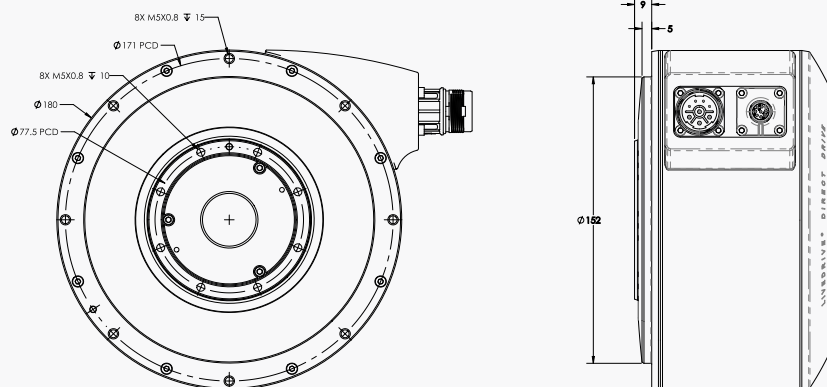
Torque vs Speed 1830A (480 VAC)



Torque vs Speed 1830B (230 VAC)



Dimensions



LDD 1830 with M23 and M12 connectors shown. One cable technology (M23 only) on HIPERFACE DSL® models.

LDD 1841 Series

Models		1841A-xx7-BA	1841A-xx7-NA	1841B-xx7-BA	1841B-xx7-NA
Size					
Outer Diameter	mm	180	180	180	180
Length	mm	131	131	131	131
Mass	kg	10.7	9.8	10.6	9.8
Rotor Inertia	kgm ²	0.0104	0.0092	0.0104	0.0092
Performance					
Nominal Voltage	VAC	480	480	230	230
Rated Power	W	902	967	825	852
Continuous Torque ¹	Nm	37.0	41.0	38.5	41.5
Peak Torque	Nm	110	110	110	110
Continuous Current ¹	A	2.3	2.6	3.9	4.2
Peak Current	A	5.7	5.7	11.6	11.6
Rated Speed	rpm	265	260	225	220
Maximum Speed	rpm	311	311	279	279
Max. Winding Temp	°C	110	110	110	110
Holding Brake	-	18 Nm	No Brake	18 Nm	No Brake
Electrical					
Line Resistance ²	mΩ	28.629	28.629	7.607	7.607
Torque Constant ³	Nm/A	16.0	16.0	10.0	10.0
Back EMF Constant ³	V/krpm	1.26	1.26	0.67	0.67
Mechanical					
Allowable Radial Load ⁴	N	± 1400	± 1400	± 1400	± 1400
Allowable Thrust Load ⁴	N	+250 / -800	+250 / -800	+250 / -800	+250 / -800
Allowable Moment Load ⁴	Nm	± 120	± 120	± 120	± 120
Operating Noise	dBA	<65	<65	<65	<65
Protection Class	-	IP67	IP67	IP67	IP67
Operation					
Operating Ambient Temperature	0°C to 40°C (no freezing)				
Temperature Sensors	PT1000 RTD				
Servo Drive Requirements ⁵	Compatible with industry servo drives, Minimum PWM frequency 8 kHz				
Heat Sink	300mm x 300mm x 13mm aluminum on all models				

1. Continuous performance rated at 20°C ambient temperature and 0 rpm.

2. Line to line at motor terminals.

3. Normalized to 25°C ambient temperature.

4. Single allowable load in continuous operation, where + direction is towards the motor (compression). For simultaneous loading please consult with Genesis Robotics applications engineering.

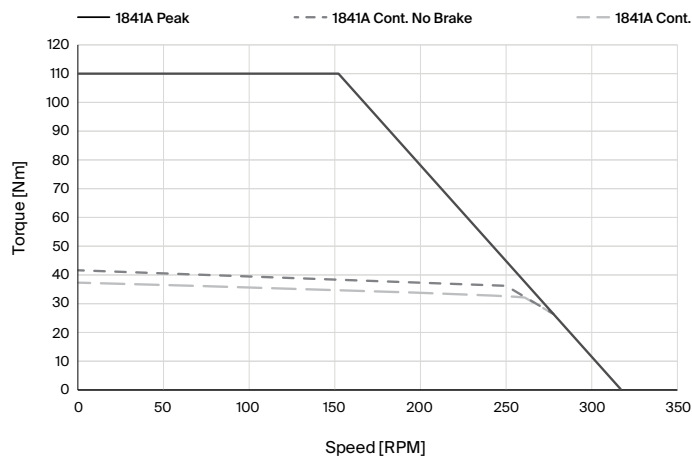
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LDD 1841 Features

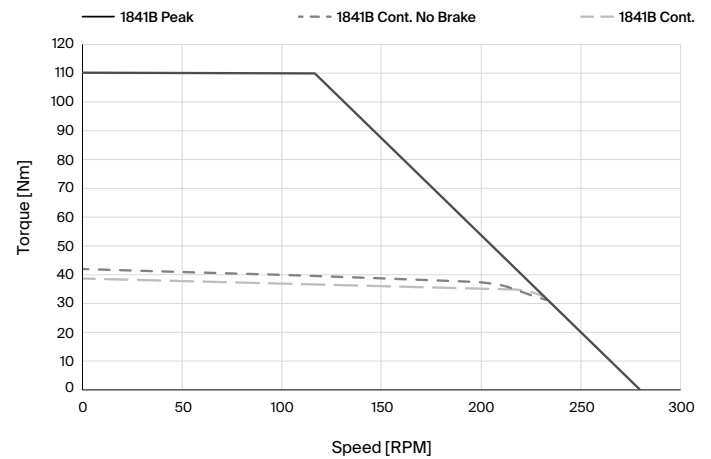
These features apply to all LDD 1800 series models. See the model configurations section for options.

Model Code	Encoder Options	Encoder Resolution	Connector Interface
-E1	EnDat 2.2 absolute single-turn	524 288 (19 bit)	M23 power, M12 encoder
-H1	HIPERFACE® absolute single-turn	128 sine/cosine periods/revolution	M23 power, M12 encoder
-D1	HIPERFACE DSL® absolute single-turn	1 048 576 (20 bit)	M23 one cable technology
-B1	BiSS-C® absolute single-turn	2 097 152 (21 bit)	M23 power, M12 encoder

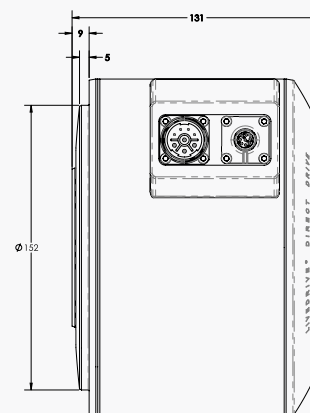
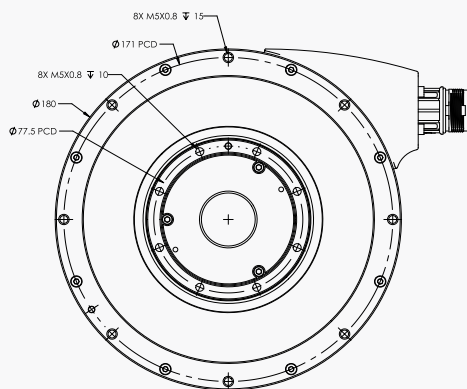
Torque vs Speed 1841A (480 VAC)



Torque vs Speed 1841B (230 VAC)



Dimensions



LDD 1841 with M23 and M12 connectors shown. One cable technology (M23 only) on HIPERFACE DSL® models.

LDD 1850 Series

Models		1850A-xx7-BA	1850A-xx7-NA	1850B-xx7-BA	1850B-xx7-NA
Size					
Outer Diameter	mm	180	180	180	180
Length	mm	157	157	157	157
Mass	kg	13.1	12.2	13.0	12.1
Rotor Inertia	kgm ²	0.0138	0.0127	0.0138	0.0127
Performance					
Nominal Voltage	VAC	480	480	230	230
Rated Power	W	1308	1382	1236	1297
Continuous Torque ¹	Nm	59.5	65.5	63.0	68.5
Peak Torque	Nm	160	160	160	160
Continuous Current ¹	A	2.8	3.1	5.6	6.0
Peak Current	A	8.1	8.1	14.4	14.4
Rated Speed	rpm	225	220	200	195
Maximum Speed	rpm	287	287	256	256
Max. Winding Temp	°C	110	110	110	110
Holding Brake	-	18 Nm	No Brake	18 Nm	No Brake
Electrical					
Line Resistance ²	mΩ	23.161	23.161	6.303	6.303
Torque Constant ³	Nm/A	21.4	21.4	11.4	11.4
Back EMF Constant ³	V/krpm	1.43	1.43	0.77	0.77
Mechanical					
Allowable Radial Load ⁴	N	± 1500	± 1500	± 1500	± 1500
Allowable Thrust Load ⁴	N	+250 / -800	+250 / -800	+250 / -800	+250 / -800
Allowable Moment Load ⁴	Nm	± 160	± 160	± 160	± 160
Operating Noise	dBA	<65	<65	<65	<65
Protection Class	-	IP67	IP67	IP67	IP67
Operation					
Operating Ambient Temperature	0°C to 40°C (no freezing)				
Temperature Sensors	PT1000 RTD				
Servo Drive Requirements ⁵	Compatible with industry servo drives, Minimum PWM frequency 8 kHz				
Heat Sink	400mm x 400mm x 13mm aluminum on all models				

1. Continuous performance rated at 20°C ambient temperature and 0 rpm.

2. Line to line at motor terminals.

3. Normalized to 25°C ambient temperature.

4. Single allowable load in continuous operation, where + direction is towards the motor (compression). For simultaneous loading please consult with Genesis Robotics applications engineering.

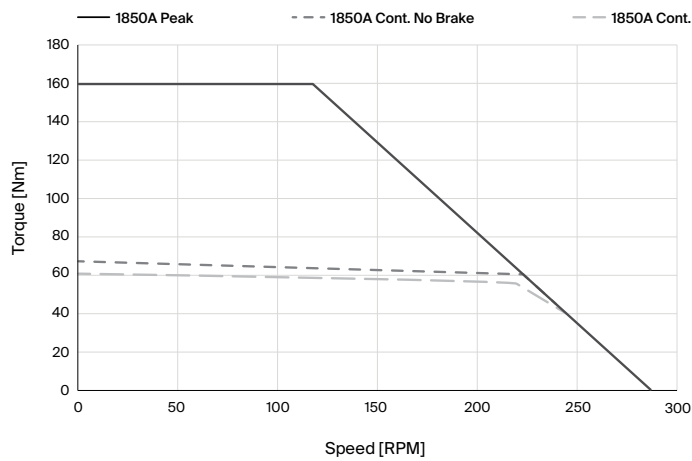
5. Performance depends on tuning parameters and may vary slightly between servo drive models. For additional details, contact Genesis Robotics applications engineering.

LDD 1850 Features

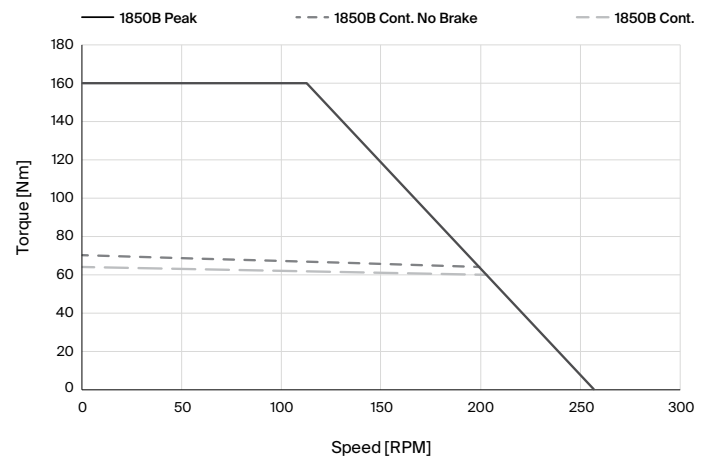
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Model Code	Encoder Options	Encoder Resolution	Connector Interface
-E1	EnDat 2.2 absolute single-turn	524 288 (19 bit)	M23 power, M12 encoder
-H1	HIPERFACE® absolute single-turn	128 sine/cosine periods/revolution	M23 power, M12 encoder
-D1	HIPERFACE DSL® absolute single-turn	1 048 576 (20 bit)	M23 one cable technology
-B1	BiSS-C® absolute single-turn	2 097 152 (21 bit)	M23 power, M12 encoder

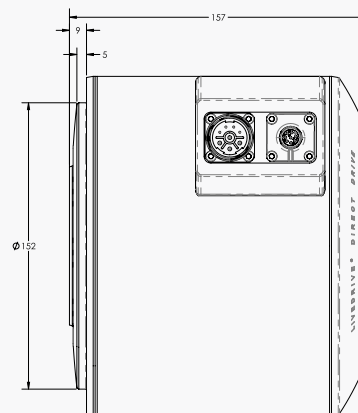
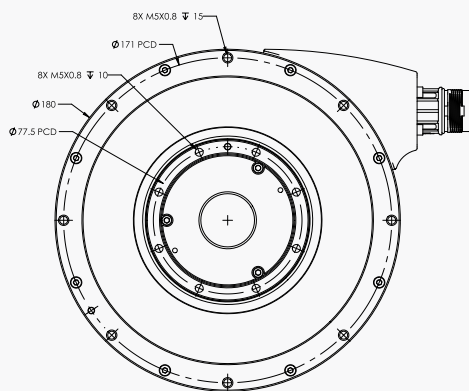
Torque vs Speed 1850A (480 VAC)



Torque vs Speed 1850B (230 VAC)



Dimensions



LDD 1850 with M23 and M12 connectors shown. One cable technology (M23 only) on HIPERFACE DSL® models.

LDD 1860 Series

Models		1860A-xx7-BA	1860A-xx7-NA	1860B-xx7-BA	1860B-xx7-NA
Size					
Outer Diameter	mm	180	180	180	180
Length	mm	182	182	182	182
Mass	kg	15.3	14.4	15.4	14.5
Rotor Inertia	kgm ²	0.0173	0.0161	0.0173	0.0161
Performance					
Nominal Voltage	VAC	480	480	230	230
Rated Power	W	1462	1535	1550	1650
Continuous Torque ¹	Nm	72.0	78.5	71.0	77.5
Peak Torque	Nm	210	210	210	210
Continuous Current ¹	A	3.3	3.5	6.7	7.3
Peak Current	A	10.6	10.6	21.3	21.3
Rated Speed	rpm	210	205	235	230
Maximum Speed	rpm	267	267	285	285
Max. Winding Temp	°C	110	110	110	110
Holding Brake	-	18 Nm	No Brake	18 Nm	No Brake
Electrical					
Line Resistance ²	mΩ	18.842	18.842	4.439	4.439
Torque Constant ³	Nm/A	22.2	22.2	10.7	10.7
Back EMF Constant ³	V/krpm	1.52	1.52	0.69	0.69
Mechanical					
Allowable Radial Load ⁴	N	± 1650	± 1650	± 1650	± 1650
Allowable Thrust Load ⁴	N	+250 / -800	+250 / -800	+250 / -800	+250 / -800
Allowable Moment Load ⁴	Nm	± 200	± 200	± 200	± 200
Operating Noise	dBA	<65	<65	<65	<65
Protection Class	-	IP67	IP67	IP67	IP67
Operation					
Operating Ambient Temperature	0°C to 40°C (no freezing)				
Temperature Sensors	PT1000 RTD				
Servo Drive Requirements ⁵	Compatible with industry servo drives, Minimum PWM frequency 8 kHz				
Heat Sink	400mm x 400mm x 13mm aluminum on all models				

1. Continuous performance rated at 20°C ambient temperature and 0 rpm.

2. Line to line at motor terminals.

3. Normalized to 25°C ambient temperature.

4. Single allowable load in continuous operation, where + direction is towards the motor (compression). For simultaneous loading please consult with Genesis Robotics applications engineering.

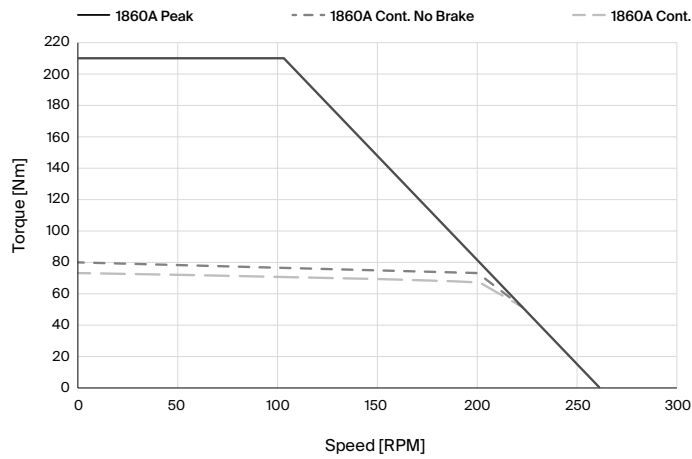
5. Performance depends on tuning parameters and may vary slightly between servo drive models. For additional details, contact Genesis Robotics applications engineering.

LDD 1860 Features

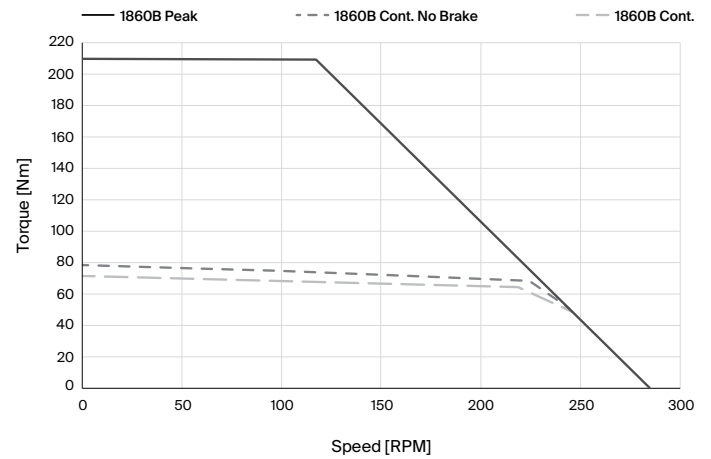
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-H1	HIPERFACE® absolute single-turn	128 sine/cosine periods/revolution	M23 power, M12 encoder
-D1	HIPERFACE DSL® absolute single-turn	1 048 576 (20 bit)	M23 one cable technology
-B1	BiSS-C® absolute single-turn	2 097 152 (21 bit)	M23 power, M12 encoder

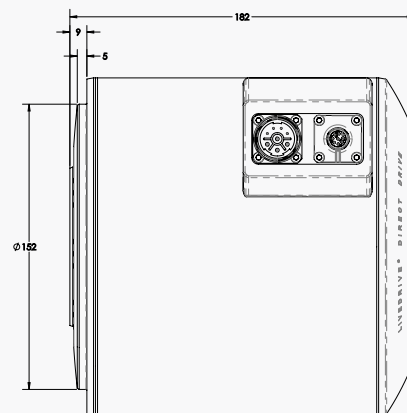
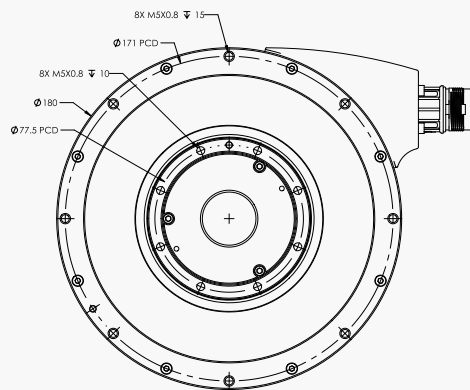
Torque vs Speed 1860A (480 VAC)



Torque vs Speed 1860B (230 VAC)



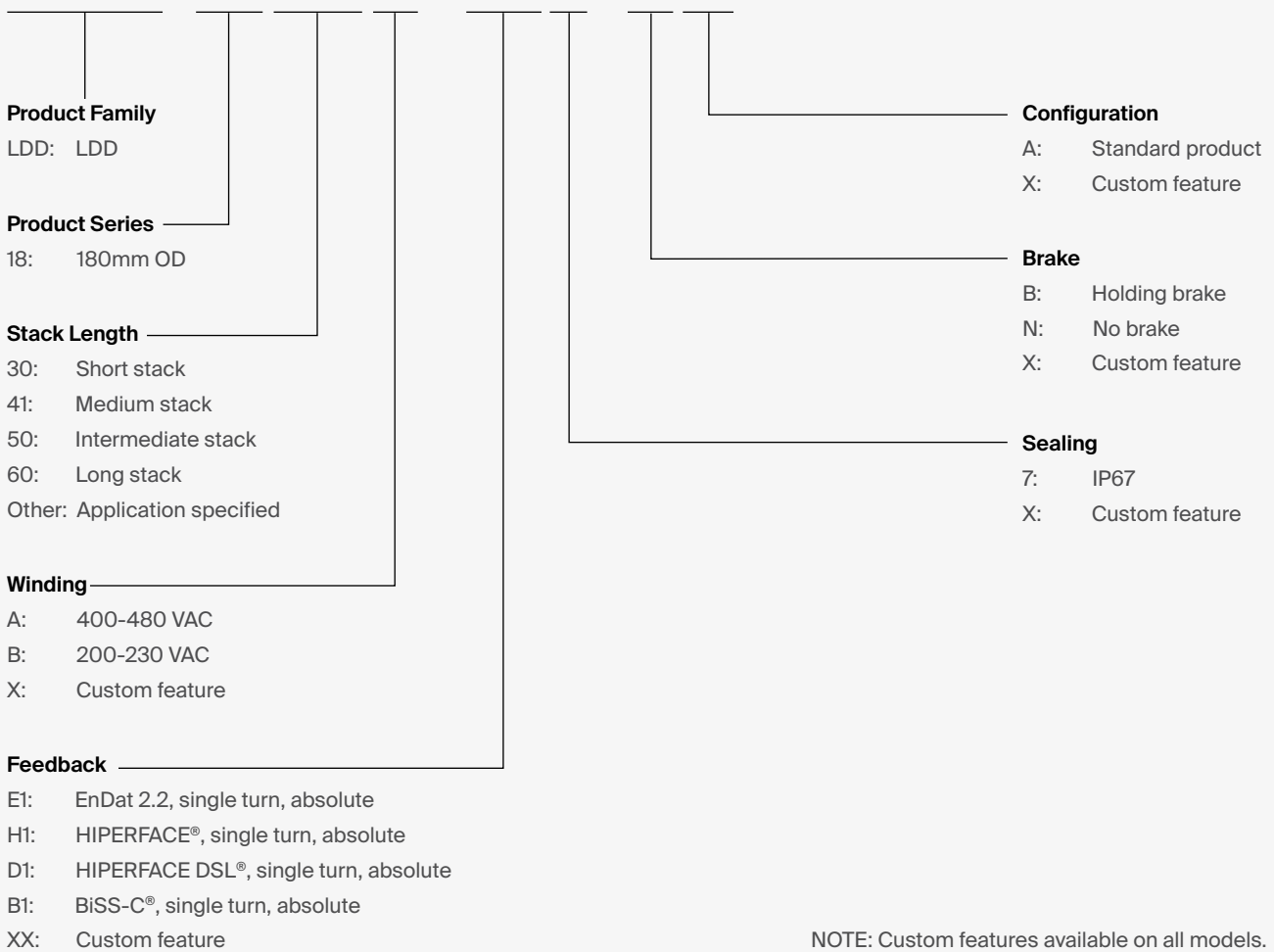
Dimensions



LDD 1860 with M23 and M12 connectors shown. One cable technology (M23 only) on HIPERFACE DSL® models.

Model Configurations

LDD 1800B-D17-NA



Contact Us

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