ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Parker / Compumotor DR-1045B-230*1C* at our website: *Click HERE*



Direct-Drive Brushless Servo Systems

CE (LVD and EMC*)

The Dynaserv DR Series provides the user with a high-performance direct-drive servo system with resolver feedback. Each of the thirteen models includes a direct-drive motor, integral resolver, microprocessor-based drive and a 10-foot motor-to-drive cable.

The DR Series motor is brushless and without gears allowing for long, maintenance-free operation. The cross roller bearing design can support up to 4 tons of compression load and 370 ft-lbs of overhung load. The center hole in the motor is up to 6 inches in diameter and can be used to simplify system wiring.

The user can elect to operate the DR Series in either a position, velocity or torque mode. In the position mode, the drive accepts step and direction input from any Compumotor indexer or user-supplied pulse source. Operating in the velocity mode requires a ±10VDC input and torque mode requires a ±8.5VDC input.

High performance closed loop operation is obtained with a sophisticated I-PD digital and analog control algorithm. The analog velocity loop provides high bandwidth for excellent system response. The digital position loop simplifies position control and optimizes system accuracy. A built-in test mode and position/velocity monitors allow for convenient and efficient tuning.

The DR Drive is fully protected against open and short circuits, overcurrent, overvoltage and overtemperature. A seven segment LED indicator provide the user with the status and diagnostic information from the front panel.

Features

- Brushless direct drive motor with 10 foot cable
- 20 models available in 4-, 6-, 8- or 10-inch diameters
- Resolver feedback
- Torques to 370 ft-lbs (500 Nm)
- Resolutions to 819,200 steps/rev
- Supports 4 tons of compression load
- Microprocessor control of I-PD control algorithm
- Analog velocity loop/digital position loop
- Built-in test mode for easy tuning
- Diagnostic LED display
- Step and direction input/position control
- ±10V for velocity control, ±8.5V for torque control
- Gain settings can be changed “on the fly”
- Configurable position accuracy to reduce system settling time
- Complete system, ready for operation
- Also compatible with M2 controller/drive

Accessories

- **Compumotor Controllers**
  The Dynaserv is compatible with all Compumotor controllers
- **Bases**
  Mounting bases to simplify mounting to a flat surface (DR-B Series only)
- **Dynamic Braking**
  Capacitor type or Speed-switching type for each motor size
- **Precision Machining**
  Axial and radial run-out of .01, .02 or .005 mm is available on most Dynaserv models. Standard axial and radial run-out for all motors is 0.1 mm
- **Mechanical Braking**
  Most motors can be ordered with mechanical brakes for power down, or emergency use. Not available with DR-1008B and DR-E series
- DR5000B and DR5000C Series only: line filters for CE installations
- Interface cables for use with Compumotor's 6K and 6000 Series controllers

* *EMC with proper filter and intallation procedures.*

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Specifications

	Parameter	Value	
Performance	Repeatability	±5 arc-sec, ±10 arc-sec for DR5000B and DR5000C	
	Accuracy	±30 arc-sec DRA Series ±45 arc-sec, ±90 arc-sec for DR5000B, DRB, DRE and DR5000A Series	
	Max stepping rate	1,600,000 steps/sec	
Power	Volts (se note)	±50 arc-sec for DR5000C	
	Range	+10% to -15%	
	Current	20 amps max	
Inputs	Command interface		
	• Step input	Low going low pulse, 150 nanoseconds minimum pulse width	
	• Direction	Logic high = CW rotation Logic low = CCW rotation	
	Analog input	±10V command signal for velocity control, ±8.5V command signal for torque control	
Outputs	Encoder output	A/B encoder output 400 kHz max	
Environmental		**Driver**	**Motor**
	Weight	13.2 lb (6 kg), 24 lb (11 kg) DR5000A	See Table Below
	Operating	32° to 122° F (0° to 50°C)	32° to 113° F max (0° to 45°C)
	Storage	-4° to 185° F (-20° to 85°C)	-4° to 185° F (-20° to 85°C)
	Humidity	20 to 90% noncondensing	20 to 85% noncondensing
		No corrosive gases. Dust free atmosphere. The Dynaserv is not waterproof, oil proof or dust proof.	

NOTE: Volts 115VAC 1 phase, all except DR5000A/B; 230VAC 1 phase, all except DR5000A; 200VAC 3 phase, DR5000A

DR Series Motor Data

		Model 1008B	Model 1015B	Model 1030B	Model 1045B	Model 1060B	Model 1070E	Model 1100E	Model 1130E	Model 1160E
Peak torque	ft-lbs (Nm)	6 (8)	11 (15)	22 (30)	33 (45)	44 (60)	52 (70)	74 (100)	96 (130)	118 (160)
Rated speed, 115/230VAC	rps	2.0/2.0	2.0/2.0	1.5/2.0	1.0/2.0	1.0/1.5	1.5/2.0	1.0/1.5	0.5/1.0	0.5/1.0
Maximum power consumption	KVA	0.7	1.0	1.8	1.8	1.8	2.0	2.3	2.5	2.8
Rotor inertia	oz-in^2 x 10^2	7.9	11	13	14	18	46	55	68	77
	(Kgm^2 x 10^{-3})	(15)	(21)	(24)	(26)	(33)	(85)	(100)	(125)	(140)
Max resolution		507,904	507,904	507,904	507,904	507,904	614,400	614,400	614,400	614,400
Motor weight*	lbs (kg)	13 (6)	20 (9)	24 (11)	29 (13)	35 (16)	49 (22)	57 (26)	70 (32)	79 (36)
Maximum static axial load** • Compression • Tension	lbs lbs	6,744 2,248	6,744 2,248	6,744 2,248	6,744 2,248	6,744 2,248	8,992 4,496	8,992 4,496	8,992 4,496	8,992 4,496
Maximum static overhung load**	ft-lb	148	148	148	148	148	295	295	295	295

DR Series Motor Data

		Model 1100A	Model 1200A	Model 1300A	Model 1400A
Peak torque	ft-lbs (Nm)	74 (100)	148 (200)	221 (300)	295 (400)
Rated speed, 115/230VAC	rps	1.0/1.0	0.5/1.0	0.25/0.5	0.25/0.5
Maximum power consumption, 115/230VAC	KVA	2.5	3.0	3.2	3.2
Rotor inertia	oz-in^2 x 10^2 (Kgm^2 x 10^{-3})	109 (200)	156 (285)	186 (340)	219 (400)
Maximum resolution		819,200	819,200	819,200	819,200
Motor weight*	lbs (kg)	68 (31)	101 46)	125 (57)	150 (68)
Maximum static axial load** • Compression • Tension	lbs lbs	8,992 4,496	8,992 4,496	8,992 4,496	8,992 4,496
Maximumum Static Overhung Load*	ft-lb	295	295	295	295

** When designing a system, de-rate the maximum load to the values shown below:

Application	De-rate Factor
Smooth, rotary motion	1/3
Intermittent press loading	1/5
Repetitive shock loading	1/10

Integrate Direct Drive Servo Systems Into Your Next Application. Call 1-800-358-9070 Today.

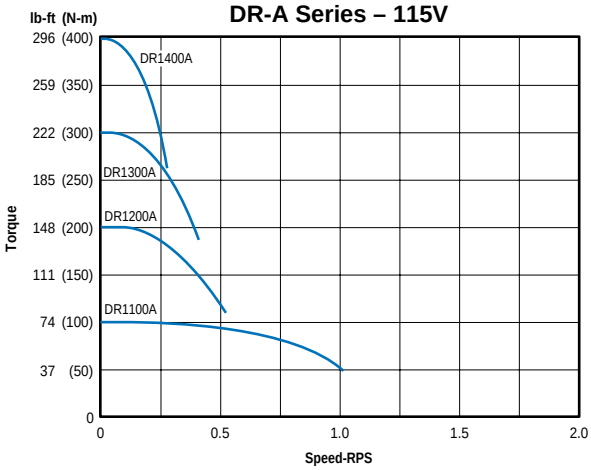
Parker Automation
Parker Hannifin Corporation
Compumotor Division
compumotor.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

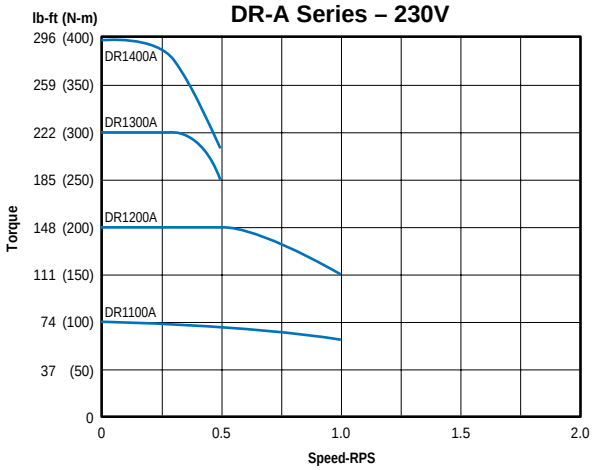
Motor Speed-Torque Performance Curves

The speed-torque curves represent peak torque available, continuous torques are approximately 2/3 of the peak value.

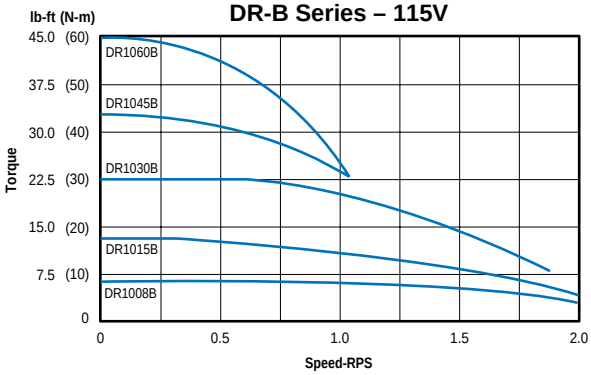
DR-A Series – 115V



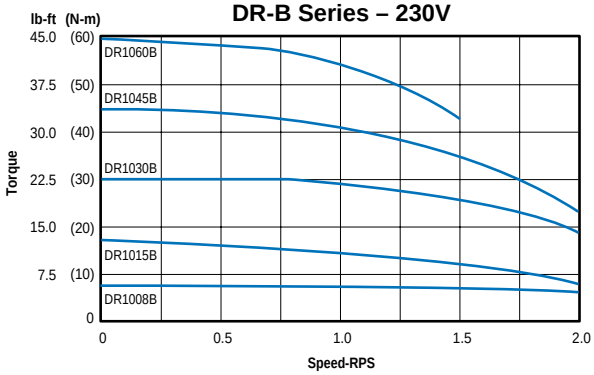
DR-A Series – 230V



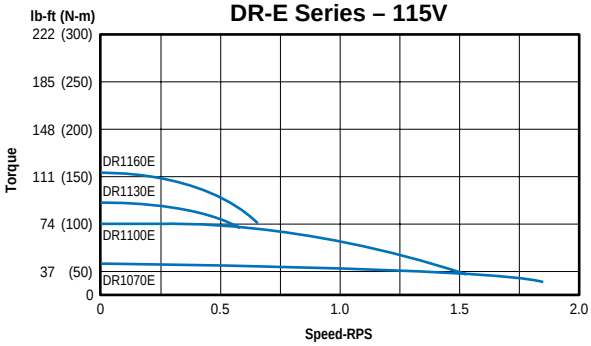
DR-B Series – 115V



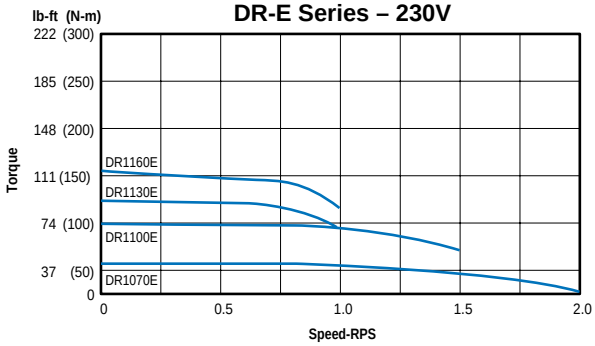
DR-B Series – 230V



DR-E Series – 115V



DR-E Series – 230V



Parker Automation
Parker Hannifin Corporation
Compumotor Division
compumotor.com
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Specifications

		Value		
Performance		DR5000A	DR5000B	DR5000C
	Repeatability	±5 arc-sec	±10 arc-sec	±10 arc-sec
	Accuracy	±45 arc-sec	±90 arc-sec	±50 arc-sec
	Max stepping rate	1,600,000 steps/sec	1,400,000 steps/sec	
Power	Volts	200VAC, 3 Phase, 50/60 Hz	230VAC, 1 Phase, 50/60 Hz	115VAC 50/60 Hz
	Range	+10% to -15%	+10% to -15%	+10% to -15%
	Current	20 Amps	20 Amps	20 Amps
Inputs (all models)	Command interface	Step and direction–Position control ±10VDC velocity control; ±8VDC torque control		
	• Step input	low going pulse, 150 nanosecond minimum pulse width		
	• Direction	Logic high = CW rotation Logic low = CCW rotation		
	• Analog input	±10VDC max		
	Other inputs (gain selection, servo on, etc.)	5 to 24 volts pullup		
Outputs (all models)	Encoder output	A, B Quadrature signal (400KHz max) Z Channel–"A": to 104 pulses/rev–"B": to 68 pulses/rev		
	Other outputs (in position, alarm, etc.)	TTL		
Environmental	Weight	**Driver**	**Motor**	
	• DR5000A	24 lbs (11 kg)	See Table below	
	• DR5000B	13.2 lbs (6 kg)	See Table below	
	• DR5000C	13.2 lbs (6 kg)	See Table below	
	Operating			
	• Temperature	0-50°C	0–45°C	
	• Humidity	20-90%–Non-condensing	20–85%–Non-condensing	
	Storage			
	• Temperature	-20-85°C	-20–85°C	
	• Humidity	20-90%–Non-condensing	20–85%–Non-condensing	
	Environment	No corrosive gases. Dust-free atmosphere. The Dynaserv is not waterproof, oil proof or dust proof.		
		13.2 ilbs (6 kg)	See below	

DR5000 Series–Motor Data

		Model 5005C	Model 5010C	Model 5015C	Model 5030B	Model 5070B	Model 5300A	Model 5500A
Peak torque	ft-lbs (Nm)	2.8 (3.8)	5.9 (8)	10.3 (14)	22 (30)	52 (70)	221 (300)	369 (500)
Rated speed	rps	6	6	6	4	4	1.5	1.5
Rotor inertia	oz-in^{2}x10^2 (kgm^2)x10^{-3}	3.28 (0.006)	3.83 (0.007)	4.37 (0.008)	4.4 (8)	19.7 (36)	185.9 (340)	251.5 (460)
Resolution	Steps/rev	212,992	212,992	212,992	278,528	278,528	425,984	425984
Motor weight	lbs (kg)	11.0 (5.0)	13.2 (6.0)	15.4 (7.0)	15.4 (7.0)	38.5 (17.5)	121 (55)	165 (75)
Maximum static axial load**								
• Compression	lbs	1124	1124	1124	6600	6600	8800	8800
• Tension	lbs	674	674	674	2200	2200	4400	4400
Maximum static overhung load**	ft-lb	15	15	15	148	148	296	296
Maximum power consumption	KVA	1.0	1.0	1.0	3.6	3.6	5.5	7.5

Application	De-rate Factor
Smooth, rotary motion	1/3
Intermittent press loading	1/5
Repetitive shock loading	1/10

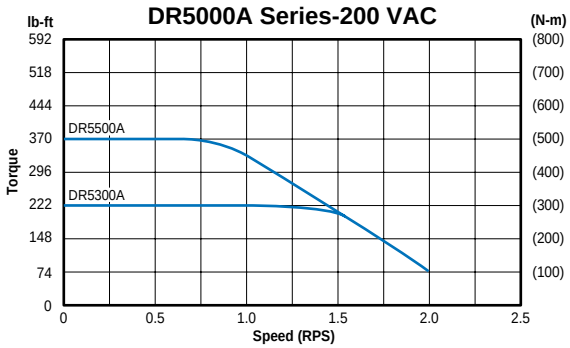
** When designing a system, de-rate the maximum load to the value as shown at the left:

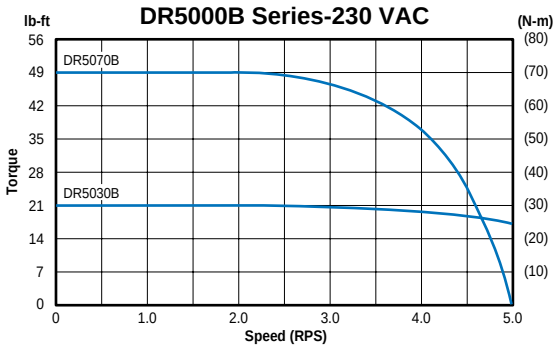
Parker Automation
Parker Hannifin Corporation
Compumotor Division
compumotor.com

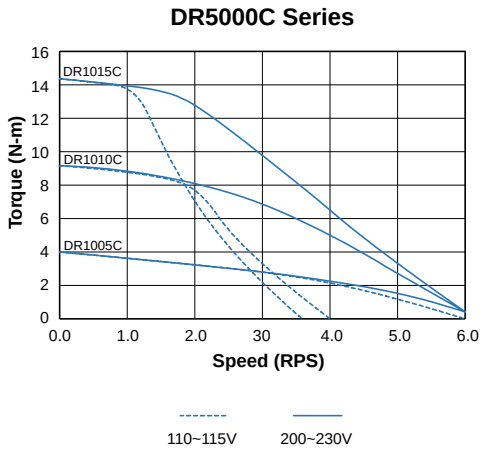
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Motor Speed-Torque Performance Curves

The speed-torque curves represent peak torque available, continuous torques are approximately 2/3 of the peak value.





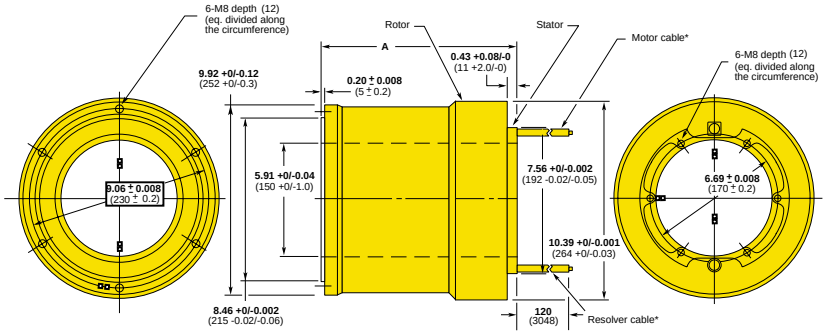


Parker Automation
Parker Hannifin Corporation
Compumotor Division
compumotor.com
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

DR Series Dimensional Drawings

DR-A Series

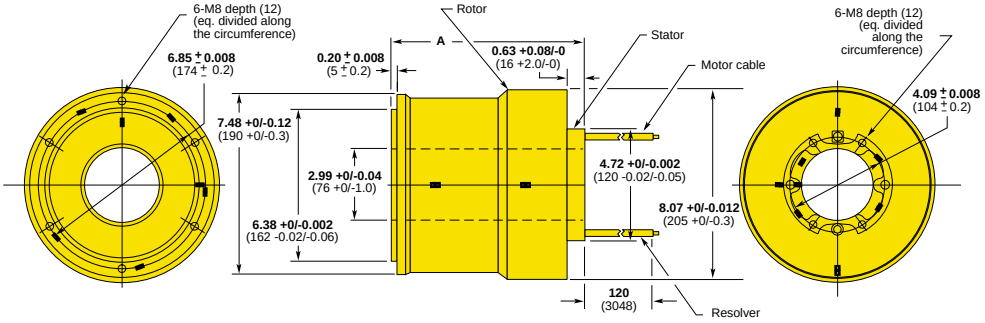
Dimensions in inches (mm)



Model	A	
DR1100A	7.28 ± 0.04	(185 ± 1)
DR1200A	9.84 ± 0.04	(250 ± 1)
DR1300A	11.97 ± 0.04	(304 ± 1)
DR1400A	14.09 ± 0.04	(358 ± 1)

DR-E Series

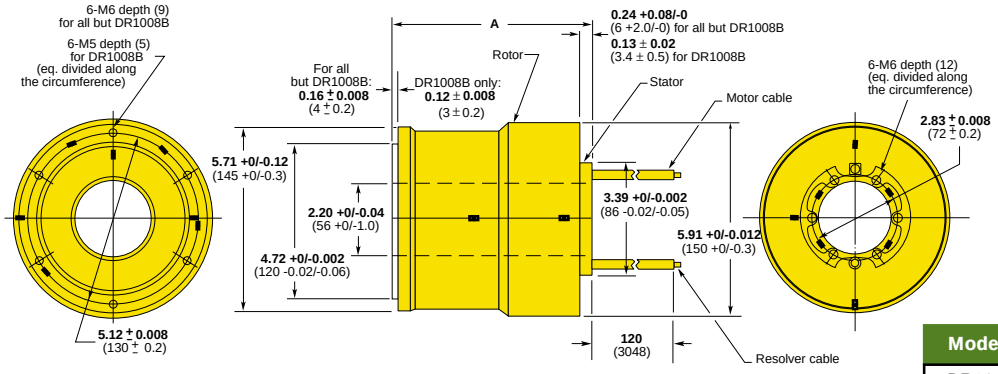
Dimensions in inches (mm)



Model	A	
DR1070E	7.20 ± 0.04	(183 ± 1)
DR1100E	8.27 ± 0.04	(210 ± 1)
DR1130E	9.57 ± 0.04	(243 ± 1)
DR1160E	10.67 ± 0.04	(271 ± 1)

DR-B Series

Dimensions in inches (mm)



Model	A	
DR1008B	3.35 ± 0.04	(85 ± 1)
DR1015B	4.84 ± 0.04	(123 ± 1)
DR1030B	5.94 ± 0.04	(151 ± 1)
DR1045B	7.05 ± 0.04	(179 ± 1)
DR1060B	8.15 ± 0.04	(207 ± 1)

Integrate Direct Drive Servo Systems Into Your Next Application. Call 1-800-358-9070 Today.

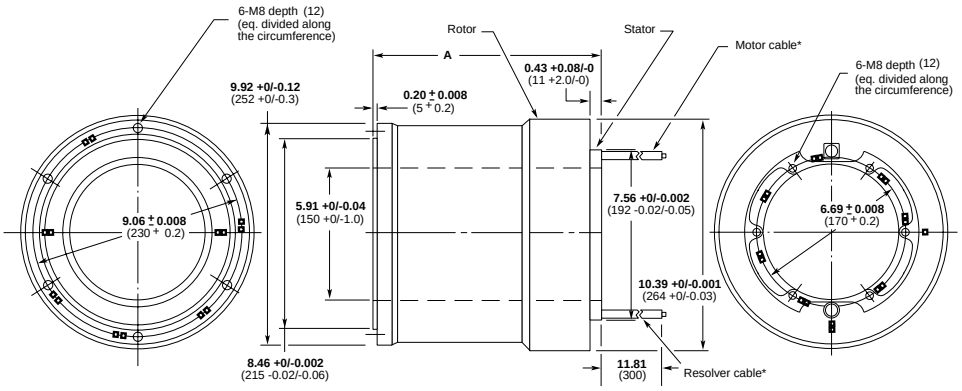
Parker Automation
Parker Hannifin Corporation
Compumotor Division
compumotor.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Dimensional Drawings

DR5000A Series

Dimensions in inches (mm)

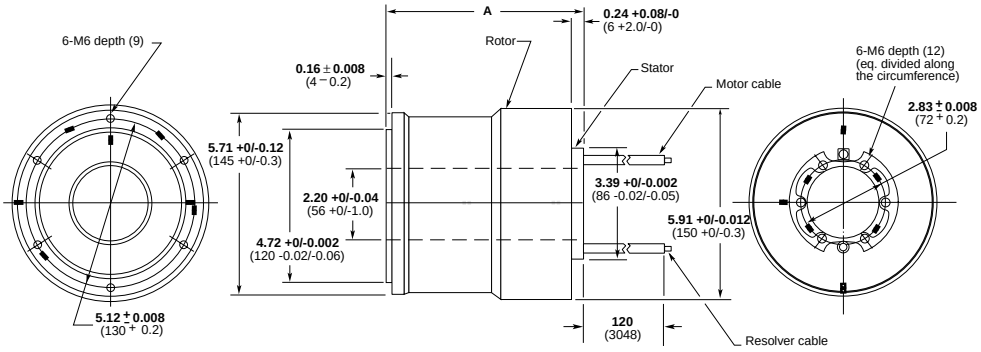


Model	A
DR5300A	12.2 ± 0.04 (309 ± 1)
DR5500A	16.4 ± 0.04 (417 ± 1)

Note: Motor and resolver cables for DR5000-A Series are 11.81 in (300 mm) in length.

DR5000B Series

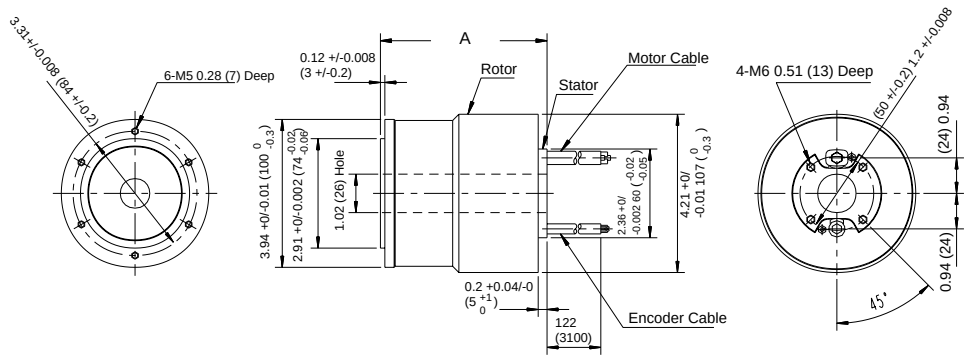
Dimensions in inches (mm)



Model	A
DR5030B	7.24 ± 0.04 (184 ± 1)
DR5070B	9.45 ± 0.04 (240 ± 1)

DR5000C Series

Dimensions in inches (mm)



Model	A
DR5005C	4.45 ±0.04 (113 ±1)
DR5010C	5.51 ±0.04 (140 ±1)
DR5015C	6.57 ±0.04 (167 ±1)

Parker Automation
Parker Hannifin Corporation
Compumotor Division
compumotor.com
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

DR Series Pinout Lists

Indexer 50-pin Honda

Pin No.	Signal
1–8	Servo stiffness input (FC0-FC8)
9–12	Position end pulse width input (POSW1, POSW0)
13	A+ output
14	A– output
15	Servo ready + output
16	Servo ready – output
17	Velocity monitor + output
18	Velocity monitor – output
19	Direction – input
20	Direction + input
21	Integral capacitor reset + input
22	Integral capacitor reset – input
23	Servo on – input
24	Servo on + input
25-26	Integral/proportional action input
27	In position + output
28	In position – output
29	B+ output
30	B– output
31	TLIM/TFF (option)
32	AGND
33-38	Gain selection inputs – low, medium, high
39	CPU reset + input
40	CPU reset – input
41	Counter overflow + output
42	Counter overflow – output
43	Z+ output
44	Z– output
45	Step + input
46	Step – input
47	Overload + output
48	Overload – output
49	Analog input (±10V)
50	Analog input GND

Motor Screw Terminal

Pin No.	Signal
1	Motor A
2	Motor B
3	Motor C
4	GND

Power Screw Terminal

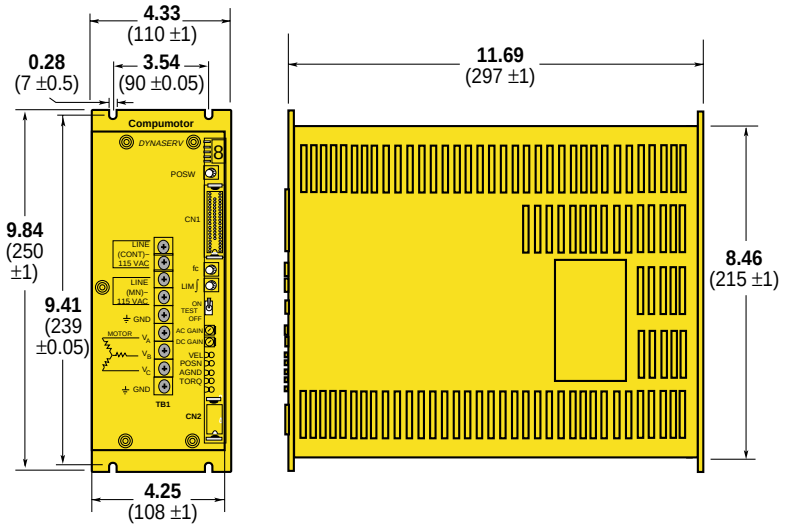
Pin No.	Signal
1	115 or 230VAC line-control
2	115 or 230VAC neutral-control
3	115 or 230VAC line-main
4	115 or 230VAC neutral-main
5	115 or 230VAC GND

Resolver Honda Connector

Pin No.	Signal	
1	+S0	(Brown/White)
1	+S180	(Green/White)
2	-S0	(Brown)
3	-S180	(Green)
4	Shield	
5	FG	(Black)
6	+C0	(Orange/White)
6	+C180	(Blue/White)
7	-C0	(Orange)
8	-C180	(Blue)

DR Series Drive Dimensions

Dimensions in inches (mm)



Integrate Direct Drive Servo Systems Into Your Next Application. Call 1-800-358-9070 Today.

Parker Automation
Parker Hannifin Corporation
Compumotor Division
compumotor.com
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

DR5000 Series Pin-Out Lists

CN-1 Controller Connections
50-Pin Honda

Pin No.	Signal
1–8	Servo stifness input (FC0-FC8)
9–12	Position end pulse width input (POSW1, POSW0)
13	A+ output
14	A– output
15	Servo ready + output
16	Servo ready – output
17	Velocity monitor + output
18	Velocity monitor – output
19	Direction – input
20	Direction + input
21	Integral capacitor reset + input
22	Integral capacitor reset – input
23	Servo on – input
24	Servo on + input
25-26	Integral/proportional action input
27	In position + output
28	In position – output
29	B+ output
30	B– output
31	No connection
32	No connection
33-38	Gain selection inputs – low, medium, high
39	CPU reset + input
40	CPU reset – input
41	Counter overflow + output
42	Counter overflow – output
43	Z+ output
44	Z– output
45	Step + input
46	Step – input
47	Overload + output
48	Overload – output
49	Analog input (±10V)
50	Analog input GND

Power Screw Terminal
DR5000A (200VAC 3ϕ)

Pin No.	Signal
1	Phase 1 (main)
2	Phase 2 (main)
3	Phase 3 (main)
4	Line (control)
5	Neutral (control)
6	GND
7	Motor A
8	Motor B
9	Motor C
10	GND

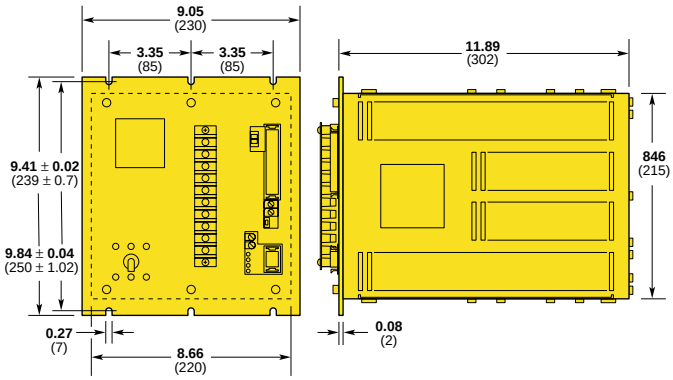
Power Screw Terminal
DR5000B (230VAC 1ϕ)

Pin No.	Signal
1	Line (control)
2	Neutral (control)
3	Line (main)
4	Neutral (main)
5	GND
6	Motor A
7	Motor B
8	Motor C
9	GND

Resolver
Honda Connector

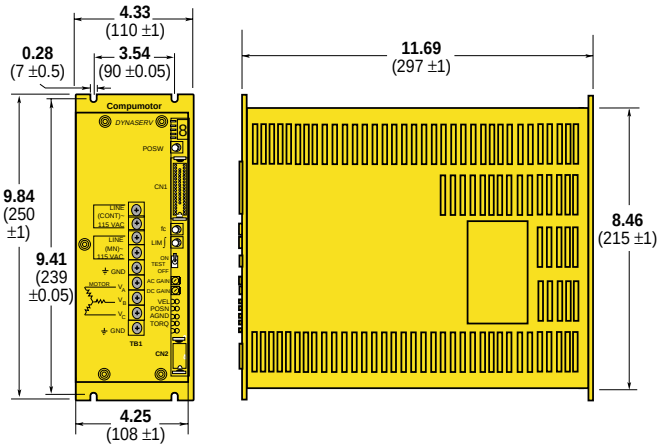
Pin No.		Signal
1	+S0	(Brown/White)
1	+S180	(Green/White)
2	-S0	(Brown)
3	-S180	(Green)
4	Shield	
5	FG	(Black)
6	+C0	(Orange/White)
6	+C180	(Blue/White)
7	-C0	(Orange)
8	-C180	(Blue)

Dimensions in inches (mm)



DR5000 A

Dimensions in inches (mm)



DR5000 B

Please refer to the ordering information matrix on page 159

Parker Automation
Parker Hannifin Corporation
Compumotor Division
compumotor.com
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP