

Electrak® GX DC – Technical Features



Standard Features

- Robust and reliable
- 12, 24, 36, 48 or 90 Vdc as standard input voltages
- Acme and ball screw models
- Static load up to 18 kN (4000 lbf)
- Dynamic load up to 9 kN (2000 lbf)
- Stroke up to 24 in (609 mm)
- Speed up to 61 mm/s (2.4 in/s)
- Protection class static IP66
- Overload clutch for mid and end of stroke protection
- Motor with thermal switch
- Maintenance free

General Specifications

Screw type	acme or ball
Nut type Dxxx-xxA (acme screw) Dxxx-xxB (ball screw)	self locking lead nut load lock ball nut
Manual override	no (optional)
Anti-rotation	no
Static load holding brake acme screw models ball screw models	no (self locking) yes
Safety features	overload clutch motor auto reset thermal switch
Anti coast brake	yes
Electrical connections no potentiometer option with potentiometer option	flying leads with or without connector cable with or without connector
Compliances standard optional	— CE ⁽¹⁾ ⁽²⁾

(1) Actuators used in the EU must be in compliance with CE

(2) The 90 Vdc model cannot be delivered in compliance with CE.

Optional Mechanical Features

Variety of front and rear adapters

Manual override

Optional Electrical Features

Potentiometer feedback

Accessories

Mechanical Mounting pins

Compatible Controls

AXIS & Stuifmeel B.V. +31(0)182-647070

Electrak[®] GX DC – Technical Specifications

Mechanical Specifications

Max. static load ⁽¹⁾	[N (lbf)]	11350 (2500) 18000 (4000)
Dxx-xxA (acme screw) Dxx-xxB (ball screw)		
Max. dynamic load (Fx)	[N (lbf)]	1100 (250) 2250 (500) 2250 (500) 2250 (500) 4500 (1000) 4500 (1000) 6800 (1500) 9000 (2000)
Dxxx-05A5 Dxxx-10A5 Dxxx-20A5 Dxxx-05B5 Dxxx-10B5 Dxxx-20B5 Dxxx-21B5 Dxxx-2KB5		
Speed @ no load/max. load	[mm/s (in/s)]	54/32 (2.10/1.20) 30/18 (1.20/0.70) 15/12 (0.67/0.45) 61/37 (2.40/1.40) 30/19 (1.30/0.80) 15/12 0.60/0.45 15/11 (0.60/0.43) 15/9 (0.60/0.40)
Dxxx-05A5 Dxxx-10A5 Dxxx-20A5 Dxxx-05B5 Dxxx-10B5 Dxxx-20B5 Dxxx-21B5 Dxxx-2KB5		
Min. ordering stroke (S) length	[in]	2
Max. ordering stroke (S) length ^{(2) (3) (4)}	[in]	24
Ordering stroke length increments	[in]	2
Operating temperature limits	[°C (°F)]	- 25 – 65 (- 15 – 150)
Full load duty cycle @ 25 °C (77 °F)	[%]	25
End play, maximum	[mm (in)]	1.0 (0.04)
Restraining torque	[Nm (lbf-in)]	11.3 (100)
Protection class - static, standard (optional)		IP66 (IP66/IP69K)
Salt spray resistance	[h]	96

(1) Max. static load at fully retracted stroke

(2) Max. ordering stroke length for Dxx-2KB5 is 12 inches

(3) Max. ordering stroke length for Dxx-21B5 is 20 inches

(4) For other strokes, contact customer support

Electrical Specifications

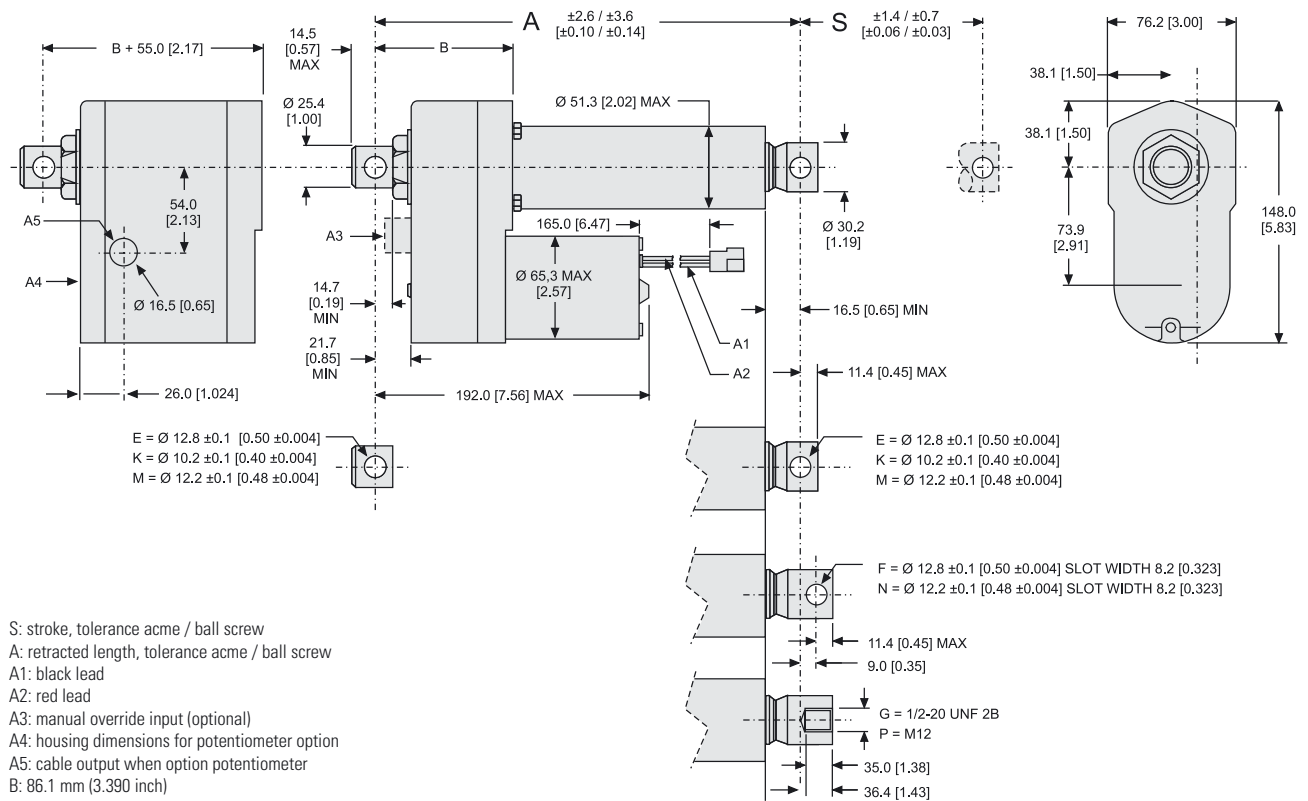
Available input voltages ^{(1) (2)}	[Vdc]	12, 24, 36, 48, 90
Input voltage tolerance	[%]	± 10
Current draw @ no load/max. load	[A]	12.0/33.0 8.0/27.0 3.0/15.0 8.0/28.0 5.0/27.0 3.0/13.0 3.0/20.0 4.0/25.0 6.0/16.5 4.0/13.5 1.5/7.5 4.0/14.0 2.5/13.5 1.5/7.5 1.5/10.0 2.0/12.5 4.0/11.0 2.67/9.0 1.0/5.1 2.67/9.3 1.67/9.0 1.0/5.1 1.0/6.7 1.34/8.4 3.0/8.3 2.0/6.8 0.8/3.8 2.0/7.0 1.3/6.8 0.8/3.8 0.8/5.0 1.0/6.3 1.5/4.1 1.0/3.4 0.4/1.9 1.0/3.5 0.6/3.4 0.4/1.9 0.4/2.5 0.5/3.2
D12x-05A5 D12x-10A5 D12x-20A5 D12x-05B5 D12x-10B5 D12x-20B5 D12x-21B5 D12x-2KB5 D24x-05A5 D24x-10A5 D24x-20A5 D24x-05B5 D24x-10B5 D24x-20B5 D24x-21B5 D24x-2KB5 D36x-05A5 D36x-10A5 D36x-20A5 D36x-05B5 D36x-10B5 D36x-20B5 D36x-21B5 D36x-2KB5 D48x-05A5 D48x-10A5 D48x-20A5 D48x-05B5 D48x-10B5 D48x-20B5 D48x-21B5 D48x-2KB5 D90x-05A5 D90x-10A5 D90x-20A5 D90x-05B5 D90x-10B5 D90x-20B5 D90x-21B5 D90x-2KB5		
Flying leads length	[mm (in)]	165 (7.5)
Flying leads diameter	[mm (in)]	3 (0.12)
Flying leads cross section	[mm ² (AWG)]	2 (14)
Cable length with option pot.	[mm (in)]	600 (24)
Cable diameter with option pot.	[mm (in)]	9 (0.35)
Cable leads cross section with option potentiometer motor leads potentiometer leads	[mm ² (AWG)]	2.5 (14) 1.5 (16)

(1) For other input voltages - contact customer support.

(2) 90 Vdc model not CE compliant.

Electrak® GX DC – Dimensions

Dimensions	Projection
mm [inch]	

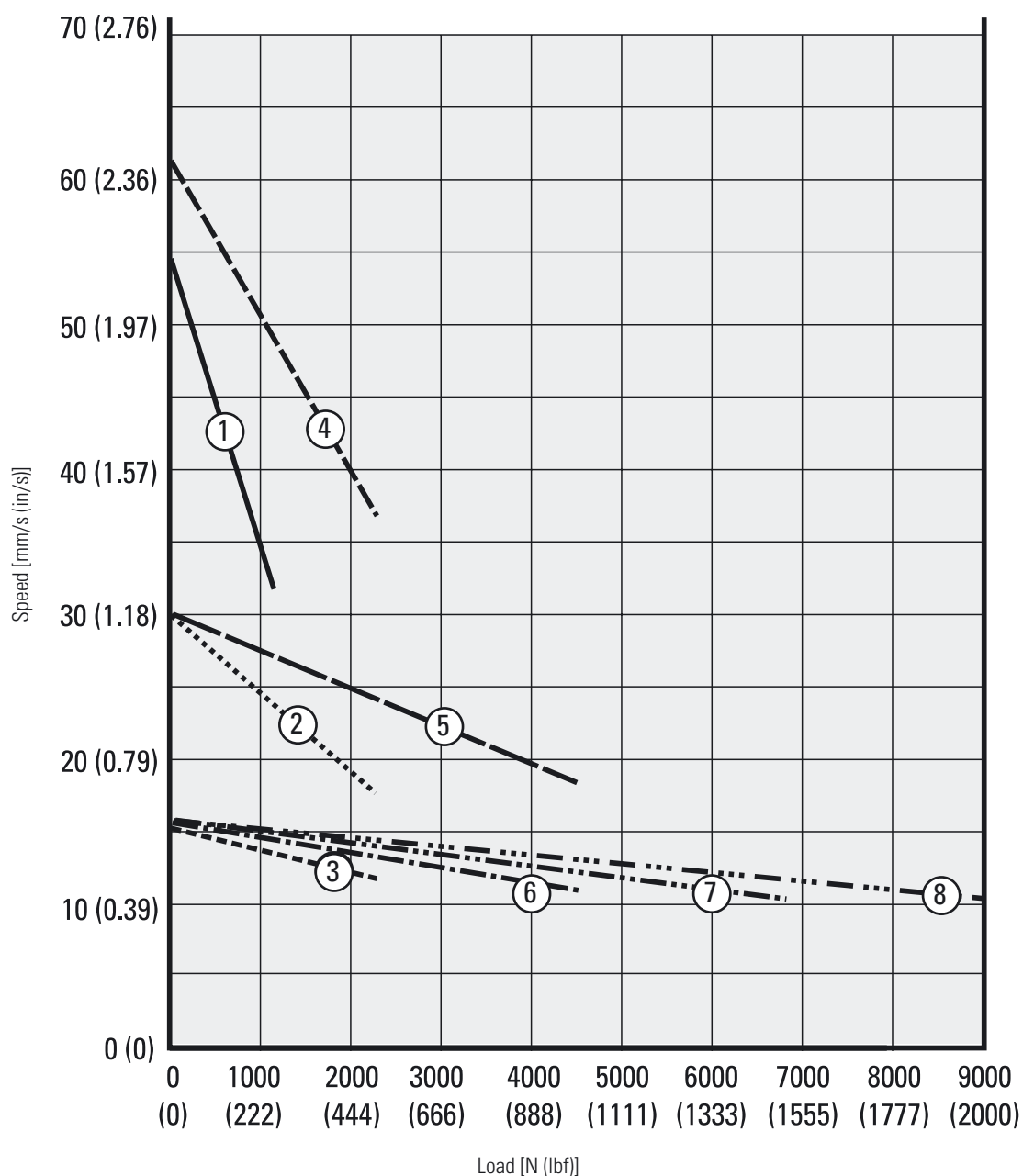


Stroke, Retracted Length and Weight Relationships

Ordering stroke (S)	[in]	2	4	6	8	10	12	14	16	18	20	22	24
Retracted length, acme screw models (A)	[mm]	211.3	262.1	312.9	363.7	414.5	465.3	583.7	634.5	685.3	736.1	786.9	837.7
	[in]	8.32	10.32	12.32	14.32	16.32	18.32	22.98	24.98	26.98	28.98	30.98	32.98
Retracted length, ball screw models (A)	[mm]	251.5	302.3	353.1	403.9	454.7	505.5	623.6	674.4	725.2	776.0	826.8	877.6
	[in]	9.90	11.90	13.90	15.90	17.90	19.90	24.55	26.55	28.55	30.55	32.55	34.55
Add on length for option potentiometer	[mm]	55.0											
	[in]	2.17											
Weight, acme screw models	[kg]	4.4	4.6	4.8	5.0	5.1	5.3	5.5	5.6	5.8	5.9	6.1	6.2
	[lbf]	9.7	10.1	10.6	11.0	11.2	11.7	12.1	12.3	12.8	13.0	13.4	13.6
Weight, ball screw models	[kg]	5.0	5.2	5.4	5.6	5.8	6.0	6.1	6.2	6.4	6.5	6.7	6.9
	[lbf]	11.0	11.4	11.9	12.3	12.8	13.2	13.4	13.6	14.1	14.3	14.7	15.2
Add on weight for option potentiometer	[kg]	1.30											
	[lbf]	2.86											

Electrak[®] GX DC – Performance Diagrams

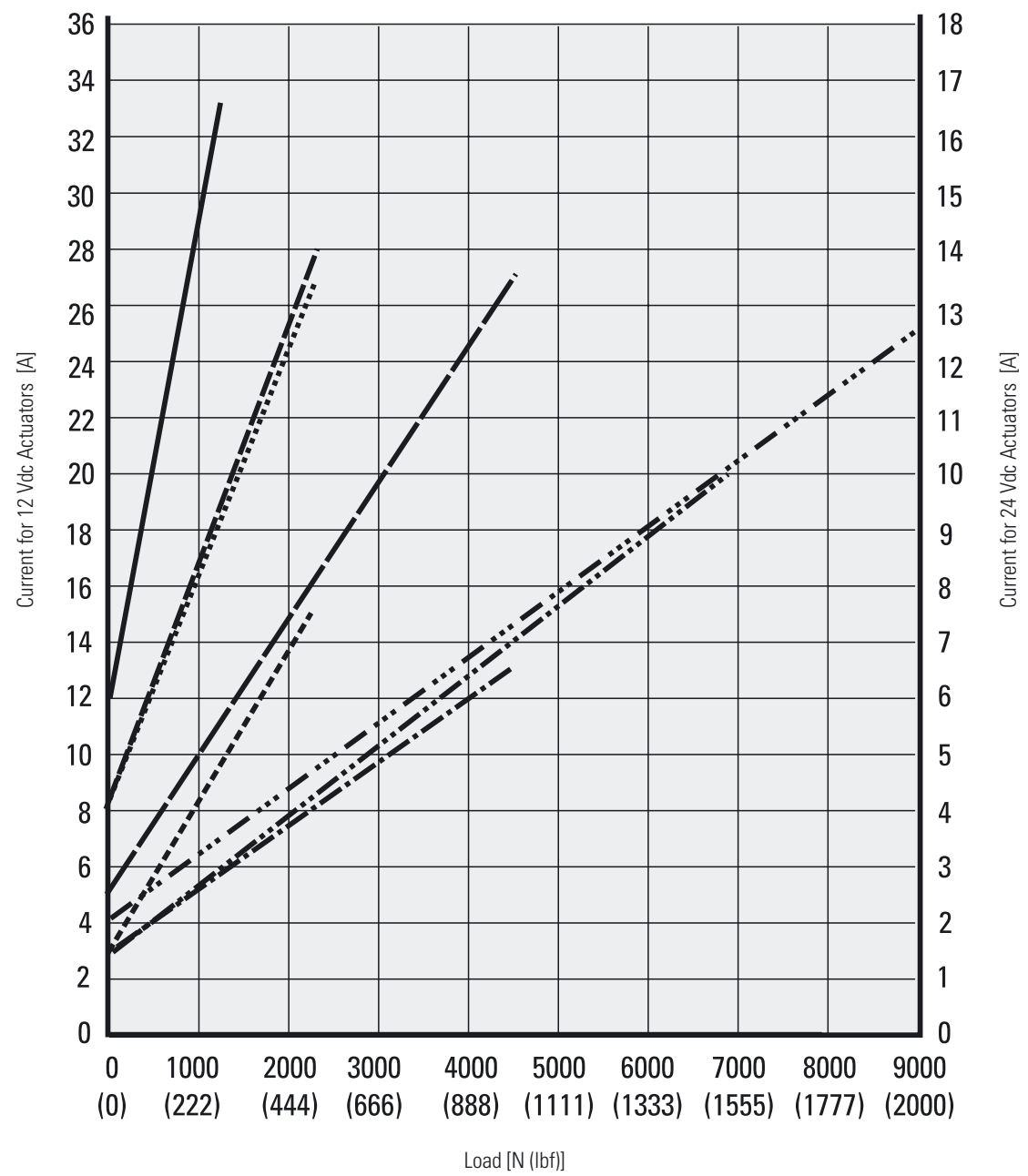
Load vs. Speed



- | | |
|---------------------------------|----------------------------------|
| 1. Dxxx-05A5 (1100 N (250 lbf)) | 5. Dxxx-10B5 (4500 N (1000 lbf)) |
| 2. Dxxx-10A5 (2250 N (500 lbf)) | 6. Dxxx-20B5 (4500 N (1000 lbf)) |
| 3. Dxxx-20A5 (2250 N (500 lbf)) | 7. Dxxx-21B5 (6800 N (1500 lbf)) |
| 4. Dxxx-05B5 (2250 N (500 lbf)) | 8. Dxxx-2KB5 (9000 N (2000 lbf)) |

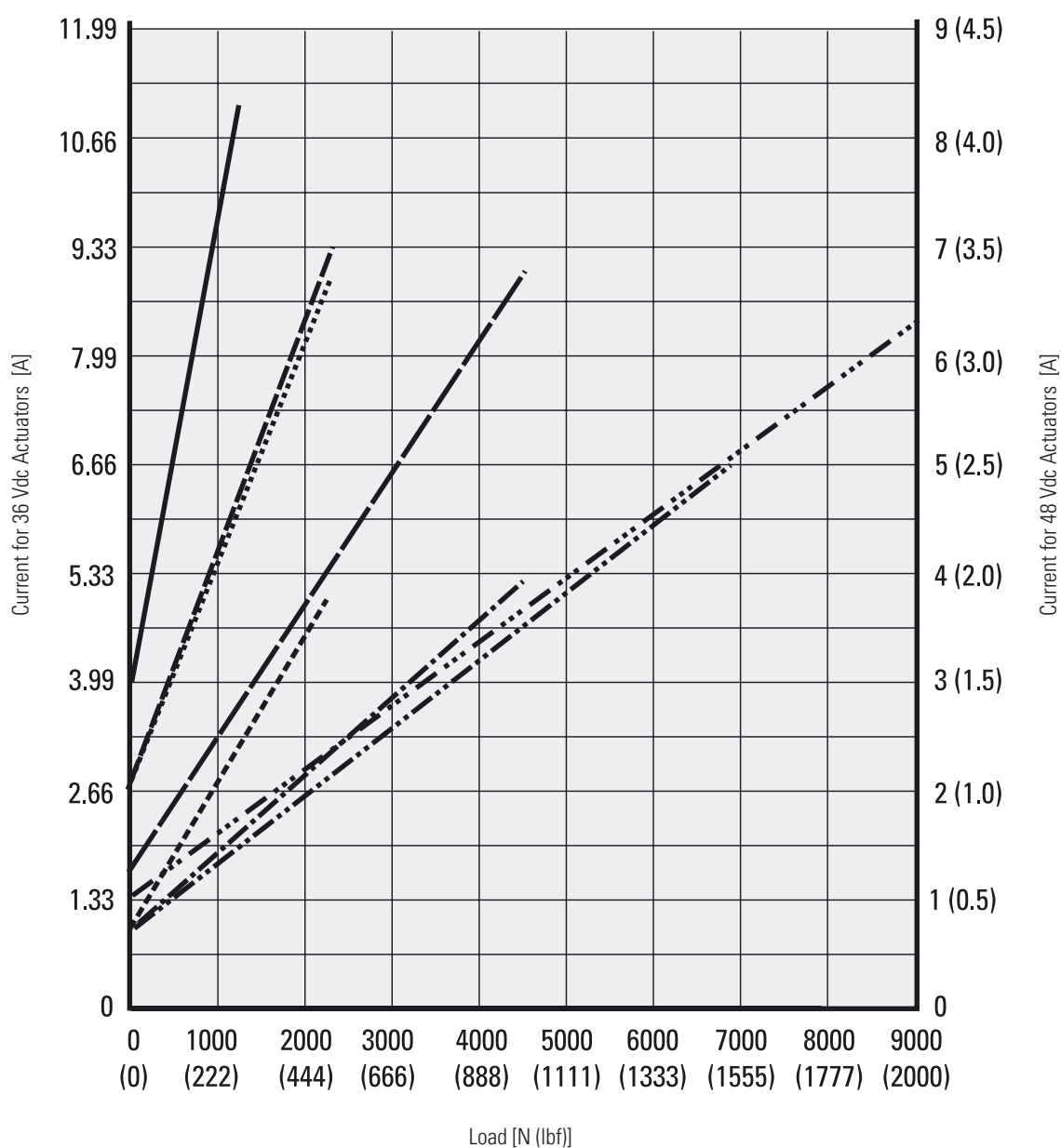
Electrak® GX DC – Performance Diagrams

Load vs. Current for 12 and 24 Vdc actuators

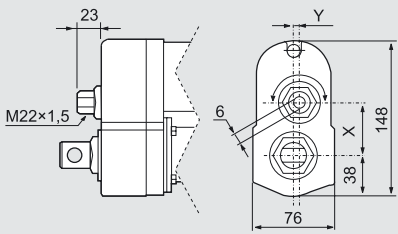
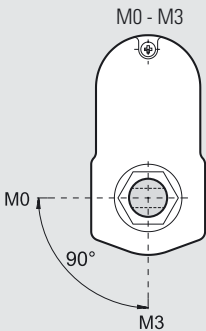


Electrak[®] GX DC – Performance Diagrams

Load vs. Current for 36 and 48 Vdc actuators



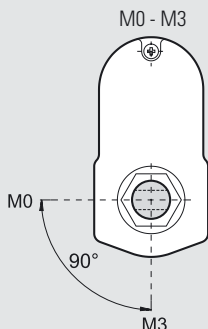
Electrak® GX DC – Ordering Key

Ordering Key																				
1	2	3	4	5	6	7	8	9												
D12C	05A5-	02	M0	N	N	-D	E	E												
1. Model, input voltage and CE compliance D12C = Electrak GX, 12 Vdc, CE compliant D24C = Electrak GX, 24 Vdc, CE compliant D36C = Electrak GX, 36 Vdc, CE compliant D48C = Electrak GX, 48 Vdc, CE compliant D12N = Electrak GX, 12 Vdc, not CE compliant D24N = Electrak GX, 24 Vdc, not CE compliant D36N = Electrak GX, 36 Vdc, not CE compliant D48N = Electrak GX, 48 Vdc, not CE compliant D90N = Electrak GX, 90 Vdc, not CE compliant				5. Ingress protection rating N = IP66 K = IP66/IP69K 6. Options N = no option P = potentiometer feedback H = manual override Dimensions for manual override option  <table><tr><th>Model</th><th>X</th><th>Y</th></tr><tr><td>Dxxx05A(B)5-</td><td>49.6</td><td>0.0</td></tr><tr><td>Dxxx10A(B)5-</td><td>43.3</td><td>5.2</td></tr><tr><td>Dxxx20(21, 2K)A(B)5-</td><td>38.9</td><td>0.0</td></tr></table>					Model	X	Y	Dxxx05A(B)5-	49.6	0.0	Dxxx10A(B)5-	43.3	5.2	Dxxx20(21, 2K)A(B)5-	38.9	0.0
Model	X	Y																		
Dxxx05A(B)5-	49.6	0.0																		
Dxxx10A(B)5-	43.3	5.2																		
Dxxx20(21, 2K)A(B)5-	38.9	0.0																		
2. Dynamic load capacity, screw type and maximum speed 05A5 - = 1100 N, acme, 54 mm/s 10A5 - = 2250 N, acme, 30 mm/s 20A5 - = 2250 N, acme, 15 mm/s 05B5 - = 2250 N, ball, 61 mm/s 10B5 - = 4500 N, ball, 30 mm/s 20B5 - = 4500 N, ball, 15 mm/s 21B5 - = 6800 N, ball, 15 mm/s ⁽¹⁾ 2KB5 - = 9000 N, ball, 9 mm/s ⁽²⁾				7. Connector option -A = AMP terminal 42098-2, house 180908-5 -B = Packard Electric 56 Series -D = no connector (flying leads) 8. Front adapter option E = cross hole for 0.5 inch pin F = forked cross hole for 0.5 inch pin G = 1/2-20 UNF 2B female thread K = cross hole for 10 mm pin M = cross hole for 12 mm pin N = forked cross hole for 12 mm pin P = M12 female thread 9. Rear adapter option E = cross hole for 0.5 inch pin K = cross hole for 10 mm pin M = cross hole for 12 mm pin																
3. Ordering stroke length 02 = 2 inch (50.8 mm) 04 = 4 inch (101.6 mm) 06 = 6 inch (152.4 mm) 08 = 8 inch (203.2 mm) 10 = 10 inch (254.0 mm) 12 = 12 inch (304.8 mm) 14 = 14 inch (355.6 mm) 16 = 16 inch (406.4 mm) 18 = 18 inch (457.2 mm) 20 = 20 inch (508.0 mm) 22 = 22 inch (558.8 mm) 24 = 24 inch (609.6 mm)				4. Rear adapter hole orientation M0 = adapter at 0° (standard) M3 = adapter at 90° ⁽³⁾ 																

(1) 21B5 not possible with strokes above 20 inch

(2) 2KB5 not possible for strokes above 12 inch

(3) Not possible with option manual override

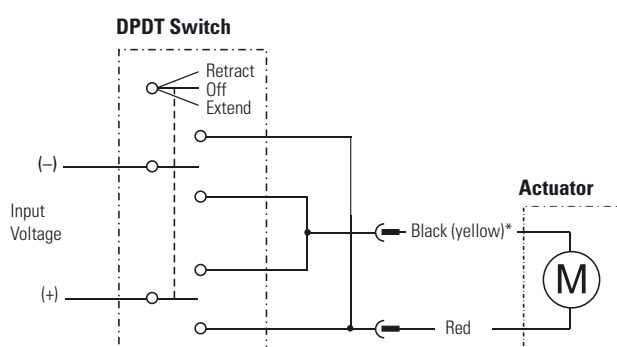


(1) 21B5 not possible with strokes above 20 inch
 (2) 2KB5 not possible for strokes above 12 inch
 (3) Not possible with option manual override

Electrak[®] GX DC – Electrical Connections

Without Option

Actuator supply voltage	[Vdc]	
D12x		12
D24x		24
D36x		36
D48x		48
D90N		90

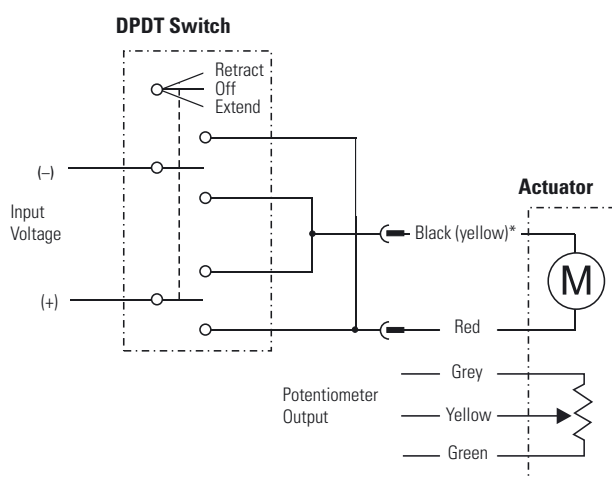


* Lead can be black or yellow

Connect the red lead to positive and black (yellow)* to negative to extend the actuator. Change polarity to retract the actuator.

Option Potentiometer

Actuator supply voltage	[Vdc]	
D12x		12
D24x		24
D36x		36
D48x		48
D90N		90
Potentiometer type		wirewound
Potentiometer max. input voltage	[Vdc]	32
Potentiometer max. power	[W]	2
Potentiometer linearity	[%]	± 0.25
Potentiometer output resolution	[ohm/mm]	
2 - 10 inch stroke		39
11 - 20 inch stroke		20
21 - 24 inch stroke		10



* Lead can be black or yellow

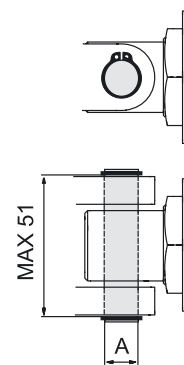
Connect the red lead to positive and black (yellow)* to negative to extend the actuator. Change polarity to retract the actuator. The potentiometer output cable has 0 ohm between grey and yellow leads when the actuator is fully extended.

Electrak[®] GX DC – Accessories

Mounting Pin Kits

Designation	A [mm(in)]	Part Number
Mounting pins (pair)	12.7 (0.5)	D603 028

The mounting pins are used in the rear and front adapter holes of the actuator. The pins have a groove in each end so that it can be secured with snap rings.



Dimensions

mm

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