

Electrak[®] GX AC – Technical Features



Standard Features

- Robust and reliable
- 1 × 115, 1 × 230 or 3 × 400 Vac 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 IP45
- Overload clutch for mid and end of stroke protection
- Anti coast brake
- Motor with thermal switch
- Maintenance free

General Specifications

Screw type	acme or ball
Nut type Axxx-xxA (acme screw) Axxx-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	cable with flying leads 2 x cable with flying leads
Compliances	CE
Certificates	UL, CSA

Optional Mechanical Features

Variety of front and rear adapters

Manual override

Optional Electrical Features

Potentiometer feedback

Electrak[®] GX AC – Technical Specifications

Mechanical Specifications

Max. static load ⁽¹⁾	[N (lbf)]	
Axx-xxA (acme screw)		11350 (2500)
Axx-xxB (ball screw)		18000 (4000)
Max. dynamic load (Fx)	[N (lbf)]	
A12(22)C-05A5 ⁽²⁾		1100 (250)
A12(22)C-10A5		2250 (500)
A42C-10A5		1100 (250)
A12(22)C-20A5		2250 (500)
A42C-20A5		1100 (250)
A12(22)C-05B5		2250 (500)
A42C-05B5		1100 (250)
A12(22)C-10B5		4500 (1000)
A42C-10B5		2250 (500)
A12(22)C-20B5		4500 (1000)
A42C-20B5		2250 (500)
A12(22)C-21B5 ⁽²⁾		6800 (1500)
A12(22)C-2KB5 ⁽²⁾		9000 (2000)
Speed @ no load/max. load	[mm/s (in/s)]	
AxxC-05A5 ⁽²⁾		54/32 (2.10/1.20)
AxxC-10A5		30/18 (1.20/0.71)
AxxC-20A5		15/12 (0.67/0.47)
AxxC-05B5		61/37 (2.40/1.40)
AxxC-10B5		30/18 (1.20/0.71)
AxxC-20B5		15/12 (0.60/0.47)
AxxC-21B5 ⁽²⁾		15/11 (0.60/0.43)
AxxC-2KB5 ⁽²⁾		15/9 (0.60/0.35)
Min. ordering stroke (S) length	[in]	6
Max. ordering stroke (S) length ^{(3) (4) (5)}	[in]	24
Ordering stroke length increments	[in]	2
Operating temperature limits	[°C (°F)]	-25 – 65 (-15 – 150)
Max. on time	[s]	45
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 (300)
Protection class - static		IP45
Salt spray resistance	[h]	96

(1) Max. static load at fully retracted stroke

(2) Not possible with supply voltage 3 × 400 Vac

(3) 2KB5 not possible for strokes above 12 inch

(4) 21B5 not possible for strokes above 20 inch

(5) For other strokes, contact customer support

Electrical Specifications

Available input voltages ⁽¹⁾	[Vac]	1 × 115 ⁽²⁾ 1 × 230 ⁽²⁾ 3 × 400
Input voltage tolerance	[%]	± 10
Current draw @ no load/max. load	[A]	
A12C-05A5		1.2/2.8
A12C-10A5		1.2/2.8
A12C-20A5		0.8/2.2
A12C-05B5		1.0/2.8
A12C-10B5		1.0/2.8
A12C-20B5		1.0/2.4
A12C-21B5		0.8/2.8
A12C-2KB5		0.8/3.7
A22C-05A5		0.6/1.4
A22C-10A5		0.6/1.4
A22C-20A5		0.4/1.4
A22C-05B5		0.5/1.3
A22C-10B5		0.5/1.3
A22C-20B5		0.5/1.4
A22C-21B5		0.4/1.6
A22C-2KB5		0.4/1.8
A42C-05A5		not possible
A42C-10A5		0.35/0.7
A42C-20A5		0.30/0.7
A42C-05B5		0.45/0.7
A42C-10B5		0.45/0.7
A42C-20B5		0.45/0.7
A42C-21B5		not possible
A42C-2KB5		not possible
Motor cable length	[mm (in)]	600 (24)
Motor cable diameter	[mm (in)]	10 (0.4)
Motor cable leads cross section	[mm ² (AWG)]	1.5 (16)
Potentiometer cable length ⁽³⁾	[mm (in)]	500 (20)
Potentiometer cable diameter ⁽³⁾	[mm (in)]	9 (0.35)
Pot. cable leads cross section ⁽³⁾	[mm ² (AWG)]	1.5 (16)

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

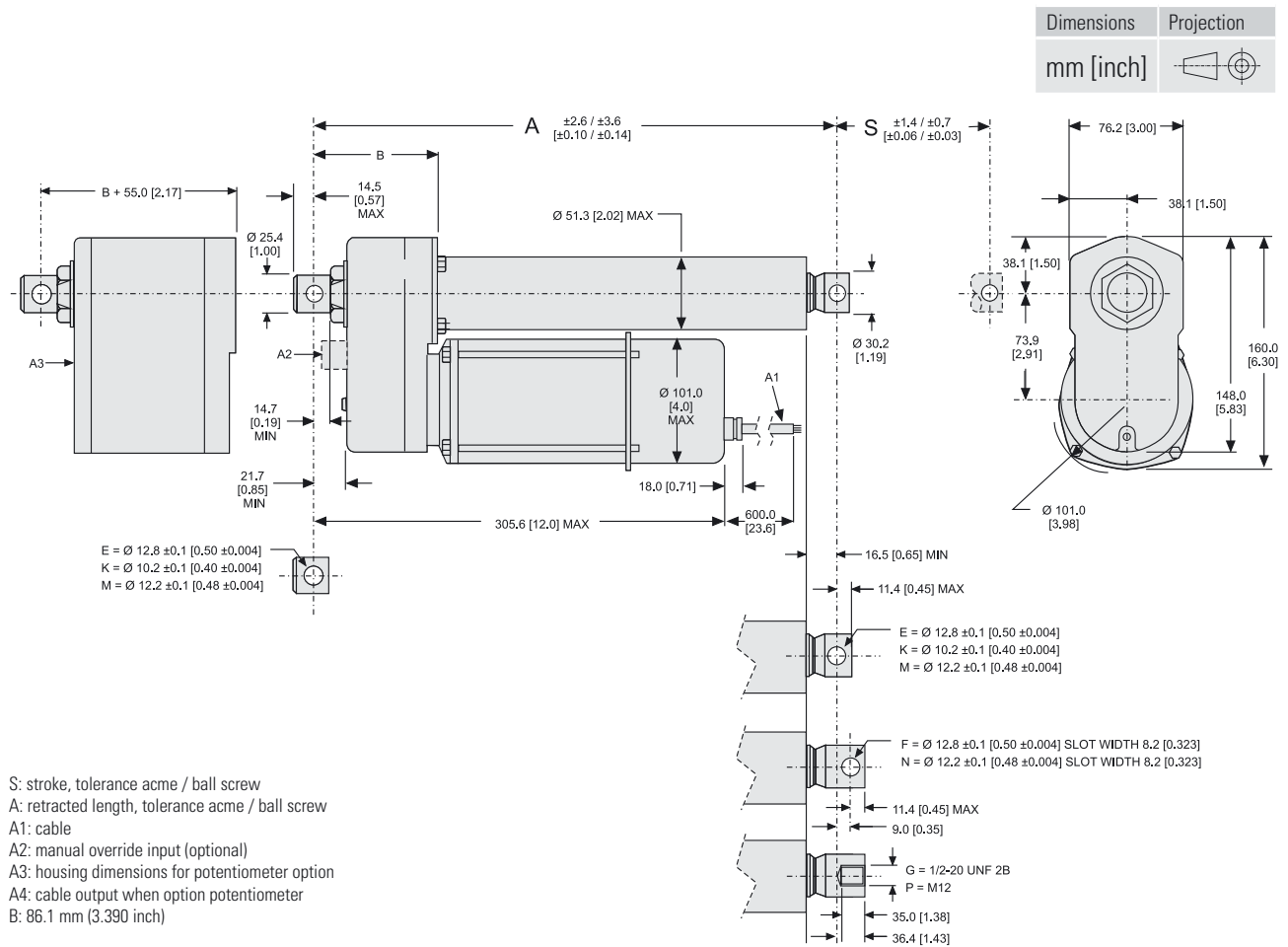
(2) Capacitor required to run the actuator.

1 × 115 Vac = 35 µF, p/n 9200-448-002

1 × 230 Vac = 10 µF, p/n 9200-448-003

(3) Potentiometer is optional

Electrak[®] GX AC – Dimensions

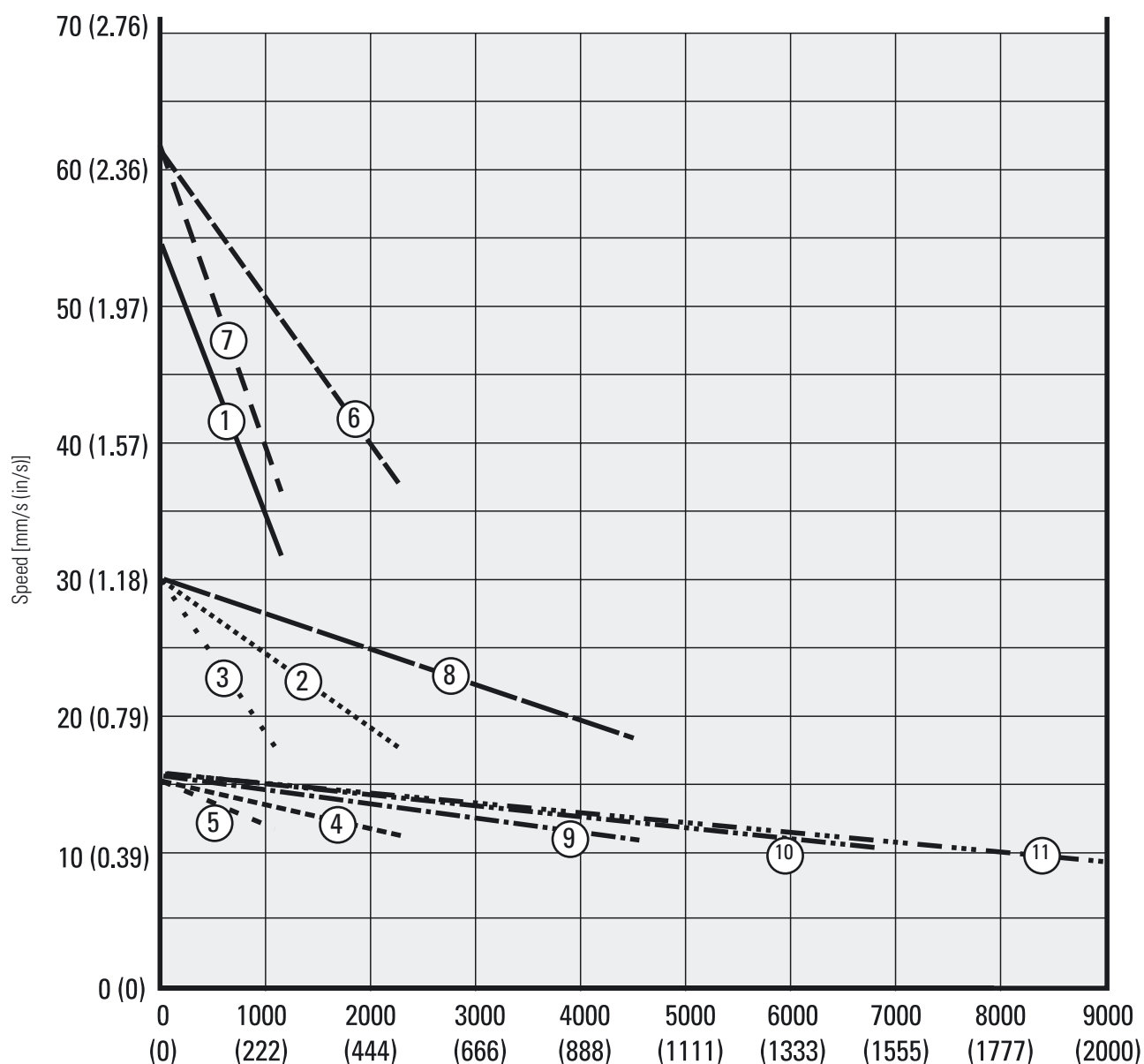


Stroke, Retracted Length and Weight Relationships

Ordering stroke (S)	[in]	6	8	10	12	14	16	18	20	22	24
Retracted length, acme screw models (A)	[mm]	312.9	363.7	414.5	465.3	583.7	634.5	685.3	736.1	786.9	837.7
	[in]	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]	353.1	403.9	454.7	505.5	623.6	674.4	725.2	776.0	826.8	877.6
	[in]	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]	6.2	6.4	6.6	6.8	7.0	7.2	7.4	7.6	7.8	7.9
	[lbf]	13.6	14.1	14.5	15.0	15.4	15.8	16.3	16.7	17.1	17.4
Weight, ball screw models	[kg]	6.8	7.0	7.2	7.4	7.6	7.8	8.0	8.2	8.4	8.5
	[lbf]	15.0	15.4	15.8	16.3	16.7	17.1	17.6	18.0	18.5	38.3
Add on weight for option potentiometer	[kg]	1.30									
	[lbf]	2.86									

Electrak® GX AC – Performance Diagrams

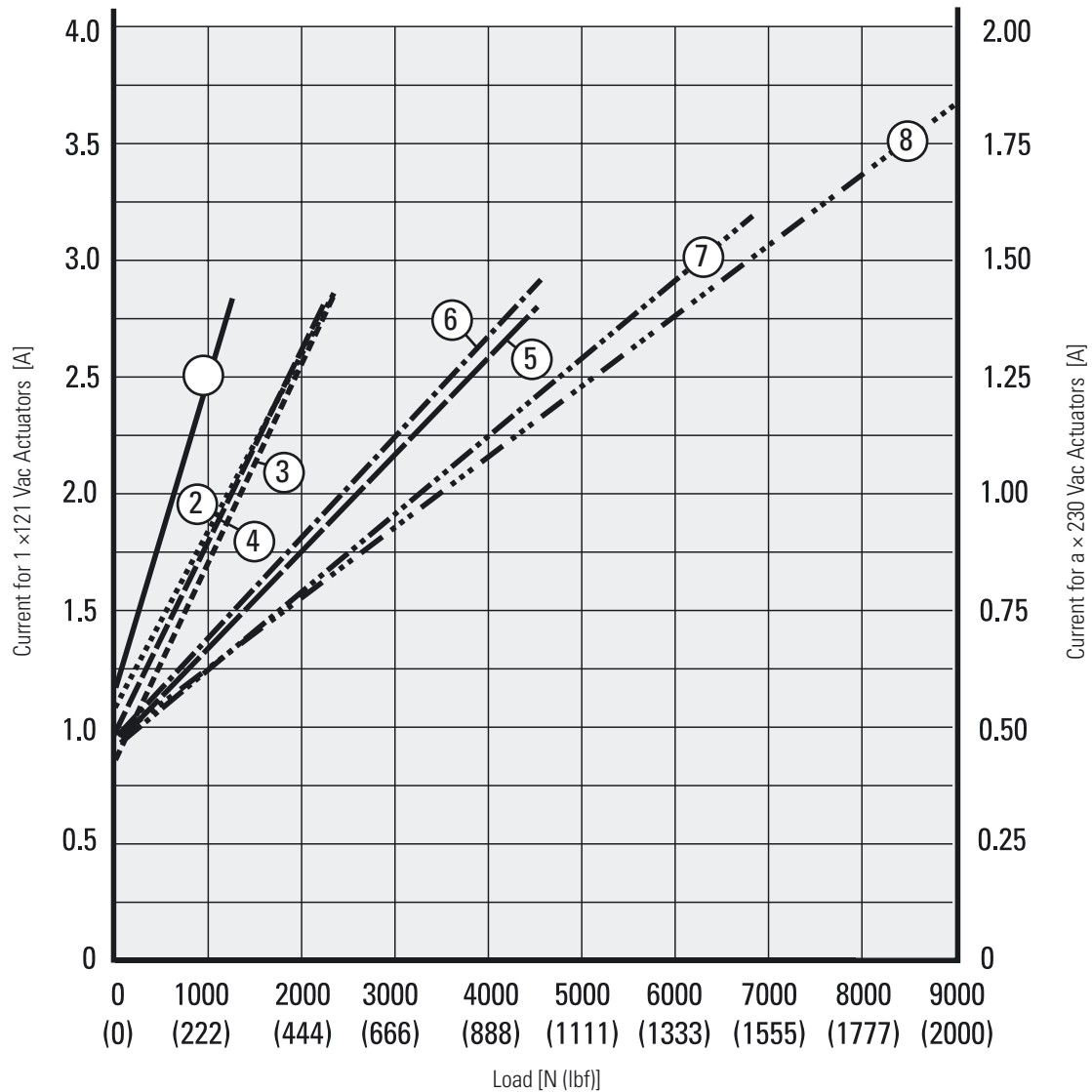
Load vs. Speed



- | | | | |
|---|-----------|--------------------------------------|-----------------|
| 1. Axxx-05A5 (1100 N (250 lbf)) | ————— | 6. A12(22)x-05B5 (2250 N (500 lbf)) | ----- |
| 2. A12(22)x-10A5 (2250 N (500 lbf))
A42x-10B5 (2250 N (500 lbf)) | | 7. A42x-05B5 (1100 N (250 lbf)) | - - - - - |
| 3. A42x-10A5 (1100 N (250 lbf)) | | 8. A12(22)x-10B5 (4500 N (1000 lbf)) | ————— |
| 4. A12(22)x-20A5 (2250 N (500 lbf))
42x-20B5 (2250 N (500 lbf)) | ----- | 9. A12(22)x-20B5 (4500 N (1000 lbf)) | - . - . - . |
| 5. A42x-20A5 (1100 N (500 lbf)) | - - - - - | 10. Axxx-21B5 (6800 N (1500 lbf)) | |
| | | 11. Axxx-2KB5 (9000 N (2000 lbf)) | - . . . - . . . |

Electrak[®] GX AC – Performance Diagrams

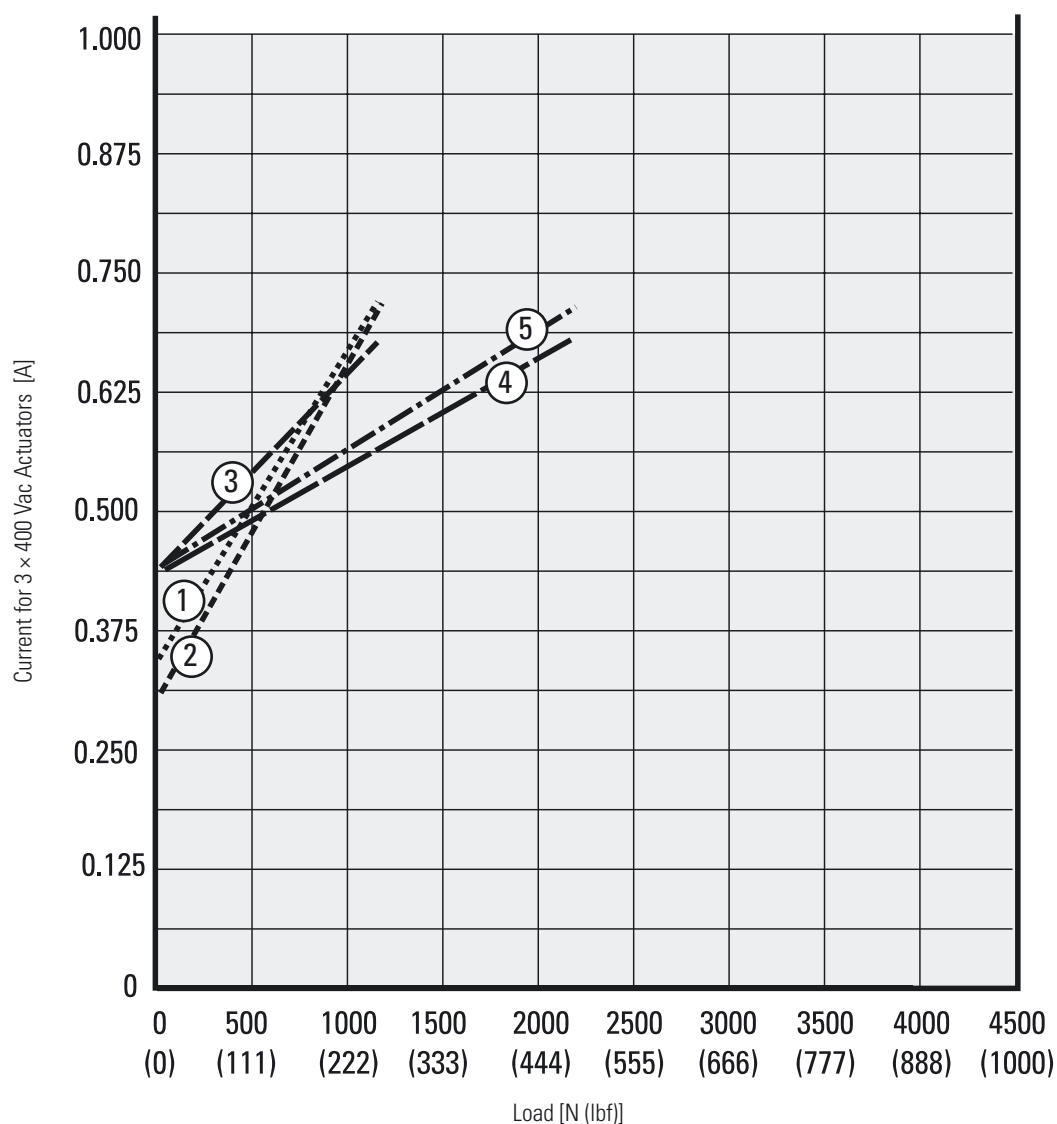
Load vs. Current for 1 × 115 and 1 × 230 Vac actuators



- | | |
|-------------------------------------|--------------------------------------|
| 1. A12(22)x-05A5 (1100 N (250 lbf)) | 5. A12(22)x-10B5 (4500 N (1000 lbf)) |
| 2. A12(22)x-10A5 (2250 N (500 lbf)) | 6. A12(22)x-20B5 (4500 N (1000 lbf)) |
| 3. A12(22)x-20A5 (2250 N (500 lbf)) | 7. A12(22)x21B5 (6800 N (1500 lbf)) |
| 4. A12(22)x-05B5 (2250 N (500 lbf)) | 8. A12(22)x-2KB5 (9000 N (2000 lbf)) |

Electrak[®] GX AC – Performance Diagrams

Load vs. Current for 3 × 400 Vac actuators



Electrak® GX AC – Ordering Key

Ordering Key

1	2	3	4	5	6	7	8
A12C05A5-	06	M0	B	N	-D	E	E

1. Model, input voltage, dynamic load capacity, screw type, maximum speed

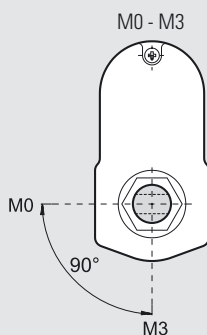
A12C05A5- = Electrak GX, 1 × 115 Vac, 1100 N, acme, 54 mm/s
 A12C10A5- = Electrak GX, 1 × 115 Vac, 2250 N, acme, 30 mm/s
 A12C20A5- = Electrak GX, 1 × 115 Vac, 2250 N, acme, 15 mm/s
 A12C05B5- = Electrak GX, 1 × 115 Vac, 2250 N, ball, 61 mm/s
 A12C10B5- = Electrak GX, 1 × 115 Vac, 4500 N, ball, 30 mm/s
 A12C20B5- = Electrak GX, 1 × 115 Vac, 4500 N, ball, 15 mm/s
 A12C21B5- = Electrak GX, 1 × 115 Vac, 6800 N, ball, 15 mm/s ⁽¹⁾
 A12C2KB5- = Electrak GX, 1 × 115 Vac, 9000 N, ball, 10 mm/s ⁽²⁾
 A22C05A5- = Electrak GX, 1 × 230 Vac, 1100 N, acme, 54 mm/s
 A22C10A5- = Electrak GX, 1 × 230 Vac, 2250 N, acme, 30 mm/s
 A22C20A5- = Electrak GX, 1 × 230 Vac, 2250 N, acme, 15 mm/s
 A22C05B5- = Electrak GX, 1 × 230 Vac, 2250 N, ball, 61 mm/s
 A22C10B5- = Electrak GX, 1 × 230 Vac, 4500 N, ball, 30 mm/s
 A22C20B5- = Electrak GX, 1 × 230 Vac, 4500 N, ball, 15 mm/s
 A22C21B5- = Electrak GX, 1 × 230 Vac, 6800 N, ball, 15 mm/s ⁽¹⁾
 A22C2KB5- = Electrak GX, 1 × 230 Vac, 9000 N, ball, 10 mm/s ⁽²⁾
 A42C10A5- = Electrak GX, 3 × 400 Vac, 1100 N, acme, 30 mm/s
 A42C20A5- = Electrak GX, 3 × 400 Vac, 1100 N, acme, 15 mm/s
 A42C05B5- = Electrak GX, 3 × 400 Vac, 1100 N, ball, 61 mm/s
 A42C10B5- = Electrak GX, 3 × 400 Vac, 2250 N, ball, 30 mm/s
 A42C20B5- = Electrak GX, 3 × 400 Vac, 2250 N, ball, 15 mm/s

3. Ordering stroke length

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⁾



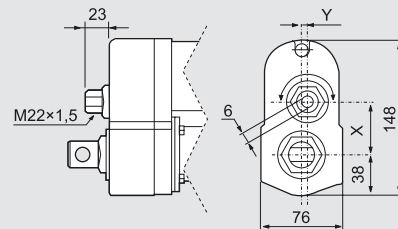
5. Ingress protection rating

B = IP45

6. Options

N = no option
 P = potentiometer feedback
 H = manual override

Dimensions for manual override option



Model	X	Y
Axxx05A(B)5-	49.6	0.0
Axxx10A(B)5-	43.3	5.2
Axxx20(21, 2K)A(B)5-	38.9	0.0

7. Connector option

-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

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

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

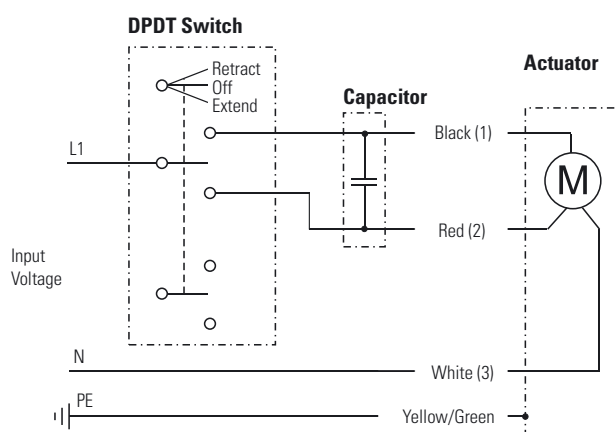
(3) Not possible with option manual override

Electrak® GX AC – Electrical Connections

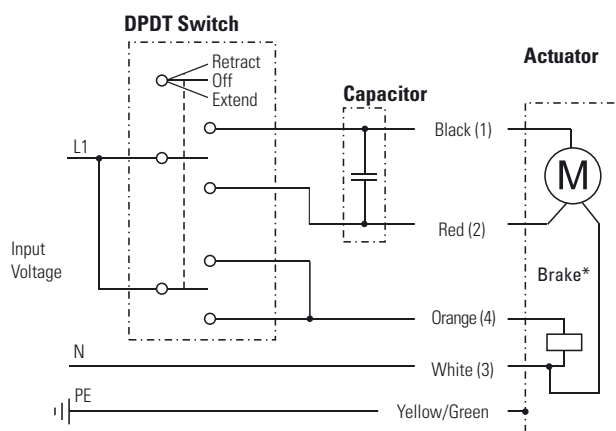
Input Voltage 230 Vac

Actuator supply voltage	[Vac]	
A12		1 × 115
A22		1 × 230

Acme screw models (no anti-coast brake)



Ball screw models (with anti-coast brake)

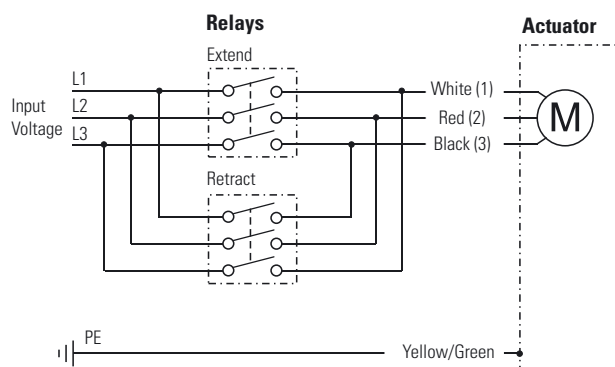


Leads can be either color or number marked. To be able to run the actuator, a capacitor must be connected between black (1) and red (2) leads. A 115 Vac actuator requires a 35 μ F capacitor, while a 230 Vac actuator requires a 10 μ F capacitor. See page 54 for ordering of capacitors. Connect black (1) lead to L1 and white (3) lead to N (neutral) to retract the actuator. Change L1 from lead black (1) to lead red (2) to extend the actuator. Ball screw models have an anti-coast brake* that must be released during motion, which is done by connecting orange (4) lead to L1. Acme models do not have any anti-coast brake.

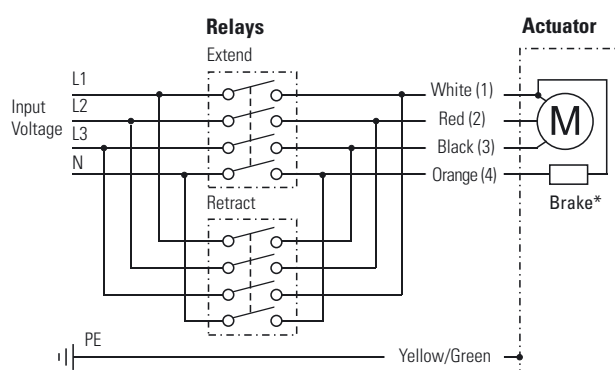
Input Voltage 400 Vac

Actuator supply voltage	[Vac]	
A42		3 × 400

Acme screw models (no anti-coast brake)



Ball screw models (with anti-coast brake)



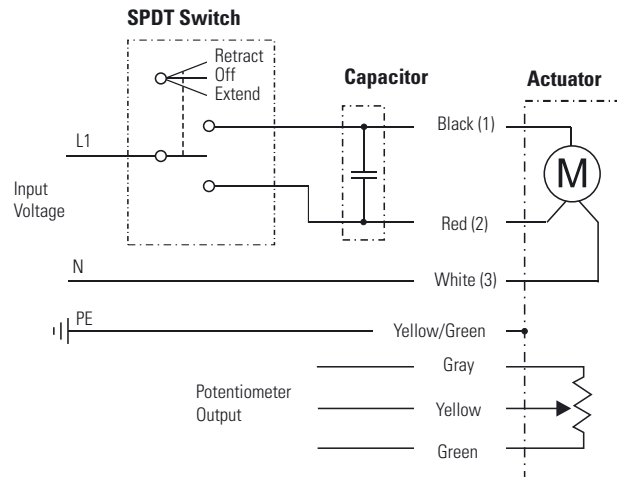
Leads can be either color or number marked. Connect white (1) lead to L1, red (2) lead to L2 and black (3) lead to L3 to extend the actuator. Change the places of white (2) lead and black (3) to retract the actuator. Ball screw models have an anti-coast brake* that must be released during motion, which is done by connecting orange (4) to N (neutral). Acme models do not have any anti-coast brake.

Electrak® GX AC – Electrical Connections

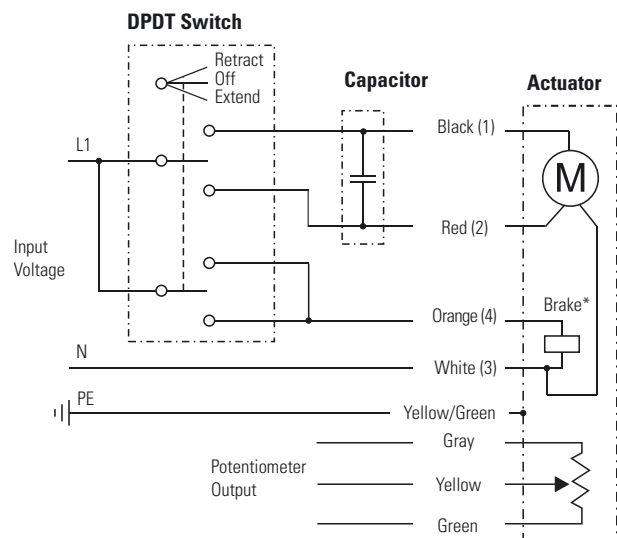
Input Voltage 115 or 230 Vac + Option Potentiometer		
Actuator supply voltage	[Vac]	
A12		1 × 115
A22		1 × 230
Potentiometer type		wire-wound
Potentiometer max. input voltage	[Vdc]	32
Potentiometer max. power	[W]	2
Potentiometer linearity	[%]	± 0.25
Potentiometer output resolution	[ohm/mm]	
2 - 10 inch stroke		39
11 - 20 inch stroke		20
21 - 24 inch stroke		10

Leads can be either color or number marked. To be able to run the actuator, a capacitor must be connected between black (1) and red (2) leads. A 115 Vac actuator requires a 35 μ F capacitor, while a 230 Vac actuator requires a 10 μ F capacitor. See page 54 for ordering of capacitors. Connect black (1) lead to L1 and white (3) lead to N (neutral) to retract the actuator. Change L1 from lead black (1) to lead red (2) to extend the actuator. Ball screw models have an anti-coast brake* that must be released during motion, which is done by connecting orange (4) lead to L1. Acme models do not have any anti-coast brake. The potentiometer output cable has 0 ohm between gray and yellow leads when the actuator is fully extended.

Acme screw models (no anti-coast brake)



Ball screw models (with anti-coast brake)



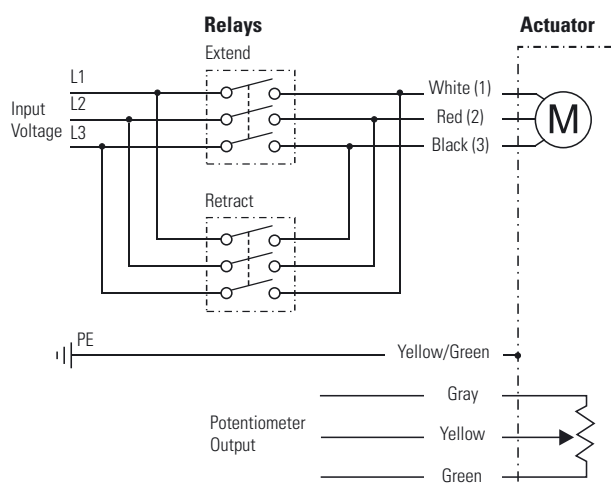
Electrak® GX AC – Electrical Connections

Input Voltage 400 Vac + Option Potentiometer

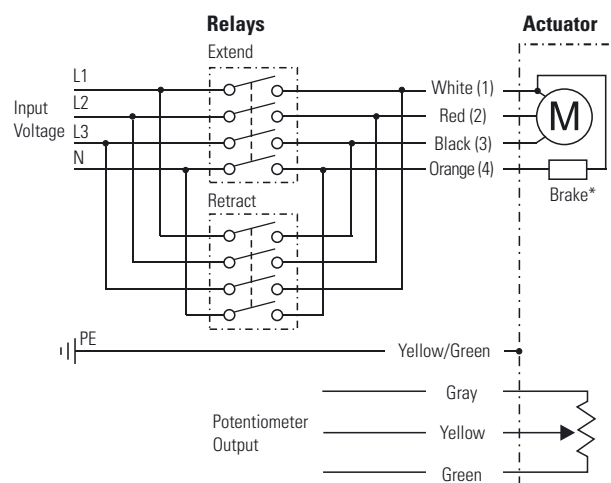
Actuator supply voltage A42	[Vac]	3 × 400
Potentiometer type		wire-wound
Potentiometer max. input voltage	[Vdc]	32
Potentiometer max. power	[W]	2
Potentiometer linearity	[%]	± 0.25
Potentiometer output resolution	[ohm/mm]	
2 - 10 inch stroke		39
11 - 20 inch stroke		20
21 - 24 inch stroke		10

Leads can be either color or number marked. Connect white (1) lead to L1, red (2) lead to L2 and black (3) lead to L3 to extend the actuator. Change the places of white (2) lead and black (3) to retract the actuator. Ball screw models have an anti-coast brake* that must be released during motion, which is done by connecting orange (4) lead to N (neutral). Acme models do not have any anti-coast brake. The potentiometer output cable has 0 ohm between gray and yellow leads when the actuator is fully extended.

Acme screw models (no anti-coast brake)



Ball screw models (with anti-coast brake)

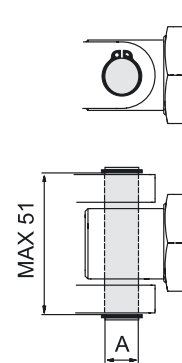


Electrak[®] GX AC – Accessories

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

Capacitor Kits

Designation	Actuator Supply Voltage	Part Number
Capacitor kit	115 Vac	9200-448-002
Capacitor kit	230 Vac	9200-448-003

All 230 and 115 Vac actuators require a capacitor to be wired between the windings to run. The capacitor is bought separately and mounted externally by the customer.

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