

# Thomson Electrak<sup>®</sup> PPA Electric Linear Actuator

## Installation manual

DW110503GB-1914



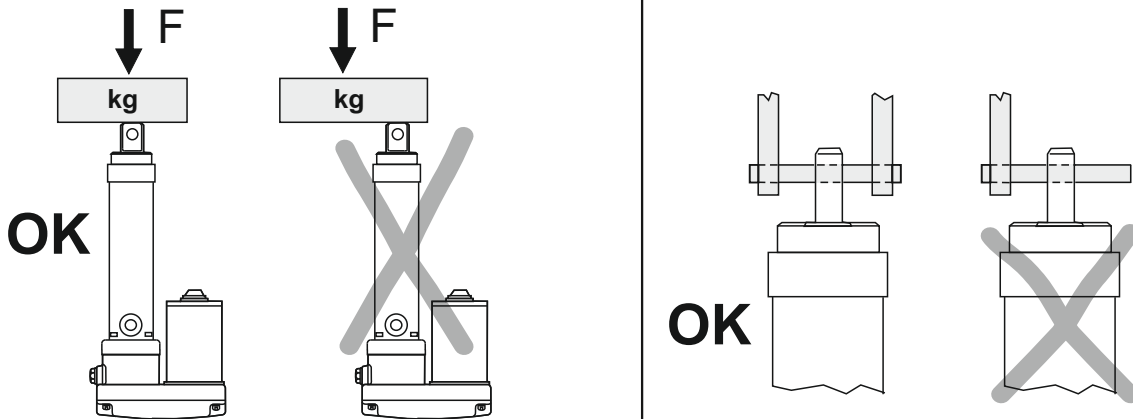
** THOMSON<sup>®</sup>**

*Linear Motion. Optimized.<sup>™</sup>*

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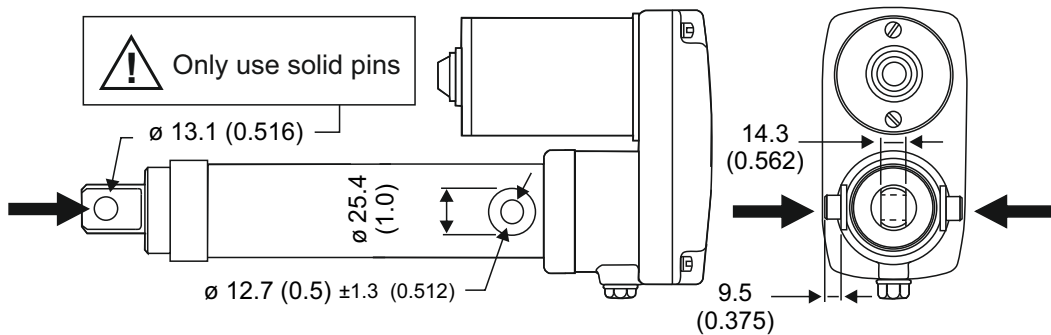
## Basic mounting rules



## Mounting points

Only install the actuator in these points!

mm (inch)



## Temperature limits



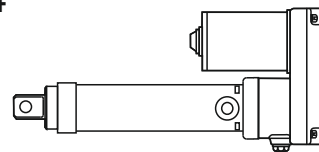
Min. - 25 °C  
- 15 °F



Max. + 65 °C  
+ 150 °F

## Protection degree

IP44

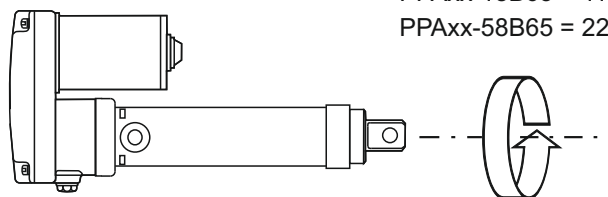


## Restraining torque

Torque needed to prevent the extension tube from rotating.

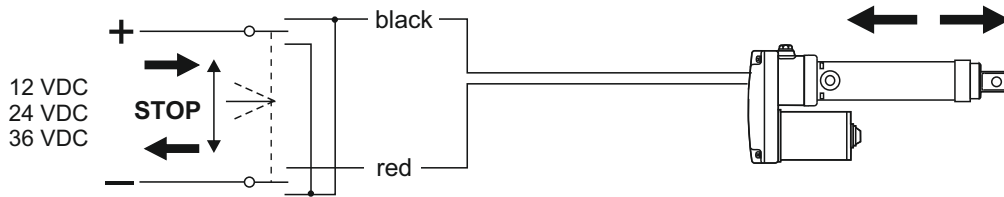
PPAxx-18B65 = 11 Nm (100 lbf-in)

PPAxx-58B65 = 22 Nm (200 lbf-in)

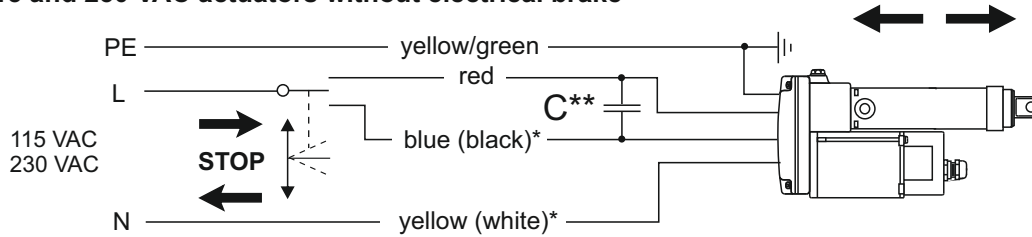


## Electrical connections

### 12, 24 and 36 VDC actuators



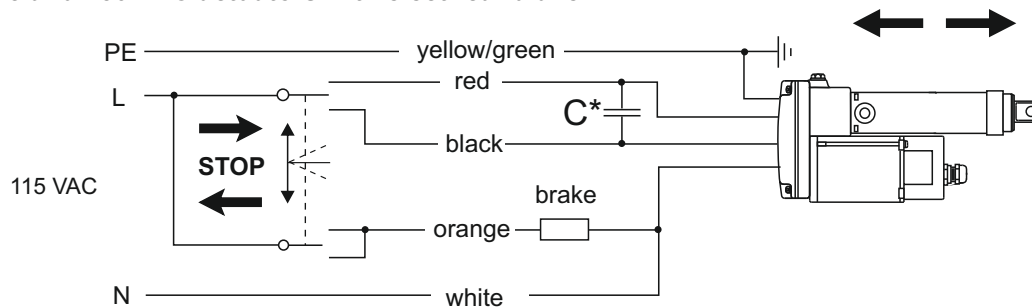
### 115 and 230 VAC actuators without electrical brake



\* Old (new motor).

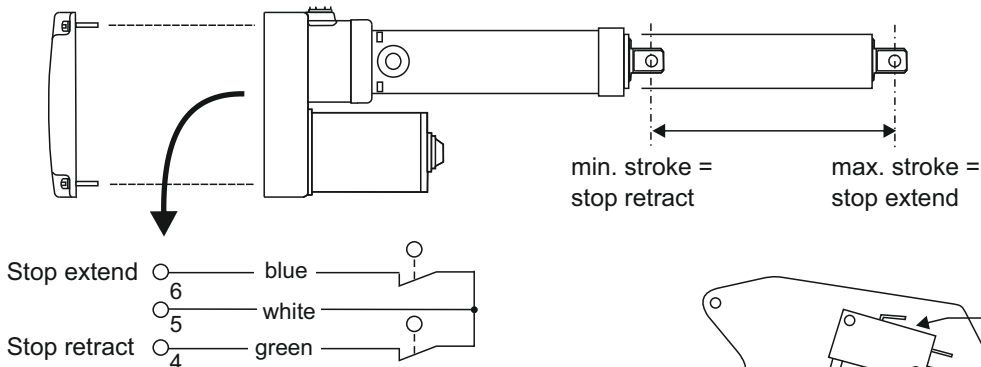
\*\* A capacitor must be installed to between the motor windings to able to run the actuator. 115 VAC actuator = 25 microF, p/n 5704687, 230 VAC actuator = 6 microF, p/n 7825261.

### 115 and 230 VAC actuators with electrical brake

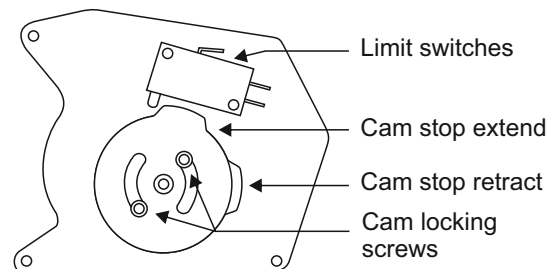


\* A capacitor must be installed to between the motor windings to able to run the actuator. 115 VAC actuator = 25 microF, p/n 5704687, 230 VAC actuator = 6 microF, p/n 7825261.

### Connection of limit switches (option)

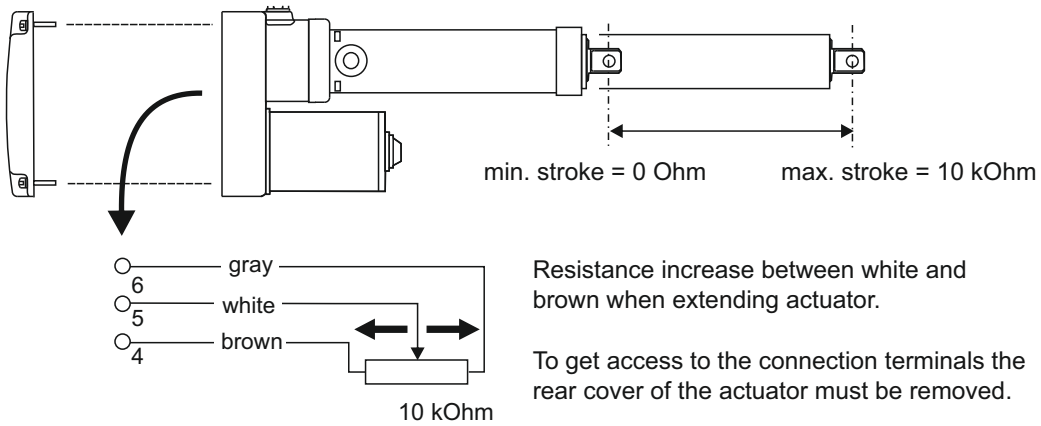


The limit switches are set from factory to actuate the limit switches at the fully extended and fully retracted positions. Do **NOT** rotate the extension tube as that will re-set the setting of the limit switch positions. To get access to the connection terminals the rear cover of the actuator must be removed.

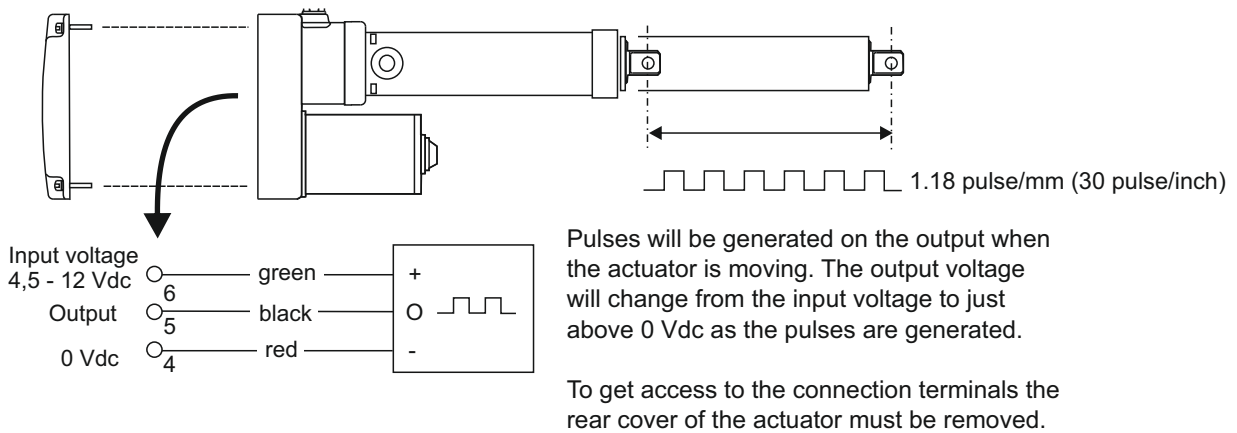


## Electrical connections

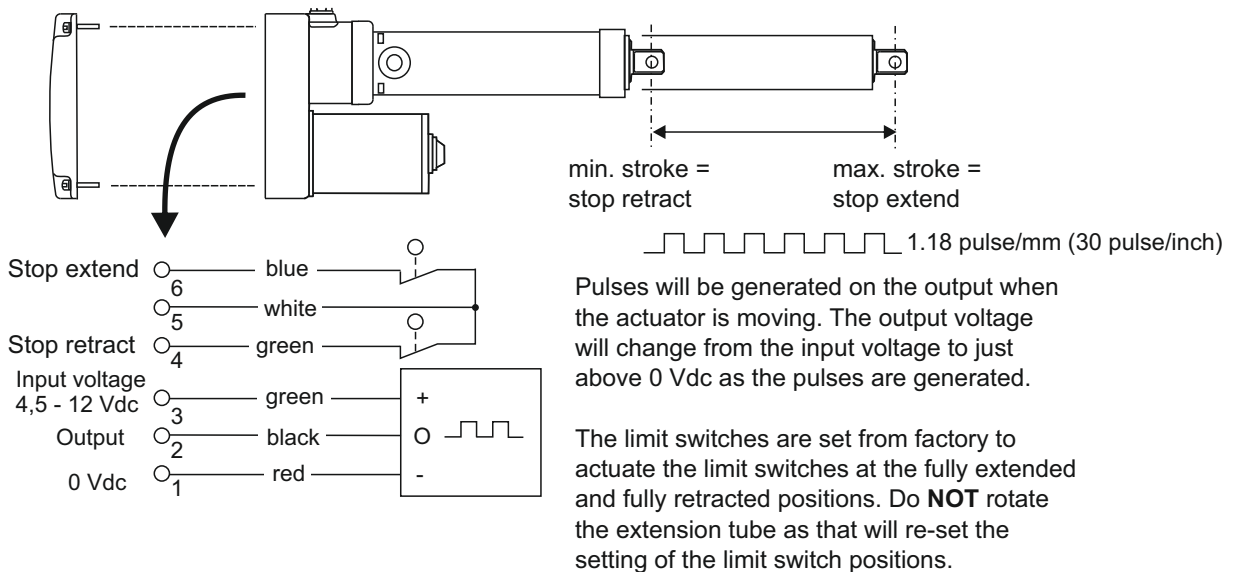
### Connection of potentiometer (option)



### Connection of hall effect sensor (option)



### Connection of limit switches + hall effect sensor (option)

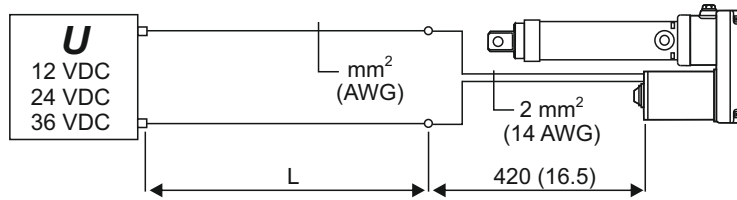


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## Wire cross section

### 12, 24 and 36 VDC actuators

mm (inch)



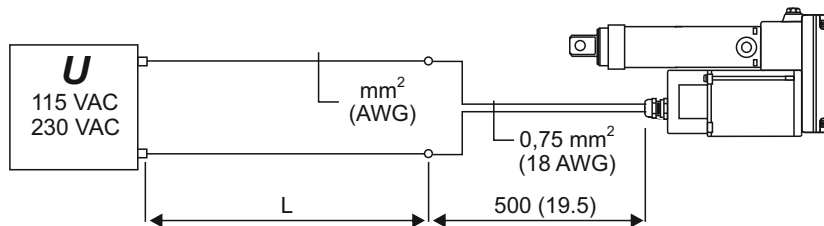
12 VDC			
Current	mm <sup>2</sup> (AWG)		
[A]	L max. = 3000 (120)	L max. = 6000 (240)	L max. = 10000 (390)
0 – 15	1.5 (15)	2.5 (13)	4 (11)
16 – 20	2.5 (13)	4 (11)	6 (9)
21 – 28	4 (11)	6 (9)	10 (7)

24 / 36 VDC	
Current	mm <sup>2</sup> (AWG)
[A]	L max. = 10000 (390)
0 – 10	1.5 (15)
11 – 15	2.5 (13)

The tables are based on ambient temperature = 30 °C (86 °F) or less.

### 115 and 230 VAC actuators

mm (inch)



115 / 230 VAC	
Current	mm <sup>2</sup> (AWG)
[A]	L max. = 20000 (790)
0 – 2	1.5 (15)

**Always install fuse and / or thermal breaker between motor and power supply to protect actuator, wiring and other items.**

## Technical data

	PPA 12, 24, 36 Vdc	PPA 110, 230 Vac
Motor	DC-motor	AC-motor with auto reset thermal switch
Supply voltage	see label on actuator	
Max. current	see label on actuator	
Max. static load @ fully retracted	13 350 N (3000 lbs)	
End play max.	1 mm (0.04 inch)	
Duty cycle	30 % @ 25 °C (77 °F)	
Restraining torque PPAxx-18B65 PPAxx-58B65	11 Nm (100 lbf-in) 22 Nm(200 lbf-in)	
Ambient temperature	– 25 to + 65 °C (– 15 to + 150 °F)	
Lubrication	for life	
Protection class	IP54	IP22
Slip clutch	yes	
Brake options*	<ul style="list-style-type: none"> <li>• No brake option (code N–)</li> <li>• Anti coast brake (code SB)</li> <li>• Electrical brake (code EB)</li> </ul>	
Options**	<ul style="list-style-type: none"> <li>• No option (code XX)</li> <li>• Limit switches (code LS)</li> <li>• Potentiometer feedback (code PO)</li> <li>• Hall effect sensor feedback (code HS)</li> <li>• Hall effect sensor feedback + limit swiches (code HL)</li> </ul>	

\* See position 15 and 16 on the actuator's type designation label.

\*\* See position 17 and 18 on the actuator's type designation label.

## CAUTION!

**Always turn the power off before working on the actuator.**

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