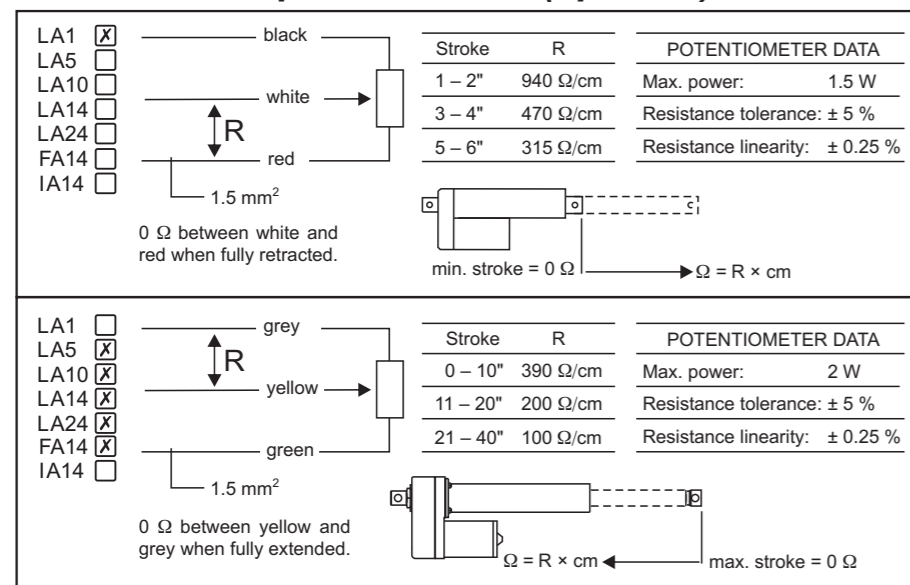
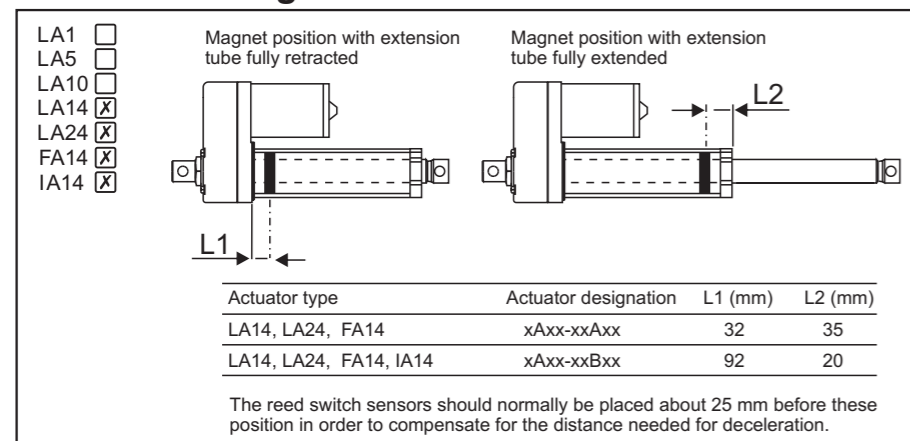


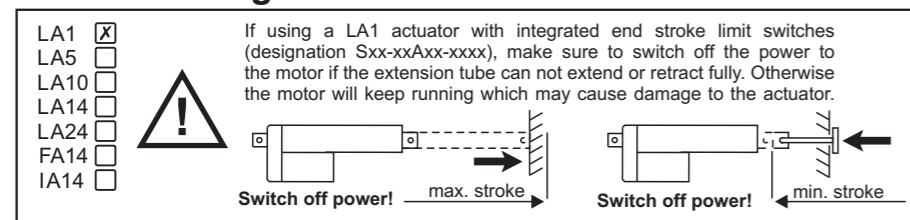
Connection of potentiometer (optional)



Position of magnet for reed switch sensors



LA1 with integrated end stroke limit switches



CAUTION!

Always turn power off before working on the actuator or the wiring.

Technical data

	LA1	LA5	LA10	LA14	LA24	FA14	IA14
DC-motor with automatic reset thermal switch *	yes	–	yes	yes	–	–	–
12 VDC (10 – 16 V)	yes	–	yes	yes	–	–	–
24 VDC (20 – 32 V)	yes	–	yes	yes	–	–	–
36 VDC (30 – 40 V)	–	–	–	–	–	–	–
Only accepts battery or full wave smoothed rectified voltage	yes	–	–	–	–	–	–
Accepts battery, full wave smoothed or unsmoothed rectified voltage	–	yes	yes	yes	–	–	–
AC-motor with automatic reset thermal switch *	–	yes	–	–	yes	–	–
1~115 VAC (102 – 130 V)	–	yes	–	–	yes	–	–
1~230 VAC (212 – 240 V)	–	–	–	–	yes	–	–
3~400 VAC (360 – 420 V)	–	–	–	–	yes	–	–
Capacitor necessary	–	yes	–	–	yes	–	–
Max. current (A)	see actuator label						
Duty cycle @ full load 25°C (%)	25	25	25	25	25	–	–
Max. on time (s)	**	45	**	**	45	–	–
Restraining torque (Nm)	2.3	11.3	11.3	0	0	0	0
End play max. (mm)	0.9	1	1	1	1	1	1
Ambient temperature (°C)	– 25 – + 65						
Lubrication	for life						
Anti backdriving mechanism	yes						
Slip clutch	–	yes (set to 1.2 – 1.5 × max. dynamic load)				–	–
Protection class	IP65	–	IP65	IP65	–	–	–
End stroke limit switches	yes	–	–	–	–	–	–
Options							
Feedback potentiometer	yes						
Electrically released brake	–	yes	–	–	yes	–	–
Reed switch sensors	–	–	–	–	–	yes	
Pins	yes						
Pin holders	–	–	–	–	–	yes	
Trunnion	–	–	–	–	–	yes	
Trunnion holders	–	–	–	–	–	yes	
Reed switch sensor data							
Max. power (VA)	10						
Max. current (A)	0.5						
Max. voltage (VDC)	100						
Protection class	IP 67						
Part numbers	normally open D535 070 / normally closed D535 071						

We recommend to always install fuse or thermal breaker between motor and power supply to protect actuator, wiring and other items.

Tollo Linear AB

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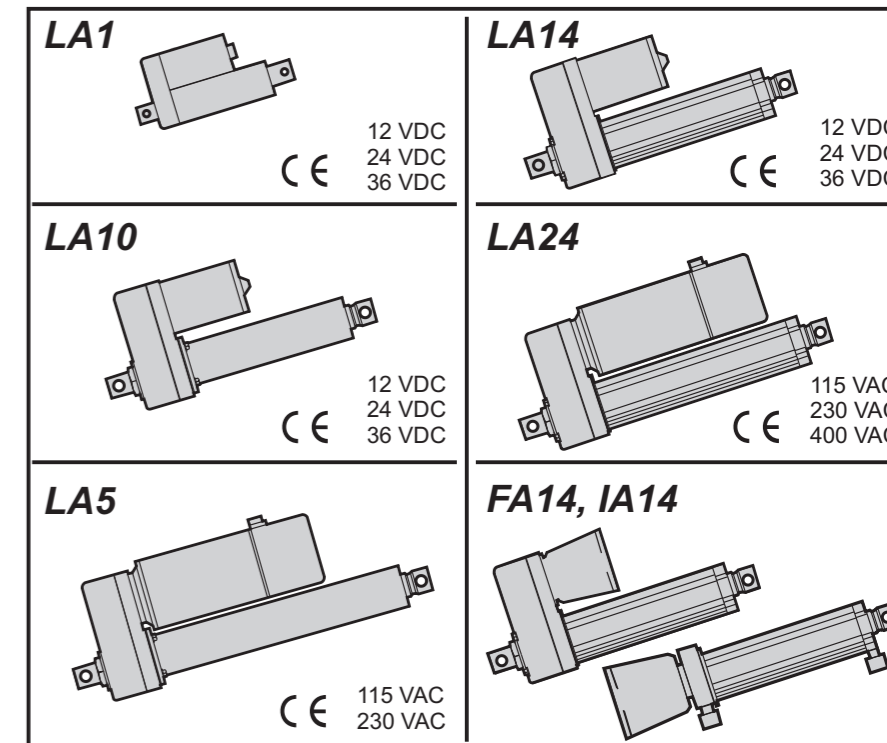
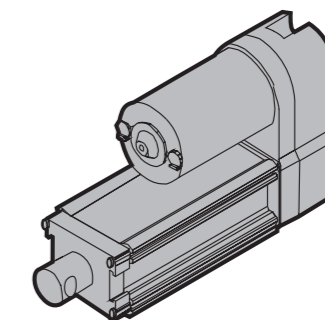
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rev. 10

Printed on recycled paper

Installation manual for LA1, LA5, LA10, LA14, LA24, FA14 and IA14 actuators



Basic mounting rules

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

OK

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

OK

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

Only mount actuator in these points!

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

Restraining torque
Torque needed to prevent extension tube from rotating.

LA1	2.3 Nm
LA5	11.3 Nm
LA10	11.3 Nm

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

Only mount actuator in these points!
* Trunnion (option), p/no. D603 022 (2x)
Correct tightening torque = 4.4 Nm.

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

Only use solid pins!

LA1	LA 1	LA5, LA10
LA5	$\varnothing = 6.35$ mm	$\varnothing = 12.7$ mm
LA10	p/no. D603 034 (2x)	p/no. D603 028 (2x)
LA14	LA14, LA24, FA14, IA14	
LA24	$\varnothing = 12$ mm	
FA14	p/no. D603 023 (2x)	
IA14		

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

Trunnion holders (option)
p/no. D603 030 (2x)

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

Pin holders (option)
p/no. D603 029 (2x)

Basic mounting rules

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

Only mount actuator in these points!
Foot mount (standard)
* Trunnion (option) p/no. D603 022 (2x)

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

Motor flange
Drill hole and make key way in the coupling to fit your motor shaft. The coupling accepts holes between $\varnothing 10 - 19$ mm.

Wire cross section

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

U
12 VDC
24 VDC
36 VDC

L(m)	mm ²
0 - 10	1.5
11 - 20	2.5

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

U
115 VAC
230 VAC
400 VAC

L(m)	mm ²
0 - 20	1.5

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

U
12 VDC
24 VDC
36 VDC

12 VDC			24 VDC		36 VDC		
Current (A)	mm ²		Current (A)	mm ²		Current (A)	mm ²
	L = 3 m	L = 6 m	L = 6 m	L = 10 m		L = 10 m	
0 - 15	1.5	2.5	0 - 10	1.5	1.5	0 - 12	1.5
16 - 20	2.5	4	11 - 15	2.5	2.5		
21 - 28	4	6					
29 - 34	6	6					

The tables are based on ambient temperature = 30°C or less.

Connection of motor

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

A = 12 VDC, B = 24 VDC, C = 36 VDC

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

230 and 115 Vac supply without brake (A22-xxxx-xxxxNxxxx, AA22-xxxxMxxxxNxxxx)

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

230 and 115 Vac supply with brake (A22-xxxx-xxxxBxxxx, AA22-xxxxMxxxxBxxxx)

* Capacitor: 115 VAC = 35 μ F, p/no. D900-448-002 / 230 VAC = 10 μ F, p/no. D900-448-003

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

3 x 400 Vac supply without brake (A42-xxxxMxxxxNxxxx, AA42-xxxxMxxxxNxxxx)

LA1
 LA5
 LA10
 LA14
 LA24
 FA14
 IA14

3 x 400 Vac supply with brake (A42-xxxxMxxxxBxxxx, AA42-xxxxMxxxxBxxxx)