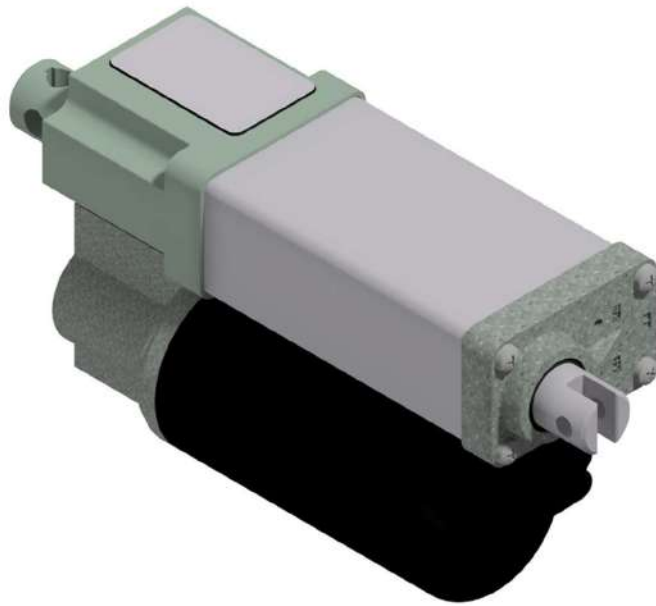




ALI-1P

Industrial Linear Actuator

- Permanent magnet motor 12 - 24 Vdc
- Double worm gearbox
- ACME lead screw
- Aluminum push rod (Stainless steel on request)
- Permanent grease lubrication
- IP 65, tested according to rule CEI EN 60529
- Working temperature range -10°C +60°C
- Intermittent duty S3 30% (5 min) a 30°C
- Encoder on request
- Limit switches on request (ALI1-P)

ALI1-P (Vdc)					
Fmax (N)	Speed (mm/s)	Version	Motor size	Motor speed (rpm)	Max Current for F max(A) 24Vdc**
1200	16,5	M01	40	6000	2,5
1550	11	M02	40	6000	2
2000	8,3	M03	40	6000	2,5
2500	5,6	M04	40	6000	2,5
2500	2,8	M05	40	6000	1,5
2500	0,9	M06	40	6000	1

* When stroke is longer than 200 mm, check stroke setup section.

** For 12 Vdc power supply currents are doubled, and loads are 20% lower.

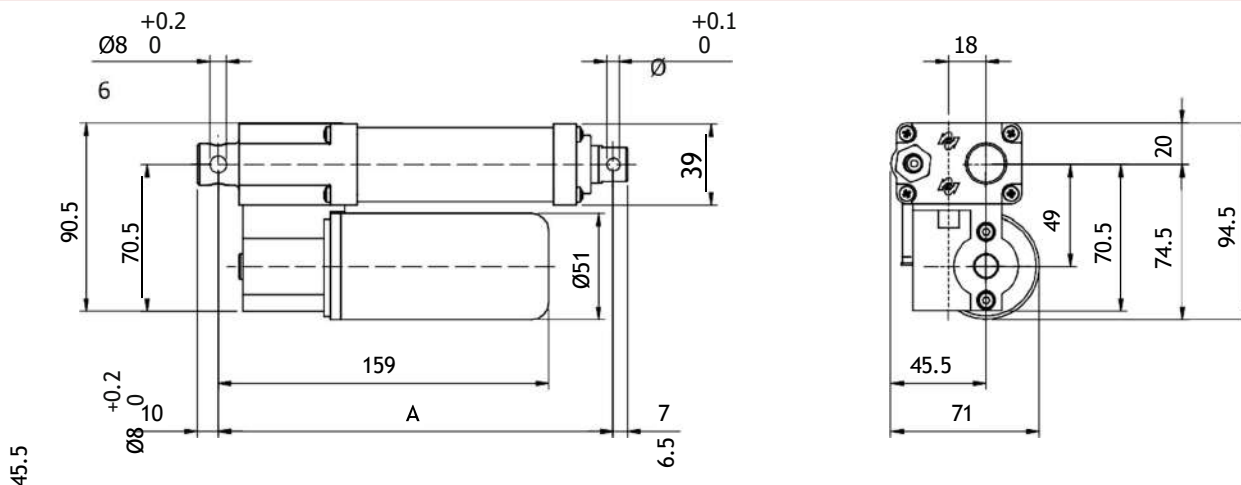
Before operating an actuator make sure you read and understand basic operational instructions shown on user manuals, available from our sales office.

This document displays most typical standard features and setups.

Actuators must not come to a mechanical stroke-end / mechanical lock to avoid failures.
Consider limit switches (Model ALI1-F) or put them on a machine / frame.

t: + (27) 011 468 1881 c: + (27) 074 465 1744
e: 01@BirCraft.co.za w: www.BirCraft.co.za

Address: 320 B Percheron Road, Kyalami, Midrand, 1684
GPS Coordinates: [S 25.98115° / E 028.06869°](https://www.google.com/maps/place/320+B+Percheron+Road,+Kyalami,+Midrand,+1684)



DIMENSION	Stroke < to 240 mm	Stroke > to 240 mm
A	90 + stroke	103 + stroke

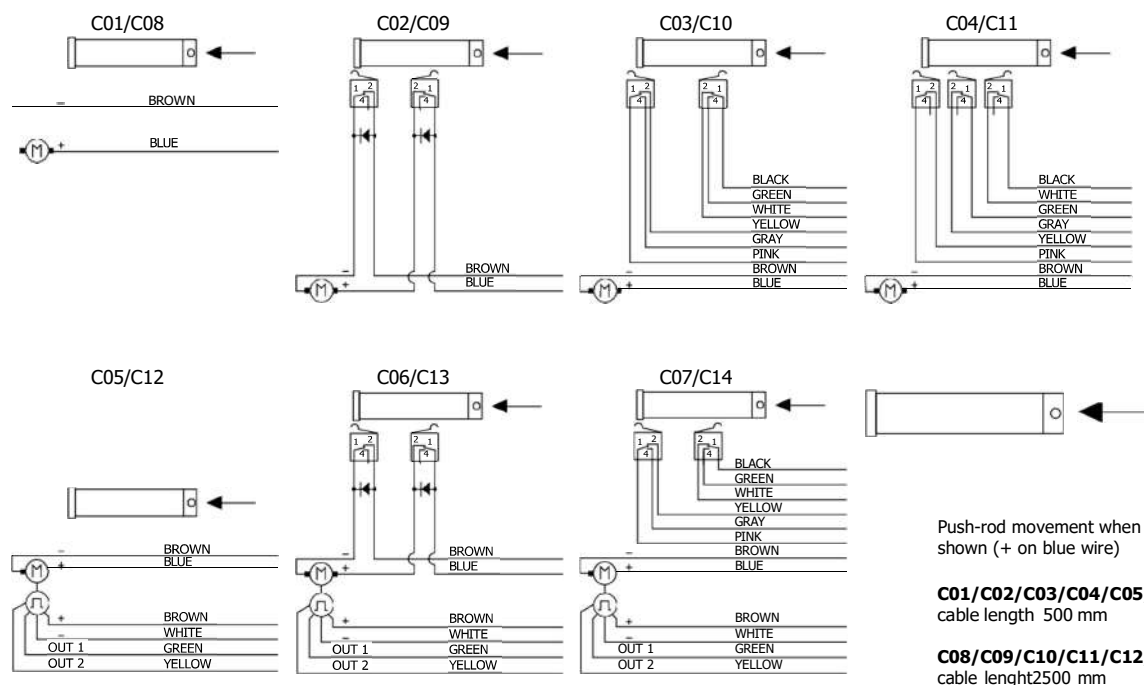
ELECTRICAL WIRINGS

Options available:

- C01/C08 motor
- C02/C09 N° 2 micro switches, diode-wired
- C03/C10 motor + N° 2 micro
- C04/C11 motor + N° 3 micro
- C05/C12 motor + encoder
- C06/C13 N° 2 micro diode wired + encoder
- C07/C14 motor + N° 2 micro + encoder
- C00 special wiring (not standard options)

WARNING:

Micros are actuated by a cam lying on push-rod itself. Micro signal, for speeds higher than 30 mm/s, needs to be handled in its very impulse (I.E. when actuated) and not in its state. Alternatively, we can add a bush to keep the microswitch lever pressed for a longer time avoiding switch signal mistakes, but cause loss of 10 mm of stroke. Connections C02 and C06 make a circuit which stops motor supply, so that the push rod won't overstep the area of the two micros. This system can only work if inertia generated by the actuator and load connected to it does not allow to over-step the micro when stroke is over. So, this just works with low speeds (M01 - M03), with a load opposing the ongoing direction of the push rod. If not, relay or PLC solutions, using C03 and C07 connections, are needed. Wiring diagrams of connections above are the following:



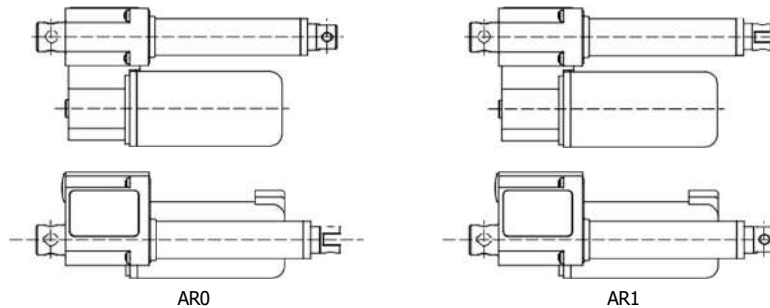
Push-rod movement when power supply is as shown (+ on blue wire)

C01/C02/C03/C04/C05/C06/C07:
cable length 500 mm

C08/C09/C10/C11/C12/C13/C14:
cable length 2500 mm

ANTIROTATION DEVICE

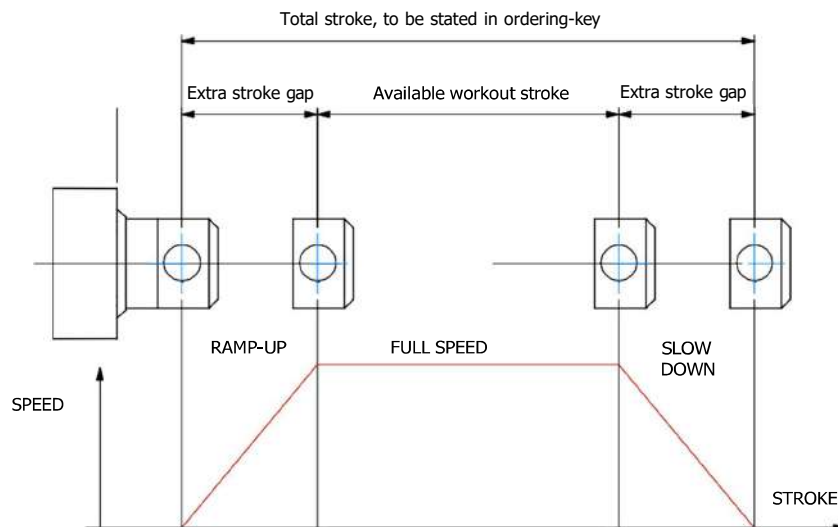
Model ALI1-F can host an anti-rotation device, allowing push rod not to spin when travelling. Front ends A1 and A2 allow for two anti-rotation settings, AR0 and AR1. When using A3, A4, A5 and A7 front ends anti-rotation facility must always be mounted.



STROKE SETUP

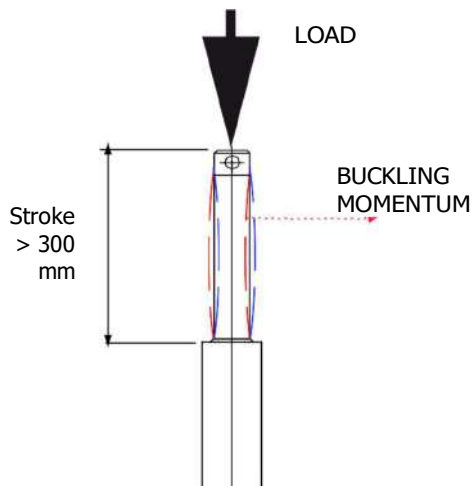
Useful tips for handling stroke length and avoiding run-on-block collision.

- When stroke is more than 350 mm, add 50 mm extra-stroke as guidance, and put corresponding value in ordering-key.
- **WARNING SPEED-TIMING ALONG STROKE LENGTH:** ramps are extremely important when speed is 30 mm/s! Inverter or PWM drive recommended!
- The higher the speed, the more safety stroke is required.



BUCKLING

When stroke is longer than 300mm, BUCKLING can be a risk: please check mounting with our offices and/or see user manuals.



IMPORTANT:

Long strokes, even if the load is low, can generate significant buckling momentum, as sketch shows. This happens when the actuator is in its all-open position. Therefore, we recommend 100mm extra non-usable stroke to act as bushing. Push tube will have this 100 mm-portion always inside the outer tube, improving guidance against buckling. For more information on this, contact our office.

t: + (27) 011 468 1881 c: + (27) 074 465 1744
e: 01@BirCraft.co.za w: www.BirCraft.co.za

Address: 320 B Percheron Road, Kyalami, Midrand, 1684
GPS Coordinates: [S 25.98115° / E 028.06869°](#)

ORDERING KEY EXSAMPLE

ALI1-PF/0250/M03/24/M0/C02/P1/A2/

MODEL

ALI1 (Without Limit switches) ALI1-F (With Limit switches)

STROKE (mm)

es. 250 mm = 0250

VERSION

M03 / M06 / M09 / M11 / M13

M00 = not standard speed

MOTOR

12 = 12 Vdc

24 = 24 Vdc

MOTOR POSITION

M0

M1

MOTOR OPTIONS

C01 / C08

Motor

C02 / C09

2LS Diode wired

C03 / C10

Motor + 2LS

C04 / C11

Motor + 3LS

C05 / C12

Motor + encoder

C06 / C13

2LS diode wired + encoder

C07 / C14

Motor + encoder + 2LS

C00

Special wiring (not standard option)

Note: LS (limit switches)

REAR END

P0 = None

P1/P2 = standard

FRONT END

A2 = Yoke

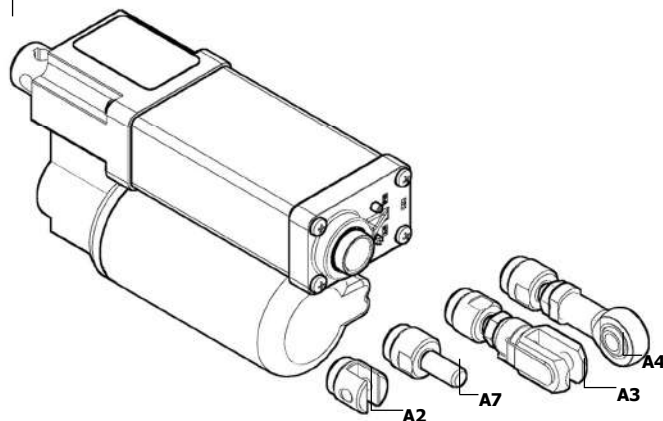
A3 = Yoke + Clip

A4 = Rod end

A7 = M8x20 male

NOTE: Complete the ordering key adding the options you can find in the "accessories and options" section

P1 / P2



Note: "B" dimension changes according to model

ALI1-F = See pictures

ALI1-F stroke > 240 mm = + 13 mm

