

Linear Actuator LA25

User Manual



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Preface

Dear User,

We are delighted that you have chosen a LINAK® product.

LINAK systems are high-tech products based on many years of experience in the manufacture and development of actuators, lifting columns, desk frames, electric control boxes, controls, batteries, accessories and chargers.

This User Manual does not address the end user. It is intended as a source of information for the equipment or system manufacturer only, and it will tell you how to install, use and maintain your LINAK electronics. The manufacturer of the end product has the responsibility to provide a User Manual, where relevant safety information from this manual is passed on to the end user.

We are convinced that your LINAK product/system will give you many years of problem-free operation.

Before our products leave the factory, they undergo both function and quality testing. Should you, nevertheless, experience problems with your product/system, you are always welcome to contact your supplier.

LINAK subsidiaries and some distributors situated all over the world have authorised service centres, which are always ready to help you. Locate your local contact information on the back page.

LINAK provides a warranty on all products. (See warranty section).

This warranty, however, is subject to correct use in accordance with the specifications, maintenance being done correctly, and any repairs being carried out at a service centre, which is authorised to repair LINAK products.

Changes in installation and use of LINAK systems can affect their operation and durability. The products may only be opened by authorised personnel.

This User Manual has been written based on the present technical knowledge. LINAK reserves the right to carry out technical modifications and keeps the associated information updated.

LINAK A/S

Terms of use

LINAK® takes great care in providing accurate and up-to-date information on its products. However, the user is responsible for determining the suitability of LINAK products for a specific application.

Due to continual development, LINAK products are subject to frequent modifications and changes. LINAK reserves the rights to conduct modifications, updates, and changes without any prior notice. For the same reason, LINAK cannot guarantee the correctness and actual status of imprinted information on its products.

LINAK uses its best efforts to fulfil orders. However, for the reasons mentioned above, LINAK cannot guarantee availability of any particular product at any given time. LINAK reserves the right to discontinue the sale of any product displayed on its website or listed in its catalogues or in other written material created and produced by LINAK, LINAK subsidiaries, or LINAK affiliates.

All sales are subject to the 'Standard Terms of Sale and Delivery for LINAK A/S' available on LINAK websites.

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Introduction

Compact designed linear actuator ideal for narrow spaces. Comes with a high IP degree and aluminium housing and is suited to operate in almost any conditions.

With its robust design, high IP degree and aluminium housing, the actuator LA25 is ideal for harsh environments where operation under extreme conditions is required.

Safety instructions

Please read this safety information carefully.

Be aware of the following three symbols throughout the document:



Warning!

Failing to follow these instructions can cause accidents resulting in serious personal injury.



Recommendations

Failing to follow these instructions can result in the actuator suffering damage or being ruined.



Additional information

Usage tips or additional information that is important in connection with the use of the actuator.

Furthermore, ensure that all staff who are to connect, mount, or use the actuator are in possession of the necessary information and that they have access to this document.

Persons who do not have the necessary experience or knowledge of the product/products must not use the product/products. Besides, persons with reduced physical or mental abilities must not use the product/products, unless they are under surveillance or they have been thoroughly instructed in the use of the apparatus by a person who is responsible for the safety of these persons.

Moreover, children must be under surveillance to ensure that they do not play with the product.

Before you start mounting/dismounting, ensure that the following points are observed:

- The actuator is not in operation.
- The actuator is free from loads that could be released during this work.

Before you put the actuator into operation, check the following:

- The actuator is correctly mounted as indicated in the relevant user instructions.
- The equipment can be freely moved over the actuator's whole working area.
- The actuator is connected to a mains electricity supply/transformer with the correct voltage and which is dimensioned and adapted to the actuator in question.
- Ensure that the voltage applied matches to the voltage specified on the actuator label.
- Ensure that the connection bolts can withstand the wear.
- Ensure that the connection bolts are secured safely.

During operation, please be aware of the following:

- Listen for unusual sounds and watch out for uneven running. Stop the actuator immediately if anything unusual is observed.
- Do not sideload the actuator.
- Only use the actuator within the specified working limits.
- Do not step on or kick the actuator.

When the equipment is not in use:

- Switch off the mains supply in order to prevent unintentional operation.
- Check regularly for extraordinary wear.

Classification

The equipment is not suitable for use in the presence of a flammable anaesthetic mixture with air or with oxygen or nitrous oxide.

**Warnings**

- Do not sideload the actuator.
- When mounting the actuator in the application ensure that the bolts can withstand the wear and that they are secured safely.
- If irregularities are observed, the actuator must be replaced.

**Recommendations**

- Do not place load on the actuator housing.
- Prevent impact or blows, or any other form of stress to the housing.
- Ensure that the cable cover is mounted correctly. Use 3.5 Nm torque.
- Ensure that the duty cycle and the usage temperatures for LA25 actuators are respected.
- Ensure that the cable cannot be squeezed, pulled or subjected to any other stress.
- Furthermore, it will be good practice to ensure that the actuator is fully retracted in the "normal" position. The reason is that there will be a vacuum inside the actuator if it is extended which over time can lead to water entering the actuator.

Features

- Protection class: IP66 for outdoor use (dynamic). Furthermore, the actuator can be washed down by a high pressure cleaner (IP69K - static)
- Heavy-duty aluminium housing for harsh conditions
- Mechanical endstop
- Guided nut
- Static safety factor: 2.0
- Noise level: Max. 58.5 dB(A) at nominal voltage and with no load, according to EN ISO 3743-1

Options in general

- 12 / 24 V DC Brushed motor
- Load from 600 N - 2,500 N
- Max. speed 2.5 to 25 mm/sec. depending on load and spindle pitch
- Stroke length from 20 mm to 600 mm (Zero Point: 100 to 600 mm)
- Steel or stainless steel back fixture and piston rod eye
- Colour: Dark olivish grey or black
- Safety nut in push or pull (2,500 N version: only safety nut in push; 600 N version: no safety nut)
- Exchangeable cables in different lengths
- Analogue or digital feedback for precise positioning
- Endstop reached signals
- Built-in Zero Point or endstop switch initialisation principle
- Hall effect sensor for precise positioning
- Special anodised housing for extreme environments
- CCC Ex, IECEx/ATEX certified for Zone 21
- IC options (see specific interface user manuals at the [TECHLINE webpage](#) for Connection Diagrams and I/O Specifications) including:
 - I/O
 - IO-Link
 - LIN bus
 - CAN bus J1939
 - CANopen
 - Modbus RTU
 - Modbus TCP/IP
 - Ethernet/IP
 - Profinet
- PC configuration tool (Actuator Connect™ and BusLink)

Usage

- Duty cycle is max. 20% (4 min. drive and 16 min. rest)
The duty cycles and full performance are valid for operation within an ambient temperature of +5°C to +40°C
- Ambient operating temperature: -40°C to +85°C (for IECEx/ATEX: T135 -25°C to +65°C; T125 -25°C to +55°C)
- Storage temperature: -55°C to +105°C



For more information about interfaces, please see the respective user manual on LINAK.com.

Housing for harsh environments

This housing (ordering example value IP: 9) should be recommended for use in particularly harsh environments such as stables, where the actuator is in touch with extremely corrosive liquids and/or vapours such as ammoniac.

The anodised housing option embodies a special surface treatment of the aluminium housing in order to reduce corrosion of the housing and avoid any vapours or liquids entering the actuator.

The anodised housing is also certified IP66/IP69K. This is only available in the colour black.

Reinforced actuator



This type of actuator (ordering example value IP: C and D) is robust against vibrations and high ambient temperatures up to 85°C.

When ordering this type of actuator, you receive:

- Manually added glue on the screws for the outer tube and motor
- A motor wire manually secured with glue
- A back fixture secured with an M27 nut

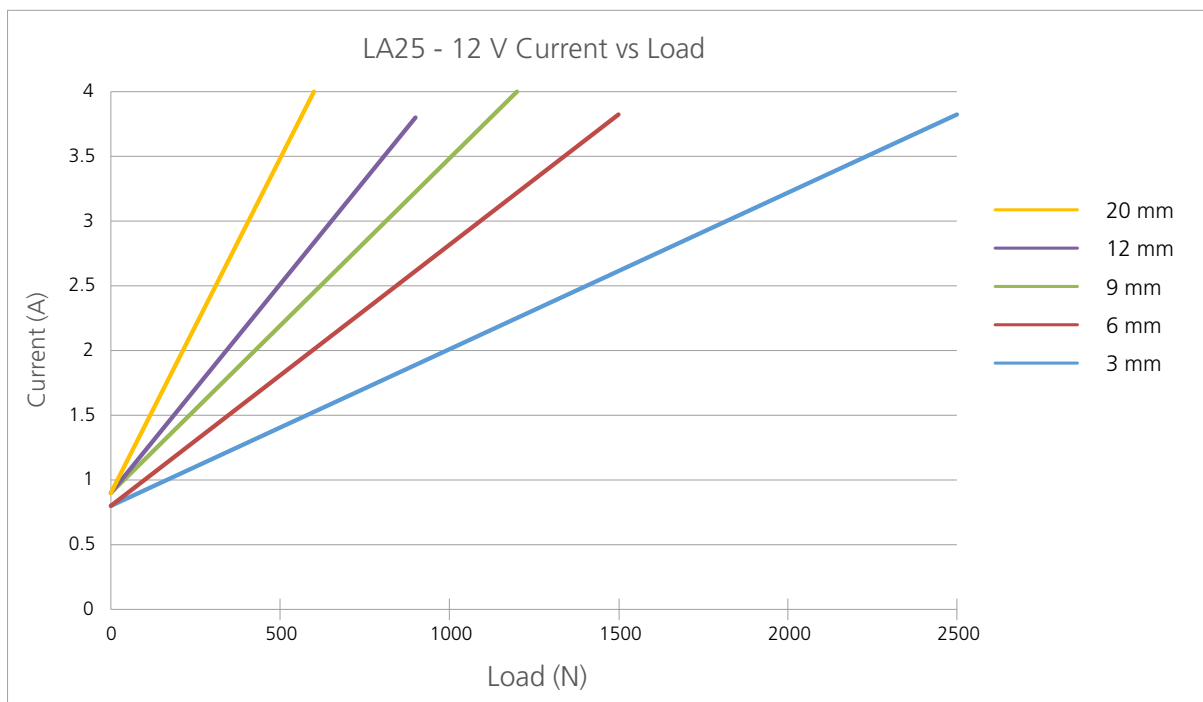
The reinforced design enables the actuator to pass the TECHLINE® vibration test at an ambient temperature of 85°C*.

A standard actuator passes the TECHLINE vibration test at an ambient temperature of 25°C.

* See more info under 'Environmental tests - Mechanical'.

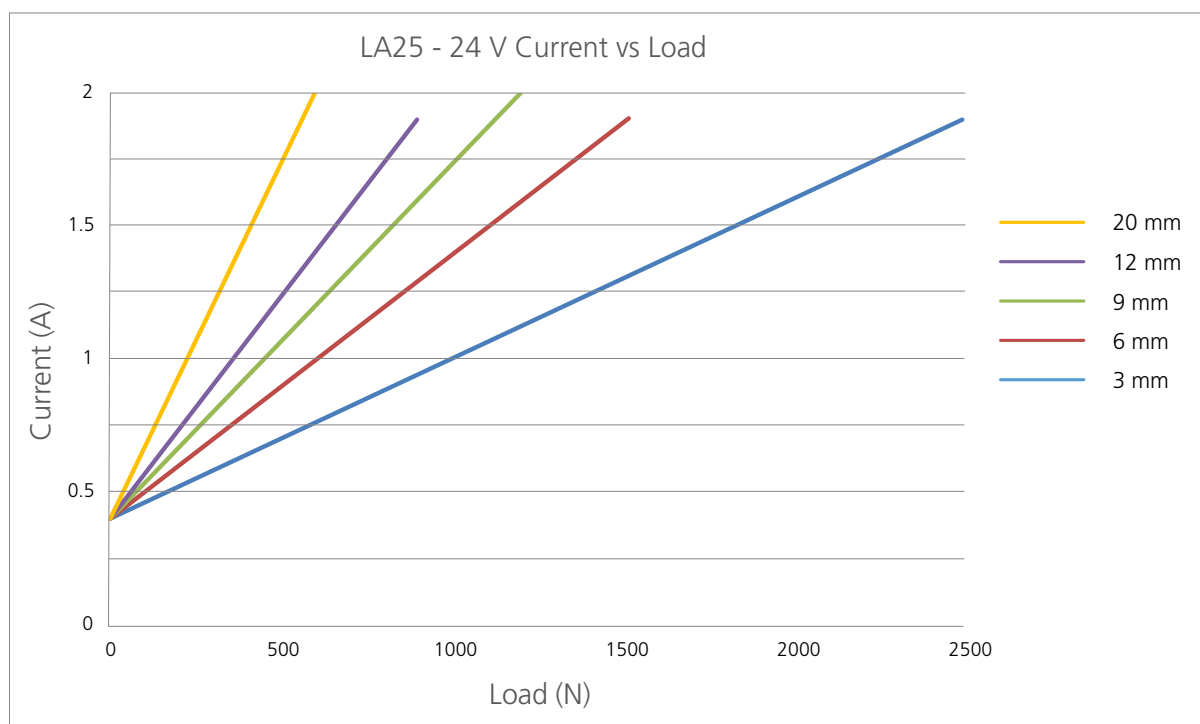
Speed and current curves

The charts below display typical values made with a nominal power supply and an ambient temperature of 20°C.



Speed and Current Curves

The charts below display typical values made with a nominal power supply and an ambient temperature of 20° C.



Current limits

If the actuator's current consumption rises above the set limit, the actuator regulates and tries to keep it below the set current limit by reducing the PWM and therefore also the speed accordingly. The actuator does this continuously, until the actuator stops moving (mechanically blocked). If there are no changes to the Hall feedback signal during the set time frame, the integrated controller will cut power to the H-bridge motor circuit.

If the actuator is stopped due to the above-mentioned criteria, it automatically drives slightly in the opposite direction to reduce the torque in a blocking situation.

For more detailed information, please see the I/O interface manual.

Platform		12 V	24 V	Reference temperature: 0°C
A B C E F G	IO-Link (8-pin) I/O Basic I/O Customised Ethernet/IP with split supply I/O Full CAN bus J1939 with split supply	8 A	5 A	Above
H P Q S T	CANopen with split supply Profinet with split supply Modbus RTU IO-Link (12-pin) Modbus TCP/IP with split supply	9 A	6 A	Below

Current cut-offs

The principle behind the current cut-off measurement is an 'above limit' and a 'below limit' accumulating counter. When the time-out counter reaches a specific value the current cut-off goes into effect. The time-out value is pre-set at 500 ms.

Platform		12 V	24 V	Reference temperature: 0°C
6 7	LIN bus CAN bus J1939	8 A	5 A	Above
9	CANopen	8 A	8 A	Below

Mounting guidelines

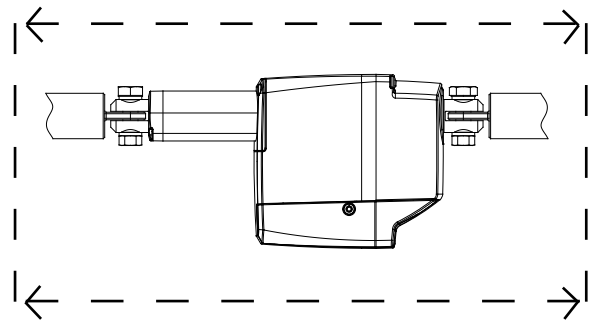
LINAK® linear actuators are quickly and easily mounted by slipping pins through the holes on each end of the units and into brackets on the machine frame and the load.

The mounting pins must be parallel to each other as shown in Figure 1. Pins, which are not parallel to each other, may cause the actuator to bend and be damaged.

The load should act along the stroke axis of the actuator as off-centre loads may cause bending and lead to premature failure. See Figure 2.

Make sure the mounting pins are supported in both ends. Failure to do so could shorten the life of the actuator. Also, avoid applying a skew load on the actuator.

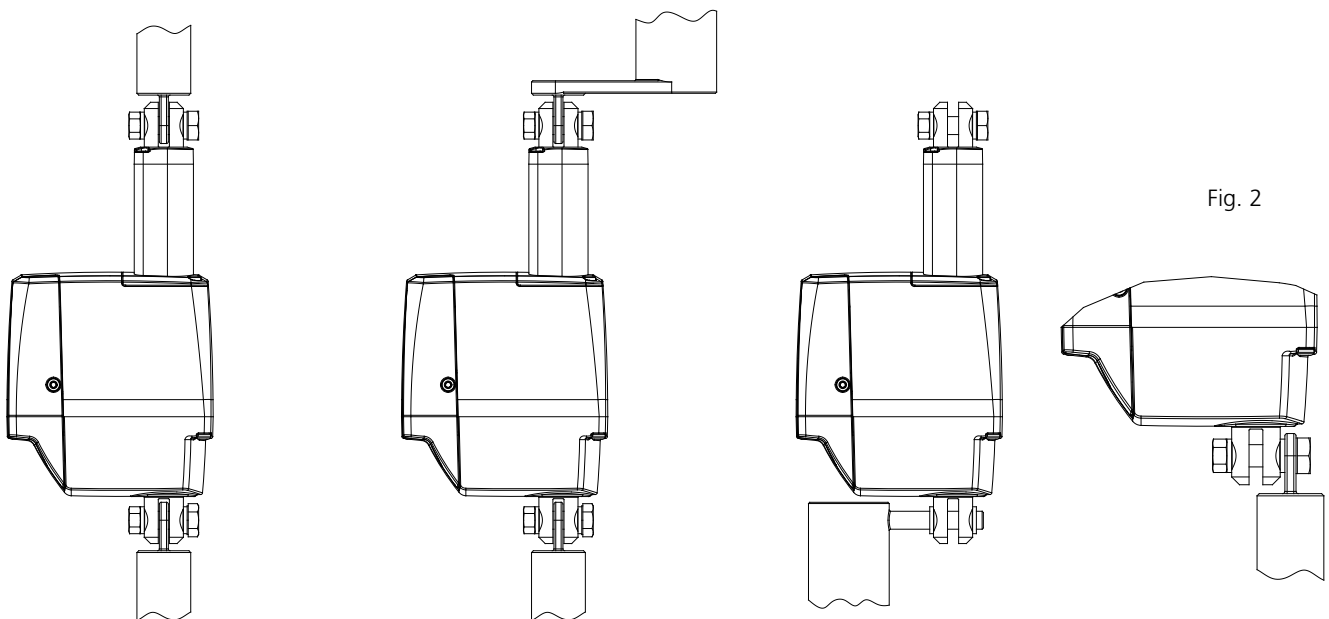
Fig. 1



The actuator can rotate around the pivot point in the front and rear end. If this is the case, it is of high importance that the actuator is able to move freely over the full stroke length, both during the development and daily operation. Please pay special attention to the area around the housing where parts can be trapped and cause damage to the application and actuator.

In applications with high dynamic forces, LINAK recommends not to use the fully extended or retracted position over longer time, as this can damage the endstop system permanently.

Fig. 2



Right

Wrong

Wrong

Wrong

Mounting Guidelines



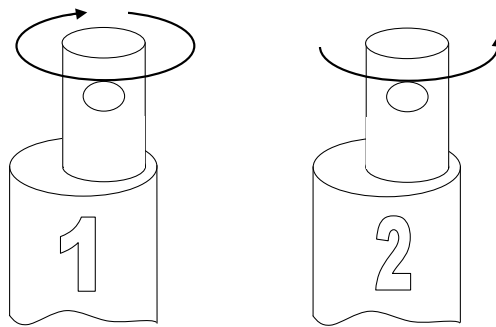
- The mounting pins must have the correct dimension
- The bolts and nuts must be made of a high quality steel grade (min. 8.8). No thread on the bolt inside the back fixture or the piston rod eye.
- Bolts and nuts must be secured so there is no risk for them to fall out.
- Do not use a torque that is too high when mounting the bolts for the back fixture or the piston rod eye. This will stress the fixtures.

Please note: The piston rod eye is only allowed to turn 0-90 degrees.



Instruction concerning the turning of the piston rod eye and inner tube:

- When mounting and taking into use, it is not permitted to make excessive turns of the piston rod eye. In cases where the eye is not positioned correctly, it is permitted to:
 1. Screw the eye down to its bottom position at a max. torque of 2 Nm clockwise (1)
 2. And thereafter a max. 180° turn out again (2).
- As the piston rod eye can turn freely, it is important to ensure that the eye cannot rotate if the actuator is used in a pull application. If this happens, the actuator will be pulled apart.

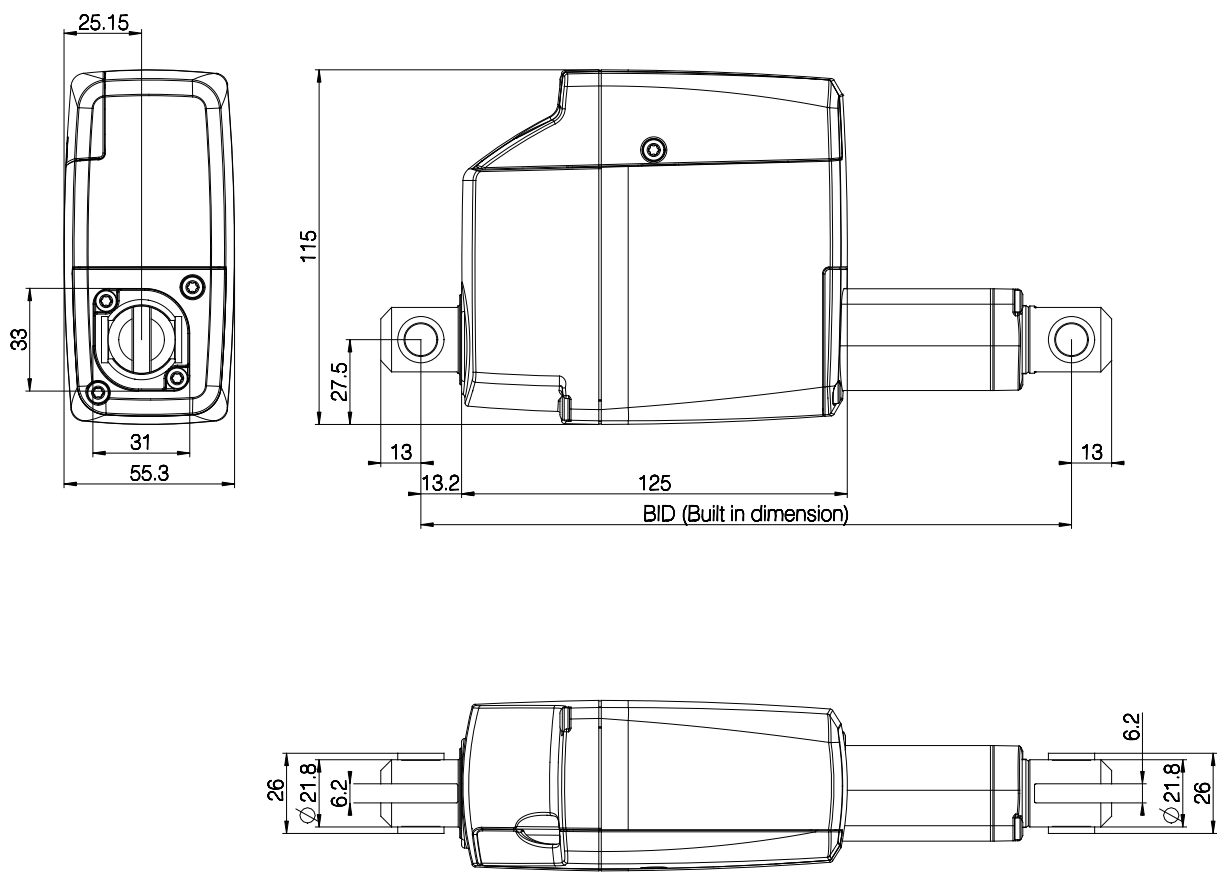


Warning!

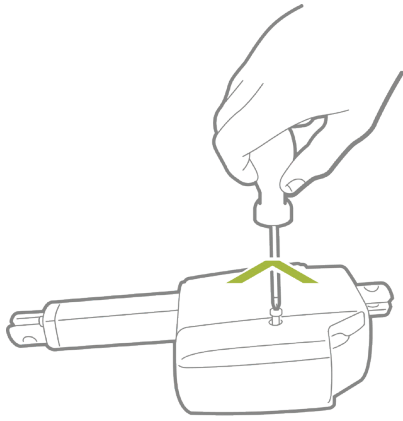
If the actuator is used in an application where personal injury can occur, it is the application manufacturer's responsibility to incorporate a suitable safety arrangement, which will prevent personal injury from occurring, if the actuator should fail.

Dimensions

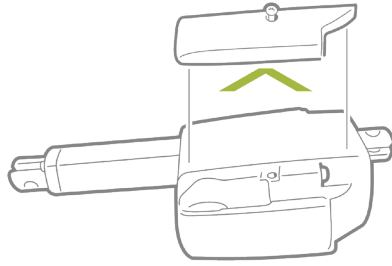
All dimensions are in mm



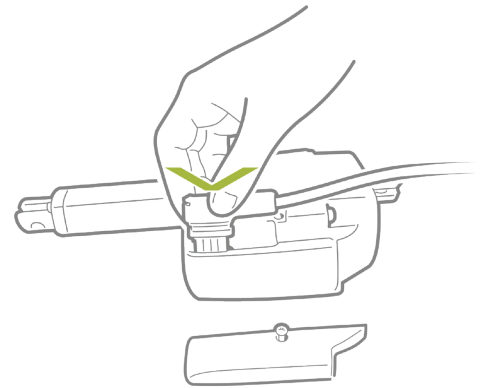
Cable mounting



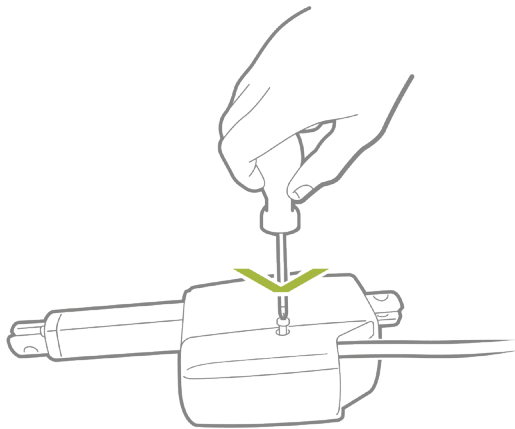
1. Unscrew the cover



2. Remove the cover and blind plug



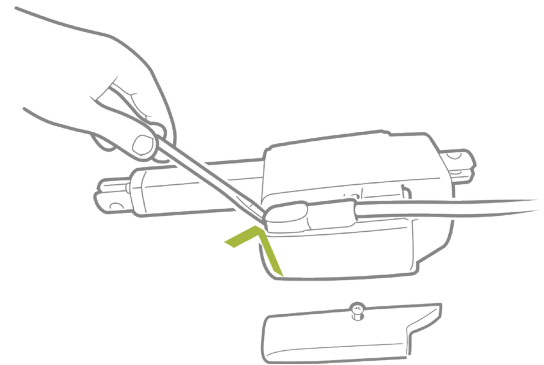
3. Plug in the cable gently without using any tools



4. Screw the cover back onto the actuator

The torque of the cover screw is approx. 1.5 Nm

Removing cables



5. Use a screwdriver to pull up the cable



When changing the cables on a LINAK® actuator, it is important that this is done carefully, in order to protect the plugs and pins. Before the new cable is mounted, we recommend that the socket is greased with Vaseline®, to keep the high IP protection and ensure an easy mounting. Please be sure that the plug is in the right location and fully pressed in before the cable lid is mounted.

Please note that if the cables are mounted and dismantled more than 3 times the plugs can be damaged. Therefore, we recommend that such cables are discarded and replaced.

Also note that the cables should not be used for carrying the actuator.

We recommend to take some precaution and design the wire connection in a way, where the cable end is kept inside a closed, protected area to guarantee the high IP protection.



NOT valid for ATEX cables, please refer to the ATEX section for correct cable mounting on ATEX actuators.

Electrical installation



- To ensure maximum self-locking ability, please be sure that the motor is shorted when stopped. Actuators with integrated controller provide this feature, as long as the actuator is powered.
- When using soft stop on a DC-motor, a short peak of higher voltage will be sent back towards the power supply. It is important when selecting the power supply that it does not turn off the output, when this backwards load dump occurs.
- When using actuators without integrated controller, it is strongly recommended to use a fuse between power supply and actuator.



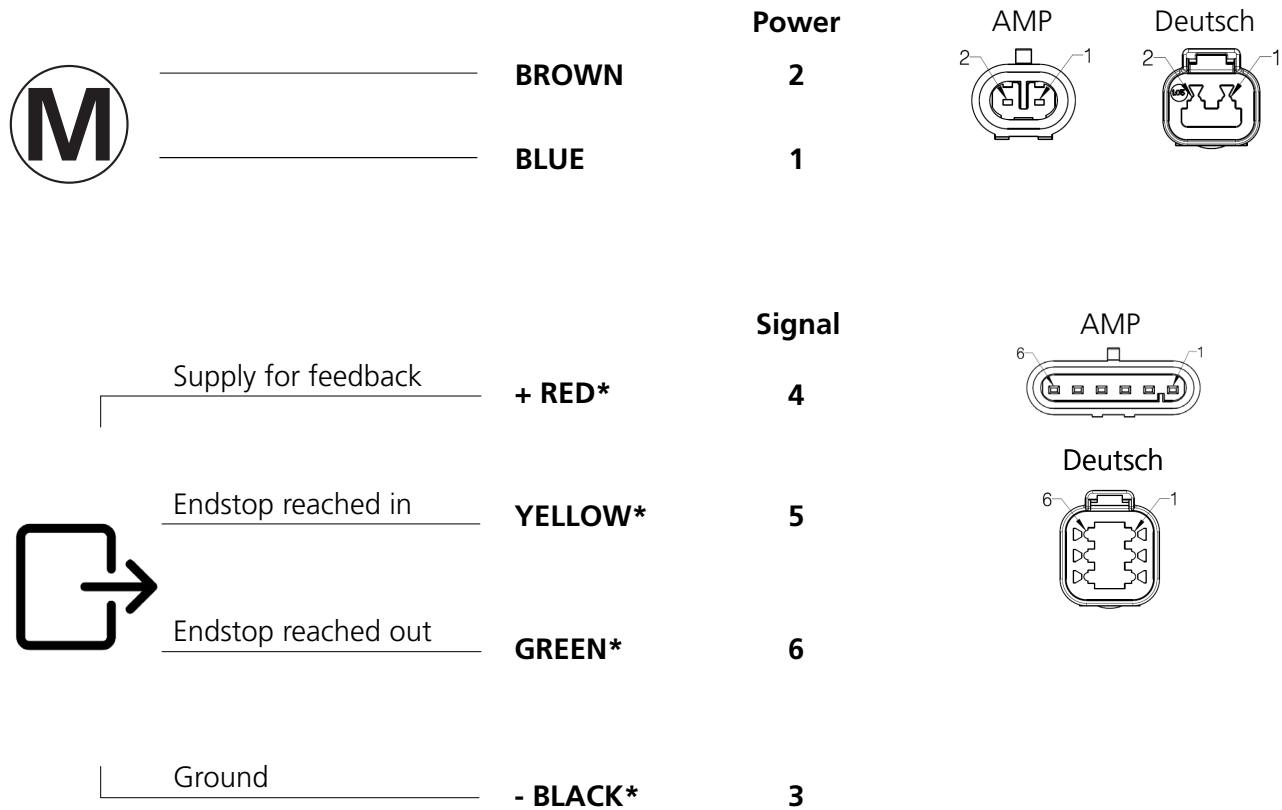
The power supply for actuators without integrated controller must be monitored externally and cut off in case of current overload.


Recommended fuse for power supplies and actuators without integrated controller

Platform		Spindle pitch (mm)	Load max. Push/Pull (N)	Typical amp. at full load (A)		Recommended fuse	
				24 V	12 V	24 V	12 V
0	None with built-in limit switches	3	2,500	1.9	3.8	3 A	6 A
		6	1,500	1.9	3.8	3 A	6 A
		9	1,200	2.0	4.0	3 A	6 A
		12	900	1.9	3.8	3 A	6 A
		20	600	2.0	4.0	3 A	6 A

Standard


Feedback: 00 (Ordering example value for place 11 and 12)
Platform: 0 (Ordering example value for place 13)
Endstop reached output: 0 or 1 (Ordering example value for place 23)



 If you wish to use the endstop signals, you will have to keep power on the Brown, Blue, Red and Black wires at all times, and minimum one second before it starts to run, otherwise the signal will be lost.

*Available only if Endstop Reached is chosen - Ordering example value for place '23' will then be: '1'

Standard

Input/Output	Specification	Comments
Description	The actuator can be equipped with electronically controlled Endstop reached out.	
Brown	12 V ± 20% 24 V ± 10%	To extend actuator: Connect Brown to positive Connect Blue to negative
Blue		To retract actuator: Connect Brown to negative Connect Blue to positive
Red	Signal power supply (+) 12 - 24 V DC*	Active and standby current consumption: Max. 40 mA (without endstop activated) There will be accrued a higher inrush current.
Black	Signal power supply GND (-)*	
Yellow	Endstop reached in*	Output voltage max.: $V_{IN} - 2\text{ V}$ Current draw max.: 100 mA
Green	Endstop reached out*	
Violet	Not to be connected	
White	Not to be connected	


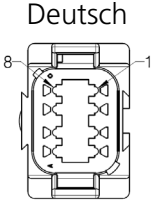

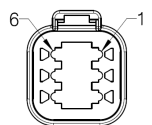




If you wish to use the endstop signals, you will have to keep power on the Brown, Blue, Red and Black wires at all times, and minimum one second before it starts to run, otherwise the signal will be lost.


*Available only if Endstop Reached is chosen - Ordering example value for place '23' will then be: '1'

Standard with Single Hall

Feedback: 0K (Ordering example value for place 11 and 12)
Platform: 0 (Ordering example value for place 13)
Endstop reached output: 0 or 1 (Ordering example value for place 23)




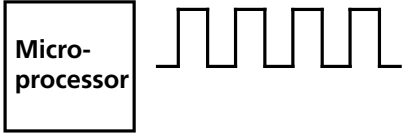
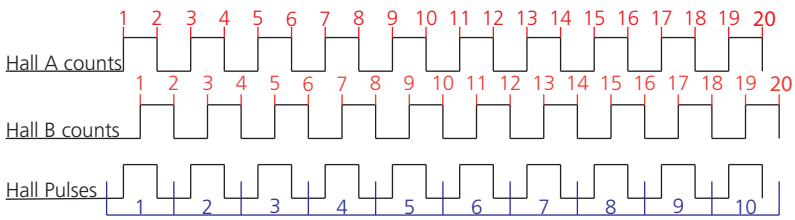
		BROWN	Power	2	
		BLUE		1	
	Supply for feedback	+ RED	Signal	4	
	Digital output	VIOLET		6	
	Endstop reached in	YELLOW*		7	
	Endstop reached out	GREEN*		8	
	Ground	- BLACK		3	

 A Hall pulse consists of two Hall counts.
A Hall count occurs every time the signal changes direction, either upwards or downwards.

 If you wish to use the endstop signals, you will have to keep power on the Brown, Blue, Red and Black wires at all times, and minimum one second before it starts to run, otherwise the signal will be lost.

*Available only if Endstop Reached is chosen - Ordering example value for place '23 will then be: '1'

Standard with Single Hall

Input/Output	Specification	Comments
Description	The actuator can be equipped with Single Hall that gives a relative positioning feedback signal when the actuator moves.	
Brown	12 V \pm 20% 24 V \pm 10%	To extend actuator: Connect Brown to positive Connect Blue to negative
Blue		To retract actuator: Connect Brown to negative Connect Blue to positive
Red	Signal power supply (+) 12 - 24 V DC	Active and standby current consumption: Max. 40 mA (without endstop activated) There will be accrued a higher inrush current.
Black	Signal power supply GND (-)	
Yellow	Endstop reached in*	Output voltage min.: $V_{IN} - 2\text{ V}$ Current draw max.: 100 mA
Green	Endstop reached out*	
Violet	Single Hall output (PNP) The frequency is 20-30 Hz Average ON/OFF time: 41.6 ms. Variation in power supply and load causes a variation in frequency and pulse length. For more info, see Technical specifications	Output voltage min.: $V_{IN} - 2\text{ V}$ Max. current output: 12 mA Max. 680 nF Low frequency with a high load. Higher frequency with no load.
	Input: Hall A  Hall B 	Single Hall output: 
White	Not to be connected	
 <p>A Hall count occurs every time the signal changes state (high to low or vice versa). Two Hall counts (positive and negative) create a Hall pulse.</p>		

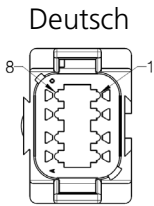
*Available only if Endstop Reached is chosen - Ordering example value for place '23' will then be: '1'

Standard with Analogue feedback - Absolute positioning

Feedback: 0A (Ordering example value for place 11 and 12)
Platform: 0 (Ordering example value for place 13)
Endstop reached output: 0 or 1 (Ordering example value for place 23)



	BROWN	Power
		2
	BLUE	
		1



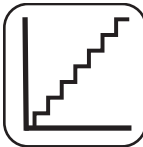
	Supply for feedback	+ RED	Signal
			4
	Analogue output	VIOLET	6
	Endstop reached in	YELLOW*	7
	Endstop reached out	GREEN*	8
	Ground	- BLACK	3



If you wish to use the endstop signals, you will have to keep power on the Brown, Blue, Red and Black wires at all times, and minimum one second before it starts to run, otherwise the signal will be lost.

*Available only if Endstop Reached is chosen - Ordering example value for place '23' will then be: '1'

Standard with Analogue feedback - Absolute positioning

Input/Output	Specification	Comments
Description	The actuator can be equipped with an electronic circuit that gives an analogue feedback signal when the actuator moves.	
Brown	12 V \pm 20% 24 V \pm 10%	To extend actuator: Connect Brown to positive Connect Blue to negative
Blue		To retract actuator: Connect Brown to negative Connect Blue to positive
Red	Signal power supply (+) 12 - 24 V DC	Active and standby current consumption: Max. 60 mA (without endstop activated)
Black	Signal power supply GND (-)	There will be accrued a higher inrush current.
Yellow	Endstop reached in*	Output voltage min.: $V_{IN} - 2\text{ V}$ Current draw max.: 100 mA NOT potential free
Green	Endstop reached out*	
Violet	Analogue feedback: 0-10 V 0.5-4.5 V Special	Tolerances: $\pm 0.2\text{ V}$ Max. current output: 1 mA Ripple max.: 200 mV Transaction delay max.: 20 ms Linear feedback: max. 0.5% deviation Current draw max.: 1 mA
	4-20 mA Special	Tolerances: $\pm 0.2\text{ mA}$ Transaction delay: 20 ms Linear feedback: max. 0.5% deviation Output: Source Serial resistance: 12 V: max. 300 ohm 24 V: max. 900 ohm
White	Not to be connected	


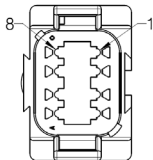
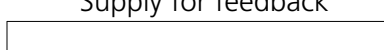
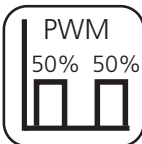




For actuators with analogue feedback it is recommended to fully extend and retract the actuator on a regular basis (thereby activating the limit switches) in order to ensure precise positioning.

*Available only if Endstop Reached is chosen - Ordering example value for place '23' will then be: '1'

Standard with PWM - Absolute positioning

Feedback: 0F (Ordering example value for place 11 and 12)
Platform: 0 (Ordering example value for place 13)
Endstop reached output: 0 or 1 (Ordering example value for place 23)

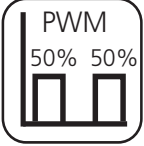
		BROWN	Power	2	
		BLUE		1	
			Signal		
		+ RED	4		
	Digital feedback	VIOLET	6		
	Endstop reached in	YELLOW*	7		
	Endstop reached out	GREEN*	8		
		- BLACK	3		



If you wish to use the endstop signals, you will have to keep power on the Brown, Blue, Red and Black wires at all times, and minimum one second before it starts to run, otherwise the signal will be lost.

*Available only if Endstop Reached is chosen - Ordering example value for place '23' will then be: '1'

Standard with PWM - Absolute positioning

Input/Output	Specification	Comments
Description	The actuator can be equipped with an electronic circuit that gives an analogue feedback signal when the actuator moves.	
Brown	12 V \pm 20% 24 V \pm 10%	To extend actuator: Connect Brown to positive Connect Blue to negative
Blue		To retract actuator: Connect Brown to negative Connect Blue to positive
Red	Signal power supply (+) 12 - 24 V DC	Active and standby current consumption: Max. 40 mA (without endstop activated) There will be accrued a higher inrush current.
Black	Signal power supply GND (-)	
Yellow	Endstop reached in*	Output voltage max.: V_{IN} (Red wire) - 2 V Current draw max.: 100 mA NOT potential free
Green	Endstop reached out*	
Violet	Digital output feedback (PWM) 10-90% 20-80% Special	Output voltage min.: V_{IN} (Red wire) - 2 V Tolerances: \pm 2% Max. current output: 12 mA
White	Not to be connected	



For actuators with analogue feedback it is recommended to fully extract and retract the actuator on a regular basis (thereby activating the limit switches) in order to ensure precise positioning.

*Available only if Endstop Reached is chosen - Ordering example value for place '23' will then be: '1'

Test of Conducted and Radiated Emission (EMC)

All TECHLINE® actuators have been tested in accordance with EN55011 class B (2007) (CISPR 11). A 1 m cable has been used in the test set-up.

Actuator without H-Bridge

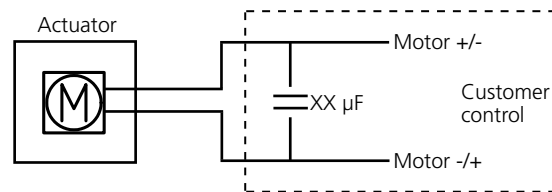
1) For normal operation the following is valid:

- Radiated emission requirements are met.
- Conducted emission requirements are met. However, to meet with these requirements, a capacitor has been mounted across the motor wires outside the actuator, and tests have then been made with this capacitor. Capacitor values for some of the TECHLINE actuators can be found in the scheme below

To comply with EN55011 class B (2007) a capacitor must be added across the motor wires, or the connected control box must have similar/better filtering. The actuator is not delivered with a built in capacitor, because then it would not be possible to PWM the motor.

Please view the scheme below for the correct choice of capacitor for the actuator in question:

Product	Capacitor value
LA25	1 μ F



2) For systems/operations that use PWM-control it is up to the customer to test and meet the requirements.

Actuator with H-Bridge

1) For normal operation with soft start/stop the following is valid:

- The actuator has been tested when operating with constant 80%-PWM.
- Radiated emission requirements are met.
- Conducted emission requirements are met.

2) For systems with LINAK® PWM regulation (among other things Parallel operation and speed regulation) the following is valid:


- Radiated emission requirements are met.
- Conducted emission requirements are met.

3) Speed regulation:

- If the speed is regulated below a nominal speed of 80% (80% PWM), it is necessary to mount a filter in order to comply with the conducted emission requirements. For systems/operations that are speed regulated, it is up to the customer to test and meet the requirements

IECEX/ATEX/CCC Ex certified (optional)

LA25 can be ordered as an Ex certified version designed for installation in dust-filled atmospheres such as grain handling facilities, cement plants, saw mills or other dusty surroundings.

 Please note: This approval is only valid for dusty environments, NOT for gas.

The IECEX/ATEX versions are suitable for applications in Group IIIC, Category 2D. Zone 21 and 22. Certified according to EN60079-0:2018 and EN60079-31:2014.

The CCC Ex version is designed to be used in group IIIC tb T135°C Db and certified according to CNCA-C23-01:2024, in accordance to the GB/T 3836.1-2021 and GB/T 3836.31-2021 standards.



LINAK®
Designed in Denmark
DK - 6430 Nordborg

Type : 25XXXXXXXXXXT=XXXXXXXXXXXX
Item No. : JXXXXX / 25XXX-XX
Prod. Date : 2024.02.01
Max Load : Push xxxx N / Pull xxxx N IP66
Power Rate: xx V~, Max. xx A
Duty Cycle : 20% Max. 4 min/16 min

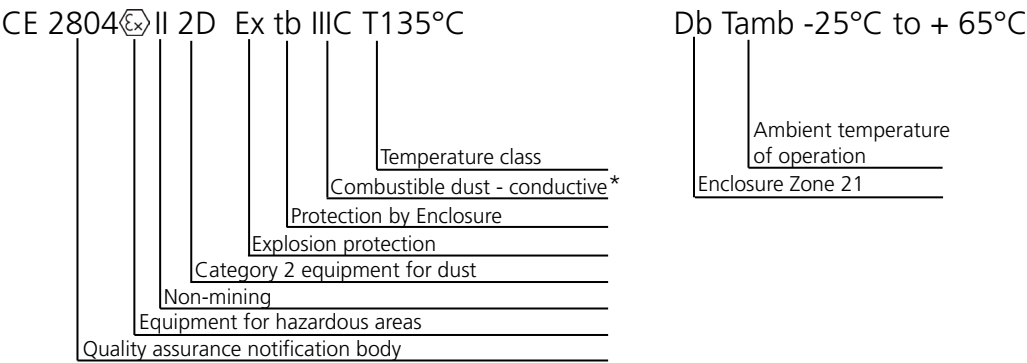

NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL
NE PAS OUVRIR PAR DU PERSONNEL NON AUTORISE




W/O #-0001 Made in Denmark
CE 2804  II 2D

Ex tb IIIC T135°C Db
Tamb -25°C to +65°C
Certificate no.: TÜV 15 ATEX 143744 X
IECEX TUN 14.0020X


WARNING !
DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT.
DO NOT SEPARATE WHEN ENERGISED.
DO NOT OPEN WHEN ENERGISED.
POTENTIAL ELECTROSTATIC CHARGING HAZARD :
SEE INSTRUCTIONS !



* Not a source of ignition in normal operation or when subjected to faults that may be expected, though not on a regular basis.

Label for LA25 IECE/ATEX/CCC Ex special item

LA25 can be ordered as an Ex certified version designed for installation in dust-filled atmospheres such as grain handling facilities, cement plants, saw mills or other dusty surroundings, but in lower ambient temperatures as with the standard Ex approval.

 Please note: This approval is only valid for dusty environments, NOT for gas.

The IECEx/ATEX versions are suitable for applications in Group IIIC, Category 2D. Zone 21 and 22. Certified according to EN60079-0:2018 and EN60079-31:2014.

The CCC Ex version is designed to be used in group IIIC tb T135°C Db and certified according to CNCA-C23-01:2024, in accordance to the GB/T 3836.1-2021 and GB/T 3836.31-2021 standards.




Designed in Denmark
DK - 6430 Nordborg

Type : 25XXXXXXXXXXXXXT=XXXXXXXXXXXXX
Item No. : 25XXXX-XX.
Prod. Date : 2024.02.29
Max Load : Push xxxx N / Pull xxxx N IP66
Power Rate: xx V~, Max. xx A
Duty Cycle : 20% Max. 4 min/16 min

NOT TO BE OPENED BY UNAUTHORIZED PERSONNEL
NE PAS OUVRIR PAR DU PERSONNEL NON AUTORISE



W/O #-0001 Made in Denmark

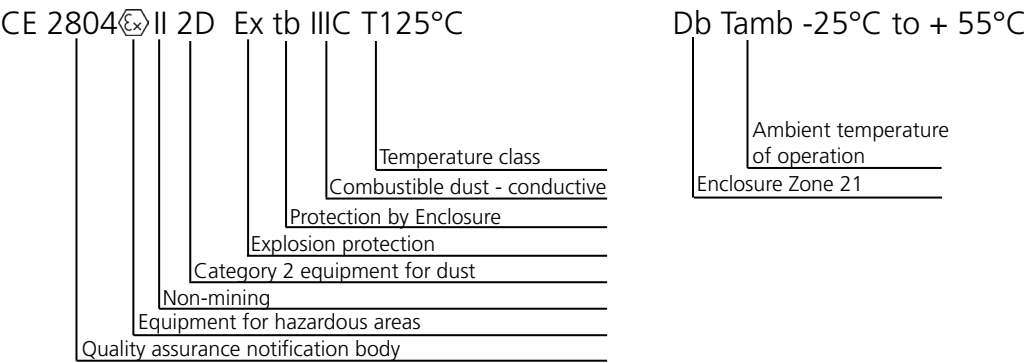
CE 2804  II 2D
Ex tb IIIC T125°C Db
Tamb -25°C to +55°C
Certificate no.: TÜV 15 ATEX 143744 X
IECEx TUN 14.0020X

WARNING !
DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT.

DO NOT SEPARATE WHEN ENERGISED.

DO NOT OPEN WHEN ENERGISED.

POTENTIAL ELECTROSTATIC CHARGING HAZARD : SEE INSTRUCTIONS !



IECEX/ATEX/CCC Ex certified (optional)

The IECEX/ATEX/CCC Ex versions are suitable for applications in Group IIIC, Category 2D. E.g. Zone 21 and 22 with the following markings:

IECEX: EX tb IIIC T135°C dB

IECEX: EX tb IIIC T125°C dB

ATEX: II 2D Ex tb IIIC T135°C dB

ATEX: II 2D Ex tb IIIC T125°C dB

CCC Ex: Ex tb T135°C dB



Special conditions for use as stated in the certificates:

1. The max duty cycle is specified at an ambient temperature of +25°C.
The duty cycle is max. 20% (2 min continuous drive followed by 8 min rest).
2. Ambient temperature area are specified to -25 °C +65 °C. (Max. +55°C for T125°C)
3. The power supply cable is of special design fulfilling IP 6X ingress protection. The cable can be delivered in different lengths. Only cables delivered by LINAK A/S shall be mounted.
4. The connection between the actuator and the rest of the machine/device shall be conductive, and furthermore the application shall be grounded in order to remove any Electro Static Discharge. This counts for both of the actuator's fixation points (Back Fixture and Piston Rod Eye).
5. The cable is not UV-resistant and shall be protected from direct sunlight.
6. The supply has to be protected by a fuse according to the electrical data.
7. The Linear Actuator has to be installed in such a way, that highly effective potential electrostatic charges are prevented. The cleaning of the Linear Actuator shall be done only with a damp cloth.

Warning

If the following is not complied with, the IECEX/ATEX/CCC Ex certification will not be valid:

- Actuator use must be in compliance with specification.
- If the actuator has no built-in current cut-off, one must be mounted (Please see the Max current on the type-plate placed on the actuator)
- Only IECEX/ATEX/CCC Ex approved cables are to be used:

LA25 IECEX/ATEX/CCC Ex cable	Length (mm) outside actuator
0147006-850	850 mm
0147006-1600	1,540 mm
0147006-5100	5,040 mm

- The power supply/signal cables for the actuator must be terminated in a safe location or alternatively by use of an Ex terminal box certified for special conditions for safe use.
- When mounting or if changing cables in IECEX/ATEX/CCC Ex approved applications, the standard EN IEC 60079-19 must be respected to maintain the certification. It is crucial that a proper tightness is obtained after installing/replacing the cables, therefore the installation guideline below must be strictly followed.
- The actuator is not to be opened in areas with dust, and unauthorized personnel is never to produce, modify or repair actuators in order to sustain the approval.
- No changes are to be made to the actuator after delivery. This manual is part of the equipment. LINAK A/S keeps the right to modify specifications without advanced notice. Spare this manual for later use.

The product may only be used if:

1. The product is used under the conditions described in the installation - and operation instruction
2. Special conditions for safe use are obtained (see above)
3. Atmospheric conditions: Pressure 80 kPa (0.8 bar) to 110 kPa (1.1 bar); and air with normal oxygen content, typically 21 % v/v
4. Safety and operation instructions are accessible and followed
5. The production of IECEx/ATEX/CCC Ex actuators require quality management systems and auditing. Therefore, only LINAK A/S is allowed to produce, modify or repair actuators in order to sustain the certification.

IECEx/ATEX/CCC Ex**General indication of risk:**

Installation of the device shall be performed by trained staff only, familiar with the safety requirements and risks. The installation shall be according to EN IEC 60079-14 and all local safety regulations shall be complied with.

Prevent failures, protect persons against injuries and protect the device against damage.

The person responsible for the system must secure that:

- Safety and operation instructions are accessible and followed
- Local safety regulations and standards are obeyed
- Performance data and installation specifications are complied with
- Safety devices are installed correctly and recommended maintenance is performed
- National regulations for disposal of electrical equipment are obeyed

Maintenance and repair

- Repairs of the device must be carried out by LINAK® authorized persons only or by authorised repair shop fulfilled EN IEC 60079-19
- Only perform mounting as described as in this manual

During maintenance regard all safety regulations and internal operation instructions.

Mounting and replacement of ATEX cables

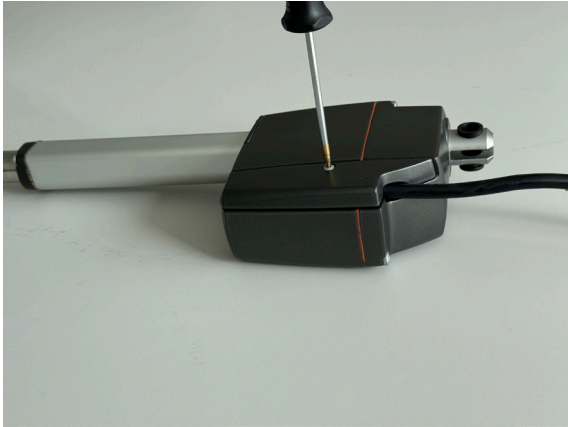
When mounting the necessary ATEX-approved cables on an ATEX certified LINAK actuator, it is important that this is done carefully by a competent person, in order to protect the plugs and pins -and ensuring the ingress protection of the product. Before the new cable is mounted, the socket shall be greased with Vaseline®, to maintain the high ingress protection and ensuring easy mounting. The plug shall be in the right location and fully pressed in before the cable lid is mounted.

Please note that if the cables are mounted and dismantled more than 3 times the plugs can be damaged. Therefore, such cables shall be discarded and replaced.

Also note that the actuator must not be carried in the cables.

We recommend to take some precaution and design the wire connection in a way, where the cable end is kept inside a closed, protected area to guarantee the high IP protection.

Replacing an ATEX cable



Loosen the screw to disassemble the cable relief.



Remove the cable relief by pulling it in the same direction as the screw.



Remove the plugged cable.



Insert the cable (0147006-xxxx) with an ATEX-approved O-ring.

The colour of the O-ring must be **Brown**.

Replacing an ATEX cable



Correct mounting of cable

The brown O-ring is not visible.



Incorrect mounting of cable

The brown O-ring is visible and the application is NOT tight.



Place the cable relief on the actuator housing, then place and tighten the screw.

Fasten it to $1.5 \text{ Nm} \pm 0,5 \text{ Nm}$



DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8
DK - 6430 Nordborg

Hereby declares that

Actuator 25*****0*****
25*****3*****
25*****CD*****

(The "*"s in the product description can either be a character or a number, thereby defining the variation of the product)

complies with the EMC Directive: 2014/30/EU according to following harmonized standards:
EN 61000-6-1:2019, EN 61000-6-3:2021, EN 61000-6-2:2019, EN 61000-6-4:2019

complies with the ATEX Directive 2014/34/EU according to following standards:
EN IEC 60079-0:2018, EN 60079-31:2014
TÜV NORD CERT GmbH, Notified Body No. 0044. Certificate Number TÜV 15 ATEX 143744 X

complies with the RoHS2 Directive 2011/65/EU according to the standard:
EN IEC 63000:2018

Nordborg, 2024-06-25



LINAK A/S
John Kling, B.Sc.E.E.
Certification and Regulatory Affairs
Authorized to compile the relevant technical documentation

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Original declaration



DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8
DK - 6430 Nordborg

Hereby declares that

Actuator (LA25IO) 25*****B***=***** 25*****C***=*****,
25*****F***=*****

(The '*' in the product description can either be a character or a number, thereby defining the variation of the product)

complies with the Radio Equipment Directive (RED) 2014/53/EU according to following standards:

EN 300 328 V2.2.2. (2019-07)
EN 301 489-1 V2.2.3 (2019-11)
EN 301 489-17 V3.2.4 (2020-09)
EN 62479:2010
EN 50663:2017
EN 60335:2012 + A1, A11, A13, A14, A15, A16
EN62233:2008

complies with the ATEX Directive 2014/34/EU according to following standards:

EN IEC 60079-0:2018, EN 60079-31:2014
TÜV NORD CERT GmbH, Notified Body No. 0044. Certificate Number TÜV 15 ATEX 143744 X

complies with the RoHS2 Directive 2011/65/EU according to the harmonised standard:

EN 63000:2018

Additional information:

The system does comply with the selected parts of the standards:

EN IEC 61000-6-2:2019, Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments

EN IEC 61000-6-4:2019: Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments

Nordborg, 2024-06-25

LINAK A/S
John Kling, B.Sc.E.E.
Regulatory Affairs Manager
Authorized to compile the relevant technical documentation

This declaration of conformity is issued under the sole responsibility of the manufacturer
Original Declaration



DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8
DK - 6430 Nordborg

Hereby declares that

Actuator (LA25 CAN) 25*****6A*****; 25*****6B*****
25*****7A*****; 25*****7B*****
25*****9A*****; 25*****9B*****

(The ** in the product description can either be a character or a number, thereby defining the variation of the product)

complies with the EMC Directive 2014/30/EU according to following harmonised standards:
EN 61000-6-1:2019, EN 61000-6-2:2019, EN 61000-6-3:2021, EN 61000-6-4:2019

complies with the ATEX Directive 2014/34/EU according to following standards:
EN IEC 60079-0:2018, EN 60079-31:2014
TÜV NORD CERT GmbH, Notified Body No. 0044. Certificate Number TÜV 15 ATEX 143744 X

complies with the RoHS2 Directive 2011/65/EU according to the harmonised standard:
EN 63000:2018

Nordborg, 2024-06-25

LINAK A/S
John Kling, B.Sc.E.E.
Regulatory Affairs Manager
Authorized to compile the relevant technical documentation

This declaration of conformity is issued under the sole responsibility of the manufacturer

Original Declaration



DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8
DK - 6430 Nordborg

Hereby declares that

Actuator (LA25IO-Link) 25*****00AB**=*****0*00***

(The '*' in the product description can either be a character or a number, thereby defining the variation of the product)

complies with the EMC Directive 2014/30/EU according to following harmonised standards:
EN 61000-6-2:2019, EN 61000-6-4:2019

complies with the ATEX Directive 2014/34/EU according to following standards:
EN IEC 60079-0:2018, EN 60079-31:2014
TÜV NORD CERT GmbH, Notified Body No. 0044. Certificate Number TÜV 15 ATEX 143744 X

complies with the RoHS2 Directive 2011/65/EU according to the harmonised standard:
EN 63000:2018

Nordborg, 2024-06-25

LINAK A/S
John Kling, B.Sc.E.E.
Regulatory Affairs Manager
Authorized to compile the relevant technical documentation

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Original Declaration



DECLARATION OF CONFORMITY

LINAK A/S
Smedevænget 8
DK - 6430 Nordborg

Hereby declares that

Actuator (LA25 with communication interface)

25*****§***=*****

where § can be: A, E, G, H, I, J, N, P, Q, R, S, T, U

(The "*" in the product description can either be a character or a number, thereby defining the variation of the product)

complies with the EMC Directive 2014/30/EU according to following harmonised standards:
EN 61000-6-2:2019, EN 61000-6-4:2019

complies with the ATEX Directive 2014/34/EU according to following standards:
EN IEC 60079-0:2018, EN 60079-31:2014
TÜV NORD CERT GmbH, Notified Body No. 0044. Certificate Number TÜV 15 ATEX 143744 X
NOTE: Applies only for ATEX specified actuators. Marking plate displays the CE-ATEX approval marking.

complies with the RoHS2 Directive 2011/65/EU according to the harmonised standard:
EN 63000:2018

Nordborg, 2025-01-09

LINAK A/S
John Kling, B.Sc.E.E.
Regulatory Affairs Manager
Authorized to compile the relevant technical documentation

This declaration of conformity is issued under the sole responsibility of the manufacturer

Original Declaration



Translation

(1) EU-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**

(3) **Certificate Number** TÜV 15 ATEX 143744 X **Issue:** 01

(4) for the product: Linear Actuator, Model: LA25 series

(5) of the manufacturer: LINAK A/S

(6) Address: Smedevænget 8, Guderup
6430 Nordborg
Denmark

Order number: 8003051498

Date of issue: See date of signature

(7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential ATEX Assessment Report No. 23 203 334681.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018/AC:2020-02


EN 60079-31:2014

except in respect of those requirements listed at item 18 of the schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions for Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design, and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the product shall include the following:

 **II 2 D Ex tb IIIC T135 °C Db**
II 2 D Ex tb IIIC T125 °C Db

TÜV NORD CERT GmbH, Am TÜV 1, 45307 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The deputy head of the notified body

TÜV NORD
Digital
unterschrieben von
Drews Anke
Datum: 2023.12.20
19:48:34 +01'00'

Hanover office, Am TÜV 1, 30519 Hannover, Tel. +49 511 998-61455, Fax +49 511 998-61590

(13) SCHEDULE

(14) EU-Type Examination Certificate TÜV 15 ATEX 143744 X Issue 01

(15) Description of product

The LA25 series of linear actuators creates motion in a straight line, as contrasted with circular motion of a conventional electric motor. The actuator consists of a motor, a gearbox and a spindle that causes the actuator to either extend or retract. The motor housing consists of a two part aluminium assembly with a cork gasket and an aluminium outer tube. The equipment is earthed externally through actuators fixation points: the piston rod eye and the back fixture. The actuators are rated for 12V or 24V d.c. with push / pull specifications up to 2500 N.

Type variants:

The LA25 series of linear actuators can be delivered in different type variants in accordance with the manufacturers ordering nomenclature (below). The different type variants, which do not involve the design of the motor housing itself, has no influence on the Ex-protection principle as long as the supplied power cable is delivered by the manufacturer.

Actuator type	Spindle Pitch	Stroke length	Safety	Feedback	Platform	Motortype	Endstop	IP degree	Colour	Back fixture	Back fixture	Piston rod eye	Plug type	Cable	EOS	Feedback level	Load type	Not specified	Not specified	BID
2 5	*	*	*	*	*	*	*	*	II	*	*	*	*	*	*	*	*	*	*	***

The actuators are certified under the type LA25 including various type variants which have no influence on the ingress protection / Ex-protection principle. The manufacturers "Scheduled Drawings" specify the fixed part of the construction.

Electrical data:

Supply (brown and blue)

Type 1 $U_n = 12 \text{ V d.c. } +20\%$
 $I_n = 4 \text{ A}$

Type 2 $U_n = 24 \text{ V d.c. } +10\%$
 $I_n = 2 \text{ A}$

Signal Power supply (red and black)

$U_n = 12 - 24 \text{ V d.c.}$
 $I_n = 40 \text{ mA}$

The permissible ambient temperature range during operation is:

T135 °C	-25 °C...+65 °C.
T125 °C	-25 °C...+55 °C.

(16) Drawings and documents are listed in the ATEX Assessment Report No. 23 203 334681.

Schedule to EU-Type Examination Certificate TÜV 15 ATEX 143744 X Issue 01

(17) Specific Conditions for Use

1. The duty cycle is max. 20% (2 min continuous drive followed by 8 min rest).
2. Ambient temperature area are specified to -25°C to + 65°C.

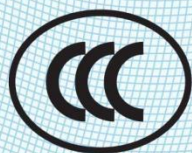
T135 °C	-25 °C...+65 °C.
T125 °C	-25 °C...+55 °C.

3. The power supply cable is of special design fulfilling IP 6X ingress protection. The cable can be delivered in different lengths. Only cables delivered by LINAK A/S shall be mounted.
4. The connection between the actuator and the rest of the machine/device shall be conductive, and furthermore the application shall be grounded in order to remove any Electro Static Discharge. This counts for both of the actuator's fixation points (Back Fixture and Piston Rod Eye).
5. The cable is not UV-resistant and shall be protected from direct sunlight.
6. The supply shall be protected by a fuse according to the electrical data.
7. The Linear Actuator has to be installed in such a way, that highly effective potential electrostatic charges are prevented. The cleaning of the Linear Actuator shall be done only with a damp cloth.

(18) Essential Health and Safety Requirements

No additional ones

- End of EU-Type Examination Certificate -



CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

No.: 2024312307000953

Applicant and address

LINAK (SHENZHEN) ACTUATOR SYSTEMS LTD.
Floor 1-7, B1 Building, Shanghe Industrial Park, Nanchang Road, Sanwei
Community, Hangcheng Street, Bao' an District, Shenzhen, 518126 China.

Manufacturer and address

Linak A/S
Smedevænget 8, Guderup, 6430 Nordborg, Denmark

Factory and address

Linak A/S
Smedevænget 8, Guderup, 6430 Nordborg, Denmark

Product, series, specification and model

Actuator

25*** ** * * * * * T * * * * * * * * * *

Ex tb IIIC T135°C Db

Standards

GB/T 3836.1-2021, GB/T 3836.31-2021

**This product(s) complies with the requirements of CNCA-C23-01:2024
China Compulsory Certification Implementation Rule on Explosion
Protected Electrical Product.**

Issue date: 2024-11-08 Valid to: 2029-11-07

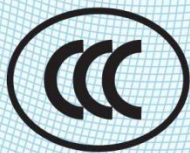
Detailed information and status of this certificate is available by using the QR code,
visiting CNEx's website or CNCA's website: www.cnca.gov.cn.

This translated document has no legal effect and shall not be used alone.



Director:

Nanyang Explosion Protected Electrical
Apparatus Research Institute Co.,Ltd.



CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

No.: 2024312307000953

Annex: Page 1 of 7

Product information:

1. This certificate covers the following models:

- 25*** ** ** ** ** T * * * * *

25	***	***	**	**	*	*	*	T	*	*	*	*	*	*	*	*	*	*	***	
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u

a: Actuator Type 25=LA25

b: Spindle Pitch

030=3mm

060=6mm

090=9mm

120=12mm

200=20mm

c: Stroke Length, mm (20-600mm)

d: Safety

00 = None

0A = Safety nut

e: Feedback

00=None

0A=Hall Potentiometer (Analogue feedback)

0F=PWM

0K=Single Hall

f: Platform

0=None

3=IC Integrated control not for openbus

6=LINBUS

7=CANBUS

9=CANopen

A = IO-Link

B = I/O Basic

C = I/O Customised

F = I/O Full

X=Special

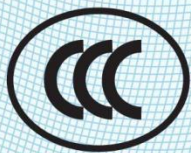
g: Motor Type

A=12VDC Normal



Nanyang Explosion Protected Electrical
Apparatus Research Institute Co.,Ltd.





CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION

No.: 2024312307000953

Annex: Page 2 of 7

B=24VDC Normal

h: Endstop

0=power switch

1=Signal switch

2=Zero point

i: IP degree

T=CCC EX

j: Colour

==Dark Grey

- = Black

k: Back fixture type

1 = Zink coated steel ø10.2 (0251011)

A = Stainless ø10.2 (0251015)

2 = Zink coated steel + bushings ø10.2

B = Stainless + bushings ø10.2

3 = Zink coated steel ø12.3 (0251010)

C = Stainless ø12,3 (0251014)

4 = Zinc coated steel + bushings ø 8.2

D = Stainless steel + bushings ø 8.2

5 = Zink coated steel ø10.2 + Nut (0251032)

F = Stainless steel ø10.2 + Nut (0251034)

6 = Zink coated steel + bushings ø 10.2+Nut

G = Stainless steel + bushings ø 10.2+Nut

7 = Zink coated steel ø12.3 + Nut (0251026)

H = Stainless steel ø12.3 + Nut (0251033)

8 = Zink coated steel + bushings ø8.2 + Nut

I = Stainless steel + bushings ø8.2 + Nut

M = Male adapter M12 Stainless steel (0251021)

X=special

l: Back fixture orientation

1=0 degrees

2=90 degrees

m: Piston Rod Eye

1 = Zink coated steel ø10.2 (0231033)

A = Stainless ø10.2 (0231096)

2 = Zink coated steel + bushings ø10.2

B = Stainless + bushings ø10.2

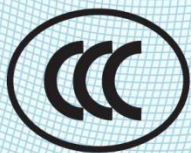
3 = Zink coated steel ø 12.3 (0231016)

C = Stainless ø 12.3 (0231095)



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4 = Zinc coated steel + bushings \varnothing 8.2
D = Stainless steel + bushings \varnothing 8.2
K = Ball Eye \varnothing 10H7 stainless (0351053)
L = Ball Eye \varnothing 12H7 stainless (0351035)
F = Female Adapter M8 stainless (0251039)
M = Male Adapter M12 Stainless (231094)
X = Special

n: Plug Type

0 = None Is to be chosen, if cable and connectors is not wanted
C = Flying leads Is to be chosen, if connector is not wanted
I = Moulded Deutsch (DT4)
J = Deutsch (DT4)
K = AMP superseal
L = Moulded AMP superseal
M = M12 5P (Only IO-Link length: 0.3 m)
S = SMPS (Only cable length 0,3 and 1,5 m)
X = Special

o: Cable

0 = None
S = Straight 0.75m (8-core or 2-core when no feedback is needed)
T = Straight 1.5m (8-core or 2-core when no feedback is needed)
R = Straight 5.0m (8-core or 2-core when no feedback is needed)
U = Straight 0.3 m (Only SMPS and IO-Link)
V = Straight 10 m
Y = Straight 1.5 m (11-core)
Z = Straight 5 m (11-core)
X = Special

p: Endstop signal (Endstop reached in/out)

CAN / LIN / IO-Link
0 = None

Standard

0 = None
1 = Yes

IC Basic

1 = Yes

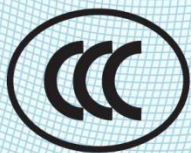
IC Parallel (Not for I/O)

1 = A_HIGH / A_HIGH



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IC Parallel with Feedback

X = Specia

IC Advanced and I/O

0= None

A = A_HIGH / A_HIGH

B = A_LOW / A_HIGH

C = A_HIGH / A_LOW

D = A_LOW / A_LOW

E = LOW / A_HIGH

F = HIGH / A_HIGH

G = LOW / A_LOW

H = HIGH / A_LOW

J = A_HIGH / LOW

K = A_LOW / LOW

L = A_HIGH / HIGH

M = A_LOW / HIGH

N = LOW / LOW

P = HIGH / LOW

Q = LOW / HIGH

R = HIGH / HIGH

X = Special

q: Feedback level by platform type

CAN / LIN / IO-Link

0 = none

Standard

0 = None

1 = 0 - 10 V

2 = 0.5 - 4.5 V

3 = 4 - 20 mA

4 = 10 - 90 %

5 = 20 - 80 %

9 = Special feedback

IC Basic

8 = None

IC Advanced and I/O

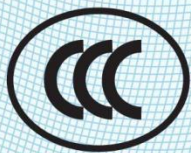
0 = None

A = 0 - 10 V



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B = 0.5 - 4.5 V
C = 4 - 20 mA
D = 10 - 90% (Only IC Advanced)
E = 20 - 80% (Only IC Advanced)
G = 1 - 9 V
X = Special feedback

IC Parallel (Not for I/O)
Z = IC Parallel
Y = Parallel with feedback
X = Special

r: load type

0=Push/Pull
1=Push
2=Pull

s: Parallelmode

0=Non critical parallel
2-8=Critical parallel

t: SW configuration

0=Standard configuration
X=Special configuration

u: BID (mm)

Electrical data:

Supply (brown and blue)

Type 1 Un=12VDC+20%
In=4A

Type 2 Un=24VDC+10%
In=2A

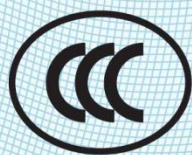
Signal power supply (red and black)

Un=12-24VDC
In=40mA



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Ex Marking: Ex tb IIIC T135°C Db

Ingress protection: IP6X

- Manufacturer should organize production in accordance with the technical documents approved by the certification body.

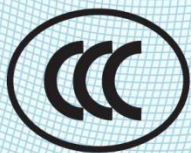
2. Specific conditions of use:

- Ambient temperature: -25°C~+65°C.
- The duty cycle is max. 20% (2 min continuous drive followed by 8 min rest).
- The power supply cable is of special design fulfilling IP 6X ingress protection. The cable can be delivered in different lengths. Only cables delivered by LINAK A/S must be mounted.
- The connection between the actuator and the fixing points must be conductive and furthermore the application must be grounded in order to remove any electrostatic charge. This relates to both the fixing point on the motor housing and the point on the piston rod.
- The supply cable must be protected against UV-light.
- The supply must be protected by a fuse according to the electrical data.
- The Linear Actuator has to be installed in such a way, that highly effective potential electrostatic charges are prevented. The cleaning of the Linear Actuator shall be done only with a damp cloth.
- Warning - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS



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PRESENT !

- Warning - DO NOT SEPARATE WHEN ENERGISED !
- Warning - DO NOT OPEN WHEN ENERGISED !
- Warning - POTENTIAL ELECTROSTATIC CHARGING HAZARD: SEE INSTRUCTIONS !
- See instruction manual for other information.

3. Certificate change information: none.



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