



Quality electrical
movement for
dust explosive
atmospheres
LINAK actuators

IECEX, ATEX and CCC

Ex approvals

For dust-approved operation, equipment used in explosion protected (Ex) industries must be certified in accordance with the IECEx international certification system, the EU directive 94/9/EC, also called the ATEX directive or the CCC, which is the equivalent for China. These directives describe safety requirements for applications and products in explosive atmospheres and account for both mechanical and electrical sources of ignition in these areas.

LINAK® offers products that have been tested and certified for electrical operation in dust explosive atmospheres by the notified body TÜV Nord. Our actuators displayed in this folder have all been certified according to IECEx standards, CCC and the ATEX 2D and 3D categories. This means that they can be used in Ex zones 21 and 22 - see the illustration below.

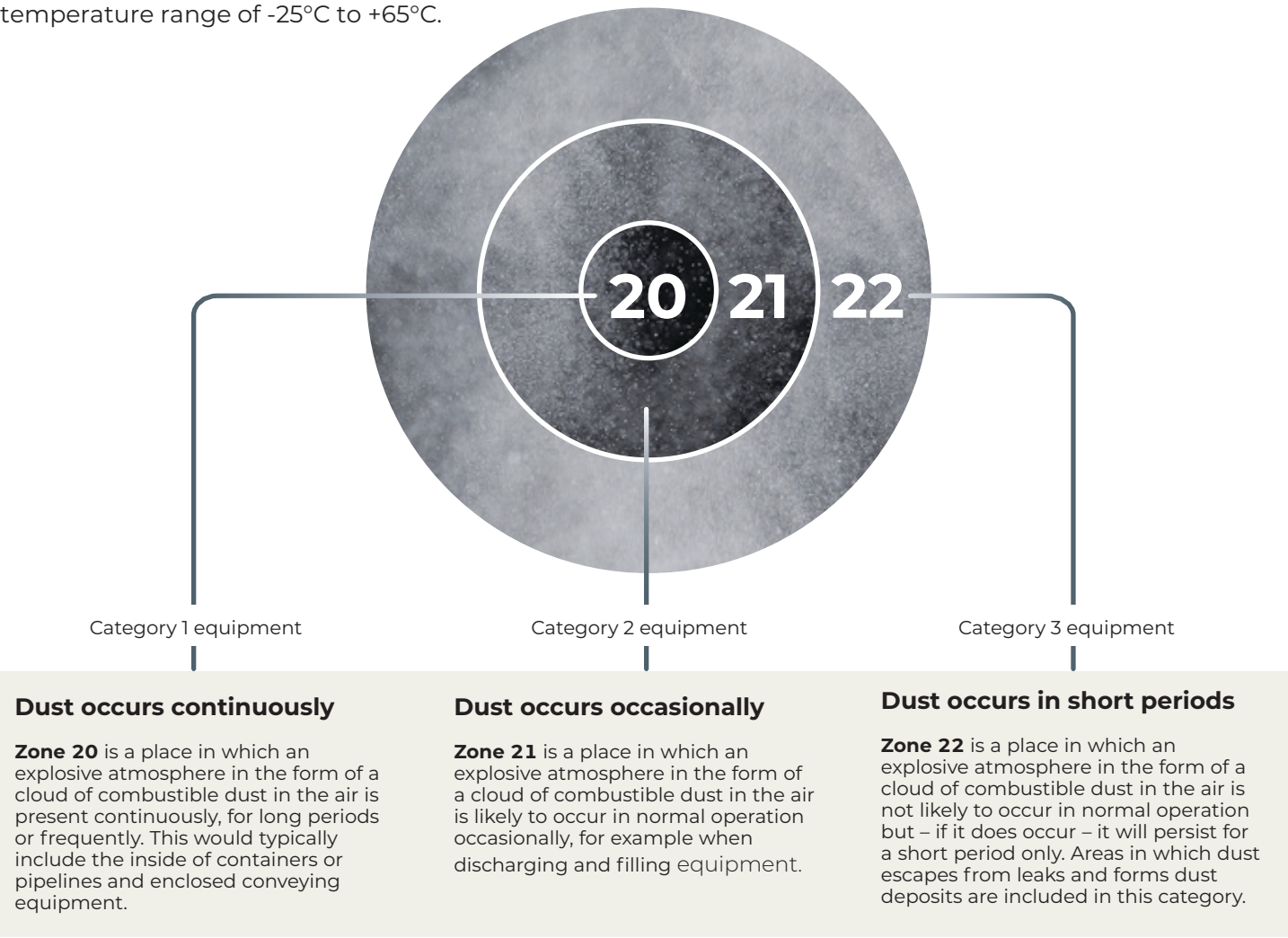
Furthermore, the actuators have been approved for non-mining applications, and for the temperature range of -25°C to +65°C.

When can a dust explosion occur?

Dust explosions require the presence of a combustible substance, oxygen and an ignition source. Both electrically and mechanically generated sparks, arcs and open flames are ignition sources. Mechanically generated sparks are by far the most frequent cause of dust explosions.

Dust explosive atmospheres may occur in:

- Power stations
- Grain mills and grinders
- Chemical factories
- Paint factories
- Cement plants
- Animal feeding industries
- Harbour installations
- Woodworking machines
- Ventilation systems
- Other dusty areas



IECEX, ATEX and CCC certified actuators

Actuator LA36 - reliable and tough

The actuator LA36 is one of the most solid and powerful LINAK actuators, designed to operate under extreme conditions. The LA36 is a maintenance-free product with a long lifetime. This high-quality actuator offers a very strong alternative to hydraulic solutions.



LA36 features:

- Max load up to 6,800 N
 - Max speed up to 168 mm/sec
 - Standard stroke length 25-1200 mm (Zero point: 75-1200 mm)
 - Voltage 12, 24 or 48 V DC
 - Heavy-duty aluminum housing for harsh conditions
 - Integrated brake, high self-locking ability
 - Hand crank for manual operation
 - Non-rotating piston rod eye
 - High-pressure cleaning resistant
- **Available with IC™:**
 - IC - Integrated Controller
 - Integrated Parallel Controller
 - Analogue or digital feedback for precise positioning
 - Endstop signals
 - **IC options including:**
I/O, Ethernet/IP, Modbus TCP/IP, Modbus RTU, PROFINET, IO-Link, LIN bus, CAN SAE J1939, CANopen.
 - **PC configuration tool (BusLink or Actuator Connect)**
 - **Available with IECEx, ATEX and CCC certifications**



IECEEx, ATEX and CCC certified actuators

Actuator LA25 - tough and compact

With its robust design and aluminium housing, the actuator LA25 is ideal for harsh environments where operation under extreme conditions is required. Furthermore, the compact dimensions of the LA25 make it applicable for confined spaces.



LA25 features:

- Max load up to 2,500 N
 - Max speed up to 25 mm/sec
 - Standard stroke length 20-600 mm (Zero point: 75-600 mm)
 - Voltage 12 or 24 V DC
 - Heavy-duty aluminium housing for harsh conditions
 - Built-in electrical endstop
 - High self-locking ability
 - Salt spray and chemical tested
 - Non rotating piston rod eye
 - Steel or stainless steel back fixture and piston rod eye
 - Exchangeable cables
 - Safety nut in push or pull
- **Available with IC™:**
 - IC - Integrated Controller
 - Integrated Parallel Controller
 - Analogue or digital feedback for precise positioning
 - Endstop signals
 - **IC options including:** I/O, Ethernet/IP, Modbus TCP/IP, Modbus RTU, PROFINET, IO-Link, LIN bus, CAN bus J1939, CANopen
 - **PC configuration tool (BusLink or Actuator Connect)**
 - **Available with IECEEx, ATEX and CCC certifications**



IECEEx, ATEX and CCC certified actuators

Actuator LA14 - robust and reliable

The actuator LA14 is a very tough actuator with an aluminium housing that makes it ideal for use in harsh and demanding environments.

The LA14 offers top quality in every detail and ensures reliable performance. With its small size the LA14 is well suited for applications that require short linear movements.



LA14 features:

- Max load up to 750 N
 - Max speed up to 45 mm/sec
 - Standard stroke length 19-130 mm (Zero point: 75-130 mm)
 - Voltage 12 or 24 V DC
 - Heavy-duty aluminium housing for harsh conditions
 - Stainless steel inner tube and piston rod eyes
 - Built-in electrical endstop
 - Compact design
 - High self-locking ability
 - Salt spray and chemical tested
 - Exchangeable cables
 - Back fixture available in 2 different positions: 0° or 90°
- **Available with IC™:**
 - IC - Integrated Controller
 - Integrated Parallel Controller
 - Analogue or digital feedback for precise positioning
 - Endstop signals
 - **IC options including:** I/O, Ethernet/IP, Modbus TCP/IP, Modbus RTU, PROFINET, IO-Link, LIN bus, CAN bus J1939, CANopen.
 - **PC configuration tool (BusLink or Actuator Connect)**
 - **Available with IECEEx, ATEX and CCC certifications**



100% function tests

In each application, the actuator is just one component of many, but at TECHLINE® we fully appreciate that it is of utmost importance to you and your customers. Not a single actuator leaves LINAK until it has undergone a 100% function test.

Depending on the actuator type, various tests have been carried through. Please consult your local LINAK office or take a look at the actuator data sheet in question to get a thorough test overview.

This is your guarantee that a solution based on LINAK TECHLINE electric actuator systems is a solution that will work reliably for years and years.

Electrical tests:

All electrical parts are tested i.e. power supply, power and signals cables, control signals etc. Electrical immunity is tested according to industrial standards i.e. for radio noise, electrical discharge and burst.*

(*) These tests do not apply to third party products

EN/IEC 61000-6-4	- Generic standard emission industry
EN/IEC 60204	- Electrical equipment of machinery
EN 50121-3-2	- Railway applications - Rolling stock apparatus
94/25/EC	- Recreational crafts directive
EN/ISO 13766	- Earth moving machinery
EN/IEC 61000-6-2	- Generic standard immunity industry
2004/104/EC	- Automotive Directive
EN/ISO 14982	- Agricultural and forestry machines
EN/ISO 13309	- Construction machinery



Climatic tests:

In the climatic test the actuators are tested to operate in extreme temperatures as well as to endure rapid changes in temperature. In some tests, the actuator has to withstand going from a +100°C environment to -30°C repeatedly and still maintain full functionality.

EN600068-2-1 (Ab)	- Cold test
EN60068-2-2 (Bb)	- Dry heat
EN60068-2-14	- Change of temperature
EN60068-2-30	- Damp heat
EN60068-2-52	- Salt spray
EN60529-IP66	- Degrees of protection
BS7691/96 hours	- Chemicals



Mechanical tests:

Vibration: The actuator must withstand continuous vibration in three directions. Shock: The shock test puts the actuator through 3 shocks of up to 100 G in each of 6 directions. Bump: The actuator receives bumps of up to 40 G in each of six directions several hundred times.

EN60068-2-36 (Fdb)	- Vibration
EN60068-2-29 (Eb)	- Bump
EN60068-2-27 (Ea)	- Shock





For further information about our solution for grain handling:
LINAK.COM/BUSINESS-AREAS/FARMING/GRAIN-HANDLING/

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Built by market leading experts, using state-of-the-art technologies and perfected production methods, you can expect the same quality worldwide.



Innovation is in our core. We take the lead and have the courage to make it real.



We are responsible in what we do – towards customers, employees and environment. Creating trust is a natural part of who we are.



From global presence to local understanding. We believe in world-wide support and being close to our customers.