

KENDRION

PRECISION. SAFETY. MOTION.

KENDRION ACTUATORS & SOLENOIDS

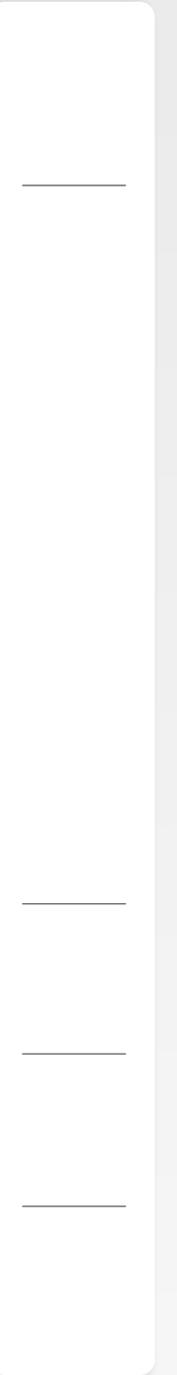
Locking Technology

Innovative solutions and products

Motorized Door Lock

Decades of industry know-how in locking technology

KENDRION offers a variety of customised and ready-to-use solution components and systems in the field of locking technology and convinces with its decades of industry and product know-how.



Product overview

Locking Technology

LINEAR SOLENOIDS

H-8

H-16

LHP035

BI-034

HD-82

LHP050

LOCKING SOLENOIDS

LHP Locking

LLV0500014

LLB025

Pin brake

LLV040

LLV050080

LOCKING SYSTEMS

Compact Lock

Solenoid Door Lock
SL/AL

Motorized Door Lock

Rotary Door Lock

ELECTRO HOLDING MAGNETS

Electro holding
magnet GTB

Permanent Electro
Holding Magnet

CUSTOMISED SOLUTIONS

Locking units for
oxygen mask

More information ►



Didn't find the right product?
Use our Product Finder.

Areas of application Locking technology

AVIATION, AGRICULTURE & OFF HIGHWAY

Fixing the flap in AGV

Emergency stop of AGV

Agricultural machines

Emergency stop in railway

Locking of the sliding steps
of railways

Oxygen mask in aviation

In-Cabin-Application

BUILDING TECHNOLOGY

Automatic doors

Battery-powered access
control

Emergency and passage
control in turnstiles

Locking of barrier systems

Passage control in sensor
barriers

Fall protection for lift systems

INDUSTRIAL APPLICATIONS

Industrial washing machines

Vending machines

Service flap of gaming
machines

Industrial ovens:
Solenoid Lock

Industrial ovens:
Motorised Door Lock

IMESA laundry

Lockers

Vending machines
Compact Lock

MEDICAL TECHNOLOGY

Laboratory centrifuges

Solenoid Lock for medical
devices

Locking solenoids for medical
devices

Locking of X-ray arm



Do you need a customised solution?
Get in touch with us!

KENDRION locking technology



FROM THE COMPONENT TO THE READY-TO-INSTALL LOCKING SYSTEM!

We offer a wide range of products for the optimal locking of your application.

- ☑ Our linear solenoids convince with their reliability and impress with quality, robustness and slim design for easy integration into your system!
- ☑ Our locking solenoids convince with high lateral force load-bearing capacity and integrated position monitoring for high demands on safety requirements. They are also maintenance-free!
- ☑ Our ready-to-install electromagnetic and motorised locking systems convince with smart features such as soft-close function, position and status monitoring as well as a long service life and reliability!



DECADES OF EXPERIENCE!

KENDRION locking technology impresses with:

- ☑ Extremely high forces and lateral forces in the smallest installation space
- ☑ Maximum safety thanks to smart features such as position detection or the fail-safe function.
- ☑ Fast and dynamic switching due to the optimal use of the electromagnetic operating principle
- ☑ Low noise emission
- ☑ Long service life
- ☑ Maintenance-free, reliable, and robust design



WE DEVELOP THE BEST SOLUTION WITH YOU!

With our decades of locking know-how, we will find the right solution for your application together with you!

Our know-how ranges from the locking of small applications, such as flaps on vehicles or in mechanical engineering, to safety retention in lift systems in building technology, the locking of 1,600 N in laboratory centrifuges, up to motorised locking systems in baking ovens with high ambient temperatures.

We combine our technological knowledge from solenoid, pneumatic and control technology and score with innovative solutions!

We look forward to locking your application!



Did we convince you and would you like to lock your application with us?
Then we look forward to getting in touch with you!

Our products of the Locking Technology

From the component to the
ready-to-install locking system!



Single Stroke Solenoids

H-Linear Solenoids



Example

Kendrion single-stroke solenoids are durable, reliable and low-maintenance. They develop high forces with compact dimensions and are characterized by short switching times. Above all, however, the solenoids can be matched exactly to the specified requirement profile. The single solenoids are available in different versions as pull-type solenoids, push-type solenoids or combination solenoids with integrated return spring. Special designs for special applications with, for example, plug-in contacts, adapted force absorption, mounting or maintenance-free armature bearings are available on request.

Advantages at a glance

- ☑ Long service life
- ☑ Compact design
- ☑ Low power consumption
- ☑ Flexibly adjustable

Technical Data ¹	H08	H16	HD82
Dimensions (L²xWxH)	15,5 x 10 x 8 mm	31 x 19 x 16 mm	74 x 60 x 46 mm
Weight magnet/anchor (approx.)	6 g / 1,6 g	18 g / 4 g	1024 g / 235 g
Nominal stroke	2 mm	4 mm	20 mm
Nominal voltage	24 VDC	24 VDC	24 VDC
Duty cycle	100% ED	100% ED	100% ED
Nominal power	1,1 W	3,6 W	16 W
Nominal force	0,03 N	0,6 N	6,5 N
End force	0,25 N	1,3 N	17 N
Thermal class	E (Tgrenz = 120°C)	B (Tgrenz = 130°C)	B (Tgrenz = 130°C)
Protection class	IP00	IP00	IP00

¹ Changes, omissions, errors regarding the products reserved. Illustrations similar.

All rights reserved by the respective copyright holders

² Length in relation to the magnet. Armature length not considered.



Do you have questions about a product?
Then we look forward to getting in touch with you!

Linear Solenoids LHP035

Series LHP



Example

The LHP035 is a square linear solenoid in a robust steel housing, which can be actuated either by pushing or pulling. In general, the stroke movement is from the stroke start to the stroke end position. The electromagnet is convincing in a wide range of applications with smallest space requirements and high forces.

Depending on the area of application, the LHP035 can be optimally configured. The series can be configured with different duty cycles (5, 25, 40 and 100% ED) and different stroke variants (5, 10, 15, 20 mm).

The plug (= IP40), sealing ring and bellows (=IP54) provide an increased degree of protection. The reset can be carried out by means of an optional integrated spring. Special voltage variants are also available on request.

Benefits at a glance

- ☑ high forces with small installation space
- ☑ simple mounting due to square design
- ☑ short switching times
- ☑ low wear, 10 million switching cycles in long-term test
- ☑ wide range of configuration options

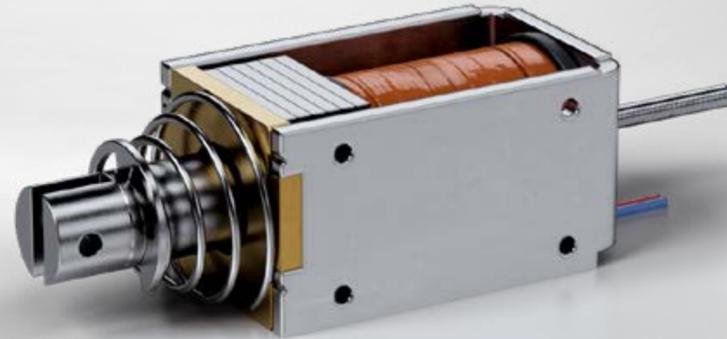
Technical Data ¹	LHP035
Dimensions (LxWxH)	53 x 35 x 35 mm
Stroke	5, 10, 15, 20 mm
Supply voltage	24V DC, other voltage variants on request
Duty cycle	5, 25, 40, 100 % ED
Force	5 – 120 N
Protection class	IP40 (plug), IP54 (bellow and sealing ring)
Return spring	No / Yes

¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.



Do you have questions about a product?
Then we look forward to getting in touch with you!

Bistable Linear Solenoids BI Series BI



Example

Bistable linear solenoids are designed for control with electrical pulses. The armature of these solenoids is held in its end position after electrical actuation without further energy supply. The integrated return spring moves the armature back to its initial position by means of a current pulse in reversed polarity.

Bistable linear solenoids are the ideal solution for applications with a focus on energy consumption. They are also suitable for applications without grid connection, as they can be optionally operated with battery or solar energy. Typical examples are locks in portable devices, electric door locks and other locking systems. Due to their compact dimensions, the solenoids can be easily integrated into almost any locking system.

The Standard types are available from stock in small quantities. Individual coil designs for different operating voltages or duty cycles are possible, as is specific connection technology with ready-made connecting leads or plug-in connections.

Benefits at a glance

- ☑ Long service life
- ☑ Compact design
- ☑ Low power consumption
- ☑ Flexibly adaptable
- ☑ 2 stable end positions

Technical Data ¹	BI-34
Dimensions (L ² x W x H)	49,5 x 30 x 26 mm
Weight magnet / armature	ca. 220 g / ca. 58 g
Nominal stroke	8 mm
Nominal voltage	24 VDC
Duty Cycle	25% ED
Nominal Power	38 W
Start force	12 N
End force	45 N
Thermal class	B (T _{grenz} = 130°C)
Protection class	IP00

¹ Products are subject to change, omissions, errors excepted. Illustrations similar. All rights reserved by the respective copyright holders.

² Length in relation to magnet. Armature length not considered.



Do you have questions about a product?
Then we look forward to getting in touch with you!

Linear Solenoids LHP050

Series LHP



Example

The LHP050 is a square linear solenoid in a robust steel housing, which can be actuated either by pushing or pulling. In general, the stroke movement is from the stroke start to the stroke end position. The electromagnet is convincing in a wide range of applications with smallest space requirements and high forces.

Depending on the area of application, the LHP050 can be optimally configured. The series can be configured with different duty cycles (5, 25, 40 and 100% ED) and different stroke variants (10, 15, 20, 25 mm).

The plug (= IP40), sealing ring and bellows (=IP54) provide an increased degree of protection. The reset

can be carried out by means of an optional integrated spring. Special voltage variants are also available on request.

Vorteile im Überblick

- ☑ high forces with small installation space
- ☑ simple mounting due to square design
- ☑ short switching times
- ☑ low wear, 10 million switching cycles in long-term test
- ☑ wide range of configuration options
- ☑ Vielfältige Konfigurationsmöglichkeiten

Technical Data ¹	LHP0500008
Dimensions (LxWxH)	83 x 53 x 50 mm
Stroke	10 mm (15, 20, 25 mm on request)
Supply voltage	24V DC, other voltage variants on request
Duty cycle	100 % ED (others on request)
Force	10 N
Protection class	IP54 (bellow and sealing ring)
Return spring	Yes

¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.



Do you have questions about a product?
Then we look forward to getting in touch with you!

Solenoid door lock (SL & AL)

Solenoid Technology



Example

Discover our compact solenoid door lock, with a very high locking force of at least 1,600 N and a lifetime of 100,000 switching cycles.

The solenoid door lock integrates a high-performance linear solenoid, which has monostable (self-locking) and bistable design (active-locking).

The monostable design enables that the door can be locked every time when the solenoid is not energized. In order to unlock, the solenoid needs to be energized for a short time. The bistable design enables that the door will be locked only if the solenoid is energized for a short time. In order to unlock, the solenoid needs to be energized for a short time as well. The solenoid door lock is equipped with two microswitches to detect the door position and locking process.

For safety reason, this door lock is equipped with an emergency opener.

Kendrion Kuhnke Automation has a wealth of experience in the locking segment and provides optimal and individual solutions for many applications.

Characteristics

- ☑ Universal applicable
- ☑ Flexible locking combinations
- ☑ High maximum static holding force up to 1600 N
- ☑ Detection of door position and locking progress
- ☑ Emergency opener
- ☑ High lifetime

Technical Data ¹	Solenoid door lock self-locking (SL) and active-locking (AL)
Operating voltage	24 V DC & 12 V DC (another operating voltage on request)
Power consumption	36 W, 10% Duty cycle (short impulse at least 100 ms)
Dimension (WxLxD)	70 x 70 x 18 mm
Weight	Approx. 150 g
Maximum static holding force	1.600 N
Maximum load force for electrical unlocking	400 N
Operating temperature	0 – 80° C (other temperature ranges on request)
Lifetime	100.000 switching cycles
Shock resistance According to DIN EN 60068-2-27	AL: 40g (100g / 11ms available as customised design)
Zulassung	UL-listed materials are applied

¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.



Do you have questions about a product?
Then we look forward to getting in touch with you!

Motor door lock HS7722

Motorized door lock



Example

Kuhnke's new locking system offers increased automation for use in many areas of everyday life. The combination of mechanical locking, motor drive, limit switches and electronic engineering is applied in our new motor door lock. The lock has more features than just locking the door. Close the door with an adjustable, continuous force extends the life cycle of the seals. The lock is self-adjusting to maintain the health of the seals. The big travel of up to 40 mm offers different end positions in the opening and closing process.

For instance a position of ventilation at baking ovens is useful. In this position, the hot steam can escape preventing the operator from getting burned.

The following safety aspects are considered in our lock: Protection of the operator while locking the door, protection of the door mechanism against damage, EMC-protection, overload fuse, operation errors during initial operation.

Kendrion Kuhnke Automation has a wealth of experience in the locking segment and provides optimal and individual solutions for many applications.

Characteristics

- Travel up to 40 mm
- Different end positions
- Continuous force while closing the door
- Locking forces up to 400 N
- Emergency opener

Technical Data ¹	Kuhnke motor door lock HS7722
Travel	40 mm
Speed	6,5 mm/s
Sensors	6 x positional sensors (open collector 30mA), 1 x microswitch
Maximum closing force	400 N
Voltage supply	24 V DC
Power	19 W (@ 24 V DC)
Operating temperature	0 °C...+80 °C
Housing	Polyamide & metal
Dimensions (W x H x D)	117 x 227 x 30 mm



Do you have questions about a product?
Then we look forward to getting in touch with you!

Electromechanical compression locking Rotary Door Lock RL



Example

The new, ready-to-install rotary lock from Kendrion was specially developed to meet the highest requirements in the industry. The robust lock convinces as a compact unit consisting of a bistable reversing solenoid, a mechanical lock, sensors for the closing and end position, and central connections, and an emergency release.

The locking mechanism combines the steps:

- ☑ Mechanical compression locking of a swing door using a rotary lever.
- ☑ Electromagnetic locking of the closed state

Kendrion is a specialist in customised locking technology and has a broad portfolio of door locks. In addition, we offer a high degree of flexibility and can provide both special solutions and a standard range.

Areas of application

- ☑ Professional washing machines
- ☑ Industrial ovens and combi steamers
- ☑ Climatic chambers and environmental simulation systems
- ☑ Process and laboratory sterilisers and incubators

Features

- ☑ Flat and robust design
- ☑ Emergency release
- ☑ Ready-to-install lock
- ☑ Bistable reversing solenoid
- ☑ Suitable for high ambient temperatures
- ☑ Two to three sensors for closing and locking position

Technical Data ¹	Rotary Door Lock RL
Operating voltage	24 V DC & 12 V DC (another voltage on request)
Duty cycle	15%
Nominal power	24 W (short impulse min. 100 ms and max. 2 s)
Dimensions	Width 70 mm, length 174 mm and depth 30 mm
Seal compression distance	4 mm
Rotation angle	60°
Mounting	Door lock installed on the left side. Door hinge on the right side.
Seal compression	Up to 400 N
Sensors	2 to 3 microswitches for detecting "door-closed" and "door locked"
Ambient temperature	5 – 80° C
Lifetime	30.000 cycles
Vibration resistance	Up to 14 g in all axis
Certificate	RoHS and UL-listed material

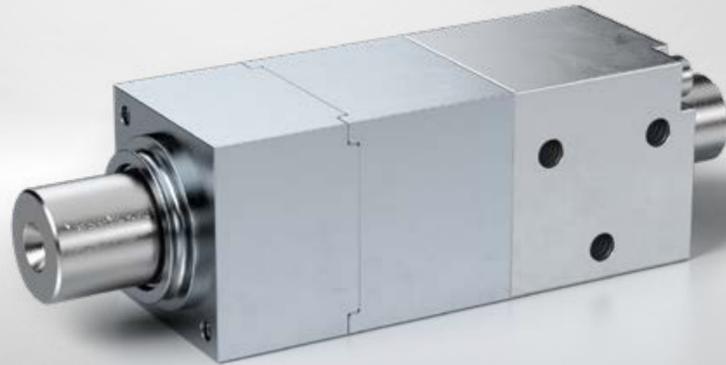
¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.



Do you have questions about a product?
Then we look forward to getting in touch with you!

LHP0350284

High Performance Single-Stroke Solenoid LHP-Locking



Example

The square locking solenoid LHP-Locking is based on the high performance single-stroke solenoid LHP of the Kendrion High Performance Line. The LHP series excels by dynamic features such as shorter reaction times and higher forces. With this single-stroke locking solenoid the locking movement takes place from stroke starting position to stroke end position, while the armature reset is effected by an integrated return spring. The single-stroke solenoid of the LHP locking is extended by a flange which allows a separate bearing of the locking bolt, thus ensuring a high lateral force load-bearing capacity. The installation is made by a bolt circle at the flange side.

Benefits at a glance

- ☑ Compact design
- ☑ Cost optimisation
- ☑ High shear force load capacity (3.000N)

Technical Data ¹	LHP0350284
Dimensions (LxWxH)	114 x 35 x 35 mm
Diameter locking bolt	15 mm
Stroke	15 mm
Supply voltage	24V DC
Duty cycle	100% ED
Power output	14,1 W
Protection class device	IP40
Force	7,8 N
Protection class connection	IP00 (freie Litzen); optional: IP65 (Stecker)
Lateral force on bolt	3.000 N

¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.



Do you have questions about a product?
Then we look forward to getting in touch with you!

LLV0500014

Locking solenoid with limit switches



The new locking solenoid LLV0500014 convinces with a maximum of functional safety, which is achieved by its design and numerous features.

In this LLV, a powerful linear solenoid is extended by a latch housing which provides a separate bearing for the latch bolt. The opening movement is performed from the stroke start position to the stroke end position. The closing movement is performed by an integrated compression spring.

The latch housing has a manual opening and space for up to two limit switches that detect the non-closed state.

The electrical interfaces for the coil and the limit switches are designed separately to allow for different voltage levels and to achieve a higher safety level.

The separate device plug offers the possibility of connecting a device box with a rectifier for AC applications or a device box with holding power reduction for energy saving in front of the solenoid.

The locking solenoid is attached using a hole punch on the flange side or on the latch housing sides. The used materials offer the possibility of UL approval.

Vorteile im Überblick

- ☑ Monitoring of the locking bolt position by limit switches
- ☑ Safely separated circuits for sensor and actuator
- ☑ Bolt made of stainless steel 1.4305
- ☑ High radial load-force bearing capacity (3,000N)

Technical Data ¹	LLV0500014
Dimensions (LxWxH)	200 x 50 x 68 mm
Diameter Latching bolt	14 mm
Strike	15 mm
Supply voltage	24V DC and more
Duty cycle	100% ED
Power	30 W
Protection class device	IP54
Plug	Magnet: Device plug DIN EN 175301-803; Switch: M16 Number of poles 8 DIN
Radial force on bolt²	3.000 N

¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.

² The maximum permissible transverse force is defined as a radial, purely static point load, which may act at a minimum distance of 1/3 stroke to the face of the stationary locking bolt. No application factors are considered.



Do you have questions about a product?
Then we look forward to getting in touch with you!

LLB025

Bistable locking solenoid



Example

The bistable locking unit LLB is based on a permanent holding magnet that can be operated via a power supply unit as well as a battery. The locking bolt is held in the open state with the aid of a return spring. With pulse-based power supply, the bolt is extended. The locking bolt is held in the extended state without current through the force of a permanent magnet. When the power is supplied with the polarization reversed, the bolt is retracted. The lifting movement only takes place if there is no transverse force on the locking bolt. Since the magnet remains in the respective position when de-energized, up to 95% energy can be saved. The locking bolt can still reliably withstand lateral forces of 1000N.

Benefits at a glance

- ☑ Energy saving
- ☑ Compact design
- ☑ Ideal for mobile applications
- ☑ High shear load capacity of 1,000 N

Technical Data ¹	LLB025
Dimension (LxWxH)	72 x 25 x 28 mm
Diameter / Inner thread of locking bolt	Ø15 mm / M10
Stroke	7 mm
Operating voltage	24VDC (LLB025.000001 & LLB025.000003) 9VDC (LLB025.000002 & LLB025.000004)
Duty cycle	25% ED
Power consumption	10,5 W
Position detection / Emergency opener	Available in following products: LLB025.000003 & LLB025.000004
Force	30 N
Protection class: connector / solenoid	IP30 / IP00
Transverse force of locking bolt	Max. 1000 N at frontal mounting and max. 500 N at lateral mounting

¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.



Do you have questions about a product?
Then we look forward to getting in touch with you!

Electromechanical Pin Brake

LLV0150006



Example

The electromechanical pin brake is a combination of a specially designed linear solenoid and e.g. a star wheel mounted by the customer. In the energised state, the pin of the locking solenoid is retracted. In the event of braking, the pin brake is switched off and falls into the gear wheel, thus stopping the movement. The brake guarantees a high level of safety in an emergency and when the system is at a standstill. The travel distance until the application stops is mainly determined by the distance between the points of entry in the rotating counterpart. For low current consumption in the open state, the retracted position is reached once using overexcitation. Afterwards, the position is maintained with a lower holding voltage to save energy.

Benefits at a glance

- ☑ Compact design
- ☑ High safety due to currentless braking
- ☑ Low energy consumption due to over-excitation
- ☑ High lateral force load-bearing capacity

Technical Data ¹	LLV0150006
Dimensions (LxWxH)	35,5 x 15 x 23 mm
Stroke	2,8 mm
Supply voltage	24V DC
Duty Cycle	3 % ED
Power supply	24 W
Protection class device	IP20
Force	5 N
Return spring	Yes
Switching time	118 ms
Emergency release	Yes
Permitted static lateral force ²	1.670 N

¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.

² The maximum permissible transverse force is defined as a radial, purely static point load, which may act at a minimum distance of 1/3 stroke to the face of the stationary locking bolt. No application factors are considered.



Do you have questions about a product?
Then we look forward to getting in touch with you!

Locking Solenoids

LLV040

Series LLV



Example

The locking solenoids of the LLV series are locking units especially designed for use in safety devices. With the LLV, the stroke movement is from the stroke start position to the stroke end position (active direction of movement), while the armature reset is effected by a built-in spring force (passive direction of movement).

Depending on the requirements, two types of solenoids are available.

- ☑ currentless locked (SV): spring force holds bolt in locking position.
- ☑ currentless unlocked (SE): spring force keeps bolt open, locked when energised

Solenoid armature and locking bolt are kept separately in maintenance-free bearings. The locking bolt is made of non-corrosive and non-magnetic stainless steel. The microswitch is directly installed in the locking housing and signals the respective position of the locking bolt approx. 0.5 mm to 1 mm after leaving the stroke starting position resp. before reaching the stroke end position. It is mounted laterally via threaded holes. Matching connectors are available for the different types of the LLV series.

Benefits at a glance

- ☑ Available in high protection class
- ☑ Integrated feedback of the locking function
- ☑ High lateral force load-bearing capacity

Technical Data ¹	LLV04001 (SE) LLV04002 (SV)
Dimension (LxBxH)	121 x 40 x 40 mm
Diameter locking bolt	10 mm
Stroke	8 mm
Supply voltage	24V DC
Duty cycle	100 % ED
Power supply	12,8 W
Isolation class	F
Force	5 N
Protection class	IP54
Lateral force	1.200 N
Signal transmitter	Stroke starting and end
Emergency unlocking	No

¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.



Do you have questions about a product?
Then we look forward to getting in touch with you!

LLV050080

Series LLV



Example

The locking solenoids of the LLV series are locking units especially designed for use in safety devices. With the LLV, the stroke movement is from the stroke start position to the stroke end position (active direction of movement), while the armature reset is effected by a built-in spring force (passive direction of movement). The LLV050080 is a currentless-locked variant (CL). The spring force holds the bolt in the locked position; the solenoid opens by means of a current supply.

Solenoid armature and locking bolt are kept separately in maintenance-free bearings. The locking bolt is made of non-corrosive and non-magnetic stain-

less steel. The microswitch is directly installed in the locking housing and signals the respective position of the locking bolt approx. 0.5 mm to 1 mm after leaving the stroke starting position resp. before reaching the stroke end position. It is mounted laterally via threaded holes. Matching connectors are available for the different types of the LLV series.

Benefits at a glance

- ☑ Available in high protection class
- ☑ Integrated feedback of the locking function
- ☑ High lateral force load-bearing capacity

Technical Data ¹	LLV050080 (SV)
Dimensions (LxWxH)	171 x 50 x 50 mm
Diameter locking bolt	14 mm
Stroke	10 mm
Supply voltage	24V DC
Duty Cycle	100 % ED
Power supply	18,3 W
Isolation class	F
Force	7 N
Protection class	IP64
Lateral force	3.000 N
Signal transmitter	Stroke starting and end
Emergency unlocking	manual

¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.



Do you have questions about a product?
Then we look forward to getting in touch with you!

Electro holding magnets GT

Series GTB



Example

This series includes a complete range of round electromagnets. Electro holding magnets are pot magnets and consist of a magnet housing and a DC-excited coil. The coil is potted with resin (protection class IP65) or, in the case of a 15 mm diameter, is unpotted (protection class IP54). The complete magnet housing including the holding surface is zinc-plated. It is mounted by a central thread on the rear of the housing.

In switched-on state, the open magnetic circuit allows to hold or span ferromagnetic workpieces. When the applied voltage is switched off, the workpiece to be held falls off. Any remanence that may occur, especially with light parts, can be avoided by attaching a non-magnetic foil. The holding system works with a very low operating current and without wear (maintenance-free).

These magnet systems are preferably used in fixture construction and in the automation, transport, and handling industries. Lateral force loading equates to a displacement force F_V of approx. $1/4 F_H$.

Benefits at a glance

- ☑ Maximum holding force with low air gaps
- ☑ Compact design
- ☑ Various connection options
- ☑ Optimised copper and iron ratio

Technical Data ¹	Haftmagnet GTB
Sizes	15 – 250 mm diameter
Holding force	36 – 30.000 N
Supply voltage	24V DC, other voltage variants on request
Duty cycle	100 % ED
Isolation class	E
Connection	Free stranded leads or, for sizes 25 and 80, terminal block
Protection class	Up to IP65
Accessories	Armature plate, rectifier
Mounting	Threaded hole on rear side

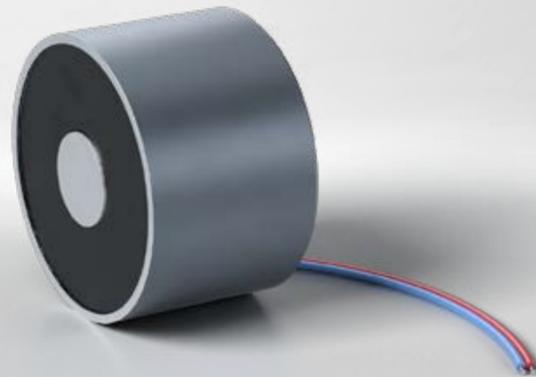
¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.



Do you have questions about a product?
Then we look forward to getting in touch with you!

Permanent Electro Holding Magnets

Series 01 320 / PEM



These permanent magnetic holding rods are electrically switchable holding solenoids. They consist of a permanent magnet and a DC-excited coil (vacuum potted) to neutralize the permanent magnetic field at the pole surface. The open magnetic circuit allows to hold ferromagnetic workpieces.

Free leads or, from 01 32010B, cables are available for connection. The coil is vacuum potted, the magnet housing is zinc-coated and the holding surface is ground. For mounting there are thread bores at the bottom side of the device.

These systems are preferably used where long holding times without energy consumption are required and a load or workpieces must be held reliably and safely in the case of power failure. Lateral force loading equates to a displacement force F_v of approximately $1/4 FH$.

Benefits at a glance

- ☑ Energy saving due to currentless holding
- ☑ High holding force
- ☑ No residual magnetic field after neutralisation
- ☑ Safe holding in case of power failure

Technical Data ¹	PEM
Sizes	12 – 150 mm diameter
Holding force	8 – 3.500 N
Supply voltage	24V DC, andere Spannungsvarianten auf Anfrage
Duty cycle	25 % ED / 100% ED
Isolation class	E
Connection	Freie Litzen bzw. Kabel
Protection class	Bis zu IP65
Accessories	Ankerplatte, Gleichrichter
Mounting	Rückseitige Gewindebohrung

¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.



Do you have questions about a product?
Then we look forward to getting in touch with you!

Compact Lock

Electromagnetic door lock



Example

Discover our new shock resistant Compact Solenoid Lock, which is suitable even for very confined spaces. It features a very high shock resistance of up to 300 g in all axes and a lifetime of 100,000 switching cycles.

The Compact Solenoid Lock is equipped with a microswitch to detect the door position and locking process. It is available as normally closed and normally open version. For safety reasons, this door lock is optionally prepared with an emergency opener.

A suitable door hook is available and can be ordered together or separately.

Kendrion is a specialist in customized locking technology and has a broad portfolio of door locks. In

addition, we offer a high degree of flexibility and can provide both special solutions and a standard range.

Benefits at a glance

- ☑ Very high shock resistance (optional up to 300 g in all axes)
- ☑ Universally applicable even in confined spaces
- ☑ High lifetime
- ☑ Robust and compact design
- ☑ Ready-to-install
- ☑ Emergency opener optional
- ☑ incl. door hook
- ☑ cost-effective

Technical Data ¹	Compact Lock
Dimensions (LxWxD)	95 x 51 x 18 mm
Operating voltage	12 VDC & 24 VDC
Power consumption	Max. 24 W (short impuls for 100 ms)
Maximum static closing force	200 N
Ambient temperature	0 – 80° C
Lifetime	100.000 switching cycles
Shock resistance	Up to 300 g in all axes
Accessories	Suitable door hook is available
Mounting holes	2 holes with Ø6,6 mm
Emergency opener	Optional

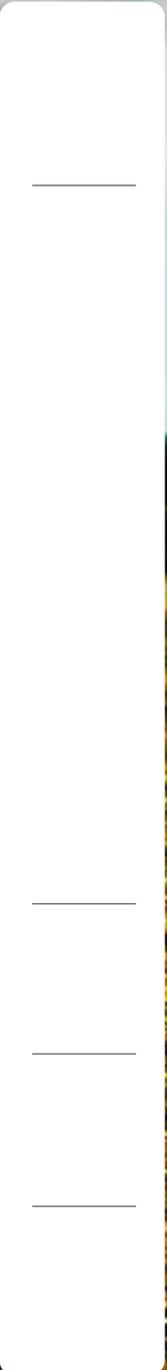
¹ We reserve the rights of modification, omission, error with respect to the products. Illustrations similar. All rights reserved by the individual copyright holders.



Do you have questions about a product?
Then we look forward to getting in touch with you!

Unsere Anwendungsbeispiele

Wir entwickeln mit Ihnen die beste Lösung!





KENDRION LOCKING LINE

Compact and reliable

Locking e.g. laboratory centrifuges with our solenoid lock

With a very high holding force of at least 1,600 N and a shock resistance up to 100 g, Kendrion now offers a solenoid door lock, which has a focus on safety. Therefore this door lock is suitable for locking application in the laboratory centrifuges.

An integrated solenoid allows easy control and combines quiet operation with a quick release. The patented locking mechanism allows the operator to unlock doors when they are under load. Micro-switch feedback for the locked position is available as well as a mechanical emergency release for the event of power failure.

The solenoid door lock has two locking options: It is available in SL (self locked) and AL (active locked). In addition, integrated micro switches allow position monitoring of the lock.

Our customer Remi uses the SL variant in its latest generation of laboratory centrifuges.

Product features

- ✓ High maximum static locking force of at least 1,600 N
- ✓ Shock resistance from 100 g
- ✓ Long life span
- ✓ Emergency release and monitoring of the closed position
- ✓ Easy control
- ✓ Compact design



Do you have questions about an application?
Then we look forward to getting in touch with you!



KENDRION LOCKING LINE

Space-saving and secure Locking for medical applications



Do you have questions about an application?
Then we look forward to getting in touch with you!

Kendrion is the specialist for interlocks with decades of technology and industry know-how. In the field of interlocks for medical technology, we offer a wide range of solutions from lifting solenoids to locking solenoids and holding solenoids.

With our electromechanical locking solutions, laboratory bonnets, disinfectors, incubators, medical cabinets and other applications in medical technology can be safely locked in the laboratory environment.

Our locking solutions impress with their compact design, maximum safety, long service life and high locking forces.

Kendrion also offers complete locking systems. Thus, the standard solenoid lock can also be used for all the above mentioned applications.

Are you looking for an individual solution? We would be pleased to discuss your challenge with you.

Product features

- ☑ universally applicable
- ☑ long service life
- ☑ compact design

Other examples of use

- ☑ mechanical engineering
- ☑ off highway & agriculture
- ☑ railway technology
- ☑ building services engineering





KENDRION LOCKING LINE

Compact and reliable Locking for medical applications



Do you have questions about an application?
Then we look forward to getting in touch with you!

Our SL/AL solenoid lock is the proven standard for locks in laboratory and analysis technology. It is ideally suited for use in laboratory bonnets, dis-infectors, incubators, medical cabinets and other applications in medical technology.

The compact solenoid lock convinces with security, which is guaranteed by a high static locking force of up to 1,600 N. It is robust, has a very high duty cycle and a service life of 100,000 switching cycles.

The use of UL-listed materials is optimal for use in laboratory environments. It can be used universally for a wide range of locking applications and offers an emergency release solution as well as an integrated microswitch for position monitoring.

Product features

- ✓ universally applicable
- ✓ long service life
- ✓ emergency release and monitoring of the closed position
- ✓ high maximum static locking force of at least 1,600 N
- ✓ shock resistance at 100 g
- ✓ use at ambient temperature of up to 100 °C
- ✓ use also at humidity >90% r.H.
- ✓ easy control
- ✓ compact design

Examples of use

- ✓ laboratory centrifuges
- ✓ disinfectors
- ✓ laboratory incubators
- ✓ laboratory hoods
- ✓ medical cabinets
- ✓ and much more



KENDRION LOCKING LINE

Safe in position

Solenoid for locking in radiography



Do you have questions about an application?
Then we look forward to getting in touch with you!

Radiography is a necessary procedure in many medical facilities. Modern X-ray units combine a wide range of functions that support the largely automated setting of the unit.

One important aspect is the precise and safe positioning of the X-ray arm. The LHP035 takes over the task of securely locking the set position. The linear solenoid is particularly convincing due to its strength with low space requirements and long service life.

In this application, the LHP035 works according to the current working principle. To lock the position of the X-ray arm, the armature is extended in its initial position.

If a different position is reached, the magnet is attracted by the current supply and releases the arm. When the desired position is reached,

the armature extends again when the voltage drops and locks the new position securely.

Product features

- ✓ compact design (53x35x35 mm)
- ✓ high reliability (10 million cycles in continuous operation)
- ✓ short switching time
- ✓ robust design
- ✓ easy mounting
- ✓ customisable

Other examples of use

- ✓ automation technology
- ✓ railway technology
- ✓ power engineering
- ✓ intralogistics



KENDRION LOCKING LINE

Safe and proven Precise actuator technology on AGV systems



Do you have questions about an application?
Then we look forward to getting in touch with you!

Automated guided vehicles (AGVs) in future-oriented intralogistics and many other application areas are convincing due to their resource efficiency. Kendrion offers various electromagnetic components to further optimize your AGV in this regard.

The BI034 bistable solenoid is used in small AGV systems, for example, to hold in position flaps that are installed on an AGV and lifted at an incline for package delivery. The BI034 locks the position in a very short time and unlocks it again just as quickly after the task has been successfully completed. The BI034 impresses with its precision and durability and has already proven itself in AGV applications.

Kendrion is your sparring partner for optimizing your AGV application with decades of technology know-how in solenoid technology.

Product features

- ✓ compact design
- ✓ low power consumption
- ✓ high forces
- ✓ short switching times
- ✓ maintenance free

Other examples of use

- ✓ intralogistics
- ✓ agriculture & Off Highway
- ✓ mechanical Engineering
- ✓ medical Technology



KENDRION LOCKING LINE

Stop safely in case of power interruption

Pinbrake for optimizing your AGV

Automated guided vehicles in future-oriented intralogistics and many other application areas are convincing due to their resource efficiency. Kendrion offers various electromagnetic components to further optimize your AGV in this regard.

Our Kendrion Pinbrake can bring the AGV to an immediate stop in the event of a power loss, caused for example by a short circuit or battery failure, by mechanically blocking the wheels.

This quick blocking by a locking pin increases the safety standard of the AGV. Which comes into play, for example, on a ramp with an incline. Unbraked, the AGV could roll down the ramp and endanger the ongoing operating processes. The Pinbrake from Kendrion can be individually adapted to the exact needs of your application.

Kendrion is your sparring partner for optimizing your AGV application with decades of technology know-how in solenoid technology.

Product features

- ☑ compact design
- ☑ high safety due to currentless braking
- ☑ low energy consumption due to overexcitation
- ☑ high lateral force carrying capacity

Other examples of use

- ☑ collaborative robots (cobots)
- ☑ intralogistics



Do you have questions about an application?
Then we look forward to getting in touch with you!



KENDRION LOCKING LINE

Electromagnetic solutions for agricultural machinery



Do you have questions about an application?
Then we look forward to getting in touch with you!

Mobile agricultural machinery is exposed to extreme weather conditions, dirt, and shocks. This requires maximum robustness and durability of the installed components.

With the help of electromagnetic solutions from Kendrion can be optimally implemented a wide range of functions:

- ☑ locking/holding of flaps, linkages, and mechanics
- ☑ locking the operating lever (shift lock)
- ☑ release of the emergency stop function, e.g., on forage harvesters
- ☑ releasing and diverting the material flow, e.g., seed and fertilizer

- ☑ tramline control in seed drills (wrap spring clutch)
- ☑ haptic feedback through vibration on operating levers
- ☑ avoidance of bunker formation through vibration

Depending on the application, Kendrion offers the appropriate technology. Special materials and surface coating processes are taken into account in the development of our electromagnets. Bellows and other concepts to increase tightness also protect the solenoid's inner workings from contamination and thus increase the service life.

Entdecken Sie die Vielfalt und Vorteile unserer elektromagnetischen Lösungen für Landmaschinen!

Linear solenoids

- ☑ high power density with a small installation space
- ☑ broad portfolio
- ☑ bistable design possible

Holding magnets

- ☑ broad portfolio
- ☑ high power density
- ☑ bistable design possible

Locking solenoids

- ☑ high lateral force capacity
- ☑ position detection
- ☑ emergency release
- ☑ increased protection classes pos.



KENDRION LOCKING LINE

Prepared for emergencies

Solenoid for door protection in railway technology

Tramways and railways are equipped with an emergency brake to bring the train to an immediate standstill in an emergency. Thus, the doors mustn't open until the train has come to a complete stop.

This is ensured by the new LHP050, which impresses with its high force combined with a compact and robust design and withstands the high requirements in railway engineering. In normal operation, the solenoid secures the locking mechanism

coupled to the emergency brake. Controlled by a current pulse, the LHP050 pulls to open the door. A remote-controlled reset of the emergency actuation is effected via the integrated return spring.

Product features

- ✓ long service life and transverse force-bearing kit
- ✓ ambient temperatures of 30 to +70°C
- ✓ tolerance for voltage fluctuations +/-30°C
- ✓ various possibilities of corrosion protection
- ✓ resistance to oscillation, shock, and vibration according to EN 61373
- ✓ type test according to EN 50155

Other examples of use

- ✓ automation technology
- ✓ building technology
- ✓ intralogistics
- ✓ elevator technology



Do you have questions about an application?
Then we look forward to getting in touch with you!



KENDRION LOCKING LINE

Safety in railway technology

Intelligent locking for the sliding step



Do you have questions about an application?
Then we look forward to getting in touch with you!

Sliding steps in trams and railways provide comfortable and barrier-free access to the vehicle. An LLV050080 from Kendrion is used to hold the sliding step securely in the retracted position during travel. The locking solenoid is characterised by high robustness and the ability to absorb high lateral forces (up to 3,000 N).

When the doors are opened, the electromagnet releases the sliding step using a high current pulse. The built-in electronics ensure a high breakaway force with a small size of the magnet.

Once the sliding step has reached its final position, the magnet is switched off, and the extended position of the step is secured and monitored via the integrated return spring.

Product features

- ✓ long service life and transverse force-bearing kit
- ✓ ambient temperatures of 30 to +70°C
- ✓ tolerance for voltage fluctuations +/-30°C
- ✓ various possibilities of corrosion protection
- ✓ resistance to oscillation, shock, and vibration according to EN 61373
- ✓ type test according to EN 50155

Other examples of use

- ✓ automation technology
- ✓ building technology
- ✓ intralogistics
- ✓ elevator technology





Rockwell Collins

Leading aircraft manufacturers worldwide entrust Kendrion Kuhnke with their passengers' safety. In the unlikely event of pressure loss in the cabin, oxygen masks are automatically released overhead the passenger seats. For this application Kendrion Kuhnke has developed and produced the entire locking unit with aviation certified materials.

A bistable solenoid system is the core of the unit. During normal operation the integrated permanent solenoid maintains the locked state currentless. In case of emergency, a brief electric pulse activates the locking unit via the coil. The drop down deployment container opens and the oxygen masks are released.

Produkt-Eigenschaften

- ✓ Reduced weight through compact design
- ✓ Optimized energy consumption through currentless locking
- ✓ High functional safety in accordance with aviation customer specifications
- ✓ Already used in the B787, B737, A320 and A330

Compact solenoid locks for galley systems and for luggage bins, or linear solenoids for locking power hatracks and for seat adjustment in various aircraft programs are examples for Kendrion's wide range of solutions.

KENDRION LOCKING LINE

Modern locking technology for aviation

Locking unit for oxygen masks



? Do you have questions about an application?
Then we look forward to getting in touch with you!



KENDRION LOCKING LINE

Safety first

The new standard professional laundry lock for industrial cleaning systems.



Do you have questions about an application?
Then we look forward to getting in touch with you!

Door locks of professional washing machines must be extremely robust and even in the event of improper operation, e.g. vandalism, they must ensure that the door cannot be opened during the washing process. The new Professional Laundry Lock from KENDRION has been developed especially for industrial washing machines.

An electro-mechanical door lock in combination with a bistable solenoid, end position sensors for the closed and the locked position of the door, as well as central connectors and an emergency opener result in a highly compact unit. Technically high-quality plastics enable increased strength and a long product life at high ambient temperatures.

The Rotary Door Lock is suitable for many applications that need to ensure a secure lock by means of a rotary latch / primer.

Product features

- ✓ using bi-stable solenoids for high ambient temperatures
- ✓ integrated microswitches for closed and the locked position of the door
- ✓ equipped with emergency opener
- ✓ high-quality approved materials for high mechanical stability
- ✓ UL listed materials applied
- ✓ conformed with RoHS3 and REACH

Other examples of use

- ✓ baking ovens, combi steamers
- ✓ climate chamber, environmental test chamber
- ✓ laboratory steriliser, laboratory incubator



KENDRION LOCKING LINE

More security for vending machines

The compact solenoid lock reliably protects against manipulation and burglary.

Vending machines sell food and non-food items 24/7 without any staffing. To reliably protect the continuous operation of the vending machine, Kendrion offers a compact locking system that is tamper- and burglar-proof.

The solenoid lock achieves a max locking force of 1,600 N and is designed for frequent opening and closing of the vending machine door with a service life of more than 100,000 cycles.

An integrated solenoid enables simple control combined with fast unlocking for the exchange of goods. The door lock is available in SL (self-locking) and AL (actively locked) versions for different locking functions.

In addition, microswitches for detecting the locking position and a mechanical emergency release are integrated.

Product features

- ✓ tamper-proof
- ✓ high max. static locking force
- ✓ high reliability
- ✓ quiet locking/unlocking
- ✓ emergency release function
- ✓ custom features available
- ✓ built-in position sensing
- ✓ lightweight/compact design (0.33 lb, 2.75"x2.75"x0.71")
- ✓ soft-close locking
- ✓ high shock resistance

Other examples of use

- ✓ ATMs
- ✓ locker storage
- ✓ combi-ovens



Do you have questions about an application?
Then we look forward to getting in touch with you!



KENDRION LOCKING LINE

Modern entertainment with reliable locking mechanic

Linear solenoid H3486 for the service flap



Do you have questions about an application?
Then we look forward to getting in touch with you!

Today's entertainment electronics with its fascinating optics, HD animation, touchscreen and excellent game quality require a high level of operational reliability. In order to achieve the high reliability, it is necessary to apply the components with the highest quality and service life.

Technical failures of gaming machines can result in a significant deficit within a short period of time. For this reason, the technician needs to be able to open the service door and do the immediate repairs.

Our reliable linear solenoid H3486 is applied by our customer BALLY WULFF to unlock the service door in the model series LUX floor-standing devices GRAND, SLANT and TWIN.

Product features

- ✓ Low power consumption of only 8 watts
- ✓ Long service life of at least 100 million switching cycles
- ✓ Short switching times of <50 ms
- ✓ Endforce of 6 N
- ✓ Compact design
- ✓ Maintenance-free anchor bearing

Other examples of use

- ✓ Plant construction
- ✓ Sorting machines
- ✓ Locking turnstiles
- ✓ Flap locking and many other locking options



The E3 convection oven from Wiesheu impresses with its baking chamber capacity and functional design.

The solenoid lock SL7010 from Kendrion ensures reliable locking of the in-store oven. It is very robust and compact. The magnetic lock convinces with its small size, the intelligent locking mechanism and has an extremely high locking force and long service life. A Kendrion linear solenoid enables simple control and combines quick unlocking with pleasant acoustics.

To implement different locking combinations, the solenoid lock is available in the versions SL (self-locked) and AL (active-locked). The lock can be supplemented optionally with a pre-locking function. An integrated micros-

witch enables the position of the lock to be queried. A mechanical emergency opening is of course integrated.

Our customer Wiesheu uses the SL variant in his E3 convection oven.

Product features

- ✓ Long life span
- ✓ Emergency release and surveillance the closed position
- ✓ Easy control
- ✓ Compact design
- ✓ High static locking force

KENDRION LOCKING LINE

Reliable and safe Solenoid lock for professional in-store ovens



Do you have questions about an application?
Then we look forward to getting in touch with you!





KENDRION LOCKING LINE

Reliable, quiet and intelligent Motorized door lock as a high-tech locking system



Do you have questions about an application?
Then we look forward to getting in touch with you!

As a manufacturer of high-tech locking systems, KENDRION has achieved a very reliable motorized door lock with many different locking applications.

The motorized door lock combines a high-power motor driven lock, positional sensing, mechanical locking and control electronics all-in-one. One of the features is closing the door with an adjustable continuous force, which extends the lifetime of the door seals. The lock is self-adjusting to maintain the seal characteristics and offers a big range for different end positions.

The motorized door lock has a convenient venting feature, which is optimal for use in industrial ovens, as it allows the lock to vent the oven during the opening and closing process. In this position, the hot steam can escape to protect the operator from scalding.

Product features

- ✓ large stroke range
- ✓ multiple switching positions
- ✓ high closing forces
- ✓ optional torque control
- ✓ fully-automated multi positioning
- ✓ manual emergency unlocking
- ✓ high-quality sound perception

Other examples of use

- ✓ industrial washing machines
- ✓ building technology
- ✓ medical technology
- ✓ equipment technology





KENDRION LOCKING LINE

Secure door locking for modern buildings

Locking systems for automatic doors



Do you have questions about an application?
Then we look forward to getting in touch with you!

The reliable locking of automatic doors is an important aspect of the security concept of modern buildings. By using electromagnetic locking systems, you have the possibility of centrally controlling various doors and thus reacting flexibly to the requirements of the environment.

In this case, our powerful square linear solenoid LHP035 is used, which is characterised by an optimal installation space/force ratio. The interface to the customer-specific locking unit is easy to adapt here and can also be used for special solutions.

The units meet the highest quality standards and are designed for durability. Nevertheless, the design has been optimised for ease of maintenance. The electrical connection is

made via a plug so that the maintenance technician can replace faulty components quickly and easily.

Product features

- ✓ high reliability
- ✓ fast switching
- ✓ continuous operation possible
- ✓ high forces (with low duty cycle)
- ✓ integrated reset

Other examples of use

- ✓ automation technology
- ✓ railway technology
- ✓ power engineering
- ✓ intralogistics





KENDRION LOCKING LINE

Wireless, compact and reliable

Locking device for battery-powered access control

In security-critical areas or even hotel complexes, access control with transponders or cards has become standard. Since a power supply via cable is usually excluded in these cases, the locking systems are supplied with power by means of a battery.

For locking and unlocking in these door locks, the H8, a bistable solenoid from Kendrion, can be optimally used because it has two stable end positions. Switching from locking to unlocking is done by means of short current pulses. The position can then be held without current, thus achieving a long battery life. Other advantages include direct linear motion, which eliminates the need for gears and connecting rods, speed and variability in size, stroke length and force.

Product features

- ✓ very small design
- ✓ ideal for battery operation
- ✓ locking force through force redirection
- ✓ increases energy efficiency

Other examples of use

- ✓ sensor gate
- ✓ barrier
- ✓ turnstile
- ✓ further applications from building services engineering
- ✓ industrial applications



Do you have questions about an application?
Then we look forward to getting in touch with you!



KENDRION LOCKING LINE

Safe even in case of emergency

The perfect latch for turnstiles



Do you have questions about an application?
Then we look forward to getting in touch with you!

In the field of access control, a high level of operational safety is imperative. Products of the highest quality that work precisely, reliably and safely are essential here.

In case of danger, turnstiles can be retracted with the help of the HD8 solenoid, thus ensuring a safe, fast opening of the passage. The HD8 also features an integrated maintenance-free armature bearing that achieves high reliability.

For the single passage control in the unit, another Kendrion solenoid is used to grant access to authorized persons and open the turnstile or remain in the locked position to deny access.

Kendrion is your partner with decades of technology and locking know-how.

Product features

- ✓ maintenance-free armature bearing (bush bearing)
- ✓ high actuating forces due to special yoke geometry
- ✓ robust design
- ✓ vlong service life

Other examples of use

- ✓ building services engineering
- ✓ industrial applications





KENDRION LOCKING LINE

Reliable and durable Locking and operating barriers



Do you have questions about an application?
Then we look forward to getting in touch with you!

In the field of access control, high operational reliability is mandatory. Products of the highest quality that work precisely, reliably and safely are essential here.

Barrier systems with electric motors, such as those used in parks or for access control on sites, enable safe and controlled access control.

In this application, the LLV050 electromagnetic locking unit comes into its own by locking the opening and locking process. With the help of a guided pin, the barrier is locked and unintentional opening of the barrier is thus no longer possible.

The position of the armature in the solenoid can be kept deenergized both closed and open. By means of an integrated sensor, the position of the locking bolt can also be interrogated and thus contributes to the verification of the locking mechanism.

Kendrion is your partner with decades of technology and locking know-how.

Product features

- ✓ optimized for radial forces / transverse loads
- ✓ maintenance-free armature bearing (plain bearing)
- ✓ powerless locked or unlocked available
- ✓ microswitch for position determination
- ✓ robust design
- ✓ long service life

Other examples of use

- ✓ turnstiles
- ✓ barriers
- ✓ further interlocks in industry and building services engineering



KENDRION LOCKING LINE

Smart and safe

Passage control in sensor barriers



Do you have questions about an application?
Then we look forward to getting in touch with you!

In the field of access control, high operational reliability is mandatory. Products of the of the highest qua-lity that work precisely, reliably and securely are essential here. Sensor interlocks enable a secure and fast clearance process, e.g. for passage control in buildings such as airports or office complexes.

This is where the LLV electromag-netic inter-lock unit comes into its own. It can lock without power or with power applied and thus locks the end position of the passage limiters. In the LLV, the magnetic armature and locking bolt are guided separately in maintenance-free bearings, thus ensuring high reliability of the pro-duct. A built-in microswitch provides information on the position of the locking bolt, thus paying even more attention to safety.

Kendrion is your partner with decades of technology and locking know-how.

Product features

- ✓ maintenance-free armature bearing (plain bearing)
- ✓ powerless locked or unlocked available
- ✓ microswitch for position deter-mination
- ✓ robust design
- ✓ long service life

Other examples of use

- ✓ turnstiles
- ✓ barriers
- ✓ further interlocks in industry and building services engineering





KENDRION LOCKING LINE

Double fall protection

Redundant fall protection for lift systems



Do you have questions about an application?
Then we look forward to getting in touch with you!

Lifts - especially if they are approved for passenger transport - must meet high safety requirements. To prevent uncontrolled movement of the cabin, a speed limiter is installed, which is controlled by two electromagnetic actuators. The integrated and TÜV-certified linear solenoids ensure a safe stop both in normal operation and in an emergency.

The LHP035 takes over the fast and reliable stopping of the overspeed controller, e.g., when reaching the floor, and prevents the cabin from rising or falling. Due to the high power consumption and the design for short-time operation (5%ED), the solenoid achieves a very fast switching time.

In the event of a power failure, the second solenoid system is used.

The LHP050 remains in the open position (100%ED), triggers in the event of a voltage loss, and falls into the limiter wheel. An unbraked fall of the lift cabin is thus reliably prevented.

Product features

- ✓ small and compact
- ✓ high reliability
- ✓ fast switching of the protective function
- ✓ high forces (with low duty cycle)
- ✓ integrated reset

Other examples of use

- ✓ Automation
- ✓ Railway technology
- ✓ Energy technology
- ✓ Intra logistics





start animation

Safety and reliability are paramount in aviation. Our compact SL/AL solenoid door lock also proves itself in extreme applications. With its locking force of 1,600 N, it can stand with the highest demands. It is also burglar-proof and tamper-proof.

In the cabin area, the Solenoid Door Lock from Kendrion with these secure properties can reliably take over many locking tasks.

Drawer locks in first and business class seats, locking mechanisms in galleys and trolleys, locks in the lavatory area or even cabin doors in business jets can be realized.

The solenoid door lock is designed with an extremely robust mechanism and a high locking force. An integrated powerful solenoid enables easy activation and combines fast unlocking with pleasant acoustics.

In the field of solenoid technology, Kendrion focuses on electromagnetic and motor-driven locking devices. As one of the new universal standard products, Kendrion offers a compact locking system “the solenoid lock”, which can be

adapted for a variety of in-cabin applications with little effort.

Benefits at a glance

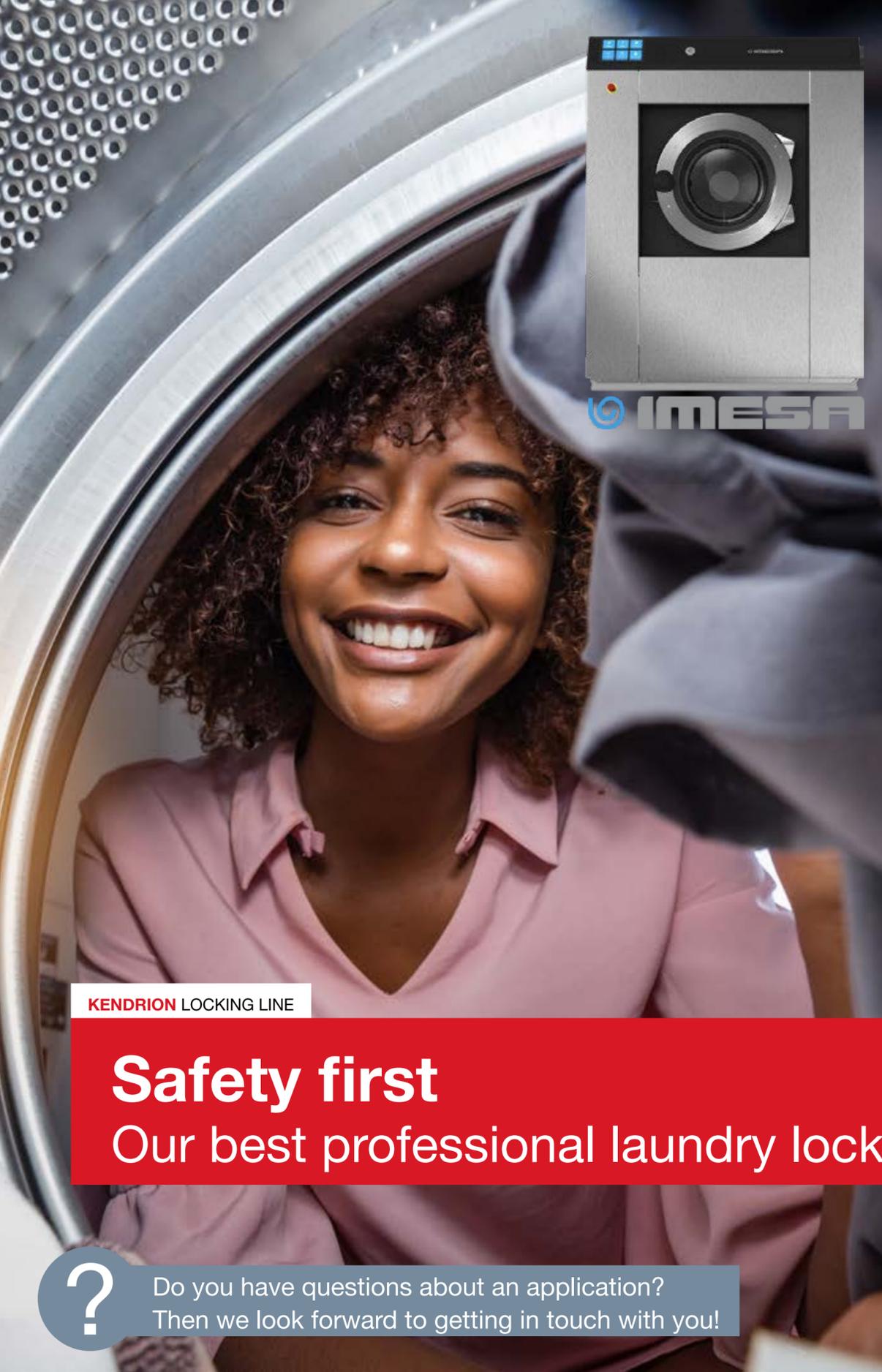
- ✓ long service life
- ✓ emergency release and monitoring of the closing position
- ✓ high maximum static locking force of min. 1,600 N
- ✓ shock resistance at 100 g
- ✓ use at ambient temperatures of up to up to 100 °C
- ✓ use also at humidity >90% r.H.
- ✓ simple control
- ✓ compact design

Compact latches for in-cabin applications

Strong and smart – the solenoid door lock from Kendrion



Do you have questions about an application?
Then we look forward to getting in touch with you!



 **IMESA**

The new Professional Laundry Rotary Lock from Kendrion has been developed especially for industrial washing machines. Our customer IMESA has introduced the new High Spin Washing machine LM Series using our outstanding reliable laundry lock.

Door locks of professional washing machines must be extremely robust and even in the event of improper operation or vandalism, they must ensure that the door cannot be opened during the washing process.

A mechanical door lock in combination with powerful bi-stable solenoid, end position sensors for the closed and the locked position of the door, as well as central connectors and an emergency opener results in a highly compact unit. High-quality plastics contribute to increased mechanical stability and long product life even with high ambient temperatures.

Product features

- ✓ flat and robust design
- ✓ emergency release
- ✓ ready-to-install lock
- ✓ bistable reversing solenoid
- ✓ suitable for high ambient temperatures
- ✓ two to three sensors for closing and locking position

Other examples of use

- ✓ professional baking ovens
- ✓ combi steamers
- ✓ climate chamber
- ✓ environmental test chamber
- ✓ laboratory steriliser
- ✓ laboratory incubator

KENDRION LOCKING LINE

Safety first

Our best professional laundry lock for Imesa



Do you have questions about an application?
Then we look forward to getting in touch with you!





KENDRION LOCKING LINE

Burglar-proof locking for lockers

Shock-resistant Compact Door Lock for small installation spaces

Lockers allow various items and valuables to be stored at any time of day or night. Burglar resistance and protection against manipulation must therefore be permanently ensured.

The Compact Door Lock with dimensions of 95 x 51 x 18 mm is specially designed for confined spaces and features high shock resistance of up to 300 g in all axes. It reliably keeps lockers closed and impresses with a shock resistance of 100,000 switching cycles. With this locking system, locked-in objects are optimally protected against external influences.

The locking system is ready to install, including a door hook, and is equipped with a microswitch for detecting the door position and the closing process. The robust but cost-efficient design makes the Compact Solenoid Lock an optimal solution for lockers.

Product features

- ✓ Ready for installation
- ✓ Very high shock resistance (optionally up to 300 g in all axes)
- ✓ Universally applicable even in tight spaces
- ✓ Long service life
- ✓ Robust and compact design
- ✓ Incl. door hook
- ✓ Emergency release optional
- ✓ European manufacturer

Other examples of use

- ✓ Vending machines
- ✓ Parcel stations
- ✓ Applications with limited space



Sie haben Fragen zur Anwendung?
Nehmen Sie Kontakt mit unserem Team auf!



KENDRION LOCKING LINE

Secure locking for vending machines

The shock-resistant Compact Door Lock is designed specially for small installation spaces.

Vending machines offer food and non-food items around the clock and without the need for human resources. To reliably protect the continuous operation of the vending machine, Kendrion offers a Compact Solenoid Lock that is specially designed for small installation spaces. It is particularly characterized by its high shock resistance of up to 300 g in all axes and is tamper- and burglar-proof.

The Compact Door Lock is a ready-to-install locking system including a door hook. It is equipped with a microswitch for detecting the door position and the closing process and optionally with an emergency release.

The robust design, locking forces of 200 N and a service life of up to 100,000 switching cycles make the Compact Solenoid Lock a reliable locking system for vending machines. The small size of only 95 x 51 x 18 mm makes it ideal for installation in confined spaces.

Product features

- ✓ Ready for installation
- ✓ Very high shock resistance (optionally up to 300 g in all axes)
- ✓ Universally applicable even in tight spaces
- ✓ Long service life
- ✓ Robust and compact design
- ✓ Incl. door hook
- ✓ Emergency release optional
- ✓ European manufacturer

Other examples of use

- ✓ Lockers
- ✓ Parcel stations
- ✓ Applications with limited space



Do you have questions about an application?
Then we look forward to getting in touch with you!

**Do you have questions about a product?
Are you interested in an application or do you
need a customised solution?**

Then we look forward to getting in touch with you!

Kendrion Kuhnke Automation GmbH

Lütjenburger Straße 101
23714 Malente
Deutschland
Tel: +49 4523 402-0
sales-ics@kendrion.com

Kendrion (Donaueschingen/Engelswies) GmbH

August-Fischbach-Strasse 1
78166 Donaueschingen
Deutschland
Tel: +49 771 80093770
sales-ims@kendrion.com

www.kendrion.com

