Electromechanical Locking Systems

Plastic, for Latches

SPECIFICATION

Identification no.
- No. **2**: With latch arm check

Connection type
- Type **A**: Connector plug (with 0.25 m cable)

Housing / Locking catch / Latch arm check
Plastic, polyamide (PA)
- Glass fiber reinforced
- Black, RAL 9005, matte finish

Cable
Plastic, polyurethane (PUR)
Black

Plug
- Plastic, 8-pin, M12x1
- Knurled screw connection
  Brass, nickel plated

Operating temperature -20 °C to +60 °C

INFORMATION

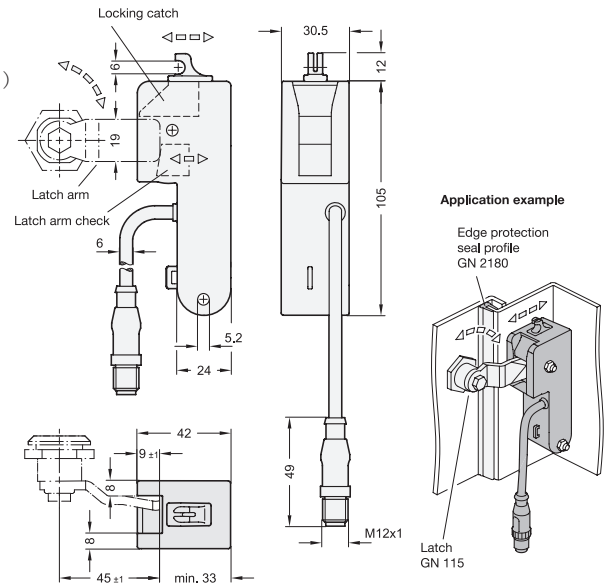
Electromechanical locking systems GN 120.4 are used together with latches GN 115 or GN 515. In the closed position, the latch arm is locked by the locking catch and by an electrical input signal. In addition, the presence of the latch arm in the closed position is detected and emitted as an output signal.
The locking system can be used for left or right locks and increases the latch distance A by 8 mm. Existing installations can be upgraded with minimal effort. The electromechanical locking system is also not visible from the outside.

ACCESSORY

- GN 330 Cables with Connector Coupling (see page 1448)

TECHNICAL INFORMATION

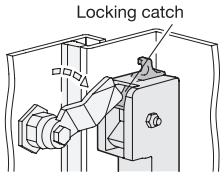
- Operation Description (see page)
- Technical and Assembly Instructions (see page)
- Mechanical Features / Electrical Features / Approvals (see page)
- Security Information (see page)
- IP Protection Classes (see page A23)
- Plastic Characteristics (see page A2)



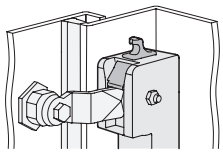
GN 120.4

Description	Width	⚖
GN 120.4-42-2-A	42	100

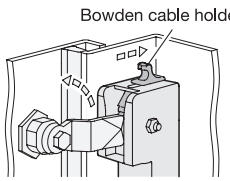
Operation Description



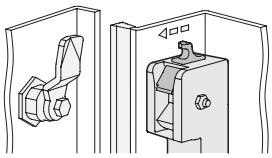
If the latch arm is moved to the closed position via the rotation limited to 90°, the spring-loaded locking catch snaps forward to prevent reopening of the latch.



In the closed position, the presence of the latch arm is detected by the latch arm check, and a high signal is output at the latch arm check output (pin 4) if a connection is also present between the additional contact pins 5 and 6. For example, this can take the form of a simple wire bridge or a door position check.

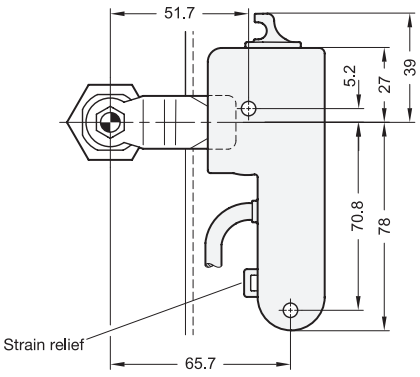


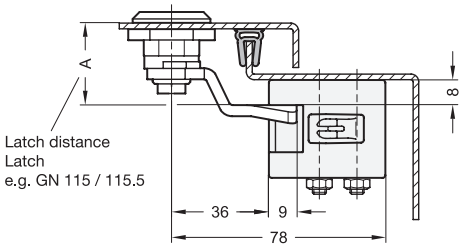
To release the latch again, a high signal is applied to control input pin 4, causing the locking catch to be withdrawn electromechanically. In the event of a power failure or system fault, the locking catch can be pushed back via the manual emergency release. The emergency release is designed to allow the fastening of a Bowden cable.



When the high signal at control input pin 4 falls away, the locking catch is released by the electromechanical mechanism, allowing the spring to push it forward again into the initial position.

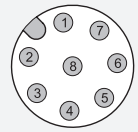
Technical and Assembly Instructions





After installation, the connection cable can be additionally secured by a cable tie at the strain relief if necessary. The electromechanical locking system GN 120.4 can be easily added to existing installations. To accommodate the electromagnetic locking system, it is only necessary to increase the latch distance A of the latch by 8 mm. Corresponding latch arms are available for all typical latch distances.

Mechanical Features		
Fastening	2x through-holes for M5 screws	
Recommended torque	max. 2 Nm	
Protection type	IP2x (observe cable protection!)	acc. to EN 60529
Emergency release	Fastening option for Bowden cable	

Electrical Features / Safety Features		
Supply voltage	12 - 24 VDC	
Max. power consumption	max. 120 mA; Stand-by 9mA	
Utilization category	DC 13: 24 VDC / 120 mA	acc. to EN 60947-5-1
Contacts, connection type Plug M12x1, 8-pin, A-coded		1 - Not used 2 - Supply voltage 3 - Release control input 4 - Latch arm check output 5 - Additional contact input 6 - Additional contact output 7 - 0 VDC / functional grounding 8 - Not used
Cable	8 x 0.25 mm², Li9Y11Y, jacket PUR, UL	acc. to IEC 60332-1-2
Strain relief	With cable tie	
Short-circuit current	1000 A	acc. to EN 60947-5-1
Rated insulation voltage	30 VDC	
Operating temperature	-20 °C ... +60 °C	
Degree of pollution, external	2	acc. to EN 60947-5-1
Mission time (TM)	20 years	acc. to EN ISO 13849-1
Number of cycles (B10 d)	50 000	acc. to EN ISO 13849-1

Approvals / Conformities / Applicability			
CE marking UL Recognized	CE	cULus	EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-6 EN 61000-4-8

Security Information

The information in the operating instruction must be observed during installation, initial operation, and use. It is enclosed with the product and is provided digitally on the product page at elesa-ganter.com.
The electromechanical locking system must be installed and commissioned by a qualified specialist in accordance with the information in the operating instructions as well as the national and international provisions and applicable standards.
Elesa+Ganter accepts no legal liability for missing or incorrect information or the consequences thereof.

Ganter Norm®

EN **Translation of the original operating instruction (de)**

Electromechanical locking system

GN 120.4

Edition
07/2024

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EU Declaration of Conformity

Manufacturer: Otto Ganter GmbH & Co. KG, Triberger Str. 3, 78120 Furtwangen

We hereby declare that the electromechanical locking system GN 120.4 , based on the design as marketed by us, satisfies the applicable requirements of the directives listed below as well as the fundamental safety and health requirements of the harmonized and national norms listed below as well as the technical specifications.

Applicable EU directives:

2014/30/EU EMC Directive

The following harmonized standards have been applied:

DIN EN IEC 61000-4-3:2021-11
DIN EN 61000-4-2:2009-12
DIN EN 61000-4-4:2013-04
DIN EN 61000-4-6:2014-08
DIN EN 61000-4-8:2010-11

Person authorized to compile the conformity documentation:
Otto Ganter GmbH & Co. KG

Furtwangen, 26 April 2024
Stefan Ganter, Managing Director

About this documentation

This documentation is intended for persons who are entrusted with the installation, commissioning and operation of the product.
The electromechanical locking system GN 120.4 is referred to below as the "product".

Your safety

This section describes basic safety requirements and important information about the safe installation of the product.

- Read the operating instructions and information carefully.
- Follow the safety instructions and warnings in this document.
- Only use the product if it is undamaged and in good working order.
- Keep the documentation nearby at the location of use.
- Retain the documentation for the entire service life of the product.
- Also observe the current statuory regulations and other binding rules for accident prevention and enviromental protection

Safety symbols

DANGER	DANGER indicates dangers that lead directly to **death or severe** injuries.
WARNING	WARNING indicates dangers that could lead to **death or severe** injuries.
CAUTION	CAUTION indicates dangers that could lead to **injuries.**
NOTICE	Notice indicates dangers that could lead to **property damage.**

Symbols	Meaning
⚠	Warning about a source of danger
–	Lists
▸	Instruction

Safety and hazard information

⚠ Improper installation, modification or incorrect operation can cause injuries and property damage.

- Maintenance work on the product may only be performed by qualified electrically trained persons.
- No technical changes may be made to the product.
- Operation of the product is not permitted if the product is damaged in any way.

Intended use

- The product is specially designed for securely locking doors and hatches and protecting against unauthorized access.
- The product is intended for restricting access in order to protect against possible property damage or the interruption of a process.
- The use of electromechanical locking systems requires the use of compatible accessoires such as latches GN 115 or GN 515.

Foreseeable misuse

- Failure to comply with the safety and hazard information is considered misuse.
- Any use that deviates from the intended use is considered misuse.
- Operating the product outside of its technical specifications is not permitted.
- The product may not be used as the primary safety component for personal safety.
- The locking system may only be released once the function to be secured no longer poses any danger.
- Use of the product damaged, worn or technically defective condition is considered misuse.

User qualification

The proctuct may only be put into use and mantained by experts.

Storage

The product my only stored in a dry and protected environment.

Environmental conditions

The product satisfies protection level IP2X and is suitable for use at:

- Temperatures from -20 °C to +60 °C
- Relative humidity from 15% to 85%, non-condensing

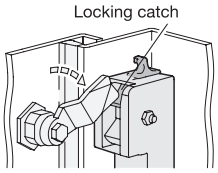
Product description

Electromechanical locking systems GN 120.4 are used together with latches GN 115 or GN 515. In the closed position, the latch arm is locked by the locking catch and by an electrical input signal. In addition, the presence of the latch arm in the closed position is detected and emitted as an output signal.

The locking system can be used for the left or right locks and increases the latch arm distance A by 8 mm. Existing constructions can be upgraded with minimal effort. The electromechanical locking system is also not visible from the outside.

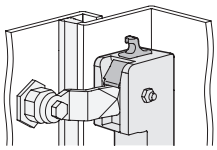
Operation description

1.



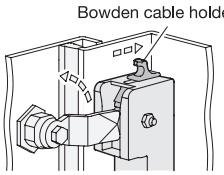
Locking

2.



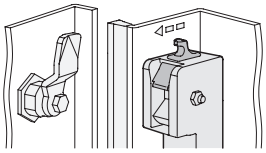
Latch arm and locking catch

3.



Locking catch locked by:
- Electric motor
- Bowden cable

4.



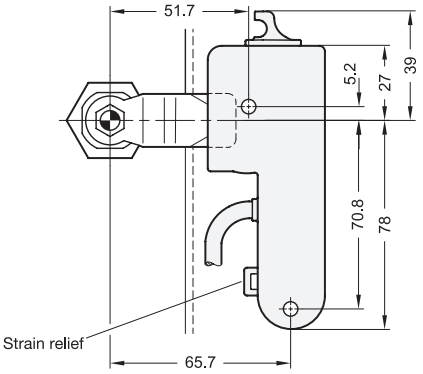
Latch arm and locking catch

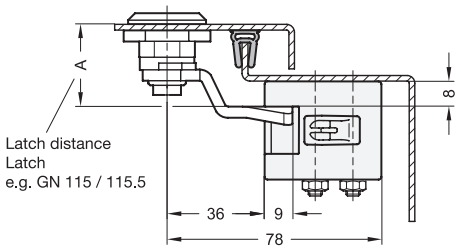
Assembly

DANGER

Risk of death from electricity!

- An electric shock is possible due to improper connection of the product.
- The electrical connection of the product may only be performed by electrically trained personnel.





NOTICE

Damage to the catch

If the latch arm does not engage deeply enough, operation will result in damage to the locking catch.

- Observe the required hole spacing when retrofitting.
- Do not exceed the maximum recommended tightening torque of 2 Nm.

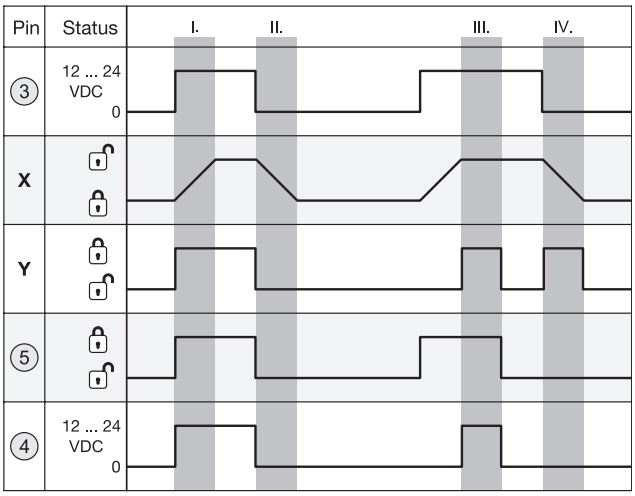
After Installation, the connection cable can be additionally secured by a cable tie at the strain relief if necessary.

Latch arm distances for retrofitting

The latch arm stop of the electromechanical locking system has a thickness of 8mm. When retrofitting an existing construction in combination with latches GN 115 an GN 515, the latch arm spacing A must be increased by 8mm.

Switching logic

The following figure shows the switching logic of the individual phases **I. - IV.**



I. Unlocking

The locking catch **X** is unlocked by a signal over the unlocking control input (Pin 3). The voltage of the incoming signal must be between 12 an 24 VDC.

II. Locking

When the signal (Pin 3) falls of, the locking catch **X** is locked.

III. Additional contact connected, latch arm closed

If the latch arm **Y** is closed and there is a connection between the additional contacts of pins 5 and 6, such as with simple wire bridge or a door position sensor, a high signal equal to the supply voltage is present at the output of the latch arm check (Pin 4).

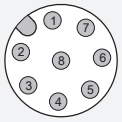
IV. Additional contact not connected, catch open

If there is no connection between the additional contacts (Pin 5 and Pin 6) and the latch arm **Y** is open, no high signal is output at the output of the latch arm check (Pin 4).

Problem - Locking catch, drive loses position

Cause: If the latch arm is not properly opened or closed at a 90° angle and collides with the locking catch, the drive of the locking catch may lose its position.

Action: Disconnect the product from power supply. Move the latch arm to the “Open” or “Closed” position, then switch the product back on after at least 10 seconds. Then check the function of the locking catch by applying the control voltage.

Connection type		Pin	Description
Plug M12x1 8-pin, A-coded		1	Not used
		2	Supply voltage
		3	Unlocking control input
		4	Latch arm check output
		5	Additional contact input
		6	Additional contact output
		7	0 VDC functional grounding
		8	Not used

Commissioning

All functions of the product must be tested during commissioning.

Maintenance

The function of the electromechanical locking system GN 120.4 must be tested regularly, at least every 6 months. In the event of frequent switching, the testing intervals must be shortened accordingly.

The following measures be carried out.

- Ensure power switching function.
- Ensure secure fastening of all parts.
- Identify excessive signs of wear.
- Remove soiling.
- Have the insulation of the cable routing checked by an electrically trained person.

Type plate

The type plate is located on the outside of the product housing and contains information about: the article number, manufacturer, version number and electrical properties.

Disposal

- The product must be disposed of in a safe and environmentally friendly manner.
- When decommissioning the product, the local laws on the disposal of electronic devices (Electric and Electronic Devices Act) must be observed.

Technical data

Mechanical features		
Fixing	2x through-holes for M5 screws	
Recommended torque	Max. 2 Nm	
Protection class	IP2x (observe cable protection!)	EN 60529
Emergency unlocking	Possible by hand / by Bowden cable	

Electrical features / Safety features		
Supply voltage	12 - 24 VDC	
Max. power consumption	Max. 120 mA; stand-by 9 mA	
Utilization category	DC 13: 24 VDC / 120 mA	EN 60947-5-1
Contacts, termination	8-pin plug M12x1, A-coded,	
Cable	8x0.25 mm^2, Li9Y11Y, jacket PUR, UL	IEC 60332-1-2
Strain relief	With cable tie	
Cable length	0.25 m	
Short-circuit current	1000 A	EN 60947-5-1
Rated insulation voltage	30 VDC	
Temperature of use	-20 °C ... +60 °C	
Degree of pollution, external	2	EN 60947-5-1
Service life (TM)	20 years	EN ISO 13849-1
Number of cycles (B10 d)	50,000	EN ISO 13849-1