



Assembly and Operating Instructions



MAXOLUTION® System Solution **MAXO-MS/M/SM-GIOP Sensor Module**



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1 General information

1.1 About this documentation

The documentation at hand is the original.

This documentation is an integral part of the product. The documentation is intended for all employees who perform work on the product.

Make sure this documentation is accessible and legible. Ensure that persons responsible for the systems and their operation as well as persons who work on the product independently have read through the documentation carefully and understood it. If you are unclear about any of the information in this documentation or if you require further information, contact SEW-EURODRIVE.

1.2 Other applicable documentation

Observe the corresponding documentation for all additional components.

1.3 Structure of the safety notes

1.3.1 Meaning of signal words

The following table shows the grading and meaning of the signal words for safety notes.

Signal word	Meaning	Consequences if disregarded
▲ DANGER	Imminent hazard	Severe or fatal injuries
▲ WARNING	Possible dangerous situation	Severe or fatal injuries
▲ CAUTION	Possible dangerous situation	Minor injuries
NOTICE	Possible damage to property	Damage to the product or its environment
INFORMATION	Useful information or tip: Simplifies handling of the product.	

1.3.2 Structure of section-related safety notes

Section-related safety notes do not apply to a specific action but to several actions pertaining to one subject. The hazard symbols used either indicate a general hazard or a specific hazard.

This is the formal structure of a safety note for a specific section:



SIGNAL WORD

Type and source of hazard.

Possible consequence(s) if disregarded.

- Measure(s) to prevent the hazard.

Meaning of the hazard symbols

The hazard symbols in the safety notes have the following meaning:

Hazard symbol	Meaning
	General hazard

1.3.3 Structure of embedded safety notes

Embedded safety notes are directly integrated into the instructions just before the description of the dangerous action.

This is the formal structure of an embedded safety note:

▲ SIGNAL WORD! Type and source of hazard. Possible consequence(s) if disregarded. Measure(s) to prevent the hazard.

1.4 Decimal separator in numerical values

In this document, a period is used to indicate the decimal separator.

Example: 30.5 kg

1.5 Rights to claim under limited warranty

Read the information in this documentation. This is essential for fault-free operation and fulfillment of any rights to claim under limited warranty. Read the documentation before you start working with the product.

1.6 Product names and trademarks

The brands and product names in this documentation are trademarks or registered trademarks of their respective titleholders.

1.6.1 Trademark of Beckhoff Automation GmbH

EtherCAT® is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

EtherCAT® 

1.7 Copyright notice

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2 Safety notes

2.1 Preliminary information

The following general safety notes serve the purpose of preventing injury to persons and damage to property. They primarily apply to the use of products described in this documentation. If you use additional components, also observe the relevant warning and safety notes.

2.2 Duties of the user

As the user, you must ensure that the basic safety notes are observed and complied with. Make sure that persons responsible for the machinery and its operation as well as persons who work on the device independently have read through the documentation carefully and understood it.

As the user, you must ensure that all of the work listed in the following may be carried out only by qualified specialists:

- Setup and installation
- Installation and connection
- Startup
- Maintenance and repairs
- Shutdown
- Disassembly

Ensure that the persons who work on the product pay attention to the following regulations, conditions, documentation, and information:

- National and regional safety and accident prevention regulations
- Warning and safety signs on the product
- All other relevant project planning documents, installation and startup instructions, and wiring diagrams
- Do not assemble, install or operate damaged products
- All system-specific specifications and conditions

Ensure that systems in which the product is installed are equipped with additional monitoring and protection devices. Observe the applicable safety regulations and legislation governing technical work equipment and accident prevention regulations.

2.3 Target group

Specialist for mechanical work

Any mechanical work may be performed only by adequately qualified specialists. Specialists in the context of this documentation are persons who are familiar with the design, mechanical installation, troubleshooting, and maintenance of the product who possess the following qualifications:

- Qualifications in the field of mechanics in accordance with the national regulations
- Familiarity with this documentation

Specialist for electrotechnical work	<p>Any electrotechnical work may be performed only by electrically skilled persons with a suitable education. Electrically skilled persons in the context of this documentation are persons who are familiar with electrical installation, startup, troubleshooting, and maintenance of the product who possess the following qualifications:</p> <ul style="list-style-type: none"> • Qualifications in the field of electrical engineering in accordance with the national regulations • Familiarity with this documentation
Additional qualifications	<p>In addition to that, these persons must be familiar with the valid safety regulations and laws, as well as with the requirements of the standards, directives, and laws specified in this documentation.</p> <p>The persons must have the express authorization of the company to operate, program, parameterize, label, and ground devices, systems, and circuits in accordance with the standards of safety technology.</p>
Instructed persons	<p>All work in the areas of transportation, storage, operation and waste disposal must be carried out by persons who are trained appropriately. The purpose of the training is to give persons the ability to perform the required tasks and work steps in a safe and correct manner.</p>

2.4 Designated use

The product consists of a unit with the following sensors, which are used for track guidance:

- 2 acceleration sensors for the X and Y axes
- 2 rotation rate sensors for the Z axis
- 1 inductive track guidance
- 1 read head for RFID transponders

Moreover, the product is equipped with a connection for the power supply and communication interfaces:

- 2 EtherCAT® interfaces (IN and OUT)
- 2 CAN interfaces
- RS422 interface for external optical track guidance (optional)
- DC 24 V supply

The product is designed for installation in mobile electrical systems or machines, especially for automated guided vehicles.

In case of installation in electrical systems or machines, startup of the product is prohibited until it is determined that the machine meets the requirements stipulated in the local laws and directives. For Europe, Machinery Directive 2006/42/EC as well as the EMC Directive 2014/30/EU apply. Observe EN 60204-1 (Safety of machinery - electrical equipment of machines). The product meets the requirements stipulated in the Low Voltage Directive 2014/35/EU.

Technical data and information on the connection conditions are provided on the nameplate and in chapter "Technical data" in the documentation. Always comply with the data and conditions.

Observe the following restrictions:

- Do not open the product.

Safe and fault-free operation can no longer be ensured if you open the product. In case of service, send your product back to SEW-EURODRIVE. Your right to claim under warranty no longer applies if you open the product.

- Do not make any changes to the product.

Your right to claim under warranty no longer applies if you make changes to the product.

Unintended or improper use of the product may result in severe injury to persons and damage to property.

2.5 Network security and access protection

A bus system makes it possible to adapt electronic drive technology components to the particulars of the machinery within wide limits. There is a risk that a change of parameters that cannot be detected externally may result in unexpected but not uncontrolled system behavior and may have a negative impact on operational safety, system availability, or data security.

Ensure that unauthorized access is prevented, especially with respect to Ethernet-based networked systems and engineering interfaces.

2.6 Transport

Inspect the shipment for damage as soon as you receive the delivery. Inform the shipping company immediately about any damage. If the product is damaged, it must not be assembled, installed or started up.

When you return the product, pack it into a suitable box.

Observe the information on climatic conditions in chapter "Technical data" of the documentation.

2.7 Installation/assembly

When installed in an automated guided vehicle system, adjacent or attached components must not result in exceeding the permitted operating temperature of the device.

Protect the product from strong mechanical strain. The product and its mounting parts must never protrude into the path of persons or vehicles. Electrical components must not be mechanically damaged or destroyed.

2.7.1 Restrictions of use

The following applications are prohibited unless the device is explicitly designed for such use:

- Use in potentially explosive atmospheres
- Use in areas exposed to harmful oils, acids, gases, vapors, dust, and radiation
- Operation in applications with impermissibly high mechanical vibration and shock loads in excess of the regulations stipulated in EN 61800-5-1
- Use at an elevation greater than 2000 m above sea level

2.8 Electrical installation

The preventive measures and protection devices must comply with the applicable regulations (e.g. EN 60204-1 or EN 61800-5-1).

2.9 Startup and operation

Damaged products Never install damaged products. Submit any complaint to the shipping company immediately in the event of transportation damage. Do not start up damaged products.

2.10 Inspection/maintenance

Never open the device. Only SEW-EURODRIVE may repair the device.

3 Device structure

3.1 Type designation

MAXO	MAXOLUTION® system solution	
-		
MS	Mobile system	
/		
M	Module	
/		
SM	Sensor module	
-		
	Design with the following combination options:	
	G	Acceleration and rotation rate sensor
	I	Inductive
	O	Optical (connection available for external optical track guidance)
	P	RFID

3.2 Overview of designs

Designation	Part number
MAXO-MS/M/SM-GIP (without RS422 connection for external optical track guidance)	28279883
MAXO-MS/M/SM-GIOP (with RS422 connection for external optical track guidance)	28272528

3.3 Short designation

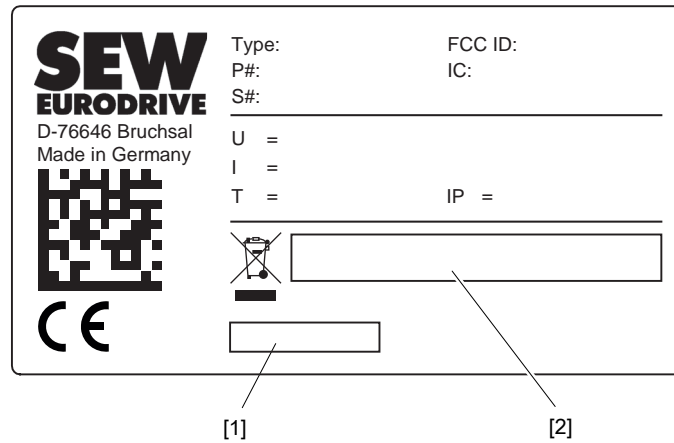
The following short designations are used in this documentation:

Designation	Short designation
MAXO-MS/M/SM-GIOP Sensor Module	Device
Automated guided vehicle	Vehicle

3 Device structure

Nameplate

3.4 Nameplate



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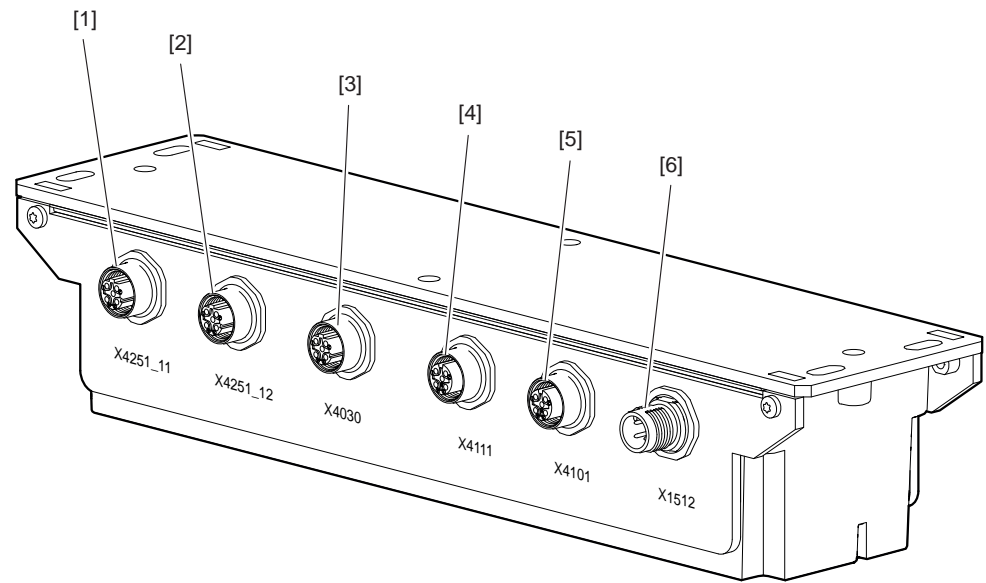
- [1] Product designation
- [2] Version

Depending on the device design, the following information is listed on the main nameplate:

Value	Specification
Type	Type designation
P#	Part number (for customer-specific products)
S#	Production number
FCC ID	Radio approval for USA/Canada
IC	
U	Voltage
I	Current
T	Ambient temperature
IP	Degree of protection

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3.5 Device overview



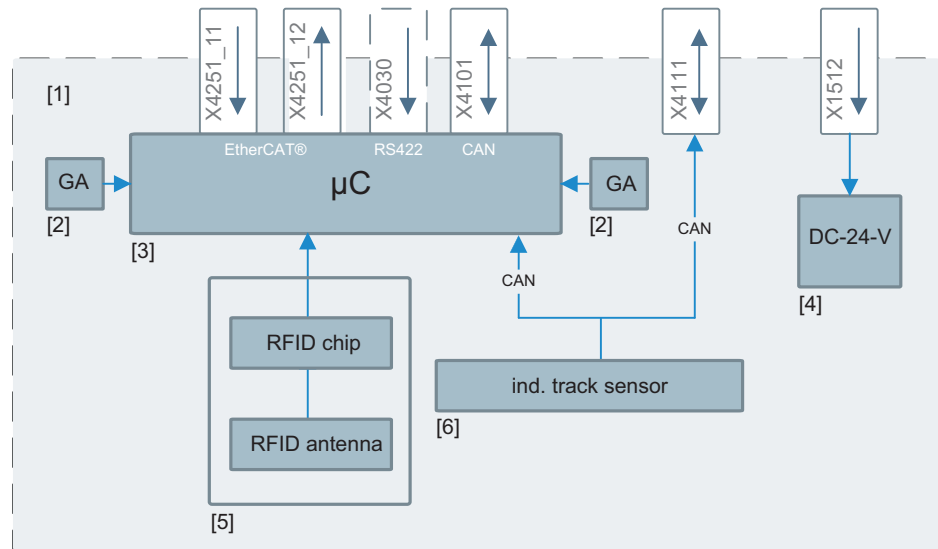
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[1]	X4251_11	EtherCAT® interface (IN)
[2]	X4251_12	EtherCAT® interface (OUT)
[3]	X4030	RS422 interface for connecting an external optical track guidance (optional)
[4]	X4111	CAN interface
[5]	X4101	CAN interface (diagnostics)
[6]	X1512	Interface for power supply

For further information, refer to chapter "Electrical installation" (→ 24).

3.6 Operating principle

The following figure shows the block diagram of the sensor module:



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The sensor module is used in a mobile assistant. It consists mainly of the following components:

- [1] Communication interfaces
- [2] Rotation rate and acceleration sensors
- [3] Microcontroller
- [4] Power supply
- [5] Read head and antenna for detection of RFID transponders
- [6] Inductive track guidance

Inductive track guidance [6] detects the deviation of the vehicle from the specified track on the MOVITRANS® line cable. At the same time, odometry data is collected by the rotation rate sensor and acceleration sensors.

The data of the inductive track guidance is transmitted to the microcontroller [3] via CAN for evaluation. The data is also available to other devices via the CAN female plug connector X4111. Another CAN female plug connector X4101 is connected to the microcontroller and can be used for diagnostics or programming of the device.

The data of the RFID transponders is collected and read [5] and transmitted serially to the microcontroller for referencing.

For traveling along an optical track, the sensor module can be equipped with an RS422 interface for connecting an external optical track guidance.

The sensor module transmits the sensor data to a higher-level controller where it is compared and evaluated.

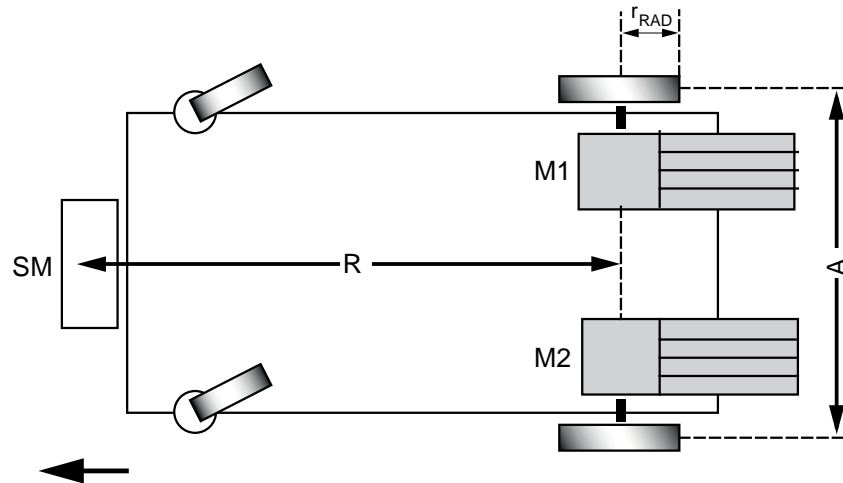
The sensor module has 2 EtherCAT® interfaces (X4251_11 and X4251_12) for integration into an EtherCAT® topology and as a prerequisite for communication with a higher-level controller.

4 Mechanical installation

4.1 Track and vehicle geometry

4.1.1 Distance designation

The following figure shows the vehicle from below (in the direction of travel) with the designation of the distances:



34148228235

- SM Sensor module
- R Distance R between the sensor module (SM) and the steered axis
- M Motor
- A Distance of the two drive wheels
- r_{RAD} Tire radius

These parameters are required for configuring the sensor module. They also apply to slightly different vehicle designs with swivel wheel suspension.

An advantage of vehicles with swivel wheel suspension is that they run more smoothly during operation.

4.1.2 Distance between the sensor module and the steered axis

The distance R between the sensor module and the steered drive axis must be at least as large as the result calculated using the following formula:

$$R_{\min} = \sqrt{\left(1.6 \frac{s^2}{m} \times A\right) \times v_{\max}}$$

2561101579

v_{max} Maximum travel speed in m/s

INFORMATION



This condition also applies to vehicle designs with swivel wheel suspension.

4 Mechanical installation

Track and vehicle geometry

4.1.3 Minimum permitted curve radius

The smallest possible curve radius $r_{\text{Kurve,min}}$ that can be traveled at v_{max} is calculated using the actual distance R:

$$r_{\text{Kurve,min}} = \frac{R^2}{0.08 \text{ m}}$$

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4.1.4 Speed reduction in tight curves

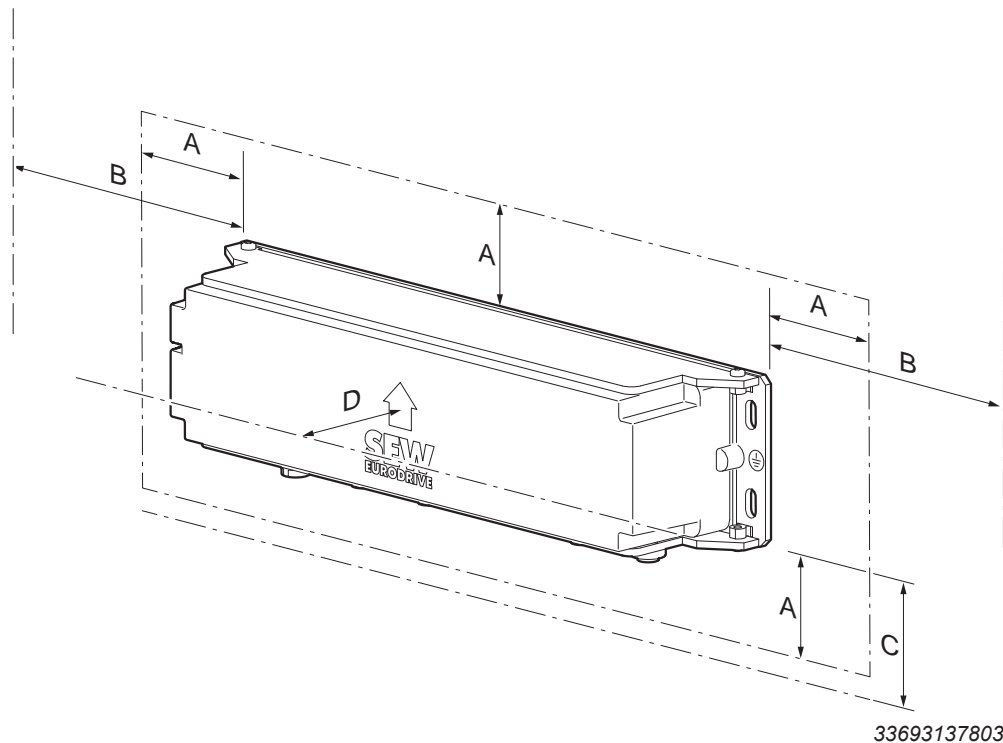
For curve radii $r_K < r_{\text{Kurve,min}}$, the travel speed in the curve must be reduced in accordance with v_{max} :

$$v_{\text{Kurve,max}} = \frac{r_K}{r_{\text{Kurve,min}}} \times v_{\text{max}}$$

2561235851

4.2 Minimum clearances

SEW-EURODRIVE recommends observing the following clearances when mounting the device:



The following table lists the minimum clearances:

Clearance	Function	Clearance
A	Distance to metallic components. This way, you can avoid a reduction of the range when reading an RFID transponder.	≥ 50 mm
B	Distance to metallic components. Metallic components prevent the sensor technology from functioning correctly.	≥ 125 mm
C	Space for cable entry and plug connectors	≥ 60 mm
D	Distance to floor to avoid collisions with obstacles and to ensure proper operation of the sensor technology	≥ 25 mm

4.3 Travel direction

It is important that you align the sensor module correctly in reference to the direction of travel. To help you do this, an arrow is printed on the top of the housing to indicate the direction of travel.

The sensor module must always be in front of the steered axis. This means a track point is crossed first by the sensor module and then by the steered axis.

**INFORMATION**

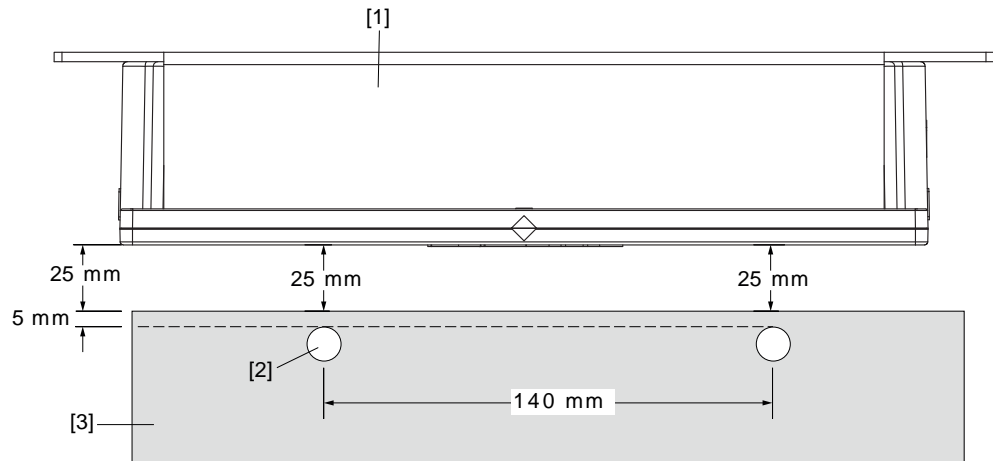
Reverse travel is not possible.

4.4 Project planning notes on inductive track guidance

4.4.1 Distances for line cable routing

Inductive track guidance is used with line cables (round or wedge-shaped) that are routed at a distance of 140 mm.

The following figure shows the distances that must be observed when mounting the sensor module using a round line cable as an example:



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- [1] Sensor module
- [2] Line cable (round design)
- [3] Hall floor

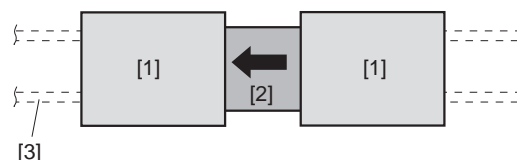
Install the sensor module [1] in such a way that the distance between hall floor [3] and bottom of the housing is 25 mm. This value applies when the line cable [2] is routed so that the top edge of the cable is 5 mm below the surface of the hall floor.

When routing the line cable, ensure that the distance between the top edge of the line cable and the surface of the hall floor is kept constant along the entire track. Before routing the line cable, exactly determine the thickness of the surface covering above the line cable. Avoid lateral deviations when routing the line cable because the track-guided vehicle follows the routed cable pair exactly.

A constant height must be observed between the sensor module and the line cable. Deviations of ± 3 mm in the height from the measuring system to the line cable pair leads to a track deviation of ± 2 mm.

4.4.2 Distance to pick-ups


The following figure shows the installation of the sensor module between 2 flat MOVITRANS® THM10E pick-ups:



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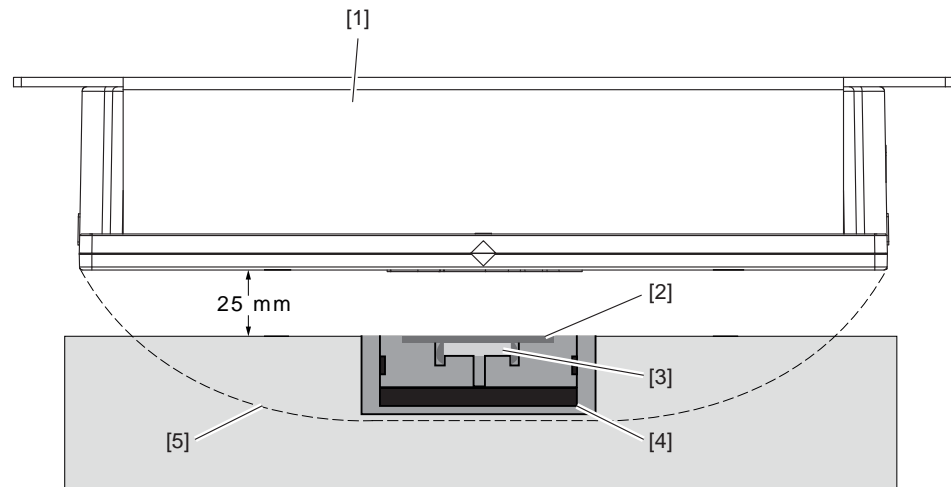
- [1] MOVITRANS® THM10E pick-up
- [2] Sensor module
- [3] Line cable

Observe the following notes for installation:

The MOVITRANS® THM10E pick-ups may be installed before and/or after the sensor module, taking the minimum clearances into account (see "Minimum clearances" (→  17)).

4.5 Project planning notes, RFID system

The following figure shows the sensor module, the components for installing the transponder and the required distance to the hall floor:



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- [1] Sensor module
- [2] Closing plug for assembly sleeve
- [3] Transponder
- [4] Assembly sleeve for transponder
- [5] Read field of the RFID transponder

The RFID system operates at a frequency of 13.56 Mhz according to ISO 15693. The range of the system is influenced by various factors that must be taken into account during project planning:

- Distance: Keep a sufficient distance to metallic objects (see "Minimum clearances" (→ 17)) and liquids.
- Reduced reading range in the outer area: Due to the physical characteristics of the antenna, the full reading range is not achieved in the outer area. Therefore, make sure that the transponder is passed in the center of the sensor module.
- Transponder type: The coupling between the RFID antenna and the RFID transponder depends on the shape and surface of the RFID transponder. This ensures different travel speeds with each transponder type.

That is why SEW-EURODRIVE recommends the following transponder components:

Transponder component (type)	Part number
Transponder (IQC22-22-T9)	11744928
Assembly sleeve	11746467
Closing plug for sleeve (W4299 1-25.5-PP-BK)	01146572

**INFORMATION**

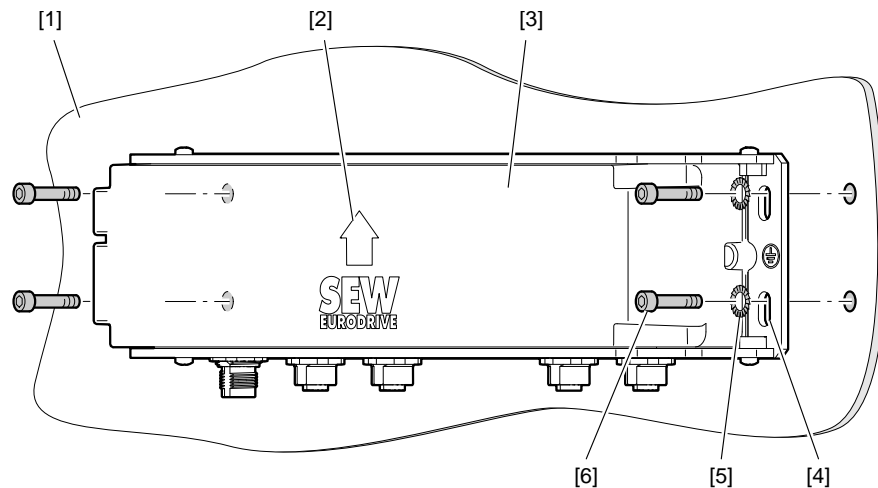
Faulty reading of transponders

- ✓ At a distance of 25 mm, safe reading of the transponder (IQC22-22-T9) is guaranteed for speeds of up to 2 m/s if the following conditions are met:
 - Correct installation of the recommended transponder components.
 - Transponder is passed in the center of the antenna.
-

4.6 Mounting the device

The device has 2 slotted holes [4] on both sides. You can mount the device [3] using the slotted holes [4] and 4 cap screws [6].

- Use screws [6] of suitable length to mount the device [3].
- Use tooth lock washers [5] and washers, if necessary. This allows for a low-impedance contact between the device [3] and the screw fitting so that the device is connected to the equipotential bonding of the vehicle.



33694343947

- [1] Mounting plate for mounting the sensor module to the bottom of the vehicle
 - [2] The arrow points in the direction of travel when mounted correctly.
 - [3] Sensor module
 - [4] Slotted hole (4 pieces)
 - [5] Tooth lock washer (4 pieces) with washers, if necessary
 - [6] Cap screw M5 (4 pieces)
- Tightening torque 5.8 – 6.8 Nm, strength class 8.8

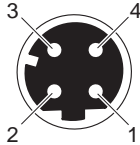
5 Electrical installation

5.1 Electrical connections

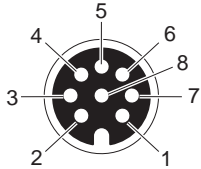
5.1.1 Representation of connections

The wiring diagrams show the contact end of the connections.

5.1.2 X4251_11/12: EtherCAT®/SBus^{PLUS} interface

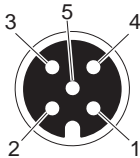
Function		
EtherCAT®/SBus ^{PLUS}		
Connection type		
Connection M12, 4-pin, female, D-coded		
Connection diagram		
		
No.	Name	Function
1	TX+	Transmit line (+)
2	RX+	Receive line (+)
3	TX-	Transmit line (-)
4	RX-	Receive line (-)

5.1.3 X4030: Connection, external optical track guidance (optional)

Function	
Connection for an external optical track guidance from Leuze: <ul style="list-style-type: none"> • Designation of the manufacturer: OGS 600-280/D2-M12.8 • Article number of the manufacturer: 50137476 The connection is included in the delivery of the device with the part number: 28272528.	
Connection type	
M12, 8-pin, female, A-coded	
Connection diagram	
	

No.	Name	Function
1	+24V	DC 24 V supply
2	n.c.	Not assigned
3	0V24	0V24 reference potential
4	n.c.	Not assigned
5	RX+	Transmit line (+)
6	RX-	Receive line (+)
7	TX+	Transmit line (-)
8	TX-	Receive line (-)

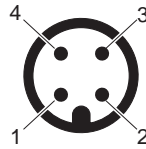
5.1.4 X4111_11/12: CAN interface

Function		
CAN interface		
Connection type		
Connection M12, 5-pin, female, A-coded		
Connection diagram		
		
No.	Name	Function
1	SHLD	Shield
2	n.c.	Not assigned
3	0V24	0V24 reference potential
4	CAN_H	CAN high
5	CAN_L	CAN low

5.1.5 X1512: DC 24 V supply

Function		
DC 24 V device supply input		
Connection type		
Connection M12, 4-pin, male, A-coded		

Connection diagram



No.	Name	Function
1	+24V	DC 24 V supply
2	n.c.	Not assigned
3	0V24	0V24 reference potential
4	n.c.	Not assigned

6 Service

6.1 Waste disposal

Dispose of the product and all parts separately in accordance with their material structure and the national regulations. Put the product through a recycling process or contact a specialist waste disposal company. If possible, divide the product into the following categories:

- Iron, steel or cast iron
- Stainless steel
- Magnets
- Aluminum
- Copper
- Electronic parts
- Plastics

The following materials are hazardous to health and the environment. These materials must be collected and disposed of separately.

- Oil and grease

Collect used oil and grease separately according to type. Ensure that the used oil is not mixed with solvent. Dispose of used oil and grease correctly.

- Screens
- Capacitors



Waste disposal according to WEEE Directive 2012/19/EU

This product and its accessories may fall within the scope of the country-specific application of the WEEE Directive. Dispose of the product and its accessories according to the national regulations of your country.

For further information, contact the responsible SEW-EURODRIVE branch or an authorized partner of SEW-EURODRIVE.

Project identification / Projektidentifikation

Proj. number	Proj. name SEW-EURODRIVE	Proj. name customer	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

Serial number, unit / Seriennummer, Gerät

SO#

Customer reference / Kundenreferenz

Local contact for inquiries / Ansprechpartner vor Ort für Rückfragen

Phone / Telefon E-mail / E-Mail

System data / Daten zu Anlage

Location description / Textangabe Ort

Vehicle number / Fahrzeugnummer

E-plan reference / E-Plan Referenz

Components / Komponente Stationary / Stationär Mobile / Mobil

Application / Applikation

Identification unit description / Identifikation Gerätebezeichnung

Failure description / Fehlerbeschreibung

Date / Datum 2 0 Time / Uhrzeit : h

Location of failure / Ort des Fehlers

Failure appearance (description / external conditions / repeatability) / Ausfallbild (Fehlererscheinung / äußere Umstände / Reproduzierbarkeit)

Unit display and LED status indication / Geräteanzeige und LED Statusanzeige State of diagnostic system / Statusanzeige Diagnosesystem

<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

Failure characteristics / Fehlercharakteristik

One-time / Einmalig Repeated / Wiederholt At same place / An gleicher Stelle At this product / Bei diesem Produkt At this product type / Bei diesem Produkttyp

How often and where / Wie oft und wo

Failure occurrence (Please save log files for detailed analysis!) / Auftreten des Fehlers (Ggf. Logfile für Analyse nötig, bitte speichern!)

Power up / Einschalten Boot process / Bootprozess Running mode / Im Betrieb

Elimination of error / Fehlerbeseitigung durch Reset / Quittieren Reboot / Neustart Replace / Austausch

Replacement new SO# / Bei Replacement neu SO#

SO#

Supposed failure / customers failure diagnostic / Fehlervermutung / Eigendiagnose

Attachments / Anlagen Marked layout plan / Mark position at layout plan (see reverse) Other / Anders

Return to / Rücksendung an Markiertes Layout / Position im Layoutplan markieren (s. Rückseite)

7 Technical data

7.1 General

General		
Ambient temperature	+5 °C to +40 °C (non-condensing, no condensation)	
Storage temperature and transportation	-25 °C to +70 °C	
Climate class (EN 60721-3-3)	3K3	
Voltage supply	DC 24 V	
Max. power/current consumption (without external optical track guidance)	12 W/0.5 A	
Mass	28279883 (GIP)	620 g
	28272528 (GIOP)	632 g
Degree of protection	IP54 (according to EN 60529)	
Installation altitude (industry standard)	≤ 2000 m	

7.2 Track guidance

Track guidance	
Tolerance	±2 mm
Resolution	0.2 mm
Frequency	25 kHz – 50 kHz
Sensing range	±65 mm

7.3 Rotation rate and acceleration sensors

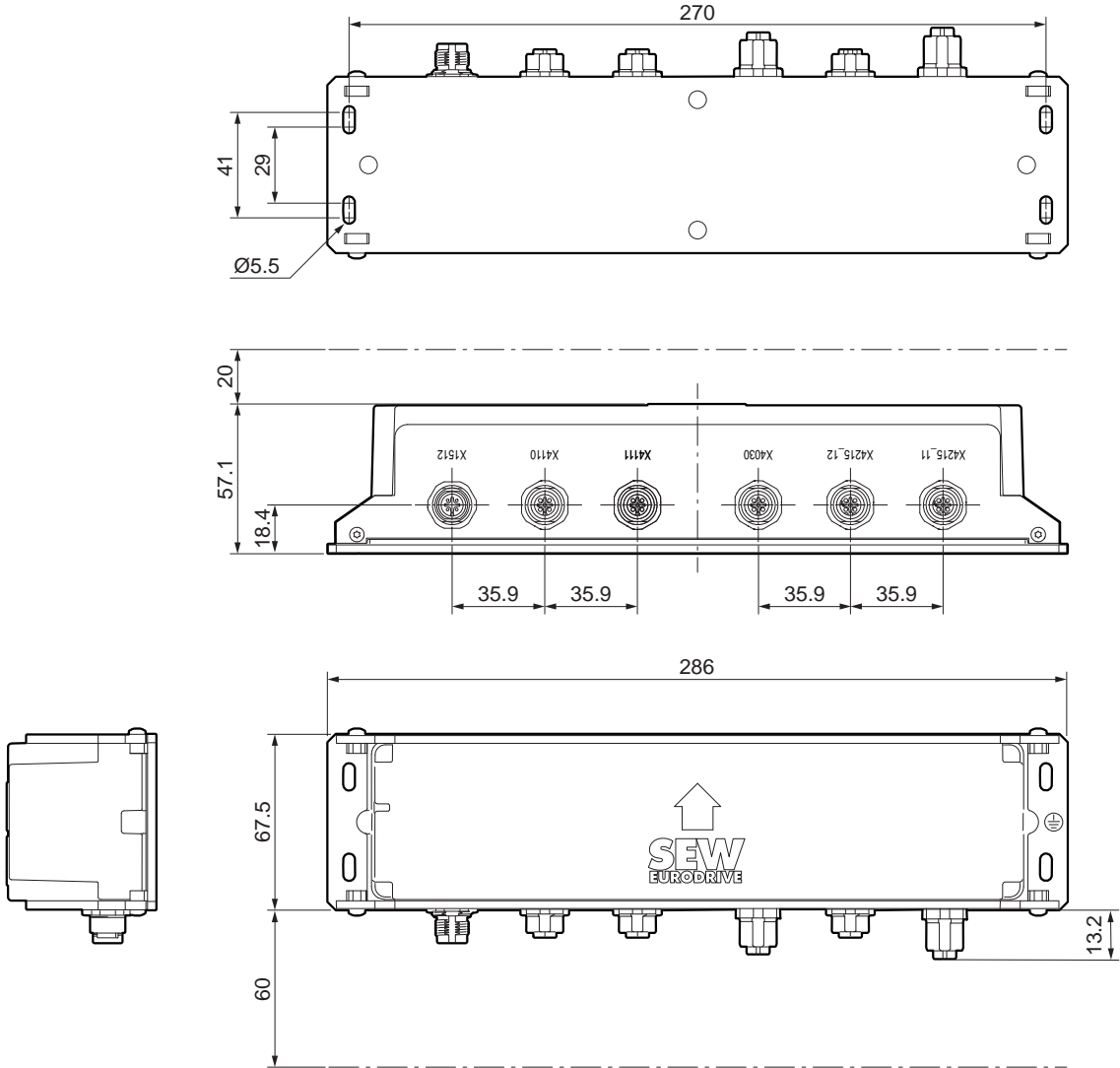
Rotation rate and acceleration sensors		
	Rotation rate sensor	Acceleration sensors (g = 9.81 m/s ²)
Measuring axis	Ω_z	a_x, a_y
Measuring range	±187°/s	±4.9 g
Measuring accuracy	175 LSB per °/s	6667 LSB per g
Measuring tolerance	±3%	±3%
Non-linearity	±1°/s	±40 mg
Offset of controller	±3°/s	±100 mg

Rotation rate and acceleration sensors		
	Rotation rate sensor	Acceleration sensors (g = 9.81 m/s ²)
Noise (rms value at 57 Hz)	±0.2°/s	5 mg
Bandwidth (-3 dB)	13 Hz and 57 Hz	
Start time	350 ms	

7.4 Read head for RFID transponder

Read head for RFID transponder		
Operating frequency		13.56 MHz
Transmission rate		26 kBit/s
Sensing range	Read distance	0 – 48 mm (ensures safe reading of transponder IQC22-22-T9 with up to 2 m/s)
	Width	Max. 220 mm
Conformity with standard		ISO/IEC 15693

7.5 Dimension Sheet



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26868113/EN – 03/2021

8 Approvals

8.1 USA/Canada

Changes or modifications not expressly approved by SEW-EURODRIVE void the user's authority to operate the equipment.

SEW-EURODRIVE GmbH & Co. KG

- Sensor module
- MAXO-MS/M/SM-GIOP
Variant with connection for optical track guidance
 - MAXO-MS/M/SM-GIP
Variant without connection for optical track guidance

FCC ID: VEB-28272528

IC: 7177A-28272528

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

8.2 Europe

The device is authorized for the following countries:

- | | | | |
|------------|-----------------|---------------|------------------|
| • Belgium | • Iceland | • Norway | • Spain |
| • Bulgaria | • Italy | • Austria | • Czech Republic |
| • Denmark | • Croatia | • Poland | • Turkey |
| • Germany | • Latvia | • Portugal | • Hungary |
| • Estonia | • Liechtenstein | • Romania | • United Kingdom |
| • Finland | • Lithuania | • Sweden | • Cyprus |
| • France | • Luxembourg | • Switzerland | |
| • Greece | • Malta | • Slovakia | |
| • Ireland | • Netherlands | • Slovenia | |

Additional national regulations apply for compliance with the RE 2014/53/EU directive (RED – Radio Equipment Directive). At the time this document was created, there were no restrictions regarding startup for any of the member states mentioned above or requirements to be fulfilled for permission of use according to article 10 paragraph 10 of directive 2014/53/EU.

SEW-EURODRIVE GmbH & Co KG hereby declares that the device complies with the basic requirements and other relevant regulations of the 2014/53/EU directive.

8.2.1 Declaration of conformity

The latest declaration of conformity is available on the SEW-EURODRIVE website.

Do the following:

1. Call up the SEW-EURODRIVE website at <https://www.sew-eurodrive.de/>. If necessary, you can change the view using the country and language selection.
 2. Select [Online Support] > [Data & documents] > [Documentation].
 3. Enter "REC5" in the search field and click on [Find].
- ⇒ The declaration of conformity is available in section [Quality documentation] for download.

9 MAXOLUTION® Competence Center

Germany

Bruchsal	SEW-EURODRIVE GmbH & Co KG Ernst-Blickle-Straße 42 76646 Bruchsal	Tel. +49 7251 75-0 Fax +49 7251 75-1970 http://www.sew-eurodrive.de maxolution@sew-eurodrive.de
Kirchheim	SEW-EURODRIVE GmbH & Co KG Domagkstraße 5 85551 Kirchheim (München)	Tel. +49 89 909551-21 Fax +49 89 909551-50 dtc-sued@sew-eurodrive.de

Australia

Melbourne	SEW-EURODRIVE PTY. LTD. 27 Beverage Drive Tullamarine, Victoria 3043	Tel. +61 3 9933-1000 Fax +61 3 9933-1003 http://www.sew-eurodrive.com.au enquires@sew-eurodrive.com.au
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Brazil

São Paulo	SEW-EURODRIVE Brasil Ltda. Estrada Municipal José Rubim, 205 – Rodovia Santos Dumont Km 49 Indaiatuba – 13347-510 – SP	Tel. +55 19 3835-8000 sew@sew.com.br
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France

Hagenau	SEW USOCOME 48-54 route de Soufflenheim B. P. 20185 67506 Hagenau Cedex	Tel. +33 3 88 73 67 00 http://www.usocome.com sew@usocome.com
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India

Chennai	SEW-EURODRIVE India Private Limited Plot No. K3/1, Sipcot Industrial Park Phase II Mambakkam Village Sriperumbudur - 602105 Kancheepuram Dist, Tamil Nadu	Tel. +91 44 37188888 Fax +91 44 37188811 saleschennai@seweurodriveindia.com
Pune	SEW-EURODRIVE India Private Limited Plant: Plot No. D236/1, Chakan Industrial Area Phase- II, Warale, Tal- Khed, Pune-410501, Maharashtra	Tel. +91 21 35 628700 Fax +91 21 35 628715 salespune@seweurodriveindia.com
Vadodara	SEW-EURODRIVE India Private Limited Plot No. 4, GIDC POR Ramangamdi • Vadodara - 391 243 Gujarat	Tel. +91 265 3045200 Fax +91 265 3045300 http://www.seweurodriveindia.com salesvadodara@seweurodriveindia.com

Italy

Solaro	SEW-EURODRIVE S.a.s. di SEW S.r.l. & Co. Via Bernini,12 20033 Solaro (Milano)	Tel. +39 02 96 980229 Fax +39 02 96 980 999 http://www.sew-eurodrive.it milano@sew-eurodrive.it
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Poland

Tychy	SEW-EURODRIVE Polska Sp.z.o.o. ul. Strzelecka 66 43-109 Tychy	Tel. +48 32 32 32 610 Fax +48 32 32 32 648
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South Africa

Johannesburg	SEW-EURODRIVE (PROPRIETARY) LIMITED Eurodrive House Cnr. Adcock Ingram and Aerodrome Roads Aeroton Ext. 2 Johannesburg 2013 P.O.Box 90004 Bertsham 2013	Tel. +27 11 248-7000 Fax +27 11 248-7289 http://www.sew.co.za info@sew.co.za
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South Korea

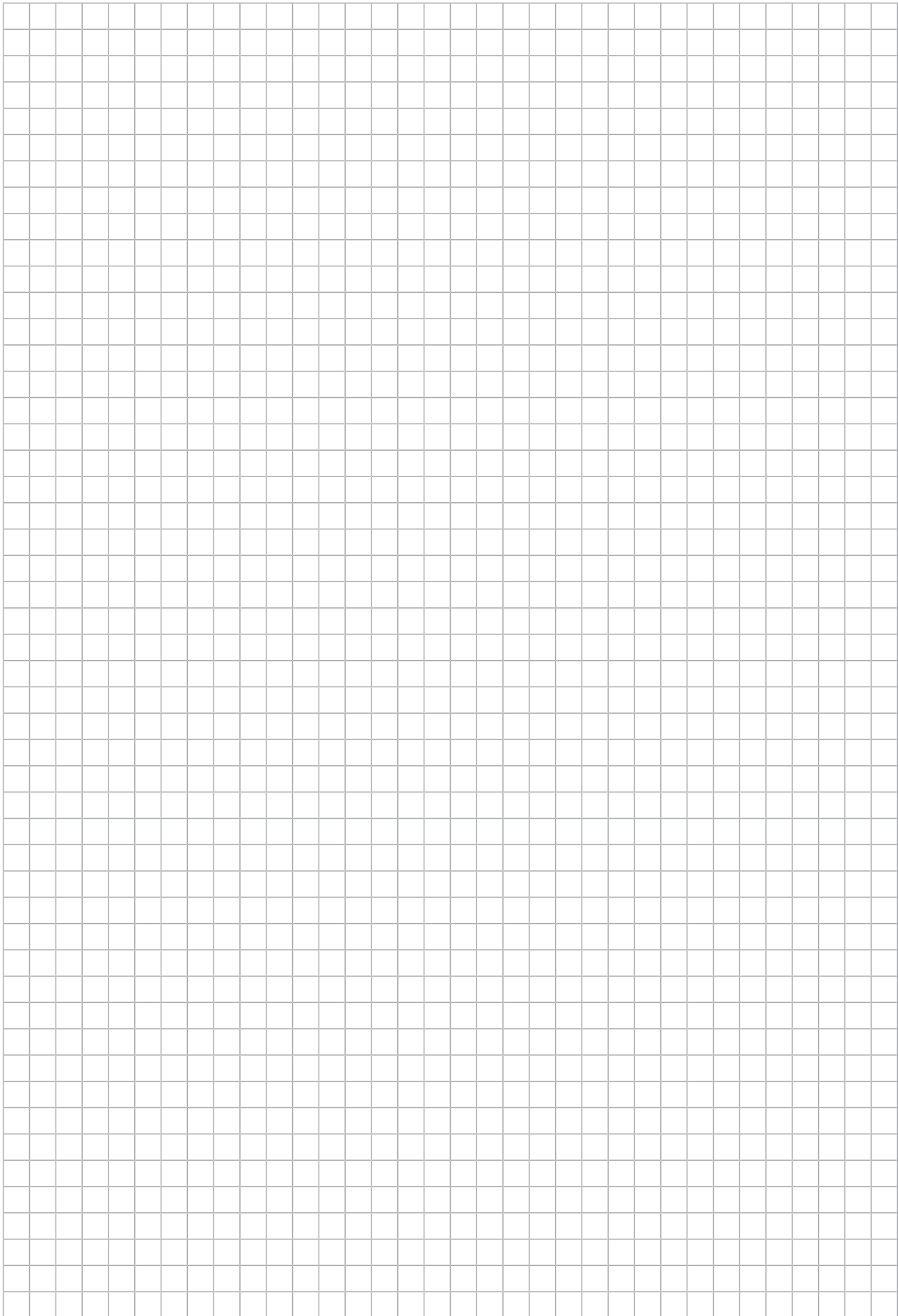
Ansan	SEW-EURODRIVE Korea Co., Ltd. 7, Dangjaengi-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Zip 425-839	Tel. +82 31 492-8051 Fax +82 31 492-8056 http://www.sew-eurodrive.kr master.korea@sew-eurodrive.com
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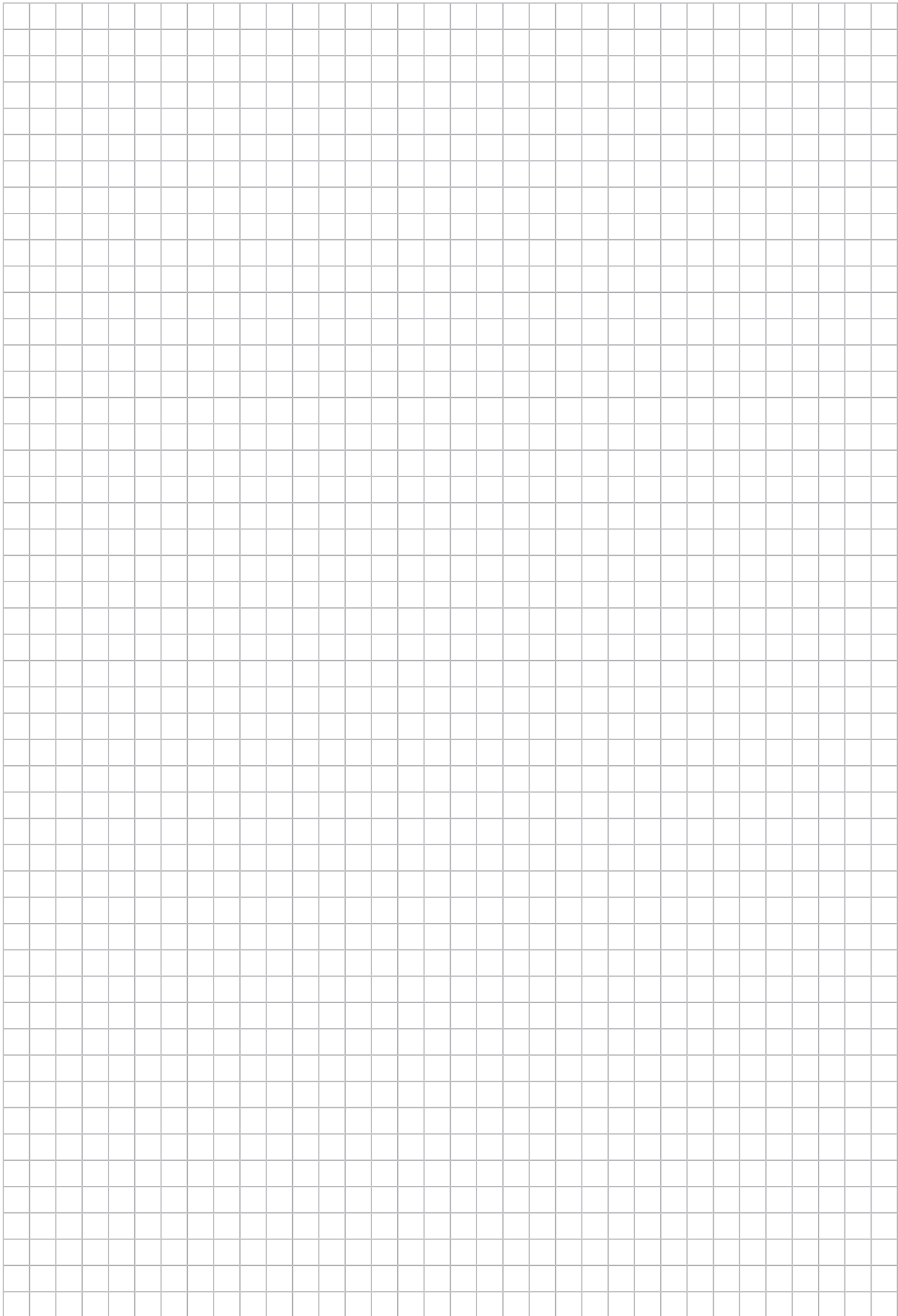
Sweden

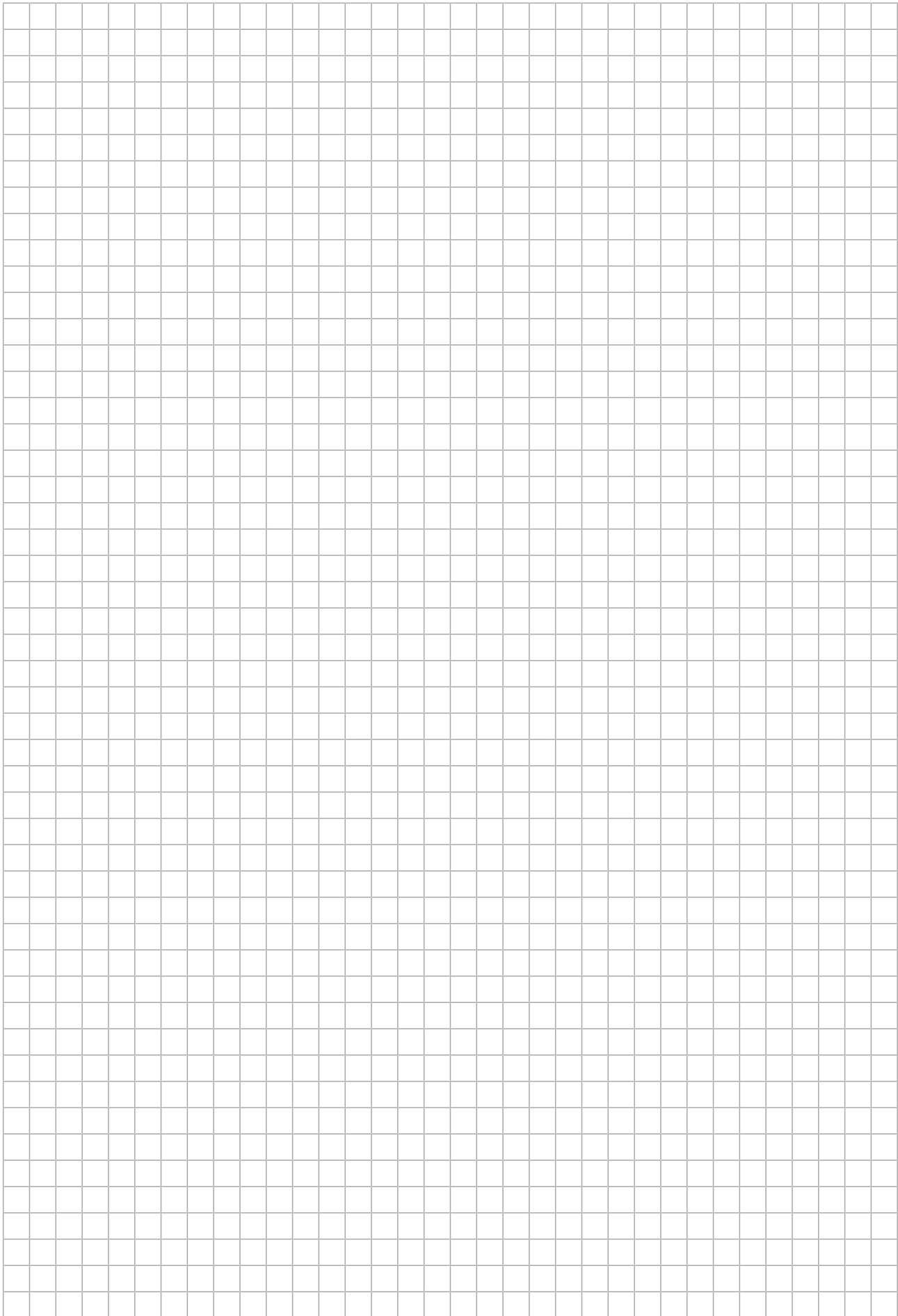
Jönköping	SEW-EURODRIVE AB Gnejsvägen 6-8 553 03 Jönköping Box 3100 S-550 03 Jönköping	Tel. +46 36 34 42 00 Fax +46 36 34 42 80 http://www.sew-eurodrive.se jonkoping@sew.se
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USA

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