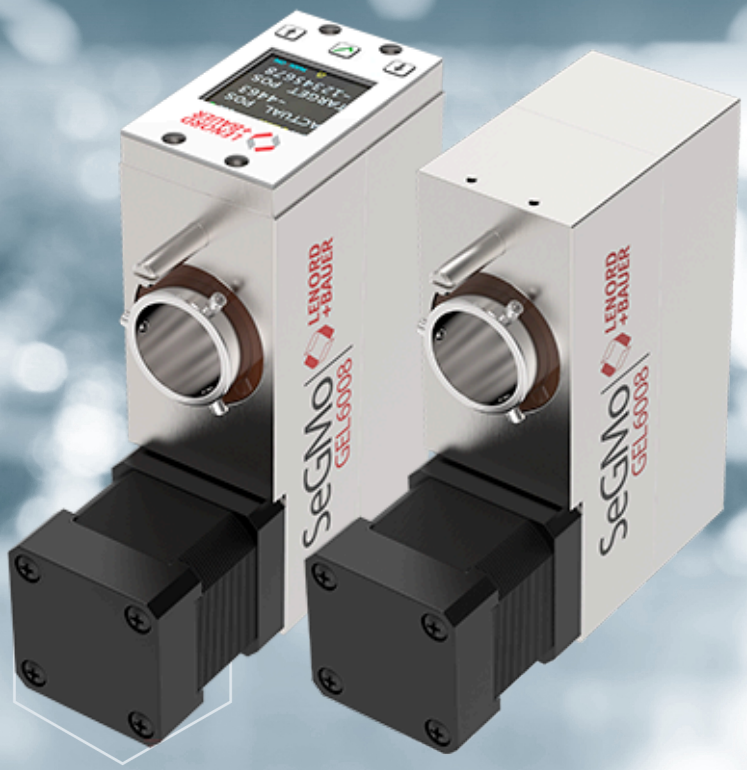
Made in Germany

www.lenord.com



Technical Information

GEL 6008

SeGMo-Positioning

Compact Positioning Drive for Confined Installation Spaces with Through Hollow Shaft

D-51T-6008 | Date of issue 2026-10-07

IO-Link

c UL us in Vorbereitung

LENORD +BAUER

Finding solutions.
Founding trust.

Motion sensors and integrated drive technology

SeGMo-System

The SeGMo-System is designed for the efficient integration of multiple positioning drives and position indicators into a machine or system.

The system consists of the following components:

- SeGMo-Positioning:
  Positioning drive for fully automatic format adjustment
- SeGMo-Assist:
  Position indicator for manual adjustment operations
- SeGMo-Lib:
  Pre-built function blocks for integration into the system control
- SeGMo-Support Tool:
  Software for advanced commissioning and configuration
- SeGMo-ImgConv Tool:
  Tool for converting image files into pictograms for SeGMo-Assist
- SeGMo-Service Tool:
  Software for advanced commissioning and configuration of Industrial Ethernet interfaces

SeGMo-Positioning

The positioning drives are complete mechatronic systems featuring a battery-free multiturn encoder, gearbox, and motor, as well as integrated power and control electronics. We also offer these for standalone use. With rated torques of up to 18 Nm [13.28 ft•lbf], they cover the performance range typical for secondary axes.

SeGMo-Assist

The position displays facilitate manual adjustment processes by showing target and actual positions. Products are available for rotary and linear applications. Another product without a Measuring system assists the operator, for example, during format or tool changes.

SeGMo-Positioning

6109 6110 6113



6008 6009 6013



SeGMo-Assist

SEPODR SEPODL SEHMI



SEROT SELIN



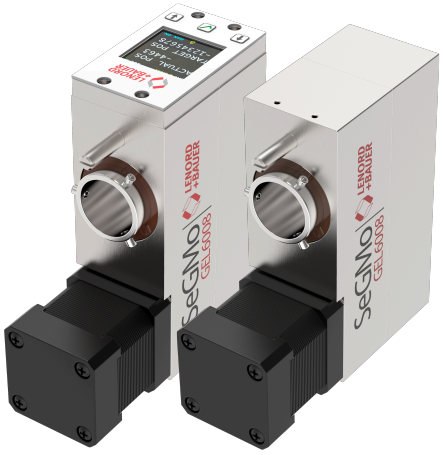
PROFIBUS CANopen EtherNet/IP EtherCAT POWERLINK PROFINET sercos the automation bus Modbus IO-Link

Overview Positioning Drive

General

The SeGMo positioning drive is a compact mechatronic unit consisting of a 32-bit microprocessor, a compact power amplifier, a stepping motor, a powerful gear and a magnetic-absolute multiturn encoder.

c UL us (in Vorbereitung / in preparation)



IO-Link

Features

- Rated torque 2.0 Nm [1.48 ft•lbf]
- Aluminum housing
- Operating temperature range:
  -10 °C to +50 °C [14 °F to 122 °F]
- Stepper motor
- Battery-free magnetic absolute multiturn encoder
- Degree of protection IP65
- Integrated IO-Link communication interface
- Optional display
- cULus Component Recognition (In preparation)

Advantages

- Extremely compact for confined installation situations
- Monitoring equipment to aid trouble-free operation
- Ready for use directly after switching on the power supply due to absolute position detection of the magnetic-absolute multiturn encoder
- Maintenance-free electrical parts
- Maintenance-free gear due to sealed-for-life lubrication

Fields of Application

- Packaging machines
- Food and bottling lines
- Wood and plastic processing machines
- General mechanical and systems engineering

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Description

General description

The positioning drive belongs to the SeGMo Positioning product group and is a component of the SeGMo system. It is an intelligent adjustment unit for mounting on a machine shaft end or for attachment to a machine shaft or spindle.

The positioning drive converts the movement commands into a mechanical rotary motion and actuates a machine shaft. Rotation of the positioning drive with the machine shaft is prevented by a headless screw.

Product construction

The positioning drives require two supply voltages. The logic circuit supply voltage powers the control electronics, and the power circuit supply voltage powers the power electronics for the motor.

The positioning drive requires the connection of a functional ground wire. The connection is made via a flat connector. We recommend a wire cross-section of 4 mm² [12 AWG].

Stand-alone use

The positioning drive with IO-Link communication interface is intended for stand-alone use and can be directly connected to a higher level control system.

Display and Control Elements

The positioning drive with Option **2** features a display and three membrane keys. The integrated control unit allows for convenient operation, such as manually moving the output shaft.

Magnetic-absolute multiturn encoder

A magnetic-absolute multiturn encoder makes reference search routines superfluous after a power failure or EMERGENCY STOP. After the power supply is switched on, the positioning drive detects its position via the batteryless multiturn encoder and is ready for operation directly.

When switched off, the output shaft can be adjusted by ±59 revolutions without losing the absolute position.

The multiturn encoder withstands high shock/vibration loads.

Operating modes

The positioning drive is **not** designed for continuous operation at nominal torque.

The positioning drive is designed for short-term operation at nominal torque. The following intervals are applicable for a duty cycle (DuCy) of

- DuCy = 25 % at 100 % load torque, duty type S2 “Base time 4 minutes: Duty cycle (DuCy) = 1 minute, break duration (BD)= 3 minutes“

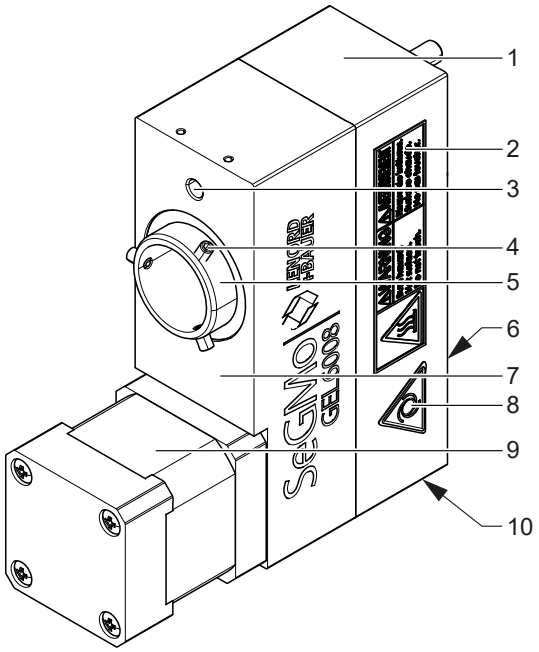
Other operating modes are secured by temperature monitoring and an adjustable current limitation.

Reliability

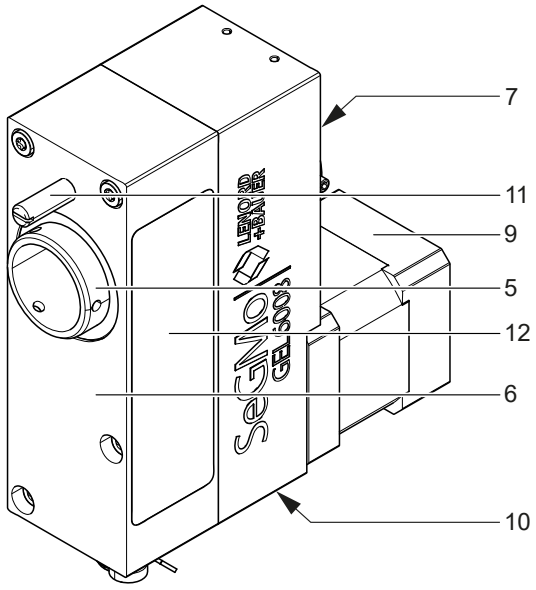
Important parameters are monitored, thus actively protecting the positioning drive from overload. The following monitoring devices support trouble-free operation:

- Soft start and stop via acceleration and deceleration ramps
- Over/undervoltage detection of supply voltage (power circuit and logic circuit)
- Standstill detection
- Temperature monitoring of power amplifier and housing interior
- Internal breaker and current limitation

Labeled Parts, Option 0



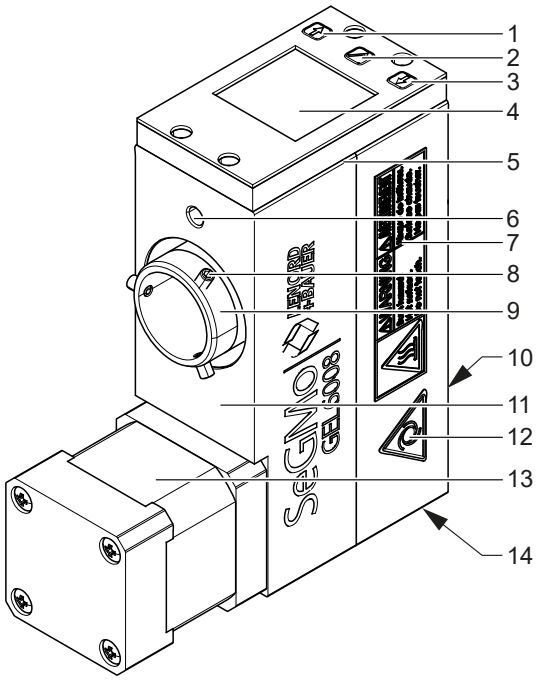
Positioning drive, Option 0 - Front view



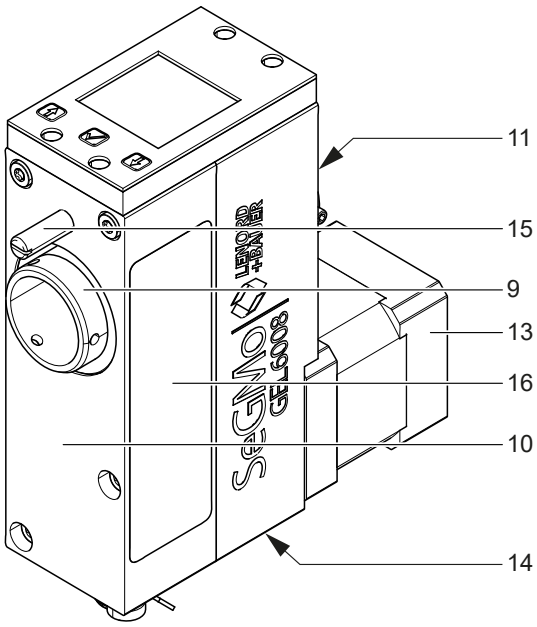
Positioning drive, Option 0 - Rear view

1 Housing: Top
2 “Caution: Hot Surface” warning label
3 Alternative mounting point for the shaft screw
4 Threaded pin DIN 916 M3x5 A2 (3 pieces)
5 Output shaft as a through hollow shaft (diameter according to Type Code)
6 Housing: Rear view
7 Housing: Front side
8 “Warning: Automatic Start” warning label
9 Stepper motor
10 Housing: Underside
11 Shaft screw
12 Nameplate

Labeled Parts, Option 2



Positioning drive, Option 2 - Front view



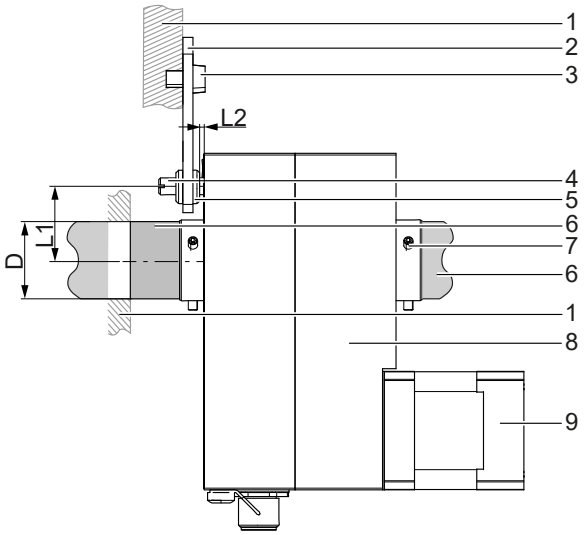
Positioning drive, Option 2 - Rear view

1 Membrane button
2 Membrane button
3 Membrane button
4 Display
5 Housing: Top
6 Alternative mounting point for the shaft screw
7 “Caution: Hot Surface” warning label
8 Tapped stud DIN 916 M3x5 A2 (3 pieces)
9 Output shaft as a through hollow shaft (diameter according to Type Code)
10 Housing: Rear view
11 Housing: Front side
12 “Warning: Automatic Start” warning label
13 Stepper motor
14 Housing: Underside
15 Shaft screw
16 Nameplate

Assembly

The installation concept provides for a fixed-floating bearing arrangement. The machine shaft supports the mass of the positioning drive via the fixed bearing. For this purpose, the positioning drive is mounted directly onto the machine shaft via a force-fit connection. The shaft screw prevents the positioning drives from rotating along with the shaft and, acting as a floating bearing, compensates for any unbalanced movements that may occur on the output shaft. We recommend installation using a Torque support and a slide bearing.

Absorption of unbalanced movements at the floating bearing
(example with a standard Torque support from Lenord+Bauer)



1 Machine housing
2 Torque support
(Part of accessory kit ZB6104)
3 M5×screw 8
(Part of accessory kit ZB6104)
4 Shaft screw
5 Plain bearing OG0001
(Part of accessory package ZB61X01 and accessory set ZB6104)
6 Machine shaft
7 DIN 916 M3x5 A2 threaded pin
for securing the machine shaft (3 pieces)
8 Housing of the positioning drive
9 Stepper motor of the positioning drive
D Diameter of the machine shaft
L1 Distance between “center of output shaft” and “center of shaft screw”: 22 mm [0.87 in]
L2 Distance between “plain bearing” and “positioning drive housing”: 1 … 2 mm [39.37 mil … 78.74 mil]

Technical Data

Positioning Drive

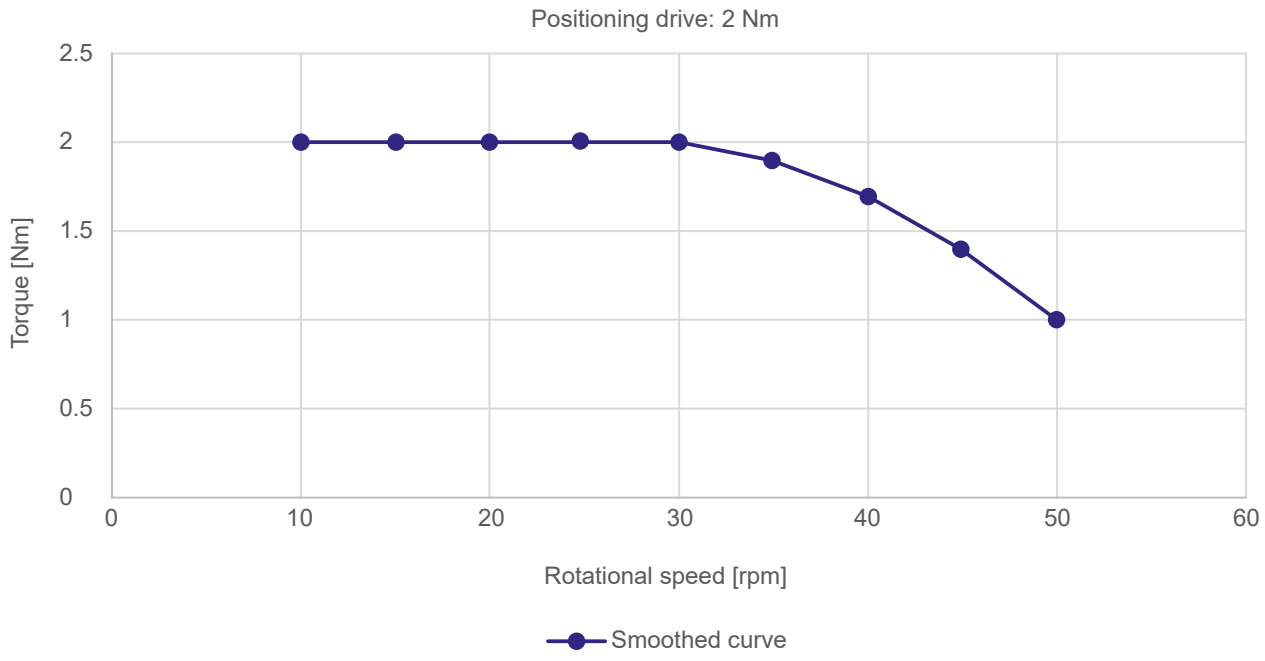
Rated Torque / Option (Construction type)	**02** / **0** (K) Without display	**02** / **2** (K) With display
Electrical Data		
Logic circuit supply voltage (1)	20 V … 30 V DC (Nominal supply voltage: 24 V DC)	
Power circuit supply voltage (1)	24 V … 30 V DC (Nominal supply voltage: 24 V DC) (⚠ Maximum motor speed depends on voltage!)	
Maximum current consumption of the logic circuit (2) (3)	10 mA	30 mA
Maximum current consumption of the power circuit (2) (3) (4)	1.8 A	
Duty cycle (ED) in % (load-dependent) (2)	Duty cycle (ED) = 25% at 100% load torque, rated operating mode S2 “Base time 4 minutes: Duty cycle (ED) = 1 minute, pause time (PD) = 3 minutes”	
Communication interface	IO-Link	
Mechanical Data		
Rated torque at output shaft (5)	2.0 Nm at 30 min^{-1} [1.48 ft•lbf at 30 rpm]	
Output shaft	Through hollow shaft, 20 ^{H7} mm [0.79 ^{H7} in]	
Housing material	Aluminum	
Housing dimensions without connector, without through hollow shaft	35 mm × 95 mm × 100 mm [1.38 in × 3.74 in × 3.94 in]	35 mm × 95 mm × 106 mm [1.38 in × 3.74 in × 4.17 in]
Weight	≈ 0.7 kg [24.69 oz]	
Encoder data		
Resolution	1,000 increments per 360°	
Measurement range of the system	▪ Under power: Infinite ▪ When de-energized: 119 revolutions	
Connection Elements		
Communication interface and power supply	Male connector, M12 A-coded	
Functional ground	6.3 mm [0.25 in] flat connector	
Control Elements		
Pushbutton	-	3 membrane buttons
Display elements		
Display	-	TFT display
Ambient Data		
Working temperature range	0 °C … +50 °C [32 °F … 122 °F]	
Operating temperature range	-10 °C … +50 °C [14 °F … 122 °F]	
Storage temperature range	-20 °C … +70 °C [-4 °F … +158 °F]	
Maximum relative humidity	90%	
Condensation	Not permitted	
Degree of protection (6)	IP65, DIN EN 60529:2014-09, shaft seal (material: FKM)	
Dielectric strength	√2 × 500 V DC; in accordance with DIN EN 61439-1:2021-10	

Rated Torque / Option (Construction type)	**02** / **0** (K) Without display	**02** / **2** (K) With display
EMC	Immunity DIN EN 61000-6-1:2007-10, EN 61000-6-1:2007 DIN EN 61000-6-2:2006-03 + Correction 1:2011-06, EN 61000-6-2:2005 + AC:2005 IO-Link: DIN EN 61000-4-5:2019-03 (±1 kV line-to-ground/±0.5 kV line-to-line) Emission DIN EN 61000-6-3:2011-09 + Corrigendum 1:2012-11, EN 61000-6-3:2007 + A1:2011 + AC:2012, DIN EN 61000-6-4:2011-09, EN 61000-6-4:2007 + A1:2011	
Vibration resistance	50 m/s² [164.04 ft/s²] (≈ 5g) @ 10 ... 150 Hz; in accordance with DIN EN 60068-2-6:2008-10	
Shock resistance	150 m/s² [492.13 ft/s²] (≈ 15g) @ 6 ms; in accordance with DIN EN 60068-2-27:2010-02	
Noise emission (7)	35 dB(A)	
Data for “cULus Recognized Component” (8)		
cULus Recognized Component	In preparation	
Input voltage (power circuit) U_{IN} (9)	24 V … 30 V DC	
Input power (power circuit), duty cycle (DC) = 1 minute, pause duration (PD) = 3 minutes	In preparation	In preparation
Enclosure protection class (6)	Type 1	
Working temperature range	In preparation	
Operating temperature range	In preparation	
Approvals		
European Economic Area	Compliance with ▪ EMC Directive 2014/30/EU ▪ Machinery Regulation (EU) 2023/1230 ▪ Machinery Directive 2006/42/EC CE	
United States and Canada (7)	cULus Recognized Component Certification c UL us	

(1) The supply voltages are electrically isolated from one another.
(2) At rated supply voltage
(3) External fuse required
(4) Depends on load and parameters
(5) At rated supply voltage and rated operating mode S2
(6) The Degree of protection/enclosure protection class is maintained only if all unused connectors are covered.
(7) Measured at a distance of 1.0 m [39.37 in] at rated load and rated speed
(8) In preparation
(9) Corresponds to the supply voltage of the power circuit

Torque Characteristics

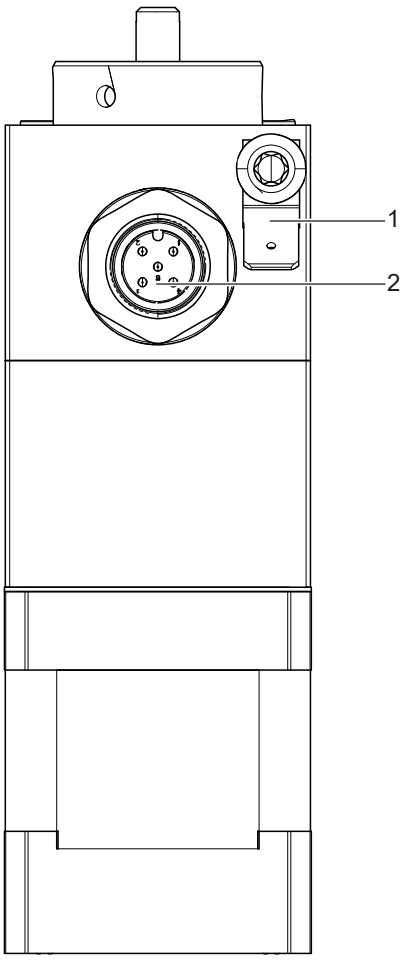
Rated Torque **02**



Connection Technology **SA**

Parts Named

Underside



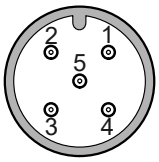
1 6.3 mm [0.25 in] flat connector:
- Functional ground

2 Male connector, M12 A-coded:
- Communication interface IO-Link
- Power supply:
  - Logic circuit supply voltage
  - Power circuit supply voltage

Assignment

Power supply and communication interface IO-Link (**IL**)

M12 A-coded



Male contact
(plug-in view)

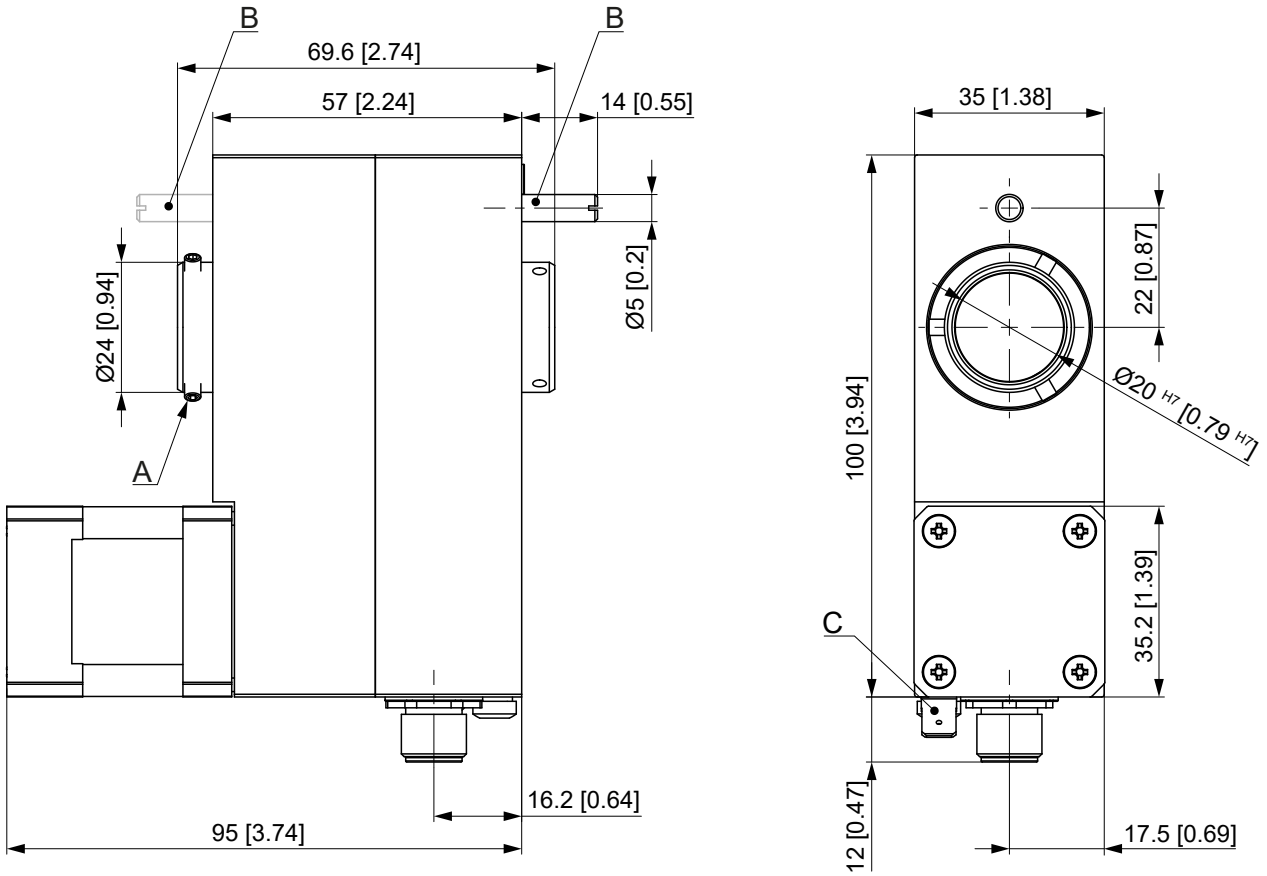
Pin designation	Signal identifier
1	+24 V (1)
2	+24 V power
3	GND (1)
4	IO-Link C/Q
5	GND power
Connector housing	Functional ground

(1) Power supply of communication interface and positioning drive (supply voltage Logic circuit)

Dimension Drawings

All dimensions in millimeters [inches]

Connection Technology **SA** / Rated Torque **02** / Option **0**

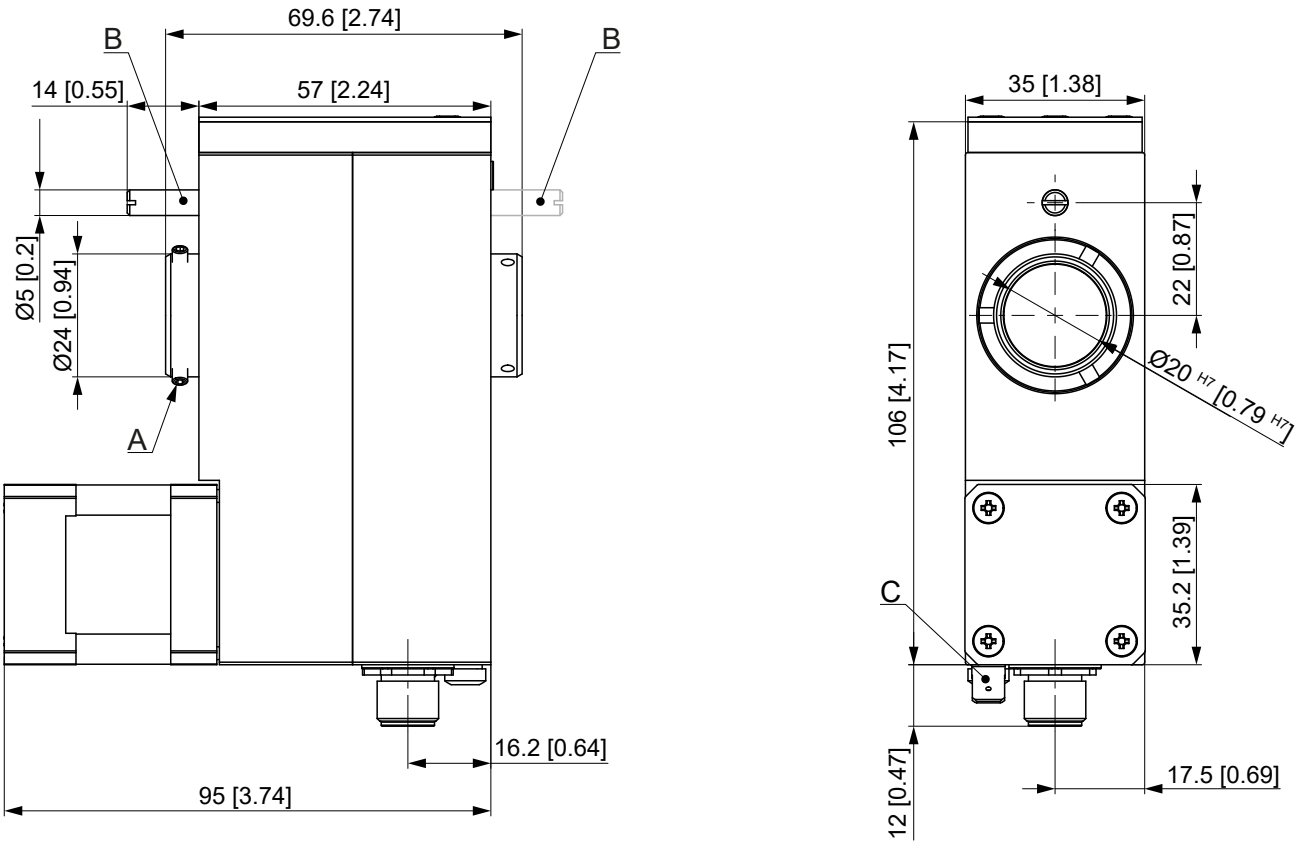


A 3 threaded pins, DIN 916 M3x5 A2, for securing the machine shaft (a threadlocker is recommended); tightening torque: 0.4 Nm [0.30 ft•lbf]

B Shaft screw 5 Ø mm [0.20 in]
Gray illustration: alternative position of the shaft screw

C Flat pin 6.3 mm [0.25 in]

Connection technology **SA** / Rated Torque **02** / Option **2**



A 3 DIN 916 M3x5 A2 threaded pins for securing the machine shaft (a threadlocker is recommended); tightening torque: 0.4 Nm [0.30 ft•lbf]

B Shaft screw 5 Ø mm [0.20 in]
Gray illustration: alternative position of the shaft screw

C Flat pin 6.3 mm [0.25 in]

Accessories and Spare Parts

Spare parts

Description	Item number
Warning Label	
“Caution: Automatic Start” warning label, side length 25 mm [0.98 in], ASR A1.3/ISO 7010, Warning symbol W018	-
Warning sign “Caution: Hot Surface,” 57 mm x 15 mm [2.24 in x 0.59 in]	GS1513

Assembly Accessories

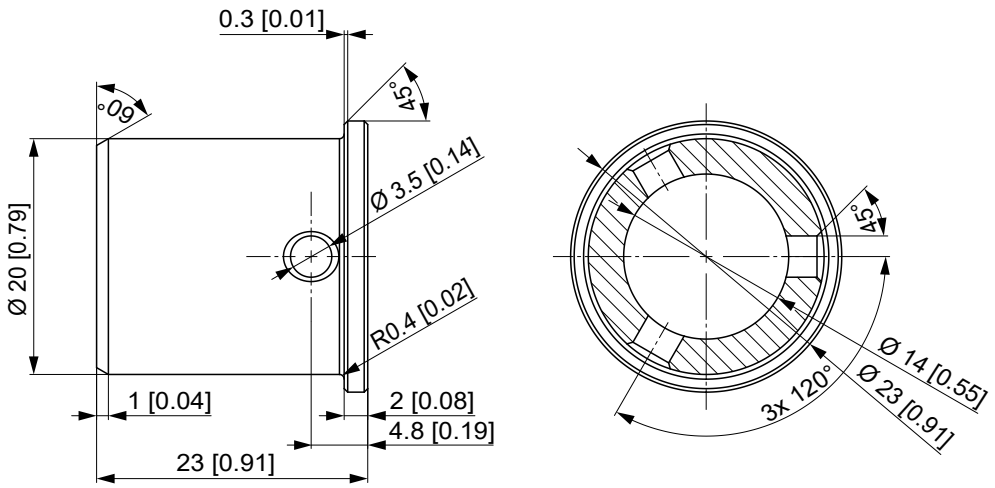
The accessories are not included.

Description	Item number
Reducing sleeve, di = 14 mm [0.55 in]	ZBSGX08
Accessory set, consisting of: ▪ 1 Torque support GZ1165 including plain bearing OG0001, item number BG5013 ▪ 1 pcs. plain bearing OG0002 ▪ 2 M5×8 screws, item number: VS2107 ▪ 1 M5×20 shaft screw, item number: VS3412 ▪ 1 assembly instruction sheet, item number: D-53H-6110_01	ZB6104
Plain Bearing Accessory Kit, consisting of: 5 plain bearings, item number: OG0001	ZB61X01

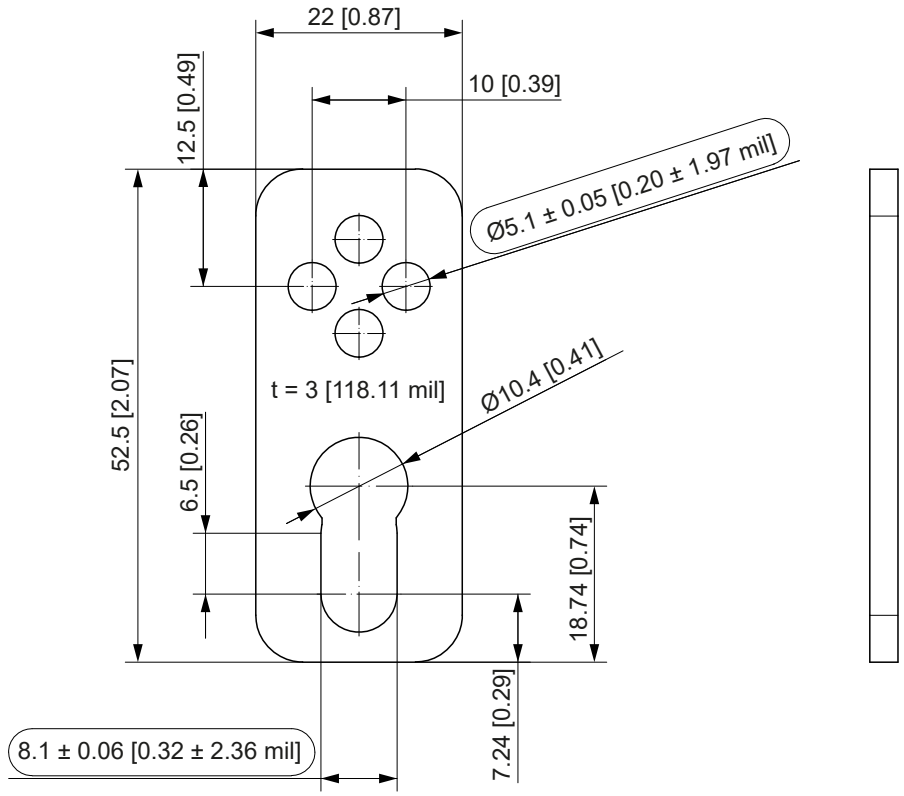
Dimensional Drawings: Assembly Accessories

All dimensions in millimeters [inches]

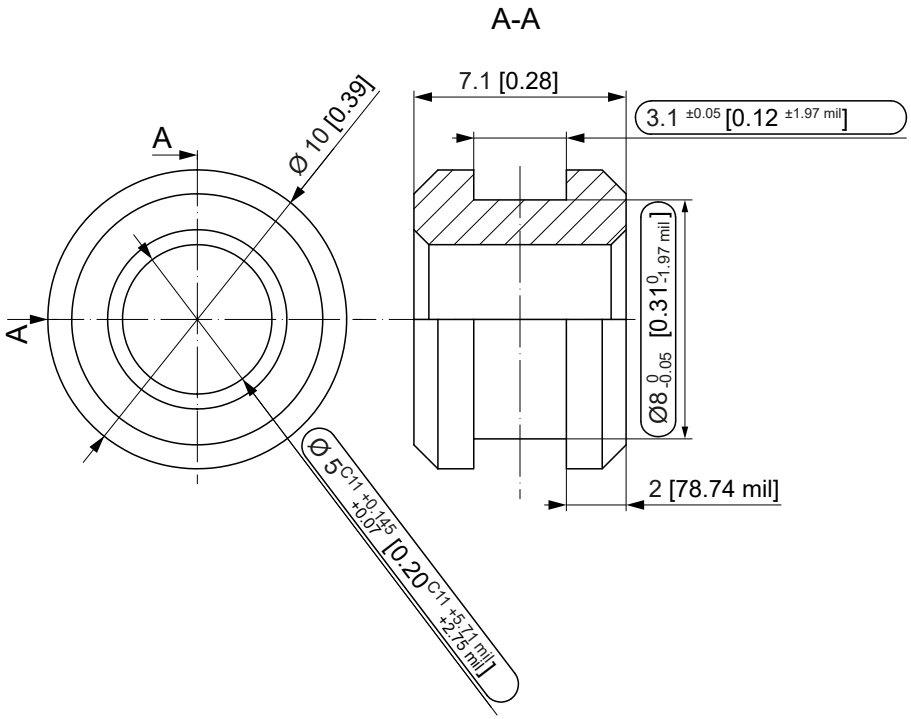
Reducing Sleeve ZBSGX08



Torque support GZ1165 from accessory set ZB6104



Plain bearing OG0001 (part of accessories kit ZB61X01 and accessory set ZB6104)



Type Code

6008	Product Type									
	IL Communication Interface IO-Link									
		02 Rated torque 2.0 Nm at 30 min-1 [1.48 ft•lbf at 30 rpm]								
			U Output shaft in millimeters [inches] 20 H7 mm [0.79 H7 in] through hollow shaft							
				A Housing material Aluminum						
					K Construction type Short					
						SA Connection technology 1 connector (M12: IO-Link and power supply)				
							M Sensor Magnetic absolute multiturn encoder (119 revolutions)			
								C Design cULus Recognized Component (1)		
									2 Degree of protection IP 65	
										0 Option Without display **2** With display
▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
6008	__	__	_	_	_	__	_	_	_	_ ◄ **Product code**

(1) In preparation

Customized modifications
Customized versions with a special assembly or modified technical specifications are assigned a Y-number (<Product type>Y<Three-digit number>). Depending on the customized modification, more or other documents may apply.

Notes for USA and Canada

In preparation

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