



Handling technology

Gripper series GEP2000

THE KNOW-HOW FACTORY

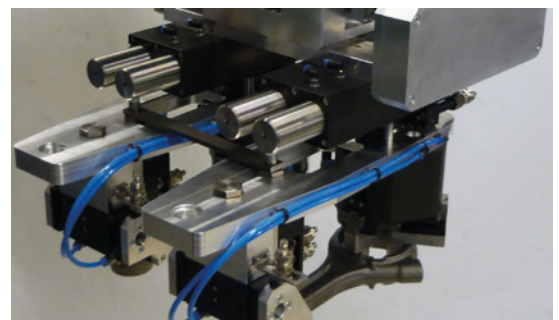
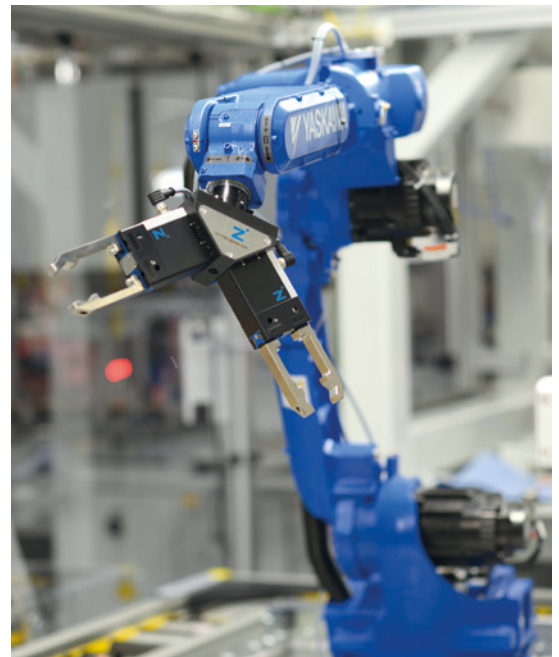
ZIMMER GROUP COMMITTED TO OUR CUSTOMERS

WE HAVE SUCCEEDED FOR YEARS BY OFFERING OUR CUSTOMERS INNOVATIVE AND INDIVIDUALIZED SOLUTIONS. ZIMMER HAS GROWN CONTINUOUSLY AND TODAY WE HAVE REACHED A NEW MILESTONE: THE ESTABLISHMENT OF THE KNOW-HOW FACTORY. IS THERE A SECRET TO OUR SUCCESS?

Foundation. Excellent products and services have always been the foundation of our company's growth. Zimmer is a source of ingenious solutions and important technical innovations. This is why customers with high expectations for technology frequently find their way to us. When things get tricky, Zimmer Group is in its best form.

Style. We have an interdisciplinary approach to everything we do, resulting in refined process solutions in six technology fields. This applies not just to development but to production. Zimmer Group serves all industries and stands ready to resolve even the most unique and highly individualized problems. Worldwide.

Motivation. Customer orientation is perhaps the most important factor of our success. We are a service provider in the complete sense of the word. With Zimmer Group, our customers have a single, centralized contact for all of their needs. We approach each customer's situation with a high level of competence and a broad range of possible solutions.



TECHNOLOGIES



HANDLING TECHNOLOGY

MORE THAN 30 YEARS OF EXPERIENCE AND INDUSTRY KNOWLEDGE: OUR PNEUMATIC, HYDRAULIC AND ELECTRICAL HANDLING COMPONENTS AND SYSTEMS ARE GLOBAL LEADERS.

Components. More than 2,000 standardized grippers, swivel units, robotic accessories and much more. We offer a complete selection of technologically superior products that are ready for rapid delivery.

Semi-standard. Our modular approach to design enables custom configurations and high rates of innovation for process automation.



DAMPING TECHNOLOGY

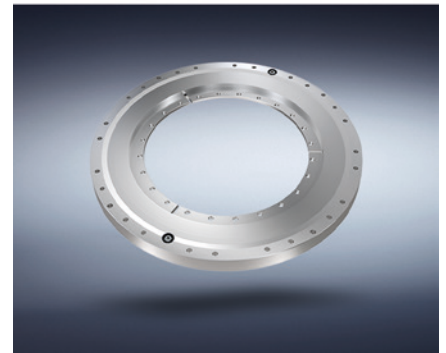
INDUSTRIAL DAMPING TECHNOLOGY AND SOFT CLOSE PRODUCTS EXEMPLIFY THE INNOVATION AND PIONEERING SPIRIT OF THE KNOW-HOW FACTORY.

Industrial damping technology.

Whether standard or customized solutions, our products stand for the highest cycle rates and maximum energy absorption with minimal space requirements.

Soft Close. Development and mass production of pneumatic and fluid dampers with extraordinary quality and rapid delivery.

OEM and direct. Whether they need components, returning mechanisms or complete production lines – we are the trusted partner of many prestigious customers.



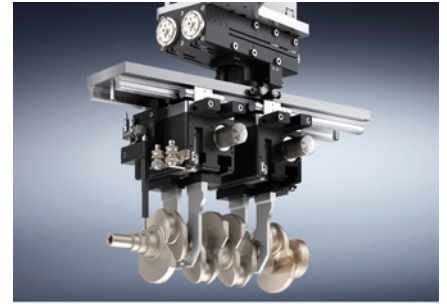
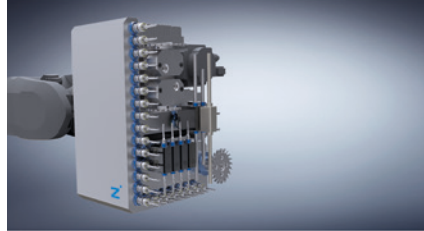
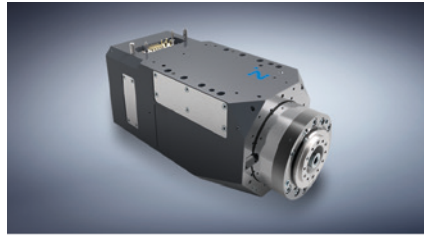
LINEAR TECHNOLOGY

WE DEVELOP LINEAR COMPONENTS AND SYSTEMS THAT ARE INDIVIDUALLY ADAPTED TO OUR CUSTOMERS' NEEDS.

Clamping and braking elements.

We offer you more than 4,000 types for profiled and round rails as well as for a variety of guide systems from all manufacturers. It makes no difference whether you prefer manual, pneumatic, electric or hydraulic drive.

Flexibility. Our clamping and braking elements ensure that movable components such as Z-axes or machining tables maintain a fixed position and that machines and systems come to a stop as quickly as possible in an emergency.



PROCESS TECHNOLOGY

MAXIMUM EFFICIENCY IS ESSENTIAL FOR SYSTEMS AND COMPONENTS USED IN PROCESS TECHNOLOGY. HIGH-LEVEL CUSTOM SOLUTIONS ARE OUR TRADEMARK.

A rich reservoir of experience. Our know-how ranges from the development of materials, processes and tools through product design to production of series products.

Deep production capabilities. The Zimmer Group pairs these capabilities with flexibility, quality and precision, even when making custom products.

Series production. We manufacture demanding products out of metal (MIM), elastomers and plastics with flexibility and speed.

MACHINE TECHNOLOGY

ZIMMER GROUP DEVELOPS INNOVATIVE METAL, WOOD AND COMPOSITE MATERIAL PROCESSING TOOL SYSTEMS FOR ALL INDUSTRIES. NUMEROUS CUSTOMERS CHOOSE US AS THEIR SYSTEMS AND INNOVATION PARTNER.

Knowledge and experience. Industry knowledge and a decades-long development partnership in exchangeable assemblies, tool interfaces and systems make us bound for new challenges around the world.

Components. We deliver numerous standard components from stock and develop innovative, customized systems for OEM and end customers – far beyond the metal and wood processing industries.

Variety. Whether you have machining centers, lathes or flexible production cells, the power tools, holders, assemblies and drilling heads of Zimmer Group are ready for action.

SYSTEM TECHNOLOGY

ZIMMER GROUP IS ONE OF THE LEADING SPECIALISTS IN THE DEVELOPMENT OF CUSTOMIZED SYSTEM SOLUTIONS WORLDWIDE.

Customized. A team made up of more than 20 experienced designers and project engineers develop and produce customized solutions for special tasks in close collaboration with end customers and system integrators. It doesn't matter if it is a simple gripper and handling solution or a complex system solution.

Solutions. These system solutions are used in many industries, from mechanical engineering to the automotive and supplier industries to plastics engineering and consumer goods industries, all the way to foundries. The Know-how Factory helps countless companies to thrive competitively by increasing automation efficiency.

ELECTRIC GRIPPERS

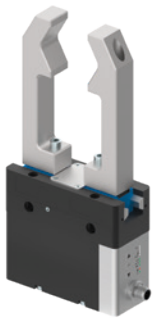
OVERVIEW OF SERIES



Series

GEP2000

Number of installation sizes	● ● ● ●			
Stroke per jaw [mm]	■ 6 - 16			
Gripping force [N]	■ 40 ■ 500			
Voltage [V]	24			
Current consumption max. [A]	2			
Weight [kg]	0.18 - 0.9			
	IL-00	IL-03	IO-00	IO-05
Control	🔗 IO-Link	🔗 IO-Link	Digital I/O	Digital I/O
Equipment features				
Positionable		●		
Integrated sensing	●	●		●
Gripping force adjustable	●	●	●	●
Protected against corrosion				
Purged air				
IP class	40	40	40	40
Options				
Magnetic field sensor			●	
Safety characteristics				
Spring closing C				
Spring opening O				
Self locking mechanism	●	●	●	●
Maintenance				
Maintenance-free cycles (max.)	10 million	10 million	10 million	10 million



GEP5000

GED5000

GEH6000IL

GED6000IL

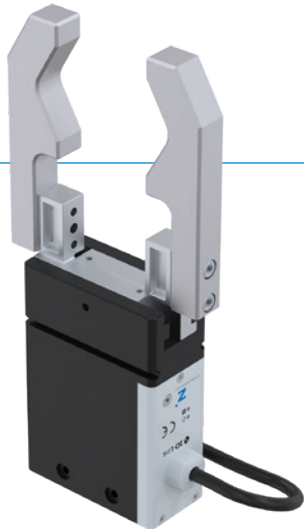
GEP5000		GED5000		GEH6000IL		GED6000IL	
● ● ●		● ● ●		● ●		● ●	
6 - 10		6 - 10		40 80		40 80	
540 1520		540 1520		10 1800		15 1700	
24		24		24		24	
5		5		2 A (-31) / 7,5 A (-03)		5	
0.79 - 1.66		1.09 - 2.33		0.7 - 2.6		2.8 - 4.9	
IL-00		IO-00		IL-00		IO-00	
● IO-Link		Digital I/O		● IO-Link		● IO-Link	
●		●		●		●	
●		●		●		●	
●		●		●		●	
●		●		●		●	
64*		64*		64*		64*	
●		●		●		●	
30 million		30 million		5 million		5 million	

* with purged air (max. 0,5 bar)

2-JAW PARALLEL GRIPPERS

SERIES GEP2000

▶ PRODUCT ADVANTAGES



🔌 IO-Link

“The electric compact one”

▶ Largest stroke in small installation space

Do you require a large stroke, due to the fact that you are operating either a form fit gripper or a large range of parts but the installation space and the load capacity of your application is limited? Then this gripper is perfect for you!

▶ The simplest activation

It is your choice whether you want to control the gripper by means of I/O ports—like a valve—or if you prefer the version with IO-Link. Both have this in common: they are easy to integrate into your control system.

▶ Positionability via IO-Link

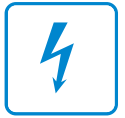
Gives you the ability to position the gripper jaws of the IL-03 variant. This means the stroke can be adjusted to the workpiece very flexibly. As a result, you save time and avoid interference contours in the process.



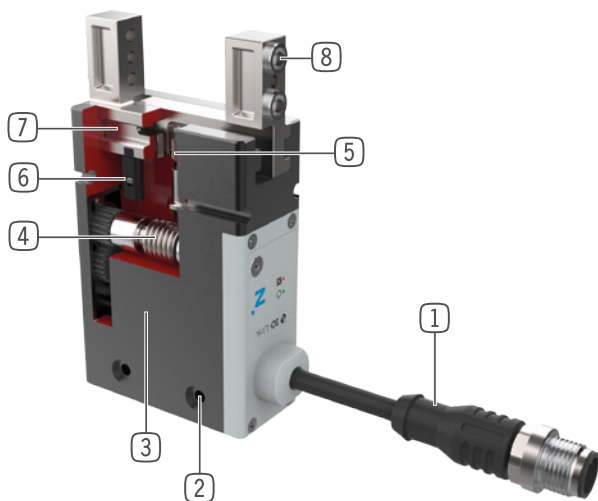
reddot design award
winner 2018

▶ SERIES CHARACTERISTICS

Installation size	Variants			
GEP20XX	IL-00	IL-03	IO-00	IO-05
IO-Link	•	•		
Digital I/O			•	•
Positionable		•		
10 million maintenance-free cycles (max.)	•	•	•	•
Magnetic field sensor			•	
Integrated sensing	•	•		•
Gripping force adjustable	•	•	•	•
Self locking mechanism	•	•	•	•
IP 40	•	•	•	•



► BENEFITS IN DETAIL

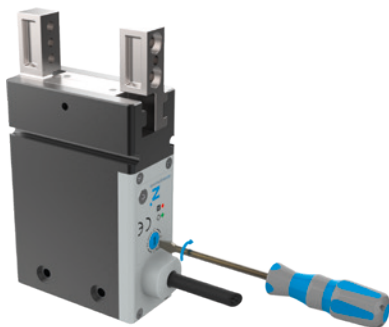


- ① **Control**
 - Via I/O ports (IO) or via IO-Link (IL)
- ② **Mounting and positioning**
 - mounting possible from several sides for versatile positioning
- ③ **BLDC motor**
 - wear-resistant brushless DC motor
- ④ **Helical worm gear**
 - self locking mechanism in case of power drop
- ⑤ **Synchronization**
 - via rack and pinion
- ⑥ **Position sensing**
 - Permanent magnet for direct query of jaw movement via magnetic field sensors
- ⑦ **Gripper jaw**
 - individual gripper finger mounting
- ⑧ **Removable centering sleeves**
 - quick and economical positioning of the gripper fingers

► TECHNICAL DATA

Installation size	Stroke per jaw [mm]	Gripping force [N]	Weight [kg]	IP class
GEP2006	6	40 - 145	0.18	IP40
GEP2010	10	50 - 200	0.31	IP40
GEP2013	13	90 - 360	0.54	IP40
GEP2016	16	125 - 500	0.9	IP40

► FURTHER INFORMATION



Adjustable gripping force

- Four-level gripping force adjustment via rotary switch for digital gripper control
- For the IO-Link variant, gripping force can be conveniently adjusted using the control system



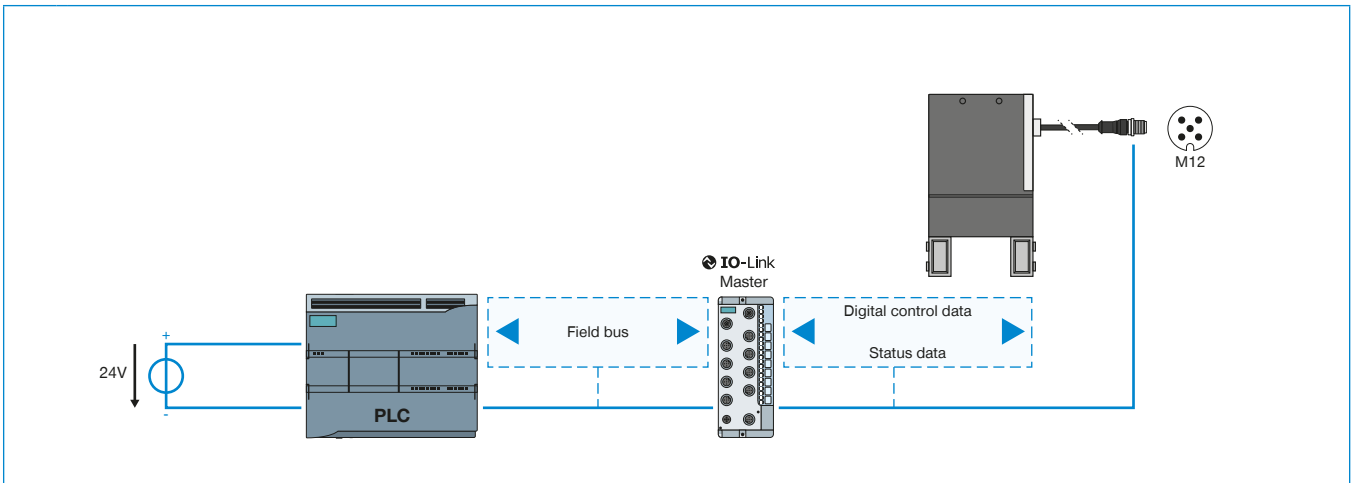
Operating safety

- Mechanical self-locking mechanism, which means that in the event of a power failure, the workpiece is held securely
- Gripper can be mechanically opened by means of an Allen key

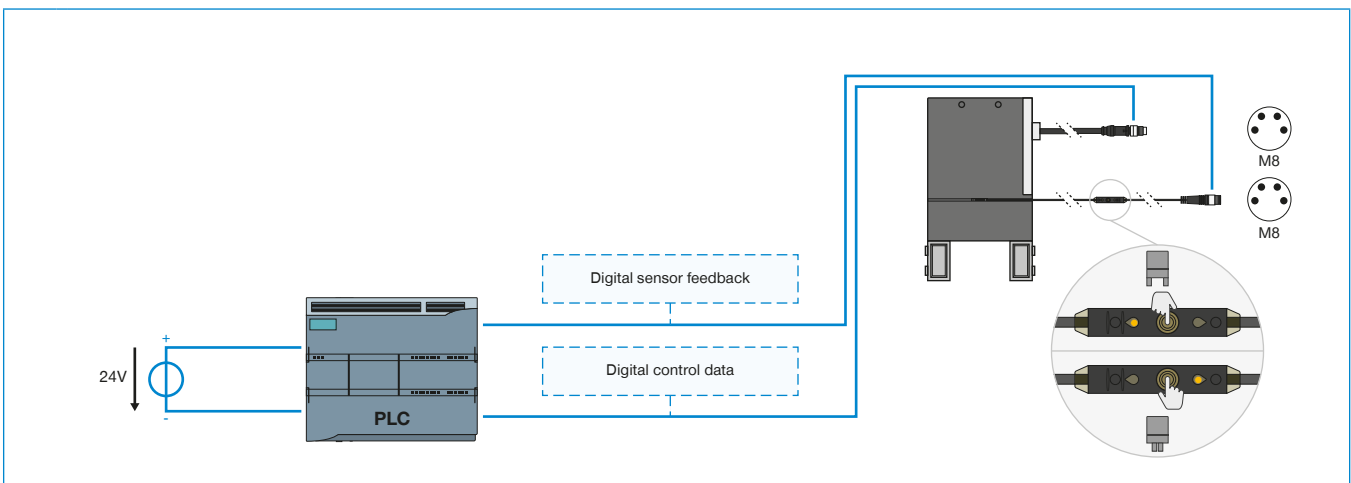
CONTROL

GEP2000 SERIES

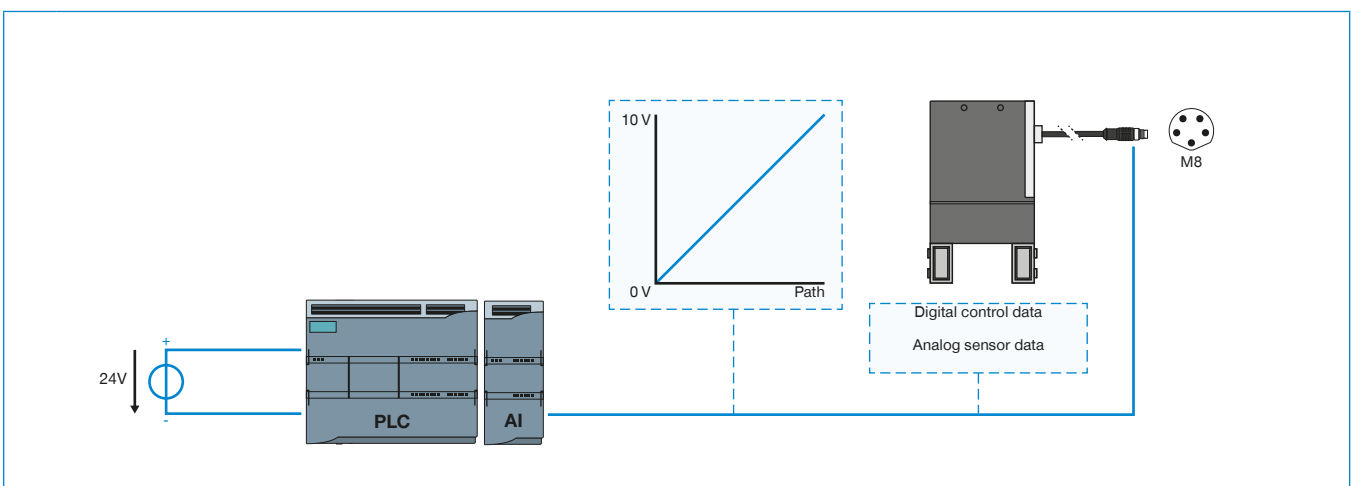
1 IO-LINK CONTROL — GEP2000IL



2 DIGITAL CONTROL — GEP2000IO-00



3 DIGITAL CONTROL + INTEGRATED ANALOG SENSING — GEP2000IO-05



1 ▶ IO-LINK CONTROL — GEP2000IL

- ▶ Single-cable solution—control system data, status/sensor data and power supply over a single cable
- ▶ Bi-directional data transmission
- ▶ Gripping force and gripping speed can be configured using software
- ▶ 32 workpieces data sets can be programmed
- ▶ Parts detection in range of +/- 0.05 mm with freely teachable area
- ▶ Status data such as temperature and cycle number can be read out
- ▶ Can be integrated into ZIMMER HMI
- ▶ Positionable (only variant IL-03)

2 ▶ DIGITAL CONTROL — GEP2000IO-00

- ▶ Single-cable solution—control system data and power supply over a single cable
- ▶ Gripper commissioning by means of digital signals
- ▶ Optional digital gripper position feedback via external sensors
- ▶ Gripping force adjustment in four levels to the object being gripped, using rotary switch
- ▶ Can be integrated into ZIMMER HMI

3 ▶ DIGITAL CONTROL + INTEGRATED ANALOG SENSING — GEP2000IO-05

- ▶ Single-cable solution—control system data, sensor data and power supply over a single cable
- ▶ Gripper activation by means of digital signals
- ▶ Integrated analog feedback of the gripper position
- ▶ Gripping force adjustment in four levels to the object being gripped, using rotary switch
- ▶ Can be integrated into ZIMMER HMI

2-JAW PARALLEL GRIPPERS

SERIES GEP2000 FUNCTIONAL DESCRIPTION



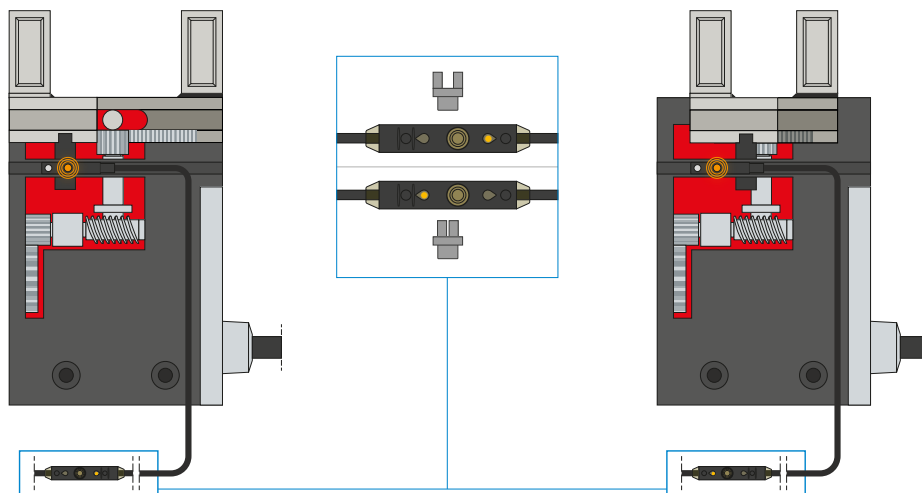
SENSORS



1-point magnetic field sensors – MFS

For non-contact sensing of the piston position

The sensor is clamped in the C-groove of the gripper and detects the magnet attached to the gripper jaws. The MFS02 is available in versions with 5 m cables with exposed leads and 0,3 m cable with connector.



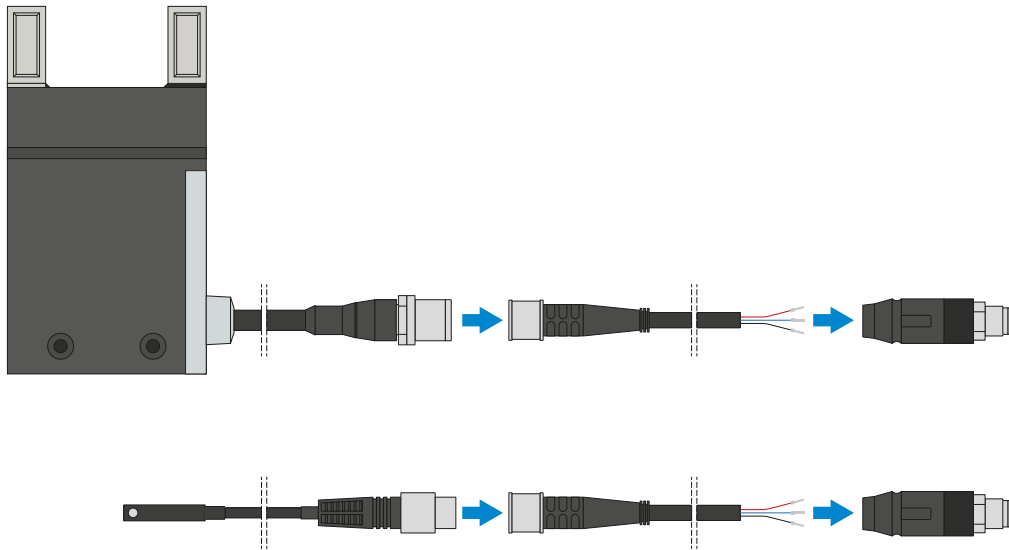
2-point magnetic field sensors – MFS

With two freely programmable switching points

Using the programming unit integrated in the cable, two switch points can be freely defined for this sensor. To do so, the sensor is clamped in the C-groove, the gripper approaches position one and the position is taught in using the teach button. Afterwards, the second position is approached with the gripper and programmed. To ensure use in a wide variety of space conditions, the sensors are available in two variants. While the horizontal MFS02, with straight cable outlet, disappears into the C-groove of the gripper almost completely, the vertical MFS01 is taller, but has a cable outlet that is offset at an angle of 90°. The sensors are available in versions with 5 m cables with exposed leads and 0,3 m cable with connector.



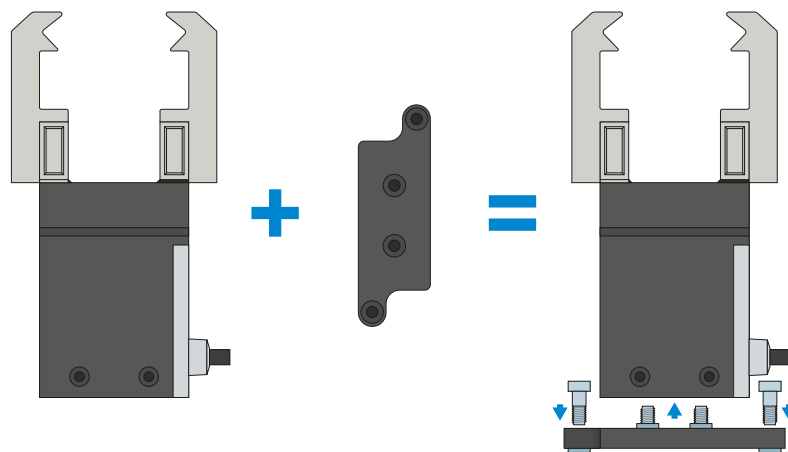
CONNECTIONS / OTHER



Plug-in connectors

For extending and fabricating the connection lines

Cables with a length of 5 m with exposed leads are available. Depending on the specific needs, the cables can be shortened or fabricated with connectors in sizes M8 and M12. A 5 m long cable with connector / socket is available for the IO-Link connection.



Adapter plate

Additional screw connection option

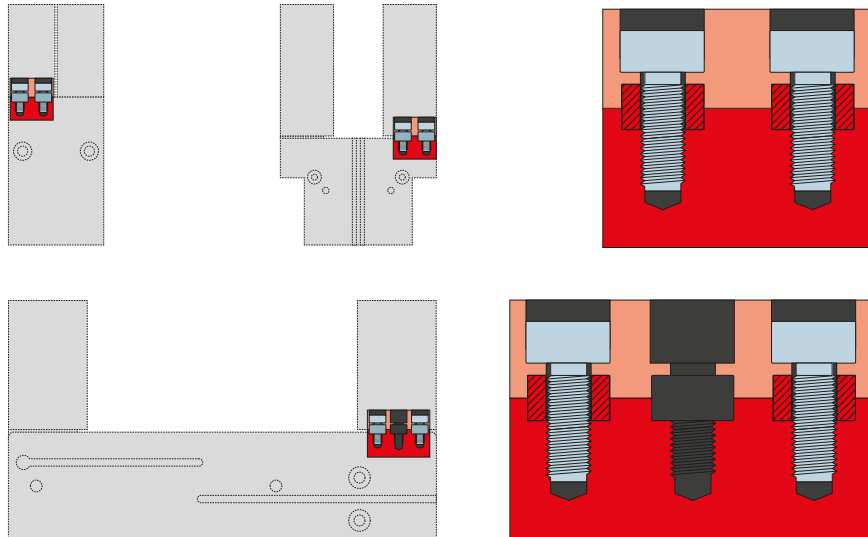
By attaching the optional adapter plate, the gripper can also be screwed on vertically (from above) if the fastening options integrated into the gripper housing cannot be used for space reasons.

2-JAW PARALLEL GRIPPERS

SERIES GEP2000 FUNCTIONAL DESCRIPTION



CONNECTIONS / OTHER



Centering sleeves

For defined position measurement of the gripper fingers

The centering sleeves are inserted into the fits of the gripper jaws to define the position of the gripper fingers. The centering sleeves are comparable to a pin connection.



2-JAW PARALLEL GRIPPERS

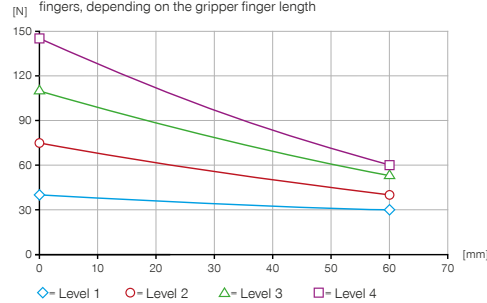
INSTALLATION SIZE GEP2006

▶ PRODUCT SPECIFICATIONS



▶ Gripping force diagram

Shows the arithmetic total of the individual forces that occur on the gripper fingers, depending on the gripper finger length



▶ Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	2.5
Mx [Nm]	2.5
My [Nm]	2
Fa [N]	140

▶ TECHNICAL DATA

Order no.	▶ Technical data			
	GEP2006IL-00-B	GEP2006IL-03-B	GEP2006IO-00-B	GEP2006IO-05-B
Control	IO-Link	IO-Link	Digital I/O	Digital I/O
Positionable		Yes		
Integrated position sensing	Using process data	Using process data	No	Analog 0 to 10 V
Stroke per jaw [mm]	6	6	6	6
Gripping force safety device	mechanical	mechanical	mechanical	mechanical
Control time [s]	0.03	0.03	0.03	0.03
Dead weight of mounted gripper finger max. [kg]	0.05	0.05	0.05	0.05
Length of the gripper fingers max. [mm]	60	60	60	60
Repetition accuracy +/- [mm]	0.02	0.02	0.02	0.02
Operating temperature [°C]	5 ... +60	5 ... +60	5 ... +60	5 ... +60
Voltage [V]	24	24	24	24
Current consumption max. [A]	1	1	1	1
Minimum positioning path per jaw [mm]	0.5	0.5	0.5	0.5
Protection to IEC 60529	IP40	IP40	IP40	IP40
Weight [kg]	0.18	0.18	0.18	0.18

▶ TECHNICAL DATA OF THE FORCE LEVELS

Order no.	▶ Level 1			
	GEP2006IL-00-B	GEP2006IL-03-B	GEP2006IO-00-B	GEP2006IO-05-B
Gripping force [N]	40	40	40	40
Closing time / Opening time [s]	0.21 / 0.21	0.21 / 0.21	0.21 / 0.21	0.21 / 0.21

Order no.	▶ Level 2			
	GEP2006IL-00-B	GEP2006IL-03-B	GEP2006IO-00-B	GEP2006IO-05-B
Gripping force [N]	75	75	75	75
Closing time / Opening time [s]	0.15 / 0.15	0.15 / 0.15	0.15 / 0.15	0.15 / 0.15

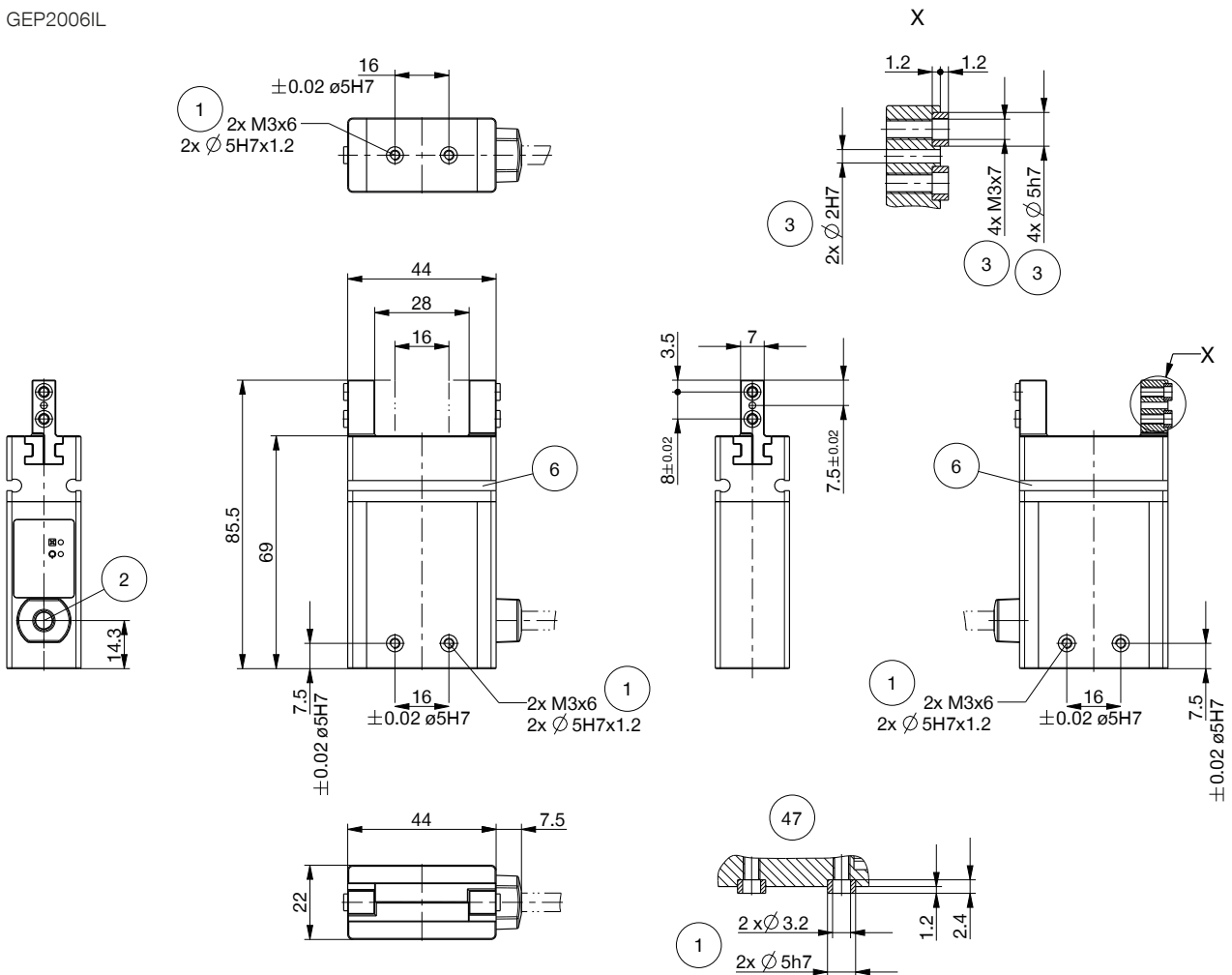
Order no.	▶ Level 3			
	GEP2006IL-00-B	GEP2006IL-03-B	GEP2006IO-00-B	GEP2006IO-05-B
Gripping force [N]	110	110	110	110
Closing time / Opening time [s]	0.12 / 0.12	0.12 / 0.12	0.12 / 0.12	0.12 / 0.12

Order no.	▶ Level 4			
	GEP2006IL-00-B	GEP2006IL-03-B	GEP2006IO-00-B	GEP2006IO-05-B
Gripping force [N]	145	145	145	145
Closing time / Opening time [s]	0.1 / 0.1	0.1 / 0.1	0.1 / 0.1	0.1 / 0.1

TECHNICAL DRAWINGS

- ① Gripper attachment
- ② Energy supply IO-Link (M12, 5-pole)
- ③ Fixing for gripper finger
- ⑥ Integrated slot for magnetic field sensor
- ④④ Energy supply (M8, 4-pole)
- ④⑤ Energy supply (M8, 5-pole)
- ④⑥ Force level setting
- ④⑦ Gripper mounting clamp

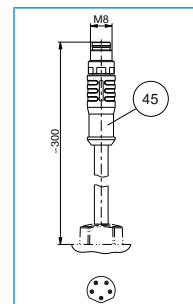
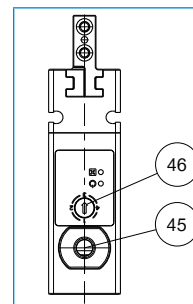
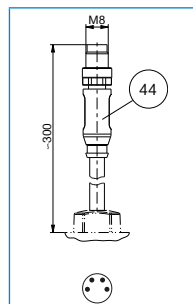
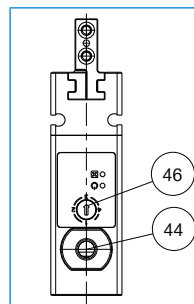
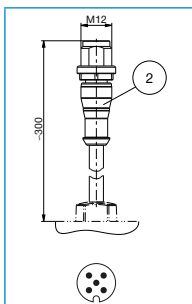
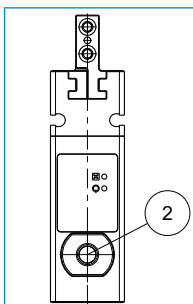
GEP2006IL



GEP2006IL-00-B

GEP2006IO-00-B

GEP2006IO-05-B



2-JAW PARALLEL GRIPPERS

INSTALLATION SIZE GEP2006

▶ ACCESORIES



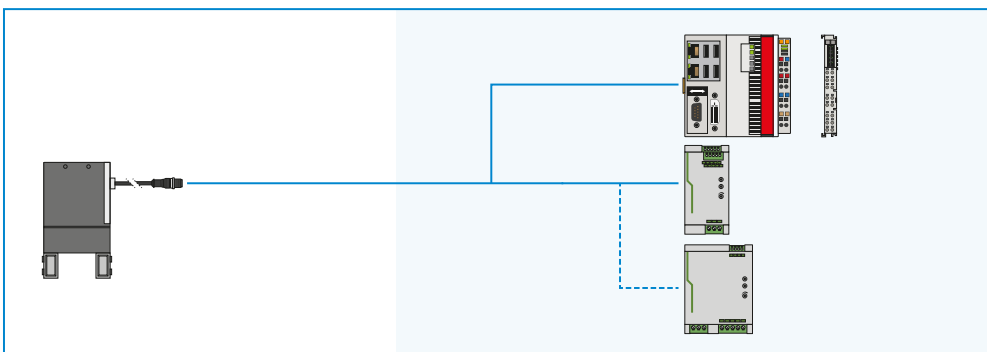
▶ INCLUDED IN DELIVERY



6 [piece]
Centering Disc

354237

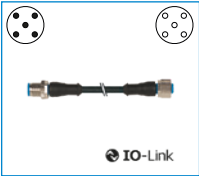
▶ YOU CAN FIND CONFIGURATION EXAMPLES ON PAGE 32 / 33



▶ **RECOMMENDED ACCESSORY GEP2006IL**



CONNECTIONS / OTHER



KAG500IL
Plug-in connector straight
5 m - plug, socket M12



AP2006
Adapter plate

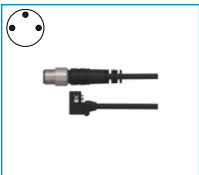


SCM-C-00-00-A
Smart Communication
Module

▶ **RECOMMENDED ACCESSORY GEP2006IO-00-B**



SENSORS



MFS01-S-KHC-P1-PNP
Magnetic field sensor angled,
cable 0.3 m - M8 connector



MFS02-S-KHC-P1-PNP
Magnetic field sensor straight,
cable 0.3 m - M8 connector



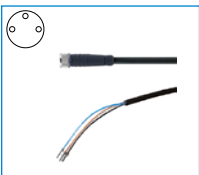
MFS01-S-KHC-P2-PNP
2-point sensor angled, ca-
ble 0.3 m - M8 connector



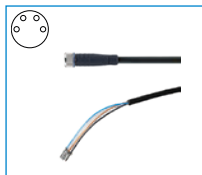
MFS02-S-KHC-P2-PNP
2-point sensor straight, ca-
ble 0.3 m - M8 connector



CONNECTIONS / OTHER



KAG500
Plug-in connector Straight Ca-
ble 5m - Socket M8 (female)



KAG500B4
Plug-in connector Straight Ca-
ble 5m - Socket M8 (female)



S8-G-3
Plug-in connector customiz-
able Straight - Connector M8



S8-G-4
Plug-in connector customiz-
able Straight - Connector M8

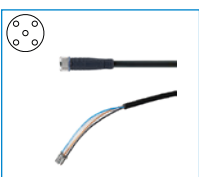


AP2006
Adapter plate

▶ **RECOMMENDED ACCESSORY GEP2006IO-05-B**



CONNECTIONS / OTHER



KAG500B5
Plug-in connector Straight Ca-
ble 5m - Socket M8 (female)



AP2006
Adapter plate

2-JAW PARALLEL GRIPPERS

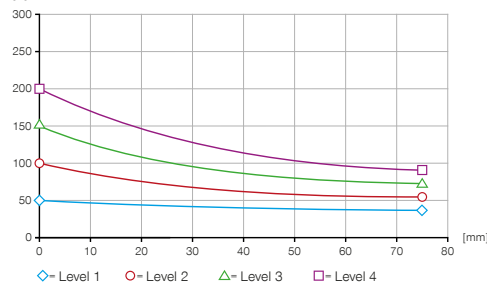
INSTALLATION SIZE GEP2010

▶ PRODUCT SPECIFICATIONS



▶ Gripping force diagram

Shows the arithmetic total of the individual forces that occur on the gripper fingers, depending on the gripper finger length



▶ Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	7
Mx [Nm]	7
My [Nm]	5.5
Fa [N]	200

▶ TECHNICAL DATA

Order no.	▶ Technical data			
	GEP2010IL-00-B	GEP2010IL-03-B	GEP2010IO-00-B	GEP2010IO-05-B
Control	IO-Link	IO-Link	Digital I/O	Digital I/O
Positionable		Yes		
Integrated position sensing	Using process data	Using process data	No	Analog 0 to 10 V
Stroke per jaw [mm]	10	10	10	10
Gripping force safety device	mechanical	mechanical	mechanical	mechanical
Control time [s]	0.03	0.03	0.03	0.03
Dead weight of mounted gripper finger max. [kg]	0.1	0.1	0.1	0.1
Length of the gripper fingers max. [mm]	80	80	80	80
Repetition accuracy +/- [mm]	0.02	0.02	0.02	0.02
Operating temperature [°C]	5 ... +60	5 ... +60	5 ... +60	5 ... +60
Voltage [V]	24	24	24	24
Current consumption max. [A]	1	1	1	1
Minimum positioning path per jaw [mm]	0.5	0.5	0.5	0.5
Protection to IEC 60529	IP40	IP40	IP40	IP40
Weight [kg]	0.31	0.31	0.31	0.31

▶ TECHNICAL DATA OF THE FORCE LEVELS

Order no.	▶ Level 1			
	GEP2010IL-00-B	GEP2010IL-03-B	GEP2010IO-00-B	GEP2010IO-05-B
Gripping force [N]	50	50	50	50
Closing time / Opening time [s]	0.3 / 0.3	0.3 / 0.3	0.3 / 0.3	0.3 / 0.3

Order no.	▶ Level 2			
	GEP2010IL-00-B	GEP2010IL-03-B	GEP2010IO-00-B	GEP2010IO-05-B
Gripping force [N]	100	100	100	100
Closing time / Opening time [s]	0.25 / 0.25	0.25 / 0.25	0.25 / 0.25	0.25 / 0.25

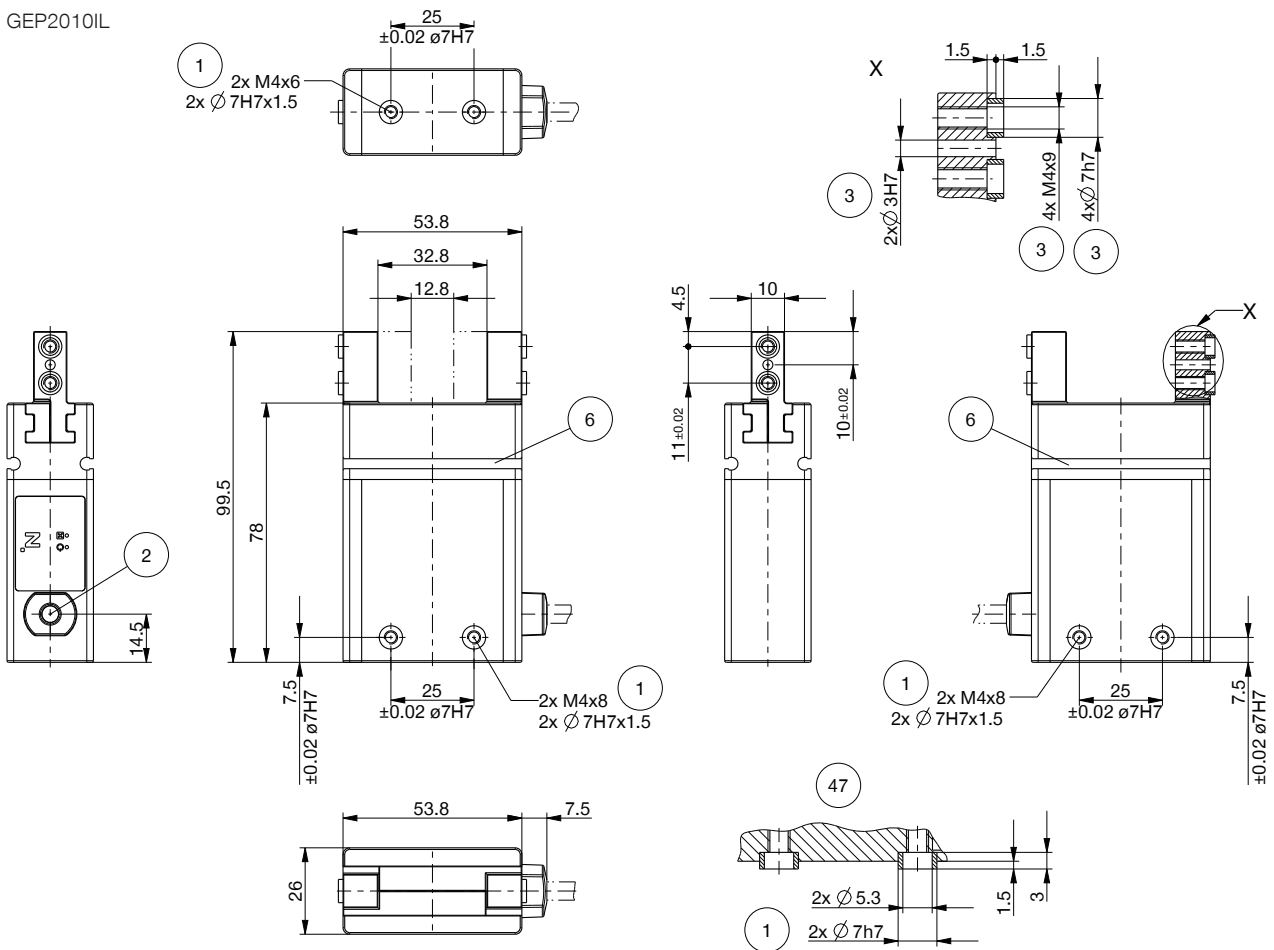
Order no.	▶ Level 3			
	GEP2010IL-00-B	GEP2010IL-03-B	GEP2010IO-00-B	GEP2010IO-05-B
Gripping force [N]	150	150	150	150
Closing time / Opening time [s]	0.22 / 0.22	0.22 / 0.22	0.22 / 0.22	0.22 / 0.22

Order no.	▶ Level 4			
	GEP2010IL-00-B	GEP2010IL-03-B	GEP2010IO-00-B	GEP2010IO-05-B
Gripping force [N]	200	200	200	200
Closing time / Opening time [s]	0.19 / 0.19	0.19 / 0.19	0.19 / 0.19	0.19 / 0.19

► TECHNICAL DRAWINGS

- ① Gripper attachment
- ② Energy supply IO-Link (M12, 5-pole)
- ③ Fixing for gripper finger
- ⑥ Integrated slot for magnetic field sensor
- ④④ Energy supply (M8, 4-pole)
- ④⑤ Energy supply (M8, 5-pole)
- ④⑥ Force level setting
- ④⑦ Gripper mounting clamp

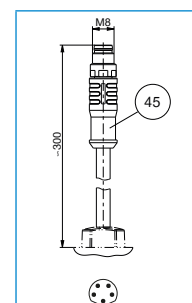
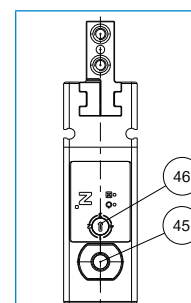
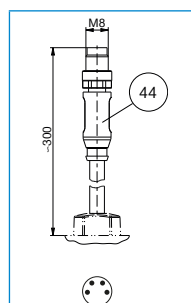
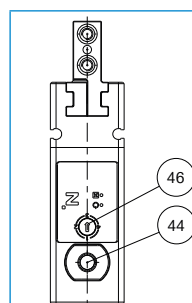
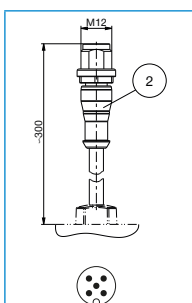
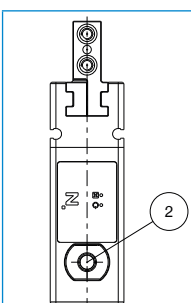
GEP2010IL



GEP2010IL-00-B

GEP2010IO-00-B

GEP2010IO-05-B



2-JAW PARALLEL GRIPPERS

INSTALLATION SIZE GEP2010

▶ ACCESORIES



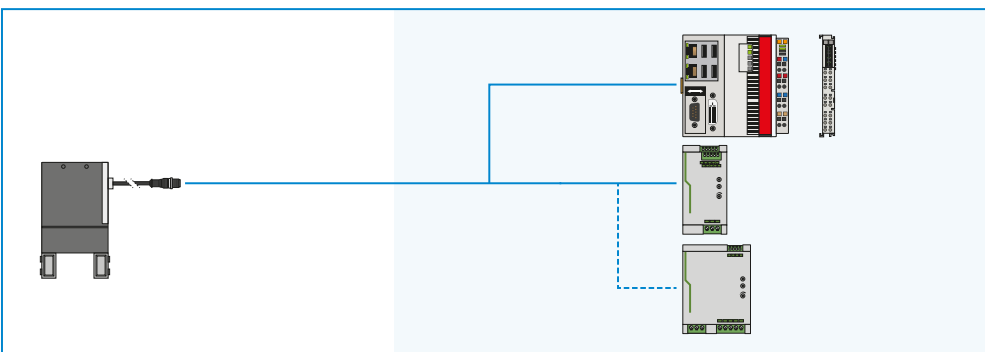
▶ INCLUDED IN DELIVERY



6 [piece]
Centering Disc

390677

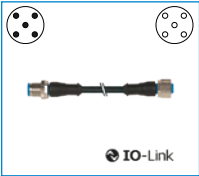
▶ YOU CAN FIND CONFIGURATION EXAMPLES ON PAGE 32 / 33



▶ **RECOMMENDED ACCESSORY GEP2010IL**



CONNECTIONS / OTHER



KAG500IL
Plug-in connector straight
5 m - plug, socket M12



AP2010
Adapter plate

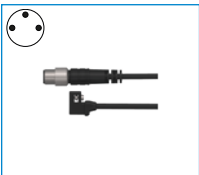


SCM-C-00-00-A
Smart Communication
Module

▶ **RECOMMENDED ACCESSORY GEP2010IO-00-B**



SENSORS



MFS01-S-KHC-P1-PNP
Magnetic field sensor angled,
cable 0.3 m - M8 connector



MFS02-S-KHC-P1-PNP
Magnetic field sensor straight,
cable 0.3 m - M8 connector



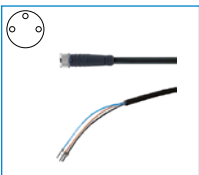
MFS01-S-KHC-P2-PNP
2-point sensor angled, ca-
ble 0.3 m - M8 connector



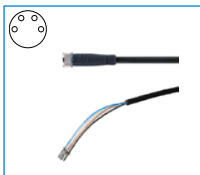
MFS02-S-KHC-P2-PNP
2-point sensor straight, ca-
ble 0.3 m - M8 connector



CONNECTIONS / OTHER



KAG500
Plug-in connector Straight Ca-
ble 5m - Socket M8 (female)



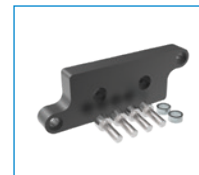
KAG500B4
Plug-in connector Straight Ca-
ble 5m - Socket M8 (female)



S8-G-3
Plug-in connector customiz-
able Straight - Connector M8



S8-G-4
Plug-in connector customiz-
able Straight - Connector M8

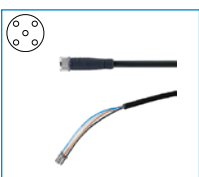


AP2010
Adapter plate

▶ **RECOMMENDED ACCESSORY GEP2010IO-05-B**



CONNECTIONS / OTHER



KAG500B5
Plug-in connector Straight Ca-
ble 5m - Socket M8 (female)



AP2010
Adapter plate

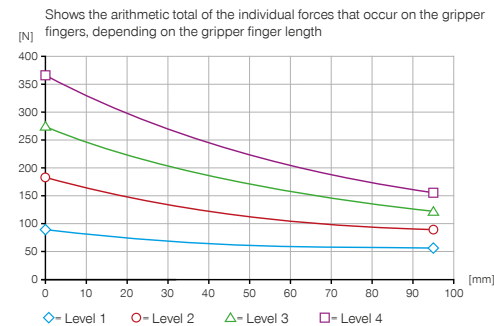
2-JAW PARALLEL GRIPPERS

INSTALLATION SIZE GEP2013

▶ PRODUCT SPECIFICATIONS



▶ Gripping force diagram



▶ Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	13
Mx [Nm]	13
My [Nm]	10
Fa [N]	325

▶ TECHNICAL DATA

Order no.	▶ Technical data		
	GEP2013IL-00-A	GEP2013IO-00-A	GEP2013IO-05-A
Control	IO-Link	Digital I/O	Digital I/O
Integrated position sensing	Using process data	No	Analog 0 to 10 V
Stroke per jaw [mm]	13	13	13
Gripping force safety device	mechanical	mechanical	mechanical
Control time [s]	0.055	0.055	0.055
Dead weight of mounted gripper finger max. [kg]	0.15	0.15	0.15
Length of the gripper fingers max. [mm]	100	100	100
Repetition accuracy +/- [mm]	0.02	0.02	0.02
Operating temperature [°C]	+5 ... +60	+5 ... +60	+5 ... +60
Voltage [V]	24	24	24
Current consumption max. [A]	2	2	2
Minimum positioning path per jaw [mm]	0.5	0.5	0.5
Protection to IEC 60529	IP40	IP40	IP40
Weight [kg]	0.54	0.54	0.54

▶ TECHNICAL DATA OF THE FORCE LEVELS

Order no.	▶ Level 1		
	GEP2013IL-00-A	GEP2013IO-00-A	GEP2013IO-05-A
Gripping force [N]	90	90	90
Closing time / Opening time [s]	0.42 / 0.42	0.42 / 0.42	0.42 / 0.42

Order no.	▶ Level 2		
	GEP2013IL-00-A	GEP2013IO-00-A	GEP2013IO-05-A
Gripping force [N]	180	180	180
Closing time / Opening time [s]	0.32 / 0.32	0.32 / 0.32	0.32 / 0.32

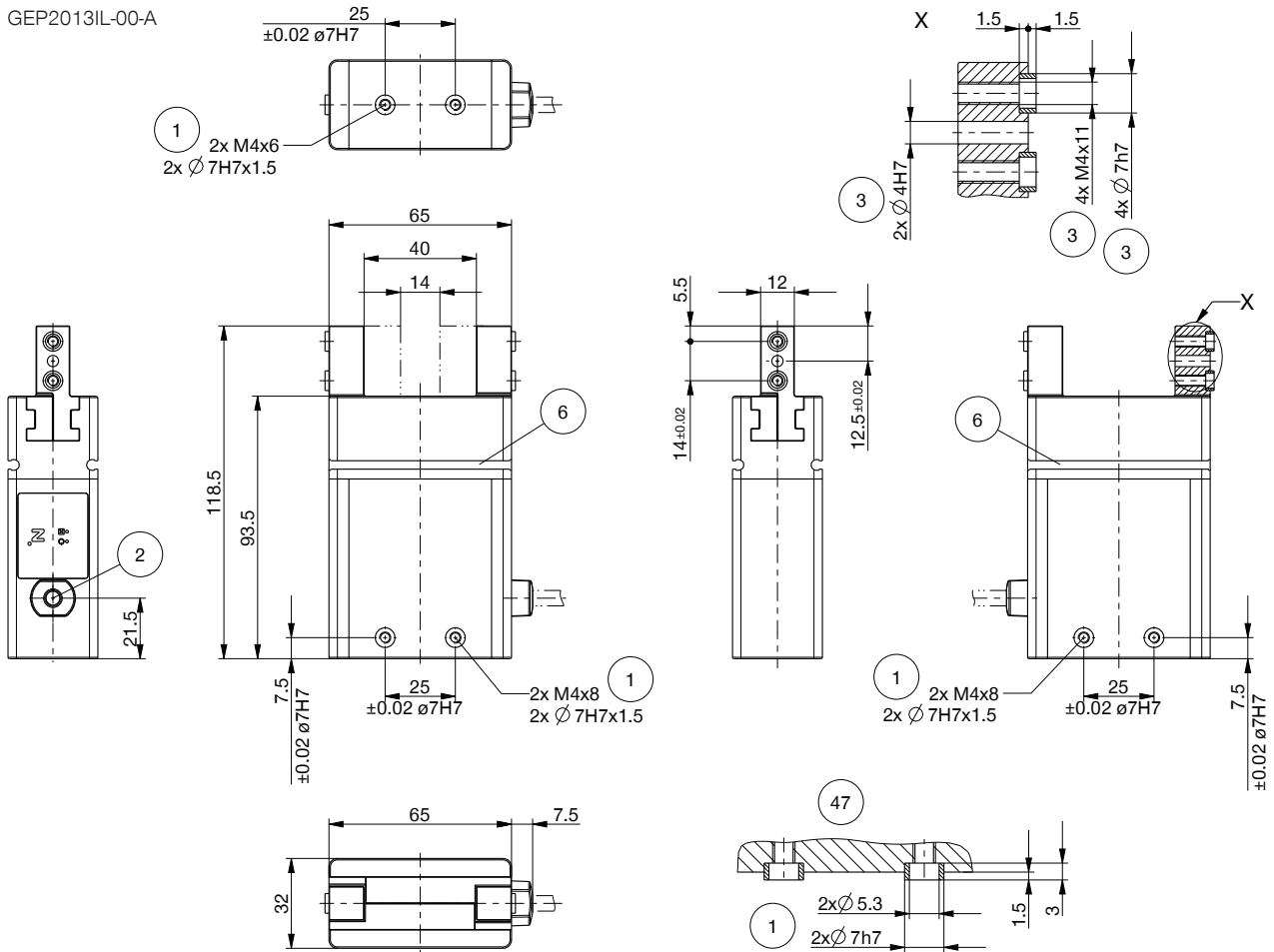
Order no.	▶ Level 3		
	GEP2013IL-00-A	GEP2013IO-00-A	GEP2013IO-05-A
Gripping force [N]	270	270	270
Closing time / Opening time [s]	0.26 / 0.26	0.26 / 0.26	0.26 / 0.26

Order no.	▶ Level 4		
	GEP2013IL-00-A	GEP2013IO-00-A	GEP2013IO-05-A
Gripping force [N]	360	360	360
Closing time / Opening time [s]	0.23 / 0.23	0.23 / 0.23	0.23 / 0.23

TECHNICAL DRAWINGS

- ① Gripper attachment
- ② Energy supply IO-Link (M12, 5-pole)
- ③ Fixing for gripper finger
- ⑥ Integrated slot for magnetic field sensor
- ④④ Energy supply (M8, 4-pole)
- ④⑤ Energy supply (M8, 5-pole)
- ④⑥ Force level setting
- ④⑦ Gripper mounting clamp

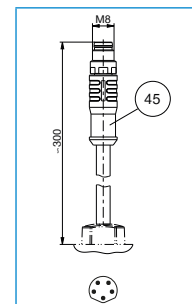
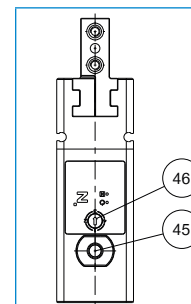
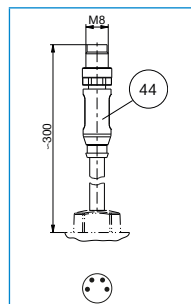
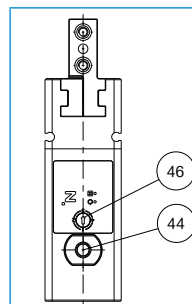
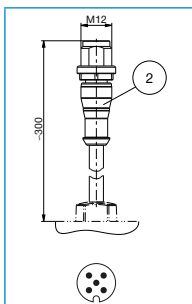
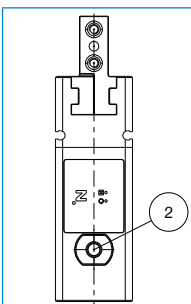
GEP2013IL-00-A



GEP2013IL-00-A

GEP2013IO-00-A

GEP2013IO-05-A



2-JAW PARALLEL GRIPPERS

INSTALLATION SIZE GEP2013

▶ ACCESORIES



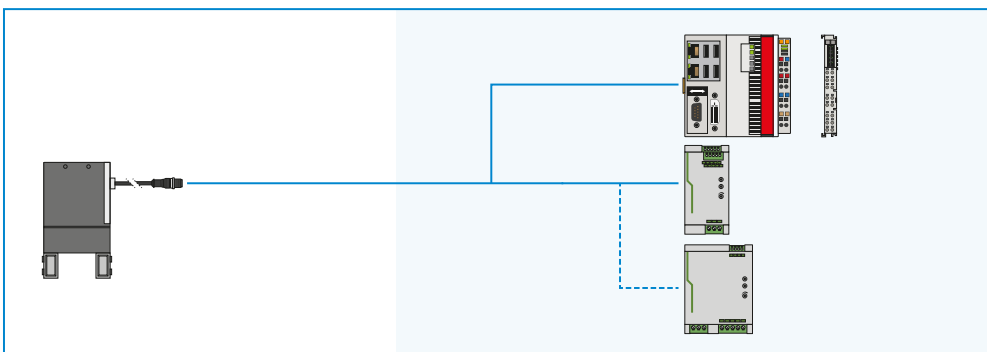
▶ INCLUDED IN DELIVERY



6 [piece]
Centering Disc

390677

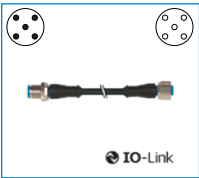
▶ YOU CAN FIND CONFIGURATION EXAMPLES ON PAGE 32 / 33



▶ RECOMMENDED ACCESSORY GEP2013IL-00-A



CONNECTIONS / OTHER



KAG500IL
Plug-in connector straight
5 m - plug, socket M12



AP2013
Adapter plate

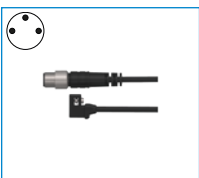


SCM-C-00-00-A
Smart Communication
Module

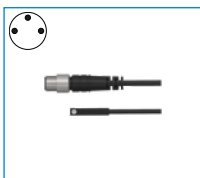
▶ RECOMMENDED ACCESSORY GEP2013IO-00-A



SENSORS



MFS01-S-KHC-P1-PNP
Magnetic field sensor angled,
cable 0.3 m - M8 connector



MFS02-S-KHC-P1-PNP
Magnetic field sensor straight,
cable 0.3 m - M8 connector



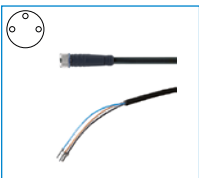
MFS01-S-KHC-P2-PNP
2-point sensor angled, ca-
ble 0.3 m - M8 connector



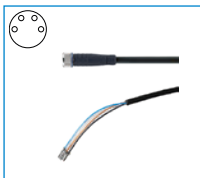
MFS02-S-KHC-P2-PNP
2-point sensor straight, ca-
ble 0.3 m - M8 connector



CONNECTIONS / OTHER



KAG500
Plug-in connector Straight Ca-
ble 5m - Socket M8 (female)



KAG500B4
Plug-in connector Straight Ca-
ble 5m - Socket M8 (female)



S8-G-3
Plug-in connector customiz-
able Straight - Connector M8



S8-G-4
Plug-in connector customiz-
able Straight - Connector M8

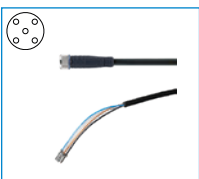


AP2013
Adapter plate

▶ RECOMMENDED ACCESSORY GEP2013IO-05-A



CONNECTIONS / OTHER



KAG500B5
Plug-in connector Straight Ca-
ble 5m - Socket M8 (female)



AP2013
Adapter plate

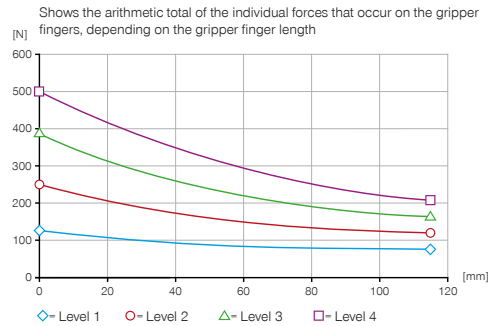
2-JAW PARALLEL GRIPPERS

INSTALLATION SIZE GEP2016

▶ PRODUCT SPECIFICATIONS



▶ Gripping force diagram



▶ Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	28
Mx [Nm]	28
My [Nm]	20
Fa [N]	450

▶ TECHNICAL DATA

Order no.	▶ Technical data		
	GEP2016IL-00-A	GEP2016IO-00-A	GEP2016IO-05-A
Control	IO-Link	Digital I/O	Digital I/O
Integrated position sensing	Using process data	No	Analog 0 to 10 V
Stroke per jaw [mm]	16	16	16
Gripping force safety device	mechanical	mechanical	mechanical
Control time [s]	0.055	0.055	0.055
Dead weight of mounted gripper finger max. [kg]	0.21	0.21	0.21
Length of the gripper fingers max. [mm]	120	120	120
Repetition accuracy +/- [mm]	0.02	0.02	0.02
Operating temperature [°C]	+5 ... +60	+5 ... +60	+5 ... +60
Voltage [V]	24	24	24
Current consumption max. [A]	2	2	2
Minimum positioning path per jaw [mm]	0.5	0.5	0.5
Protection to IEC 60529	IP40	IP40	IP40
Weight [kg]	0.9	0.9	0.9

▶ TECHNICAL DATA OF THE FORCE LEVELS

Order no.	▶ Level 1		
	GEP2016IL-00-A	GEP2016IO-00-A	GEP2016IO-05-A
Gripping force [N]	125	125	125
Closing time / Opening time [s]	0.44 / 0.44	0.44 / 0.44	0.44 / 0.44

Order no.	▶ Level 2		
	GEP2016IL-00-A	GEP2016IO-00-A	GEP2016IO-05-A
Gripping force [N]	250	250	250
Closing time / Opening time [s]	0.39 / 0.39	0.39 / 0.39	0.39 / 0.39

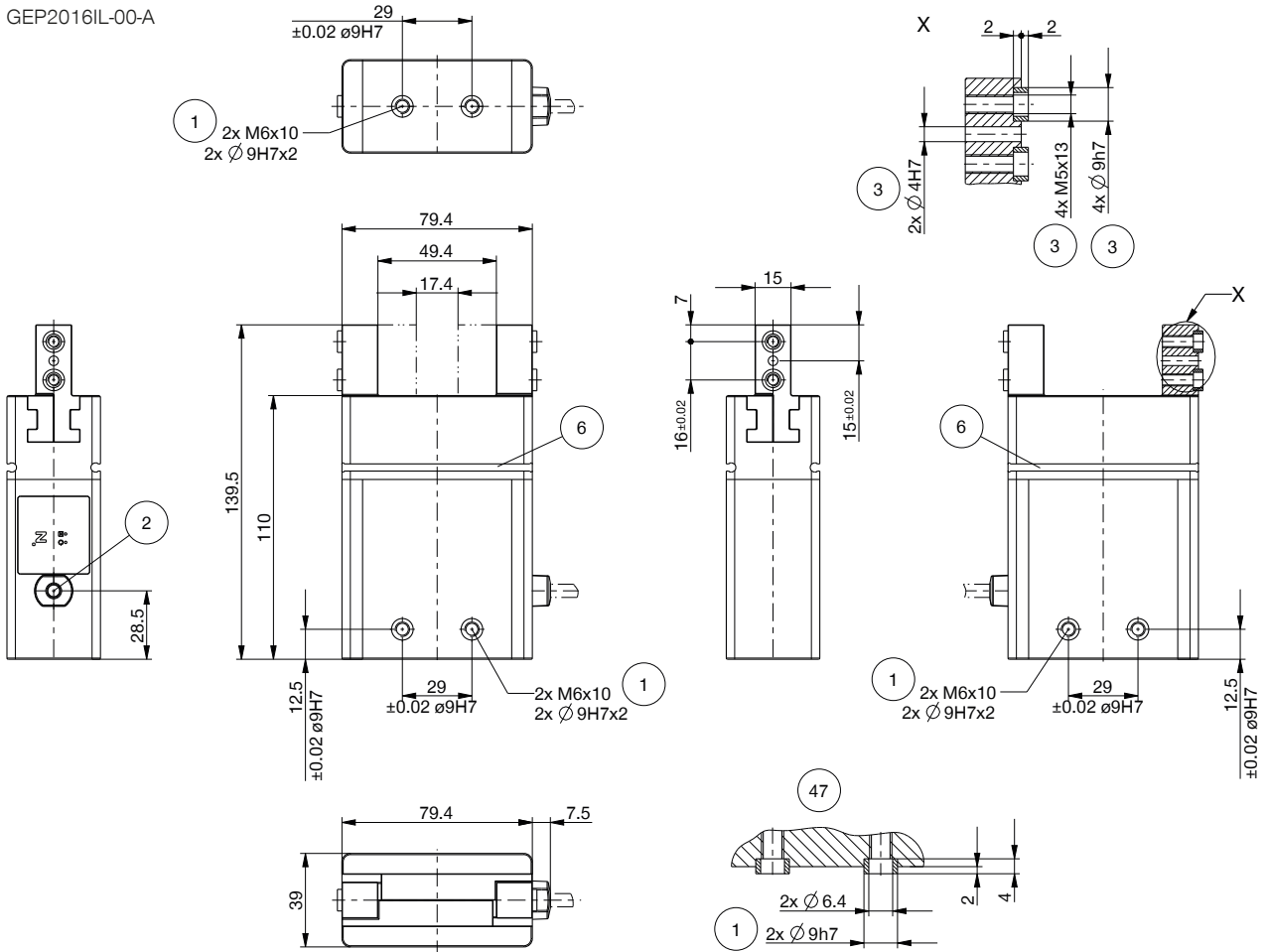
Order no.	▶ Level 3		
	GEP2016IL-00-A	GEP2016IO-00-A	GEP2016IO-05-A
Gripping force [N]	375	375	375
Closing time / Opening time [s]	0.35 / 0.35	0.35 / 0.35	0.35 / 0.35

Order no.	▶ Level 4		
	GEP2016IL-00-A	GEP2016IO-00-A	GEP2016IO-05-A
Gripping force [N]	500	500	500
Closing time / Opening time [s]	0.3 / 0.3	0.3 / 0.3	0.3 / 0.3

TECHNICAL DRAWINGS

- ① Gripper attachment
- ② Energy supply IO-Link (M12, 5-pole)
- ③ Fixing for gripper finger
- ⑥ Integrated slot for magnetic field sensor
- ④④ Energy supply (M8, 4-pole)
- ④⑤ Energy supply (M8, 5-pole)
- ④⑥ Force level setting
- ④⑦ Gripper mounting clamp

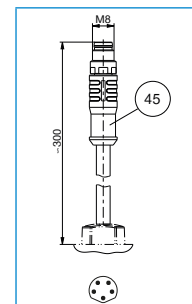
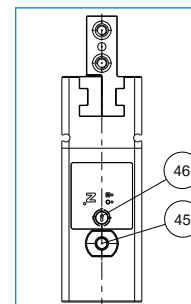
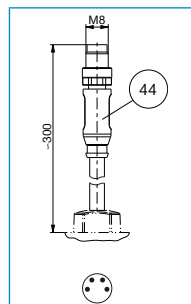
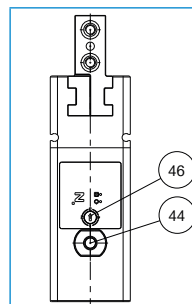
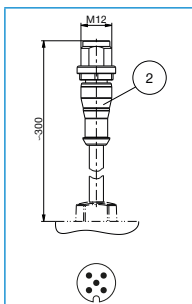
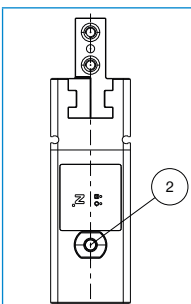
GEP2016IL-00-A



GEP2016IL-00-A

GEP2016IO-00-A

GEP2016IO-05-A



2-JAW PARALLEL GRIPPERS

INSTALLATION SIZE GEP2016

▶ ACCESORIES



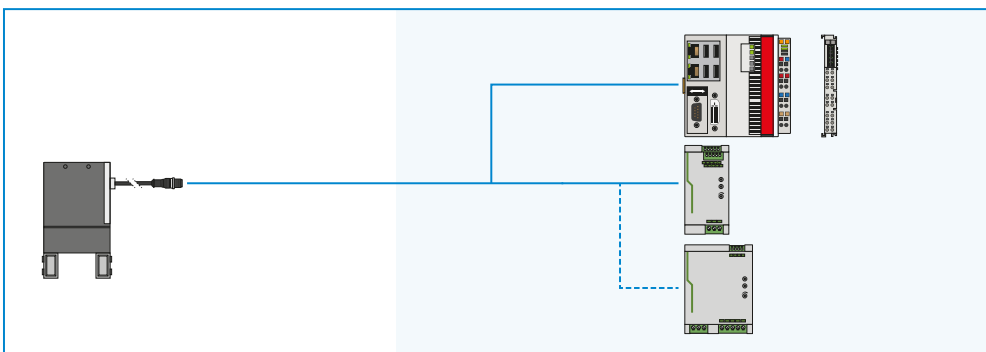
▶ INCLUDED IN DELIVERY



6 [piece]
Centering Disc

343453

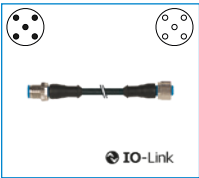
▶ YOU CAN FIND CONFIGURATION EXAMPLES ON PAGE 32 / 33



▶ RECOMMENDED ACCESSORY GEP2016IL-00-A



CONNECTIONS / OTHER



KAG500IL
Plug-in connector straight
5 m - plug, socket M12



AP2016
Adapter plate

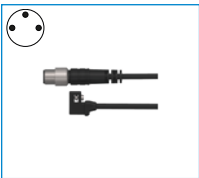


SCM-C-00-00-A
Smart Communication
Module

▶ RECOMMENDED ACCESSORY GEP2016IO-00-A



SENSORS



MFS01-S-KHC-P1-PNP
Magnetic field sensor angled,
cable 0.3 m - M8 connector



MFS02-S-KHC-P1-PNP
Magnetic field sensor straight,
cable 0.3 m - M8 connector



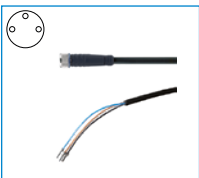
MFS01-S-KHC-P2-PNP
2-point sensor angled, ca-
ble 0.3 m - M8 connector



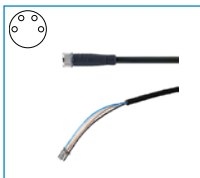
MFS02-S-KHC-P2-PNP
2-point sensor straight, ca-
ble 0.3 m - M8 connector



CONNECTIONS / OTHER



KAG500
Plug-in connector Straight Ca-
ble 5m - Socket M8 (female)



KAG500B4
Plug-in connector Straight Ca-
ble 5m - Socket M8 (female)



S8-G-3
Plug-in connector customiz-
able Straight - Connector M8



S8-G-4
Plug-in connector customiz-
able Straight - Connector M8

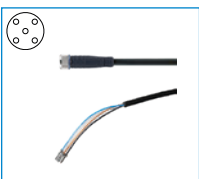


AP2016
Adapter plate

▶ RECOMMENDED ACCESSORY GEP2016IO-05-A



CONNECTIONS / OTHER



KAG500B5
Plug-in connector Straight Ca-
ble 5m - Socket M8 (female)

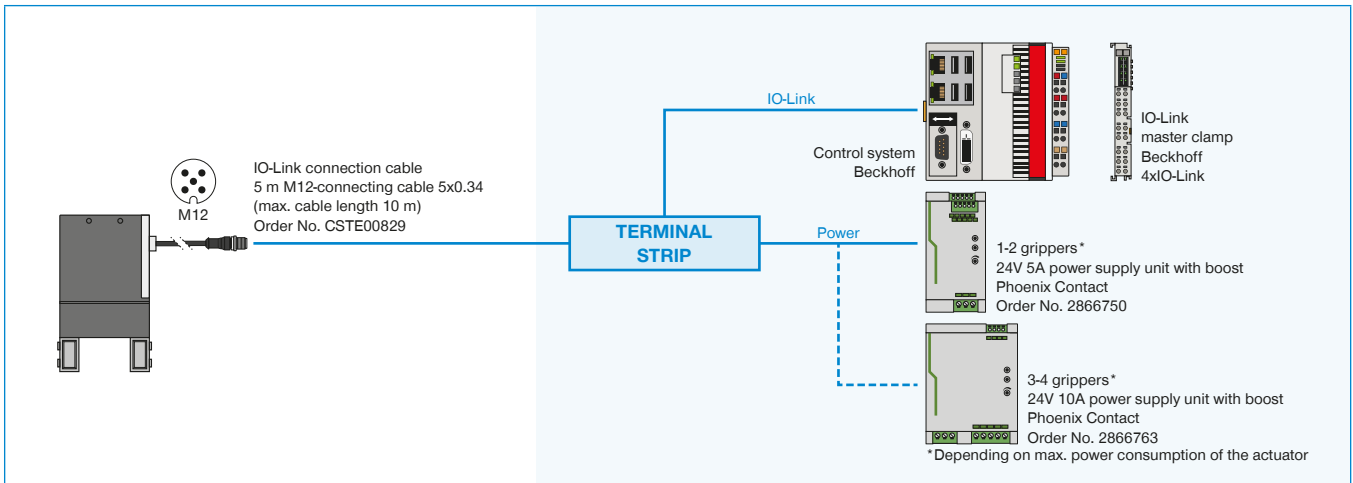


AP2016
Adapter plate

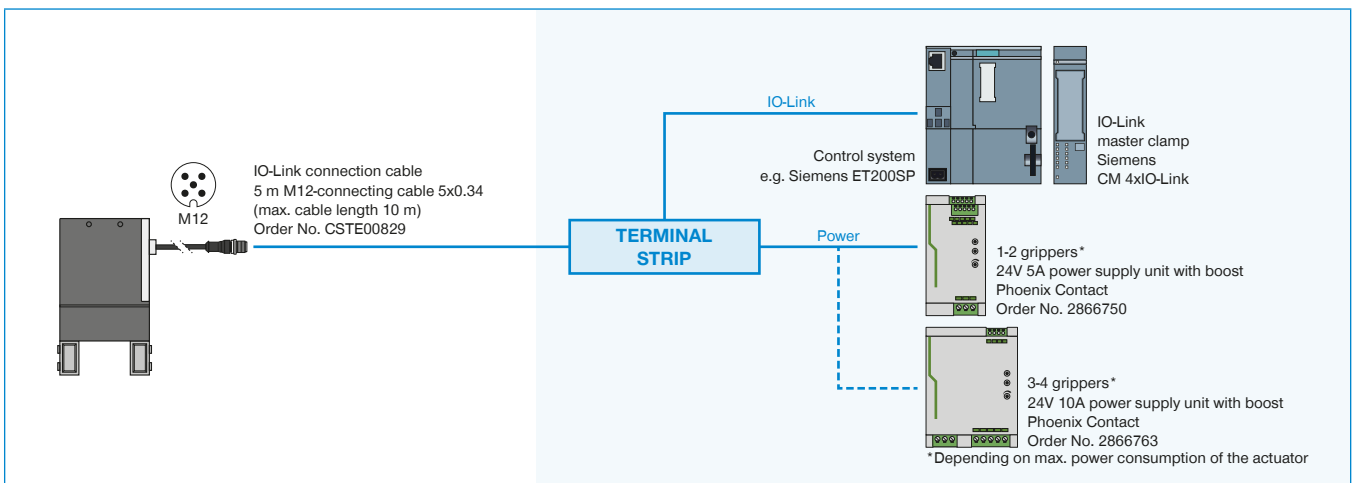
SECURED CONFIGURATION EXAMPLES

GEP2000 SERIES

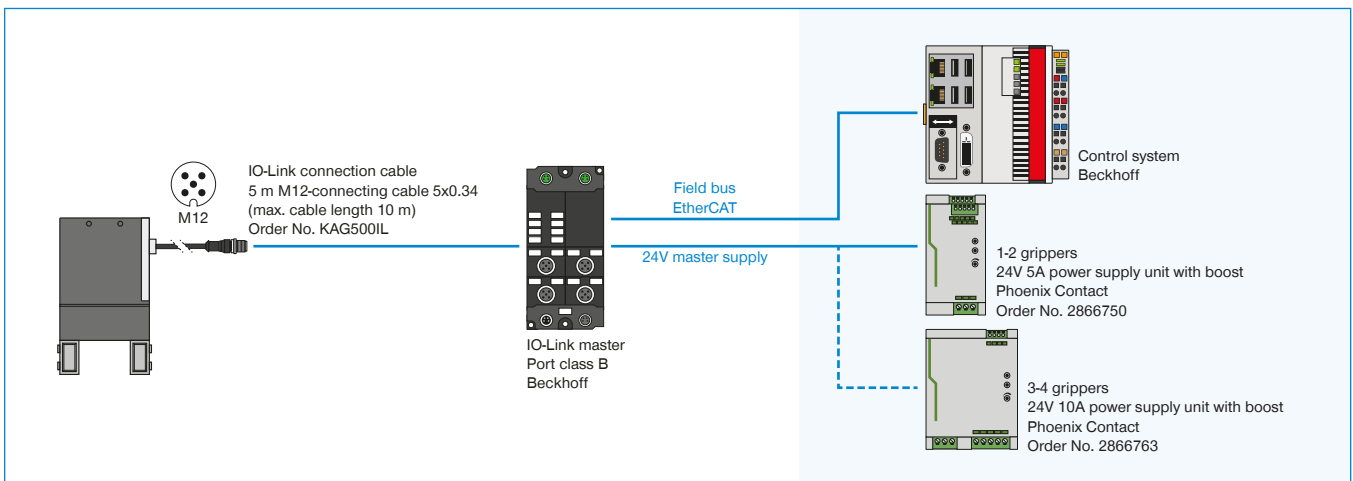
▶ GEP2000IL (IO-LINK) WIRING TO CONTROL CABINET (BECKHOFF)



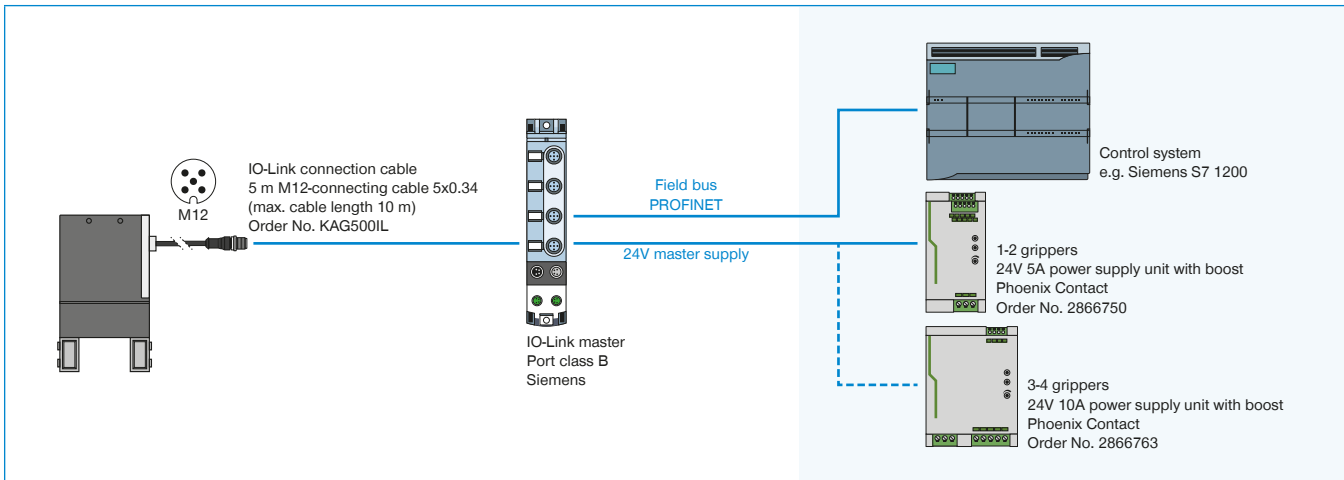
▶ GEP2000IL (IO-LINK) WIRING TO CONTROL CABINET (SIEMENS)



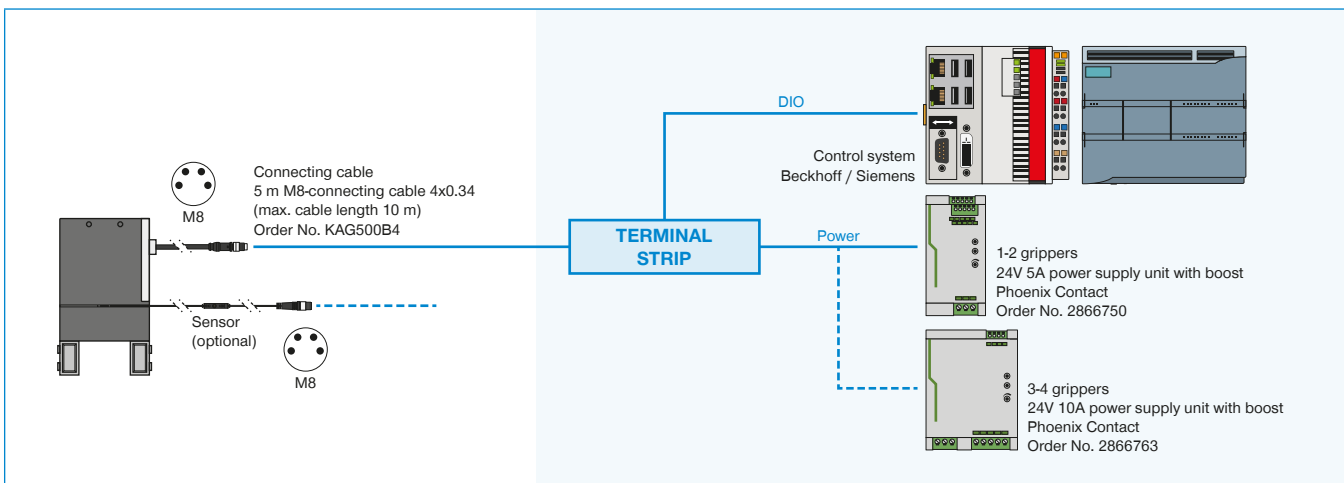
▶ GEP2000IL (IO-LINK) WIRING TO IO-LINK MASTER IP67 (BECKHOFF)



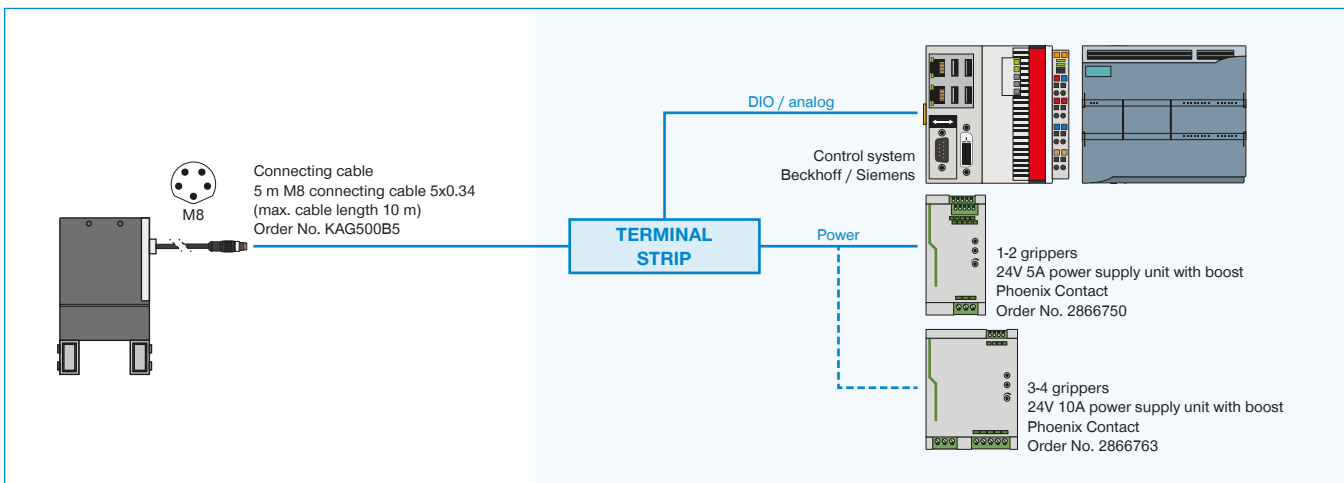
▶ GEP2000IL (IO-LINK) WIRING TO IO-LINK MASTER IP67 (SIEMENS)



▶ GEP2000IO-00 (DIGITAL IO) WIRING TO CONTROL CABINET



▶ GEP2000IO-05 (DIGITAL IO / ANALOG) WIRING TO CONTROL CABINET



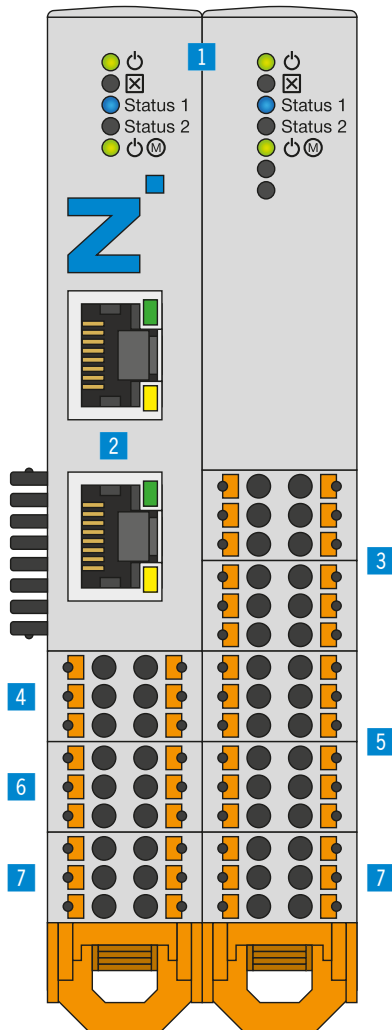
IO-LINK MEETS DIGITAL I/O

SMART COMMUNICATION MODULE

IO-Link meets digital I/O

The Smart Communication Module (SCM) is a master gateway that is suitable for all IO-Link components. With its two channels, the SCM can control two devices and on a functional level, offers the direct implementation of IO-Link to

digital I/O. The module thus makes it possible to integrate IO-Link devices into a digital infrastructure and utilize almost the full extended range of functions of the IO-Link device.



▶ PRODUCT ADVANTAGES

- ▶ Translates IO-Link to digital inputs and outputs digital I/O) and from digital I/O to IO-Link
- ▶ Easy control of intelligent IO-Link grippers via 24 V digital I/O
- ▶ Configuration and training take place using the corresponding intuitive guideZ software
- ▶ Can be used with one or two grippers depending on the flexibility required
- ▶ Up to 15 different workpieces can be trained for one gripper

▶ BENEFITS IN DETAIL

- 1 Status**
 - Status display of SCM and IO-Link device
- 2 Ethernet RJ45**
 - Temporary connection for gripper configuration
- 3 Digital input**
 - Digital inputs for controlling the gripper actuators
- 4 IO-Link / Device 1**
 - Gripper module 1 connection
- 5 Digital output**
 - Digital outputs for monitoring the gripper sensors
- 6 IO-Link / Device 2**
 - Gripper module 2 connection
- 7 Power supply**
 - Voltage supply SCM and gripper

Order no.	Technical Data
Control	Digital I/O
IO logic	PNP
Number of grippers, max.	2
Number of pins (control system input)	12
Number of pins (control system output)	12
Configuration for interface	Ethernet RJ45
Mounting options	35 mm top-hat rail
Voltage [V]	24
Load supply peak current [A]	10
Logic supply peak current [A]	1
Operating temperature [°C]	5 ... +50
Protection to IEC 60529	IP20
Weight [kg]	0.19

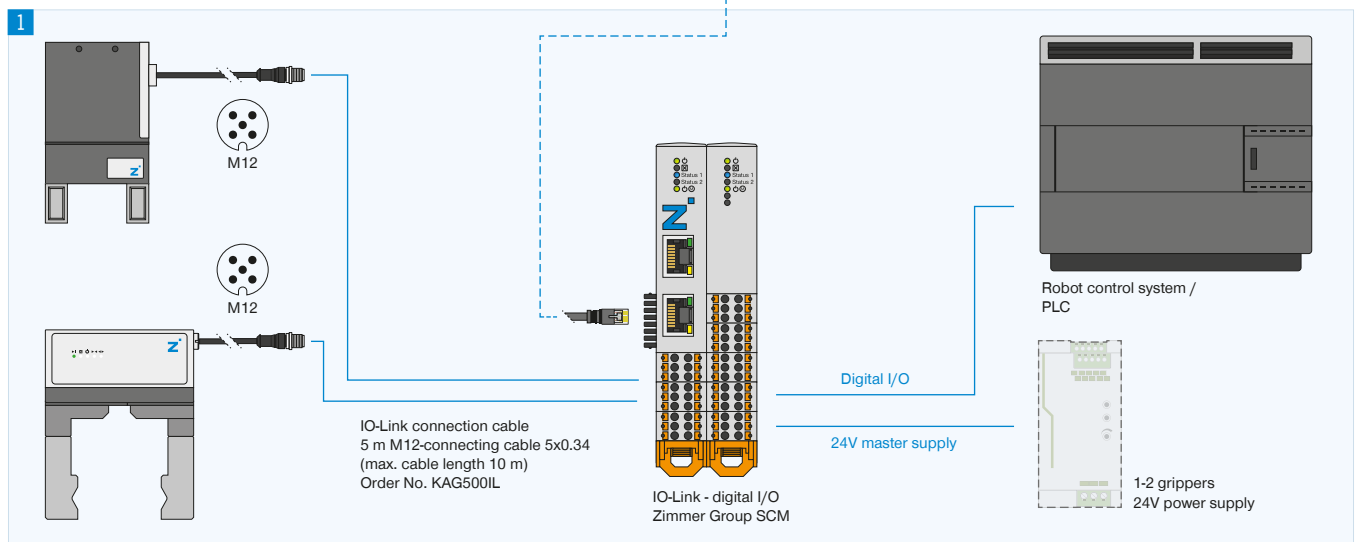
TOPOLOGY

CONNECTION

Configuration and operation

Up to two Zimmer IO-Link devices can be connected to one Smart Communication Module. The digital inputs and outputs are wired directly to the robot controller or PLC. Simple digital control enables bidirectional communication. To configure the gripper parameters, a temporary network connection is established to a commercially available PC.

As soon as the parameters have been configured intuitively, this connection is no longer necessary. Next, the handling unit is automatically controlled directly via robot controller or PLC.



1 Connection

- ▶ IO-Link gripper
- ▶ Digital I/Os on the robot control system/PLC
- ▶ Power supply

2 Configuration

Temporary network connection via PC for use of the guideZ, expertZ and monitorZ software

▶ FURTHER INFORMATION IS AVAILABLE ONLINE



All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

CHECKLIST

GRIPPERS

Customer number Telephone number
Company Fax number
Contact E-mail

Mr. Mrs.

Request Desired date Request No.

Order Order No.

Parallel grippers Concentric grippers Angular Grippers

Other / if yes, which type

Drive

Pneumatic Electrical Hydraulic

Operating pressure [bar] Voltage [V]

Required stroke

Per jaw [mm] or Total stroke [mm]

Gripper finger length

Gripper top edge to force application point [mm]

Ambient conditions

Clean / Dry Small amount of swarf / Coolant overspray Large amount of swarf / Coolant under pressure / Grinding agent

Chemical substances / if yes, which

Temperature [°C] Cycles per minute

Required force

Gripping force [N] or Workpiece weight kg g

Gripping type

Internal gripping External gripping

Frictional fit Form fit

Prism angle [°] Friction coefficient Axis acceleration [m/s²]

Self-locking

Not required In closing In opening Pressure safety valve

Desired accessories

Inductive sensor Magnetic field sensor With Cable Plugable

Separate cable / if yes, how long [m]

Pressure safety valve

Pneumatic fittings / if yes, which

Straight fitting
 Angled fitting
 Air flow control valve

Notes / Comments

Editor / Date

Attachment

Sketch 3D model Others

USAGE NOTE

GENERAL

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USAGE NOTE

INDIVIDUAL

DECLARATION OF INCORPORATION IN TERMS OF THE EC DIRECTIVE 2006/42/EC ON MACHINERY (ANNEX II 1 B)

We hereby declare that our elements meet the following basic requirements of the Machinery Directive 2006/42/EC as an incomplete machine

No.1.1.2., No.1.1.3., No.1.1.5., No.1.3.2, No. 1.3.4, No. 1.3.7, No.1.5.3, No.1.5.4, No.1.5.8., No.1.6.4, No.1.7.1, No.1.7.3, No.1.7.4.

We also declare that the specific technical documents were produced in accordance with Annex VII Part B of this Directive. We undertake to provide the market supervisory bodies with electronic versions of the incomplete machine's special documents via our documentation department should they have reason to request them.

The incomplete machine may only be commissioned if the machine or system in which the incomplete machine is to be installed has been determined to satisfy the conditions of the Machinery Directive 2006/42/EC and the EC Declaration of Conformity has been produced in accordance with Annex II A.

