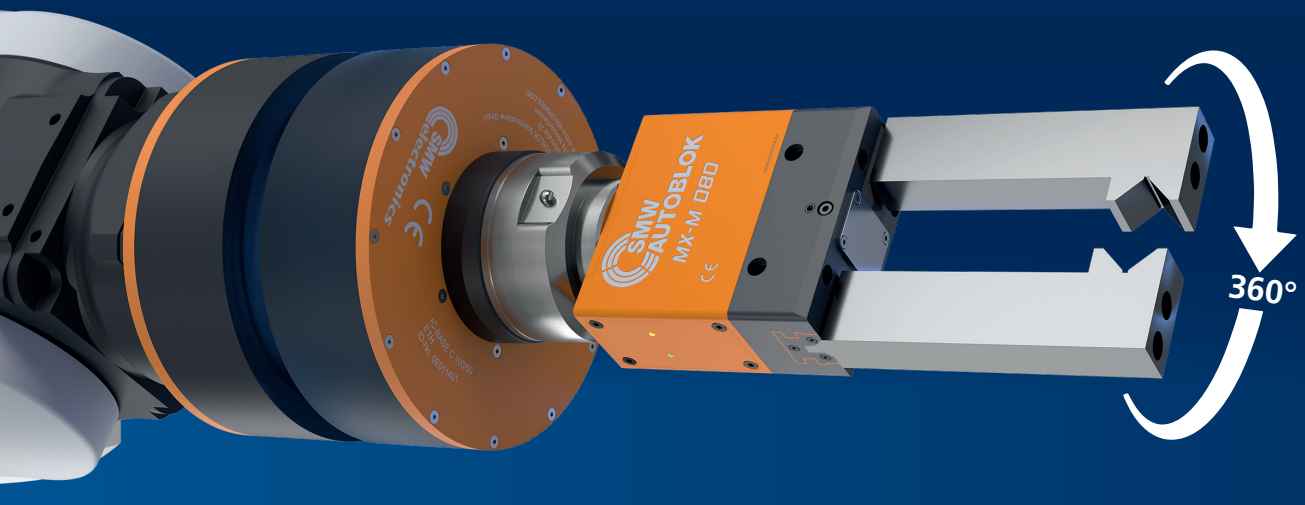
SMW AUTOBLOK

MX-M

MECHATRONIC UNIVERSAL GRIPPER

Gripping force independent of gripping speed and stroke
Mechatronic drive with gripping force retention
Position measuring system
Pre-positioning and gripping force adjustment
Robust and compact design allows universal usage



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SMW electronics

MX-M

Mechatronic gripper

Mechatronic universal gripper

■ 2 finger parallel



Application/customer benefits

- Gripping force independent of gripping speed and stroke
- Mechatronic drive with gripping force retention
- Position measuring system (absolute)
- Pre-positioning and gripping force adjustment
- ID and OD clamping clamping
- Use as universal gripper

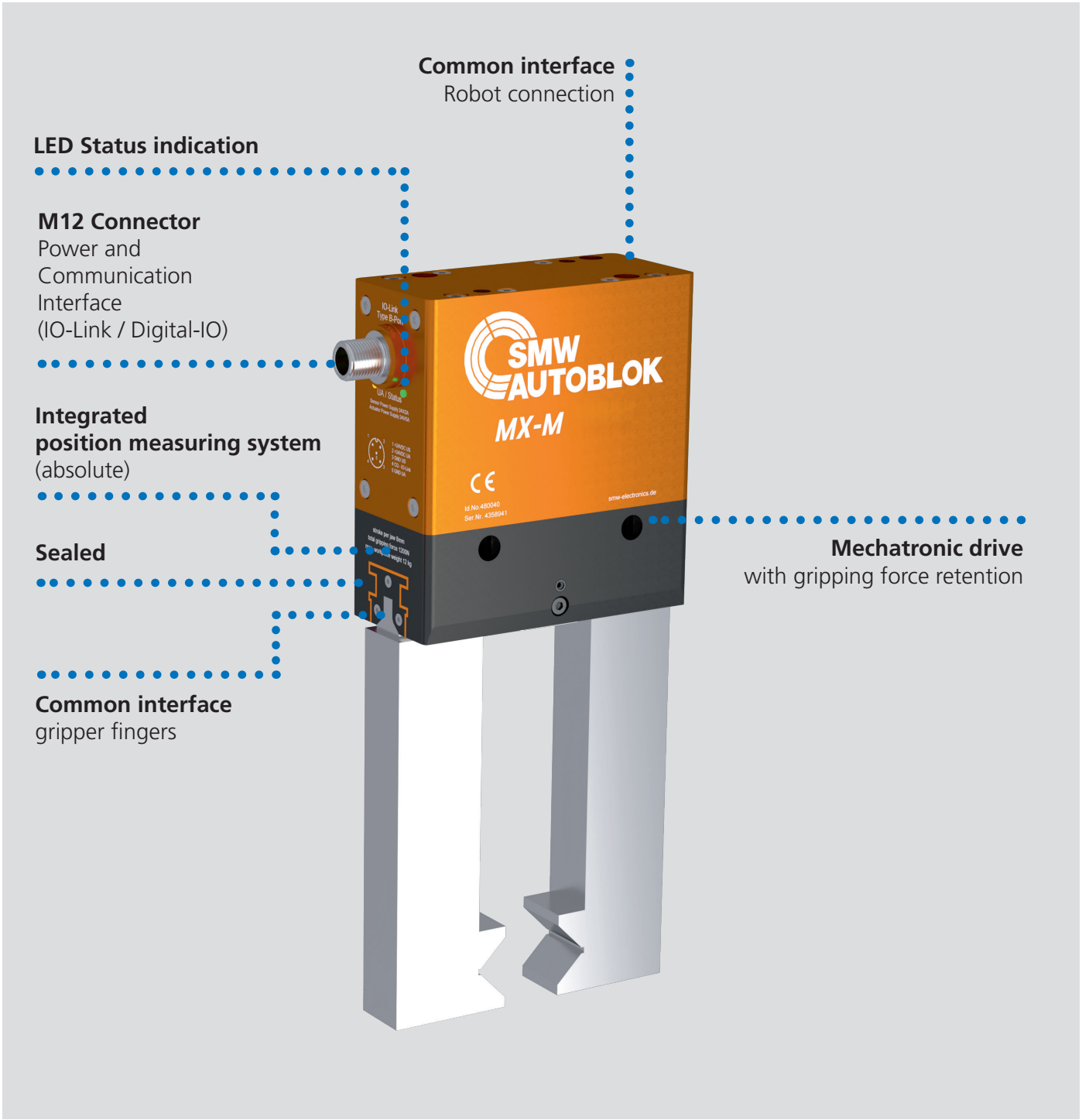
Technical features

- Aluminium housing
- Sealed / Protection class: IP64
- Adjustable gripping position and force
- Repeatability 0,02 mm
- Power supply 19.2 ... 30 V / 5 A
- Communication interface IO-Link or Digital-IO
- URCap optionally available

Standard equipment

Gripper with centering sleeves (without gripper fingers and mounting bolts)

MX-M

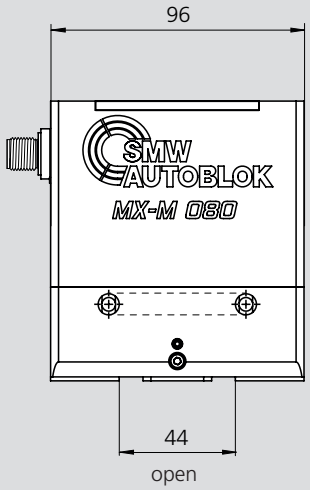


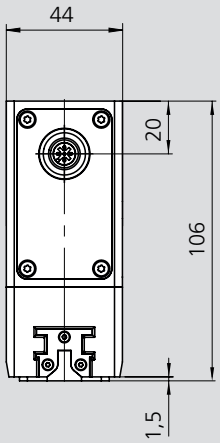
Mechatronic universal gripper

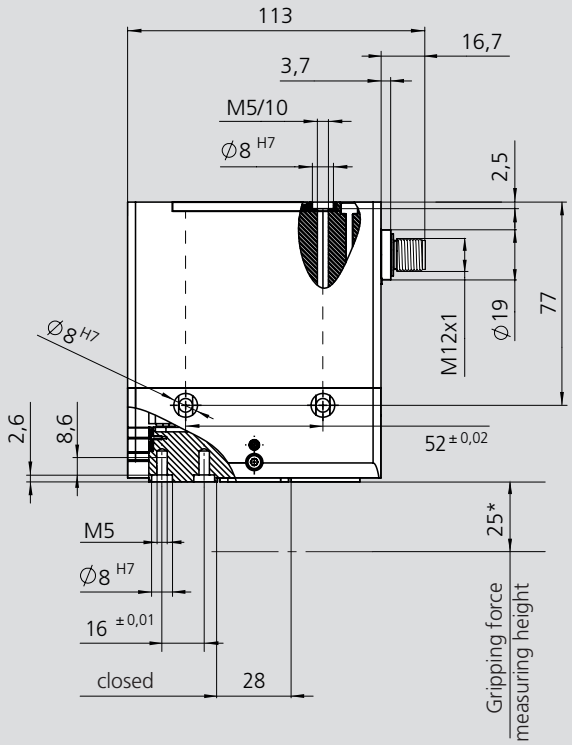
Dimension and technical data

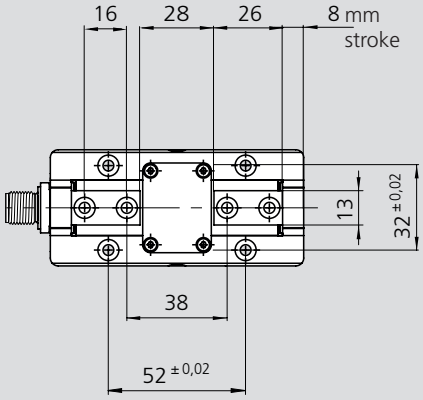
MX-M 080

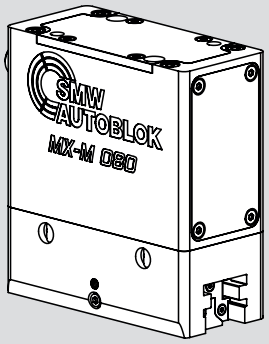
Mechatronic gripper









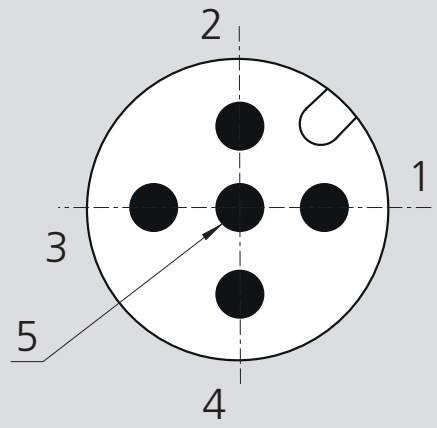


Subject to technical changes.
For more detailed information please ask our customer service.

*Gripping force is the arithmetic sum of the individual forces applied on each jaw at the specified distance.

Type		MX-M 080 IOL	MX-M 080 DIO
Id. No.		**480040**	**480140**
Gripping force	N	1.200	
Stepless gripping force adjustment	N	360 - 1.200	-
Stroke per jaw	mm	8	
Repeatability	mm	0,02	
Weight	kg	1,35	
Recommended workpiece weight	kg	6	
Closing time	s	0,36	
Opening time	s	0,36	
Voltage		19.2 ... 30 V	
Max. power consumption		5 A	
Protection class		IP64	
Signal interface		IO-Link	Digital-IO

Pin assignment M12 x 1 - 5 Pin A-coded Male



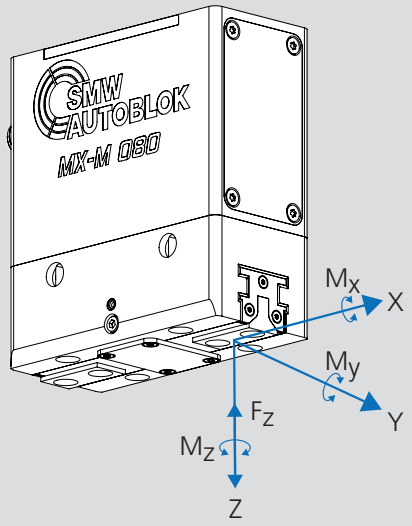
IO-Link Port B		
Pin	**Function**	**Description**
1	US+	Power supply IO-Link logic 24V DC
2	UA+	Power supply actuator 24V DC
3	US-	Ground IO-Link logic
4	C/Q	IO-Link signal
5	UA-	Ground Actuator

Digital IO Interface M12 - 5A		
Pin	**Function**	**Description**
1	+24V	Positive supply voltage
2	Opened	Digital output opened feedback
3	GND	Ground
4	Ctrl	Digital input control signal
5	Closed	Digital output closed feedback

Force and moment loading

Forces and moments

Shows static forces and moments that can act in addition to the gripping force.



Mx	max. moment in X-axis	Nm	50
My	max. moment in Y-axis	Nm	100
Mz	max. moment in Z-axis	Nm	50
Fz	max. weight force in Z-axis	N	1.200

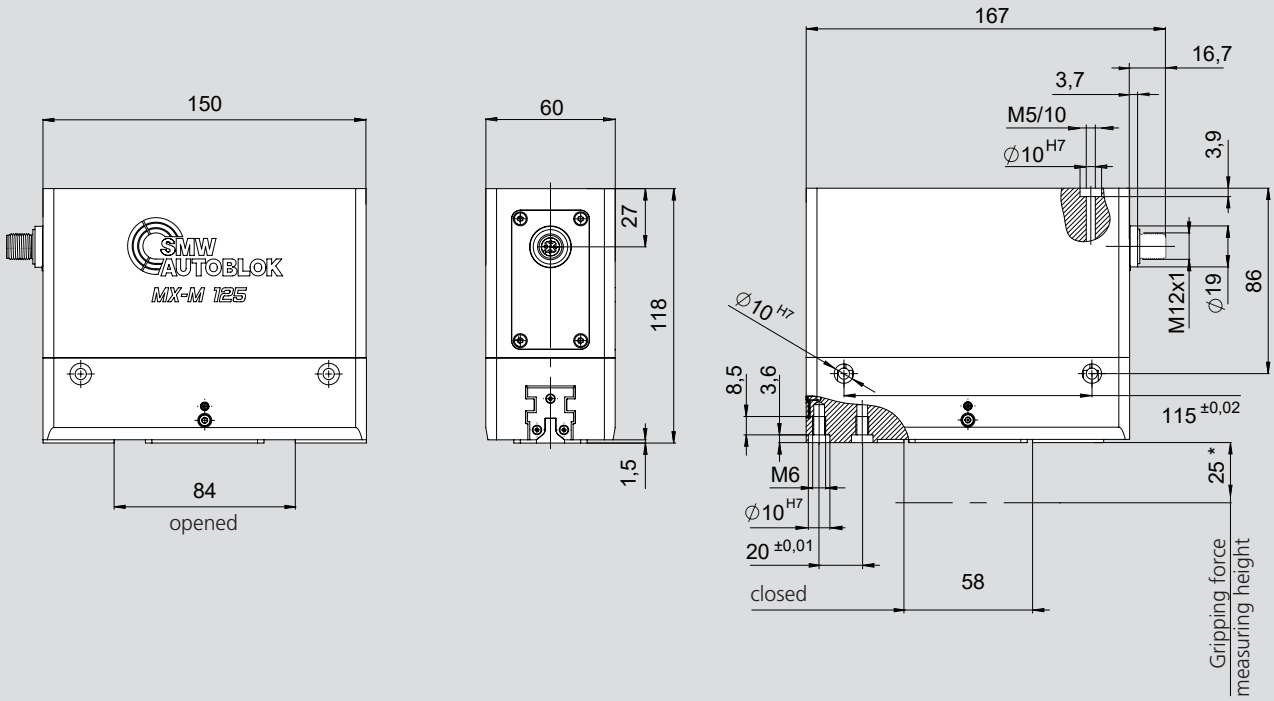
Notes

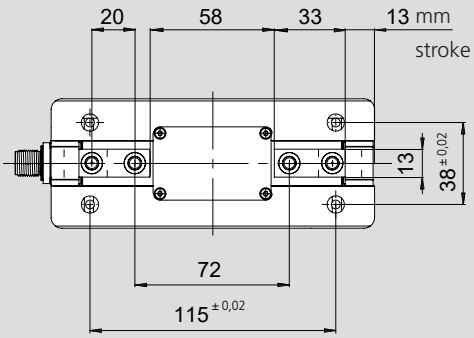
MX-M 125

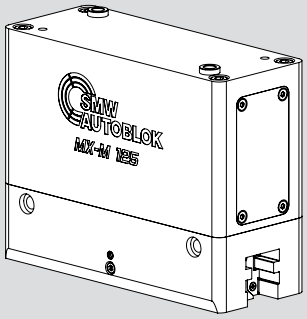
Mechatronic gripper

Mechatronic universal gripper

Dimension and technical data





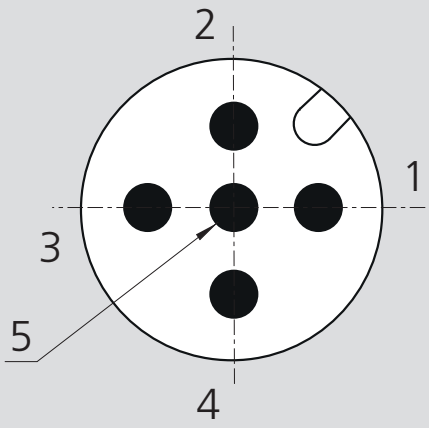


Subject to technical changes.
For more detailed information please ask our customer service.

*Gripping force is the arithmetic sum of the individual forces apllied each jaw at the specified distance.

Type		MX-M 125 IOL	MX-M 125 DIO
Id. No.		**480110**	**480210**
Gripping force	N	4000	
Stepless gripping force adjustment	N	2000 - 4000	-
Stroke per jaw	mm	13	
Repeatability	mm	0,02	
Weight	kg	2,7	
Recommended workpiece weight	kg	9	
Closing time	s	1,2	
Opening time	s	1,2	
Voltage		19.2 ... 30 V	
Max. power consumption		5 A	
Protection class		IP64	
Signal interface		IO-Link	Digital-IO

Pin assignment M12 x 1 - 5 Pin A-coded Male



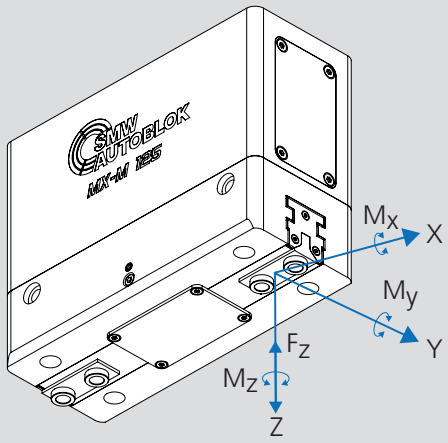
IO-Link Port B		
Pin	**Function**	**Description**
1	US+	Power supply IO-Link logic 24V DC
2	UA+	Power supply actuator 24V DC
3	US-	Ground IO-Link logic
4	C/Q	IO-Link signal
5	UA-	Ground Actuator

Digital IO Interface M12 - 5A		
Pin	**Function**	**Description**
1	+24V	Positive supply voltage
2	Opened	Digital output opened feedback
3	GND	Ground
4	Ctrl	Digital input control signal
5	Closed	Digital output closed feedback

Force and moment loading

Forces and moments

Shows static forces and moments that can act in addition to the gripping force.



Mx	max. moment in X-axis	Nm	125 Nm
My	max. moment in Y-axis	Nm	100 Nm
Mz	max. moment in Z-axis	Nm	110 Nm
Fz	max. weight force in Z-axis	N	3.000 N

Use MX-M with inductive coupling system F100-2IOL



Advantages:

- 360 ° rotation of the gripper
- No cable breaks
- Use in clean room applications
- No limitation of the speed of the robot by cables

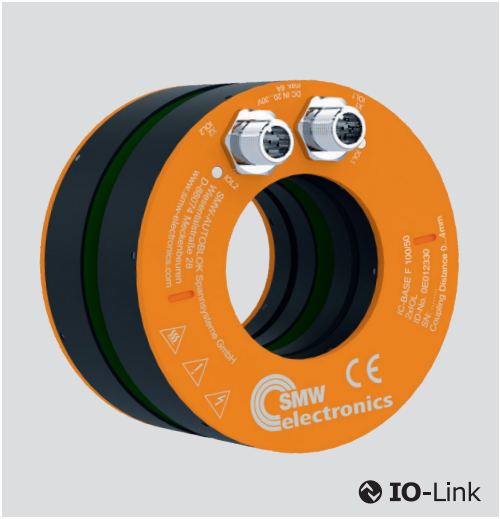
Notes

F100-2IOL

Axial coupler

Inductive Coupling System

■ **Contact free transmission of energy and signals**



Application/customer benefits

- Contact free transmission of energy and signals between moving / rotating and stationary components
- Application examples: Robotic (End of Arm Tooling), Automation, Mechanical engineering
- Substitution of slip ring / connector
- Dynamic Pairing
- Wear and maintenance free
- Protective functions: temperature monitoring, foreign object detection, reverse polarity protection
- Status LED with good visibility

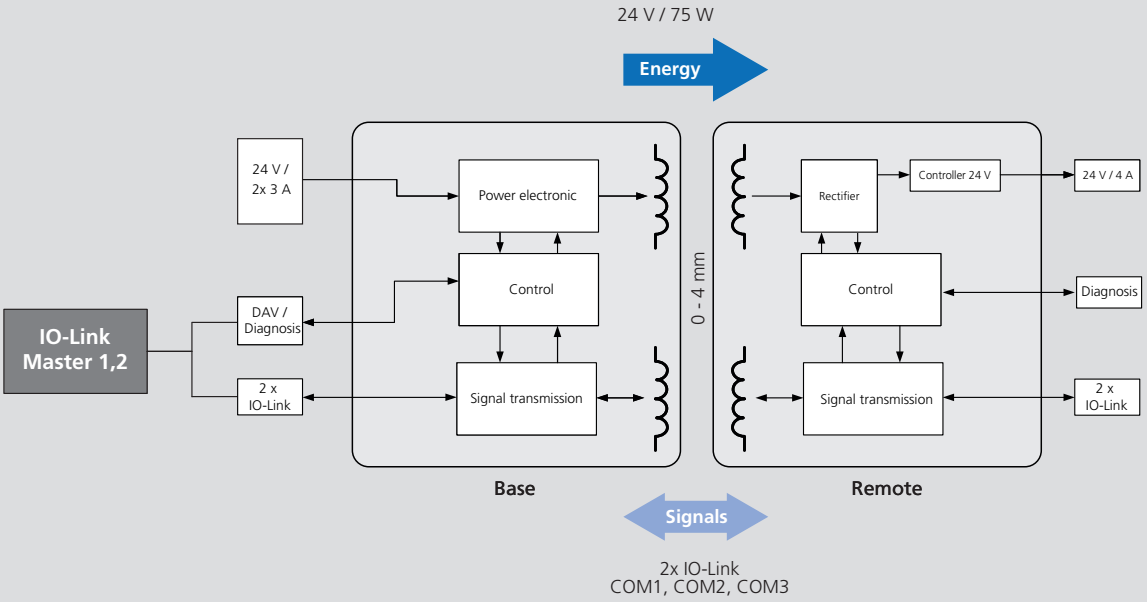
Technical features

- Diameter: 100 mm / Through hole 50 mm
- Operating voltage: 24 V / max 6 A
- Transmission distance: 0 - 4 mm
- Transmission of energy: 24 V / 75 W
- Transmission of signals: 2x IO-Link (COM 1, COM 2, COM 3)
- Connections: Base: 2x M12 x 1 male 5-pin, Remote: 2x M12 x 1 female 5-pin
- Protection class: IP67

Standard equipment

Inductive coupler base or remote

Block diagram



Subject to technical changes.
For more detailed information please ask our customer service.

IO-Link

Inductive coupling system F100-2IOL		
Type	**Base**	**Remote**
Id. No.	**0E012330**	**0E012331**
Operating temperature (housing surface)	-20 °C ... +60 °C	
Storage temperature	-20 °C ... +60 °C	
Transmission distance	0 mm ... 4 mm	
Operating voltage	24 V ± 10%	-
Current consumption (Base)	6 A (2x 3A)	-
Output voltage	-	24 V ± 5%
Output power	-	75 W
Signal transmission	2x IO-Link (COM2, COM 2, COM 3)	
LED	2 LEDs 2-color	
Overload protection / short circuit protection	✓	✓
Residual ripple	-	< 50 mV
Reverse polarity protection	✓	-
Data-Valid output	max. 100 mA	
Ready delay	< 1 s	

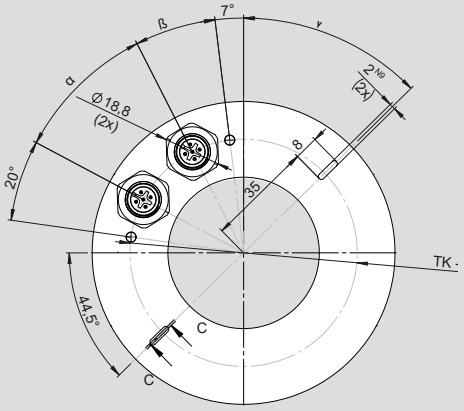
Inductive Coupling System

■ Stationary unit - Base
■ Mobile unit - Remote

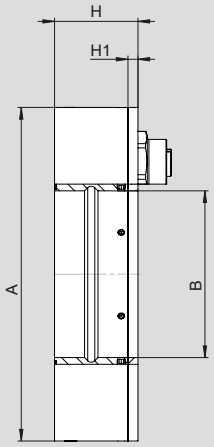
F100-2IOL

Axial coupler

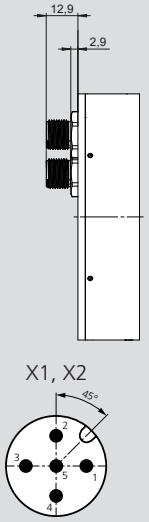
Base / Remote:



Base / Remote:



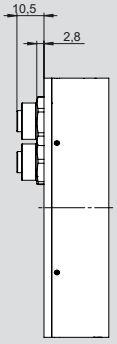
Base:



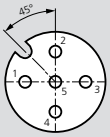
X1, X2

2x Male connector 5-pin
M12 x 1

Remote:



X1, X2



2x Female connector 5-pin
M12 x 1

Subject to technical changes.
For more detailed information please ask our customer service.

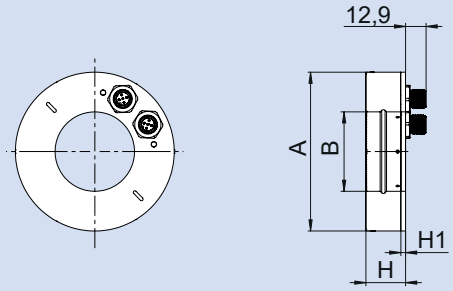
Inductive coupling system F100-2IOL			
Type		**Base**	**Remote**
Id. No.		**0E012330**	**0E012331**
A	mm	100	
B	mm	50	
C	mm	1	
H	mm	25	
H1	mm	3	
α	degree	35	
ß	degree	20	
γ	degree	45.5	
Housing material		Al, GFK	
Protection class		IP67	
Weight	kg	0,224	0,237

Function LED IO-Link Base (X1, X2)	
LED Power	
Color	Yellow / red
Function	Yellow » SIO mode active and SIO signal is high
	Flash yellow (1000 ms on, 100 ms off), » IO-Link communication active, power is on, Remote was detected
	Flashing 2 Hz yellow » no IO-Link device detected, power on, no Remote detected
	Flashing 2 Hz red » Short circuit on IO-Link PIN
	Flashing 5 Hz red » Overload voltage output Remote

Function LED IO-Link Remote (X1, X2)	
LED Power	
Color	Yellow / red
Function	Yellow » SIO mode active and SIO signal is high
	Flash yellow (1000 ms on, 100 ms off),» IO-Link communication active, power is on, Base has been detected
	Flashing 2 Hz yellow » No IO-Link communication, power on, no Base detected
	Flashing 2 Hz red » Short circuit on IO-Link PIN
	Flashing 5 Hz red » Overload voltage output Base

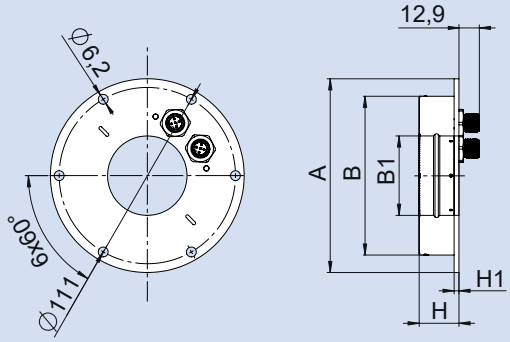
PIN assignment	PIN	X1 Base	X2 Base	X1 Remote	X2 Remote
Supply voltage	1	24 V IN	24 V IN	24 V OUT	24 V OUT
Data-Valid	2	DAV 24 V	-	-	-
Ground	3	GND	GND	GND	GND
IO-Link Signal	4	IO-Link CQ	IO-Link CQ	IO-Link CQ	IO-Link CQ
-	5	-	-	-	-

Standard flange



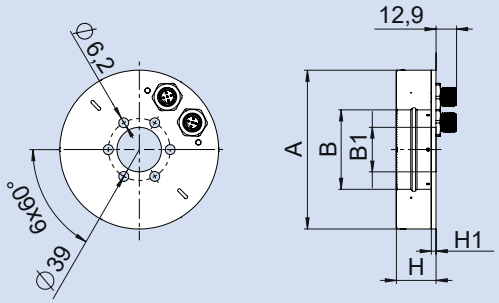
Type	F100-2IOL		F100 Etherent	
	IC-Base-F100-2IOL D100/050	**IC-Remote-F100-2IOL** D100/050	**IC-Base-F100-ETH** D100/050	**IC-Remote-F100-ETH** D100/050
Id.-No.	0E012330	0E012331	0E011420	0E011421
A	100			
B	50			
B1	-			
B2	-			
H	25			
H1	3			
Weight	0.26 kg			

Outer flange with feed-through



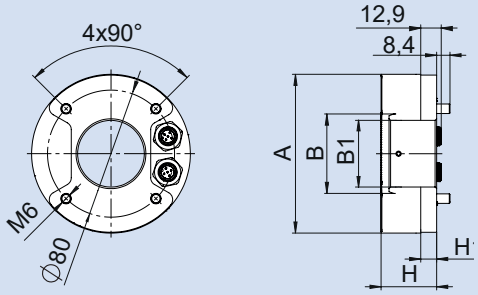
Type	F100-2IOL		F100 Etherent	
	IC-Base F100-2IOL D122/050	**IC-Remote-F100-2IOL** D122/050	**IC-Base F100-ETH** D122/050	**IC-Remote-F100-ETH** D122/050
Id.-No.	0E012332	0E012333	0E012320	0E012321
A	122			
B	100			
B1	50			
B2	-			
H	25			
H1	3			
Weight	0.36 kg			

Inner flange with feed-through



Type	F100-2IOL		F100 Etherent	
	IC-Base F100-2IOL D100/028	**IC-Remote-F100-2IOL** D100/028	**IC-Base F100-ETH** D100/028	**IC-Remote-F100-ETH** D100/028
Id.-No.	0E012334	0E012335	0E012322	0E012323
A	100			
B	50			
B1	28			
B2	-			
H	25			
H1	3			
Weight	0.34 kg			

Flangering with feed-through



Type	F100-2IOL		F100 Etherent	
	IC-Base F100-2IOL D100/042	**IC-Remote-F100-2IOL** D100/042	**IC-Base F100-ETH** D100/042	**IC-Remote-F100-ETH** D100/042
Id.-No.	0E012336	0E012337	0E012324	0E012325
A	100			
B	50			
B1	42			
B2	-			
H	25			
H1	10			
Weight	0.48 kg			

FURTHER OPTIONS AVAILABLE ON REQUEST!

- Outer flange without feed-through
- Inner flange without feed-through
- Threaded sleeve with without feed-through

Notes



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