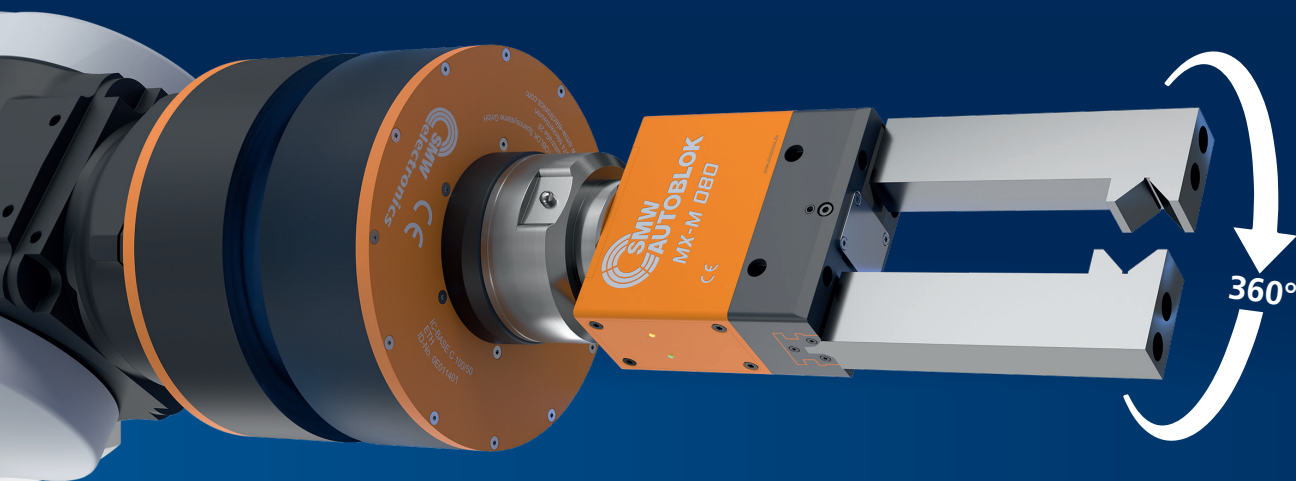


# MX-M

## 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



# MX-M

## Mechatronic universal gripper

Mechatronic 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

#### LED Status indication



#### M12 Connector

Power and  
Communication  
Interface  
(IO-Link / Digital-IO)



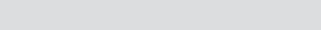
#### Integrated position measuring system (absolute)



#### Sealed



#### Common interface gripper fingers



#### Common interface

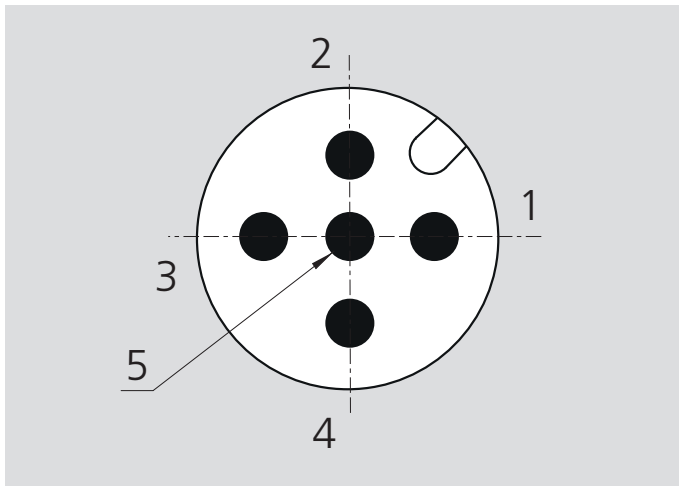
Robot connection



Mechatronic drive  
with gripping force retention



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



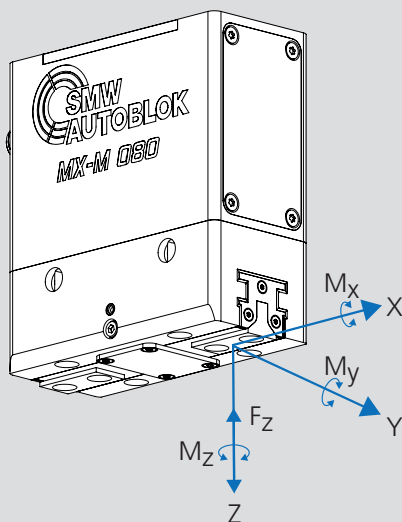
IO-Link Port B		
Pin	Function	Description
1	US+	Power supply IO-Link logic 24V DC
2	UA+	Power supply actuator 24V DC
3	US-	Ground IO-Link logic
4	C/Q	IO-Link signal
5	UA-	Ground Actuator

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.



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

# Notes

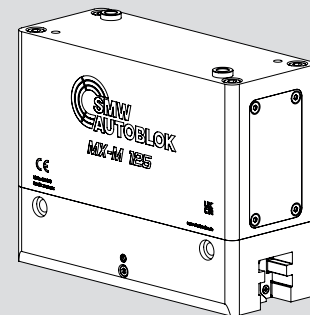
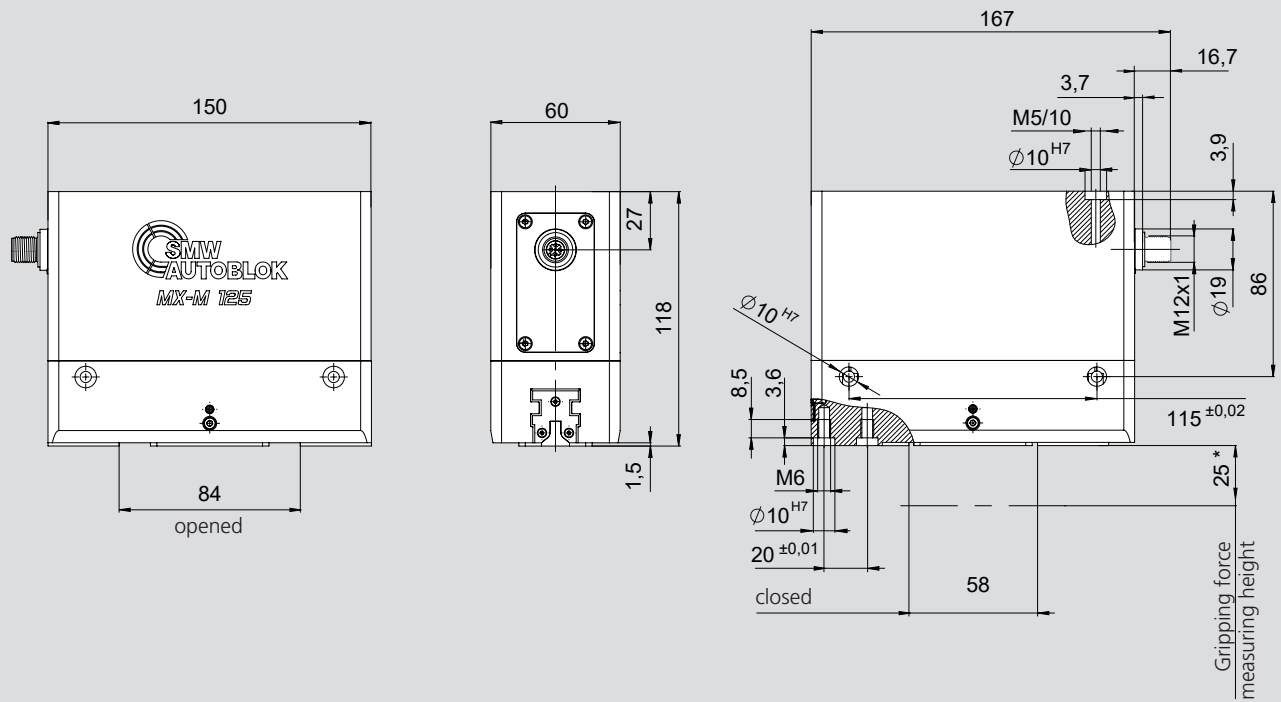
The page contains a series of horizontal stripes in two shades of blue, alternating from top to bottom. The stripes are uniform in width and extend across the entire width of the page, providing a template for writing notes.

# MX-M 125

## Mechatronic universal gripper

Mechatronic gripper

Dimension and technical data

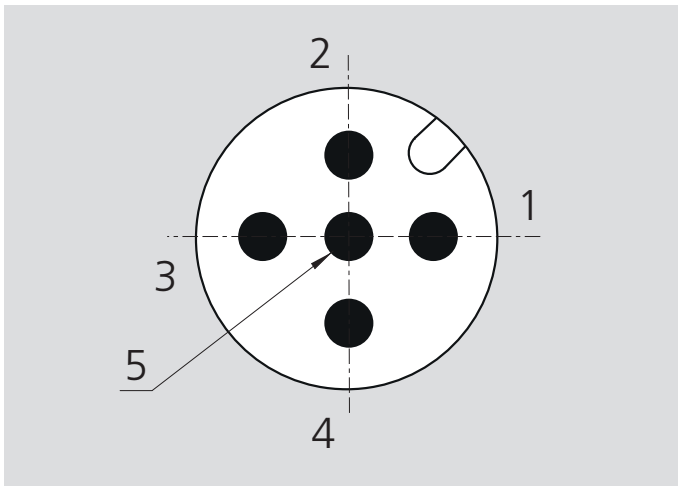


Subject to technical changes.  
For more detailed information please ask our customer service.

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

Type		MX-M 125 IOL	MX-M 125 DIO
<b>Id. No.</b>		<b>480110</b>	<b>480210</b>
<b>Gripping force</b>	N		1.800
<b>Stepless gripping force adjustment</b>	N	540-1.800	-
<b>Stroke per jaw</b>	mm		13
<b>Repeatability</b>	mm		0,02
<b>Weight</b>	kg		2,7
<b>Recommended workpiece weight</b>	kg		9
<b>Closing time</b>	s		0,4
<b>Opening time</b>	s		0,4
<b>Voltage</b>	V		19.2 ... 30 V
<b>Max. power consumption</b>	A		5 A
<b>Protection class</b>			IP64
<b>Signal interface</b>		IO-Link	Digital-IO

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



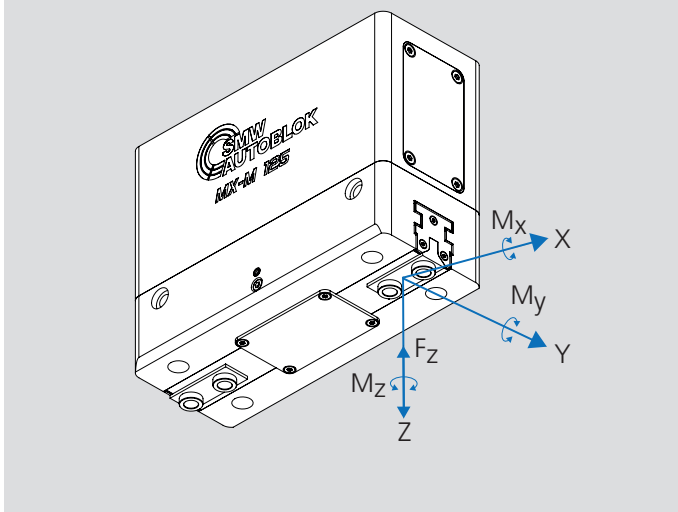
IO-Link Port B		
Pin	Function	Description
1	US+	Power supply IO-Link logic 24V DC
2	UA+	Power supply actuator 24V DC
3	US-	Ground IO-Link logic
4	C/Q	IO-Link signal
5	UA-	Ground Actuator

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.



<b>Mx</b>	max. moment in X-axis	Nm	125 Nm
<b>My</b>	max. moment in Y-axis	Nm	140 Nm
<b>Mz</b>	max. moment in Z-axis	Nm	110 Nm
<b>Fz</b>	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

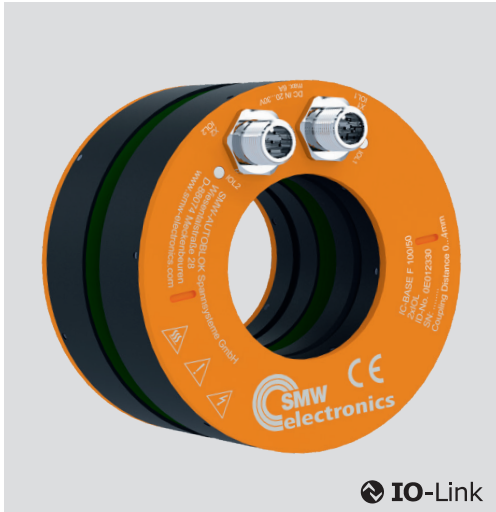
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# F100-2IOL

## Inductive Coupling System

Axial coupler

■ 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

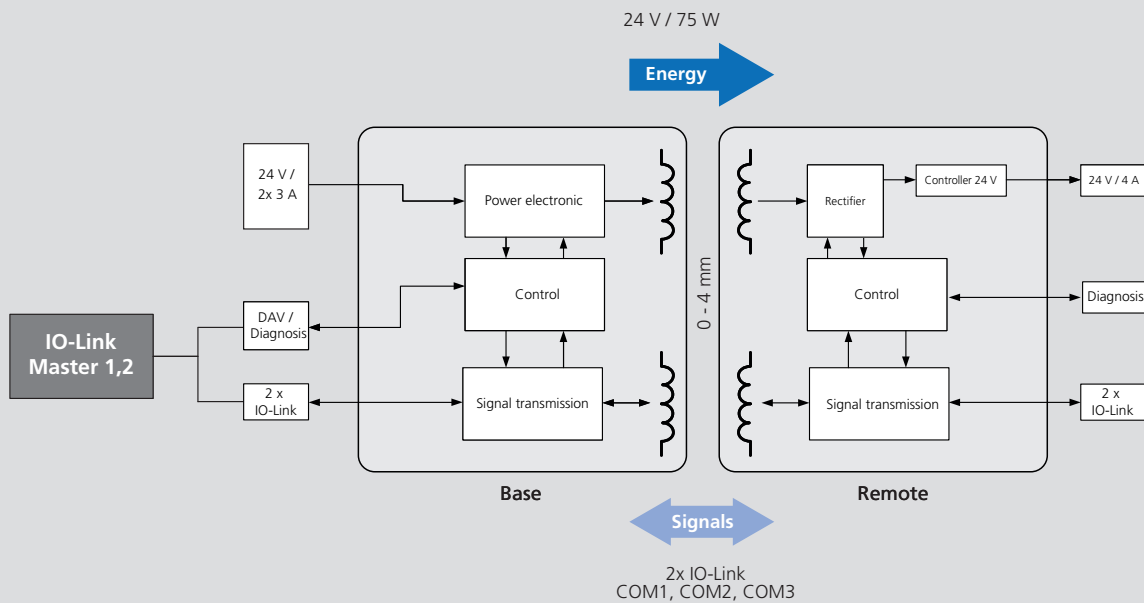
### Technical features

- 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	-
Output voltage	-	24 V (75 W)
Signal transmission	2x IO-Link (COM2, COM 2, COM 3)	
LED	2 LEDs 2-color	
Current consumption (Base)	6 A (24 V)	-
Overload protection / short circuit protection	✓	✓
Residual ripple	-	< 50 mV
Reverse polarity protection	✓	-
Data-Valid output	max. 100 mA	
Ready delay	< 1 s	

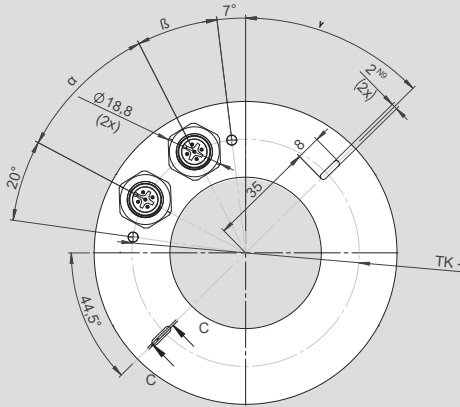
# Inductive Coupling System

# F100-2IOL

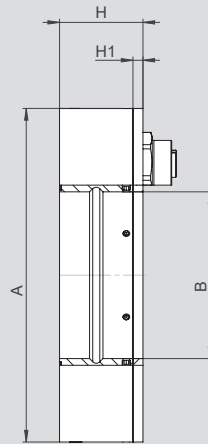
- Stationary unit - Base
- Mobile unit - Remote

Axial coupler

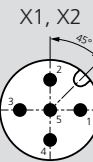
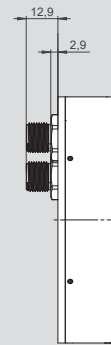
Base / Remote:



Base / Remote:

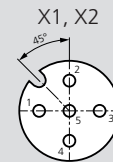
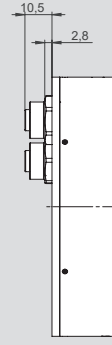


Base:



2x Male connector 5-pin  
M12 x 1

Remote:



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
$\alpha$	degree		35
$\beta$	degree		20
$\gamma$	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	-	-	-	-

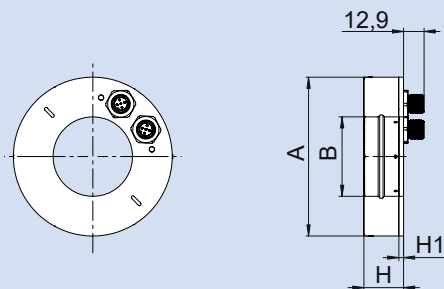
# F100-2IOL F100 Ethernet

Axial coupler

## Inductive Coupling Systems

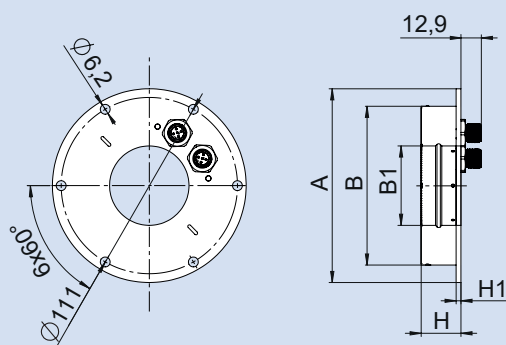
■ Ordering overview flange

### Standard flange



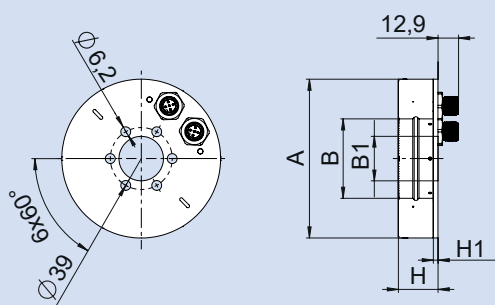
Type	F100-2IOL		F100 Ethernet	
	IC-Base-F100-2IOL D100/050	IC-Remote-F100-2IOL D100/050	IC-Base-F100-ETH D100/050	IC-Remote-F100-ETH D100/050
Id.-No.	0E012330	0E012331	0E011420	0E011421
A	100			
B	50			
B1	-			
B2	-			
H	25			
H1	3			
Weight	0.26 kg			

### Outer flange with feed-through



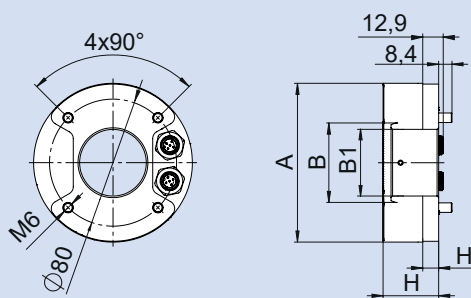
Type	F100-2IOL		F100 Ethernet	
	IC-Base F100-2IOL D122/050	IC-Remote-F100-2IOL D122/050	IC-Base F100-ETH D122/050	IC-Remote-F100-ETH D122/050
Id.-No.	0E012332	0E012333	0E012320	0E012321
A	122			
B	100			
B1	50			
B2	-			
H	25			
H1	3			
Weight	0.36 kg			

### Inner flange with feed-through



Type	F100-2IOL		F100 Ethernet	
	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			

### Flanging with feed-through



Type	F100-2IOL		F100 Ethernet	
	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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### Germany

SMW-AUTOBLOK Spannsysteme GmbH  
Wiesentalstraße 28 • D-88074 Meckenbeuren

SMW-electronics GmbH  
Wiesentalstraße 19 • D-88074 Meckenbeuren

Tel. +49 (0) 7542 - 405 - 0

Fax +49 (0) 7542 - 405 - 0

E-mail ► [info@smw-autoblok.de](mailto:info@smw-autoblok.de)

E-mail ► [info@smw-electronics.de](mailto:info@smw-electronics.de)



### Italy

AUTOBLOK s.p.a.  
Via Duca D'Aosta n.24  
Fraz. Novaretto  
I-10040 Caprie - Torino

Tel. +39 011 - 9638411

Tel. +39 011 - 9632020

Fax +39 011 - 9632288

E-mail ► [info@smwautoblok.it](mailto:info@smwautoblok.it)



### U.S.A.

SMW-AUTOBLOK Corporation  
285 Egidi Drive - Wheeling, IL 60090

Tel. +1 847 - 215 - 0591

Fax +1 847 - 215 - 0594

E-mail ► [autoblok@smwautoblok.com](mailto:autoblok@smwautoblok.com)



### France

SMW-AUTOBLOK  
17, Avenue des Frères Montgolfier - Z.I. Mi-Plaine  
F-69680 Chassieu

Tel. +33 (0) 4.72.79.18.18, Fax +33 (0) 4.72.79.18.19

E-mail ► [autoblok@smwautoblok.fr](mailto:autoblok@smwautoblok.fr)



### Japan

SMW-AUTOBLOK Japan Inc.  
1-56 Hira, Nishi-Ku, Nagoya

Tel. +81 (0) 52 - 504 - 0203

Fax +81 (0) 52 - 504 - 0205

E-mail ► [infosaj@smwautoblok.co.jp](mailto:infosaj@smwautoblok.co.jp)



### Great Britain

SMW-AUTOBLOK Telbrook Ltd.  
7 Wilford Industrial Estate, Ruddington Lane,  
Wilford, GB-Nottingham, NG11 7EP

Tel. +44 (0) 115 - 982 1133

E-mail ► [info@smw-autoblok-telbrook.co.uk](mailto:info@smw-autoblok-telbrook.co.uk)



### China

SMW-AUTOBLOK (Shanghai) Work Holding Co.,Ltd.  
2dn Floor, Building 1, No.141, Xuanchung Road,  
Xuanchung Town, Pudong District,  
201399, Shanghai P. R. China

Tel. +86 21 - 5810 - 6396, Fax +86 21 - 5810 - 6395

E-mail ► [china@smwautoblok.cn](mailto:china@smwautoblok.cn)



### Spain

SMW-AUTOBLOK IBERICA, S.L.  
Ursalto 4 – Pab. 9-10 Pol. 27,  
20014 Donostia - San Sebastián (Gipuzkoa)

Tel.: +34 943 - 225 079, Fax: +34 943 - 225 074

E-mail ► [info@smwautoblok.es](mailto:info@smwautoblok.es)



### Mexico

SMW-AUTOBLOK Mexico, S.A. de C.V.  
Acceso III No. 16 Int. 9, Condominio Quadrum  
Industrial Benito Juarez, Queretaro, Qro. C.P. 76120

Tel. +52 (442) 209 - 5118, Fax +52 (442) 209 - 5121

E-mail ► [smwmex@smwautoblok.mx](mailto:smwmex@smwautoblok.mx)



### Canada

SMW AUTOBLOK CANADA CORP  
1460 The Queensway - Suite 219  
Etobicoke, ON M8Z 1S7

Tel. +1 416 - 316 - 3839

E-mail ► [info@smwautoblok.ca](mailto:info@smwautoblok.ca)



### India

SMW-AUTOBLOK Workholding Pvt. Ltd.,  
Plot No. 4, Weikfield Industrial Estate, Gat No. 125,  
Sanaswadi, Tal - Shirur, Dist - Pune. 412 208

Tel. +91 2137 - 616 974

E-mail ► [info@smwautoblok.in](mailto:info@smwautoblok.in)



### Taiwan

AUTOBLOK Company Ltd.  
No.6, Shuyi Rd., South Dist.,  
Taichung, Taiwan

Tel. +886 4-226 10826, Fax +886 4-226 12109

E-mail ► [taiwan@smwautoblok.tw](mailto:taiwan@smwautoblok.tw)



### Turkey

SMW AUTOBLOK Makina San. Ve Tic. Ltd. Sti.  
Yenisehir Mah, Osmanli Blv, Volume Kurtköy Ofis  
No: 9, Kat: 2, D: 30, 34912, Pendik, Istanbul

Tel. +90 216 629 20 19

E-mail ► [info@smwautoblok.com.tr](mailto:info@smwautoblok.com.tr)



### Czech Republic / Slovakia

SMW-AUTOBLOK s.r.o.  
Merhautova 20

CZ - 613 00 Brno

Tel. +420 513 034 157

E-mail ► [info@smw-autoblok.cz](mailto:info@smw-autoblok.cz)



### Sweden / Norway

SMW-AUTOBLOK Scandinavia AB  
Kommendörsgatan 3

281 35 Hässleholm

Tel. +46 (0) 761 420 111

E-mail ► [info@smw-autoblok.se](mailto:info@smw-autoblok.se)



### Poland

SMW-AUTOBLOK Poland Sp. z.o.o  
OGRODNICZA 12

95 - 100 ZGIERZ

Tel. +48 736 059 699

E-mail ► [info@smwautoblok.pl](mailto:info@smwautoblok.pl)



### Holland / Belgium

SMW Autoblok Benelux B.V.  
Zeearend 7, 7609PT Almelo

Tel. +31 546 812 615

E-mail ► [info@smwautoblok.nl](mailto:info@smwautoblok.nl)



### Korea

SMW-AUTOBLOK KOREA CO., LTD.  
1502-ho, Charyong-ro 48beon-gil,

Uichang-gu, Changwon-si

Gyeongsangnam-do, 51391, Republic of Korea

Tel. +82 55 264 9505

E-mail ► [info-korea@smw-autoblok.net](mailto:info-korea@smw-autoblok.net)