

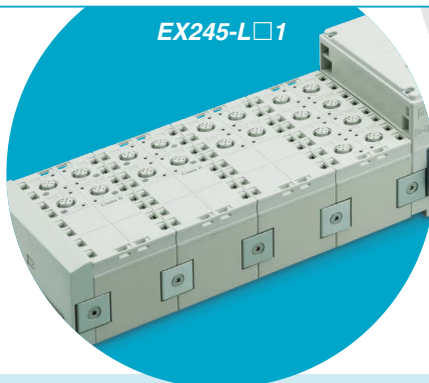
IO-Link Compatible Products

IO-Link

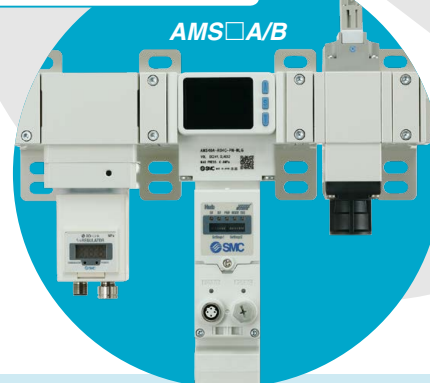
IO-Link Master



EX600-L□B1
EX600-GILB-X60



EX245-L□1



AMS□A/B

IO-Link Device

3-Screen Display
High-Precision Digital Pressure Switch
For Air **ZSE20B(F)-L/ISE20B-L Series**
For General Fluids **ZSE20C(F)-L/ISE20C(H)-L Series**

3-Screen Display
High-Precision Digital Pressure Switch
For Air **JSE7□ Series**
For General Fluids **ISE7□ G/79S Series**

3-Color Display
Digital Flow Switch for Water
PF3W7-L Series
Manifold
PF3WB/C/S/R Series

Actuator Position Sensor
D-MP□ Series

SI Unit
EX260-SIL1

Clean Design Manifold Valve
JSY5000-H Series

Vacuum Manifold for Fieldbus System
ZKJ Series

Electro-Pneumatic Regulator
ITV-IL Series

Step Motor Controller
JXCL1 Series

2-Color Display
Digital Flow Switch
PF2M7-L Series

3-Color Display 3-Screen Display
Digital Flow Switch
PF2MC7-L Series

3-Color Display
Digital Flow Switch for Large Flow
PF3A7□H-L/PF3A8□H-L Series

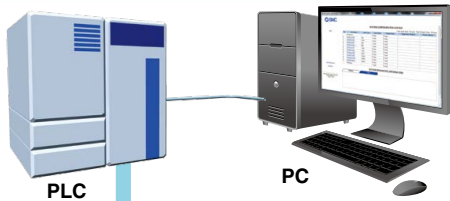
Separate Controller Ionizer
Bar Type
IZT41-L/42-L Series

Nozzle Type
IZT43-L Series

3-Screen Display
Digital Gap Checker
ISA3-L Series

3-Screen Display
Multi-channel Digital Sensor Monitor
PSE200A Series

IO-Link Compatible Products

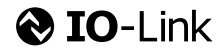


Configuration File (IODD File)*1

- Manufacturer
- Product part no.
- Set value

*1 IODD File:

IODD is an abbreviation of IO Device Description. This file is necessary for setting the device and connecting it to a master. Save the IODD file on the PC to be used to set the device prior to use.



IO-Link is an open communication interface technology between the sensor/actuator and the I/O terminal that is an international standard, IEC61131-9.

Various fieldbuses

Device settings can be set by the master.

- Parameter value
- Control data, etc.

Read the device data.

- Sensor measured values and ON/OFF signals
- Device information and parameter values
- Status information and diagnostic data

PROFINET compatible

SI unit	IO-Link master
EX600-SPN3 EX600-SPN4	EX600-L□B1
EX245-SPN1A EX245-SPN2A EX245-SPN3A	EX245-L□1
Air Management System	
AMS□A/B-□□□-PN-□□□	

EtherNet/IP™ compatible

SI unit	IO-Link master
EX600-SEN7 EX600-SEN8	EX600-L□B1
Air Management System	
AMS□A/B-□□□-EN-□□□	

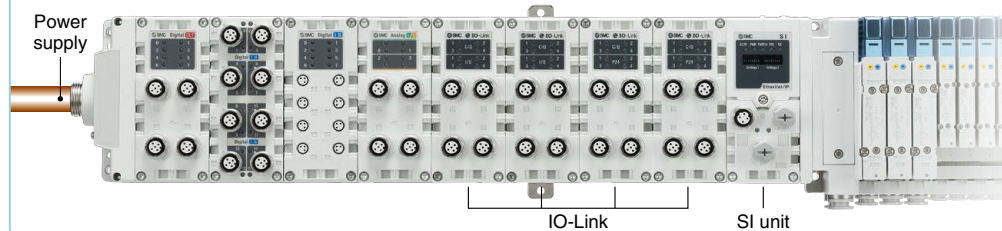
CC-Link IE Field compatible

SI unit	IO-Link master
EX600-SCF□-X60	EX600-GILB-X60

EtherCAT compatible

SI unit	IO-Link
EX600-SEC3 EX600-SEC4	EX600-L□B1

IO-Link Master (Commercially available)











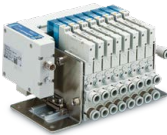



Power supply

IO-Link

SI unit

Product		3-Screen Display High-Precision Digital Pressure Switch for Air	3-Screen Display High-Precision Digital Pressure Switch for General Fluids	3-Screen Display High-Precision Digital Pressure Switch for Air	3-Screen Display High-Precision Digital Pressure Switch for General Fluids	3-Screen Display Multi-Channel Digital Sensor Monitor	
Series		 ZSE20B(F)-L/ ISE20B-L	 ZSE20C(F)-L/ ISE20C(H)-L	 1.0 MPa 1.6 MPa ISE70/ISE71-L	 1.0 MPa 2.0 MPa 5.0 MPa 10 MPa 16 MPa 50 MPa ISE7□G-L ISE79S-L	 PSE200A	
Process data size		2-byte input	2-byte input	2-byte input	2-byte input	10-byte input	
Diagnostic/Status monitoring function	Event data	Internal failure	●	●	●	●	
		Abnormal internal temperature	●	●	●	●	
		Outside of rated range	●	●	●	●	
		Short-circuit detection			OUT2	OUT2	
		Open-circuit detection					
		External power supply failure					
	Other					● Over current	
Process data	Diagnostic bit	●	●	●	●	● Applied pressure error/ Differential pressure measurement error	

IO-Link Compatible Products

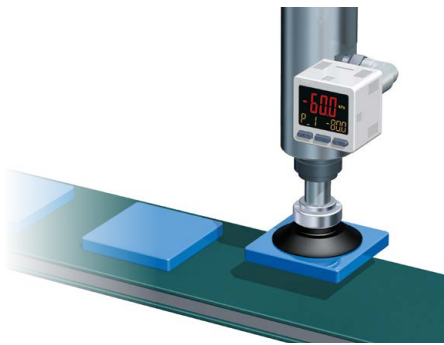
Product		3-Screen Display Digital Gap Checker	2-Color Display Digital Flow Switch	3-Color Display 3-Screen Display Digital Flow Switch	3-Color Display Digital Flow Switch for Large Flow	3-Color Display Digital Flow Switch for Water	Actuator Position Sensor	
Series		 ISA3-L	 PF2M7-L	 PF2MC7-L	 PF3A7□H-L PF3A8□H-L	 PF3W-L Manifold PF3WB/C/R	 Low profile air gripper Compact cylinder D-MP025/D-MP050 D-MP100/D-MP200	
Process data size		8-byte input	4-byte input	4-byte input	4-byte input (PF3A7□H-L) 12-byte input (PF3A8□H-L)	6-byte input	2-byte input	
Diagnostic/Status monitoring function	Event data	Internal failure	●	●	●	●	●	●
		Abnormal internal temperature	●	●	●	●	●	●
		Outside of rated range	● Below lower limit of pressure range	●	●	●	●	
		Short-circuit detection	● OUT2					
		Open-circuit detection						
		External power supply failure						
		Other	● Pressure sensor failure	● Overflow error/ Accumulated flow error	● Overflow error/ Accumulated flow error/ Over current error	● Overflow error/ Accumulated flow error/ Over current error		● Reduced magnetic field strength
	Process data	Diagnostic bit	● Pressure diagnosis/ Error diagnosis	● Flow diagnosis/ Error diagnosis	● Flow diagnosis/ Error diagnosis	● Flow diagnosis/ Error diagnosis	●	
Product		Valve SI Unit	Manifold Valve	Vacuum Manifold for Fieldbus System	Electro-Pneumatic Regulator Electronic Vacuum Regulator	Separate Controller Bar Type/Nozzle Type Ionizer	Step Motor Controller	
Series		 EX260-SIL1	 JSY5000-H	 ZKJ	 ITV10□0/20□0/30□0-IL ITV2090-IL	 IZT41-L/42-L IZT43-L	 JXCL1	
Process data size		4-byte output	4-byte output	4-byte input/ 2-byte output (4 stations)	4-byte input 2-byte output	13-byte input 9-byte output	14-byte input 22-byte output	
Diagnostic/Status monitoring function	Event data	Internal failure	●	●	●	●		
		Abnormal internal temperature	●	●				
		Outside of rated range				●		
		Short-circuit detection	● Valve output wiring	● Valve output wiring	● Sensor input/ Valve output wiring			
		Open-circuit detection	● Valve output wiring	● Valve output wiring	● Sensor input wiring		● High-voltage module communication	
		External power supply failure	● Valve power supply	● Valve power supply	● Power supply for Control/Input		●	● Control power supply
		Other	● Number of valve operations exceeded	● Number of valve operations exceeded	● Valve protection, Parameter setting error		● High voltage/ Internal communication/ Fan failure	● Motor control related alarm
	Process data	Diagnostic bit	● (Switch setting) Device information	● (Switch setting) Device information	● Vacuum/release state, pressure value, and the diagnostic information of each device	● Set pressure reached	●	● Motor control related alarm

IO-Link Compatible Products

Applications

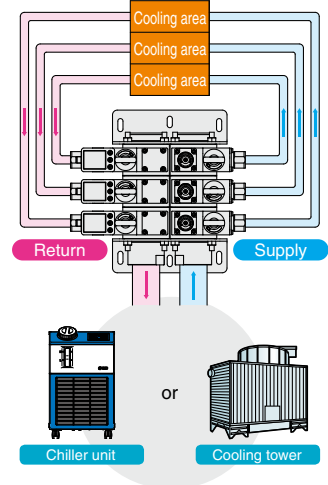
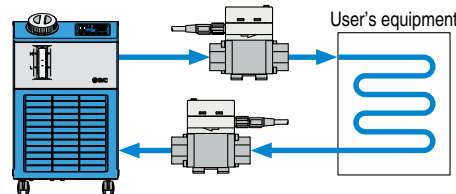
Pressure Sensor (Employs predictive maintenance for the early detection of declining adsorption capacity)

- Monitors switch ON/OFF signals and analog values to determine the wear of the pad.
- Changes the threshold value according to the situation concerning the wear of the pad and the supply pressure.



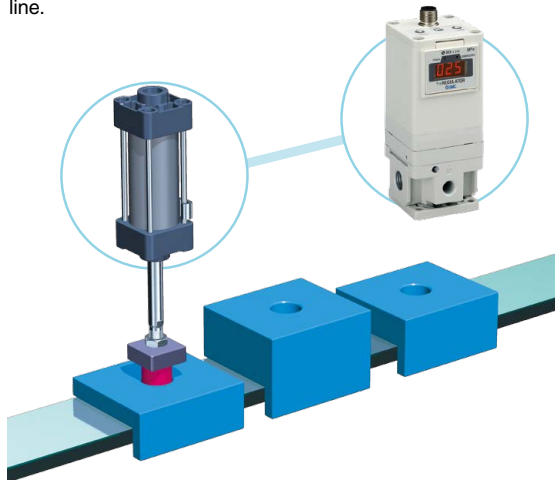
For the predictive maintenance of cooling water problems

- Monitors flow rate and temperature “switch ON/OFF signals” and “analog values” to determine the cooling status. The process and cooling status can be compared.



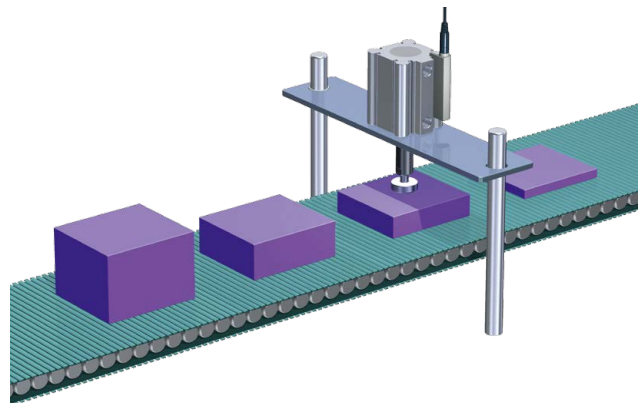
Electro-Pneumatic Regulator (For the manufacturing of various products)

- The set pressure analog value can be changed to control the indentation pressure applied to each workpiece. This allows for a variety of products to be manufactured on the same line.



Actuator Position Sensor (For the manufacturing of various machined products)

- Confirms the machining status and workpiece measurements.

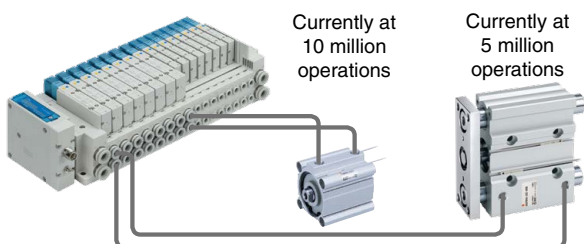


Valve SI Unit (Employs preventive maintenance to prevent actuator malfunctions)

<Application Example>

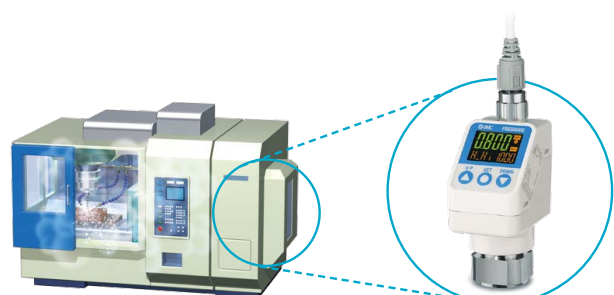
• Scheduled cylinder maintenance

The replacement time of the cylinder connected to the valve can be scheduled based on the valve cycle count. This enables scheduled maintenance to be performed before any unexpected cylinder failure occurs.



Confirm the pressure condition during operation and monitor the device status.

- Monitor the abnormal pressure and the abnormal status of a pressure sensor remotely to prevent unexpected stops.



IO-Link Master

IO-Link Master

EX600-L□B1
EX600-GILB-X60



- IO-Link version V1.1
- Process data length 32-byte input/32-byte output (per port)
- Transmission speed COM1 (4.8 kbps)
COM2 (38.4 kbps)
COM3 (230.4 kbps)
- IO-Link port type Class A/Class B

IP67



Model	Port type	Number of ports	PLC communication protocol: Network: SI unit part no.
EX600-LAB1	Class A	4	PROFINET: EX600-SPN3/4 EtherNet/IP: EX600-SEN7/8 EtherCAT: EX600-SEC3/4
EX600-LBB1	Class B		
EX600-GILB-X60	Class A	4	CC-Link IE Field: EX600-SCF1/2-X60

EX245-L□1



- IO-Link version V1.1
- Process data length 32-byte input/32-byte output (per port)
- Transmission speed COM1 (4.8 kbps)
COM2 (38.4 kbps)
COM3 (230.4 kbps)
- IO-Link port type Class A/Class B



Model	Port type	Number of ports	PLC communication protocol: Network: SI unit part no.
EX245-LA1	Class A	4	PROFINET: EX245-SPN1A/2A/3A
EX245-LB1	Class B		

Air Management System

AMS□A/B



- IO-Link version V1.1
- Process data length 16-byte input/16-byte output (per port)
- Transmission speed COM1 (4.8 kbps)
COM2 (38.4 kbps)
COM3 (230.4 kbps)
- IO-Link port type Class A



Model	Port type	Number of ports	PLC communication protocol
AMS□A-□□□-PN-□L□	Class A	1	PROFINET
AMS□B-□□□-PN-□L□			
AMS□A-□□□-EN-□L□	Class A	1	EtherNet/IP™
AMS□B-□□□-EN-□L□			

Accessories

IO-Link communication cable Communication cable with connector

EX9-AC□□-SSPS/SAPA



- M12 connector on both sides (A-coded, Straight/Angled)
- Cable length: 500/1000/2000/3000/5000/10000 mm



IO-Link Compatible Products

Pressure Switches

3-Screen Display High-Precision Digital Pressure Switch

IP65



ZSE20B(F)-L/ISE20B-L
ZSE20C(F)-L/ISE20C(H)-L

- IO-Link version V1.1
- Process data length 2-byte input
- Transmission speed COM2 (38.4 kbps)
- Minimum cycle time 2.3 ms
- IO-Link port type Class A (When using a dedicated lead wire with an M12 connector)



Series	Applicable fluid	Type	Rated pressure range
ZSE20BF-L	Air	Compound pressure	-100 to 100 kPa
ZSE20B-L		Vacuum pressure	0 to -101 kPa
ISE20B-L		Positive pressure	0 to 1 MPa
ZSE20CF-L	Fluids and gases that do not corrode stainless steel 630 and 304	Compound pressure	-100 to 100 kPa
ZSE20C-L		Vacuum pressure	0 to -101 kPa
ISE20C-L		Positive pressure	0 to 1 MPa
ISE20CH-L		Positive pressure	0 to 2 MPa

3-Screen Display High-Precision Digital Pressure Switch

IP67



ISE70-L/ISE7□G-L/ISE79S-L

- IO-Link version V1.1
- Process data length 2-byte input
- Transmission speed COM2 (38.4 kbps)
- Minimum cycle time 2.3 ms
- IO-Link port type Class A



Series	Applicable fluid	Type	Rated pressure range
ISE70-L	Air	Positive pressure	0 to 1 MPa
ISE71-L			0 to 1.6 MPa
ISE70G-L	Air General fluids		0 to 1 MPa
ISE75G-L			0 to 2 MPa
ISE76G-L			0 to 5 MPa
ISE77G-L			0 to 10 MPa
ISE78G-L			0 to 16 MPa
ISE79S-L			0 to 50 MPa

3-Screen Display Digital Gap Checker

IP67

*1 Body only



ISA3-L

- IO-Link version V1.1
- Process data length 8-byte input
- Transmission speed COM2 (38.4 kbps)
- Minimum cycle time 4.2 ms
- IO-Link port type Class A



Series	Rated distance range
ISA3-FL	0.01 to 0.03 mm
ISA3-GL	0.02 to 0.15 mm
ISA3-HL	0.05 to 0.3 mm

Pressure Switches

3-Screen Display Multi-channel Digital Sensor Monitor

PSE200A



- IO-Link version V1.1
- Process data length 10-byte input
- Transmission speed COM2 (38.4 kbps)
- Minimum cycle time 4.8 ms
- IO-Link port type Class A (When using a dedicated lead wire with an M12 connector)



Applicable Pressure Sensors	Applicable fluid	Type	Rated pressure range
PSE550	- Air PSE53□/54□ - Liquids and air that do not corrode stainless steel 316L PSE56□ - Fluid or gas that will not corrode materials of parts in contact with fluid PSE57□	Positive pressure	0 to 2 kPa
PSE531 PSE541 PSE561		Vacuum pressure	0 to -101 kPa
PSE533 PSE543 PSE563 PSE573		Compound pressure	-100 to 100 kPa
PSE532		Positive pressure	0 to 100 kPa
PSE564 PSE574			0 to 500 kPa
PSE530 PSE540 PSE560 PSE570			0 to 1 MPa
PSE575			0 to 2 MPa
PSE576		0 to 5 MPa	
PSE577		0 to 10 MPa	

Digital Flow Switches

2-Color Display Digital Flow Switch

PF2M7-L



- IO-Link version V1.1
- Process data length 4-byte input
- Transmission speed COM2 (38.4 kbps)
- Minimum cycle time 3.4 ms
- IO-Link port type Class A (When using a dedicated lead wire with an M12 connector)

IP40



Series	Applicable fluid	Rated flow range
PF2M701-L	Dry air N ₂ Ar CO ₂	0.01 to 1 L/min
PF2M702-L		0.02 to 2 L/min
PF2M705-L		0.05 to 5 L/min
PF2M710-L		0.1 to 10 L/min
PF2M725-L		0.2 to 25 L/min
PF2M750-L		0.5 to 50 L/min
PF2M711-L		1 to 100 L/min
PF2M721-L		2 to 200 L/min

3-Color Display 3-Screen Display Digital Flow Switch

PF2MC7-L



- IO-Link version V1.1
- Process data length 4-byte input
- Transmission speed COM2 (38.4 kbps)
- Minimum cycle time 3.4 ms
- IO-Link port type Class A (When using a dedicated lead wire with an M12 connector)

IP65



Series	Applicable fluid	Rated flow range
PF2MC7501-L	Dry air N ₂	5 to 500 L/min
PF2MC7102-L		10 to 1000 L/min
PF2MC7202-L		20 to 2000 L/min

IO-Link Compatible Products

Digital Flow Switch

3-Color Display Digital Flow Switch for Large Flow

IP65



PF3A□H-L



- IO-Link version V1.1
- Process data length 4-byte input (PF3A7□H-L)
12-byte input (PF3A8□H-L)
- Transmission speed COM2 (38.4 kbps)
- Minimum cycle time 3.3 ms (PF3A7□H-L)
5.8 ms (PF3A8□H-L)
- IO-Link port type Class A

	Series	Applicable fluid	Rated flow range
Body ported type	PF3A703H-L	Air N ₂	30 to 3000 L/min
	PF3A706H-L		60 to 6000 L/min
	PF3A712H-L		120 to 12000 L/min
Modular type	PF3A701/801H-L		10 to 1000 L/min
	PF3A702/802H-L		20 to 2000 L/min

3-Color Display Digital Flow Switch for Water

IP65



PF3W7□-L



- IO-Link version V1.1
- Process data length 6-byte input
- Transmission speed COM2 (38.4 kbps)
- Minimum cycle time 3.5 ms
- IO-Link port type Class A (When using a dedicated lead wire with an M12 connector)

	Series	Applicable fluid	Rated flow range
	PF3W704-L	Water and Ethylene glycol aqueous solution	0.5 to 4 L/min
	PF3W720-L		2 to 16 L/min
	PF3W740-L		5 to 40 L/min
	PF3W711-L		10 to 100 L/min
	PF3W721-L		50 to 250 L/min

Digital Flow Switch Manifold for Water

IP65



PF3WB/C/S/R



- IO-Link version V1.1
- Process data length 6-byte input
- Transmission speed COM2 (38.4 kbps)
- Minimum cycle time 3.5 ms
- IO-Link port type Class A (When using a dedicated lead wire with an M12 connector)

	Series	Applicable fluid	Rated flow range
PF3WB/C/S/R		Water and Ethylene glycol aqueous solution	0.5 to 4 L/min
			2 to 16 L/min
			5 to 40 L/min
			10 to 100 L/min

Position Sensor

Actuator Position Sensor

Actuator stroke position is output with an analog signal.

D-MP



- IO-Link version V1.1
- Process data length 2-byte input
- Transmission speed COM3 (230.4 kbps)
- Minimum cycle time 1.0 ms
- IO-Link port type Class A

IP67



Series	Measurement range
D-MP025	25 mm
D-MP050	50 mm
D-MP100	100 mm
D-MP200	200 mm

SI Unit

SI Unit

EX260-SIL1



- IO-Link version V1.1
- Process data length 4-byte output or 2-byte input/4-byte output (Switched by the setting switch)
- Transmission speed COM3 (230.4 kbps) or COM2 (38.4 kbps) (Switched by the setting switch)
- Minimum cycle time 0.8 ms
- IO-Link port type Class B

IP67



Series	Number of outputs	IO-Link port type
EX260-SIL1	32 outputs	Class B

Manifold Valve

Clean Design Manifold Valve

JSY5000-H



- IO-Link version V1.1
- Process data length 4-byte output or 2-byte input/4-byte output
- Transmission speed COM3 (230.4 kbps) or COM2 (38.4 kbps)
- Minimum cycle time 0.8 ms
- IO-Link port type Class B

IP69K

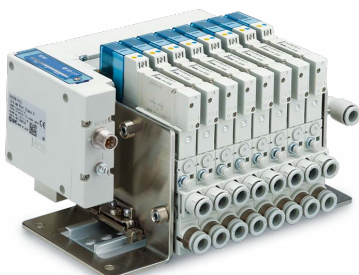


Series	Flow rate characteristics 4/2 → 5/3 (A/B → EA/EB) C [dm ³ /(s·bar)]	Flow rate characteristics 4/2 → 5/3 (A/B → EA/EB) b
JSY5000-H	7.64	0.23

Vacuum Manifold

Vacuum Manifold for Fieldbus System

ZKJ



- IO-Link version V1.1
- Process data length 4-byte input/2-byte output (4 stations)
5-byte input/3-byte output (8 stations)
6-byte input/4-byte output (12 stations)
7-byte input/5-byte output (16 stations)
- Transmission speed COM2 (38.4 kbps)
- Minimum cycle time 4.0 ms (4 stations) 4.6 ms (8 stations)
5.2 ms (12 stations) 5.8 ms (16 stations)
- IO-Link port type Class B

IP65



Ejector series	Nozzle diameter [mm]	Max. suction flow [L/min(ANR)]	Air consumption [L/min(ANR)]
ZKJ07	0.7	31	26
ZKJ10	1.0	53	48
ZKJ12	1.2	63	68
ZKJ15	1.5	74	102

IO-Link Compatible Products

Electro-Pneumatic Regulator

Electro-Pneumatic Regulator

ITV10□0-IL
ITV20□0-IL
ITV30□0-IL
ITV2090-IL



- IO-Link version V1.1
- Process data length 4-byte input/2-byte output
- Transmission speed COM3 (230.4 kbps)
- Minimum cycle time 1.5 ms
- IO-Link port type Class A

IP65

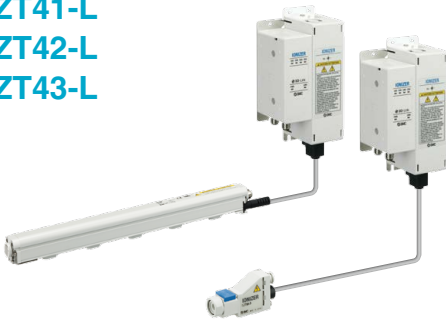


Series	Set pressure range
ITV1010/ITV2010/ITV3010-IL	0.005 to 0.1 MPa
ITV1030/ITV2030/ITV3030-IL	0.005 to 0.5 MPa
ITV1050/ITV2050/ITV3050-IL	0.005 to 0.9 MPa
ITV2090-IL	-1.3 to -80 kPa

Ionizer

Bar Type/Nozzle Type Ionizer

IZT41-L
IZT42-L
IZT43-L



- IO-Link version V1.1
- Process data length 13-byte input/9-byte output
- Transmission speed COM2 (38.4 kbps)
- Minimum cycle time 8.0 ms
- IO-Link port type Class A



Series	Type
IZT41-L	AC
IZT42-L	Dual AC
IZT43-L	AC

Step Motor Controller

Step Motor Controller

JXCL1



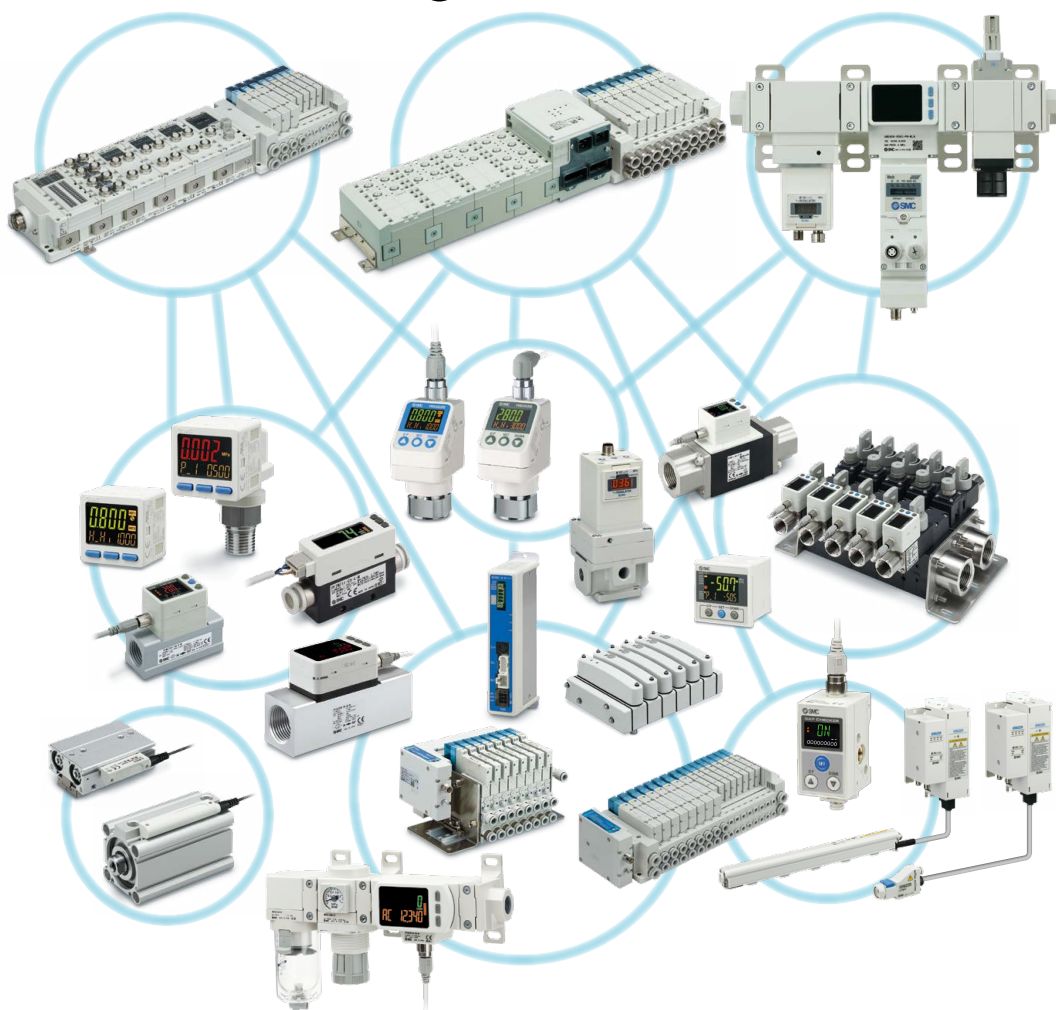
- IO-Link version V1.1
- Process data length 14-byte input/22-byte output
- Transmission speed COM3 (230.4 kbps)
- Minimum cycle time 2.4 ms


IP40



Series	Number of axes	Compatible motor
JXCL1	1 axis	Step motor (Servo/24 VDC)

IO-Link Compatible Products



 **Safety Instructions** Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.

SMC Corporation

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