# IO-Link Compatible Products

IO-Link

3-Screen Display

**High-Precision Digital Pressure Switch**

*ZSE20B(F)-L/ ISE20B-L Series*

3-Screen Display

**High-Precision Digital Pressure Switch**

*ISE7□ Series*

For Air

3-Screen Display

**High-Precision Digital Pressure Switch**

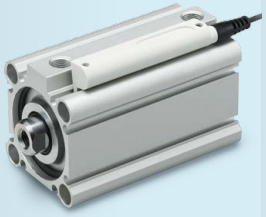
*ISE7□G Series*

For General Fluids

3-Color Display

**Digital Flow Switch for Water**

*PF3W7□-X445*



**Actuator Position Sensor**

*D-MP□ Series*

**SI Unit**

*EX260-SIL1-X207/ X210*

**Electro-Pneumatic Regulator**

*ITV10□0/20□0/ 30□0-X395*

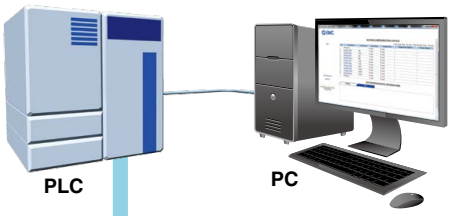
**Step Motor Controller**

*JXCL1 Series*

**IO-Link Master**

*EX600-GILB-X60*

# 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.

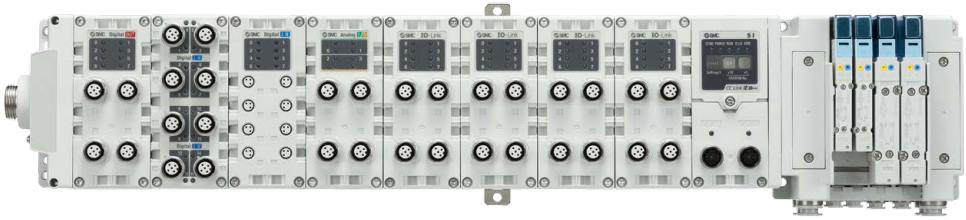
**IO-Link**
IO-Link is an open communication interface technology between the sensor/actuator and the I/O terminal that is an international standard, IEC61131-9.

**Various fieldbusses**

**Device settings can be set by the master.**
- Threshold value
- Operation mode, etc.

**Read the device data.**
- Switch ON/OFF signal and analog value
- Device information: Manufacturer, Product part number, Serial number, etc.
- Normal or abnormal device status

SMC IO-Link Master **EX600-GILB-X60** **Fieldbus** CC-Link IE Field



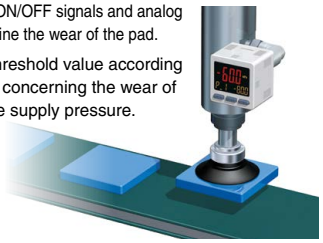
IO-Link Master (Commercially available)

| Product | 3-Screen Display High-Precision Digital Pressure Switch | 3-Screen Display High-Precision Digital Pressure Switch for Air | 3-Screen Display High-Precision Digital Pressure Switch for General Fluids | 3-Color Display Digital Flow Switch for Water |
|---|---|---|---|---|
| Series | p. 03  **ZSE20B(F)** **ISE20B** | p. 03 1.0 MPa 1.6 MPa  **ISE70/ISE71** | p. 03 1.0 MPa 2.0 MPa 5.0 MPa 10 MPa  **ISE70G/ISE75G** **ISE76G/ISE77G** | p. 03  **PF3W704-X445** **PF3W720-X445** **PF3W740-X445** |
| Process data size | 2-byte input | 2-byte input | 2-byte input | 6-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 | | | | |
| Process data — Diagnostic bit | ● | ● | ● | ● |

## Applications

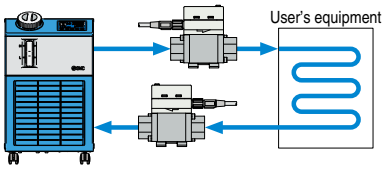
### Pressure Sensor (Employs predictive maintenance for the early detection of declining adsorption capacity)

- 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.



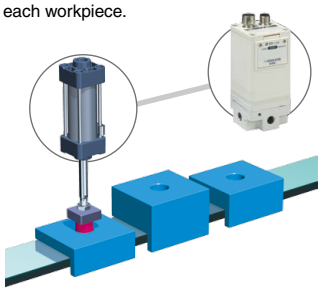
### For the predictive maintenance of cooling water problems

- 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.



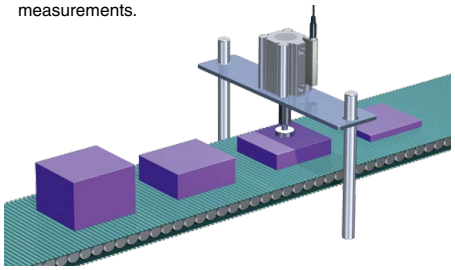

### Electro-Pneumatic Regulator (For the manufacturing of various products)

- The set pressure value can be changed to control the indentation pressure applied to each workpiece.



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

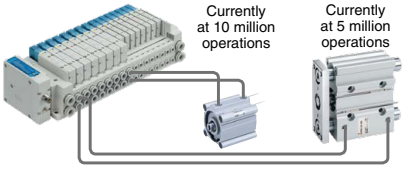
- Confirms the machining status and workpiece measurements.



### 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.




| Actuator Position Sensor | Valve SI Unit | Electro-Pneumatic Regulator | Step Motor Controller | Product | | |
|---|---|---|---|---|---|---|
| p. 03  **D-MP025/D-MP050 D-MP100/D-MP200** | p. 04  **EX260-SIL1-X207 EX260-SIL1-X210** | p. 04  **ITV10□0-X395 ITV20□0-X395 ITV30□0-X395** | p. 04  **JXCL1** | Series | | |
| 2-byte input | 4-byte output | 2-byte input<br>2-byte output | 14-byte input<br>22-byte output | Process data size | | |
| ● | ● | ● | | Internal failure | Event data | Diagnostic/Status monitoring function |
| ● | ● | | | Abnormal internal temperature | | |
| ● | | ● | | Outside of rated range | | |
| | ● Valve output wiring | | | Short-circuit detection | | |
| | ● Valve output wiring | | | Open-circuit detection | | |
| | ● Valve power supply | | ● Control power supply | External power supply failure | | |
| ● Reduced magnetic field strength | ● Number of valve operations exceeded | | ● Motor control related alarm | Other | | |
| | | ● Set pressure reached | ● Motor control related alarm | Diagnostic bit | Process data | |

# IO-Link Compatible Products

## Pressure Switches

### High-Precision Digital Pressure Switch

**ZSE20B(F)-L/ISE20B-L**

IP65

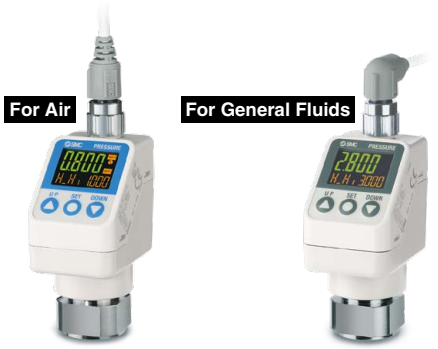
- IO-Link version V1.1
- Process data length 2-byte input
- Transmission speed COM2 (38.4 kbps)
- Minimum cycle time 2.3 ms
- IO-Link port type Class A

| Series | Applicable fluid | Type | Rated pressure range |
|---|---|---|---|
| ZSE20BF-L | Air | Compound pressure | −100 to 100 kPa |
| ZSE20B-L | | Vacuum pressure | 0 to −100 kPa |
| ISE20B-L | | Positive pressure | 0 to 1 MPa |

### High-Precision Digital Pressure Switch

**ISE7□/7□G**

IP67




- 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 | Air | Positive pressure | 0 to 1 MPa |
| ISE71 | | | 0 to 1.6 MPa |
| ISE70G | Air<br>General fluids | | 0 to 1 MPa |
| ISE75G | | | 0 to 2 MPa |
| ISE76G | | | 0 to 5 MPa |
| ISE77G | | | 0 to 10 MPa |

## Digital Flow Switch

### Digital Flow Switch for Water

**PF3W7□-X445**

IP65

- 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

| Series | Applicable fluid | Rated flow range |
|---|---|---|
| PF3W704-X445 | Water | 0.5 to 4 L/min |
| PF3W720-X445 | | 2 to 16 L/min |
| PF3W740-X445 | | 5 to 40 L/min |

## Position Sensor

### Actuator Position Sensor

Actuator stroke position is output with an analog signal.

**D-MP025**
**D-MP050**
**D-MP100**
**D-MP200**

IP67

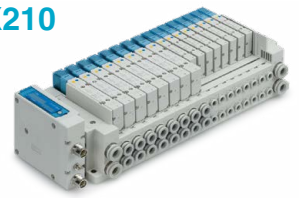
- IO-Link version V1.1
- Process data length 2-byte input
- Transmission speed COM3 (230.4 kbps)
- Minimum cycle time 1.0 ms
- IO-Link port type Class A

| 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-X207**
**EX260-SIL1-X210**



IP67

- IO-Link version V1.1
- Process data length 4-byte output
- Transmission speed COM3 (230.4 kbps)
- Minimum cycle time 0.8 ms

| Series | Number of outputs | IO-Link port type |
|---|---|---|
| EX260-SIL1-X207 | 32 outputs | Class A |
| EX260-SIL1-X210 | 32 outputs | Class B |

# Electro-Pneumatic Regulator

## Electro-Pneumatic Regulator

**ITV10□0-X395**
**ITV20□0-X395**
**ITV30□0-X395**

IP65

- IO-Link version V1.1
- Process data length 2-byte input/2-byte output
- Transmission speed COM3 (230.4 kbps)
- Minimum cycle time 0.7 ms
- IO-Link port type Class A

| Series | Set pressure range |
|---|---|
| ITV1010/ITV2010/ITV3010-X395 | 0.005 to 0.1 MPa |
| ITV1030/ITV2030/ITV3030-X395 | 0.005 to 0.5 MPa |
| ITV1050/ITV2050/ITV3050-X395 | 0.005 to 0.9 MPa |

# Step Motor Controller

## Step Motor Controller

**JXCL1**

IP40

- 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
- IO-Link port type Class A

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

# IO-Link Master

## IO-Link Master

**EX600-GILB-X60**

IP67

- IO-Link version V1.1
- Process data length 32-byte input/32-byte output (per port)
- IO-Link port type Class A

| Series | Number of ports | PLC communication protocol |
|---|---|---|
| EX600-GILB-X60 | 4 ports | CC-Link IE Field |

# Accessories

Please contact SMC for the communication cable with connector.

# IO-Link Compatible Products

IO-Link


## SMC Corporation

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http://www.smcworld.com



Specifications are subject to change without prior notice
and any obligation on the part of the manufacturer.

D-G

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