

Fieldbus System (For Output)

EX120/121/122 Series

Compatible Protocols

DeviceNet 
CompoNet

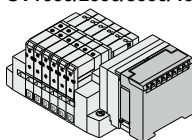


- ★ Small unit compatible with a maximum of 16 outputs
- ★ Compatible with a variety of communication networks

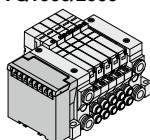
Manifold Solenoid Valves

EX120 Series

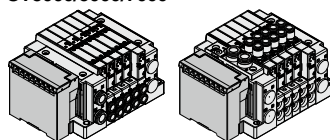
SV1000/2000/3000/4000



VQ1000/2000

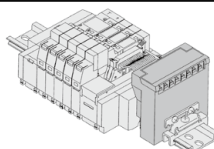


SY3000/5000/7000



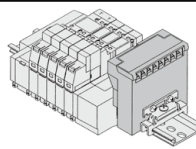
EX121 Series

SY3000/5000



EX122 Series

SY3000/5000



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Type 1 Output type for solenoid valves

Fieldbus System (For Output) EX120/121/122 Series

EX120



EX121



EX122



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Accessories

① Communication Connector	p. 1294
② Power Supply Connector	p. 1294

Made to Order


① DeviceNet® PNP (Negative common) output, Occupied points: 16 inputs/16 outputs	p. 1294
② DeviceNet® PNP (Negative common) output, Occupied points: 0 inputs/16 outputs	p. 1294

Specific Product Precautions	p. 1294
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Fieldbus System For Output

EX120/121/122 Series

How to Order SI Unit

EX12 **0** - S **DN1** - 

Valve interface

0	Plug-in
1	Flat ribbon cable DIN rail mounting
2	Plug-in DIN rail mounting

Made to Order (Refer to page 1294.)

Protocol	Output polarity	Occupied points
DeviceNet®	PNP (Negative common)	16 inputs/ 16 outputs
DeviceNet®	PNP (Negative common)	0 inputs/ 16 outputs

Protocol

DN1	DeviceNet®*1
DN1-X26 *2	DeviceNet®*1
MJ1	CC-Link
CM1	CompoNet® NPN (Positive common)
CM3	CompoNet® PNP (Negative common)

*1 DN1's occupied points are 16 inputs and 16 outputs, while DN1-X26 has 0 inputs and 16 outputs.

*2 A manifold part number is not specified for this model.
Please contact SMC for the manifold integrated type.

Specifications

Common Specifications

Communication	Terminating resistor	Not provided
Internal current consumption (Unit)		100 mA or less
Environment	Enclosure	IP20
	Operating temperature range	0 to 55°C (Valve 8 points ON) 0 to 50°C (Valve 16 points ON)
	Operating humidity range	35 to 85%RH (No condensation)
	Withstand voltage	1500 VAC for 1 minute between whole external terminal and enclosure
	Insulation resistance	2 MΩ or more (500 VDC) between whole external terminal and enclosure

Model		EX12□-SDN1	EX12□-SDN1-X26	EX12□-SMJ1
Communication	Protocol	DeviceNet®		CC-Link
	Version*1	Release 2.0		Ver. 1.10
	Communication speed	125 k/250 k/500 kbps		156 k/625 kbps 2.5 M/5 M/10 Mbps
	Configuration file*2	EDS file		CSP+ file
	I/O occupation area (Inputs/Outputs)	16/16	0/16	32/32 (1 station, remote I/O stations)
Power supply voltage	For control	11 to 25 VDC		15 to 30 VDC
	For valve	24 VDC +10%/−5%		
Output	Output type	Sink/NPN (Positive common)		
	Number of outputs	16 points		
	Load	Solenoid valve with surge voltage suppressor 24 VDC, 2.1 W or less (SMC)		
	Fail safe	CLEAR	HOLD/CLEAR (Switch setting)	CLEAR
	Standards	CE/UKCA marking		
Weight		EX120: 110 g or less, EX121: 140 g or less, EX122: 130 g or less		
Accessory		Communication connector 1 pc., Power supply connector 1 pc.		—

*1 Please note that the version is subject to change.

*2 The setting file can be downloaded from the SMC website, <https://www.smcworld.com>

Model		EX12□-SCM1	EX12□-SCM3
Communication	Protocol	CompoNet®	
	Communication speed	93.75 kbps/1.5 M/3 M/4 Mbps	
	Configuration file	EDS file*1	
	I/O occupation area (Inputs/Outputs)	0/16	
	Power supply voltage	14 to 26.4 VDC	
Output	For control	24 VDC +10%/−5%	
	For valve	24 VDC +10%/−5%	
	Output type	Sink/NPN (Positive common)	Source/PNP (Negative common)
	Number of outputs	16 points	
	Load	Solenoid valve with surge voltage suppressor 24 VDC, 2.1 W or less (SMC)	
Standards	Fail safe	HOLD/CLEAR (Setting via network)	
	Standards	CE/UKCA marking	
Weight		EX120: 100 g or less EX121: 120 g or less EX122: 110 g or less (including accessory)	
Accessory		Power supply connector (EX9-CP2) 1 pc.*2	

*1 The setting file can be downloaded from the SMC website, <https://www.smcworld.com>

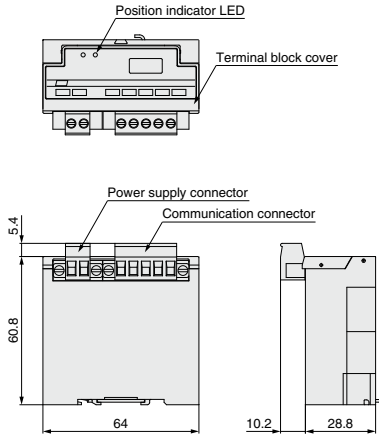
*2 Communication connector (for the opposite side) is not provided.

EX120/121/122 Series

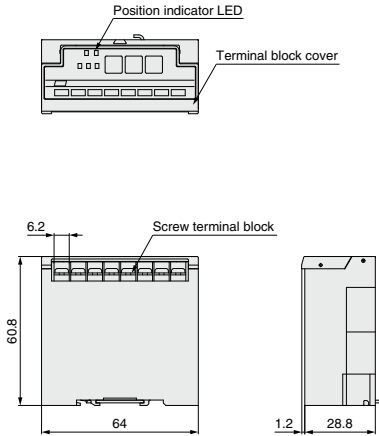
Dimensions/Parts Description

EX120

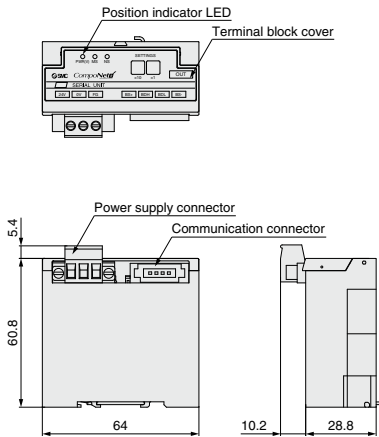
EX120-SDN1(-X26)



EX120-SMJ1



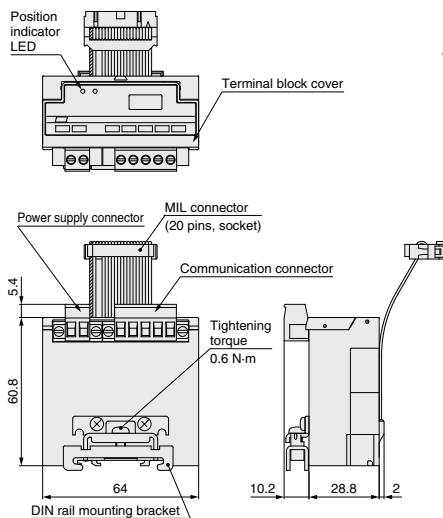
EX120-SCM□



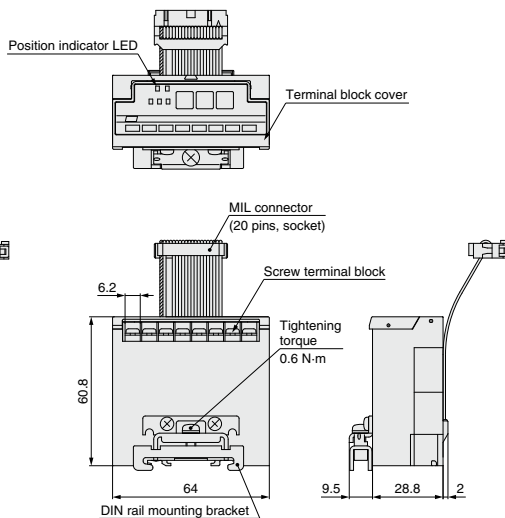
Dimensions/Parts Description

EX121

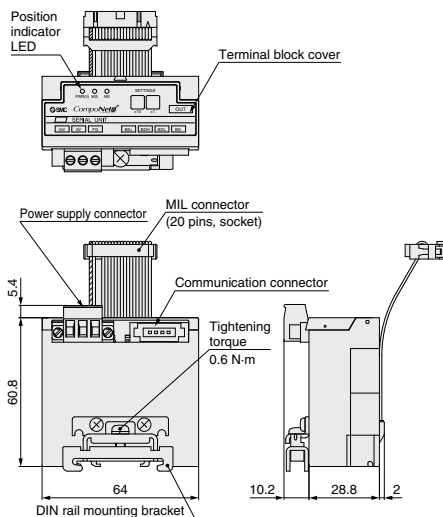
EX121-SDN1(-X26)



EX121-SMJ1



EX121-SCM□

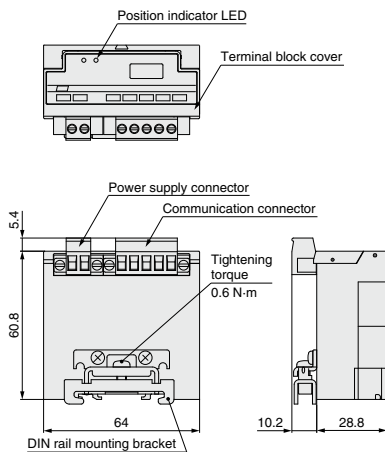


EX120/121/122 Series

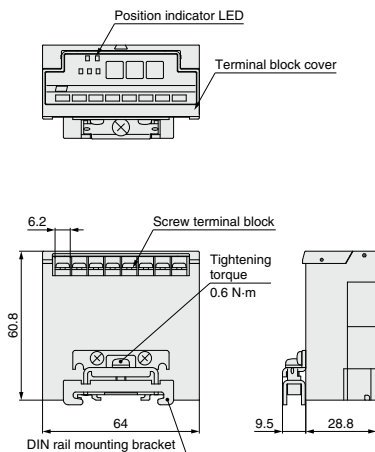
Dimensions/Parts Description

EX122

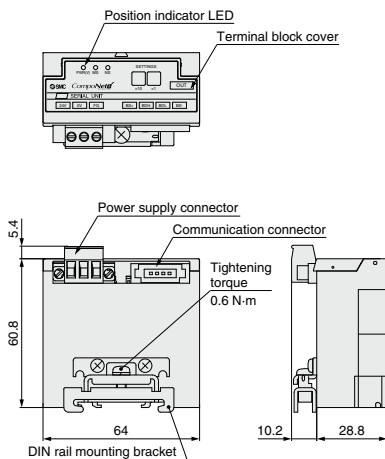
EX122-SDN1(-X26)



EX122-SMJ1

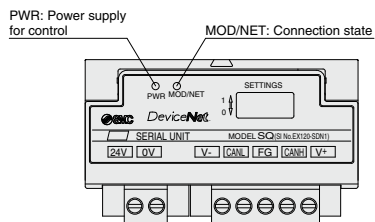


EX122-SCM

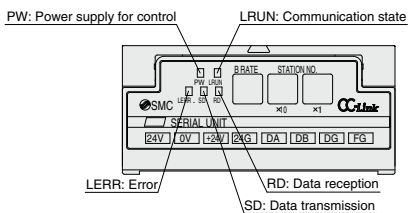


LED Indicator

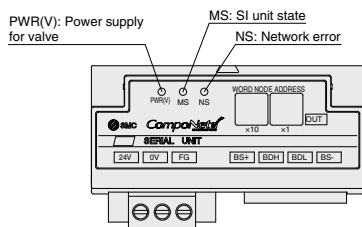
EX12□-SDN1



EX12□-SMJ1



EX12□-SCM□



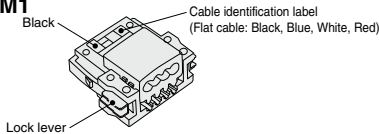
EX120/121/122 Series

Accessories (For EX12□-SCM□)

① Communication Connector

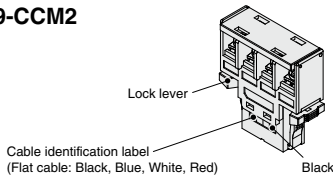
Press-in connector for flat cables
Use this connector for the standard dedicated flat cable.
The communication connector does not come with this product.

EX9-CCM1



Terminal block connector for round cables (VCTF)
Use this connector for the VCTF cable.
The communication connector does not come with this product.

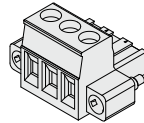
EX9-CCM2



② Power Supply Connector

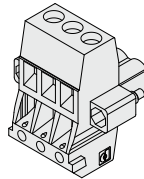
Straight type power supply connector
This connector is supplied at the time of shipment.

EX9-CP2



T-branch type power supply connector
This connector is not supplied at the time of shipment.

EX9-CP3



Made to Order

Please contact SMC for detailed specifications and lead times.
Prepare the SI unit and manifold valve (without SI unit) separately, and combine them before use.

① DeviceNet® PNP (Negative common) output, Occupied points: 16 inputs/16 outputs

EX12 0 -SDN1-X2

● Valve interface

0	Plug-in
1	Flat ribbon cable DIN rail mounting
2	Plug-in DIN rail mounting

● Dimensions are the same as those of the standard type.

② DeviceNet® PNP (Negative common) output, Occupied points: 0 inputs/16 outputs

EX12 0 -SDN1-X77

● Valve interface

0	Plug-in
1	Flat ribbon cable DIN rail mounting
2	Plug-in DIN rail mounting

● Dimensions are the same as those of the standard type.

⚠ Specific Product Precautions

Be sure to read this before handling the products. Refer to page 7 for safety instructions and pages 15 to 17 for fieldbus system precautions.

Operating Environment

⚠ Warning

1. Do not use this product in the presence of dust, particles, water, chemicals, and oil. Use around such materials is likely to cause a malfunction or breakage.

■ Trademark

DeviceNet® is a registered trademark of ODVA, Inc.
CompoNet® is a registered trademark of ODVA, Inc.

Fieldbus System (For Output)

EX124/126 Series



Compatible Protocols

DeviceNet 

Made to Order **CompoNet**

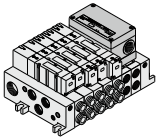
★Enclosure IP65 (EX124), IP67 (EX126)

★Maximum 16 outputs

Manifold Solenoid Valves

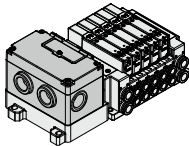
EX124 Series

VQ2000/4000/5000

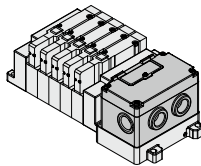


EX126 Series

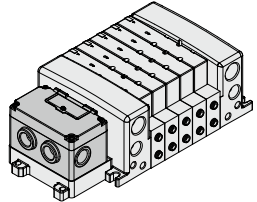
SY3000/5000/7000



SV1000/2000/3000



VQC1000/2000/4000/5000



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Type 1 Output type for solenoid valves

Fieldbus System (For Output)

EX124/126 Series



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Accessories

① Replacement Fuse	p. 1299
② Drip Proof Plug Assembly	p. 1299

Made to Order


① DeviceNet® PNP (Negative common), Occupied points: 16 inputs/16 outputs	p. 1300
② DeviceNet® PNP (Negative common), Occupied points: 0 inputs/16 outputs	p. 1300
③ CompoNet®	p. 1300
④ Signal Cut Block	p. 1300

Specific Product Precautions	p. 1300
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Fieldbus System For Output

EX124/126 Series

How to Order SI Unit

EX124 **U** - S **DN1** - 

Unit specifications

4	Separate power supply of control and valve Enclosure IP65 Compatible with the VQ valves
----------	---

Mounting specifications

U	Mount a unit to the U side of the manifold
D	Mount a unit to the D side of the manifold

Made to Order (Refer to page 1300.)

Protocol	Output polarity	Occupied points
DeviceNet®	PNP (Negative common)	16 inputs/ 16 outputs
DeviceNet®	PNP (Negative common)	0 inputs/ 16 outputs

Protocol

DN1	DeviceNet®*1
DN1-X26	DeviceNet®*1
MJ1	CC-Link

*1 DN1's occupied points are 16 inputs and 16 outputs,
while DN1-X26 has 0 inputs and 16 outputs.

EX126 **D** - S **MJ1**

Unit specifications

6	Separate power supply of control and valve Enclosure IP65 Compatible with the SY/SV/VQC valves
----------	--

Mounting specifications

D	Mount a unit to the D side of the manifold
----------	--

Protocol

MJ1	CC-Link
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Specifications

Common Specifications

Communication	Terminating resistor	Not provided
Internal current consumption (Unit)		100 mA or less
Output	Output type	Sink/NPN (Positive common)
	Load	Solenoid valve with surge voltage suppressor 24 VDC, 2.1 W or less (SMC)
Environmental resistance	Operating temperature range	0 to 55°C (Valve 8 points ON) 0 to 50°C (Valve 16 points ON)
	Operating humidity range	35 to 85%RH (No condensation)
	Withstand voltage	1500 VAC for 1 minute between whole external terminal and enclosure
	Insulation resistance	2 MΩ or more (500 VDC) between whole external terminal and enclosure
Weight		240 g or less
Accessory		4 unit mounting screws (M4 x 10)

Model			EX124□-SDN1	EX124□-SDN1-X26*3
Communication	Applicable system	Protocol	DeviceNet®	DeviceNet®
		Version*1	Release 2.0	
	Communication speed		125 k/250 k/500 kbps	
	Configuration file*2		EDS file	
	I/O occupation area (Inputs/Outputs)		16/16	0/16
Power supply voltage	For control		11 to 25 VDC	
	For valve		24 VDC +10%/−5%	
Output	Number of outputs		16 points	
	Fail safe		CLEAR	HOLD/CLEAR (Switch setting)
Environment	Enclosure		IP65	
Standards			CE/UKCA marking	

Model			EX124□-SMJ1	EX126D-SMJ1
Communication	Applicable system	Protocol	CC-Link	
		Version*1	Ver. 1.10	
	Communication speed		156 k/625 kbps 2.5 M/5 M/10 Mbps	
	Configuration file*2		CSP+ file	
	I/O occupation area (Inputs/Outputs)		32/32 (1 station, remote I/O stations)	
Power supply voltage	For control		15 to 30 VDC	
	For valve		24 VDC +10%/−5%	
Output	Number of outputs		16 points	
	Fail safe		CLEAR	
Environment	Enclosure		IP65	IP67
Standards			CE/UKCA marking	

*1 Please note that the version is subject to change.

*2 The setting file can be downloaded from the SMC website, <https://www.smcworld.com>

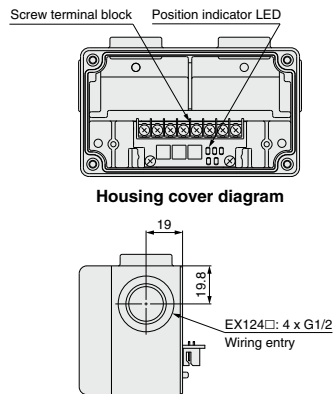
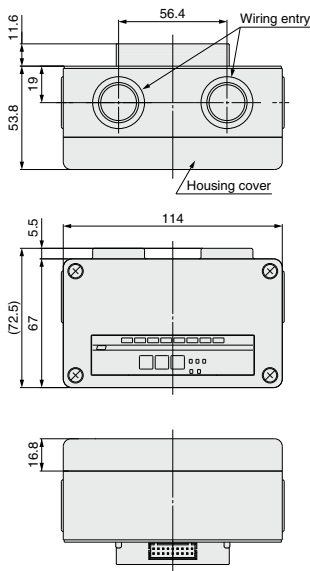
*3 Since this is a special product, a manifold part number is not specified. Please consult SMC for the manifold integrated type.

* For detailed specifications other than the above, refer to the operation manual that can be downloaded from SMC website, <https://www.smcworld.com>

EX124/126 Series

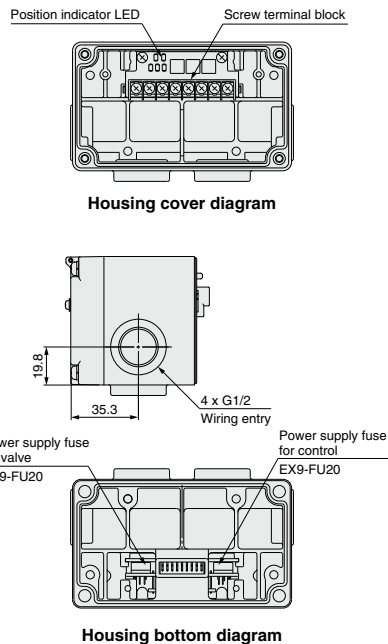
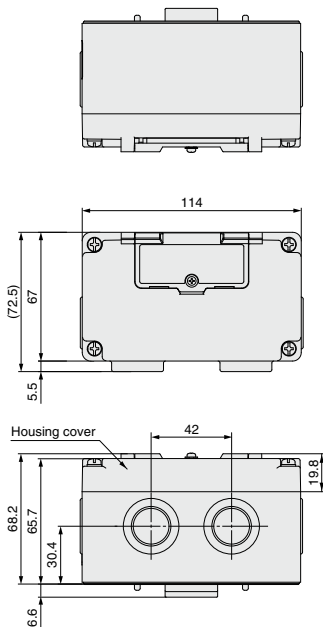
Dimensions/Parts Description

EX124□-S□□□



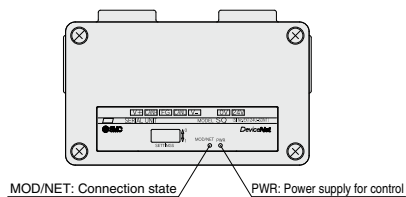
* The housing cover of the EX124U/D-SMJ1 is the same as that of the EX126D-SMJ1.

EX126D-SMJ1

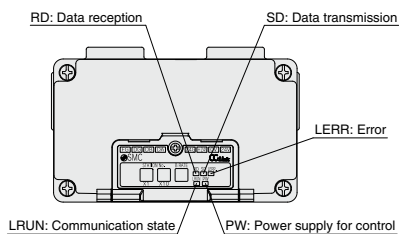


LED Indicator

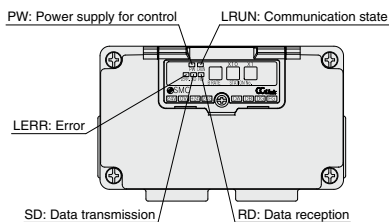
EX124□-SDN1



EX124□-SMJ1



EX126D-SMJ1



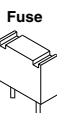
Accessories

① Replacement Fuse

A replacement fuse for the EX126D-SMJ1

EX9-FU20

Applicable model	EX126D-SMJ1
Rated current	2.0 A



② Drip Proof Plug Assembly

Use when the wiring entry (G1/2) is not being used.
Incorrect handling of the wiring entry may allow foreign matter to enter the SI unit, which will lead to a malfunction and damage to the SI unit.

AXT100-B04A

EX124/126 Series

Please contact SMC for detailed specifications and lead times.
Prepare the SI unit, signal cut block, and manifold valve (without SI unit) separately, and combine them before use.



Made to Order

① DeviceNet® PNP (Negative common), Occupied points: 16 inputs*1 /16 outputs

EX124[U]-SDN1-X2

● Mounting specifications

U	Mount a unit to the U side of the manifold
D	Mount a unit to the D side of the manifold

- Dimensions are the same as those of the standard type.

*1 The SI unit cannot be connected to an input device but occupies memory areas of 16 input points (2 bytes) as a mirror function of output data.
The mirror function is used to transmit output data received by the SI unit as input data exactly as it is.

② DeviceNet® PNP (Negative common), Occupied points: 0 inputs/16 outputs

EX124[U]-SDN1-X77

● Mounting specifications

U	Mount a unit to the U side of the manifold
D	Mount a unit to the D side of the manifold

- Dimensions are the same as those of the standard type.

③ CompoNet®

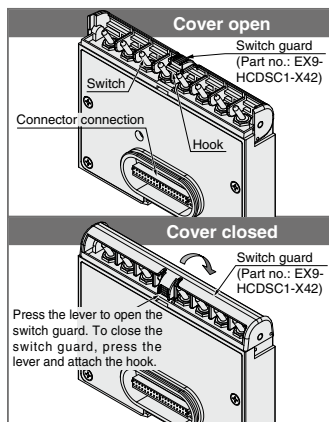
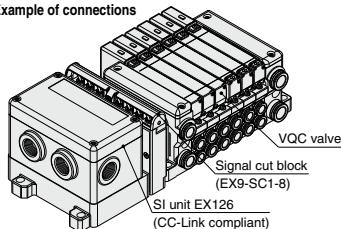
- Please contact SMC for details.

④ Signal cut block

EX9-SC1-8

- A switch unit that forcibly turns OFF the output signal to the valve by means of a toggle switch operation in double 1-station units
- Open the switch guard to prevent misoperation, and then carry out the operation.
- It comes with a safety mechanism which returns the switch to the normal position (AUTO) after the switch guard is closed.
- Enclosure: IP67

Example of connections



⚠ Specific Product Precautions

Be sure to read this before handling the products.
Refer to page 7 for safety instructions and pages 15 to 17 for fieldbus system precautions.

Operating Environment

⚠ Caution

1. Select the proper type of enclosure according to the operating environment.
IP65/67 is achieved when the following conditions are met.
 - 1) Provide appropriate wiring between all units using electrical wiring cables and communication connectors cables.
 - 2) For wiring, use a G1/2 cable gland.
 - 3) Appropriately mount each unit and valve manifold.
 - 4) Be sure to install a drip proof plug assembly (AXT100-B04A) on each unused connector. This is to prevent the risk of the SI unit malfunctioning or breaking down.
If using in an environment that is exposed to water splashes, please take measures such as using a cover.

■ Trademark

DeviceNet® is a registered trademark of ODVA, Inc.
CompoNet® is a registered trademark of ODVA, Inc.

Fieldbus System (For Output)

EX140 Series

Compatible Protocols

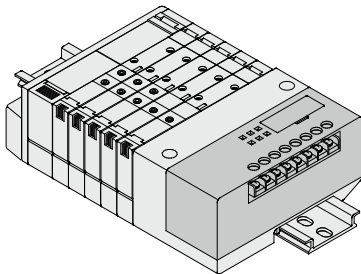
DeviceNet[®] CC-Link



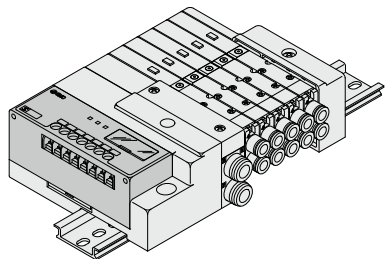
- ★ Thinner unit with low height
- ★ Maximum 16 outputs

Manifold Solenoid Valves

SZ3000



SQ1000/2000



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Fieldbus System (For Output) EX140 Series



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Fieldbus System For Output

EX140 Series



How to Order SI Unit

EX140-S **DN1**

• Protocol

DN1	DeviceNet®
MJ1	CC-Link

Specifications

Model			EX140-SDN1	EX140-SMJ1
Communication	Applicable system	Protocol Version*1	DeviceNet® Release 2.0	CC-Link Ver. 1.10
	Communication speed		125 k/250 k/500 kbps	156 k/625 kbps 2.5 M/5 M/10 Mbps
	Configuration file*2		EDS file	CSP+ file
	I/O occupation area (Inputs/Outputs)		0/16	32/32 (1 station, remote I/O stations)
	Terminating resistor		Not provided	
	Power supply voltage	For control	11 to 25 VDC	15 to 30 VDC
	For valve	24 VDC +10%/−5%		
Internal current consumption (Unit)			100 mA or less	
Output	Output type	Sink/NPN (Positive common)		
	Number of outputs	16 outputs		
	Load	Solenoid valve with surge voltage suppressor 24 VDC, 2.1 W or less (SMC)		
	Fail safe	HOLD/CLEAR (Switch setting)		
Environmental resistance	Enclosure	IP20		
	Operating temperature range	0 to 55°C (Valve 8 points ON) 0 to 50°C (Valve 16 points ON)		
	Operating humidity range	35 to 85%RH (No condensation)		
	Withstand voltage	1500 VAC for 1 minute between whole external terminal and enclosure		
	Insulation resistance	2 MΩ or more (500 VDC) between whole external terminal and enclosure		
Standards	CE/UKCA marking			
Weight	80 g or less			
Accessory	Communication connector 1 pc., Power supply connector 1 pc.			—

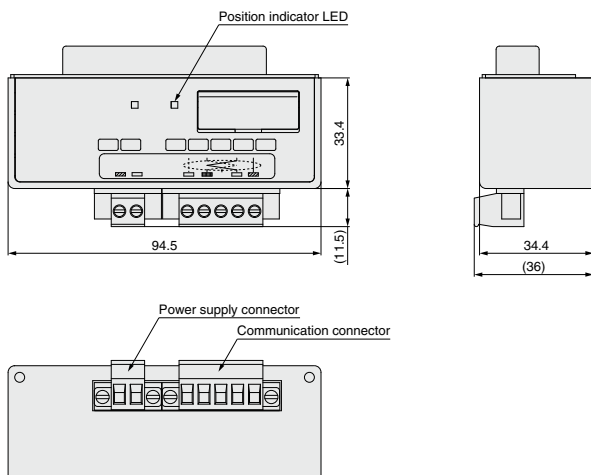
*1 Please note that the version is subject to change.

*2 The setting file can be downloaded from SMC website, <https://www.smcworld.com>

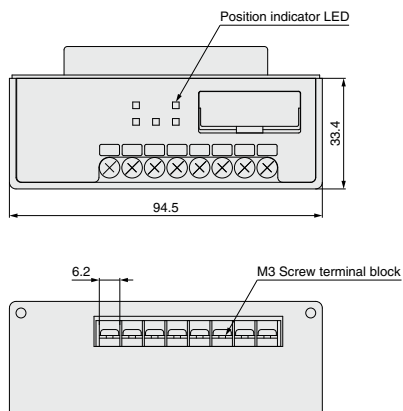
* For detailed specifications other than the above, refer to the operation manual that can be downloaded from SMC website, <https://www.smcworld.com>

Dimensions/Parts Description

EX140-SDN1



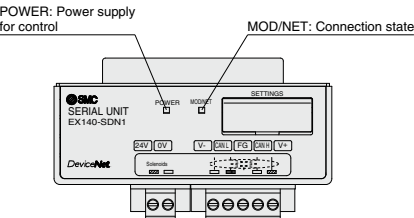
EX140-SMJ1



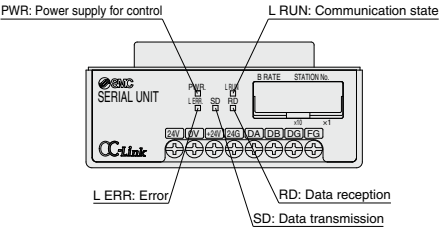
EX140 Series

LED Indicator

EX140-SDN1



EX140-SMJ1



⚠ Specific Product Precautions

Be sure to read this before handling the products. Refer to page 7 for safety instructions and pages 15 to 17 for fieldbus system precautions.

Operating Environment

⚠ Warning

1. Do not use this product in the presence of dust, particles, water, chemicals, and oil. Use around such materials is likely to cause a malfunction or breakage.

■ Trademark
DeviceNet® is a registered trademark of ODVA, Inc.

Fieldbus System (For Output)

EX180 Series

Compatible Protocols

DeviceNet CC-Link

Made to Order **AnyWireASLINK**

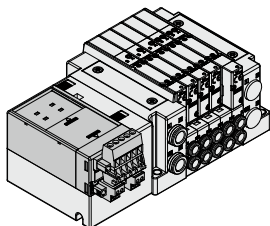


★ **Thinner unit with low height**

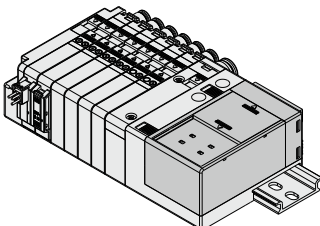
★ **Maximum 32 outputs**

Manifold Solenoid Valves

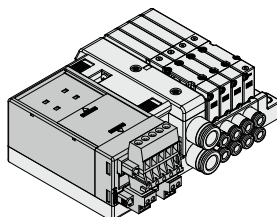
SY3000/5000/7000



SJ2000/3000



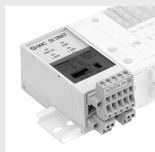
S0700



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Fieldbus System (For Output)

EX180 Series



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Made to Order

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Fieldbus System For Output

EX180 Series



How to Order SI Unit

EX180-S **DN3** -

Protocol

DN3	DeviceNet® (32 points Sink/NPN (Positive common))
DN4	DeviceNet® (16 points Sink/NPN (Positive common))
DN5	DeviceNet® (32 points Source/PNP (Negative common))
DN6	DeviceNet® (16 points Source/PNP (Negative common))
MJ3	CC-Link (32 points Sink/NPN (Positive common))
MJ5	CC-Link (32 points Source/PNP (Negative common))

Made to Order (Refer to page 1309.)

Protocol
AnyWireASLINK

Communication connector type

Nil	T-branch type
A	Straight type

* Communication and power supply connectors are included.

Specifications

Model			EX180-SDN3 EX180-SDN4		EX180-SDN5 EX180-SDN6		EX180-SMJ3		EX180-SMJ5	
Communication	Applicable system	Protocol	DeviceNet®				CC-Link			
		Version*1	Release 2.0				Ver. 1.10			
	Communication speed		125 k/250 k/500 kbps				156 k/625 kbps 2.5 M/5 M/10 Mbps			
	Configuration file*2		EDS file				CSP+ file			
	I/O occupation area (Inputs/Outputs)		SDN3: 0/32 SDN4: 0/16		SDN5: 0/32 SDN6: 0/16		32/32 (1 station)			
	Terminating resistor		Not provided				Built into the unit (Switch setting, 110 Ω)			
Power supply voltage	For control		11 to 25 VDC				24 VDC ±10%			
	For valve		24 VDC ±10%/–5%				24 VDC ±10%			
Internal current consumption (Unit)			0.1 A or less							
Output	Output type		Sink/NPN (Positive common)		Source/PNP (Negative common)		Sink/NPN (Positive common)		Source/PNP (Negative common)	
	Number of outputs		SDN3: 32 outputs SDN4: 16 outputs		SDN5: 32 outputs SDN6: 16 outputs		32 outputs			
	Load		SY3000/5000/7000, SJ2000/3000, S0700 series manifold valves							
	Fail safe		HOLD/CLEAR (Switch setting)							
Environmental resistance	Enclosure		IP20							
	Operating temperature range		–10 to 50°C							
	Operating humidity range		35 to 85%RH (No condensation)							
	Withstand voltage		500 VAC for 1 minute between whole external terminal and FG							
Insulation resistance		10 MΩ or more (500 VDC) between whole external terminal and FG								
Standards			CE/UKCA marking, UL (CSA)							
Weight			110 g or less (including accessory)							
Accessory			Communication connector 1 pc., Power supply connector 1 pc.				Communication connector 1 pc., Power supply connector 2 pcs.			

*1 Please note that the version is subject to change.

*2 The setting file can be downloaded from SMC website, <https://www.smcworld.com>

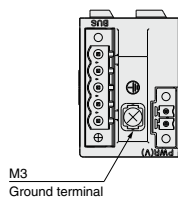
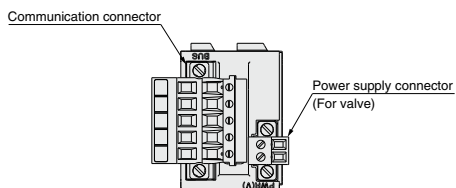
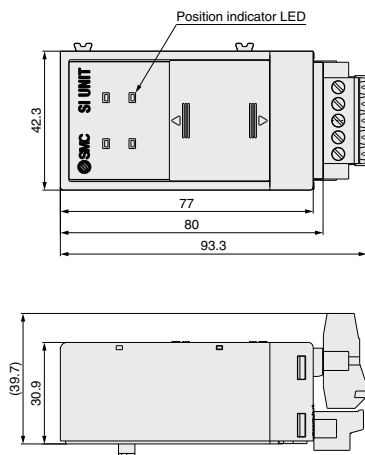
* For detailed specifications other than the above, refer to the operation manual that can be downloaded from SMC website, <https://www.smcworld.com>

* The EX180-SDN1□/2□ cannot be mounted on the manifold for the EX180-SDN3□/4□/5□/6□. Additionally, the EX180-SDN3□/4□/5□/6□ cannot be mounted on the manifold for the EX180-SDN1□/2□.

* The EX180-SMJ1□ cannot be mounted on the manifold for the EX180-SMJ3□/5□. Additionally, the EX180-SMJ3□/5□ cannot be mounted on the manifold for the EX180-SMJ1□.

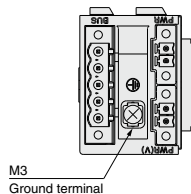
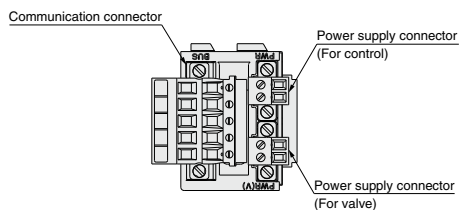
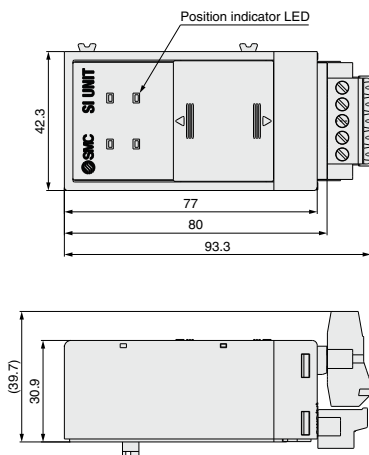
Dimensions/Parts Description

EX180-SDN□



Before mounting connector (accessory)

EX180-SMJ□

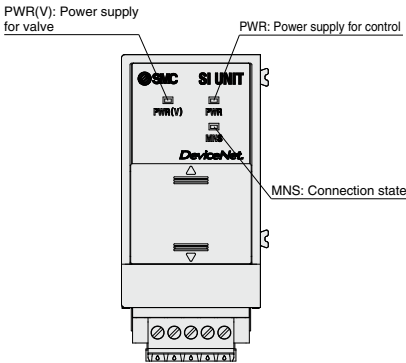


Before mounting connector (accessory)

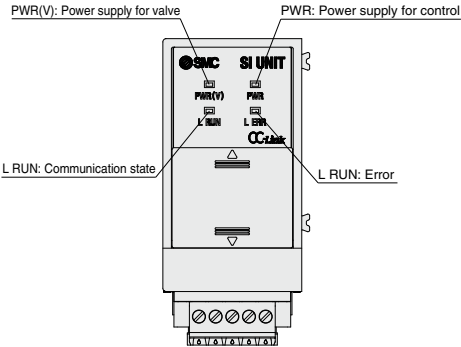
EX180 Series

LED Indicator

EX180-SDN□



EX180-SMJ□



Accessories

① Communication Connector

Connector for the network cable
This connector is supplied at the time of shipment.

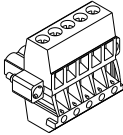
EX180-C **DN** **1**

Communication
protocol

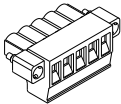
DN	For EX180-SDN□
MJ	For EX180-SMJ□

Communication
connector type

1	T-branch type
2	Straight type



EX180-C□□1



EX180-C□□2

② Power Supply Connector

Connector for power supply
This connector is supplied at the time of shipment.

EX180-CP1

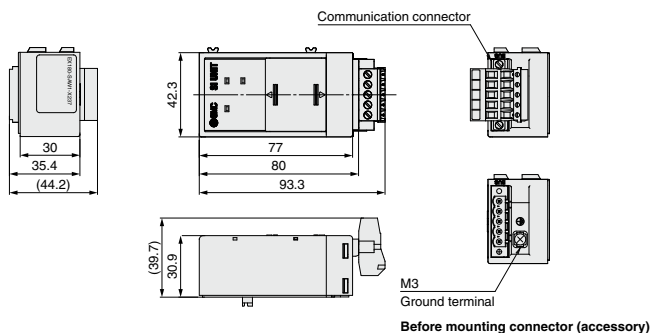


Made to Order

Please contact SMC for detailed specifications and lead times.
Prepare the SI unit and manifold valve (without SI unit) separately, and combine them before use.

① AnyWireASLINK NPN (Positive common), 32 outputs

EX180-SAW1-X237



⚠ Specific Product Precautions

Be sure to read this before handling the products. Refer to page 7 for safety instructions and pages 15 to 17 for fieldbus system precautions.

Operating Environment

⚠ Warning

- Do not use this product in the presence of dust, particles, water, chemicals, and oil. Use around such materials is likely to cause a malfunction or breakage.

■ Trademark

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