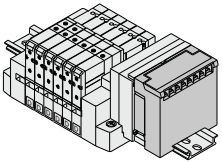
For Output

Series EX120/121/122

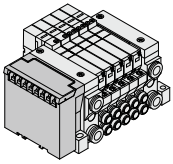
★Small unit compatible with maximum 16 outputs
★Compatible with a variety of communication networks

Series EX120

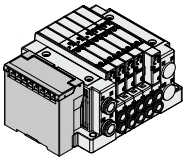
SV1000/2000/3000/4000

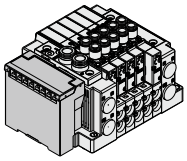


VQ1000/2000



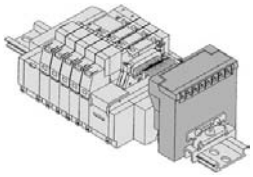
SY3000/5000





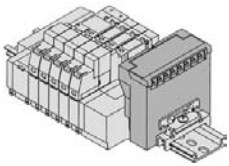
Series EX121

SY3000/5000



Series EX122

SY3000/5000



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

Communication protocol

		CE-compliant
DN1	DeviceNet Note 1)	●
DN1-X26	DeviceNet Note 1)	●
MJ1	CC-Link	●
CS1	OMRON Corp.: CompoBus/S (16 outputs)	●
CS2	OMRON Corp.: CompoBus/S (8 outputs)	●
SL1	Panasonic Industrial Devices SUNX Co., Ltd.: S-LINK (16 outputs)	—
SL2	Panasonic Industrial Devices SUNX Co., Ltd.: S-LINK (8 outputs)	—
UW1	NKE Corp.: Fieldbus System	—
UH1	NKE Corp.: Fieldbus H System	—
CM1	CompoNet™ NPN (Positive common)	●
CM3	CompoNet™ PNP (Negative common)	●

Note 1) DN1's occupied points are 16 inputs and 16 outputs, while DN1-X26 has 0 inputs and 16 outputs.
Note 2) Please consult SMC for networks other than those above.

SI Unit Specifications

Model			EX12□-SDN1	EX12□-SDN1-X26 (Note 4)	EX12□-SMJ1	EX12□-SCS1 EX12□-SCS2	EX12□-SSL1 EX12□-SSL2	EX12□-SUW1	EX12□-SUH1
Communication	Applicable system	Protocol	DeviceNet™		CC-Link	OMRON Corp.: CompoBus/S	Panasonic Industrial Devices SUNX Co., Ltd.: S-Link	NKE Corp.: Fieldbus System	NKE Corp.: Fieldbus H System
		Version (Note 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	750 kbps	28.5 kbps	28.5 kbps	29.4 kbps
	Configuration file (Note 2)		EDS file		—				
	I/O occupation area (Inputs/Outputs)		16/16	0/16	32/32 (1 station, remote I/O stations)	SCS1: 0/16 SCS2: 0/8	SSL1: 0/16 SSL2: 0/8	0/16	0/16
	Terminating resistor		Not provided						
Power supply voltage	For unit		11 to 25 VDC		15 to 30 VDC	14 to 26.4 VDC	24 VDC+10%/−5% (Common power supply)	24 VDC±10% (Common power supply)	
	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 points			SCS1/SSL1: 16 points SCS2/SSL2: 8 points		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	Hold/Clear (Switch setting)		Clear	
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 (With no condensation)						
	Withstand voltage		1500 VAC for 1 min. between whole external terminal and enclosure						
	Insulation resistance		2 MΩ or more (500 VDC) between whole external terminal and enclosure						
Standards			CE 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.		—				

Note 1) Please note that the version is subject to change.
Note 2) Each file can be downloaded from SMC's website (http://www.smcworld.com).
Note 3) For detailed specifications other than the above, refer to the operation manual that can be downloaded from SMC website. (http://www.smcworld.com).
Note 4) Since this is a special product, a manifold part number is not specified. Please consult SMC for the manifold integrated type.

CompoNet™ Communication Specifications

Protocol	CompoNet™
Communication speed	93.75 kbps/1.5 M/3 M/4 Mbps
Configuration file	EDS file (Download from SMC's website)
I/O occupation area (Inputs/Outputs)	0/16
Terminating resistor	Not provided

Note) For details about the communication speed or each setting instruction, check the operation manual that can be downloaded from SMC website.

SI Unit Specifications

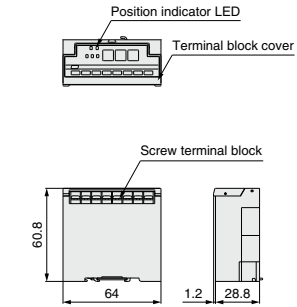
Model		EX120-SCM1	EX121-SCM1	EX122-SCM1	EX120-SCM3	EX121-SCM3	EX122-SCM3
Power supply voltage	For unit	14 to 26.4 VDC					
	For valve	24 VDC+10%/−5%					
Internal current consumption (Unit)		100 mA or less					
Output	Output type (Valve common polarity)	Sink/NPN output (Positive common)			Source/PNP (Negative common)		
	Number of outputs	16 points					
	Load	Solenoid valve with/surge voltage suppressor 24 VDC, 2.1 W or less (SMC)					
	Fail safe	Hold/Clear (Setting via network)					
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 (With no condensation)					
	Withstand voltage Insulation resistance	1500 VAC for 1 min. between whole external terminal and enclosure 2 MΩ or more (500 VDC) between whole external terminal and enclosure					
Standards		CE 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. (Note)					

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

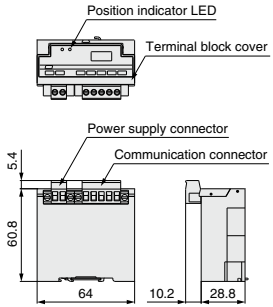
SI Unit Dimensions/Parts Description

EX120

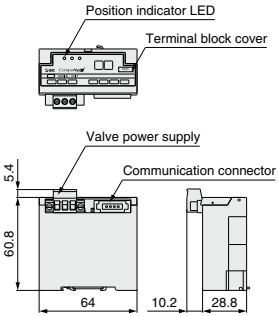
EX120-SMJ1, SCS□, SSL□, SUW1, SUH1



EX120-SDN1(-X26)

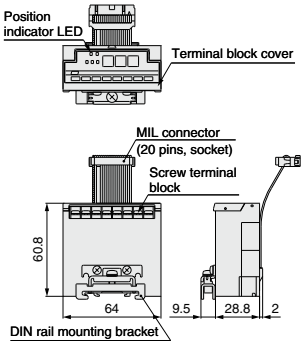


EX120-SCM□

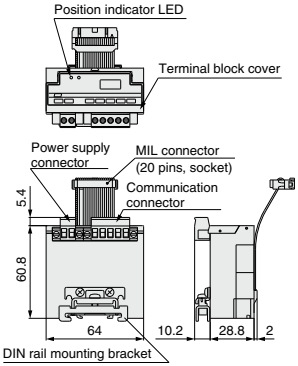


EX121

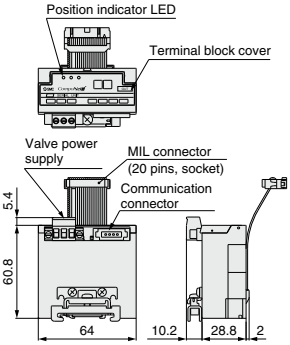
EX121-SMJ1, SCS□, SSL□, SUW1, SUH1



EX121-SDN1(-X26)

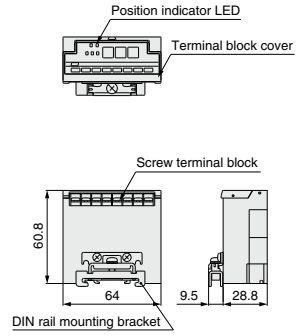


EX121-SCM□

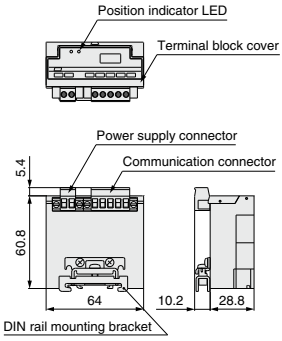


EX122

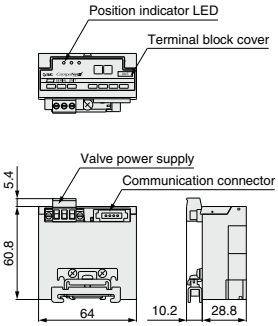
EX122-SMJ1, SCS□, SSL□, SUW1, SUH1



EX122-SDN1(-X26)



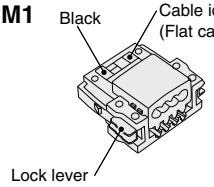
EX122-SCM□



How to Order Options (For EX12□-SCM□)

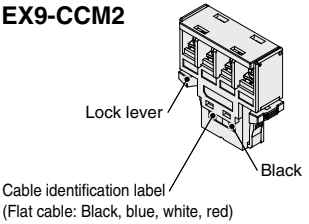
Communication connector: Press-in connector for flat cable.
Use this connector for the standard dedicated flat cable.

EX9-CCM1



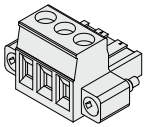
Communication connector: Terminal block connector for round cable (VCTF).
Use this connector for the VCTF cable.

EX9-CCM2



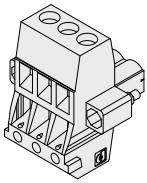
Power supply connector: Straight type power supply connector. This connector is supplied at shipment.

EX9-CP2



Power supply connector: T-branch type power supply connector.

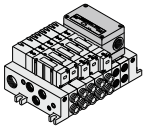
EX9-CP3



★Enclosure IP65 (EX123, EX124), IP67 (EX126)
★Maximum 16 outputs

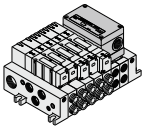
Series EX123

VQ2000/4000/5000



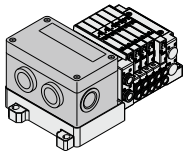
Series EX124

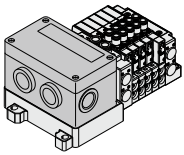
VQ2000/4000/5000



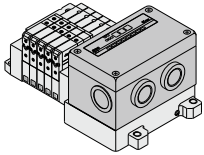
Series EX126

SY3000/5000

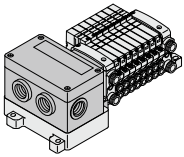




SV1000/2000/3000



VQC1000/2000/4000



How to Order SI Unit

EX12 3 U – S SL1

Unit specifications

3	Common power supply of unit 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

Communication protocol

		CE-compliant
SL1	Panasonic Industrial Devices SUNX Co., Ltd.: S-LINK (16 outputs)	—
SL2	Panasonic Industrial Devices SUNX Co., Ltd.: S-LINK (8 outputs)	—
UW1	NKE Corp.: Fieldbus System	—
UH1	NKE Corp.: Fieldbus H System	—

EX12 4 U – S DN1

Unit specifications

4	Separate power supply of unit 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

Communication protocol

		CE-compliant
DN1	DeviceNet Note)	●
DN1-X26	DeviceNet Note)	●
MJ1	CC-Link	●
CS1	OMRON Corp.: CompoBus/S (16 outputs)	●
CS2	OMRON Corp.: CompoBus/S (8 outputs)	●

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

EX12 6 D – S MJ1

Unit specifications

6	Separate power supply of unit and valve Enclosure IP67 Compatible with the SY/SV/VQC valves

Mounting specifications

D	Mount a unit to the D side of the manifold

Communication protocol

		CE-compliant
MJ1	CC-Link	●

How to Order Options

Fuse for replacement

A fuse for replacement used for EX126D-SMJ1.

EX9−FU20

Applicable model	EX126D-SMJ1
Rated current	2.0 A

Fuse

Dripproof plug assembly

Use for the unused conduit port (G1/2).

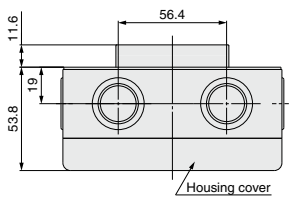
AXT100−B04A

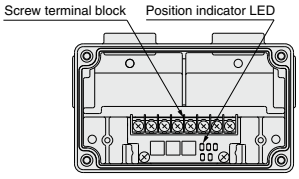
SI Unit Specifications

The electrical specification is the same for EX12□. Refer to page 2052.
The weight of the EX123, 124, or 126 is 240g or less.
4 unit mounting screws (M4 x 10) are included when shipped.

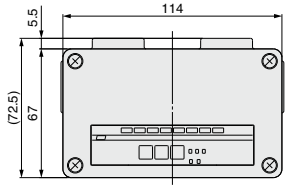
SI Unit Dimensions/Parts Description

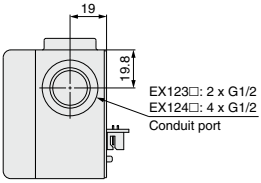
EX123□-S□□□, EX124□-S□□□

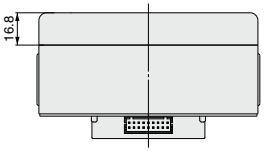




Housing cover diagram

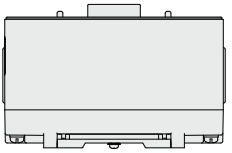


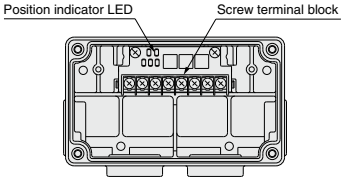




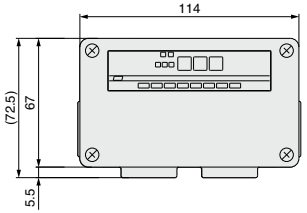
Note) The housing cover of the EX124U/D-SMJ1 is the same as that of the EX126D-SMJ1.

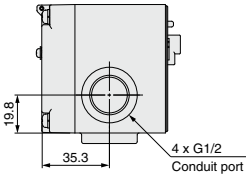
EX126D-SMJ1

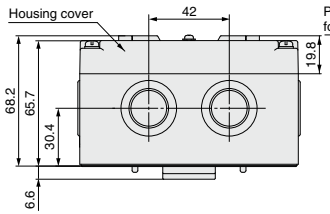


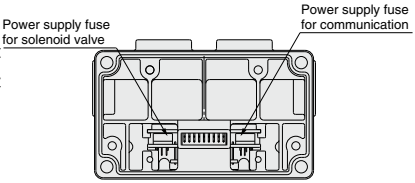


Housing cover diagram









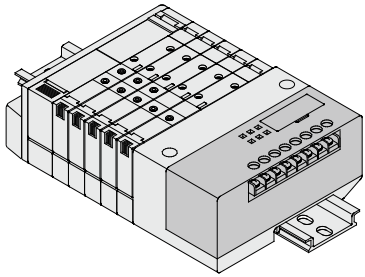
Housing bottom diagram

For Output

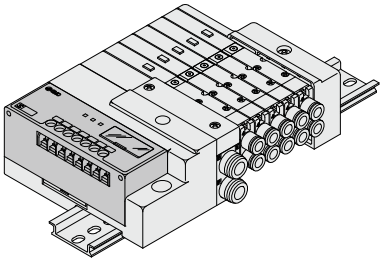
Series EX140

★Thinner unit with low height
★Maximum 16 outputs

SZ3000



SQ1000/2000



How to Order SI Unit

EX140 – S DN1

Communication protocol		CE-compliant
DN1	DeviceNet™	●
MJ1	CC-Link	●
CS1	OMRON Corp.: CompoBus/S (16 outputs)	●
CS2	OMRON Corp.: CompoBus/S (8 outputs)	●
SL1	Panasonic Industrial Devices SUNX Co., Ltd.: S-LINK (16 outputs)	—
SL2	Panasonic Industrial Devices SUNX Co., Ltd.: S-LINK (8 outputs)	—
UW1	NKE Corp.: Fieldbus System	—
UH1	NKE Corp.: Fieldbus H System	—

Note) Please consult SMC for networks other than those above.

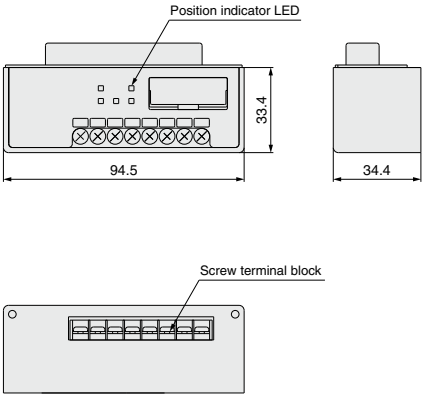
SI Unit Specifications

Model			EX140-SDN1	EX140-SMJ1	EX140-SCS1 EX140-SCS2	EX140-SSL1 EX140-SSL2	EX140-SUW1	EX140-SUH1
Communication	Applicable system	Protocol	DeviceNet™	CC-Link	OMRON Corp.: CompoBus/S	Panasonic Industrial Devices SUNX Co., Ltd.: S-Link	NKE Corp.: Fieldbus System	NKE Corp.: Fieldbus H System
		Version Note 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	750 kbps	28.5 kbps	28.5 kbps	29.4 kbps
	Configuration file Note 2)		EDS file	—				
	I/O occupation area (Inputs/Outputs)		0/16	32/32 (1 station, remote I/O stations)	SCS1: 0/16 SCS2: 0/8	SSL1: 0/16 SSL2: 0/8	0/16	
	Terminating resistor		Not provided					
Power supply voltage	For unit		11 to 25 VDC	15 to 30 VDC	14 to 26.4 VDC	24 VDC+10%/–5% (Common power supply)	24 VDC±10% (Common power supply)	
	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		SCS1/SSL1: 16 outputs SCS2/SSL2: 8 outputs		16 outputs	
	Load		Solenoid valve with surge voltage suppressor 24 VDC, 2.1 W or less (SMC)					
	Fail safe		Hold/Clear (Switch setting)				Clear	
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 (With no condensation)					
	Withstand voltage		1500 VAC for 1 min. between whole external terminal and enclosure					
	Insulation resistance		2 MΩ or more (500 VDC) between whole external terminal and enclosure					
Standards			CE marking			—		
Weight			80 g or less					
Accessory			Communication connector 1 pc., Power supply connector 1 pc.	—				

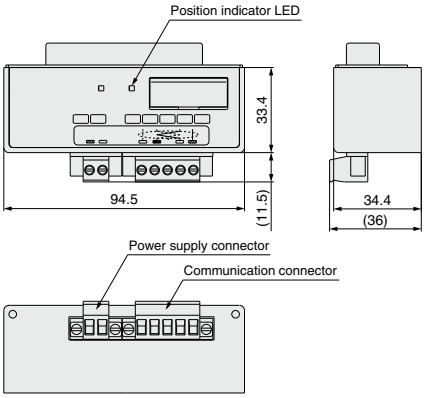
Note 1) Please note that the version is subject to change.
Note 2) Each file can be downloaded from SMC website (http://www.smcworld.com).
Note 3) For detailed specifications other than the above, refer to the operation manual that can be downloaded from SMC website (http://www.smcworld.com).

SI Unit Dimensions/Parts Description

EX140-SMJ1, SCS□, SSL□, SUW1, SUH1



EX140-SDN1

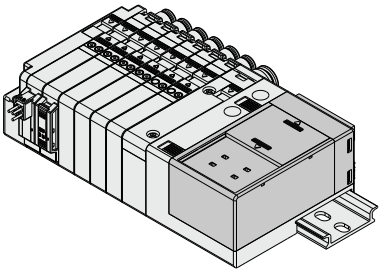


For Output

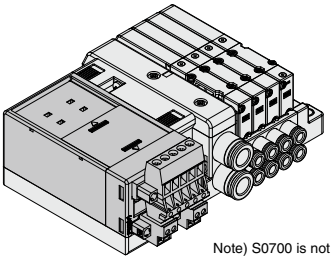
Series EX180

★Thinner unit with low height
★Maximum 32 outputs

SJ2000/3000



S0700



Note) S0700 is not yet UL-compatible.

How to Order SI Unit

EX180 − S DN3 ☐

Communication 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))

Note) Please consult SMC for networks other than those above.

Communication connector type

Nil	T-branch type
A	Straight type

Note) Communication and power supply connectors are included.

How to Order Options

Communication connector

Connector for the network cable, included when shipped.

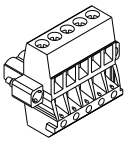
EX180 − C DN 1

Communication protocol

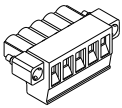
DN	For EX180-SDN☐
MJ	For EX180-SMJ☐

Communication connector type

1	T-branch type
2	Straight type



EX180-C☐☐1



EX180-C☐☐2

Power supply connector

Connector for power supply, included when shipped.

EX180 − CP1

SI Unit Specifications

Model			EX180-SDN3 EX180-SDN4	EX180-SDN5 EX180-SDN6	EX180-SMJ3	EX180-SMJ5
Communication	Applicable system	Protocol	DeviceNet™		CC-Link	
		Version Note 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 Note 2)		EDS 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 unit		11 to 25 VDC		15 to 30 VDC	
	For valve		24 VDC±10%/–5%			
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		Series SJ2000/3000, S0700 manifold valves		Series SJ2000/3000, S0700 manifold valves	
	Fail safe		Hold/Clear (Switch setting)			
Environment	Enclosure		IP20			
	Operating temperature range		–10 to 50°C			
	Operating humidity range		35 to 85%RH (With no condensation)			
	Withstand voltage		500 VAC for 1 min. between whole external terminal and FG			
	Insulation resistance		10 MΩ or more (500 VDC) between whole external terminal and FG			
Standards			CE 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.	

Note 1) Please note that the version is subject to change

Note 2) Each file can be downloaded from SMC website (http://www.smcworld.com).

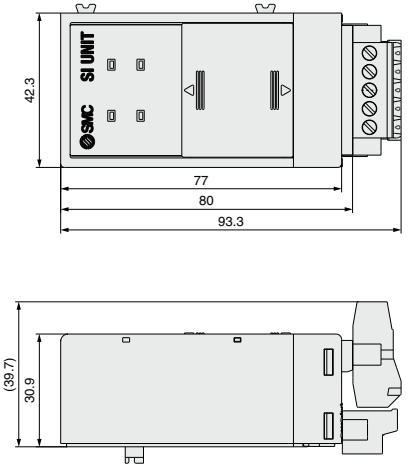
Note 3) For detailed specifications other than the above, refer to the operation manual that can be downloaded from SMC website (http://www.smcworld.com).

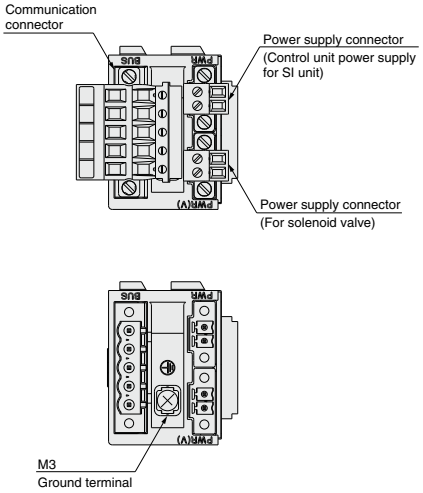
Note 4) The EX180-SDN1□/2□ cannot be mounted on the manifold for the EX180-SDN3□/4□/5□/6□. Additionally, the EX180-SDN3□/4□/5□/6□ cannot be mounted on the manifold for the EX180-SDN1□/2□.

Note 5) 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□.

SI Unit Dimensions/Parts Description

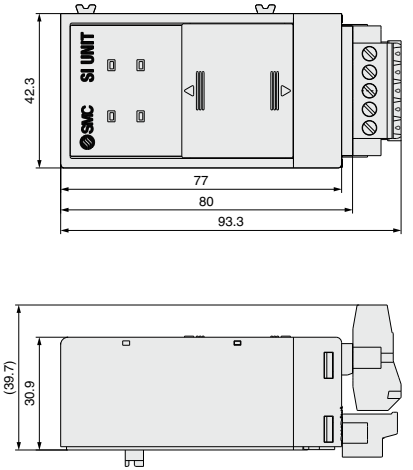
EX180-SMJ3, SMJ5

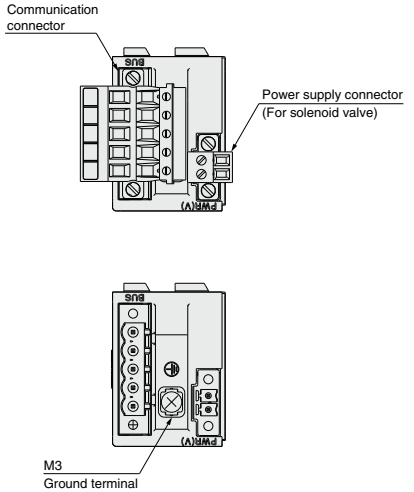




Before mounting connector (accessory)

EX180-SDN3, SDN4, SDN5, SDN6





Before mounting connector (accessory)