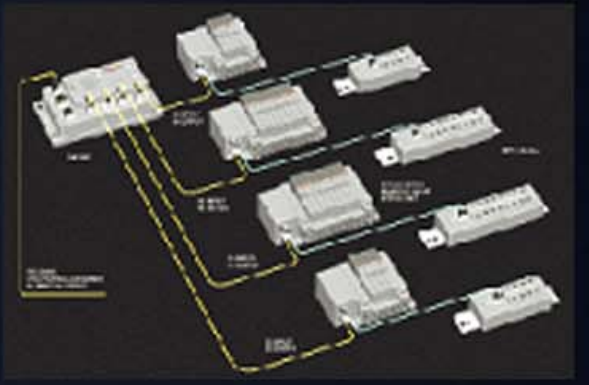
SMC

Последовательная передающая система шлюзового типа

Серия EX500



Максимум 128 точек управления (64 входов/64 выходов)
Гибкость присущая модульной конструкции блока, дополнена разветвлением схемы на 4 части

Гибкая установка и снятие блоков пневмораспределителей

Блоки соединяются при помощи штепсельного разъема

Последовательная передающая система шлюзового типа

Серия EX500

Большой выбор используемых пневмораспределителей

Пневмораспределители , собранные на шпильках

Серия SV

Серия VQC

Допустимые размеры цилиндров

Список серий пневмораспределителей с реечным креплением

Наименование серии		*Коэф. Cv**	*Допустимые размеры цилиндров*					
			ø40	ø50	ø63	ø80	ø100	ø125
Серия SV	**SV1000**	0.3						
	SV2000	0.7						
	SV3000	1						
	SV4000	2						
Серия VQC	**VQC1000**	0.3						
	VQC2000	0.7						

(Коэффициент нагрузки: 50%, Скорость поршня 150 мм/с)

**Коэффициент Cv может меняться в зависимости от конструкции блока*

Гибкая установка и снятие блоков пневмораспределителей

Блоки соединяются при помощи штепсельного разъема

Повышена эффективность обвязки *(снижены трудозатраты)*

Использование кабелей со штепселями для обвязки проводами оборудования повышает эффективность работы и не допускает неправильного подключения. Так как линии питания включены во все кабели, то отдельные питающие линии для блоков SI (пневмораспределителей) и устройств ввода не требуются.

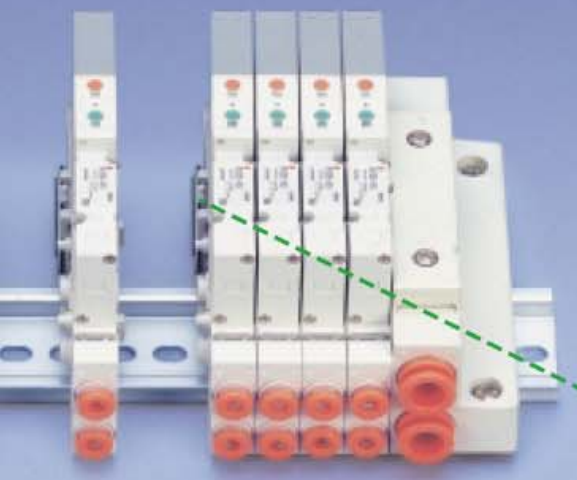
Низкие эксплуатационные затраты

Малая потребляемая мощность 0.6 Вт (пневмораспределитель серии SV, 25 мА, 24 В постоянный ток). Срок службы 50 миллионов циклов и больше (исходя из испытаний проведённых SMC)

Штепсельные разъёмы

Нет сложной проводки

Пневмораспределители и блоки ввода легко ставятся и снимаются, что позволяет быстро приспособить оборудования к меняющейся ситуации.



Пневмораспределитель с элементом плиты

Блок ввода

Соответствие IP65

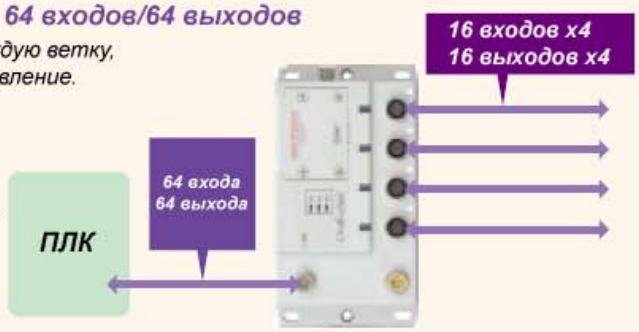
Всё оборудование, входящее в серию EX500 соответствует стандарту IP65, что позволяет использовать его в условиях прямого контакта с водой, и т.п. (согласно IEC529). Неиспользуемые штепсельные разъёмы защищаются водонепроницаемыми крышечками.

Шлюз

Общее количество точек входа/выхода: 64 входов/64 выходов

Наличие 4 ветвей, по 16 входов и 16 выходов на каждую ветку, позволяет организовать децентрализованное управление.

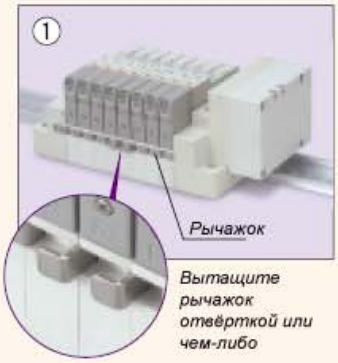
- *Так как связь с каждой веткой осуществляется отдельно от связи с главным ПЛК, то не возникает проблем связанных с временем задержки передачи данных.*
- *Шлюзы можно использовать при работе с удалённым вводом/выводом, DeviceNet и PROFIBUS-DP.*



5-линейный пневмораспределитель/серии SV1000, 2000

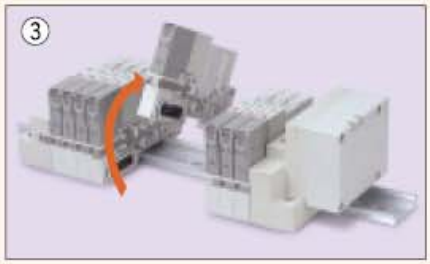
Блок кассетного типа

Наличие рычажка позволяет быстро и надёжно установить пневмораспределитель, а также снять его.



Вытащите рычажок отвёрткой или чем-либо

Ослабьте стопорные винты DIN рейки с обоих концов и разделите блок на две части.



Выньте пневмораспределитель, потянув его за переднюю часть вверх.

- ***Взаимозаменяемые сборки клапанов***
  SV1000: *C3, C4, C6*
  SV2000: *C4, C6, C8*

- ***Высокая скорость отклика: 10 мс***
  (SV1000, двойной, 0.5 МПа, 24 В постоянный ток, с сетевым фильтром)

- ***Допустимые размеры цилиндров***

Наименование серии	Коэф. Cv*	Допустимые размеры цилиндров			
		ø40	ø50	ø63	ø80
SV1000	0.27				
SV2000	0.7				

- ***Можно установить релейные выводные модули*** *(серия SV1000)*

Одновременно с оборудованием серии SV может контролироваться оборудование с максимальным напряжением 120 В переменного тока и током в 2 А.

Блок ввода

На одном и том же блоке можно использовать разъёмы M8 и M12.

Один блок ввода может обслуживать широкий спектр оборудования.

Серия EX500

Шлюз

Модель	EX500-GAB1-X1	EX500-GDN1	EX500-GPR1
Применяемые ПЛК/протокол связи	Rockwell Automation PLC	DeviceNet Release 2.0	PROFIBUS-DP
Скорость связи	57.6 кбит/с 115.2 кбит/с 230.4 кбит/с	125 кбит/с 250 кбит/с 500 кбит/с	9.6, 19.2, 93.75, 187.5, 500 кбит/с 1.5, 3, 6, 12 Мбит/с
Напряжение сети	24 В постоянного тока		
Диапазон напряжений	Питание блока управления и ввода: 24В ±10% Питание соленоидного клапана: 24В +10%/-5% (предупреждение о падении напряжения примерно при 20В)		
Потребление тока	200 мА и менее		
Точки входов/выходов	Максимум 64 входа/максимум 64 выхода		
Ветви входов/выходов	4 ветви (на одной ветви 16 входов/16 выходов)		
Кабель ветви	8-жильный износостойкий кабель		
Длина кабеля	5 м или меньше (полный размах 10 м или меньше)		
Разъём связи ветви	Разъём M12 (8 штырьков, розетка)		
Разъём питания	Разъём M12 (5 штырьков, штепсель)		
Температура окружающей среды/влажность	От +50 до +450/от 35% до 85% относительной влажности (без конденсации)		
Герметичность	IP65		
Соответствие стандартам	UL, CSA, CE		

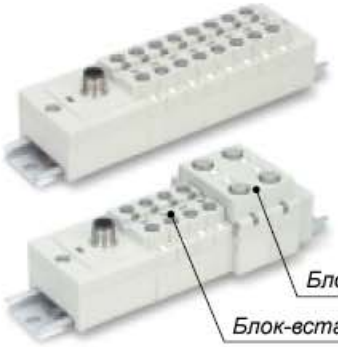
Номер для заказа

EX500 — G [AB] 1 (-X1)

- AB — Сетевой протокол связи
- 1 — Совместим с RIO
- (-X1)

AB	Удалённый ввод/вывод (RIO)
DN	DeviceNet
PR	PROFIBUS-DP

Блоки-вставки



Номер для заказа блока-вставки

EEX500 — IB1 — [E] [8] (-X1)

- E — Вид разъема
- 8 — Станции
- (-X1) — Совместимость с RIO

E	разъем (M8)
T	разъем (M8)
M	(M8) и (M12) вместе

1	1 станция
2	2 станции
⋮	
8	8 станций

Номер для заказа блока ввода

EX500 — IE [1] (-X1)

- 1 — Тип разъема/Спецификация ввода
- (-X1) — Совместимость с RIO

1	Разъем (M8)/PNP
2	Разъем (M8)/NPN
3	Разъем (M12)/PNP
4	Разъем (M12)/NPN

Спецификация блоков-вставок

Блок связи	Блок-вставка с втеканием тока (PNP) или Блок-вставка с вытеканием тока (NPN)
Разъём	Разъём M12 (8 штырьков, штепсель)
Количество блоков связи	Максимум 8 блоков
Величина напряжения	24 В постоянного тока
Величина тока	Максимум 0.65 А
Потребление тока	100мА или меньше (при номинальном напряжении)
Защита от короткого замыкания	Срабатывает при 1АТур (отключение питания). Сбрасывается выключением и включением шлюза

Спецификация блока ввода

Совместимость с датчиками	с втеканием тока (PNP) или с вытеканием тока (NPN)
Разъём датчика	Разъём M8 (3 штырька) или M12 (4 штырька)
Точки ввода	2 точки
Номинальное напряжение	24 В постоянного тока
Индикация	Зелёный светодиод
Изоляция	Отсутствует
Ток питания датчика	Максимум 30мА/датчик

Кабели

Номер для заказа кабеля с разъёмом M12

EX500 — AC [003] — [SSPS]

- 003 — Длина кабеля

003	0.3m
005	0.5m
010	1m
030	3m
050	5m

- SSPS — Спецификация разъема

SSPS	Сторона розетки: кабель прямой, Сторона штепселя: кабель прямой
SAPA	Сторона розетки: кабель изогнут, Сторона штепселя: кабель изогнут

Номер для заказа питающего соединительного кабеля

EX500 — AP [010] — [S]

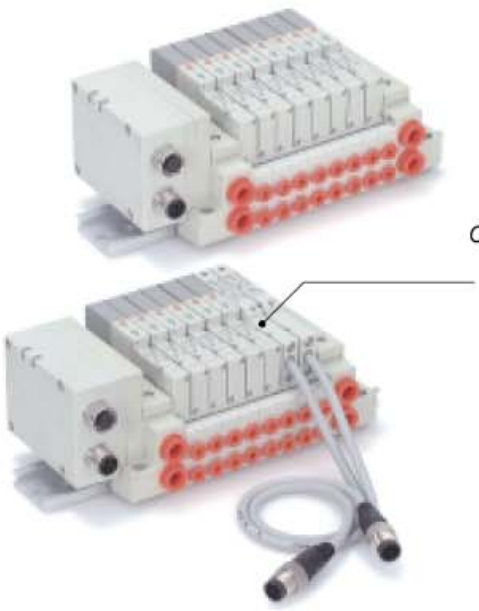
- 010 — Длина кабеля

010	1m
050	5m

- S — Вид разъема

S	Прямой
A	Изогнутый

5-линейный пневмораспределитель/серии SV1000, 2000



Номер для заказа коллектора с кассетным основанием

SS5V [1] — W16S [A1W] D — [05] [U] [ ] — [C4] [ ]

Серия

1	SV1000
2	SV2000

Спецификация узлов SI

A1W	remote I/o (RIO)
A2W	DeviceNet PROFIBUS-DP

Пневмораспределители

02	2 станции
⋮	⋮
16	16 станций

*16 соленоидов или меньше

Положение входа портов P и R

U	Сторона U
D	Сторона D
B	Обе стороны

Спецификация пилота

Nil	Внешний пилот
R	Внутренний пилот

Размер портов A и B (Быстроразъемное оединение)

SV1000		SV2000	
C3	ø3.2	C4	ø4
C4	ø4	C6	ø6
C6	ø6	C8	ø8
N1	ø1/8"	N3	ø5/32"
N3	ø5/32"	N7	ø1/4"
N7	ø1/4"	N9	ø5/16"

Длина рельса DIN

Nil	
3	
⋮	⋮
20	

Номер для заказа пневмораспределителя

SV [1] [1] 00 [ ] — 5F [U] [ ]

Серия

1	SV1000
2	SV2000

Тип пневмораспределителя

1	Моностабильный
2	Бистабильный
3	Закрытый центр
4	Открытый центр
5	Центр под давлением

Тип пилота

Nil	Внутренний пилот
R	Внешний пилот

Сетевой фильтр

U	сетевой/оптический фильтр
R	фильр пиковых нагрузок

Ручное управление

Nil	нажимного типа без блокировки
D	стопор с защелкой

Номер для заказа релейного модуля вывода

SV1000-60-5A-1A

Спецификация пневмораспределителей

Диапазон рабочих давлений	2 позиционный одинарный	0.15 – 0.7
	2 позиционный двойной	0.1 – 0.7
	3 позиционный	0.2 – 0.7
Герметичность		IP65 (согласно IEC529)
Номинальное напряжение на катушке		24 В постоянного тока
Допустимые колебания напряжения		±10% от номинала
Потребление мощности (Вт)		0.6 (с индикатором 0.65)

Спецификация блока SI

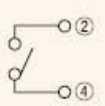
Блок связи	Релейный модуль вывода Пневмораспределитель (Одинарный, двойной)
Станции блока связи	Двойной пневмораспределитель: максимум 8 станций Одинарный пневмораспределитель, релейный модуль вывода: максимум 16 станций
Напряжение питания	24 В постоянного тока
Ток	Максимум 0.65 А
Потребление тока	100 мА или менее (при номинальном напряжении)
Соединительный разъём	Разъём M12 (8 штырькое, розетка/штепсель)

Спецификация блока

Модель		SV1000	SV2000
Тип коллектора		Вставляемый	
Тип P(SUP), E(EXH)		Общие SUP, EXH	
Клапанные станции		От 2 до 16 станций	
Размер порта	P, E port	ø8, ø5/16"	ø10, ø3/8"
	A, B port	ø3.2, ø4, ø6 ø1/8", ø5/32", ø1/4"	ø4, ø6, ø8 ø5/32", ø1/4", ø5/16"
Коэффициент Cv пневмораспределителя	P→A/B	0.26	0.7
	A/B→E	0.27	0.7

*Коэффициенты Cv портов A и B показаны для размеров C6 для SV1000 и C8 для SV2000

Спецификация релейного модуля вывода

Выводные точки	1 точка вывода (разъём с кабелем/M12)
Тип вывода	① Нет соединения ② Вывод 1 ③ Нет соединения ④ Вывод 2  Контактный тип ["a" (N.O.) контакт]  Раскладка штырьков в разъеме вывода
Максимальное напряжение нагрузки	120 В переменного тока
Максимальный ток нагрузки	2А
Индикаторная лампочка	Зелёный светодиод
Потребление тока	20 мА или меньше

Fieldbus System
(Gateway Decentralized Type)

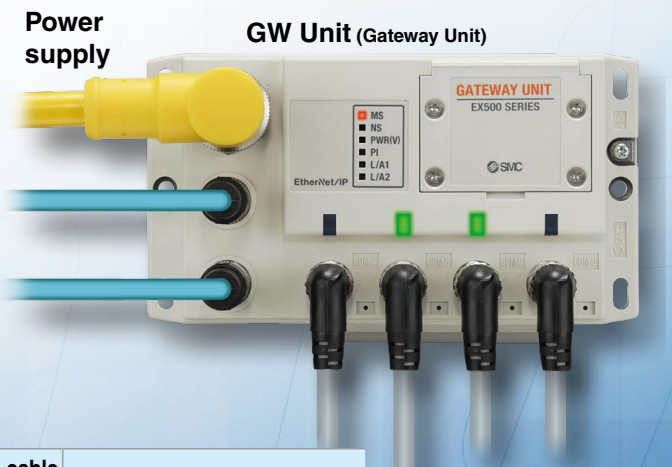
New

RoHS

Decentralized
valve installation

Valves can be installed
near the actuators!

- Reduced piping space and piping materials
- Reduced wiring space
- No need to set the address for the valve manifold and Input Unit.



Description	Compatible protocol	Number of inputs/outputs	Number of valve manifold and Input Unit connections	Branch cable length	New function
New Gateway Decentralized System 2 Page 8	EtherNet/IP	128 inputs/ 128 outputs	Max. 16 Units	Max. 20 m	Web server function • Valve operation test • Connection diagnostic • Short-circuit diagnostic Page 2
Gateway Decentralized System Page 46	DeviceNet / PROFIBUS	64 inputs/ 64 outputs	Max. 8 Units	Max. 10 m	—

Series EX500

SMC

CAT.E02-26A

Series EX500 Fieldbus System

Gateway Decentralized System 2 (128 Points)

- Number of branch ports: **4**

Number of inputs/outputs **128** inputs/**128** outputs

- Number of inputs/outputs per branch: Max. **32** inputs/**32** outputs

Number of valve manifold connections Max. **8** Units*

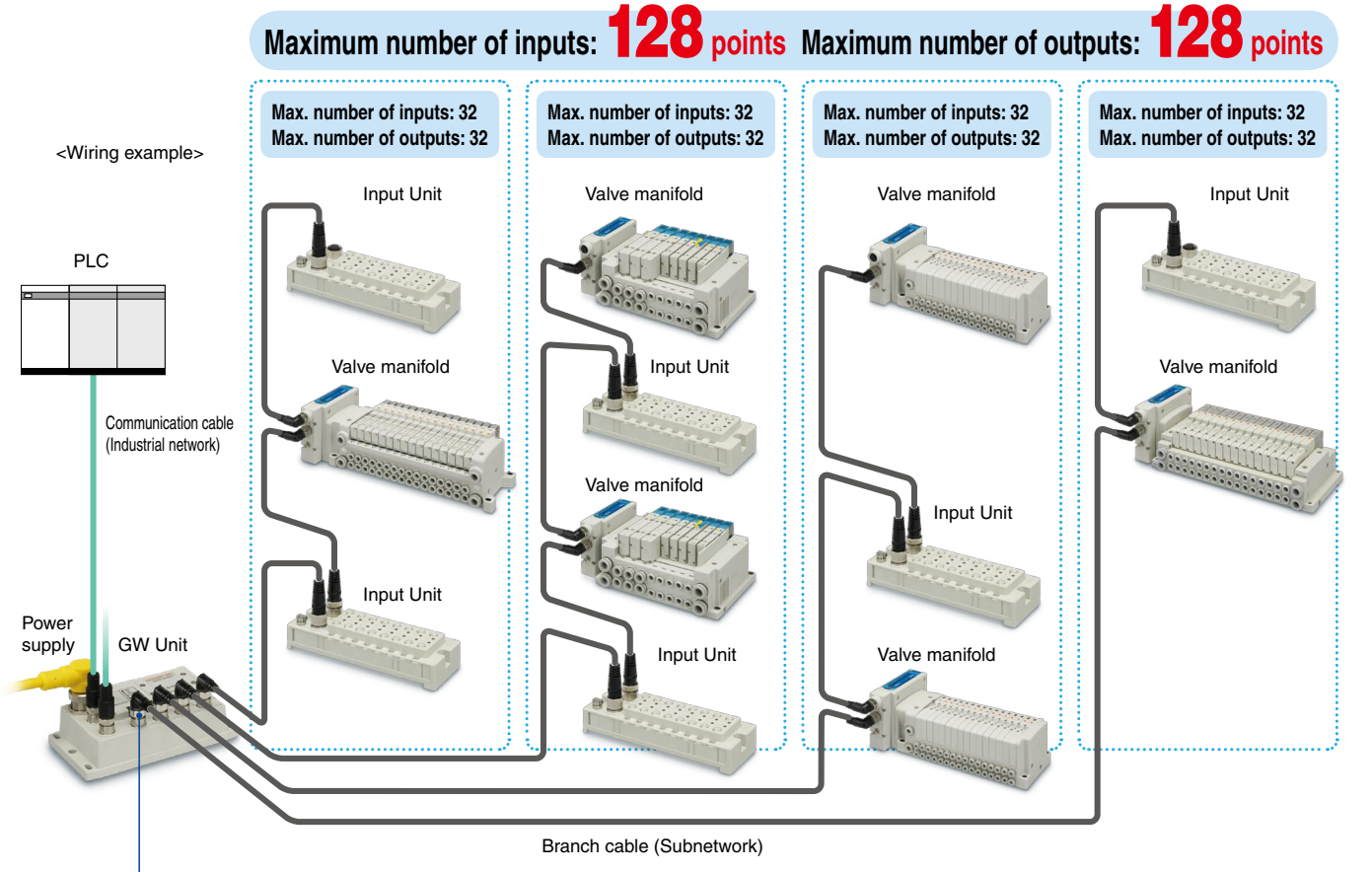
- Number of valve manifold connections per branch: Max. **2** Units*

Number of Input Unit connections Max. **8** Units

- Number of Input Unit connections per branch: Max. **2** Units

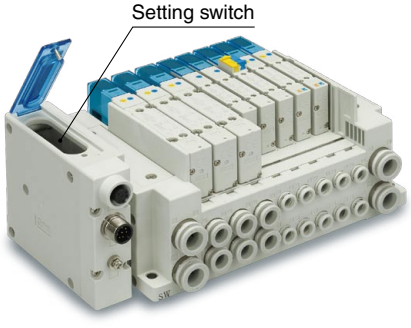
Total cable length per branch Max. **20** m

* When the number of outputs is set to "16 outputs" using a built-in setting switch of the SI Unit.



Two valve manifolds can be connected to one branch port.

SI Unit has a built-in setting switch which switches the number of outputs (32 points / 16 points) of the valve manifold connected to the SI Unit. By setting the number of outputs to 16 points, two valve manifolds can be installed to one branch port.

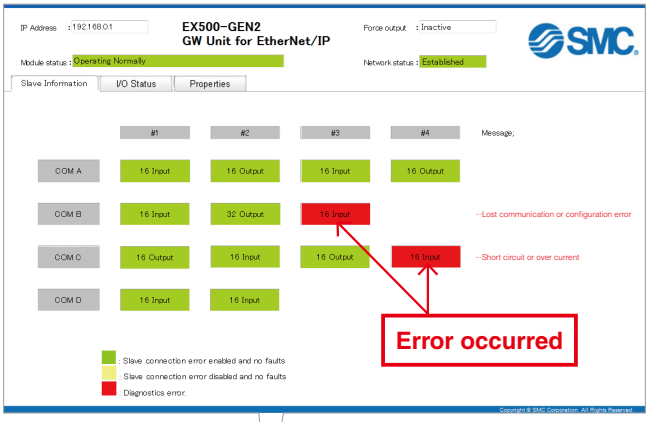


SI Unit

Web server function

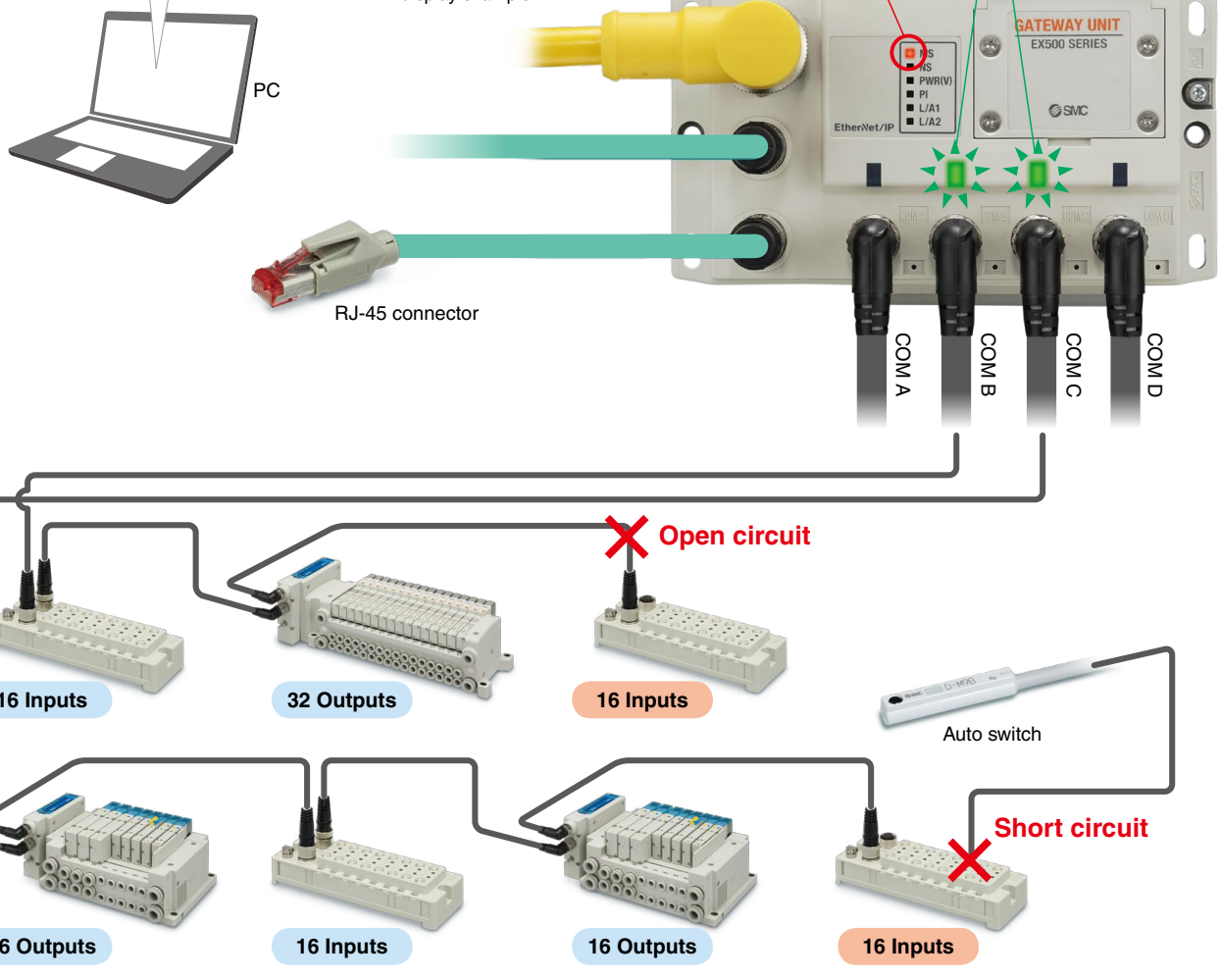
Valve operation test (ON/OFF), connection diagnostic between valve manifold and Input Unit, and short-circuit diagnostic of input device can be performed on a Web browser.

A password can be used for the valve operation test (ON/OFF) for security.



∗ WEB display example

The location of the error can be identified. Details of the error can be identified on a Web browser.



No need to set the address

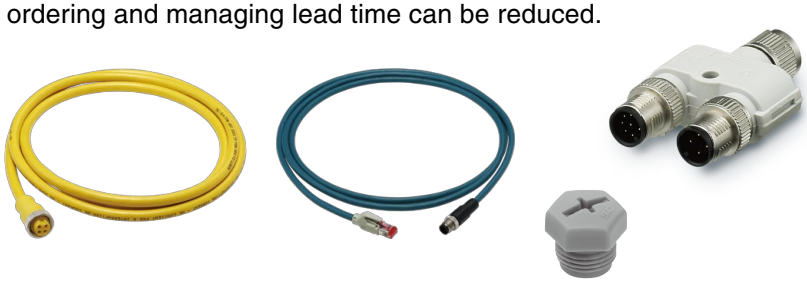
I/O mapping for the SI Unit and Input Unit is set by the Gateway Unit automatically.
The Unit installation order is not specified.
(The upper limit of the inputs / outputs is 32 points for one branch port.)

Series EX500 Fieldbus System

Gateway Decentralized System 2 (128 Points)

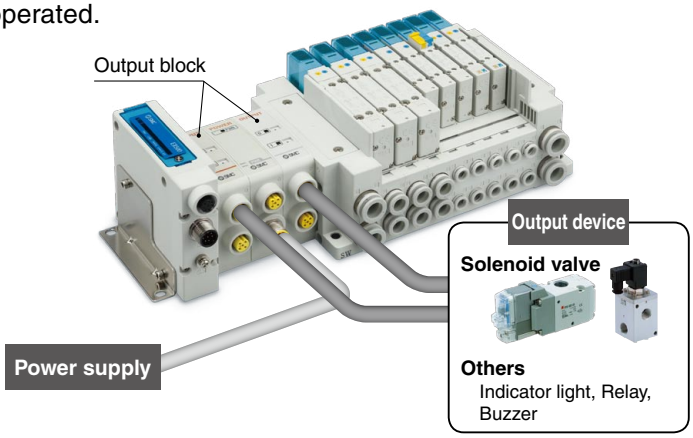
Accessories can be ordered together. Page 12 Page 54

Accessories including cables and connectors can be ordered together to SMC.
Time for selecting parts, ordering and managing lead time can be reduced.



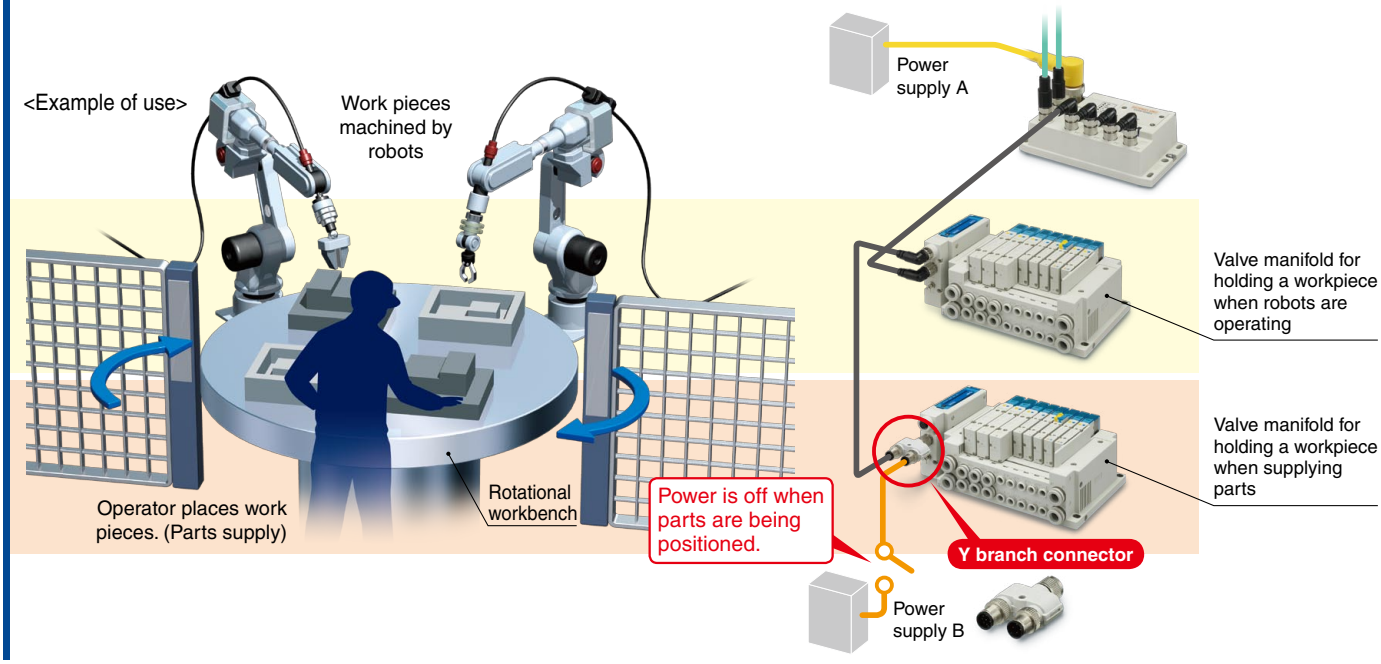
Applicable to output devices other than valve manifold. Page 14

By using output block,
lights and buzzers can be operated.



Specified valve manifold can be controlled by supplying power from a different system. Page 13

By using a Y branch connector, power from a different system can be supplied to the SI Unit (valve manifold).



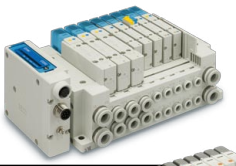
SMC

System Comparison Table

	New Gateway Decentralized System 2	Gateway Decentralized System (Current model)
Protocol	EtherNet/IP™	DeviceNet™ / PROFIBUS®
Number of inputs/outputs (Number of inputs/outputs per branch)	**128 inputs/128 outputs (32 inputs/32 outputs)**	64 inputs/64 outputs (16 inputs/16 outputs)
Number of valve manifold connections (Number of connections per branch)	**Max. 8 Units* (Max. 2 Units)**	Max. 4 Units (1 Unit)
Number of Input Unit connections (Number of connections per branch)	**Max. 8 Units (Max. 2 Units)**	Max. 4 Units (1 Unit)
Branch cable length	**Max. 20 m**	Max. 10 m
Enclosure	GW Unit: IP65 SI Unit: IP67 Input Unit: IP67	GW Unit: IP65 SI Unit: IP67 Input Unit: IP65
Function	Web server function (Valve operation test, Connection diagnostic, Short-circuit diagnostic)	—
Page	8	46

∗ When the number of outputs is set to "16 outputs" using a built-in setting switch of the SI Unit.

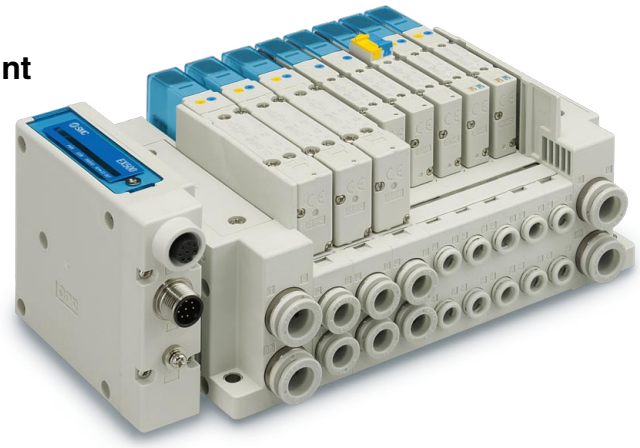
Applicable Valve Series

Series		Flow rate characteristics (4/2→5/3)		Maximum number of solenoids	Power consumption [W]	Enclosure	International standard	Page
		C [dm³/(s·bar)]	b					
	**SY3000**	**1.6**	**0.19**	**32**	0.35 (Standard) 0.1 (With power saving circuit) [Inrush 0.4, Holding 0.1]	IP67	CE	17
	SY5000	**3.6**	**0.17**					
	SY7000	**5.9**	**0.20**					
	**VQC1000**	**1.0** Note)	**0.30** Note)	**24**	0.4 (Standard)	IP67	CE	25
	VQC2000	**3.2** Note)	**0.30** Note)					
	VQC4000	**7.3** Note)	**0.38** Note)		0.95 (Standard)			
	**VQC5000**	**17.0** Note)	**0.31** Note)					
	S0700	**0.37**	**0.39**	**32**	0.35	IP40	CE	37
	**SV1000**	**1.1**	**0.35**	**32**	0.6	IP67	CE c UL us	40
	SV2000	**2.4**	**0.18**					
	SV3000	**4.3**	**0.21**					

Note) Values for 2-position single, rubber seal type

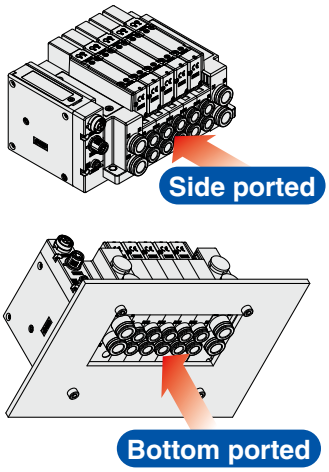
Series SY3000/5000/7000

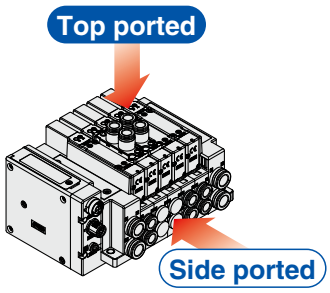
Piping on the top or the bottom makes the footprint smaller to realize dramatic space-saving.



Valve piping direction variations

■ Piping is possible from 3 directions.

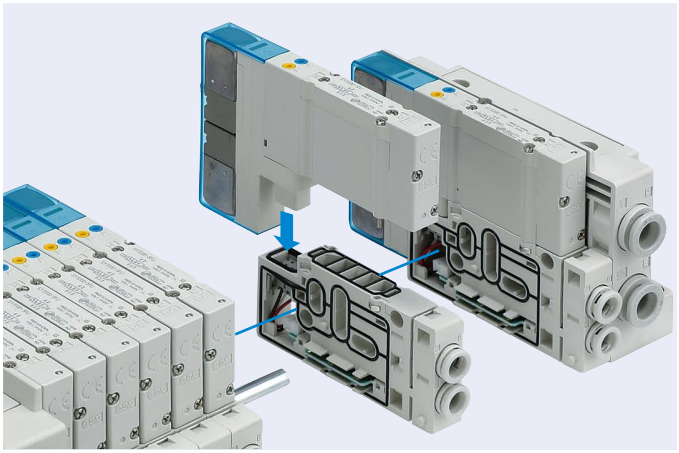




Mixed mounting of top ported and side ported is possible.

Max. 24 stations connectable

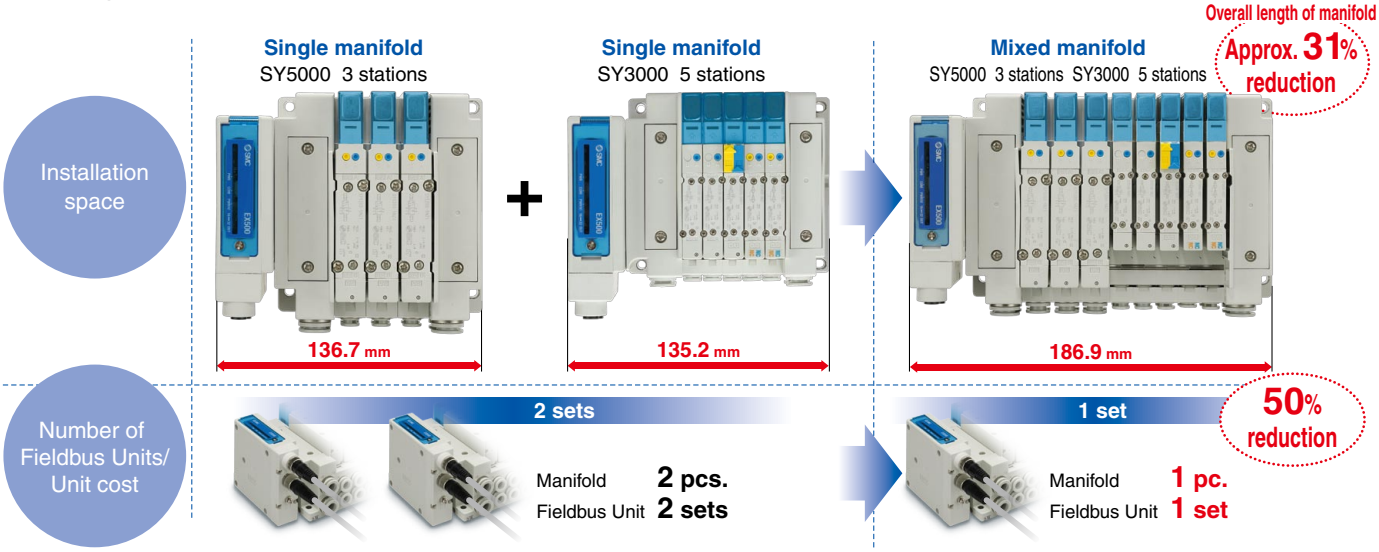
■ It is possible to connect only the number of valves required, from 1 to 24 stations, to suit the application. (Maximum number of solenoids: 32)



Mixed valve sizes manifold

It is also possible to install a combination of different-sized valves on the same manifold. (SY3000 and SY5000, or SY5000 and SY7000)
This facilitates reduction in the installation space and number of units/cables.

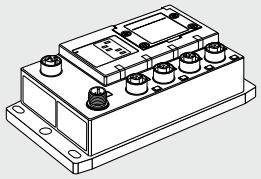
■ Example: For SY5000 and SY3000

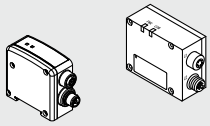


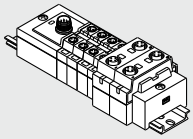
CONTENTS

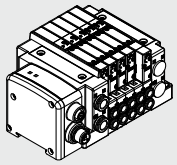
Fieldbus System (Gateway Decentralized Type) *Series EX500*

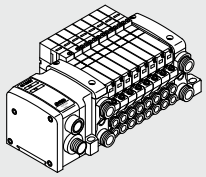
CONTENTS

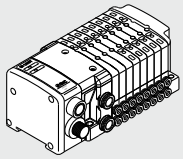


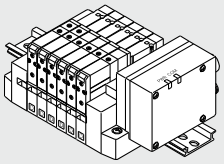






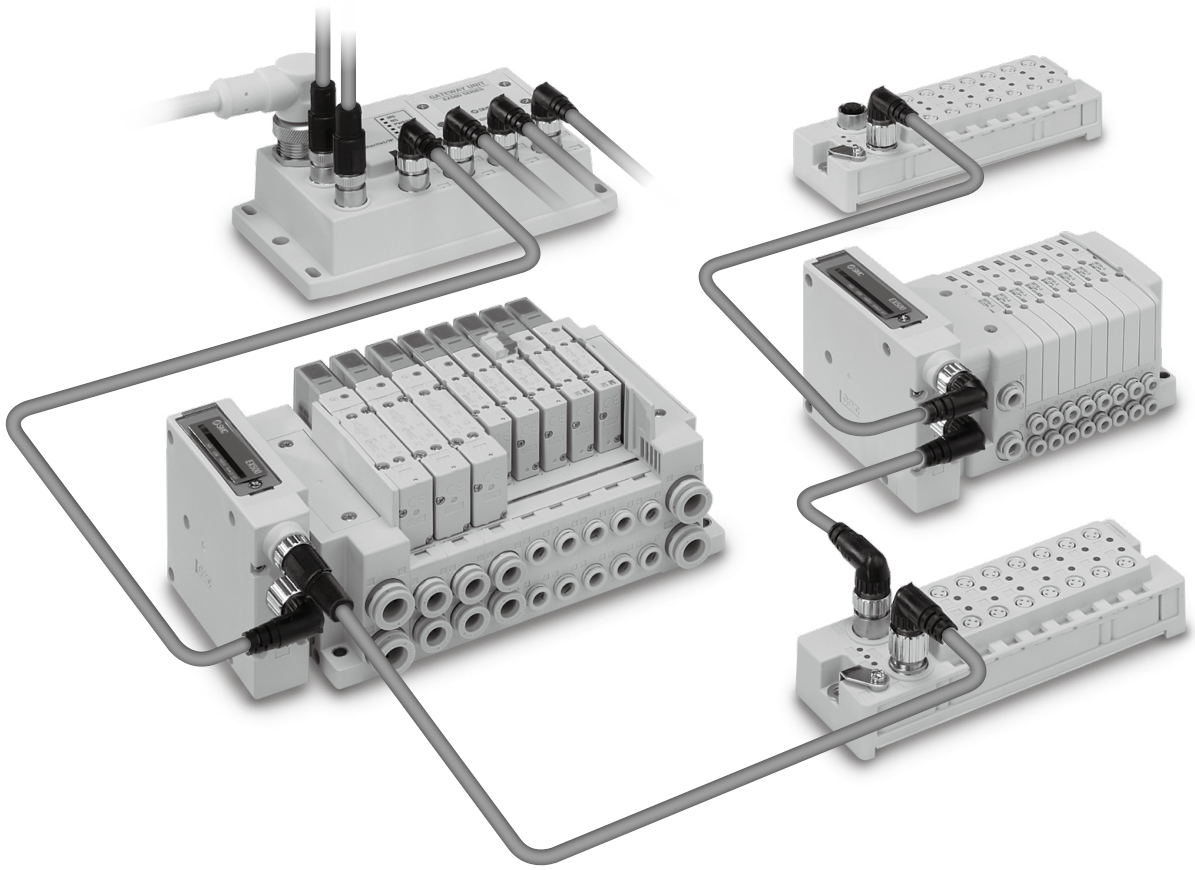






Gateway Decentralized System 2 (128 Points)

★ Valve manifold and Input Unit can be connected around the GW (Gateway) Unit.
★ Number of inputs/outputs = 128 points/128 points. The number of outputs (solenoids) per branch is 32 points.
★ Number of valve manifold connections = Max. 8 Units, Number of Input Unit connections = Max. 8 Units, Branch cable length = Max. 20 m
★ Web server function (Valve operation test, connection diagnostic of Units, short-circuit diagnostic of input devices)
★ No need to set the address for the valve manifold and Input Unit.



SY3000/5000/7000
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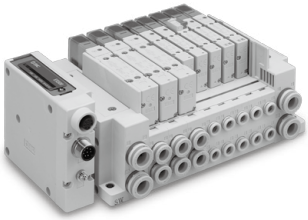

VQC1000/2000/4000/5000
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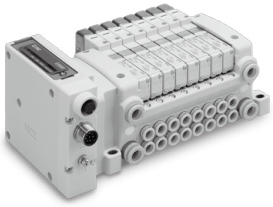

S0700
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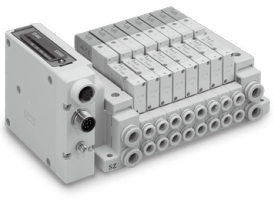


Series EX500

Gateway Decentralized System 2 (128 Points)

GW Unit

How to Order

EX500 − G EN2

Communication protocol

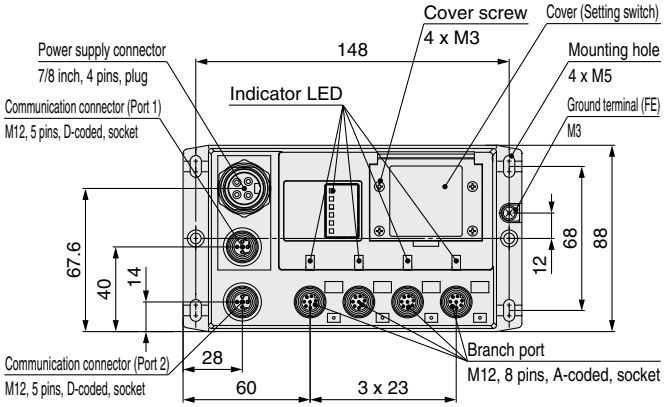
EN2	EtherNet/IP™ (Input/Output = 128 points/128 points)

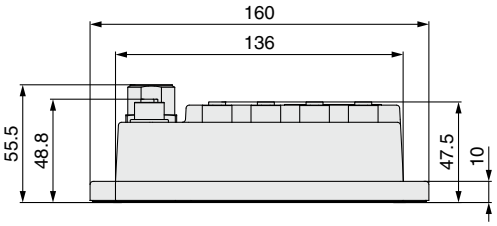
Specifications

Model		EX500-GEN2
Communication	**Protocol**	EtherNet/IP™ Note 1)
	Version	Volume 1 (Edition 3.14) Volume 2 (Edition 1.15) Note 2)
	Media	100BASE-TX
	Communication speed	10/100 Mbps (Automatic)
	Communication method	Full duplex/Half duplex (Automatic)
	Number of inputs/ outputs (I/O occupation area)	128 inputs/128 outputs (20 bytes/20 bytes)
	Configuration file	EDS file Note 3)
	IP address setting range	Switch settings: 192.168.0.1 to 254 or 192.168.1.1 to 254, Through DHCP server: Optional address
	Device information	Vendor ID: 7 (SMC Corporation) Product type: 12 (Communication Adapter), Product code: 198
	Applicable function	DLR QuickConnect™ Web server
Power supply voltage	**For input and control**	24 VDC ±10%
	For valve	24 VDC +10%, –5%
Current consumption	**For input and control**	6.2 A or less (Max. 1.5 A per branch x 4 branches + GW Unit internal current consumption: 0.2 A or less)
	For output (valve)	4 A or less (Max. 1 A per branch x 4 branches)
Branch port	**Number of branch ports**	4 ports
	Number of inputs and outputs	32 inputs/32 outputs per branch
	Branch cable length	20 m or less per branch
Environment	**Enclosure**	IP65
	Operating temperature range	Operating: –10 to 50°C, Stored: –20 to 60°C (No condensation)
	Operating humidity range	Operating, Stored: 35 to 85%RH (No condensation)
Standards		CE marking, UL (CSA), RoHS compliant
Weight		550 g
Enclosed parts		Seal cap (for M12 connector socket) 5 pcs.

Note 1) Use a CAT5 or higher communication cable.
Note 2) Please note that the version is subject to change.
Note 3) Each file can be downloaded from SMC website, http://www.smcworld.com

Dimensions/Parts Description





Gateway Decentralized System 2 (128 Points)
SI Unit

Output Unit for valve manifold connection

How to Order

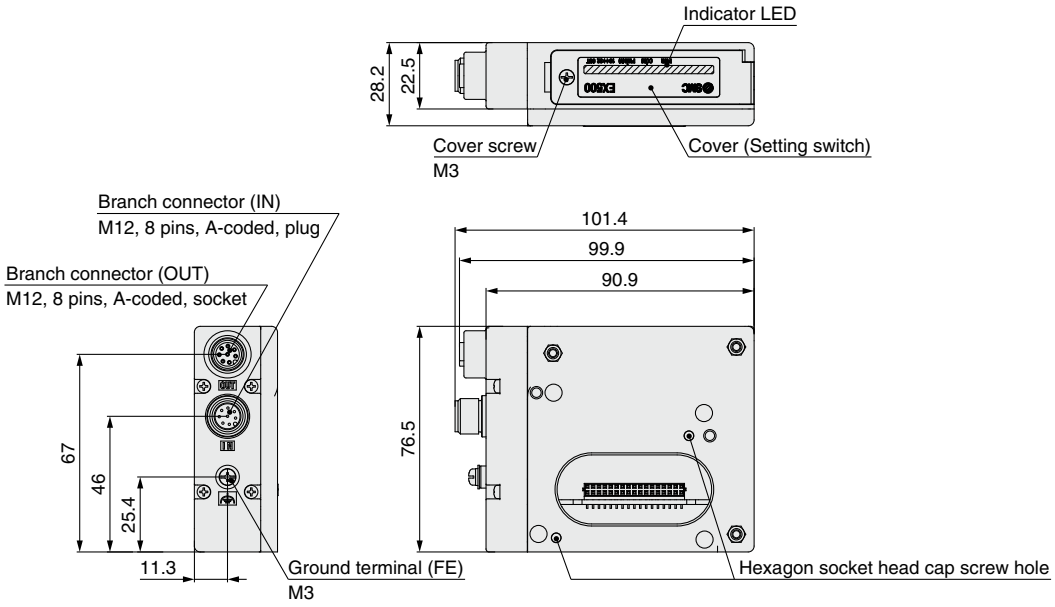
EX500−S103

Specifications

Model		EX500-S103
Applicable valve		SY, VQC, S0700, SV
Output	**Number of outputs**	16/32 outputs (Switched by built-in setting switch)
	Output type	Source/PNP (Negative common)
	Rated voltage	24 VDC
	Supply current	With power supplied to GW Unit: Max. 1.0 A With external power* supplied: Max. 1.5 A
Internal current consumption		50 mA or less
Environment	**Enclosure**	IP67
	Operating temperature range	Operating: –10 to 50°C, Stored: –20 to 60°C (No condensation)
	Operating humidity range	Operating, Stored: 35 to 85%RH (No condensation)
Standards		CE, UL (CSA), RoHS compliant
Weight		200 g
Enclosed parts		Seal cap (for M12 connector socket) 1 pc.
		Hexagon socket head cap screw (M3 x 30) 2 pcs.

* When an accessory, Y branch connector, is used.

Dimensions/Parts Description



Series EX500

Gateway Decentralized System 2 (128 Points)

Input Unit

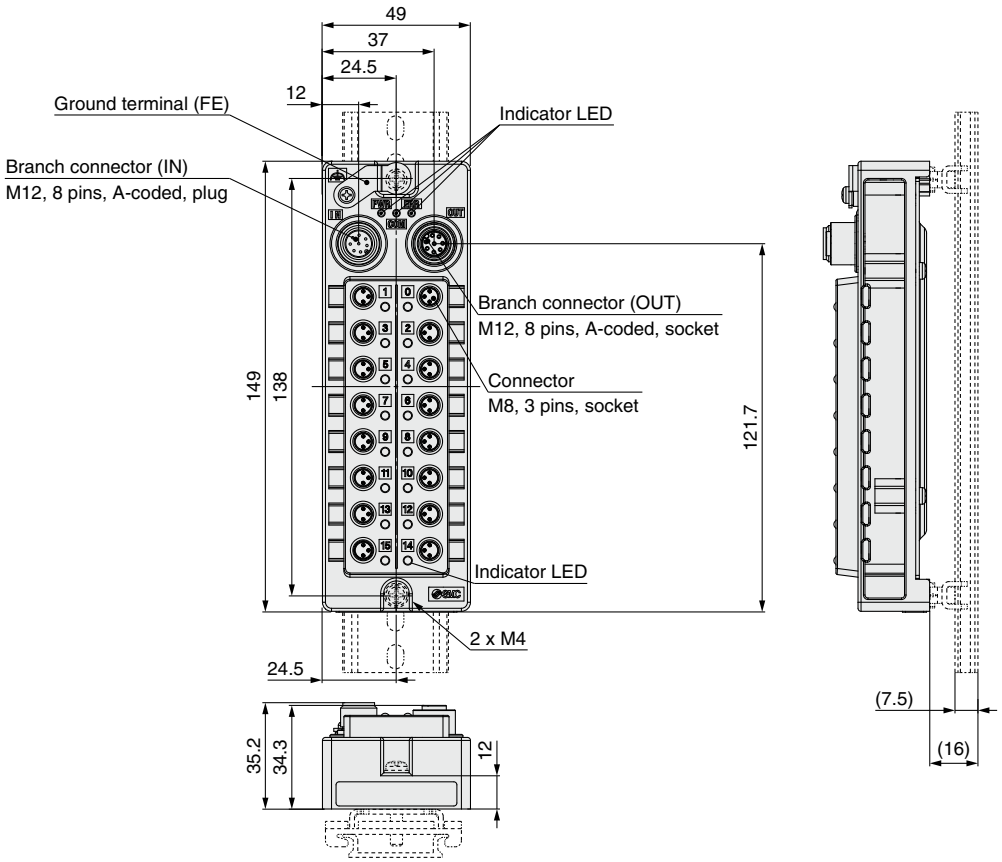
How to Order

EX500−DXPA

Specifications

Model		EX500-DXPA
Input	Number of inputs	16 inputs
	Input type	PNP
	Rated voltage	24 VDC
	Supply current	Max. 1.3 A/Unit [Total of 8 connectors of even number must be Max. 0.65 A, 8 connectors of odd number must be Max. 0.65 A]
	Input ON voltage/Input ON current	11 V or more/Typ. 7 mA (at 24 VDC)
	Input OFF voltage/Input OFF current	5 V or less/1.5 mA or less
Internal current consumption		200 mA or less (when the input signal is ON)
Environment	Enclosure	IP67
	Operating temperature range	Operating: –10 to 50°C, Stored: –20 to 60°C (No condensation)
	Operating humidity range	Operating, Stored: 35 to 85%RH (No condensation)
Standards		CE, UL (CSA), RoHS compliant
Weight		250 g
Enclosed parts		Seal cap (for M8 connector socket) 16 pcs.
		Seal cap (for M12 connector socket) 1 pc.

Dimensions/Parts Description



SMC

Gateway Decentralized System 2 (128 Points)
Accessories

① Branch Cable

Connects the GW Unit and SI Unit or Input Unit.

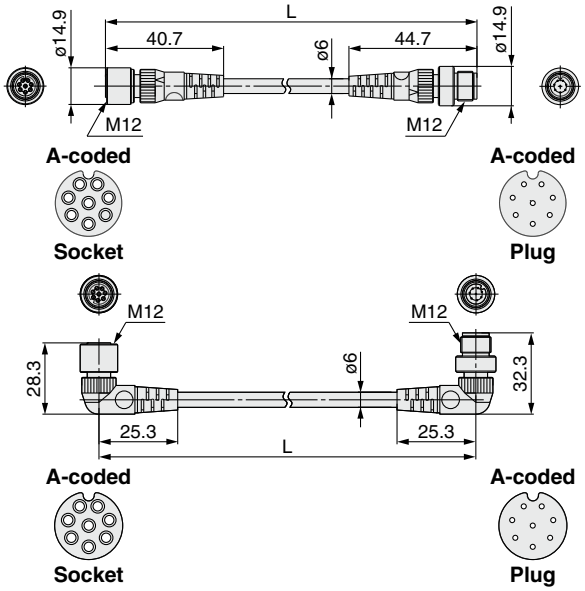
EX500−AC 030 − SSPS

Cable length (L)

003	300 [mm]
005	500 [mm]
010	1000 [mm]
030	3000 [mm]
050	5000 [mm]
100	10000 [mm]

Connector specification

SSPS	Socket side: Straight, Plug side: Straight
SAPA	Socket side: Angle, Plug side: Angle



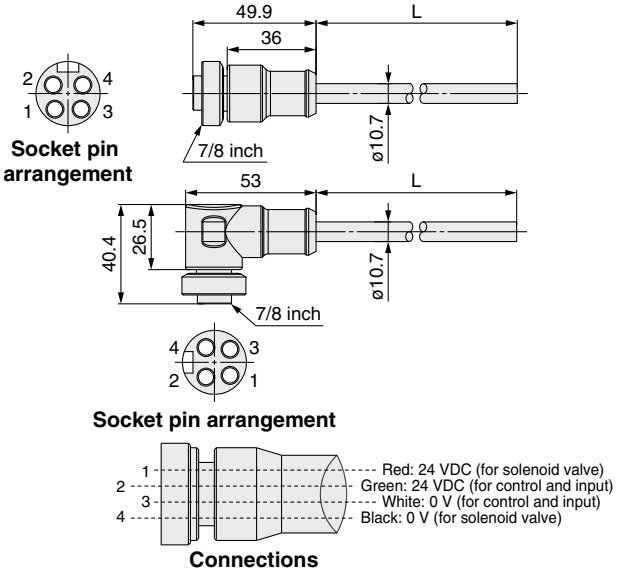
② Power Supply Cable

Supplies power to the GW Unit.

PCA− 1416000

Connector specification, Cable length (L)

1415999	Straight 2 m
1415996	Straight 6 m
1416000	Angle 2 m
1415997	Angle 6 m



③ Communication Cable/Connector

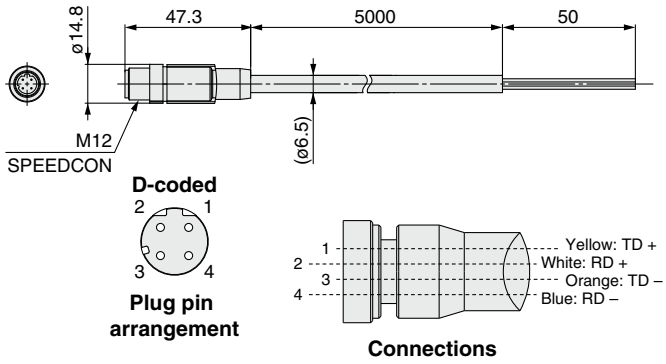
Connects field bus to the GW Unit.

Cable with connector

PCA−1446566 SPEEDCON

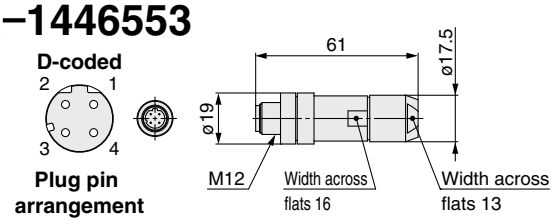
Cable length

1446566	5000 [mm]



Field wireable connector

PCA−1446553



Applicable Cable

Cable O.D.	4.0 to 8.0 mm
Wire gauge (Stranded wire cross section)	0.14 to 0.34 mm²/AWG26 to 22

Note) The table above shows the specifications for the applicable cable. Adaptation for the connector may vary on account of the conductor construction of the electric wire.

Cable with M12 ↔ RJ-45 connector

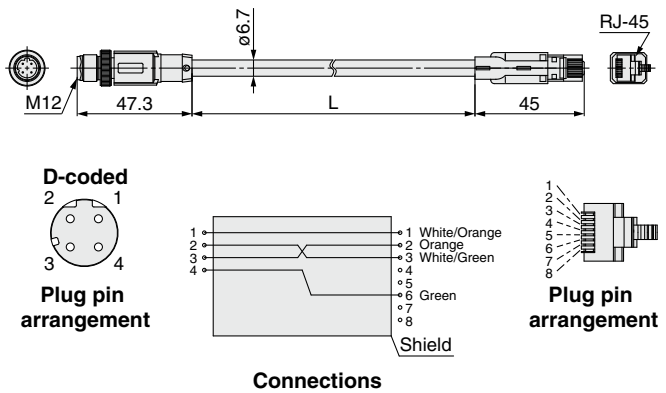
EX9−AC 020 EN − PSRJ

Cable length (L)

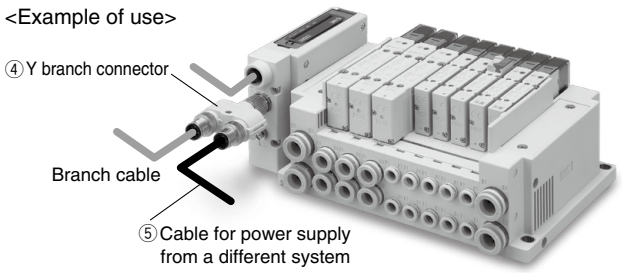
010	1000 [mm]
020	2000 [mm]
030	3000 [mm]
050	5000 [mm]
100	10000 [mm]

Connector specification

PSRJ	M12 plug (Straight) ⇔ RJ-45 connector



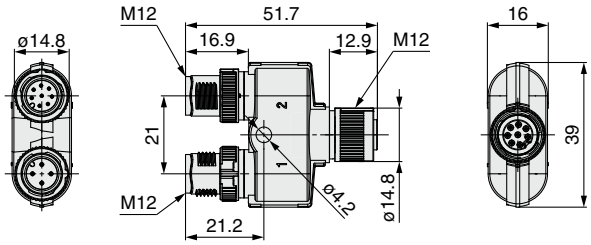
<Example of use>



④ Y Branch Connector

Supplies separate power to valve manifold when it is connected to the SI Unit.

EX500−ACY01−S



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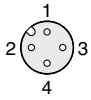


Plug

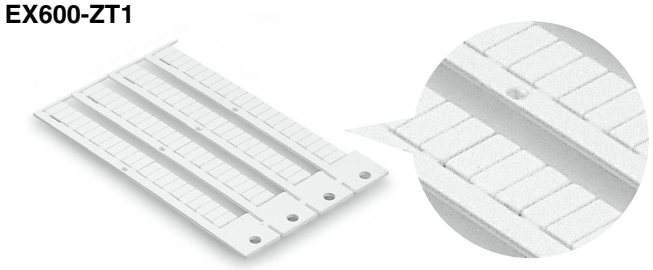
Pin Layout of the Cable for Power Supply from a Different System

1	24 VDC +10%, −5% (for solenoid valve)
2	0 VDC (for solenoid valve)
3	Unused
4	Unused

⑦ Marker (1 sheet, 88 pcs.)

Signal name of the input device such as a switch can be written on the marker and installed to the Input Unit.

EX600-ZT1



⑧ Seal Cap (10 pcs.)

Use with new connector. By using these waterproof caps, the new connector maintains IP65/67 enclosure.

EX9-AWES
For M8 connector socket

EX9-AWTS
For M12 connector socket

⑤ Cable for Power Supply from a Different System

Connect to Y branch connector to supply power.

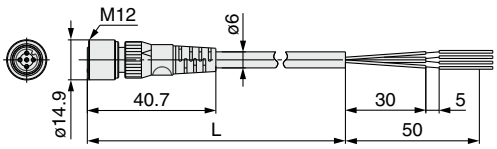
EX500−AP[050]−[S]

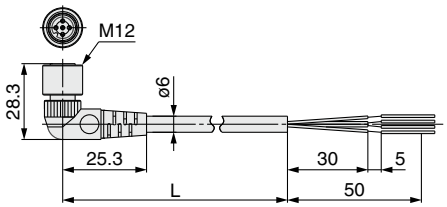
Cable length (L)

010	1000 [mm]
050	5000 [mm]

Connector specification

S	Straight
A	Angle

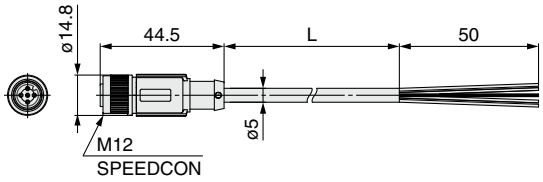




PCA−[1401804]

Cable length (L)

1401804	1500 [mm]
1401805	3000 [mm]
1401806	5000 [mm]



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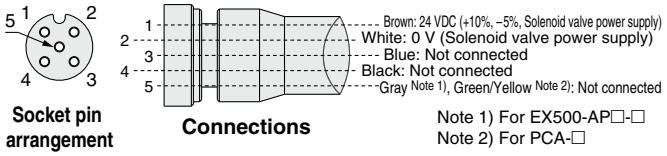


Socket pin arrangement

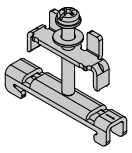
Connections

Note 1) For EX500-AP□-□
Note 2) For PCA-□

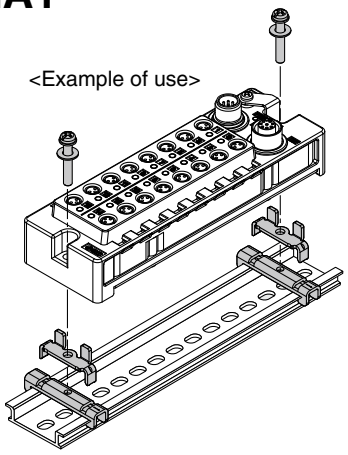
⑥ DIN Rail Bracket (2 pcs.)

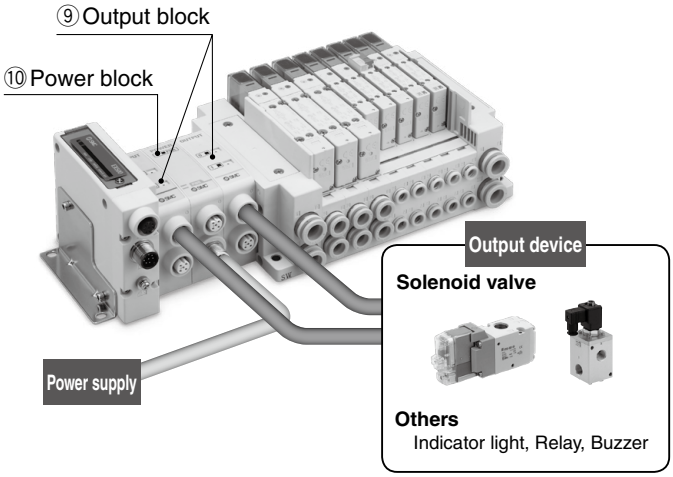
Bracket for mounting the Input Unit to DIN rail.

EX500−ZMA1



<Example of use>



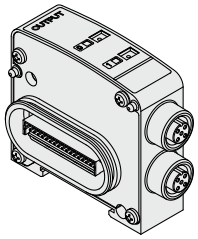


- **Output devices other than valve manifold can be operated.**
- **By using the power block and output block for high watt load, operation up to 0.5 A/1 point can be performed.**
- **Possible to mount the output block and power block additionally between the SI Unit and the valve (The surplus I/O points are used).**
- **2 point outputs per output block (M12 connector)**

You are requested to connect it to an SI Unit and a valve manifold. For detailed specifications, refer to the Operation Manual that can be downloaded from SMC website, http://www.smcworld.com

⑨ Output Block

EX9 − OE T 1



Output specification

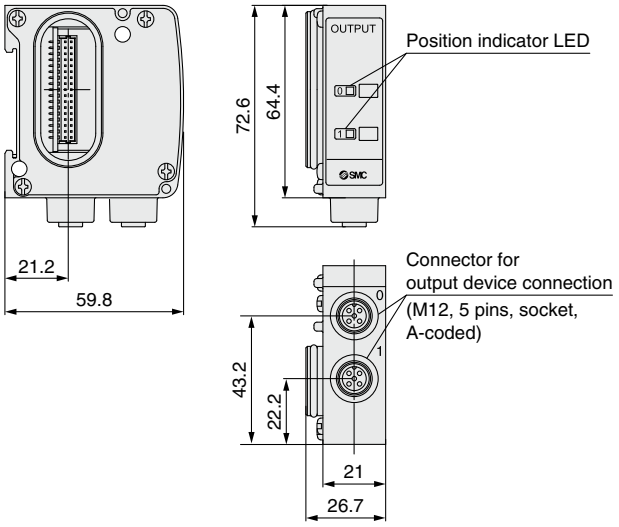
1	Source/PNP (Negative common)

Power supply type

T	Internal power supply method (for low-wattage load)
P	Integrated power supply method (for high-wattage load) Note)

Note) Required to connect with a power block.

Dimensions/Parts Description

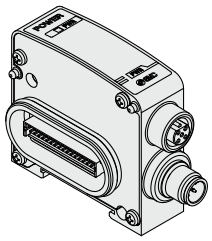


Specifications

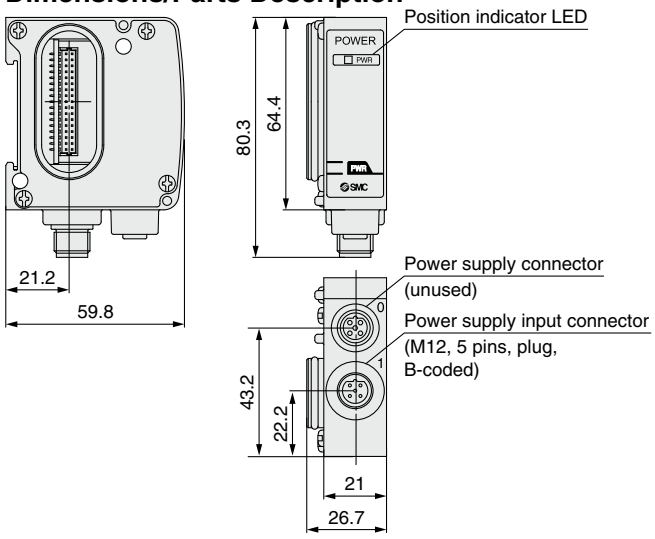
Model		EX9-OET1	EX9-OEP1
Internal current consumption		40 mA or less	
Output	Output type	Source/PNP (Negative common)	
	Number of outputs	2 outputs	
	Power supply method	Internal power supply method	Integrated power supply method (Power block: supplied from EX9-PE1)
	Output device supply voltage	24 VDC	
	Output device supply current	Max. 42 mA/point (1.0 W/point)	Max. 0.5 A/point (12 W/point)
Environment	Enclosure	IP67	
	Operating temperature range	–10 to 50°C	
	Operating humidity range	35 to 85%RH (No condensation)	
Standards		CE marking, UL (CSA), RoHS compliant	
Weight		120 g	

⑩ Power Block

EX9 − PE1



Dimensions/Parts Description



Specifications

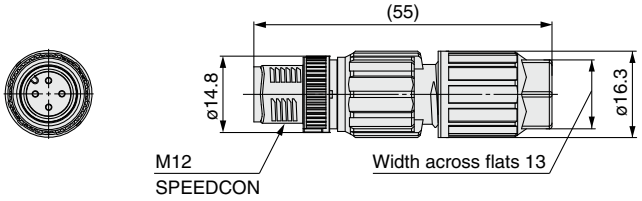
Model		EX9-PE1
Connection block		Output block for high wattage load
Connection block stations		Output block: Max. 8 stations
Power supply for output and internal control	Power supply voltage	22.8 to 26.4 VDC
	Internal current consumption	20 mA or less
Supply current		Max. 3.1 A Note)
Environment	Enclosure	IP67
	Operating temperature range	–10 to 50°C
	Operating humidity range	35 to 85%RH (No condensation)
Standards		CE marking, UL (CSA), RoHS
Weight		120 g
Enclosed parts		Seal cap (for M12 connector) 1 pc.

Note) When using with 3.0 to 3.1 A, the ambient temperature should not exceed 40°C, and do not bundle the cable.

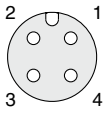
⑪ Connector for Output Block Wiring

Field wireable connects the output device to the output block.

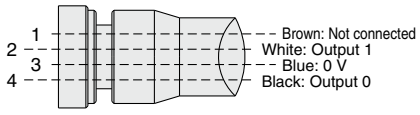
PCA−1557743



A-coded



Plug pin arrangement

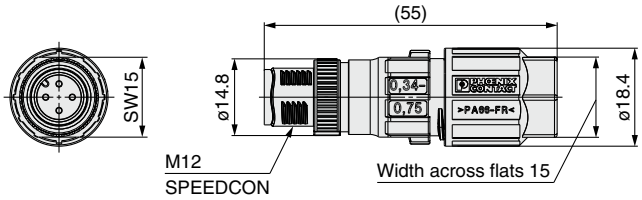


Connections

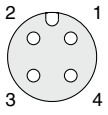
Applicable Cable

Cable O.D.	3.5 to 6.0 mm
Wire gauge (Stranded wire cross section)	0.14 to 0.34 mm²/AWG26 to 22
Core wire diameter (Including insulating material)	0.7 to 1.3 mm

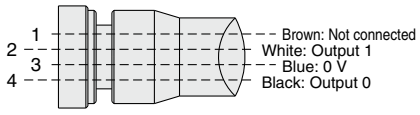
PCA−1557756



A-coded



Plug pin arrangement



Connections

Applicable Cable

Cable O.D.	4.0 to 8.0 mm
Wire gauge (Stranded wire cross section)	0.34 to 0.75 mm²/AWG22 to 18
Core wire diameter (Including insulating material)	1.3 to 2.5 mm

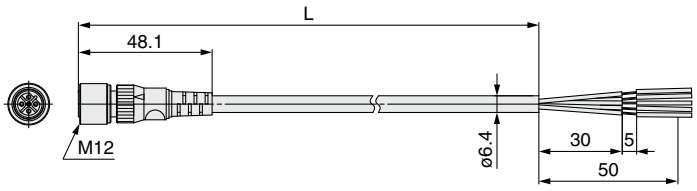
⑫ Power Supply Cable for Power Block

Supplies power to the power block.

EX9 − AC 050 − 1

Cable length (L)

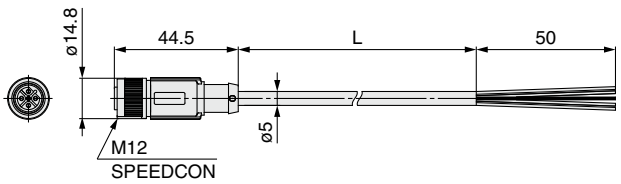
010	1000 [mm]
030	3000 [mm]
050	5000 [mm]



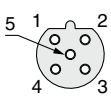
PCA− 1401807

Cable length (L)

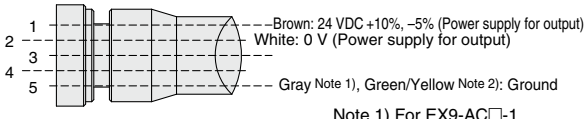
1401807	1500 [mm]
1401808	3000 [mm]
1401809	5000 [mm]



B-coded



Socket pin arrangement



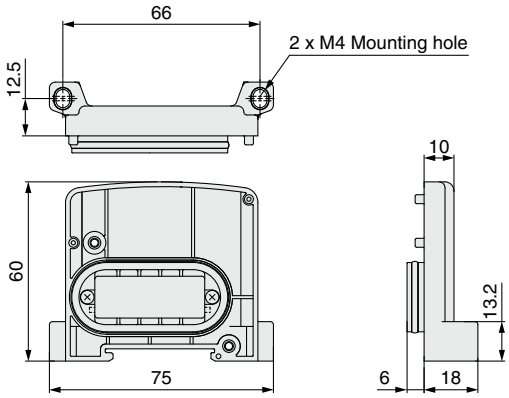
Connections

Note 1) For EX9-AC□-1
Note 2) For PCA-□

⑬ End Plate

Use when the output block is not used and the valve manifold is not connected.

EX9－EA03



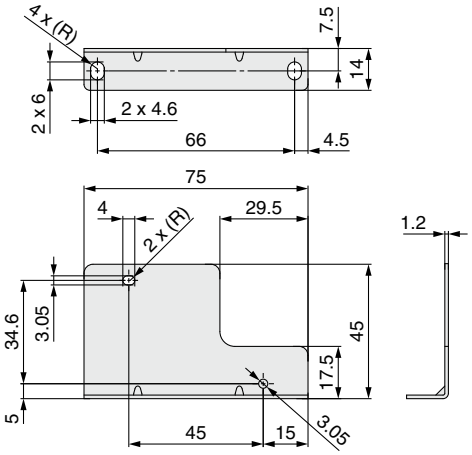
<Example of use>

⑭ Bracket Plate

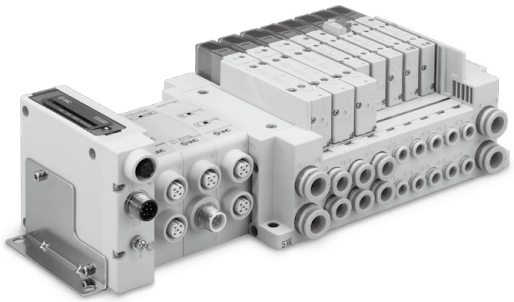
A reinforcing brace used to mount output block or power block onto the SI Unit. To prevent connection failure between products due to deflection, use this bracket plate whenever output block or power block is mounted.

EX9－BP1

Dimensions



<Example of use>



Accessory

Description	Quantity
Hexagon socket head cap screw (M3 x 35)	2

Type 10
Side Ported

Type 11
Bottom Ported

Gateway Decentralized System 2

5 Port Solenoid Valve

Series SY3000/5000/7000

CE

RoHS

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

How to Order Manifold

SS5Y 3 – 10 S A3N – 05 U ☐ – C6 ☐

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

❶ Series

3	SY3000
5	SY5000
7	SY7000

∗ For mixed mounting, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

❷ Type

10	Side ported
11	Bottom ported Note)

Note) The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

∗ When mixing top ported configurations, select from page 21.
In this case, use caution as there is also output on the A and B port on base side.
Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

❸ SI Unit (Number of outputs, Output polarity, Max. number of valve stations)

0	Without SI Unit
A3N	32 outputs Note 1), 1 to 16 stations, Negative common Note 2) (24 stations Note 3))

Note 1) 16 outputs can be set by switching the built-in setting switch.
Note 2) Ensure a match with the common specification of the valve.
Note 3) ( ): Maximum number of stations for mixed single and double wiring.

❹ Valve stations

	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Mixed wiring, Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal.
If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) For the product without the SI Unit (S0), note the maximum number of solenoids of the SI Unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.
∗ This also includes the number of blanking plate assembly.

❺ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

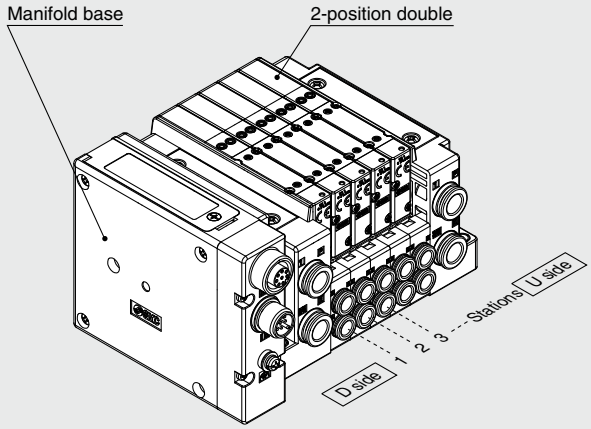
❻ SUP/EXH block assembly

Nil	Internal pilot
S	Internal pilot, Built-in silencer Note 1) 2)
R	External pilot

Note 1) 3/5(E) port is plugged for the built-in silencer type.
Note 2) When built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

How to Order Manifold Assembly

Example

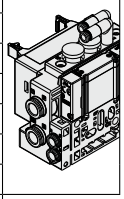
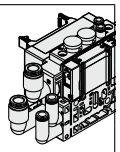
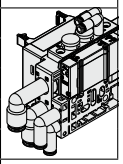


SS5Y3-10SA3N-05D-C6···1 set (Manifold base part number)
∗ SY3200-5U1·····5 sets (2-position double part number)
The asterisk denotes the symbol for assembly.
Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

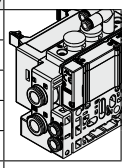
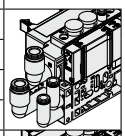
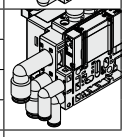
❼ A, B port size (Metric/One-touch fitting)

			A, B port	Type 10/Side Ported			Type 11/Bottom Ported	
				SY3000	SY5000	SY7000	SY5000	SY7000
C2	Straight		ø2	●	—	—	—	—
C3			ø3.2	●	—	—	—	—
C4			ø4	●	●	—	●	—
C6			ø6	●	●	●	●	●
C8			ø8	—	●	●	●	●
C10			ø10	—	—	●	—	●
C12			ø12	—	—	●	—	●
CM Note 1)			Mixed sizes	●	●	●	●	●
L4	Elbow Note 2)	Upward	ø4	●	●	—	—	—
L6			ø6	●	●	●	—	—
L8			ø8	—	●	●	—	—
L10			ø10	—	—	●	—	—
L12			ø12	—	—	●	—	—
B4		Downward	ø4	●	●	—	—	—
B6			ø6	●	●	●	—	—
B8			ø8	—	●	●	—	—
B10			ø10	—	—	●	—	—
B12			ø12	—	—	●	—	—
LM Note 1)			Mixed sizes	●	●	●	—	—
	P, E port Note 3)			ø8	ø10	ø12	ø10	ø12

A, B port size (Inch/One-touch fitting)

			A, B port	Type 10/Side Ported			Type 11/Bottom Ported	
				SY3000	SY5000	SY7000	SY5000	SY7000
N1	Straight		ø1/8"	●	—	—	—	—
N3			ø5/32"	●	●	—	●	—
N7			ø1/4"	●	●	●	●	●
N9			ø5/16"	—	●	●	●	●
N11			ø3/8"	—	—	●	—	●
CM Note 1)			Mixed sizes	●	●	●	●	●
LN3	Elbow Note 2)	Upward	ø5/32"	●	—	—	—	—
LN7			ø1/4"	●	●	—	—	—
LN9			ø5/16"	—	●	—	—	—
LN11			ø3/8"	—	—	●	—	—
BN3		Downward	ø5/32"	●	—	—	—	—
BN7			ø1/4"	●	●	—	—	—
BN9			ø5/16"	—	●	—	—	—
BN11			ø3/8"	—	—	●	—	—
LM Note 1)			Mixed sizes	●	●	●	—	—
	P, E port Note 3)			ø5/16"	ø3/8"	ø1/2"	ø3/8"	ø1/2"

Note 1) Indicate the sizes on the manifold specification sheet.
Note 2) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly. For details, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).
Note 3) The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

❽ Mounting and Option

	Mounting	Option	
		Name plate	Station number
Nil	Direct mounting	—	—
AA		●	●
BA		●	—
D□ Note 1)	DIN rail mounting	—	—
A□ Note 1)		●	●
B□ Note 1)		●	—

Note 1) Refer to "DIN Rail Option" below.
∗ Select the direct mounting type for Type 11 (Bottom ported).

DIN Rail Option

Nil	With DIN bracket, DIN rail with standard length
0	With DIN bracket, without DIN rail
3 Note)	With DIN bracket, DIN rail for 3 stations
⋮	⋮
24 Note)	With DIN bracket, DIN rail for 24 stations

Note) Specify a longer rail than the length of valve stations.
∗ If the DIN rail must be mounted without an SI Unit, select "D0" and order the DIN rail separately. Refer to L3 of the dimensions for the DIN rail length. For the DIN rail part number, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).
∗ For the fixation of DIN rail mounting type manifold, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

⚠ Protective class class Ⅲ (Mark: ⧫)

How to Order Valves (With mounting screw)

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❸ Side/Bottom ported

❶ Series

3	SY3000
5	SY5000
7	SY7000

❷ Type of actuation

1	2-position	Single
2		Double
3	3-position	Closed center
4		Exhaust center
5		Pressure center
A Note)	4-position dual 3-port valve	N.C./N.C.
B Note)		N.O./N.O.
C Note)		N.C./N.O.

Note) Select the rubber seal type for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

Nil	Internal pilot
R	External pilot

❺ Back pressure check valve

Nil	None
H Note)	Built-in

Note) Select the rubber seal type when the back pressure check valve is built-in. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. For ordering example, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103). However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

∗ Select "Nil" for 3-position type and the SY7000.

❻ Pilot valve option

Nil	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K Note)	High pressure type (1.0 MPa)

Note) Select the metal seal type for high pressure type.

❼ Coil type

Nil	Standard
T	With power saving circuit (Continuous duty type) Note 1) 2)

Note 1) Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.

Note 2) Be careful of the energizing time when the power saving circuit is selected. For details, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

❽ Rated voltage

5	24 VDC

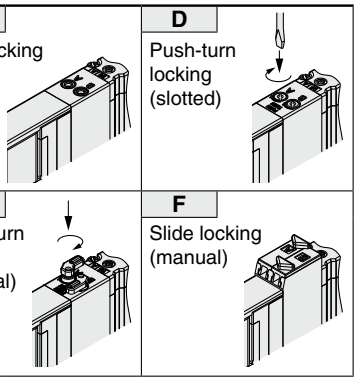
❾ Light/surge voltage suppressor and common specification

	With light	Surge voltage suppressor	Common specification
R	—	●	Non-polar
U	●		
NS	—		Negative common
NZ	●		

∗ Select "NZ" type for with the power saving circuit.

❿ Manual override

Nil: Non-locking push	D: Push-turn locking (slotted)
E: Push-turn locking (manual)	F: Slide locking (manual)



⓫ Type of mounting screw

Nil	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type) Note)
H	Hexagon socket head cap screw (Falling-out-prevention type) Note)

Note) For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.

∗ **When ordering a valve individually, the base gasket is not included.**
Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
For details, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

∗ Select "Nil" or "K" for the optional individual SUP/EXH spacer assembly, interface regulator or double check spacer assembly with residual pressure release valve.

⚠ Protective class class Ⅲ (Mark: ⧫)

5 Port Solenoid Valve

Series SY3000/5000/7000

Type 12
Top Ported

CE
RoHS

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

How to Order Manifold

SS5Y 3 – 12S A3N – 05 U □ – □ □

❶ ❷ ❸ ❹ ❺ ❻ ❼

❶ Series

3	SY3000
5	SY5000
7	SY7000

∗ For mixed mounting, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

❷ SI Unit (Number of outputs, Output polarity, Max. number of valve stations)

0	Without SI Unit
A3N	32 outputs Note 1), 1 to 16 stations, Negative common Note 2) (24 stations Note 3))

Note 1) 16 outputs can be set by switching the built-in setting switch.
Note 2) Ensure a match with the common specification of the valve.
Note 3) ( ): Maximum number of stations for mixed single and double wiring.

❸ Valve stations

	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) For the product without the SI Unit (S0), note the maximum number of solenoids of the SI Unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.
∗ This also includes the number of blanking plate assembly.

❹ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 24 stations)

Note) For type "S", supply/exhaust block assembly with built-in silencer, choose "U" or "D" for P, E port entry.

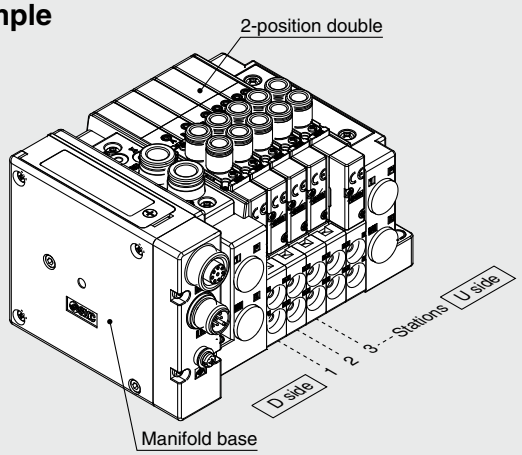
❺ SUP/EXH block assembly

Nil	Internal pilot
S Note 1)	Internal pilot, Built-in silencer Note 2)
R	External pilot

Note 1) For type "S", supply/exhaust block assembly with built-in silencer, choose "U" or "D" for P, E port entry. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
Note 2) When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

How to Order Manifold Assembly

Example

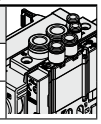


SS5Y3-12SA3N-05D·····1 set (Manifold base part number)
∗ SY3230-5U1-C6·····5 sets (2-position double part number)
The asterisk denotes the symbol for assembly.
Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

❻ P, E port size (One-touch fittings)

	SY3000	SY5000	SY7000
Nil	ø8	ø10	ø12
N Note)	ø5/16"	ø3/8"	ø1/2"



Note) For "N", sizes are in inches.

❼ Mounting

Nil	Direct mounting
D	With DIN bracket, DIN rail with standard length
D0	With DIN bracket, without DIN rail
D3 Note)	With DIN bracket, DIN rail for 3 stations
⋮	⋮
D24 Note)	With DIN bracket, DIN rail for 24 stations

Note) Specify a longer rail than the length of valve stations.
∗ If the DIN rail must be mounted without an SI Unit, select "D0". Then, refer to L3 of the dimensions for the DIN rail length and order separately. For the DIN rail part number, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).
∗ For the fixation of DIN rail mounting type manifold, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

How to Order Valves (With mounting screw)

SY [3] [1] [3] [0] [ ] [ ] [ ] [ ] – [5] [ ] [ ] 1 – [C6] [ ] – [ ]

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

• Top ported

❶ Series

3	SY3000
5	SY5000
7	SY7000

❷ Type of actuation

1	2-position	Single
2		Double
3	3-position	Closed center
4		Exhaust center
5		Pressure center
A Note)	4-position dual 3-port valve	N.C./N.C.
B Note)		N.O./N.O.
C Note)		N.C./N.O.

Note) Select the rubber seal type for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

Nil	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

Nil	None
H Note)	Built-in

Note) Select the rubber seal type when the back pressure check valve is built-in. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. For ordering example, refer to the SY series catalog (CAT. ES11-103). However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

∗ Select "Nil" for 3-position type and the SY7000.

❻ Pilot valve option

Nil	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K Note)	High pressure type (1.0 MPa)

Note) Select the metal seal type for high pressure type.

❼ Coil type

Nil	Standard
T	With power saving circuit (Continuous duty type) Note 1) 2)

Note 1) Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.

Note 2) Be careful of the energizing time when the power saving circuit is selected. For details, refer to the SY series catalog (CAT. ES11-103).

❽ Rated voltage

5	24 VDC

❾ Light/surge voltage suppressor and common specification

	With light	Surge voltage suppressor	Common specification
R	—	●	Non-polar
U	●		
NS	—		Negative common
NZ	●		

∗ Select "NZ" type for with the power saving circuit.

❿ Manual override

Nil Non-locking push	D Push-turn locking (slotted)
E Push-turn locking (manual)	F Slide locking (manual)

⓫ A, B port size

Thread piping

	Port size	SY3000	SY5000	SY7000
M5	M5 x 0.8	●	—	—
01	1/8	—	●	—
02	1/4	—	—	●

One-touch fitting (Metric)

	A, B port	SY3000	SY5000	SY7000
C2	ø2	●	—	—
C3	ø3.2	●	—	—
C4	ø4	●	●	—
C6	ø6	●	●	●
C8	ø8	—	●	●
C10	ø10	—	—	●
C12	ø12	—	—	●

One-touch fitting (Inch)

	A, B port	SY3000	SY5000	SY7000
N1	ø1/8"	●	—	—
N3	ø5/32"	●	●	—
N7	ø1/4"	●	●	●
N9	ø5/16"	—	●	●
N11	ø3/8"	—	—	●

⓬ A, B port thread type

Nil	Rc
F	G
N	NPT
T	NPTF

∗ Select "Nil" for M5.

⓭ Type of mounting screw

Nil	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type Note))
H	Hexagon socket head cap screw (Falling-out-prevention type Note))

Note) For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.

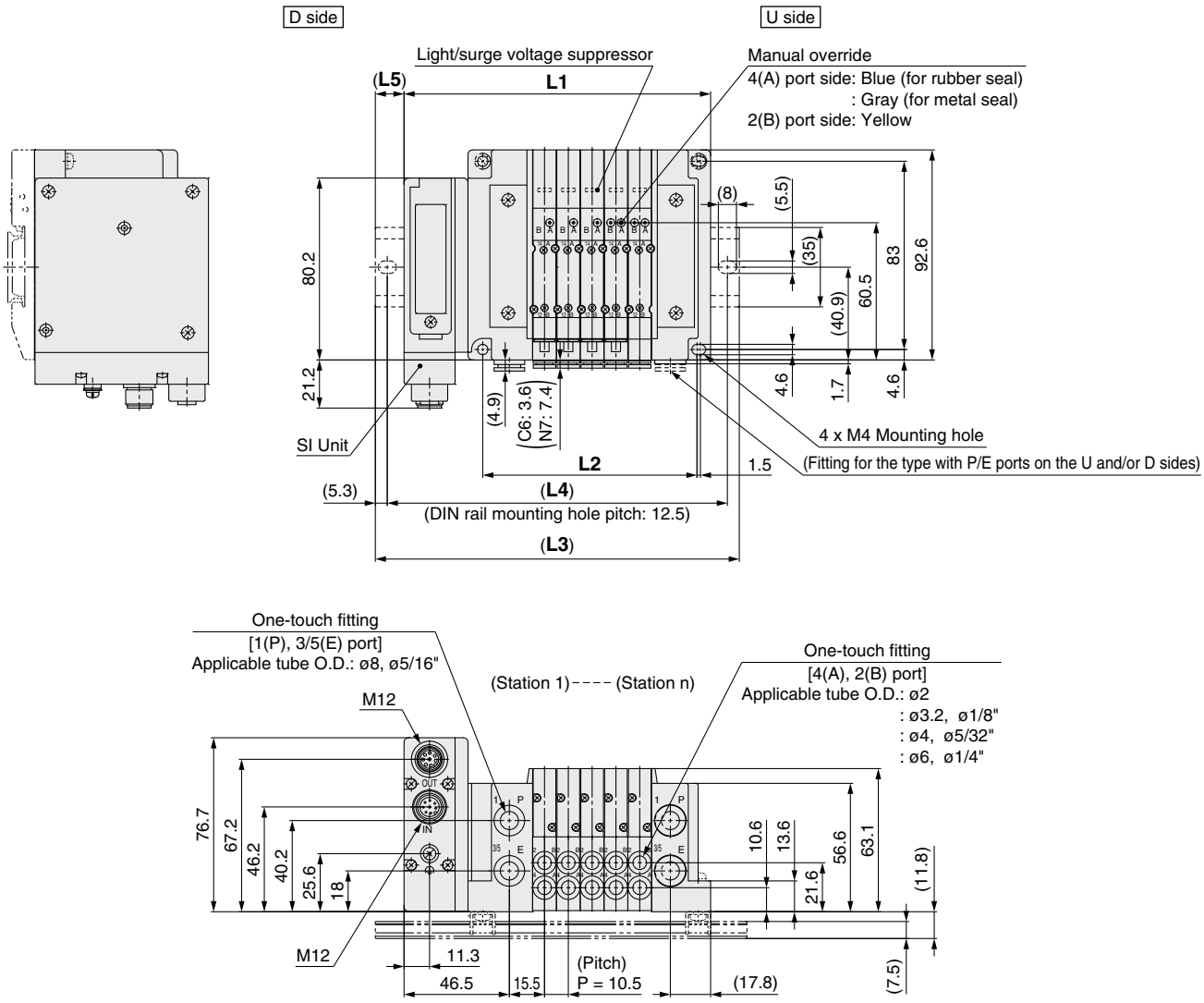
∗ **When ordering a valve individually, the base gasket is not included.**
Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
For details, refer to the SY series catalog (CAT. ES11-103).

∗ Select "Nil" or "K" for the optional individual SUP/EXH spacer assembly or interface regulator.

⚠ Protective class class Ⅲ (Mark: ⧫)

Dimensions

Type 10/Side Ported **Series SY3000**



Note) These figures show the "SS5Y3-10SA3N-05D-C6".

L: Dimensions

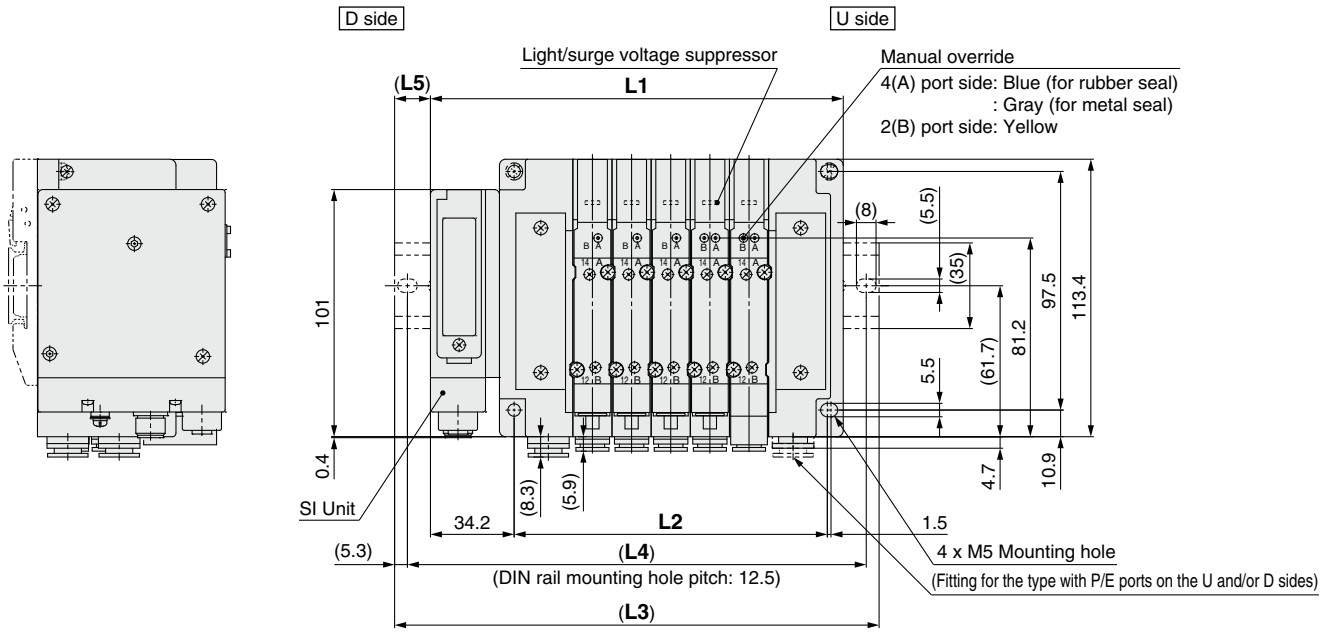
n: Stations

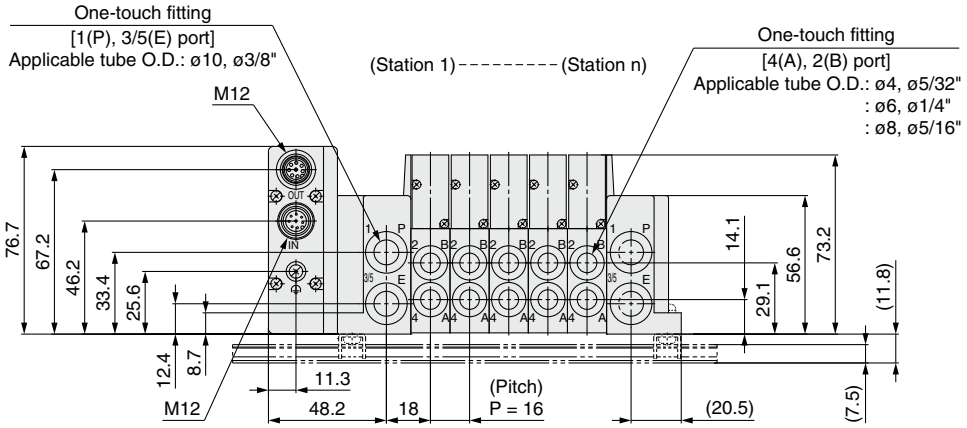
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	103.7	114.2	124.7	135.2	145.7	156.2	166.7	177.2	187.7	198.2	208.7	219.2	229.7	240.2	250.7
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210
L3	135.5	148	148	160.5	173	185.5	198	210.5	223	223	235.5	248	260.5	273	285.5
L4	125	137.5	137.5	150	162.5	175	187.5	200	212.5	212.5	225	237.5	250	262.5	275
L5	16	17	11.5	12.5	13.5	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5

L \ n	17	18	19	20	21	22	23	24
L1	261.2	271.7	282.2	292.7	303.2	313.7	324.2	334.7
L2	220.5	231	241.5	252	262.5	273	283.5	294
L3	285.5	298	310.5	323	335.5	348	348	360.5
L4	275	287.5	300	312.5	325	337.5	337.5	350
L5	12	13	14	15	16	17	12	13

For dimensions of Type 11/Bottom ported type and Type 12/Top ported type, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

Dimensions





Note) These figures show the “SS5Y5-10SA3N-05D-C8”.

L: Dimensions

n: Stations

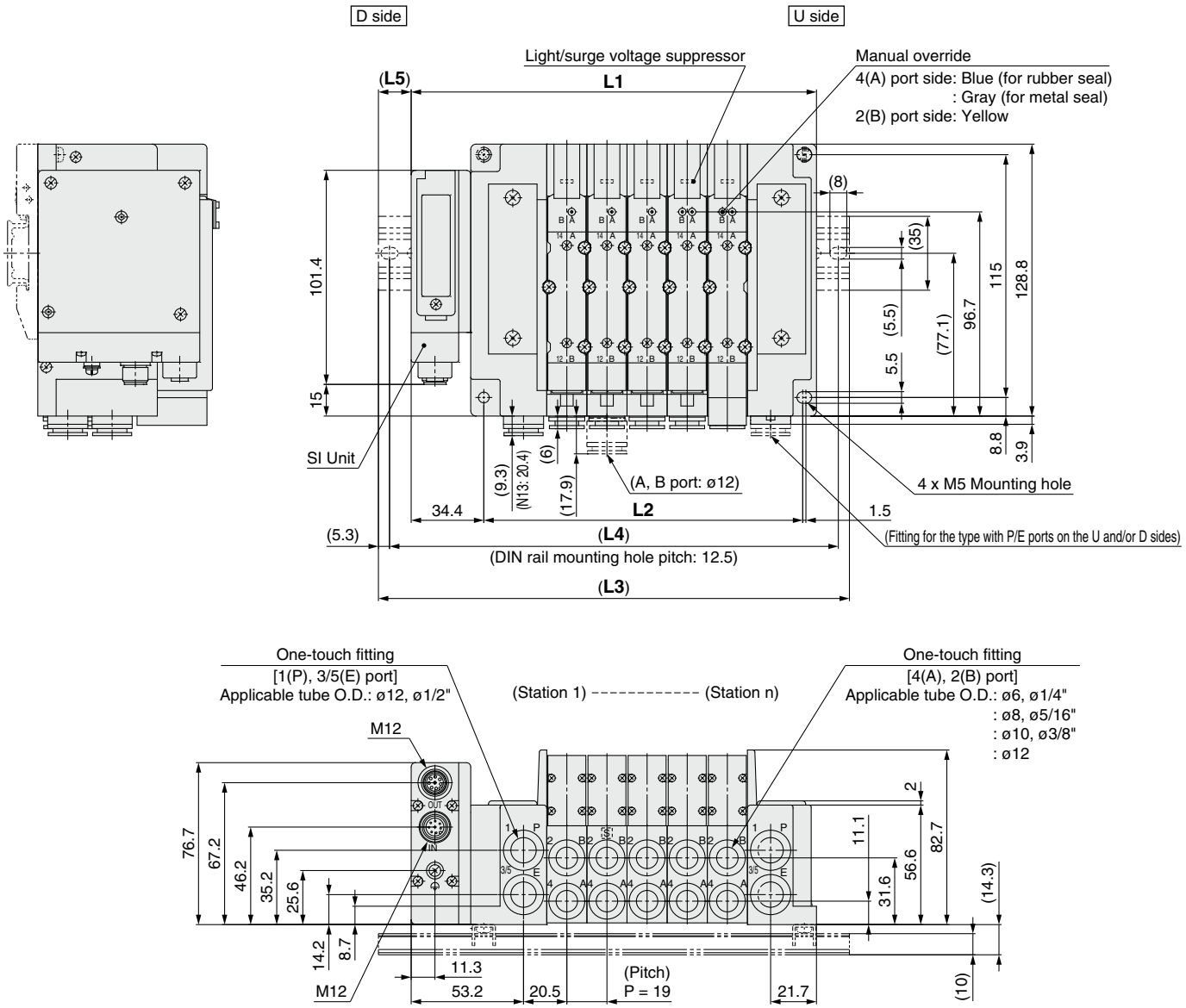
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	120.7	136.7	152.7	168.7	184.7	200.7	216.7	232.7	248.7	264.7	280.7	296.7	312.7	328.7	344.7
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304
L3	148	160.5	185.5	198	210.5	235.5	248	260.5	273	298	310.5	323	348	360.5	373
L4	137.5	150	175	187.5	200	225	237.5	250	262.5	287.5	300	312.5	337.5	350	362.5
L5	13.5	12	16.5	14.5	13	17.5	15.5	14	12	16.5	15	13	17.5	16	14

L \ n	17	18	19	20	21	22	23	24
L1	360.7	376.7	392.7	408.7	424.7	440.7	456.7	472.7
L2	320	336	352	368	384	400	416	432
L3	385.5	410.5	423	435.5	448	473	485.5	498
L4	375	400	412.5	425	437.5	462.5	475	487.5
L5	12.5	17	15	13.5	11.5	16	14.5	12.5

For dimensions of Type 11/Bottom ported type and Type 12/Top ported type, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

Dimensions

Type 10/Side Ported **Series SY7000**



Note) These figures show the "SS5Y7-10SA3N-05D-C10".

L: Dimensions

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	134.9	153.9	172.9	191.9	210.9	229.9	248.9	267.9	286.9	305.9	324.9	343.9	362.9	381.9	400.9
L2	94	113	132	151	170	189	208	227	246	265	284	303	322	341	360
L3	160.5	185.5	198	223	235.5	260.5	273	298	310.5	335.5	348	373	398	410.5	435.5
L4	150	175	187.5	212.5	225	250	262.5	287.5	300	325	337.5	362.5	387.5	400	425
L5	13	16	12.5	15.5	12.5	15.5	12	15	12	15	11.5	14.5	17.5	14.5	17.5

L \ n	17	18	19	20	21	22	23	24
L1	419.9	438.9	457.9	476.9	495.9	514.9	533.9	552.9
L2	379	398	417	436	455	474	493	512
L3	448	473	485.5	510.5	523	548	560.5	585.5
L4	437.5	462.5	475	500	512.5	537.5	550	575
L5	14	17	14	17	13.5	16.5	13.5	16.5

For dimensions of Type 11/Bottom ported type and Type 12/Top ported type, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

5 Port Solenoid Valve

Series VQC1000

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the VQC1000/2000 series catalog (CAT. ES11-101).

How to Order Manifold

VV5QC11-12C6SDA3N-□

❶ ❷ ❸ ❹ ❺

❶ Valve stations

	Stations	Note
01	1 station	Double wiring
⋮	⋮	
12	12 stations	
01	1 station	Mixed wiring, Specified layout Note) (Available up to 24 solenoids)
⋮	⋮	
24	24 stations	

Note) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.) In addition, select the option "K".

❷ A, B port size

Metric size

C3	Straight piping: ø3.2 One-touch fitting
C4	Straight piping: ø4 One-touch fitting
C6	Straight piping: ø6 One-touch fitting
M5	Straight piping: M5 thread
CM Note 1)	Straight piping: Mixed sizes and with port plug
L3	Top ported elbow: ø3.2 One-touch fitting
L4	Top ported elbow: ø4 One-touch fitting
L6	Top ported elbow: ø6 One-touch fitting
L5	Top ported elbow: M5 thread
B3	Bottom ported elbow: ø3.2 One-touch fitting
B4	Bottom ported elbow: ø4 One-touch fitting
B6	Bottom ported elbow: ø6 One-touch fitting
B5	Bottom ported elbow: M5 thread
LM Note 1)	Elbow piping: Mixed sizes and with port plug
MM Note 2)	Mixed size for different types of piping, option installed

Inch size

N1	Straight piping: ø1/8" One-touch fitting
N3	Straight piping: ø5/32" One-touch fitting
N7	Straight piping: ø1/4" One-touch fitting
NM Note1)	Straight piping: Mixed sizes and with port plug
LN1	Top ported elbow: ø1/8" One-touch fitting
LN3	Top ported elbow: ø5/32" One-touch fitting
LN7	Top ported elbow: ø1/4" One-touch fitting
BN1	Bottom ported elbow: ø1/8" One-touch fitting
BN3	Bottom ported elbow: ø5/32" One-touch fitting
BN7	Bottom ported elbow: ø1/4" One-touch fitting
LNM Note1)	Elbow piping: Mixed sizes and with port plug
BNM Note 2)	Mixed size for different types of piping, option installed

Note 1) Indicate the sizes on the manifold specification sheet.

Note 2) When a combination of straight and elbow piping is or when option such as dual flow fitting assembly is mounted, please mention the mounting conditions in the Manifold Specification.

❸ SI Unit (Number of outputs, Max. number of valve stations)

SD0	Without SI Unit
SDA3	32 outputs Note 1), 1 to 12 stations (24 stations Note 2))

Note 1) Due to the internal wiring of the valve, the maximum number of outputs is 24 points. 16 outputs can be set by switching the built-in setting switch.

Note 2) ( ): Maximum number of stations for mixed single and double wiring.

❹ SI Unit (Output polarity)

Nil	(Without SI Unit)
N	Negative common

∗ Ensure a match with the common specification of the valve to be used.

❺ Option

Nil	None
B Note 1)	With back pressure check valve (All stations)
D	With DIN bracket, DIN rail with standard length
D0	With DIN bracket, without DIN rail
D□ Note 2)	With DIN bracket, DIN rail for □ stations
K Note 3)	Special wiring specification (Except double wiring)
N	With name plate
R Note 4)	External pilot
S Note 5)	Built-in silencer, Direct exhaust

∗ When multiple symbols are specified, indicate them alphabetically. Example) -BRS

Note 1) When a back pressure check valve is used only for specified station, specify the back pressure check valve part number, and specify the station number to which the valve is mounted, on the manifold specification sheet.

Note 2) □: Specify a longer rail than the length of valve stations.
Example) "-D08"
In this case, the valves will be mounted on the DIN rail for 8 stations, regardless of the number of manifold stations.

Note 3) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.

Note 4) For external pilot option "-R", indicate the external pilot specification "R" for the applicable valves as well.

Note 5) Built-in silencer type does not satisfy IP67.

How to Order Valves

VQC 1 [1] 0 [0] [N] – 5 [ ] [ ] 1

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ

Ⓐ Type of actuation

1	2-position single	**A** Note)	4-position dual 3-port valve (N.C./N.C.)
2	2-position double	**B** Note)	4-position dual 3-port valve (N.O./N.O.)
3	3-position closed center	**C** Note)	4-position dual 3-port valve (N.C./N.O.)
4	3-position exhaust center		
5	3-position pressure center		

Note) Only rubber seal type

Ⓑ Seal type

0	Metal seal
1	Rubber seal

Ⓒ Function

N	Negative common, Standard (0.4 W)
BN	Negative common, Quick response type (0.95 W)
KN Note 1)	Negative common, High pressure type (1.0 MPa, 0.95 W)
NR Note 2)	Negative common, External pilot
Note 1) 2) **KNR**	Negative common, High pressure type (1.0 MPa, 0.95 W), External pilot

Note 1) For "KN" or "KNR" high pressure type, select "0" metal seal.
Note 2) For "NR" or "KNR" external pilot, select "1" to "5". 4-position dual 3-port valve is unavailable.

Ⓓ Coil voltage

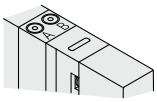
5	24 VDC

Ⓔ Light/surge voltage suppressor

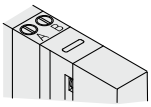
Nil	With light/surge voltage suppressor

Ⓕ Manual override

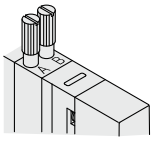
Nil Non-locking push (tool required)



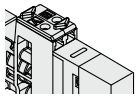
B Locking push (tool required)



C Turn locking (manual)

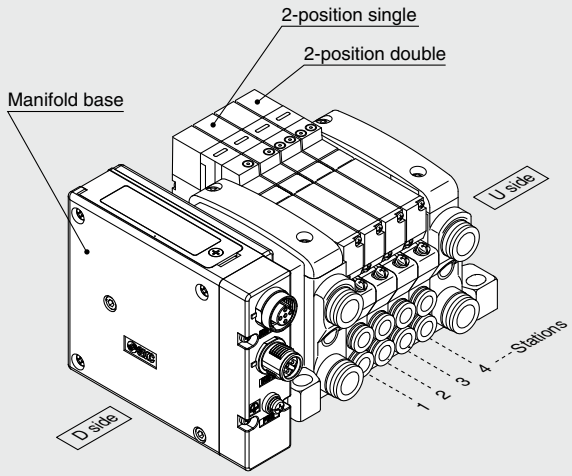


D Slide locking (manual)



How to Order Manifold Assembly

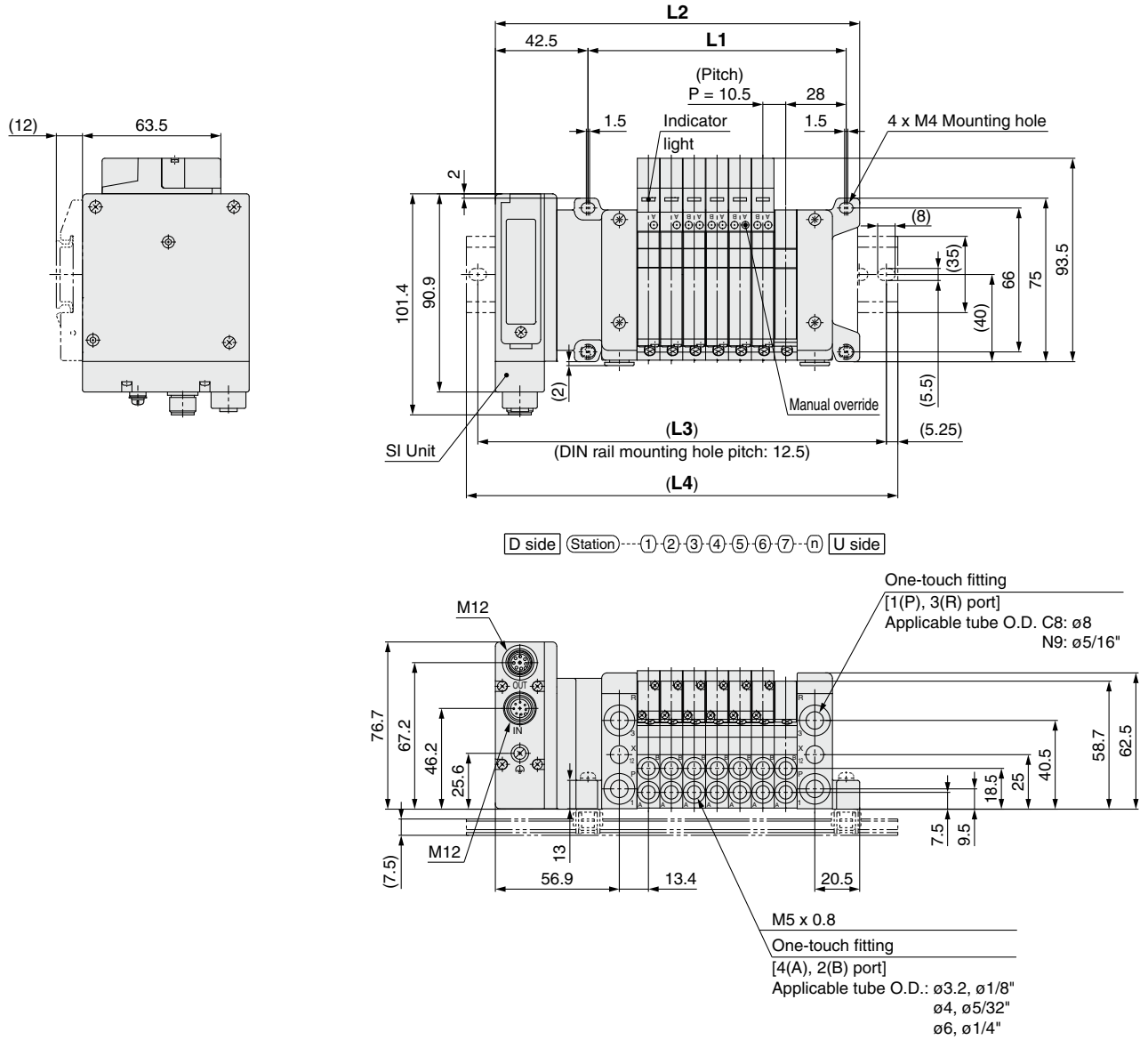
Example



VV5QC11-04C6SDA3N·····1 set (Manifold base part number)
∗ VQC1100N-51·····2 sets (2-position single part number)
∗ VQC1200N-51·····2 sets (2-position double part number)
The asterisk denotes the symbol for assembly. Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

Dimensions



L: Dimensions

n: Stations

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5
L2	104.2	114.7	125.2	135.7	146.2	156.7	167.2	177.7	188.2	198.7	209.2	219.7	230.2	240.7	251.2
L3	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275
L4	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5

L \ n	16	17	18	19	20	21	22	23	24
L1	213	223.5	234	244.5	255	265.5	276	286.5	297
L2	261.7	272.2	282.7	293.2	303.7	314.2	324.7	335.2	345.7
L3	287.5	300	312.5	325	325	337.5	350	362.5	375
L4	298	310.5	323	335.5	335.5	348	360.5	373	385.5

5 Port Solenoid Valve

Series VQC2000

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the VQC1000/2000 series catalog (CAT. ES11-101).

How to Order Manifold

VV5QC21-12 C8 SDA3 N- ☐

❶ ❷ ❸ ❹ ❺

❶ Valve stations

	Stations	Note
01	1 station	Double wiring
⋮	⋮	
12	12 stations	
01	1 station	Mixed wiring, Specified layout Note) (Available up to 24 solenoids)
⋮	⋮	
24	24 stations	

Note) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.) In addition, select the option "K".

❷ A, B port size

Metric size

C4	Straight piping: ø4 One-touch fitting
C6	Straight piping: ø6 One-touch fitting
C8	Straight piping: ø8 One-touch fitting
CM Note1)	Straight piping: Mixed sizes and with port plug
L4	Top ported elbow: ø4 One-touch fitting
L6	Top ported elbow: ø6 One-touch fitting
L8	Top ported elbow: ø8 One-touch fitting
B4	Bottom ported elbow: ø4 One-touch fitting
B6	Bottom ported elbow: ø6 One-touch fitting
B8	Bottom ported elbow: ø8 One-touch fitting
LM Note1)	Elbow piping: Mixed sizes and with port plug
MM Note2)	Mixed size for different types of piping, option installed

Inch size

N1	Straight piping: ø1/8" One-touch fitting
N3	Straight piping: ø5/32" One-touch fitting
N7	Straight piping: ø1/4" One-touch fitting
NM Note1)	Straight piping: Mixed sizes and with port plug
LN1	Top ported elbow: ø1/8" One-touch fitting
LN3	Top ported elbow: ø5/32" One-touch fitting
LN7	Top ported elbow: ø1/4" One-touch fitting
BN1	Bottom ported elbow: ø1/8" One-touch fitting
BN3	Bottom ported elbow: ø5/32" One-touch fitting
BN7	Bottom ported elbow: ø1/4" One-touch fitting
LNM Note1)	Elbow piping: Mixed sizes and with port plug
BNM Note2)	Mixed size for different types of piping, option installed

Note 1) Indicate the sizes on the manifold specification sheet.

Note 2) When a combination of straight and elbow piping is or when option such as dual flow fitting assembly is mounted, please mention the mounting conditions in the Manifold Specification.

❸ SI Unit (Number of outputs, Max. number of valve stations)

SD0	Without SI Unit
SDA3	32 outputs Note 1), 1 to 12 stations (24 stations Note 2))

Note 1) Due to the internal wiring of the valve, the maximum number of outputs is 24 points. 16 outputs can be set by switching the built-in setting switch.

Note 2) ( ): Maximum number of stations for mixed single and double wiring.

❹ SI Unit (Output polarity)

Nil	(Without SI Unit)
N	Negative common

∗ Ensure a match with the common specification of the valve to be used.

❺ Option

Nil	None
B Note 1)	With back pressure check valve (All stations)
D	With DIN bracket, DIN rail with standard length
D0	With DIN bracket, without DIN rail
D☐ Note 2)	With DIN bracket, DIN rail for ☐ stations
K Note 3)	Special wiring specification (Except double wiring)
N	With name plate
R Note 4)	External pilot
S Note 5)	Built-in silencer, Direct exhaust
T Note 6)	P and R ports included on both sides of the U side

∗ When multiple symbols are specified, indicate them alphabetically. Example) -BRS

Note 1) When a back pressure check valve is used only for specified station, specify the back pressure check valve part number, and specify the station number to which the valve is mounted, on the manifold specification sheet.

Note 2) ☐: Specify a longer rail than the length of valve stations.
Example) "-D08"
In this case, the valves will be mounted on the DIN rail for 8 stations, regardless of the number of manifold stations.

Note 3) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.

Note 4) For external pilot option "-R", indicate the external pilot specification "R" for the applicable valves as well.

Note 5) Built-in silencer type does not satisfy IP67.

Note 6) P and R ports are included on both sides of U side (cylinder port and coil side) with ø12 One-touch fittings.

How to Order Valves

VQC 2 [1] 0 [0] [N] – 5 [ ] [ ] 1

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ

Ⓐ Type of actuation

1	2-position single	**A** Note)	4-position dual 3-port valve (N.C./N.C.)
2	2-position double	**B** Note)	4-position dual 3-port valve (N.O./N.O.)
3	3-position closed center	**C** Note)	4-position dual 3-port valve (N.C./N.O.)
4	3-position exhaust center		
5	3-position pressure center		

Note) Only rubber seal type

Ⓑ Seal type

0	Metal seal
1	Rubber seal

Ⓒ Function

N	Negative common, Standard (0.4 W)
BN	Negative common, Quick response type (0.95 W)
KN Note 1)	Negative common, High pressure type (1.0 MPa, 0.95 W)
NR Note 2)	Negative common, External pilot
Note 1) 2) **KNR**	Negative common, High pressure type (1.0 MPa, 0.95 W), External pilot

Note 1) For "KN" or "KNR" high pressure type, select "0" metal seal.
Note 2) For "NR" or "KNR" external pilot, select "1" to "5". 4-position dual 3-port valve is unavailable.

Ⓓ Coil voltage

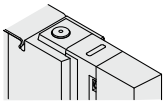
5	24 VDC

Ⓔ Light/surge voltage suppressor

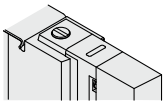
Nil	With light/surge voltage suppressor

Ⓕ Manual override

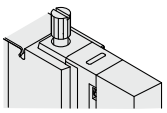
Nil
Non-locking push (tool required)



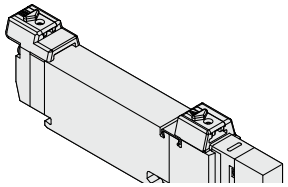
B
Locking push (tool required)



C
Turn locking (manual)

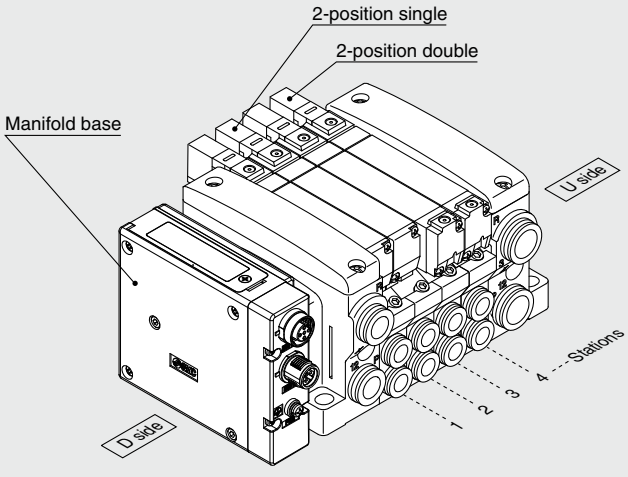


D
Slide locking (manual)



How to Order Manifold Assembly

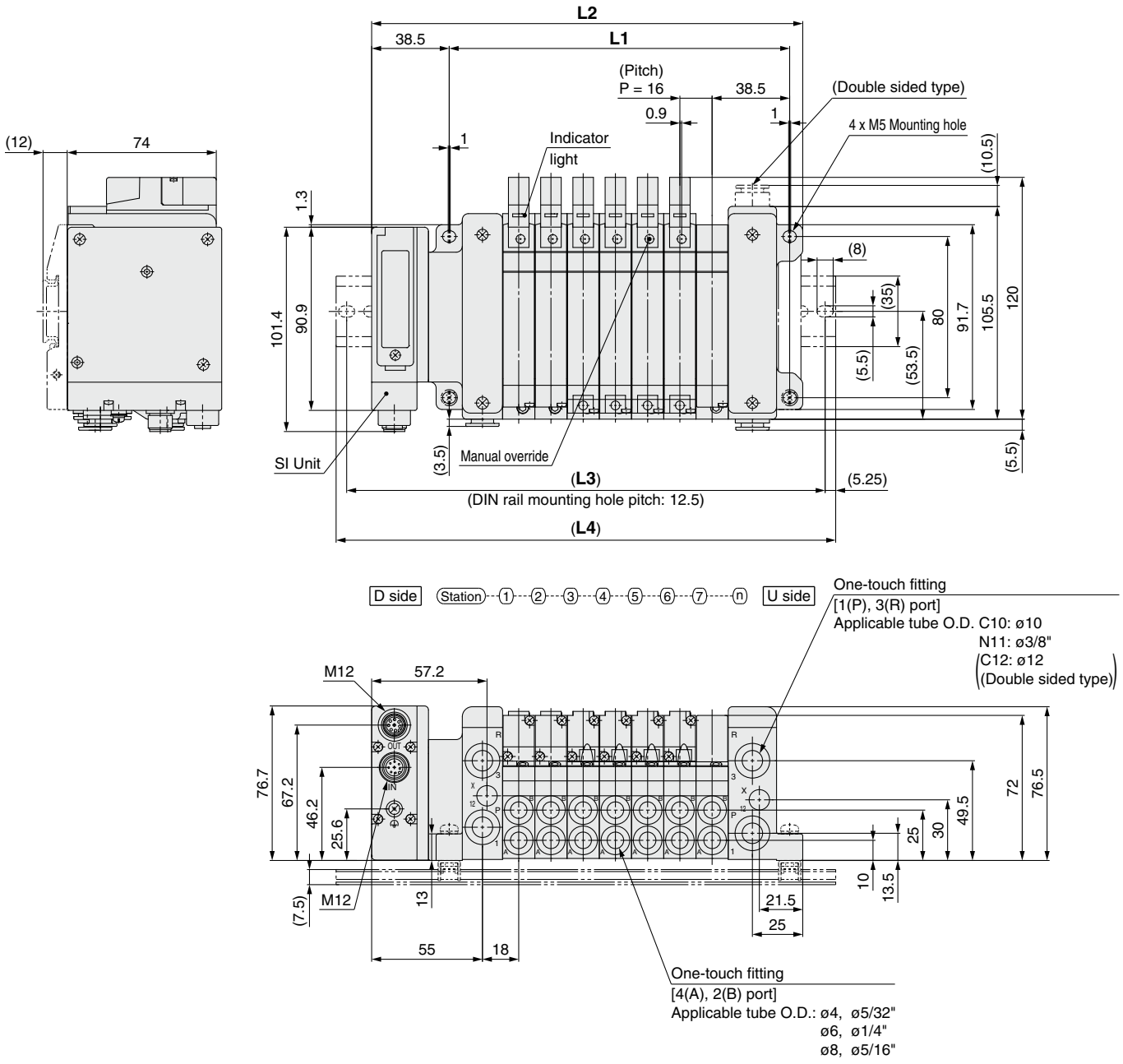
Example



VV5QC21-04C6SDA3N·····1 set (Manifold base part number)
∗ VQC2100N-51·····2 sets (2-position solenoid part number)
∗ VQC2200N-51·····2 sets (2-position double part number)
The asterisk denotes the symbol for assembly. Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

Dimensions



L: Dimensions

n: Stations

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297
L2	118	134	150	166	182	198	214	230	246	262	278	294	310	326	342
L3	137.5	162.5	175	187.5	212.5	225	237.5	250	275	287.5	300	325	337.5	350	362.5
L4	148	173	185.5	198	223	235.5	248	260.5	285.5	298	310.5	335.5	348	360.5	373

L \ n	16	17	18	19	20	21	22	23	24
L1	313	329	345	361	377	393	409	425	441
L2	358	374	390	406	422	438	454	470	486
L3	387.5	400	412.5	437.5	450	462.5	475	500	512.5
L4	398	410.5	423	448	460.5	473	485.5	510.5	523

5 Port Solenoid Valve

Series VQC4000

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the VQC4000/5000 series catalog (CAT. ES11-108).

How to Order Manifold

VV5QC41 – 12 02 ☐ SDA3 N – ☐

❶ ❷ ❸ ❹ ❺ ❻

❶ Valve stations

	Stations	Note
01	1 station	Double wiring
⋮	⋮	
12	12 stations	
01	1 station	Mixed wiring, Specified layout Note) (Available up to 24 solenoids)
⋮	⋮	
16	16 stations	

Note) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.) In addition, select the option "K".

❷ Cylinder port size

C6	With ø6 One-touch fitting
C8	With ø8 One-touch fitting
C10	With ø10 One-touch fitting
C12	With ø12 One-touch fitting
N7	ø1/4" One-touch fitting
N9	ø5/16" One-touch fitting
N11	ø3/8" One-touch fitting
02	1/4 Note)
03	3/8 Note)
B	Bottom ported 1/4 Note)
CM	Mixed sizes

Note) Compatible with Rc, G, NPT/NPTF.
Part number displayed is as shown below.

❸ Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

❹ SI Unit (Number of outputs, Max. number of valve stations)

SD0	Without SI Unit
SDA3	32 outputs Note 1), 1 to 12 stations (16 stations Note 2))

Note 1) Due to the internal wiring of the valve, the maximum number of outputs is 24 points.
Note 2) ( ): Maximum number of stations for mixed single and double wiring.

❺ SI Unit (Output polarity)

Nil	(Without SI Unit)
N	Negative common

❻ Option

Nil	None
K Note)	Special wiring specification (Except double wiring)

Note) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.

How to Order Valves

VQC 4 1 0 0 □ – 5 □ □ 1

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ

Ⓐ Type of actuation

1	2-position single	**4**	3-position exhaust center
2	2-position double	**5**	3-position pressure center
3	3-position closed center	**6** Note)	3-position double check

Note) For double check type, refer to the **WEB catalog** or the VQ4000/5000 series catalog (CAT. ES11-104).

Ⓑ Seal type

0	Metal seal
1	Rubber seal

Ⓒ Function

Nil Note 1)	Standard (0.95 W)
Y	Low wattage type (0.4 W)
R Note 2)	External pilot

∗ When multiple symbols are specified, indicate them alphabetically.

Note 1) When the power is energized continuously, refer to "Specific Product Precautions 1" in the **WEB catalog** or the VQC4000/5000 series catalog (CAT. ES11-108).

Note 2) For details about the external pilot type, refer to the **WEB catalog** or the VQ4000/5000 series catalog (CAT. ES11-104). In addition, an external pilot type cannot be combined with the double check spacer.

Ⓓ Coil voltage

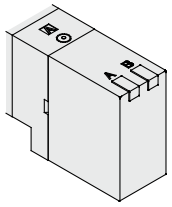
5	24 VDC

Ⓔ Light/surge voltage suppressor

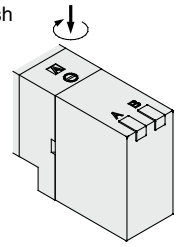
Nil	With
E	Without light, with surge voltage suppressor

Ⓕ Manual override

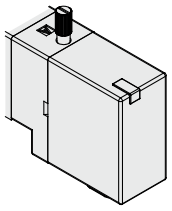
Nil
Non-locking push
(tool required)



B
Locking push
(tool required)

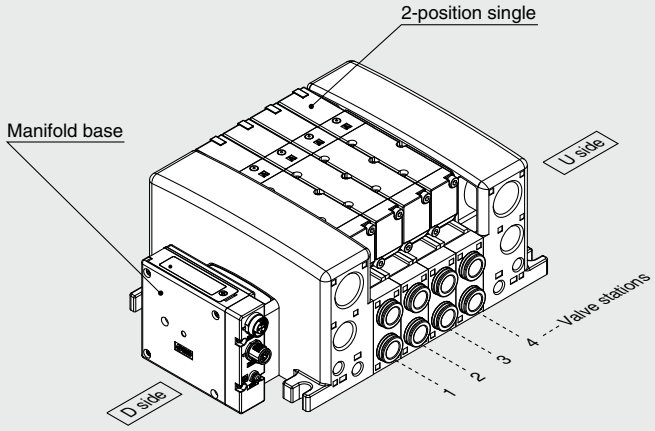


C
Turn locking
(manual)



How to Order Manifold Assembly

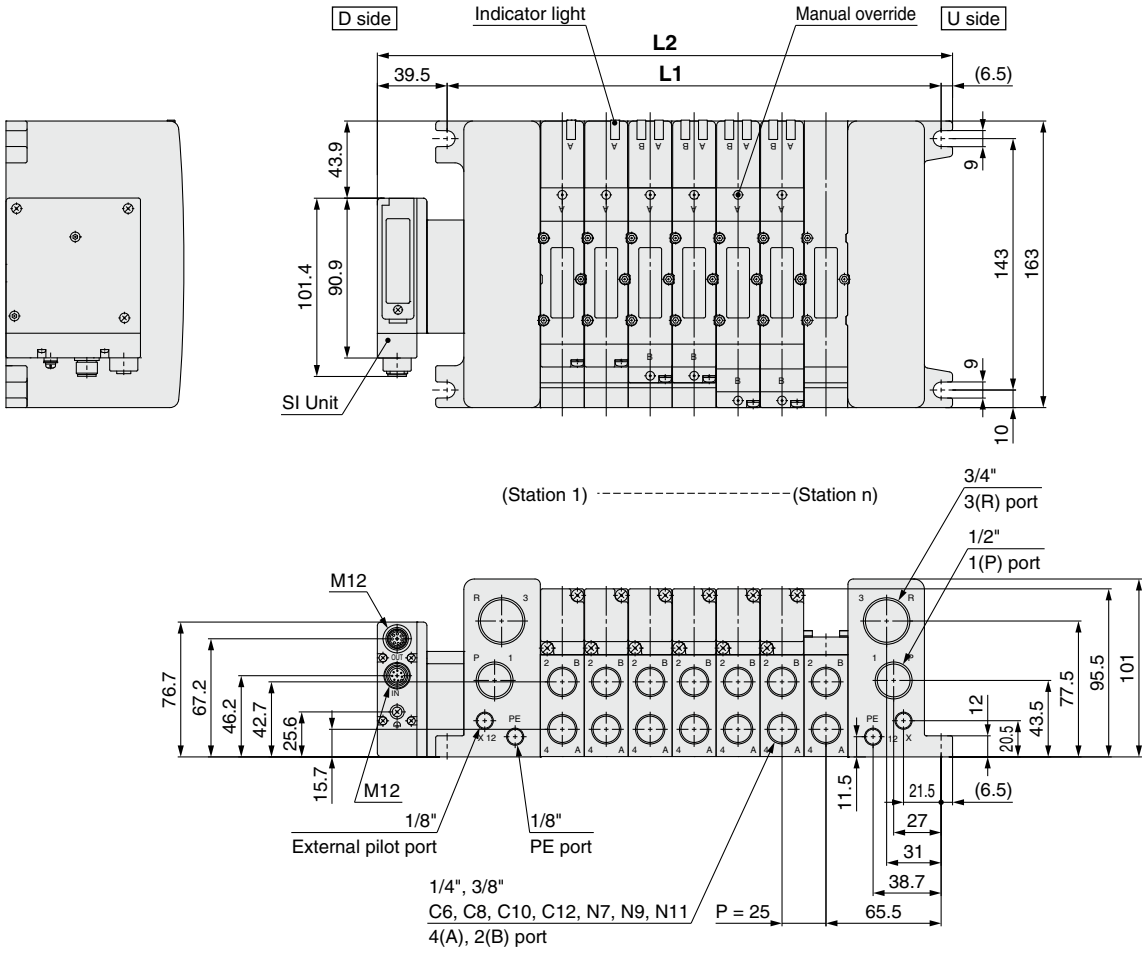
Example



VV5QC41-04C8SDA3N·····1 set (Manifold base part number)
∗ VQC4100-51·····4 sets (2-position single part number)
The asterisk denotes the symbol for assembly.
Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

Dimensions



Formula: L1 = 25n + 106, L2 = 25n + 152 n: Stations (Maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	131	156	181	206	231	256	281	306	331	356	381	406	431	456	481	506
L2	177	202	227	252	277	302	327	352	377	402	427	452	477	502	527	552

5 Port Solenoid Valve

Series VQC5000

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the VQC4000/5000 series catalog (CAT. ES11-108).

How to Order Manifold

VV5QC51-12 03 □ SDA3 N-□

❶ ❷ ❸ ❹ ❺ ❻

❶ Valve stations

	Stations	Note
01	1 station	Double wiring
⋮	⋮	
12	12 stations	
01	1 station	Mixed wiring, Specified layout Note) (Available up to 24 solenoids)
⋮	⋮	
16	16 stations	

Note) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.) In addition, select the option "K".

❷ Cylinder port size

03	3/8 Note)
04	1/2 Note)
B	Bottom ported 1/4 Note)
CM	Mixed sizes

Note) Compatible with Rc, G, NPT/NPTF.
Part number displayed is as shown below.

❸ Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

❹ SI Unit (Number of outputs, Max. number of valve stations)

SD0	Without SI Unit
SDA3	32 outputs Note 1), 1 to 12 stations (16 stations Note 2))

Note 1) Due to the internal wiring of the valve, the maximum number of outputs is 24 points.
Note 2) ( ): Maximum number of stations for mixed single and double wiring.

❺ SI Unit (Output polarity)

Nil	(Without SI Unit)
N	Negative common

❻ Option

Nil	None
K Note)	Special wiring specification (Except double wiring)

Note) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.

How to Order Valves

VQC 5 [1] 0 [0] [ ] – 5 [ ] [ ] 1

A B C D E F

A Type of actuation

1	2-position single	4	3-position exhaust center
2	2-position double	5	3-position pressure center
3	3-position closed center	6 Note)	3-position double check

Note) For double check type, refer to the **WEB catalog** or the VQ4000/5000 series catalog (CAT. ES11-104).

B Seal type

0	Metal seal
1	Rubber seal

C Function

Nil Note 1)	Standard (0.95 W)
Y	Low wattage type (0.4 W)
R Note 2)	External pilot

∗ When multiple symbols are specified, indicate them alphabetically.

Note 1) When the power is energized continuously, refer to "Specific Product Precautions 1" in the **WEB catalog** or the VQC4000/5000 series catalog (CAT. ES11-108).

Note 2) For details about the external pilot type, refer to the **WEB catalog** or the VQ4000/5000 series catalog (CAT. ES11-104). In addition, an external pilot type cannot be combined with the double check spacer.

D Coil voltage

5	24 VDC

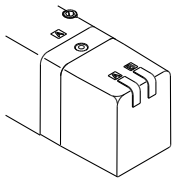
E Light/surge voltage suppressor

Nil	With
E	Without light, with surge voltage suppressor

F Manual override

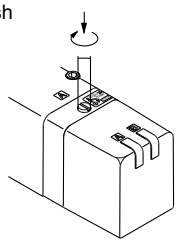
Nil

Non-locking push (tool required)



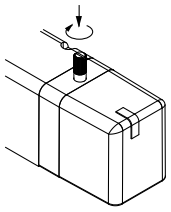
B

Locking push (tool required)



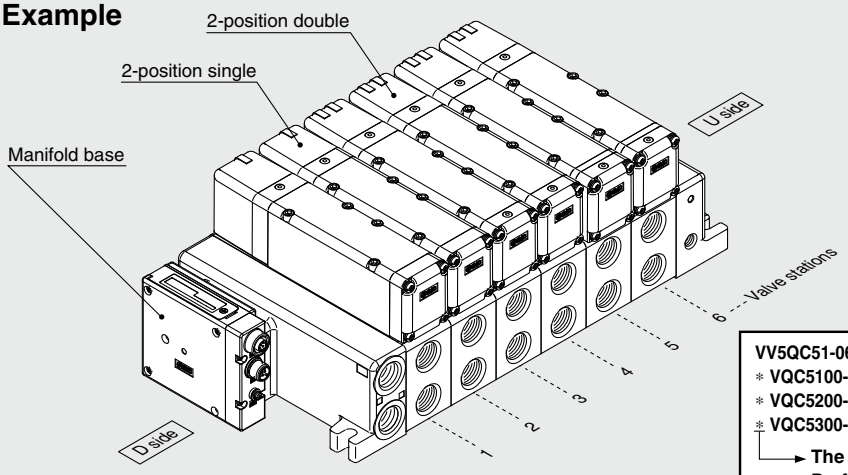
C

Turn locking (manual)



How to Order Manifold Assembly

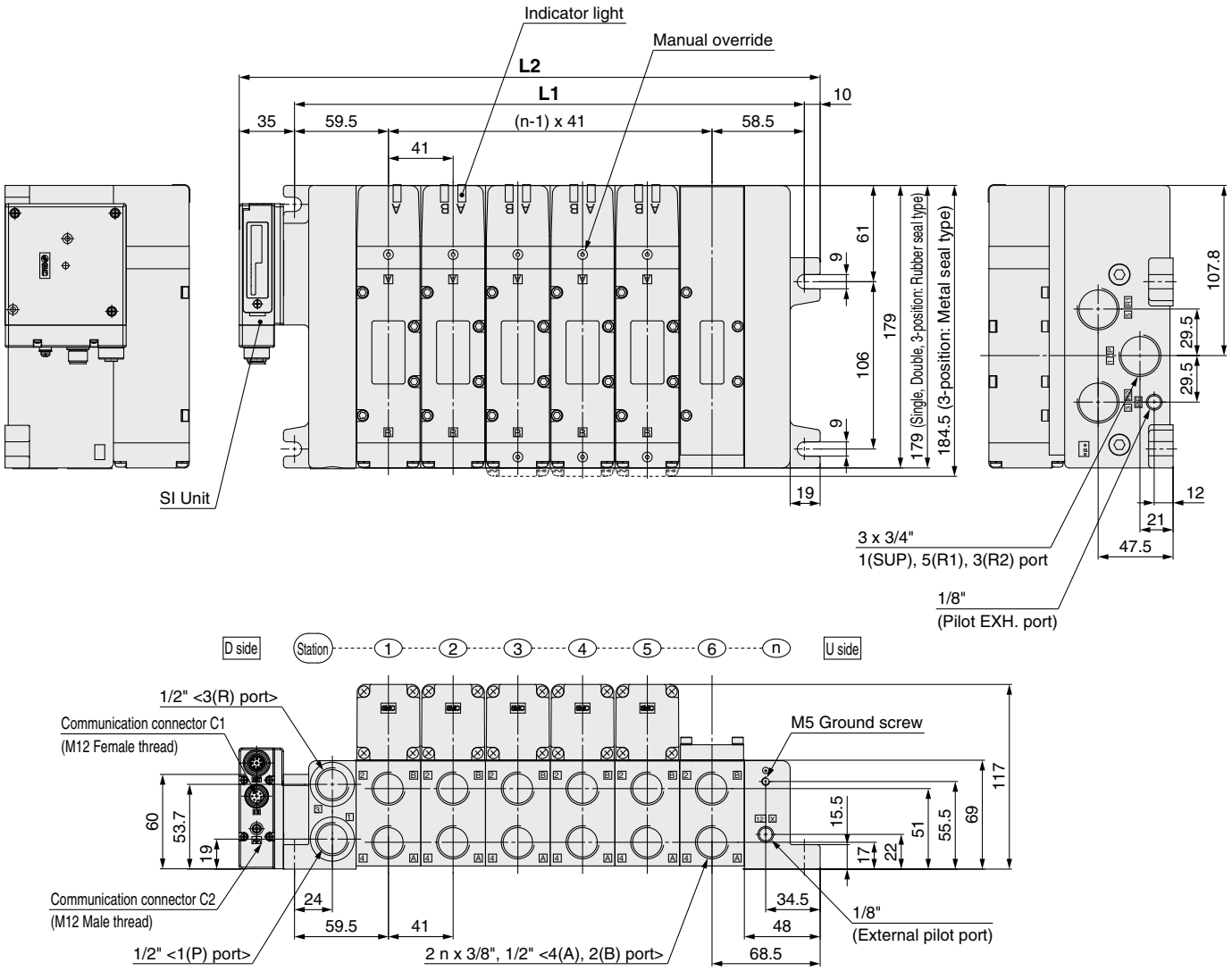
Example



VV5QC51-0603SDA3N····· 1 set
∗ VQC5100-51····· 2 sets (2-position single part number)
∗ VQC5200-51····· 2 sets (2-position double part number)
∗ VQC5300-51····· 3 sets (3-position closed center part number)
The asterisk denotes the symbol for assembly.
Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

Dimensions



Formula: L1 = 41n + 77, L2 = 41n + 122 n: Stations (Maximum 12 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12
L1	118	159	200	241	282	323	364	405	446	487	528	569
L2	163	204	245	286	327	368	409	450	491	532	573	614

5 Port Solenoid Valve

Series S0700

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the S0700 series catalog (CAT. ES11-88).

How to Order Manifold

SS0750 − 08 C4 C8 SDA3 N − B

❶ ❷ ❸ ❹ ❺ ❻

❶ Valve stations

	Stations	Note
01	1 station	Double wiring
⋮	⋮	
16	16 stations	
01	1 station	Mixed wiring, Specified layout Note) (Available up to 32 solenoids)
⋮	⋮	
24	24 stations	

Note) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.) In addition, select the option "K".

❷ A, B port size

Metric size

C2	ø2 One-touch fitting
C3	ø3.2 One-touch fitting
C4	ø4 One-touch fitting
CM Note)	Mixed sizes and with port plug

Inch size

N1	ø1/8" One-touch fitting
N3	ø5/32" One-touch fitting
NM Note)	Mixed sizes and with port plug

Note) Indicate the sizes on the manifold specification sheet.

❸ P, R port size

Metric size

Nil	ø8 One-touch fitting Note)
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting

Inch size

N7	ø1/4" One-touch fitting
N9	ø5/16" One-touch fitting

Note) When A and B ports are inch size, the One-touch fitting will be changed to ø5/16".

❹ SI Unit (Number of outputs, Max. number of valve stations)

0	Without SI Unit
SDA3	32 outputs Note 1), 1 to 16 stations (24 stations Note 2))

Note 1) 16 outputs can be set by switching the built-in setting switch.
Note 2) ( ): Maximum number of stations for mixed single and double wiring.

❺ SI Unit (Output polarity)

Nil	(Without SI Unit)
N	Negative common

❻ Option

Nil	None
B Note 1)	With back pressure check valve (All stations)
D	With DIN bracket, DIN rail with standard length
D0	With DIN bracket, without DIN rail
D□ Note 2)	With DIN bracket, DIN rail for □ stations
K Note 3)	Special wiring specification (Except double wiring)
N	With name plate
R Note 4)	External pilot
S	Built-in silencer

∗ When multiple symbols are specified, indicate them alphabetically. Example) "-BKN"

Note 1) When a back pressure check valve is used only for specified station, specify the back pressure check valve part number, and specify the station number to which the valve is mounted, on the manifold specification sheet.

Note 2) □: Specify a longer rail than the length of valve stations.
Example) "-D08"
In this case, the valves will be mounted on the DIN rail for 8 stations, regardless of the number of manifold stations.

Note 3) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.

Note 4) For external pilot option "-R", indicate the external pilot specification "R" for the applicable valves as well.

How to Order Valves

S07 1 0 □ – 5

Ⓐ Ⓑ Ⓒ

Ⓐ Type of actuation

1	2-position single
2	2-position double
A Note)	4-position dual 3-port (N.C. + N.C.)
B Note)	4-position dual 3-port (N.O. + N.O.)
C Note)	4-position dual 3-port (N.C. + N.O.)

Note) For 4-position dual 3-port, select "Nil" internal pilot.

Ⓑ Function

Nil	Internal pilot
R Note)	External pilot

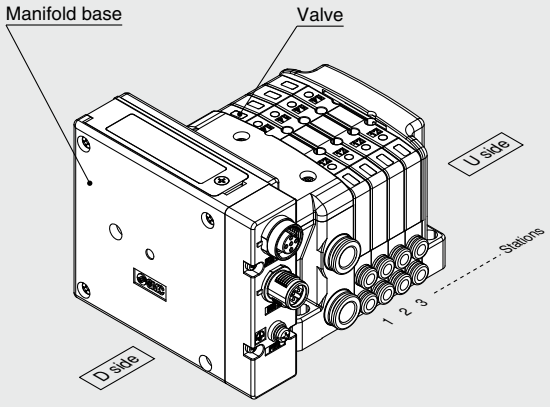
Note) For external pilot, select "1" 2-position single or "2" 2-position double.

Ⓒ Rated voltage

5	24 VDC

How to Order Manifold Assembly

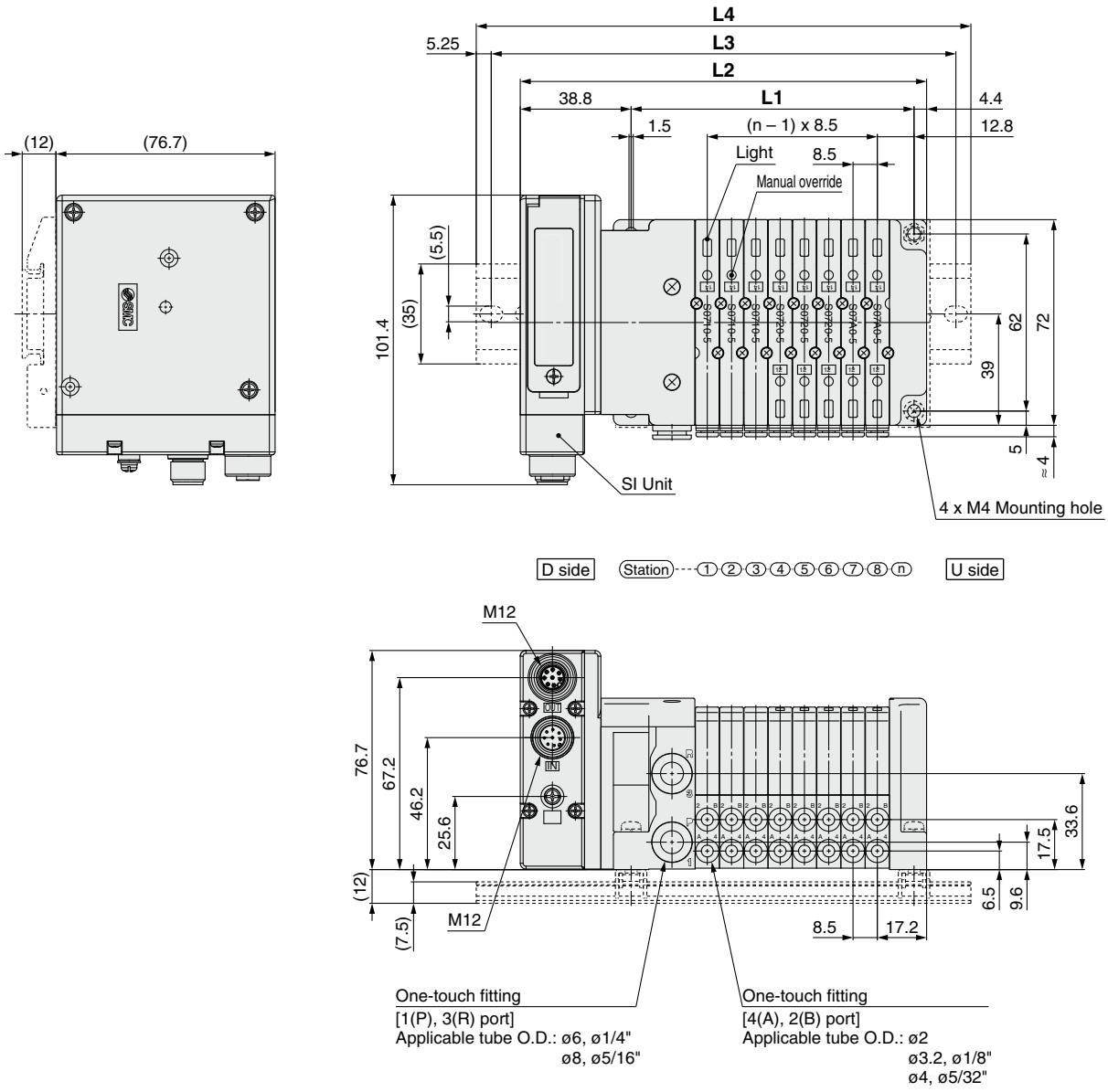
Example



SS0750-04C4SDA3···1 set (Manifold base part number)
∗ S0720-5·····4 sets (Valve part number)
The asterisk denotes the symbol for assembly.
Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

Dimensions



Dimensions

Formula: L1 = 8.5n + 31, L2 = 8.5n + 74 n: Stations (Maximum 24 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	39.5	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167
L2	82.5	91	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210
L3	112.5	112.5	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5
L4	123	123	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248

L \ n	17	18	19	20	21	22	23	24
L1	175.5	184	192.5	201	209.5	218	226.5	235
L2	218.5	227	235.5	244	252.5	261	269.5	278
L3	250	250	262.5	275	275	287.5	300	300
L4	260.5	260.5	273	285.5	285.5	298	310.5	310.5

5 Port Solenoid Valve

Series SV1000/2000/3000

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the SV series catalog (CAT. ES11-81).

How to Order Manifold

SS5V [1] – W 10 S 1 [A3N] D – [05] [U] [ ] – [ ] – [ ]

❶ ❷ ❸ ❹ ❺ ❻ ❼

❶ Series

1	SV1000
2	SV2000
3	SV3000

❷ SI Unit (Number of outputs, Output polarity, Max. number of valve stations)

0	Without SI Unit
A3N	32 outputs Note 1), Negative common, 1 to 16 stations (20 stations Note 2))

Note 1) 16 outputs can be set by switching the built-in setting switch.
Note 2) ( ): Maximum number of stations for mixed single and double wiring.

❸ Valve stations

	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
16	16 stations	
02	2 stations	Mixed wiring, Specified layout Note 2) (Available up to 32 solenoids)
⋮	⋮	
20	20 stations	

Note 1) Double wiring: single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

❹ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 20 stations)

❺ SUP/EXH block assembly

Nil	Internal pilot
S	Internal pilot, Built-in silencer Note)
R	External pilot
RS	External pilot, Built-in silencer Note)

Note) When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

❻ A, B port size

Metric size

	A, B port	P, E port	Applicable series
C3	ø3.2 One-touch fitting	ø8 One-touch fitting	SV1000
C4	ø4 One-touch fitting		
C6	ø6 One-touch fitting		
C4	ø4 One-touch fitting	ø10 One-touch fitting	SV2000
C6	ø6 One-touch fitting		
C8	ø8 One-touch fitting		
C6	ø6 One-touch fitting	ø12 One-touch fitting	SV3000
C8	ø8 One-touch fitting		
C10	ø10 One-touch fitting		
M Note)	A, B port mixed		

Inch size

	A, B port	P, E port	Applicable series
N1	ø1/8" One-touch fitting	ø5/16" One-touch fitting	SV1000
N3	ø5/32" One-touch fitting		
N7	ø1/4" One-touch fitting		
N3	ø5/32" One-touch fitting	ø3/8" One-touch fitting	SV2000
N7	ø1/4" One-touch fitting		
N9	ø5/16" One-touch fitting		
N7	ø1/4" One-touch fitting	ø3/8" One-touch fitting	SV3000
N9	ø5/16" One-touch fitting		
N11	ø3/8" One-touch fitting		
M Note)	A, B port mixed		

Note) Indicate the sizes on the manifold specification sheet.
∗ The X and PE port size of external pilot type [R, RS] are ø4 (mm) or ø5/32" (inch) for the SV1000/2000 series, and ø6 (mm) or ø1/4" (inch) for the SV3000 series.

❼ Mounting

Nil	Direct mounting
D	With DIN bracket, DIN rail with standard length
D0	With DIN bracket, without DIN rail
D3 Note)	With DIN bracket, DIN rail for 3 stations
⋮	⋮
D20 Note)	With DIN bracket, DIN rail for 20 stations

Note) Specify a longer rail than the length of valve stations.
∗ If the DIN rail must be mounted without an SI Unit, select "D0" and order the DIN rail separately. Refer to L3 of the dimensions for the DIN rail length. For the DIN rail part number, refer to the **WEB catalog** or the SV series catalog (CAT. ES11-81).

How to Order Valves

SV [1][1] 0 0 [ ][ ] – 5 F [ ][ ] – [ ] – [ ]

A B C D E F G H I

A Series

1	SV1000
2	SV2000
3	SV3000

B Type of actuation

1	2-position single
2	2-position double
3	3-position closed center
4	3-position exhaust center
5	3-position pressure center
A Note)	4-position dual 3-port valve (N.C./N.C.)
B Note)	4-position dual 3-port valve (N.O./N.O.)
C Note)	4-position dual 3-port valve (N.C./N.O.)

Note) Select the SV1000 or SV2000 series for the 4-position dual 3-port valve.

∗ Select the internal pilot type for the 4-position dual 3-port valve.

C Pilot type

Nil	Internal pilot
R	External pilot

D Back pressure check valve

Nil	None
K	Built-in

∗ Built-in back pressure check valve type is applicable to the SV1000 series only.

∗ The product with a back pressure check valve is not available for 3-position valves.

∗ Refer to the **WEB catalog** for built-in back pressure check valve type.

E Rated voltage

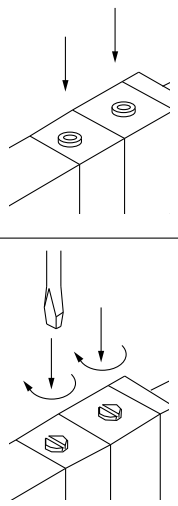
5	24 VDC

F Light/surge voltage suppressor

U	With light/surge voltage suppressor
R	Without light, with surge voltage suppressor

G Manual override

Nil	Non-locking push
D	Push-turn locking (slotted)



H Manifold block

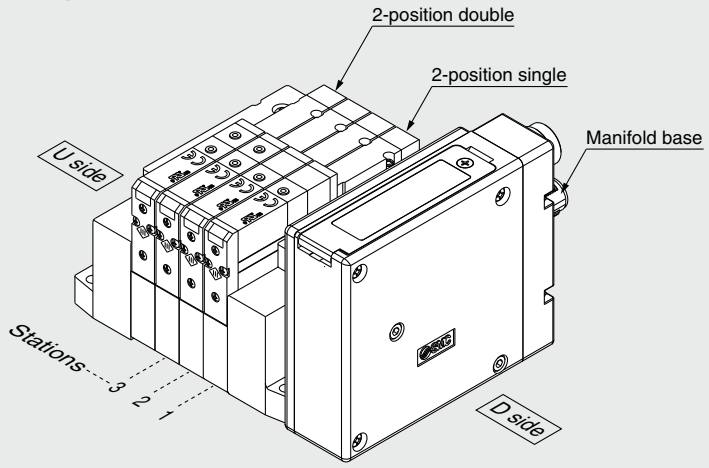
If stations are to be added, order the product with manifold block.
(For details, refer to the **WEB catalog**.)

I Made to Order

Nil	—
X90	Main valve fluororubber specification (For details, refer to the **WEB catalog**.)

How to Order Manifold Assembly

Example

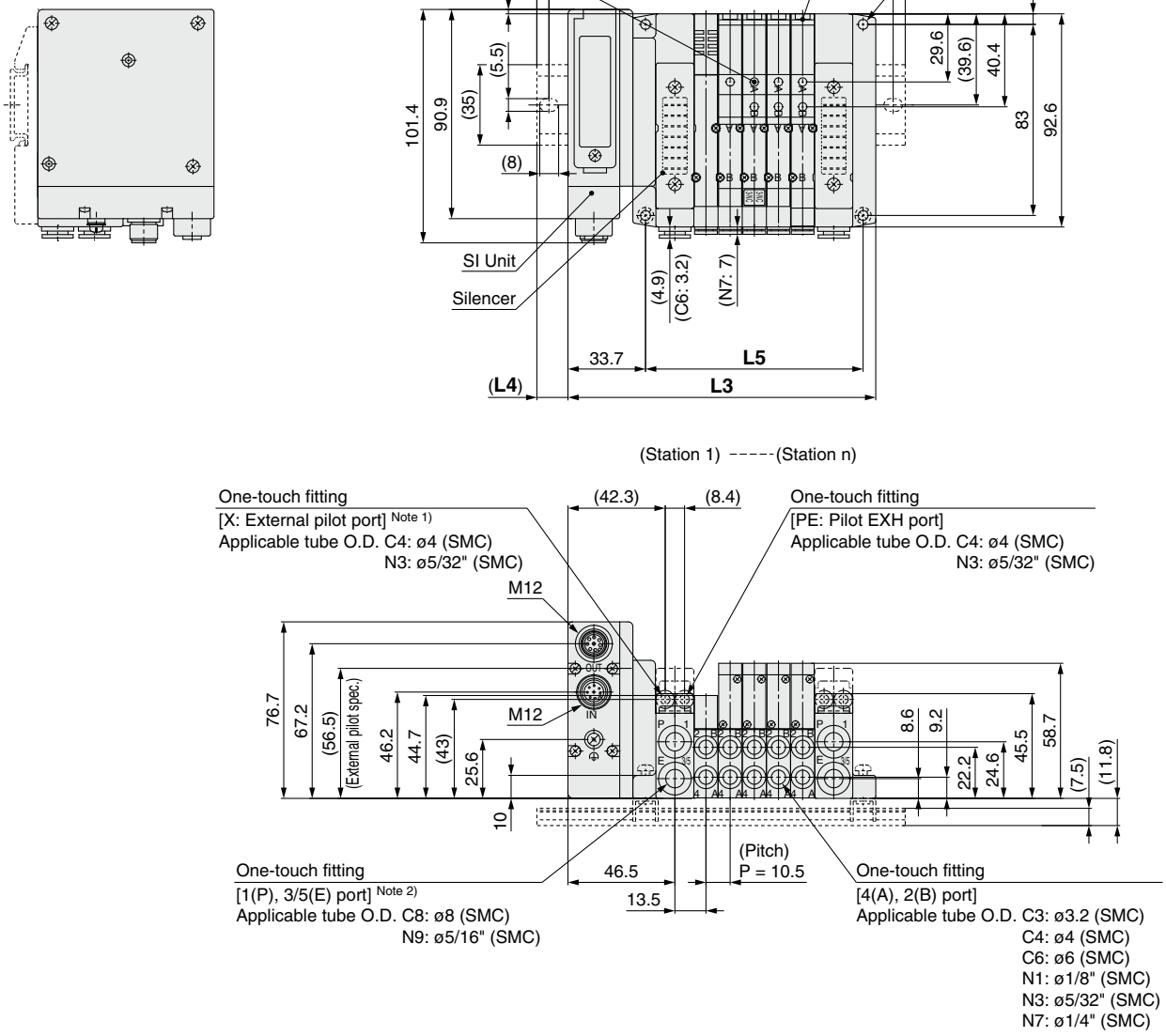


SS5V1-W10S1A3ND-04B-C6·····1 set (Manifold base part number)
∗ SV1100-5FU·····2 sets (2-position single part number)
∗ SV1200-5FU·····2 sets (2-position double part number)
The asterisk denotes the symbol for assembly.
Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

Dimensions

Tie-rod Base | Series SV1000



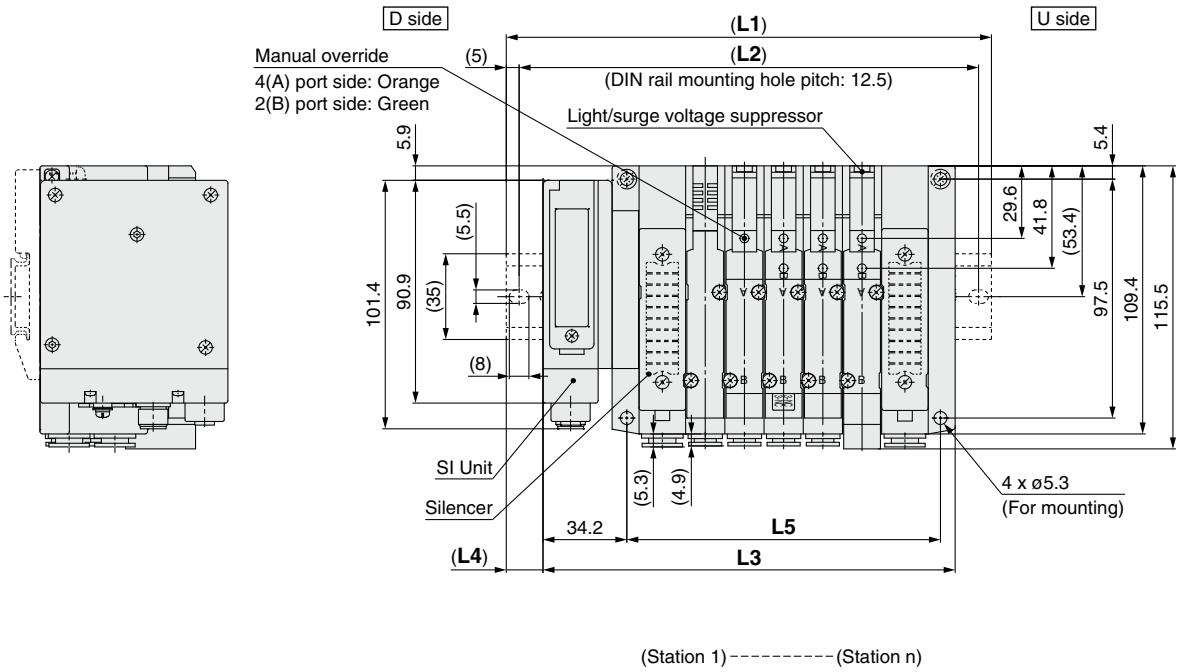
Note 1) External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.
Note 2) When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.

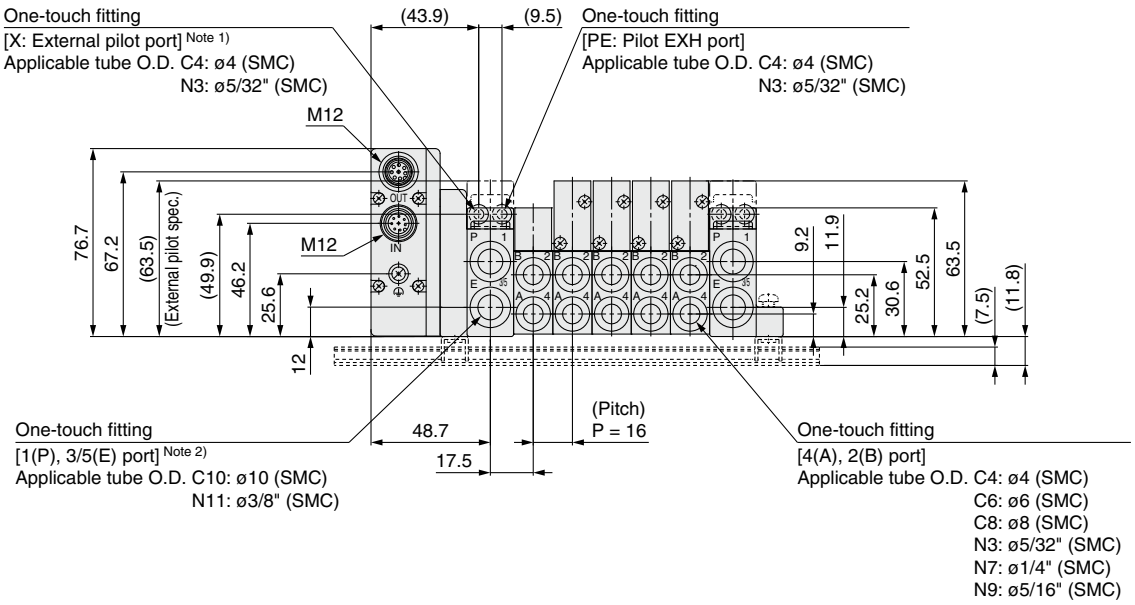
L: DIN Rail Overall Length

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	135.5	148	148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	273	273	285.5	298	310.5	323
L2	125	137.5	137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	262.5	262.5	275	287.5	300	312.5
L3	102.2	112.7	123.2	133.7	144.2	154.7	165.2	175.7	186.2	196.7	207.2	217.7	228.2	238.7	249.2	259.7	270.2	280.7	291.2
L4	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13	14	15	16	17	12	13	14	15	16
L5	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210	220.5	231	241.5	252

Dimensions





Note 1) External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.
Note 2) When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.

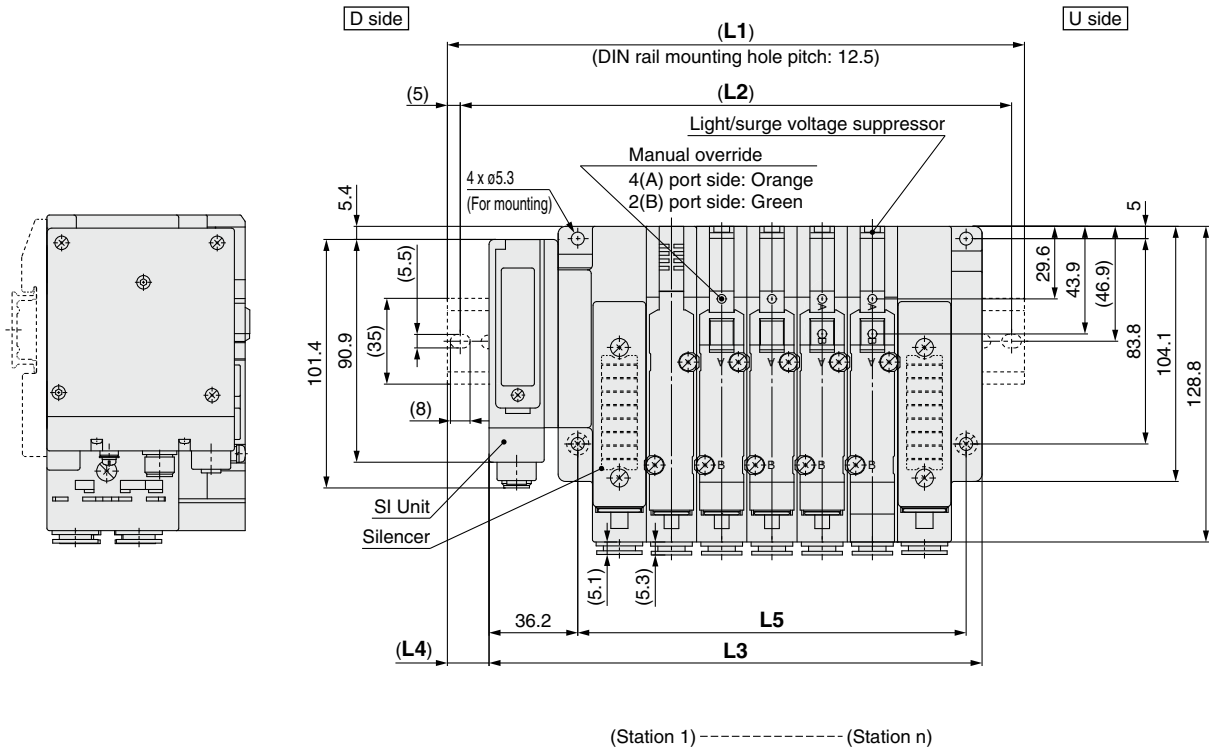
L: DIN Rail Overall Length

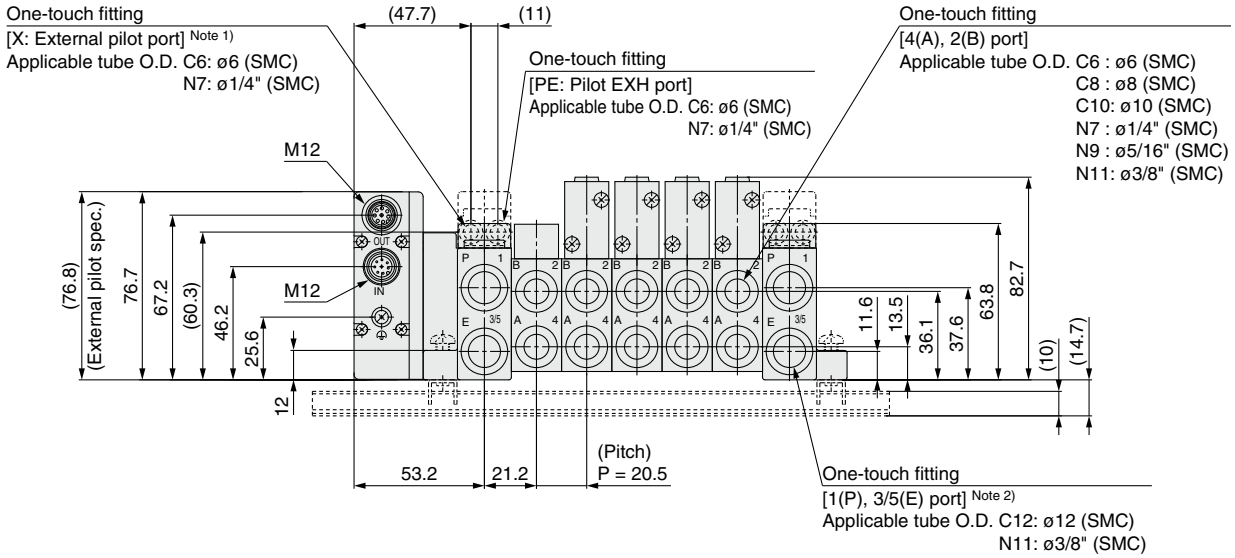
n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	148	160.5	185.5	198	210.5	235.5	248	260.5	273	298	310.5	323	335.5	360.5	373	385.5	410.5	423	435.5
L2	137.5	150	175	187.5	200	225	237.5	250	262.5	287.5	300	312.5	325	350	362.5	375	400	412.5	425
L3	120.2	136.2	152.2	168.2	184.2	200.2	216.2	232.2	248.2	264.2	280.2	296.2	312.2	328.2	344.2	360.2	376.2	392.2	408.2
L4	14	12	16.5	15	13	17.5	16	14	12.5	17	15	13.5	11.5	16	14.5	12.5	17	15.5	13.5
L5	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320	336	352	368

Dimensions

Tie-rod Base **Series SV3000**





Note 1) External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.
Note 2) When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.

L: DIN Rail Overall Length

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	173	185.5	210.5	235.5	248	273	298	310.5	335.5	348	373	398	410.5	435.5	460.5	473	498	523	535.5
L2	162.5	175	200	225	237.5	262.5	287.5	300	325	337.5	362.5	387.5	400	425	450	462.5	487.5	512.5	525
L3	139.7	160.2	180.7	201.2	221.7	242.2	262.7	283.2	303.7	324.2	344.7	365.2	385.7	406.2	426.7	447.2	467.7	488.2	508.7
L4	16.5	12.5	15	17	13	15.5	17.5	13.5	16	12	14	16.5	12.5	14.5	17	13	15	17.5	13.5
L5	97	117.5	138	158.5	179	199.5	220	240.5	261	281.5	302	322.5	343	363.5	384	404.5	425	445.5	466

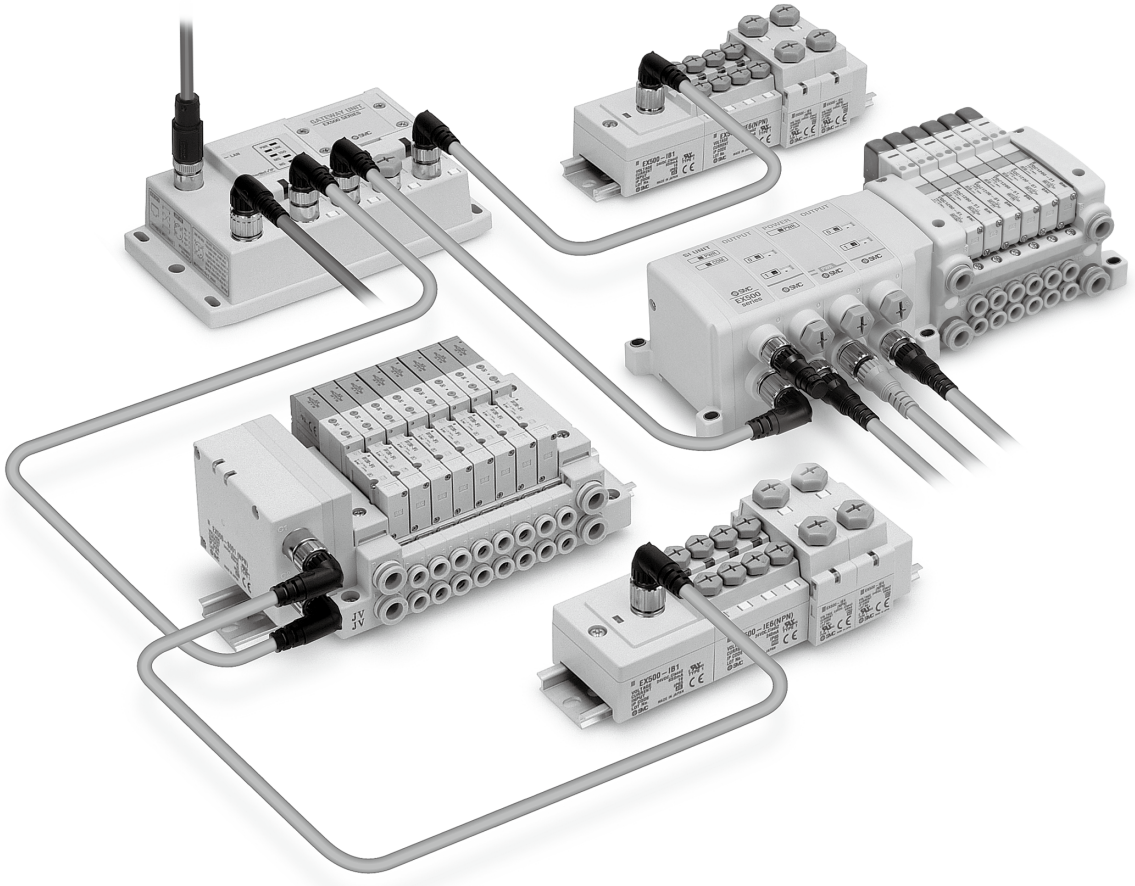
Precautions on Mixed Usage of Gateway Decentralized System 2 (128 Points) and Gateway Decentralized System (64 Points)

		GW Unit	
		Gateway Decentralized System 2 (128 points) • EX500-GEN2	Gateway Decentralized System (64 points) • EX500-GDN1 • EX500-GPR1A
SI Unit Input Unit	Gateway Decentralized System 2 (128 points) • EX500-S103 • EX500-DX□□	Usable	Usable Same functions of Gateway Decentralized System (64 points)
	Gateway Decentralized System (64 points) • EX500-S001 • EX500-Q001/002 • EX500-Q101/102 • EEX500-IB1-□ (EX500-IB1)	Usable Same functions of Gateway Decentralized System (64 points)	Usable

Series EX500

Gateway Decentralized System (64 Points)

★ Valve manifold and Input Unit can be connected around the GW (Gateway) Unit.
★ Compatible with various protocols by replacing the GW Unit.
★ Number of inputs/outputs = 64 points/64 points. The number of outputs (solenoids) per branch is 16 points.
★ Number of valve manifold connections = Max. 4 Units, Number of Input Unit connections = Max. 4 Units, Cable length = Max. 10 m
★ No need to set the address for the valve manifold and Input Unit.



Series EX500

Gateway Decentralized System (64 Points)
GW Unit

How to Order

EX500 − G DN1

Communication protocol

DN1	DeviceNet™ (Input/Output = 64 points/64 points)
PR1A	PROFIBUS DP (Input/Output = 64 points/64 points)

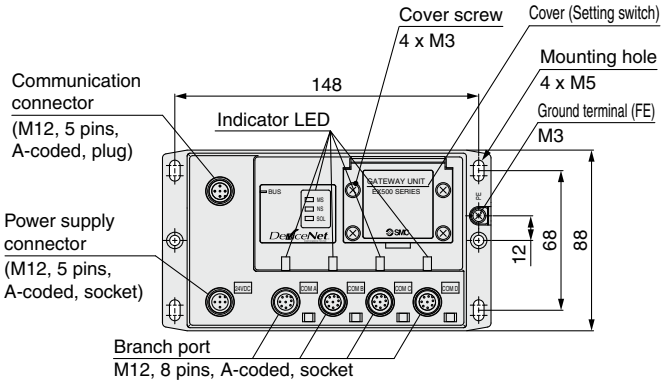
Specifications

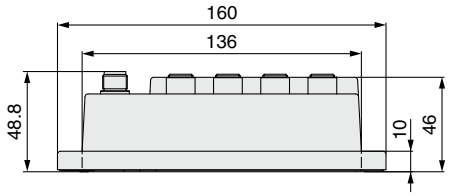
Model		EX500-GDN1	EX500-GPR1A
Communication	**Protocol**	DeviceNet™	PROFIBUS DP
	Version Note 1)	Release 2.0	DP-V0
	Communication speed	125 k/250 k/500 kbps	9.6 k/19.2 k/45.45 k/ 93.75 k/187.5 k/500 k/ 1.5 M/3 M/6 M/12 Mbps
	Configuration file Note 2)	EDS file	GSD file
	Number of inputs/outputs (I/O occupation area)	64 inputs/64 outputs (8 bytes/8 bytes)	
	Terminating resistor	Not provided	Built into the Unit
Power supply voltage	**For control**	11 to 25 VDC (Supplied by DeviceNet™ circuit, 50 mA or less)	24 VDC ±10%
	For input device	24 VDC ±10%	
	For valve	24 VDC +10%, –5%	
Current consumption	**For input and control**	3.0 A or less (Max. 0.7 A per branch x 4 branches + GW Unit internal current consumption: 0.2 A or less)	
	For valve	3.0 A or less (Max. 0.75 A per branch x 4 branches)	
Branch port	**Number of branch ports**	4 ports	
	Number of inputs and outputs	16 inputs/16 outputs per branch	
	Branch cable length	5 m or less between connected devices (10 m or less per branch)	
Environment	**Enclosure**	IP65	
	Operating temperature range	Operating: 5 to 45°C, Stored: –25 to 70°C (No freezing and condensation)	
	Operating humidity range	Operating, Stored: 35 to 85%RH (No condensation)	
Standards		CE marking, UL (CSA), RoHS compliant	
Weight		470 g	
Enclosed parts		Seal cap (for M12 connector) 4 pcs.	Seal cap (for M12 connector) 5 pcs.

Note 1) Note that the version is subject to change.
Note 2) Each file can be downloaded from SMC website, http://www.smcworld.com

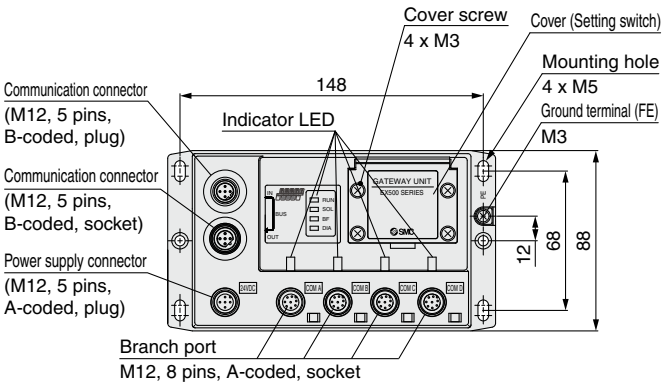
Dimensions/Parts Description

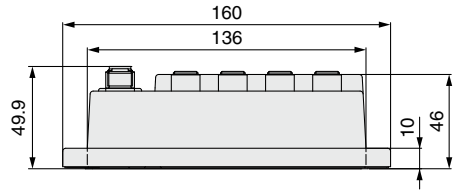
EX500-GDN1 (DeviceNet™)





EX500-GPR1A (PROFIBUS DP)





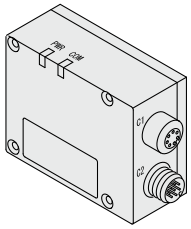
Series EX500

Gateway Decentralized System (64 Points)

SI Unit

Output Unit for valve manifold connection

For SV1000/2000/3000/4000



How to Order

EX500 – S001

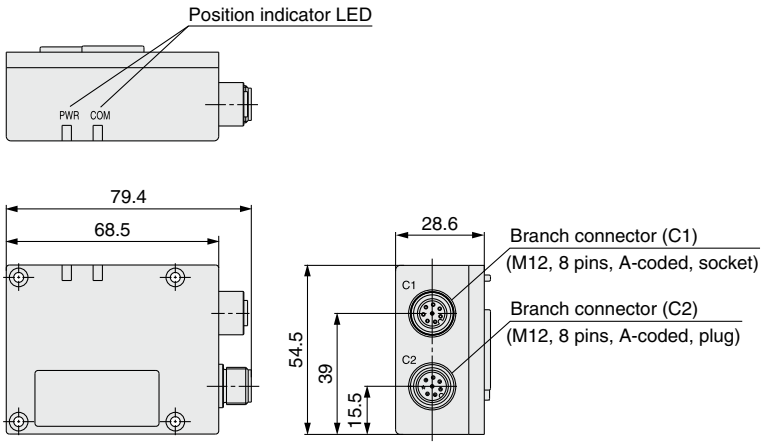
Applicable valve: Series SV

Specifications

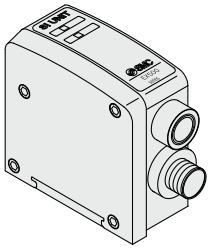
Model		EX500-S001
Output	Number of outputs	16 outputs
	Output type	Sink/NPN (Positive common)
	Supply current	Max. 0.65 A
	Rated voltage	24 V
Internal current consumption		100 mA or less
Environment	Enclosure	IP67
	Operating temperature range	Operating: 5 to 45°C, Stored: –25 to 70°C (No freezing and condensation)
	Operating humidity range	Operating, Stored: 35 to 85%RH (No condensation)
Standards		CE marking, UL (CSA), RoHS compliant
Weight		115 g
Enclosed parts		Seal cap (for M12 connector socket) 1 pc.

Dimensions/Parts Description

EX500-S001



For SY3000/5000/7000, VQC1000/2000/4000/5000, S0700



How to Order

EX500 – Q 0 0 1

Applicable valve: Series SY/VQC/S0700

Output specification

0	NPN (Positive common)
1	PNP (Negative common)

SI Unit type

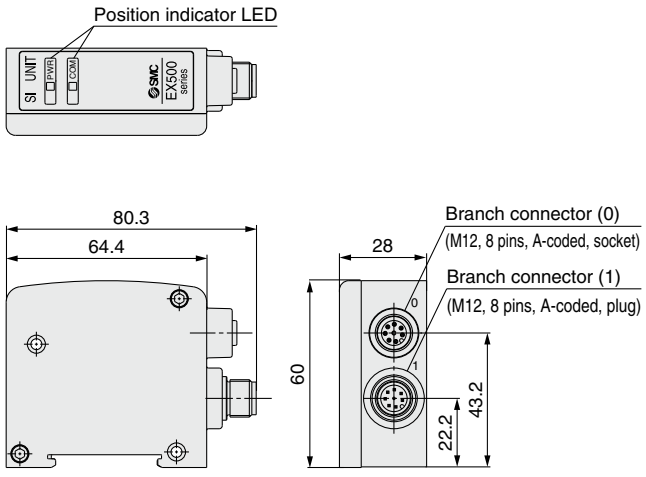
1	For without EX9 output block
2	For EX9 output block mounting

Specifications

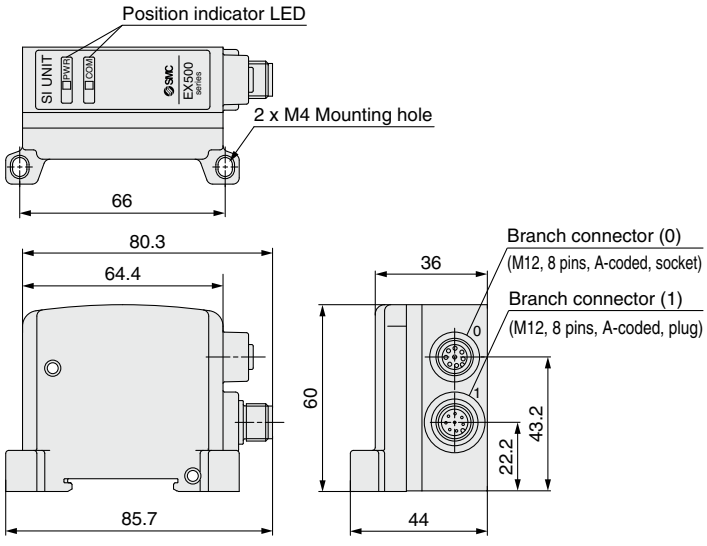
Model		EX500-Q001	EX500-Q101	EX500-Q002	EX500-Q102
Output	Number of outputs	16 outputs			
	Output type	Sink/NPN (Positive common)	Source/PNP (Negative common)	Sink/NPN (Positive common)	Source/PNP (Negative common)
	Rated voltage	24 VDC			
	Supply current	Max. 0.75 A			
Internal current consumption		100 mA or less			
Environment	Enclosure	IP67			
	Operating temperature range	Operating: 5 to 45°C, Stored: –25 to 70°C (No freezing and condensation)			
	Operating humidity range	Operating, Stored: 35 to 85%RH (No condensation)			
Standards		CE marking, RoHS compliant			
Weight		105 g			
Enclosed parts		Seal cap (for M12 connector socket) 1 pc.			

Dimensions/Parts Description

EX500-Q□01



EX500-Q□02



Gateway Decentralized System (64 Points)
Input Manifold

How to Order Input Manifold

EEX500−IB1−[E][8]

Connector type

E	M8 connector
T	M12 connector
M	M8, M12 mixed

Stations

1	1 station
⋮	⋮
8	8 stations

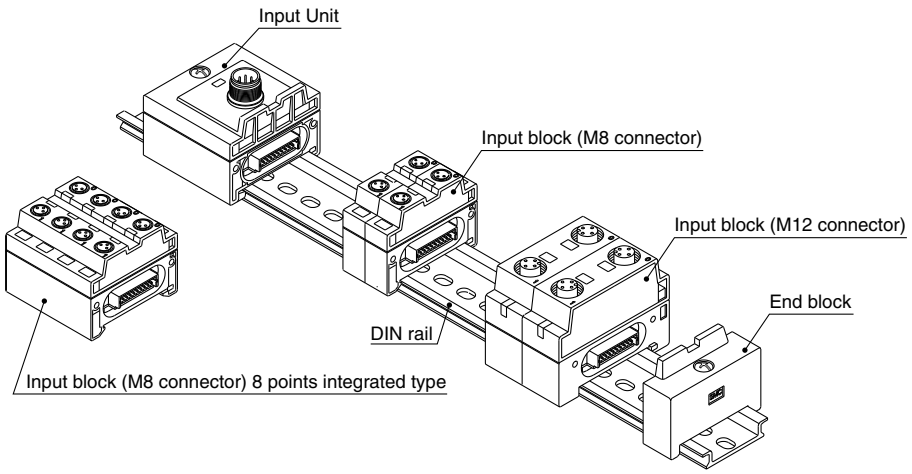
How to Order Input Block

EX500−IE[1]

Block type

1	M8 connector, 2 inputs, PNP specification
2	M8 connector, 2 inputs, NPN specification
3	M12 connector, 2 inputs, PNP specification
4	M12 connector, 2 inputs, NPN specification
5	M8 connector, 8 points integrated type, PNP specification
6	M8 connector, 8 points integrated type, NPN specification

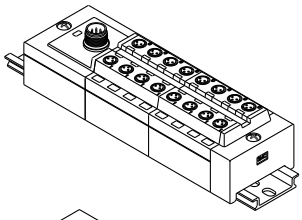
Input Manifold



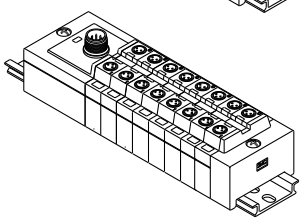
How to Order Input Manifold [Ordering Example]

When ordering an Input Unit manifold, enter the [Input manifold part number] + [Input block part number].
Please mention the connected input block part numbers in order from the Input Unit side under the input manifold part number.
When an input block layout becomes complicated, indicate in the Input Unit manifold specification sheet.
∗ The [Input Unit], [End block] and [DIN rail] are included in the input manifold.

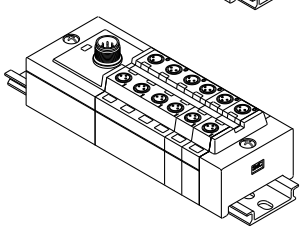
Example 1) M8 Input block only



EEX500-IB1-E8 ····· **1 set**
∗ **EX500-IE5** ····· **2 sets** Note)

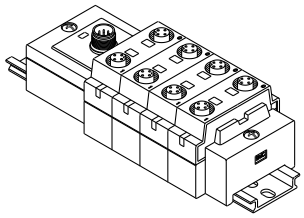


EEX500-IB1-E8 ····· **1 set**
∗ **EX500-IE1** ····· **8 sets**



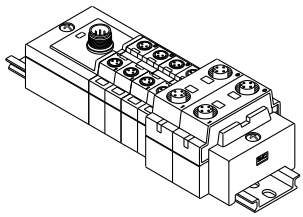
EEX500-IB1-E6 ····· **1 set**
∗ **EX500-IE5** ····· **1 set** Note)
∗ **EX500-IE1** ····· **2 sets**

Example 2) M12 Input block only



EEX500-IB1-T4 ····· **1 set**
∗ **EX500-IE4** ····· **4 sets**

Example 3) M8, M12 mixed



EEX500-IB1-M6····· **1 set**
∗ **EX500-IE1**····· **4 sets**
∗ **EX500-IE3**····· **2 sets**

Note) 8-point integrated type input block (EX500-IE5/6) is equivalent to 4 stations of 2-point input block (EX500-IE1/2).

Specifications (Input Unit)

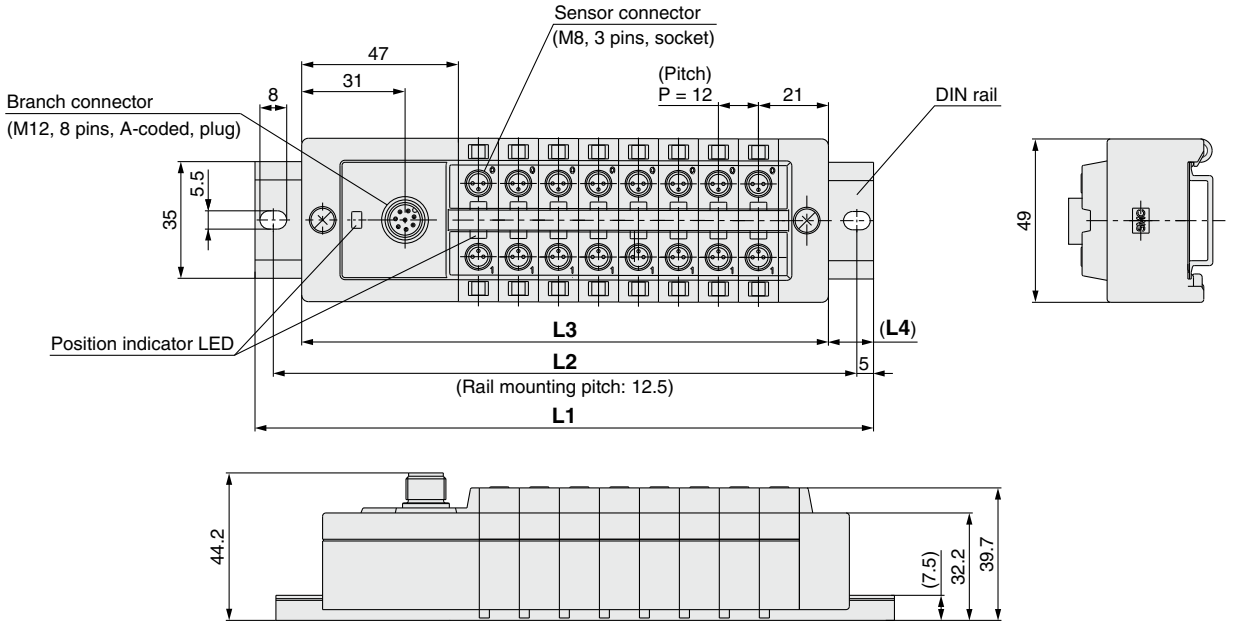
Model		EX500-IB1
Input	Number of inputs	16 inputs
	Connection block	EX500-IE□ (Mixed combination is possible.)
	Connection block stations	2-input, input block: Max. 8 stations 8-input, input block: Max. 2 stations
Internal current consumption		100 mA or less
Environment	Enclosure	IP65
	Operating temperature range	Operating: 5 to 45°C, Stored: –25 to 70°C (No freezing and condensation)
	Operating humidity range	Operating, Stored: 35 to 85%RH (No condensation)
Standards		CE marking, UL (CSA), RoHS
Weight		100 g (Input Unit + End block)

Specifications (Input Block)

Model		EX500-IE1	EX500-IE2	EX500-IE3	EX500-IE4	EX500-IE5	EX500-IE6
Input	Connector type	M8 (3 pins)		M12 (4 pins)		M8 (3 pins)	
	Input type	PNP	NPN	PNP	NPN	PNP	NPN
	Number of inputs	2 inputs				8 inputs	
	Input device supply voltage	24 VDC					
	Input device supply current	Max. 480 mA/Input Unit manifold					
	Rated input current	Approx. 5 mA					
Environment	Enclosure	IP65					
	Operating temperature range	Operating: 5 to 45°C, Stored: –25 to 70°C (No freezing and condensation)					
	Operating humidity range	Operating, Stored: 35 to 85%RH (No condensation)					
Standards		CE marking, UL (CSA), RoHS compliant					
Weight		20 g		40 g		55 g	
Enclosed parts		Seal cap (for M8 connector) 2 pcs.		Seal cap (for M12 connector) 2 pcs.		Seal cap (for M8 connector) 8 pcs.	

Dimensions/Parts Description

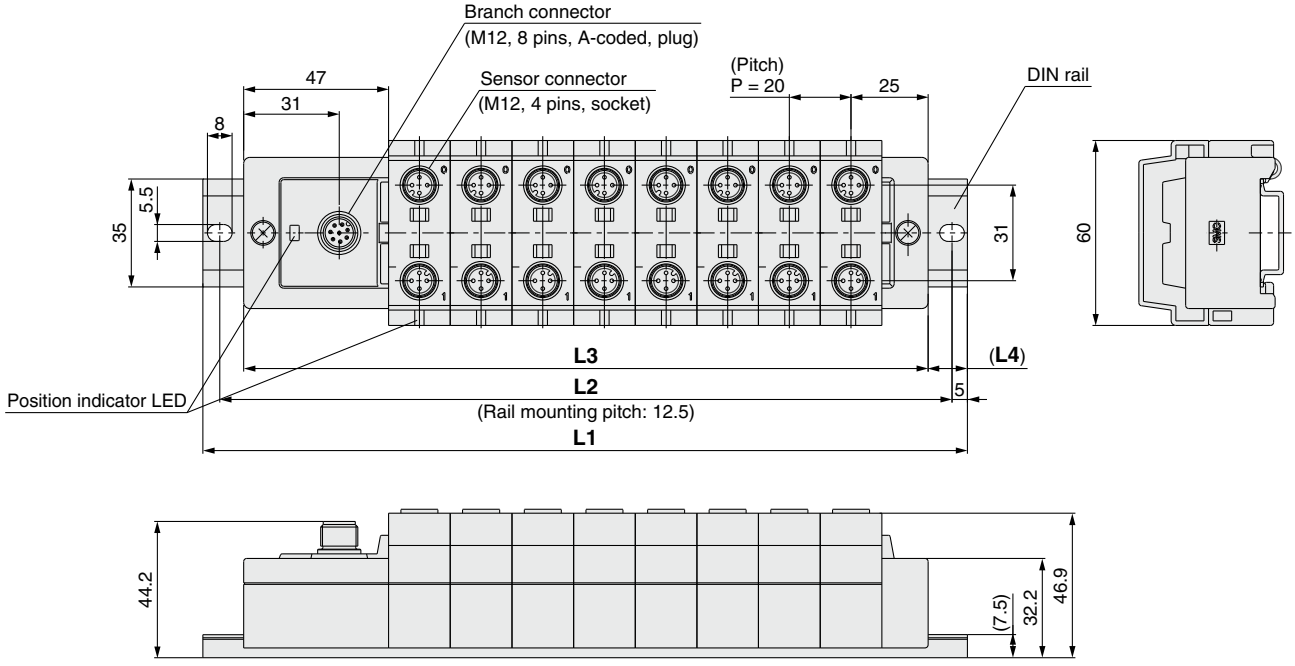
Input block (M8) only



[mm]

Stations	1	2	3	4	5	6	7	8
Rail length **L1**	98	110.5	123	135.5	148	160.5	173	185.5
Mounting pitch **L2**	87.5	100	112.5	125	137.5	150	162.5	175
Manifold length **L3**	74	86	98	110	122	134	146	158
L4	12	12	12.5	12.5	13	13	13.5	13.5

Input block (M12) only



[mm]

Stations	1	2	3	4	5	6	7	8
Rail length **L1**	110.5	123	148	173	185.5	210.5	223	248
Mounting pitch **L2**	100	112.5	137.5	162.5	175	200	212.5	237.5
Manifold length **L3**	82	102	122	142	162	182	202	222
L4	12	12	12.5	12.5	13	13	13.5	13.5

How to Add Input Block Stations

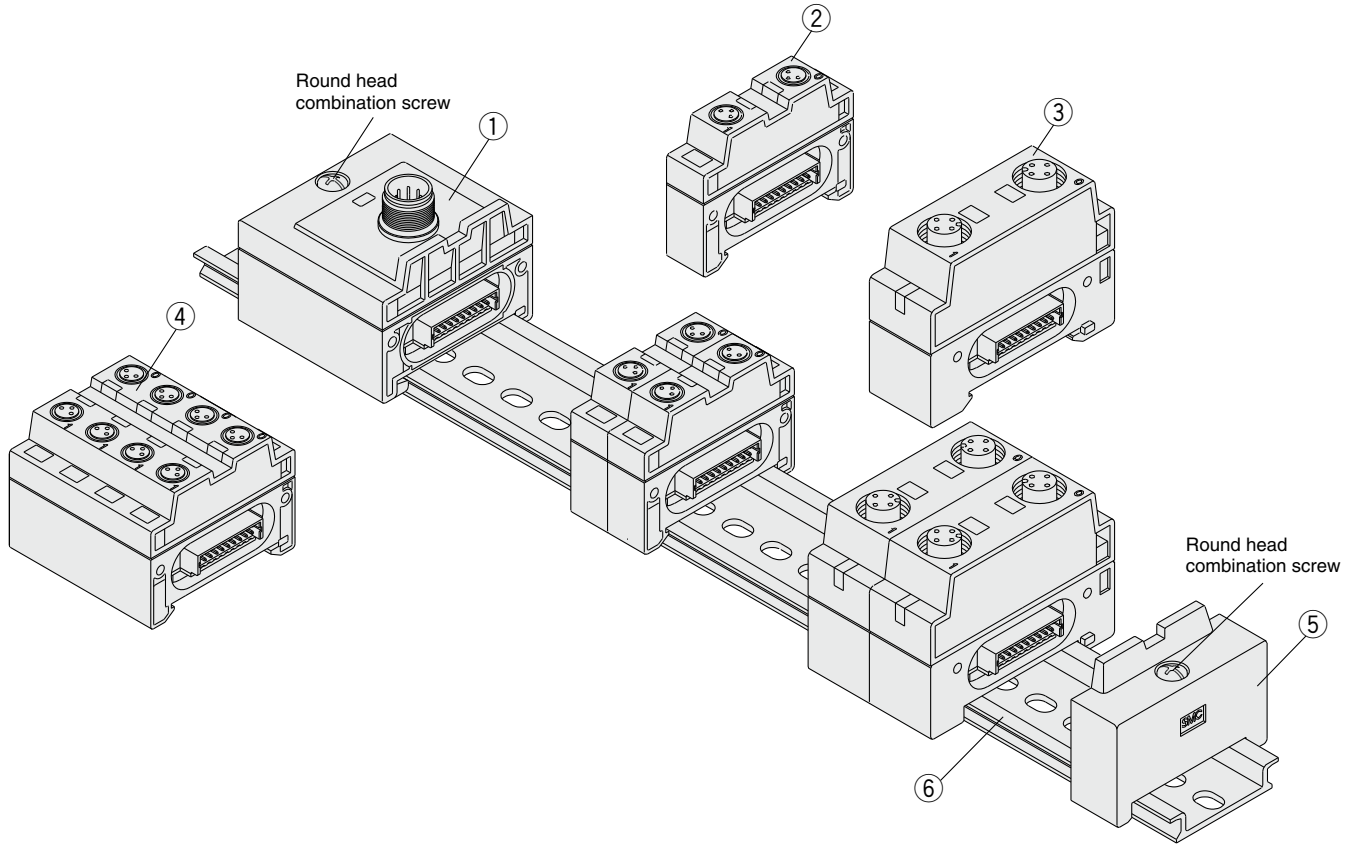
How to add input block stations

1. Loosen the round head combination screws (2 places) that hold the end block.

2. Separate the blocks at the locations where stations are to be added.

3. Attach the additional blocks to the DIN rail, and connect the blocks so that they fit together securely.

4. While holding the blocks together so that there are no gaps between them, secure them to the DIN rail by tightening the round head combination screws.
Note: Be sure to tighten the round head combination screw with the prescribed tightening torque. (0.6 N·m)



Parts List

No.	Description	Part number	Note
		For standard	
①	**Input Unit**	EX500-IB1	
②	**Input block (M8 connector)**	EX500-IE□	PNP Specification···□: 1, NPN Specification···□: 2
③	**Input block (M12 connector)**	EX500-IE□	PNP Specification···□: 3, NPN Specification···□: 4
④	**Input block (M8 connector) 8 points integrated type**	EX500-IE□	PNP Specification···□: 5, NPN Specification···□: 6
⑤	**End block**	EX500-EB1	
⑥	**DIN rail**	VZ1000-11-1-□	□: Number based on L dimension (Refer to the table below.)

DIN Rail L Dimensions [mm]

Stations		M8 input block (m)								
		0	1	2	3	4	5	6	7	8
M12 input block (n)	0		0	1	2	3	4	5	6	7
	1	1	2	3	4	5	6	7	8	
	2	2	3	4	5	6	7	8		
	3	4	5	6	7	8	9			
	4	6	7	8	9	10				
	5	7	8	9	10					
	6	9	10	11						
	7	10	11							
	8	12								

Connector type
For T (n = 1 to 8)

Connector type
For M (m + n = 2 to 8)

Connector type
For E (m = 1 to 8)

L dimensions

No.	L dimension	No.	L dimension
0	98	7	185.5
1	110.5	8	198
2	123	9	210.5
3	135.5	10	223
4	148	11	235.5
5	160.5	12	248
6	173		

Gateway Decentralized System (64 Points)
Accessories

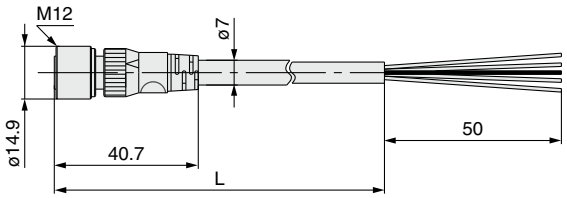
① Communication Cable

For DeviceNet™

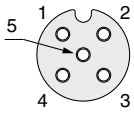
EX500 – AC 050 – DN

Cable length (L)

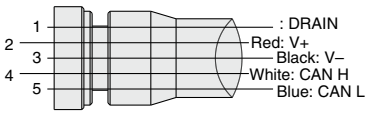
010	1000 [mm]
050	5000 [mm]



A-coded

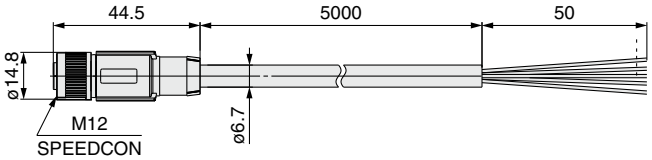


Socket pin arrangement

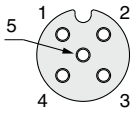


Connections

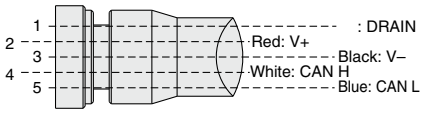
PCA-1557633



A-coded



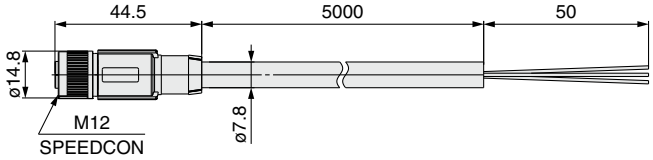
Socket pin arrangement



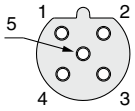
Connections

For PROFIBUS DP

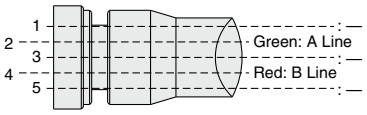
PCA-1557688



B-coded



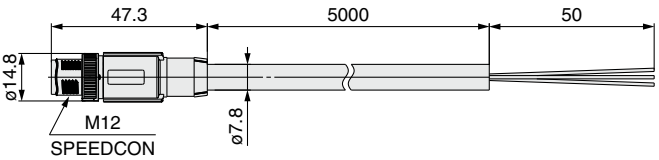
Socket pin arrangement



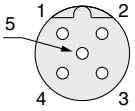
Shield line is connected to the knurl.

Connections

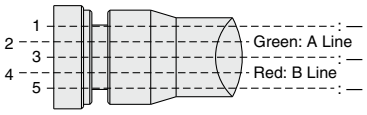
PCA-1557691



B-coded



Plug pin arrangement



Shield line is connected to the knurl.

Connections

② Power Supply Cable

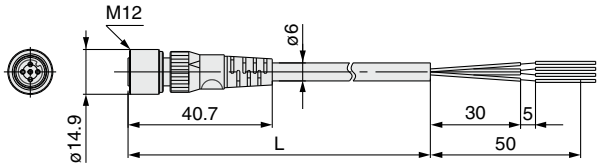
EX500 − AP 050 − S

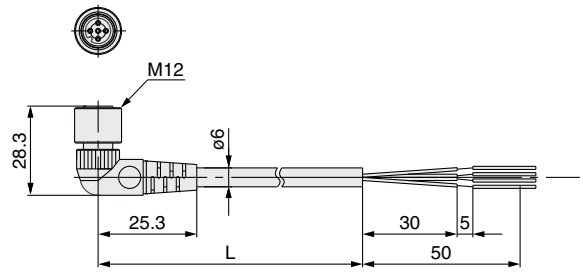
Cable length (L)

010	1000 [mm]
050	5000 [mm]

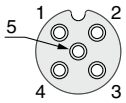
Connector specification

S	Straight
A	Angle

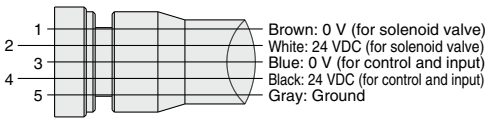




A-coded



Socket pin arrangement



Connections

③ Branch Cable

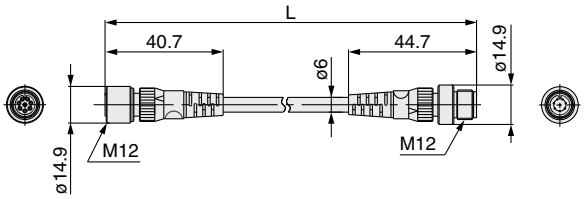
EX500 − AC 030 − SSPS

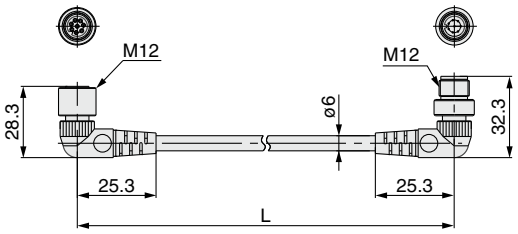
Cable length (L)

003	300 [mm]
005	500 [mm]
010	1000 [mm]
030	3000 [mm]
050	5000 [mm]

Connector specification

SSPS	Socket side: Straight Plug side: Straight
SAPA	Socket side: Angle Plug side: Angle





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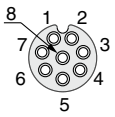
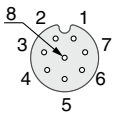


Socket pin arrangement

A-coded

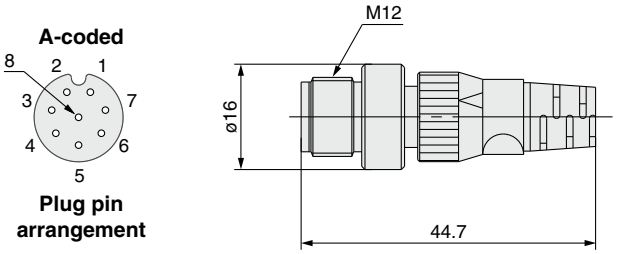


Plug pin arrangement

④ Terminal Plug

Use this where an input unit manifold is not being used. (If a terminal plug is not used, the GW unit's COM LED will not light up.)

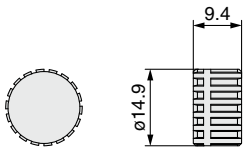
EX500−AC000−S



⑤ Seal Cap (1 pc.)

Use with new connector (plug). By using these waterproof caps, the connector maintains IP65/67 enclosure.

EX500−AWTP



⑥ Seal Cap (10 pcs.)

Use with new connector. By using these waterproof caps, the new connector maintains IP65/67 enclosure.

EX9-AWES
For M8 connector socket

EX9-AWTS
For M12 connector socket

● Refer to page 14 for details about output block and power block.

Type 10
Side Ported

Type 11
Bottom Ported

Gateway Decentralized System

5 Port Solenoid Valve

Series SY3000/5000/7000

RoHS

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

How to Order Manifold

SS5Y 3 – 10 S A2 – 05 U □ – C6 □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

❶ Series

3	SY3000
5	SY5000
7	SY7000

∗ For mixed mounting, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

❷ Type

10	Side ported
11	Bottom ported Note)

Note) The SY5000 manifold base is used for the bottom ported of the SY3000. When ordering, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

∗ When mixing top ported configurations, select from page 61.
In this case, use caution as there is also output on the A and B port on base side.
Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

❸ SI Unit (Number of outputs, Output polarity, Max. number of valve stations)

A2	16 outputs, Positive common Note 1), 1 to 8 stations (16 stations) Note 2)
A2N	16 outputs, Negative common Note 1), 1 to 8 stations (16 stations) Note 2)

Note 1) Ensure a match with the common specification of the valve to be used.
Note 2) ( ): Maximum number of stations for single wiring.

❹ Valve stations

	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Mixed wiring, Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a 2-position single solenoid will result in an unused control signal.
If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) For the product without the SI Unit (S0), note the maximum number of solenoids of the SI Unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.
∗ This also includes the number of blanking plate assembly.

❺ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 16 stations)

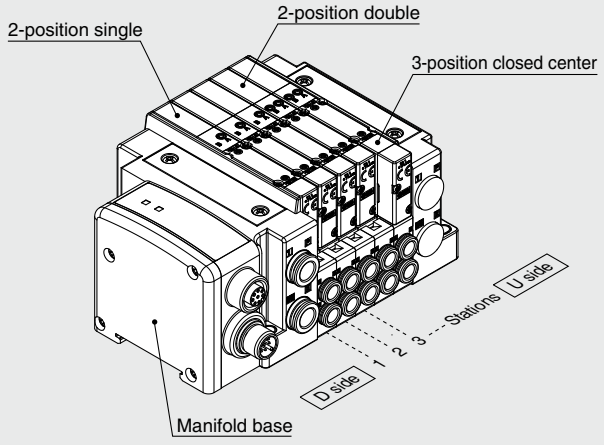
❻ SUP/EXH block assembly

Nil	Internal pilot
S	Internal pilot, Built-in silencer Note 1) 2)
R	External pilot

Note 1) 3/5(E) port is plugged for the built-in silencer type.
Note 2) When built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

How to Order Manifold Assembly

Example

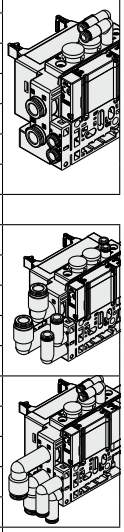


SS5Y3-10SA2-05D-C6 ·····1 set (Manifold base part number)
∗ SY3100-5U1·····3 sets (2-position single part number)
∗ SY3200-5U1·····1 set (2-position double part number)
∗ SY3300-5U1·····1 set (3-position closed center part number)
The asterisk denotes the symbol for assembly.
Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

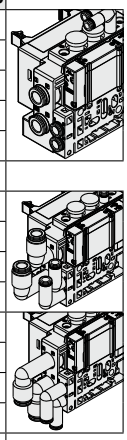
❼ A, B port size (Metric/One-touch fitting)

	A, B port		Type 10/Side Ported			Type 11/Bottom Ported	
			SY3000	SY5000	SY7000	SY5000	SY7000
C2	Straight	ø2	●	—	—	—	—
C3		ø3.2	●	—	—	—	—
C4		ø4	●	●	—	●	—
C6		ø6	●	●	●	●	●
C8		ø8	—	●	●	●	●
C10		ø10	—	—	●	—	●
C12		ø12	—	—	●	—	●
CM Note 1)		Mixed sizes	●	●	●	●	●
L4	Elbow Note 2) Upward	ø4	●	●	—	—	—
L6		ø6	●	●	●	—	—
L8		ø8	—	●	●	—	—
L10		ø10	—	—	●	—	—
L12		ø12	—	—	●	—	—
B4	Elbow Note 2) Downward	ø4	●	●	—	—	—
B6		ø6	●	●	●	—	—
B8		ø8	—	●	●	—	—
B10		ø10	—	—	●	—	—
B12		ø12	—	—	●	—	—
LM Note 1)		Mixed sizes	●	●	●	—	—
	P, E port Note 3)		ø8	ø10	ø12	ø10	ø12



A, B port size (Inch/One-touch fitting)

	A, B port		Type 10/Side Ported			Type 11/Bottom Ported	
			SY3000	SY5000	SY7000	SY5000	SY7000
N1	Straight	ø1/8"	●	—	—	—	—
N3		ø5/32"	●	●	—	●	—
N7		ø1/4"	●	●	●	●	●
N9		ø5/16"	—	●	●	●	●
N11		ø3/8"	—	—	●	—	●
CM Note 1)		Mixed sizes	●	●	●	●	●
LN3	Elbow Note 2) Upward	ø5/32"	●	—	—	—	—
LN7		ø1/4"	●	●	—	—	—
LN9		ø5/16"	—	●	—	—	—
LN11		ø3/8"	—	—	●	—	—
BN3	Elbow Note 2) Downward	ø5/32"	●	—	—	—	—
BN7		ø1/4"	●	●	—	—	—
BN9		ø5/16"	—	●	—	—	—
BN11		ø3/8"	—	—	●	—	—
LM Note 1)		Mixed sizes	●	●	●	—	—
	P, E port Note 3)		ø5/16"	ø3/8"	ø1/2"	ø3/8"	ø1/2"



Note 1) Indicate the sizes on the manifold specification sheet.
Note 2) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly. For details, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).
Note 3) The direction of P, E port fittings is the same as for A, B port. If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.

❽ Mounting and Option

	Mounting	Option	
		Name plate	Station number
Nil	Direct mounting	—	—
AA		●	●
BA		●	—
D□ Note 1)	DIN rail mounting	—	—
A□ Note 1)		●	●
B□ Note 1)		●	—

Note 1) Refer to "DIN Rail Option" below.
∗ Select the direct mounting type for Type 11 (Bottom ported).

DIN Rail Option

Nil	With DIN bracket, DIN rail with standard length
0	With DIN bracket, without DIN rail
3 Note)	With DIN bracket, DIN rail for 3 stations
⋮	⋮
16 Note)	With DIN bracket, DIN rail for 16 stations

Note) Specify a longer rail than the length of valve stations.
∗ If the DIN rail must be mounted without an SI Unit, select "D0" and order the DIN rail separately. Refer to L3 of the dimensions for the DIN rail length. For the DIN rail part number, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).
∗ For the fixation of DIN rail mounting type manifold, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

⚠ Protective class class Ⅲ (Mark: ⧫)

How to Order Valves (With mounting screw)

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

❸ Side/Bottom ported

❶ Series

3	SY3000
5	SY5000
7	SY7000

❷ Type of actuation

1	2-position	Single
2		Double
3	3-position	Closed center
4		Exhaust center
5		Pressure center
A Note)	4-position dual 3-port valve	N.C./N.C.
B Note)		N.O./N.O.
C Note)		N.C./N.O.

Note) Select the rubber seal type for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

Nil	Internal pilot
R	External pilot

❺ Back pressure check valve

Nil	None
H Note)	Built-in

Note) Select the rubber seal type when the back pressure check valve is built-in. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. For ordering example, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103). However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

∗ Select "Nil" for 3-position type and the SY7000.

❻ Pilot valve option

Nil	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K Note)	High pressure type (1.0 MPa)

Note) Select the metal seal type for high pressure type.

❼ Coil type

Nil	Standard
T	With power saving circuit (Continuous duty type) Note 1) 2)

Note 1) Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.

Note 2) Be careful of the energizing time when the power saving circuit is selected. For details, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

❽ Rated voltage

5	24 VDC

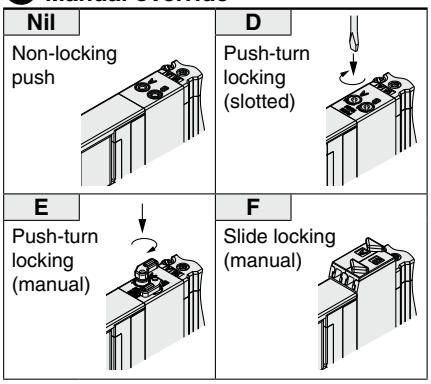
❾ Light/surge voltage suppressor and common specification

	With light	Surge voltage suppressor	Common specification
R	—	●	Non-polar
U	●		
S	—		Positive common
Z	●		
NS	—		Negative common
NZ	●		

∗ Only "Z" and "NZ" types are available for with the power saving circuit. Select a valve from R, U, S or Z when the SI Unit specification is A2 (positive common). Select a valve from R, U, NS or NZ when the SI Unit specification is A2N (negative common).

❿ Manual override

Nil: Non-locking push	D: Push-turn locking (slotted)
E: Push-turn locking (manual)	F: Slide locking (manual)



⓫ Type of mounting screw

Nil	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type) Note)
H	Hexagon socket head cap screw (Falling-out-prevention type) Note)

Note) For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.

∗ **When ordering a valve individually, the base gasket is not included.**
Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
For details, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

∗ Select "Nil" or "K" for the optional individual SUP/EXH spacer assembly, interface regulator or double check spacer assembly with residual pressure release valve.

⚠ Protective class class Ⅲ (Mark: ⧫)

5 Port Solenoid Valve

Series SY3000/5000/7000

Type 12
Top Ported

CE RoHS

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

How to Order Manifold

SS5Y [3] – 12S [A2] – [05] [U] [ ] – [ ] [ ]

❶ ❷ ❸ ❹ ❺ ❻ ❼

❶ Series

3	SY3000
5	SY5000
7	SY7000

∗ For mixed mounting, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

❷ SI Unit (Number of outputs, Output polarity, Max. number of valve stations)

A2	16 outputs, Positive common Note 1), 1 to 8 stations (16 stations) Note 2)
A2N	16 outputs, Negative common Note 1), 1 to 8 stations (16 stations) Note 2)

Note 1) Ensure a match with the common specification of the valve to be used.
Note 2) ( ): Maximum number of stations for single wiring.

❸ Valve stations

	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.
Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.)
Note 3) For the product without the SI Unit (S0), note the maximum number of solenoids of the SI Unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.
∗ This also includes the number of blanking plate assembly.

❹ P, E port entry

U Note)	U side (2 to 10 stations)
D Note)	D side (2 to 10 stations)
B	Both sides (2 to 16 stations)

Note) For type "S", supply/exhaust block assembly with built-in silencer, choose "U" or "D" for P, E port entry.

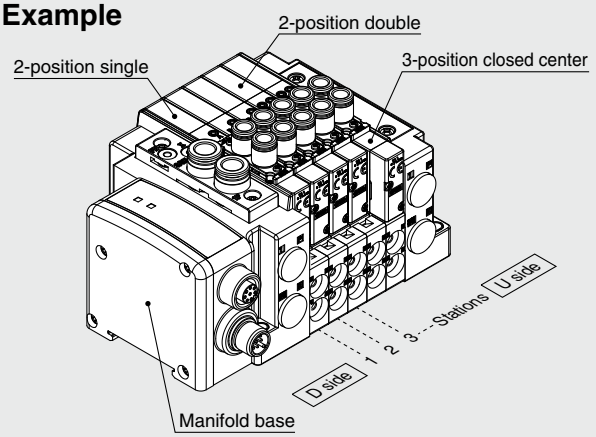
❺ SUP/EXH block assembly

Nil	Internal pilot
S Note 1)	Internal pilot, Built-in silencer Note 2)
R	External pilot

Note 1) For type "S", supply/exhaust block assembly with built-in silencer, choose "U" or "D" for P, E port entry. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)
Note 2) When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

How to Order Manifold Assembly

Example

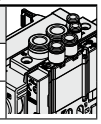


SS5Y3-12SA2-05D·····1 set (Manifold base part number)
∗ SY3130-5U1-C6·····3 sets (2-position single part number)
∗ SY3230-5U1-C6·····1 set (2-position double part number)
∗ SY3330-5U1-C6·····1 set (3-position closed center part number)
The asterisk denotes the symbol for assembly. Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

❻ P, E port size (One-touch fittings)

	SY3000	SY5000	SY7000
Nil	ø8	ø10	ø12
N Note)	ø5/16"	ø3/8"	ø1/2"



Note) For "N", sizes are in inches.

❼ Mounting

Nil	Direct mounting
D	With DIN bracket, DIN rail with standard length
D0	With DIN bracket, without DIN rail
D3 Note)	With DIN bracket, DIN rail for 3 stations
⋮	⋮
D16 Note)	With DIN bracket, DIN rail for 16 stations

Note) Specify a longer rail than the length of valve stations.
∗ If the DIN rail must be mounted without an SI Unit, select "D0". Then, refer to L3 of the dimensions for the DIN rail length and order separately. For the DIN rail part number, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).
∗ For the fixation of DIN rail mounting type manifold, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

How to Order Valves (With mounting screw)

SY [3] [1] [3] [0] [ ] [ ] [ ] [ ] – [5] [ ] [ ] 1 – [C6] [ ] – [ ]

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

❸ Top ported

❶ Series

3	SY3000
5	SY5000
7	SY7000

❷ Type of actuation

1	2-position	Single
2		Double
3	3-position	Closed center
4		Exhaust center
5		Pressure center
A Note)	4-position dual 3-port valve	N.C./N.C.
B Note)		N.O./N.O.
C Note)		N.C./N.O.

Note) Select the rubber seal type for the 4-position dual 3-port valve.

❸ Seal type

0	Rubber seal
1	Metal seal

❹ Pilot type

Nil	Internal pilot
R	External pilot

❺ Back pressure check valve (Built-in valve type)

Nil	None
H Note)	Built-in

Note) Select the rubber seal type when the back pressure check valve is built-in. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. For ordering example, refer to the SY series catalog (CAT. ES11-103). However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

∗ Select "Nil" for 3-position type and the SY7000.

❻ Pilot valve option

Nil	Standard (0.7 MPa)
B	Quick response type (0.7 MPa)
K Note)	High pressure type (1.0 MPa)

Note) Select the metal seal type for high pressure type.

❼ Coil type

Nil	Standard
T	With power saving circuit (Continuous duty type) Note 1) 2)

Note 1) Be sure to select the power saving circuit type when the valve is continuously energized for long periods of time.

Note 2) Be careful of the energizing time when the power saving circuit is selected. For details, refer to the SY series catalog (CAT. ES11-103).

❽ Rated voltage

5	24 VDC

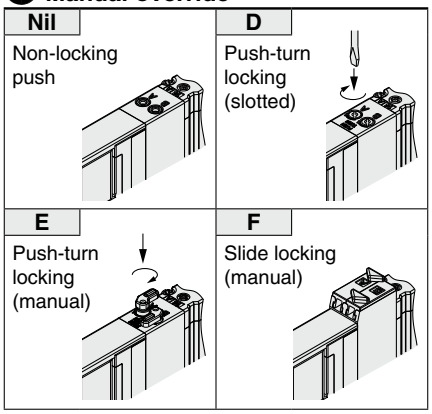
❾ Light/surge voltage suppressor and common specification

	With light	Surge voltage suppressor	Common specification
R	—	●	Non-polar
U	●		
S	—		Positive common
Z	●		
NS	—		Negative common
NZ	●		

∗ Only "Z" and "NZ" types are available for with the power saving circuit. Select a valve from R, U, S or Z when the SI Unit specification is A2 (positive common). Select a valve from R, U, NS or NZ when the SI Unit specification is A2N (negative common).

❿ Manual override

Nil: Non-locking push	D: Push-turn locking (slotted)
E: Push-turn locking (manual)	F: Slide locking (manual)



⓫ A, B port size

Thread piping

	Port size	SY3000	SY5000	SY7000
M5	M5 x 0.8	●	—	—
01	1/8	—	●	—
02	1/4	—	—	●

One-touch fitting (Metric)

	A, B port	SY3000	SY5000	SY7000
C2	ø2	●	—	—
C3	ø3.2	●	—	—
C4	ø4	●	●	—
C6	ø6	●	●	●
C8	ø8	—	●	●
C10	ø10	—	—	●
C12	ø12	—	—	●

One-touch fitting (Inch)

	A, B port	SY3000	SY5000	SY7000
N1	ø1/8"	●	—	—
N3	ø5/32"	●	●	—
N7	ø1/4"	●	●	●
N9	ø5/16"	—	●	●
N11	ø3/8"	—	—	●

⓬ A, B port thread type

Nil	Rc
F	G
N	NPT
T	NPTF

∗ Select "Nil" for M5.

⓭ Type of mounting screw

Nil	Round head combination screw
B	Hexagon socket head cap screw
K	Round head combination screw (Falling-out-prevention type) Note)
H	Hexagon socket head cap screw (Falling-out-prevention type) Note)

Note) For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.

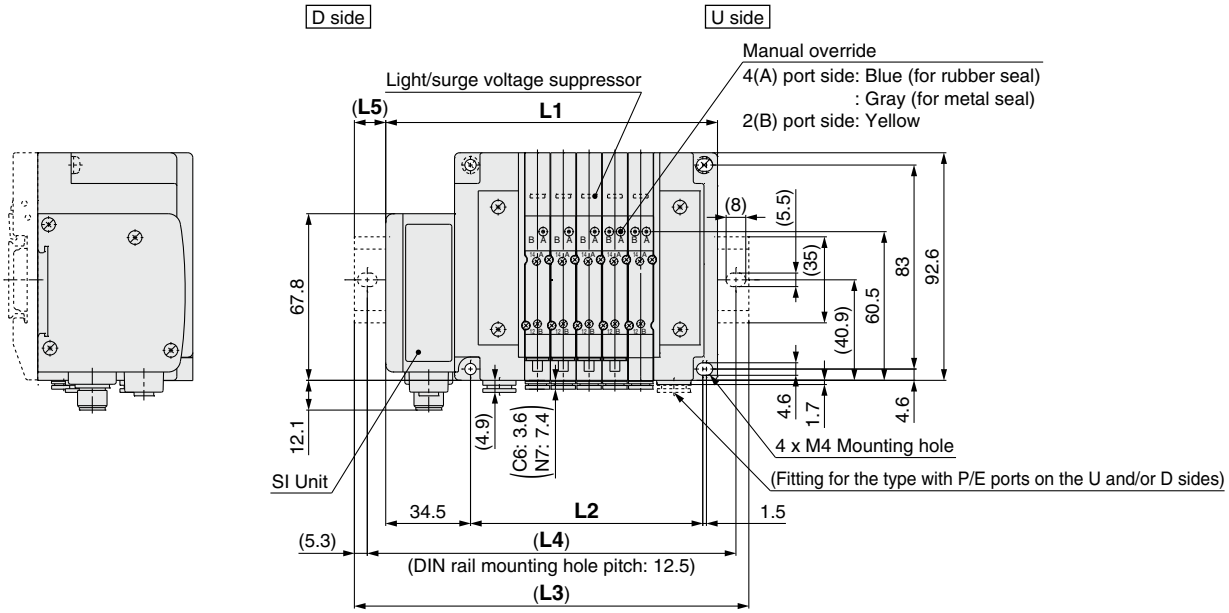
∗ **When ordering a valve individually, the base gasket is not included.**
Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service. For details, refer to the SY series catalog (CAT. ES11-103).

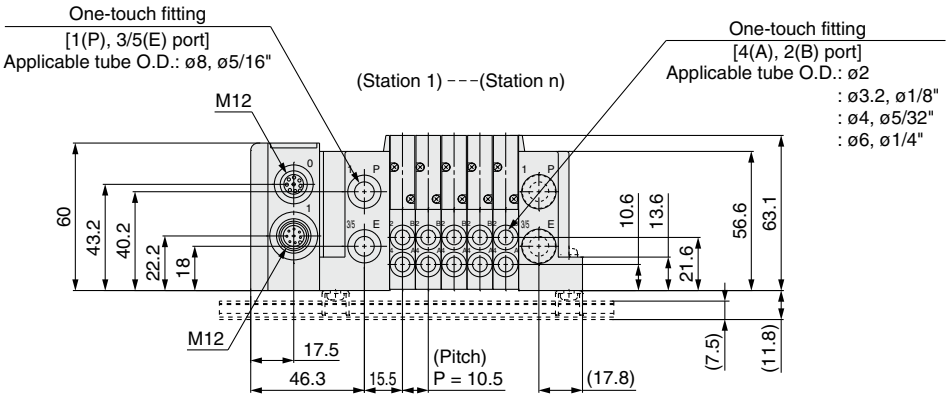
∗ Select "Nil" or "K" for the optional individual SUP/EXH spacer assembly or interface regulator.

⚠ Protective class class Ⅲ (Mark: ⧫)

Dimensions

Type 10/Side Ported **Series SY3000**



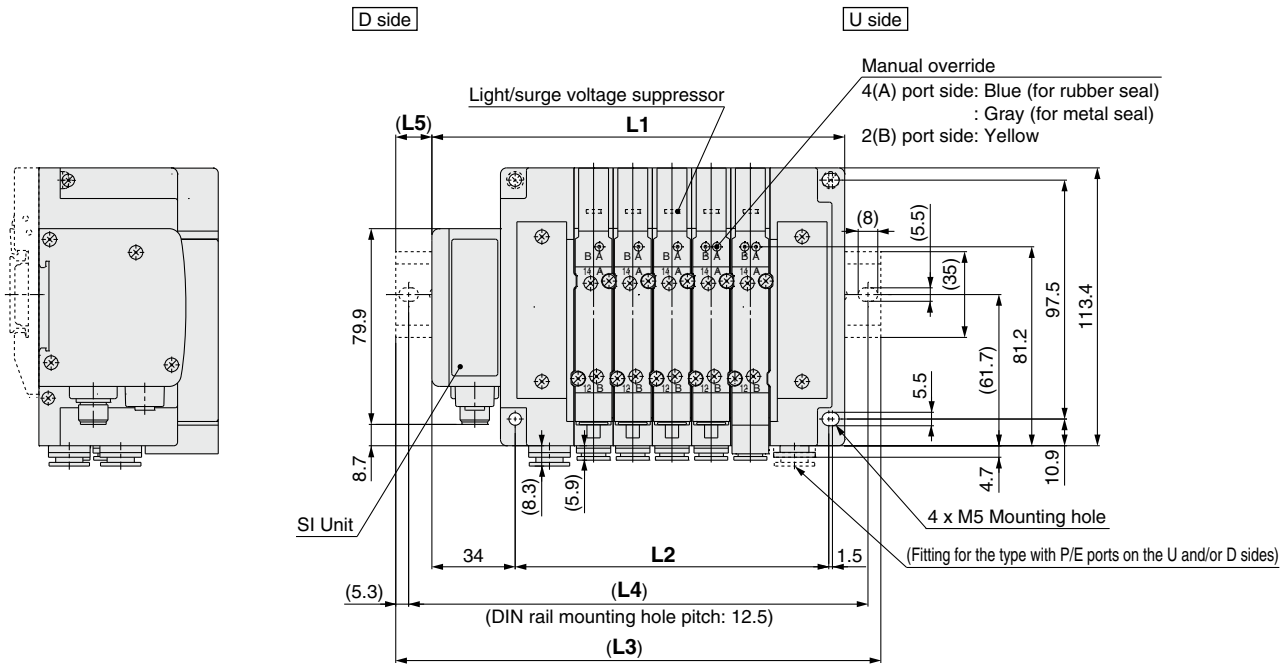


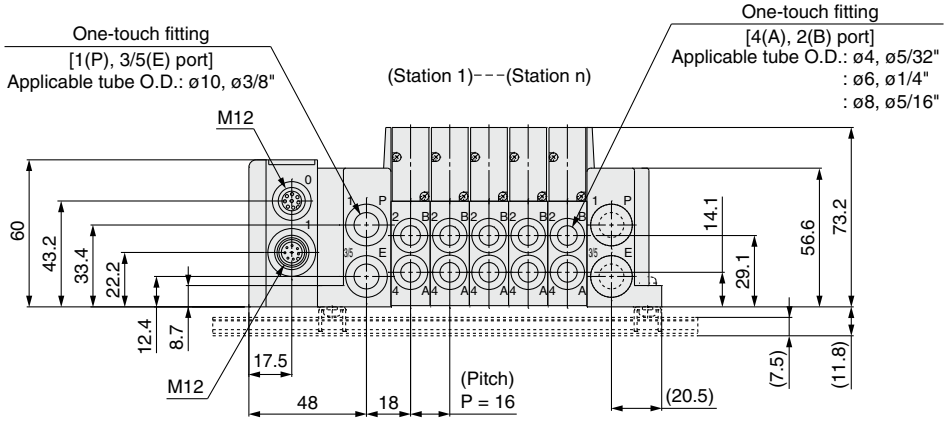
Note) These figures show the "SS5Y3-10SA2-05D-C6".

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	103.5	114	124.5	135	145.5	156	166.5	177	187.5	198	208.5	219	229.5	240	250.5
L2	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210
L3	135.5	148	148	160.5	173	185.5	198	210.5	223	223	235.5	248	260.5	273	285.5
L4	125	137.5	137.5	150	162.5	175	187.5	200	212.5	212.5	225	237.5	250	262.5	275
L5	16	17	12	13	14	15	16	17	18	12.5	13.5	14.5	15.5	16.5	17.5

For dimensions of Type 11/Bottom ported type and Type 12/Top ported type, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

Dimensions





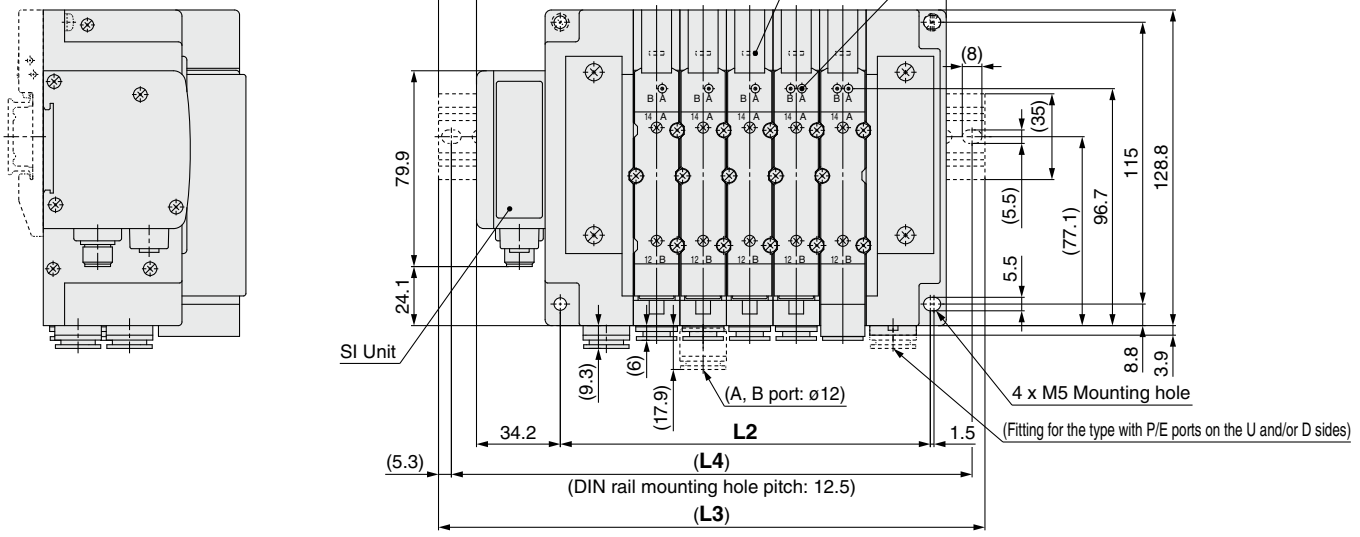
Note) These figures show the “SS5Y5-10SA2-05D-C8”.

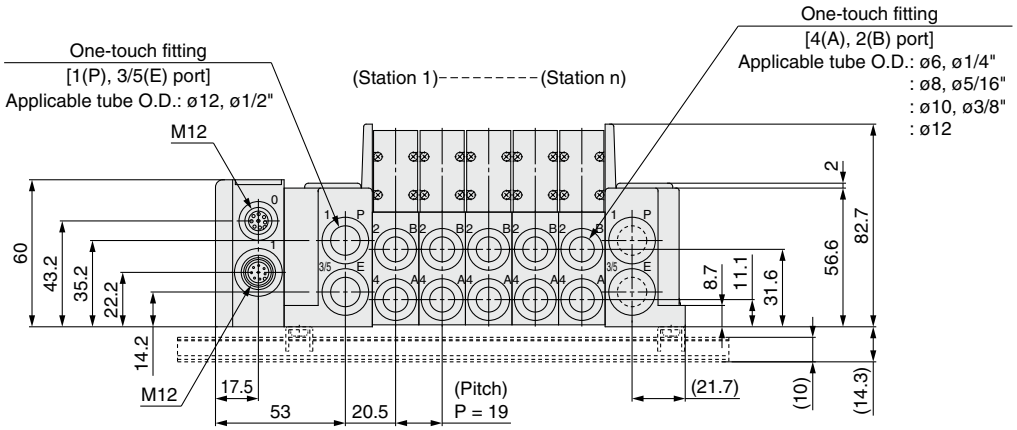
n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	120.5	136.5	152.5	168.5	184.5	200.5	216.5	232.5	248.5	264.5	280.5	296.5	312.5	328.5	344.5
L2	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304
L3	148	160.5	185.5	198	210.5	235.5	248	260.5	273	298	310.5	323	348	360.5	373
L4	137.5	150	175	187.5	200	225	237.5	250	262.5	287.5	300	312.5	337.5	350	362.5
L5	14	12	16.5	15	13	17.5	16	14	12.5	17	15	13.5	18	16	14.5

For dimensions of Type 11/Bottom ported type and Type 12/Top ported type, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

Dimensions

Type 10/Side Ported **Series SY7000**





Note) These figures show the “SS5Y7-10SA2-05D-C10”.

n: Stations	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	134.7	153.7	172.7	191.7	210.7	229.7	248.7	267.7	286.7	305.7	324.7	343.7	362.7	381.7	400.7
L2	94	113	132	151	170	189	208	227	246	265	284	303	322	341	360
L3	160.5	185.5	198	223	235.5	260.5	273	298	310.5	335.5	348	373	398	410.5	435.5
L4	150	175	187.5	212.5	225	250	262.5	287.5	300	325	337.5	362.5	387.5	400	425
L5	13	16	12.5	15.5	12.5	15.5	12	15	12	15	11.5	14.5	17.5	14.5	17.5

For dimensions of Type 11/Bottom ported type and Type 12/Top ported type, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

Gateway Decentralized System

5 Port Solenoid Valve

Series VQC1000

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the VQC1000/2000 series catalog (CAT. ES11-101).

How to Order Manifold

VV5QC11-[08][C6][SDA2][N]-[ ]

❶ ❷ ❸ ❹ ❺

❶ Valve stations

	Stations	Note
01	1 station	Double wiring
⋮	⋮	
08	8 stations	
01	1 station	Mixed wiring, Specified layout Note) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.) In addition, select the option "K".

❷ A, B port size

Metric size

C3	Straight piping: ø3.2 One-touch fitting
C4	Straight piping: ø4 One-touch fitting
C6	Straight piping: ø6 One-touch fitting
M5	Straight piping: M5 thread
CM Note 1)	Straight piping: Mixed sizes and with port plug
L3	Top ported elbow: ø3.2 One-touch fitting
L4	Top ported elbow: ø4 One-touch fitting
L6	Top ported elbow: ø6 One-touch fitting
L5	Top ported elbow: M5 thread
B3	Bottom ported elbow: ø3.2 One-touch fitting
B4	Bottom ported elbow: ø4 One-touch fitting
B6	Bottom ported elbow: ø6 One-touch fitting
B5	Bottom ported elbow: M5 thread
LM Note 1)	Elbow piping: Mixed sizes and with port plug
MM Note 2)	Mixed size for different types of piping, option installed

Inch size

N1	Straight piping: ø1/8" One-touch fitting
N3	Straight piping: ø5/32" One-touch fitting
N7	Straight piping: ø1/4" One-touch fitting
NM Note1)	Straight piping: Mixed sizes and with port plug
LN1	Top ported elbow: ø1/8" One-touch fitting
LN3	Top ported elbow: ø5/32" One-touch fitting
LN7	Top ported elbow: ø1/4" One-touch fitting
BN1	Bottom ported elbow: ø1/8" One-touch fitting
BN3	Bottom ported elbow: ø5/32" One-touch fitting
BN7	Bottom ported elbow: ø1/4" One-touch fitting
LNM Note1)	Elbow piping: Mixed sizes and with port plug
BNM Note 2)	Mixed size for different types of piping, option installed

Note 1) Indicate the sizes on the manifold specification sheet.

Note 2) When a combination of straight and elbow piping is or when option such as dual flow fitting assembly is mounted, please mention the mounting conditions in the Manifold Specification.

❸ SI Unit (Number of outputs, Max. number of valve stations)

SD0	Without SI Unit
SDA2	16 outputs, 1 to 8 stations (16 stations Note))

Note) ( ): Maximum number of stations for mixed single and double wiring.

❹ SI Unit (Output polarity)

Nil	Positive common
N	Negative common

∗ Ensure a match with the common specification of the valve to be used.

∗ Select "Nil" for without SI Unit.

❺ Option

Nil	None
B Note 1)	With back pressure check valve (All stations)
D	With DIN bracket, DIN rail with standard length
D0	With DIN bracket, without DIN rail
D□ Note 2)	With DIN bracket, DIN rail for □ stations
K Note 3)	Special wiring specification (Except double wiring)
N	With name plate
R Note 4)	External pilot
S Note 5)	Built-in silencer, Direct exhaust

∗ When multiple symbols are specified, indicate them alphabetically. Example) -BRS

Note 1) When a back pressure check valve is used only for specified station, specify the back pressure check valve part number, and specify the station number to which the valve is mounted, on the manifold specification sheet.

Note 2) □: Specify a longer rail than the length of valve stations.
Example) "-D08"
In this case, the valves will be mounted on the DIN rail for 8 stations, regardless of the number of manifold stations.

Note 3) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.

Note 4) For external pilot option "-R", indicate the external pilot specification "R" for the applicable valves as well.

Note 5) Built-in silencer type does not satisfy IP67.

How to Order Valves

VQC 1 [1] 0 [0] [N] – 5 [ ] [ ] 1

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ

Ⓐ Type of actuation

1	2-position single	**A** Note)	4-position dual 3-port valve (N.C./N.C.)
2	2-position double	**B** Note)	4-position dual 3-port valve (N.O./N.O.)
3	3-position closed center	**C** Note)	4-position dual 3-port valve (N.C./N.O.)
4	3-position exhaust center		
5	3-position pressure center		

Note) Only rubber seal type

Ⓑ Seal type

0	Metal seal
1	Rubber seal

Ⓒ Function

Nil	Standard (0.4 W)
B	Quick response type (0.95 W)
K Note 2)	High pressure type (1.0 MPa, 0.95 W)
N Note 3)	Negative common
R Note 4)	External pilot

Note 1) When multiple symbols are specified, indicate them alphabetically. However, combination of "B" and "K" is not possible.
Note 2) Metal seal type only
Note 3) When the negative common is specified for the SI Unit, select and mount the valve of negative common.
Note 4) Dual 3-port is not applicable.

Ⓓ Coil voltage

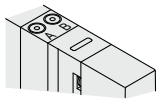
5	24 VDC

Ⓔ Light/surge voltage suppressor

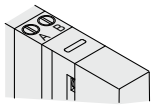
Nil	With light/surge voltage suppressor

Ⓕ Manual override

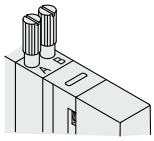
Nil Non-locking push (tool required)



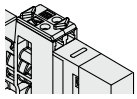
B Locking push (tool required)



C Turn locking (manual)

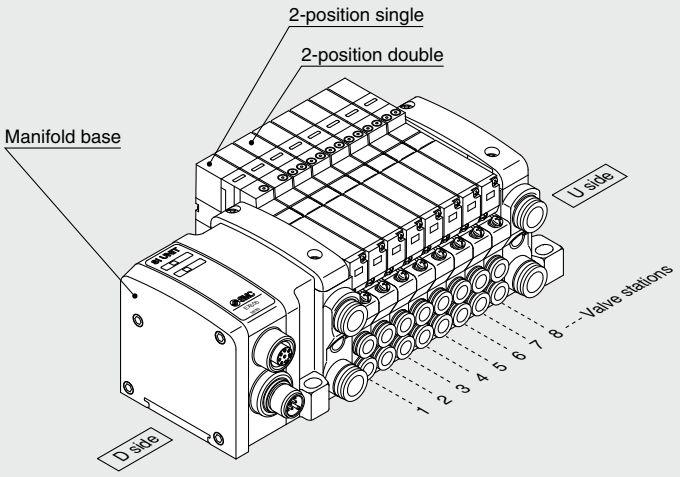


D Slide locking (manual)



How to Order Manifold Assembly

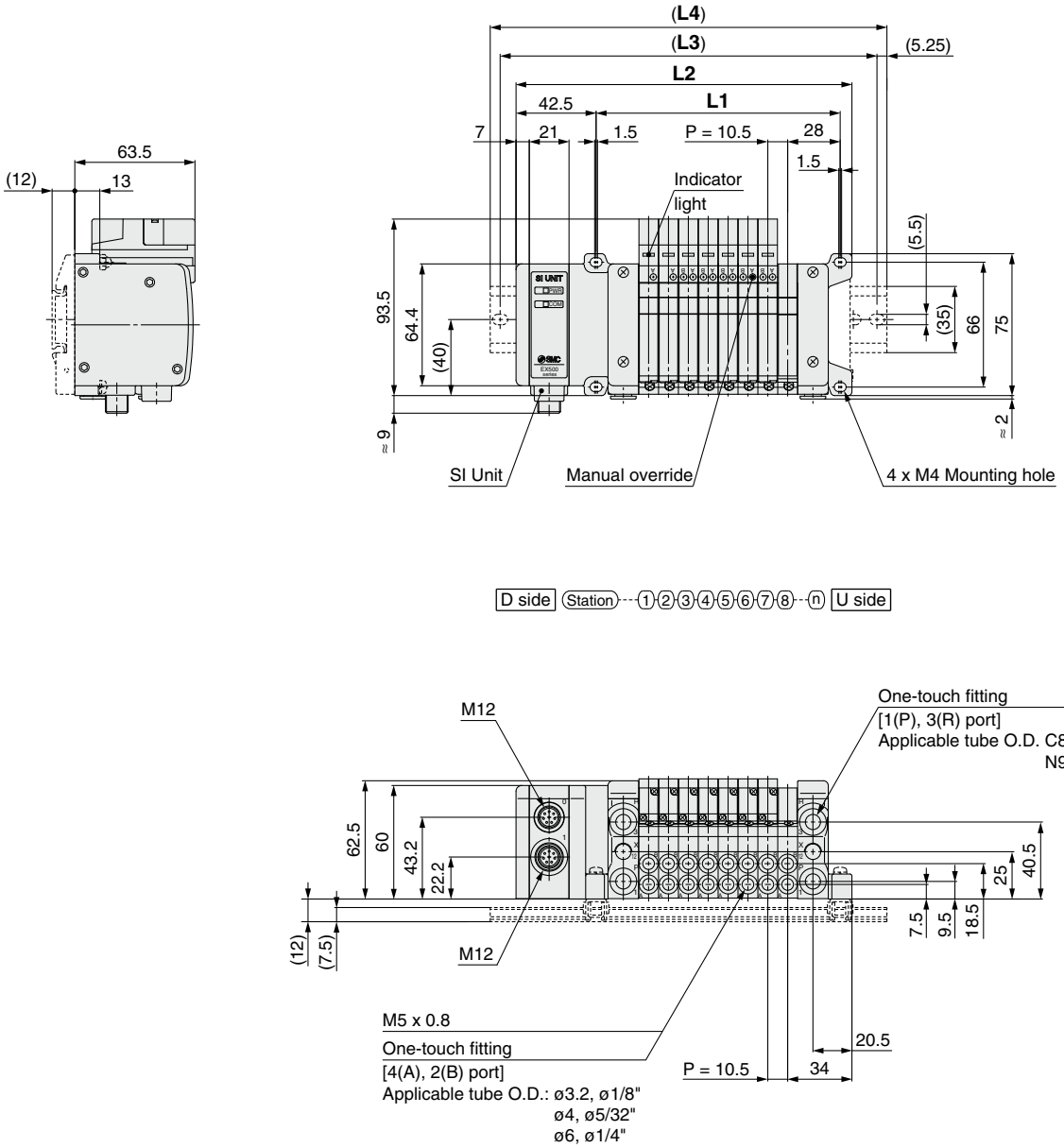
Example



VV5QC11-08C6SDA2N···1 set (Manifold base part number)
∗ VQC1100N-51·····2 sets (2-position single part number)
∗ VQC1200N-51·····6 sets (2-position double part number)
The asterisk denotes the symbol for assembly. Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

Dimensions



Formula: L1 = 10.5n + 45, L2 = 10.5n + 93.5 n: Stations (Maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213
L2	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5	230	240.5	251	261.5
L3	125	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5
L4	135.5	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298

5 Port Solenoid Valve

Series VQC2000

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the VQC1000/2000 series catalog (CAT. ES11-101).

How to Order Manifold

VV5QC21-[08][C8]SDA2[N]-[ ]

❶ ❷ ❸ ❹ ❺

❶ Valve stations

	Stations	Note
01	1 station	Double wiring
⋮	⋮	
08	8 stations	
01	1 station	Mixed wiring, Specified layout Note) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.) In addition, select the option "K".

❷ A, B port size

Metric size

C4	Straight piping: ø4 One-touch fitting
C6	Straight piping: ø6 One-touch fitting
C8	Straight piping: ø8 One-touch fitting
CM Note 1)	Straight piping: Mixed sizes and with port plug
L4	Top ported elbow: ø4 One-touch fitting
L6	Top ported elbow: ø6 One-touch fitting
L8	Top ported elbow: ø8 One-touch fitting
B4	Bottom ported elbow: ø4 One-touch fitting
B6	Bottom ported elbow: ø6 One-touch fitting
B8	Bottom ported elbow: ø8 One-touch fitting
LM Note 1)	Elbow piping: Mixed sizes and with port plug
MM Note 2)	Mixed size for different types of piping, option installed

Inch size

N1	Straight piping: ø1/8" One-touch fitting
N3	Straight piping: ø5/32" One-touch fitting
N7	Straight piping: ø1/4" One-touch fitting
NM Note 1)	Straight piping: Mixed sizes and with port plug
LN1	Top ported elbow: ø1/8" One-touch fitting
LN3	Top ported elbow: ø5/32" One-touch fitting
LN7	Top ported elbow: ø1/4" One-touch fitting
BN1	Bottom ported elbow: ø1/8" One-touch fitting
BN3	Bottom ported elbow: ø5/32" One-touch fitting
BN7	Bottom ported elbow: ø1/4" One-touch fitting
LNM Note 1)	Elbow piping: Mixed sizes and with port plug
BNM Note 2)	Mixed size for different types of piping, option installed

Note 1) Indicate the sizes on the manifold specification sheet.

Note 2) When a combination of straight and elbow piping is or when option such as dual flow fitting assembly is mounted, please mention the mounting conditions in the Manifold Specification.

❸ SI Unit (Number of outputs, Max. number of valve stations)

SD0	Without SI Unit
SDA2	16 outputs, 1 to 8 stations (16 stations Note))

Note) ( ): Maximum number of stations for mixed single and double wiring.

❹ SI Unit (Output polarity)

Nil	Positive common
N	Negative common

∗ Ensure a match with the common specification of the valve to be used.

∗ Select "Nil" for without SI Unit.

❺ Option

Nil	None
B Note 1)	With back pressure check valve (All stations)
D	With DIN bracket, DIN rail with standard length
D0	With DIN bracket, without DIN rail
D□ Note 2)	With DIN bracket, DIN rail for □ stations
K Note 3)	Special wiring specification (Except double wiring)
N	With name plate
R Note 4)	External pilot
S Note 5)	Built-in silencer, Direct exhaust
T Note 6)	P and R ports included on both sides of the U side

∗ When multiple symbols are specified, indicate them alphabetically. Example) -BRS

Note 1) When a back pressure check valve is used only for specified station, specify the back pressure check valve part number, and specify the station number to which the valve is mounted, on the manifold specification sheet.

Note 2) □: Specify a longer rail than the length of valve stations.
Example) "-D08"
In this case, the valves will be mounted on the DIN rail for 8 stations, regardless of the number of manifold stations.

Note 3) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.

Note 4) For external pilot option "-R", indicate the external pilot specification "R" for the applicable valves as well.

Note 5) Built-in silencer type does not satisfy IP67.

Note 6) P and R ports are included on both sides of U side (cylinder port and coil side) with ø12 One-touch fittings.

How to Order Valves

VQC 2 [1] 0 [0] [N] –5 [ ] [ ] 1

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ

Ⓐ Type of actuation

1	2-position single	A Note)	4-position dual 3-port valve (N.C./N.C.)
2	2-position double	B Note)	4-position dual 3-port valve (N.O./N.O.)
3	3-position closed center	C Note)	4-position dual 3-port valve (N.C./N.O.)
4	3-position exhaust center		
5	3-position pressure center		

Note) Only rubber seal type

Ⓑ Seal type

0	Metal seal
1	Rubber seal

Ⓒ Function

Nil	Standard (0.4 W)
B	Quick response type (0.95 W)
K Note 2)	High pressure type (1.0 MPa, 0.95 W)
N Note 3)	Negative common
R Note 4)	External pilot

Note 1) When multiple symbols are specified, indicate them alphabetically. However, combination of "B" and "K" is not possible.
Note 2) Metal seal type only
Note 3) When the negative common is specified for the SI Unit, select and mount the valve of negative common.
Note 4) Dual 3-port is not applicable.

Ⓓ Coil voltage

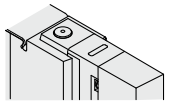
5	24 VDC

Ⓔ Light/surge voltage suppressor

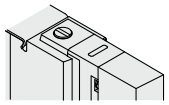
Nil	With light/surge voltage suppressor

Ⓕ Manual override

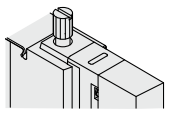
Nil
Non-locking push
(tool required)



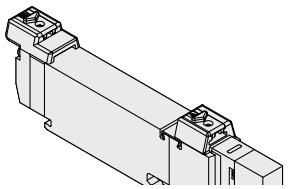
B
Locking push
(tool required)



C
Turn locking
(manual)

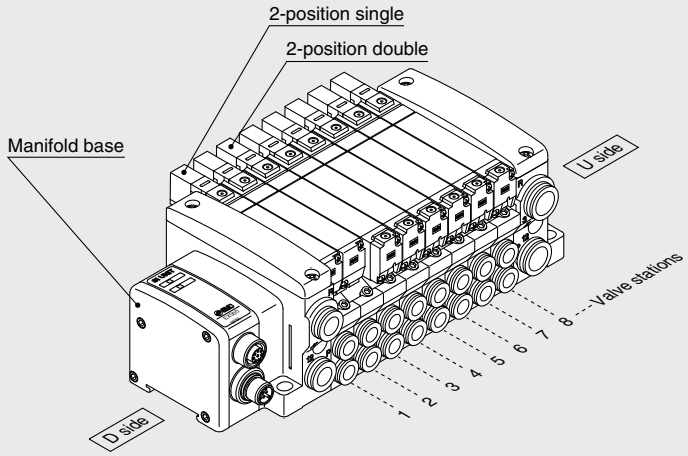


D
Slide locking
(manual)



How to Order Manifold Assembly

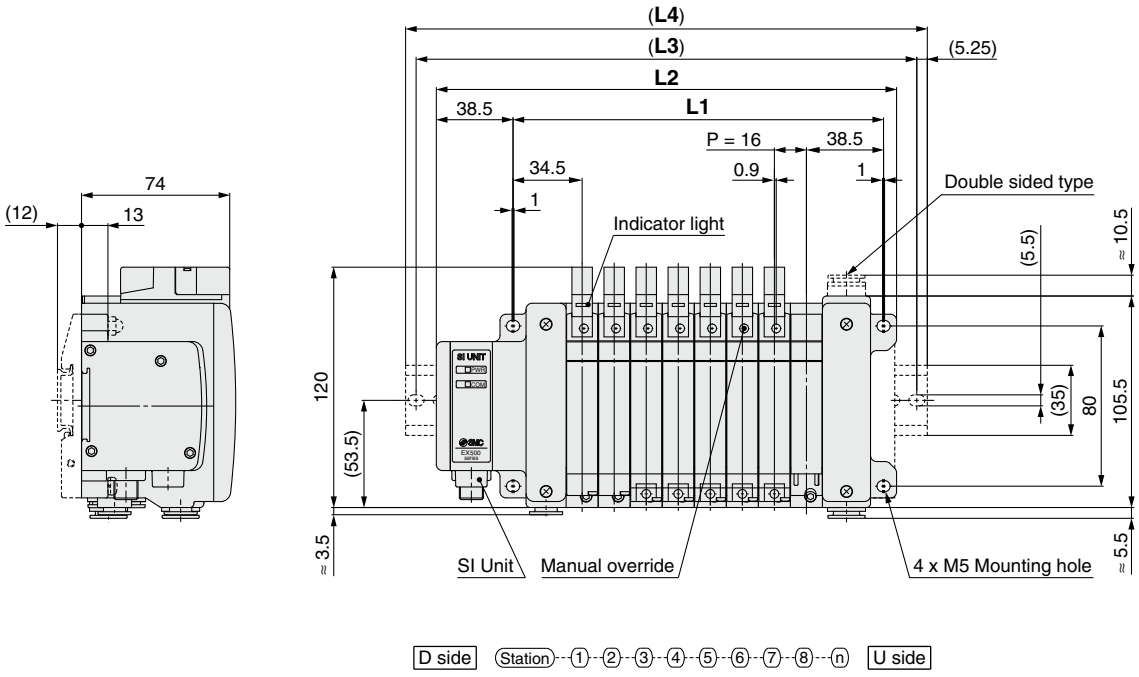
Example

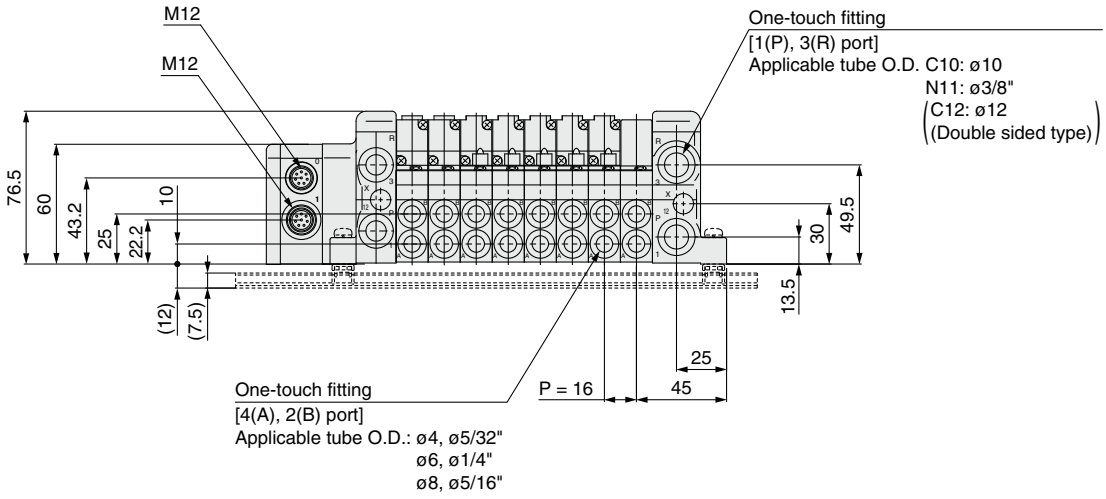


VV5QC21-08C6SDA2N·····1 set (Manifold base part number)
∗ VQC2100-51·····2 sets (2-position single part number)
∗ VQC2200-51·····6 sets (2-position double part number)
The asterisk denotes the symbol for assembly. Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

Dimensions





Formula: L1 = 16n + 57, L2 = 16n + 102 n: Stations (Maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313
L2	118	134	150	166	182	198	214	230	246	262	278	294	310	326	342	358
L3	137.5	162.5	175	187.5	212.5	225	237.5	250	275	287.5	300	325	337.5	350	362.5	387.5
L4	148	173	185.5	198	223	235.5	248	260.5	285.5	298	310.5	335.5	348	360.5	373	398

Gateway Decentralized System

5 Port Solenoid Valve

Series VQC4000

CE

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the VQC4000/5000 series catalog (CAT. ES11-108).

How to Order Manifold

VV5QC41 – 08 02 ☐ SDA2 N – ☐

❶ ❷ ❸ ❹ ❺ ❻

❶ Valve stations

	Stations	Note
01	1 station	Double wiring
⋮	⋮	
08	8 stations	
01	1 station	Mixed wiring, Specified layout Note) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.) In addition, select the option "K".

❷ Cylinder port size

C6	With ø6 One-touch fitting
C8	With ø8 One-touch fitting
C10	With ø10 One-touch fitting
C12	With ø12 One-touch fitting
N7	ø1/4" One-touch fitting
N9	ø5/16" One-touch fitting
N11	ø3/8" One-touch fitting
02	1/4 Note)
03	3/8 Note)
B	Bottom ported 1/4 Note)
CM	Mixed sizes

Note) Compatible with Rc, G, NPT/NPTF.
Part number displayed is as shown below.

❸ Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

❹ SI Unit (Number of outputs, Max. number of valve stations)

SD0	Without SI Unit
SDA2	16 outputs, 1 to 8 stations (16 stations Note))

Note) ( ): Maximum number of stations for mixed single and double wiring.

❺ SI Unit (Output polarity)

Nil	Positive common
N	Negative common

∗ Select "Nil" for without SI Unit.

❻ Option

Nil	None
K Note)	Special wiring specification (Except double wiring)

Note) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.

How to Order Valves

VQC 4 1 0 0 □ – 5 □ □ 1

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ

Ⓐ Type of actuation

1	2-position single	**4**	3-position exhaust center
2	2-position double	**5**	3-position pressure center
3	3-position closed center	**6** Note)	3-position double check

Note) For double check type, refer to the **WEB catalog** or the VQC4000/5000 series catalog (CAT. ES11-108).

Ⓑ Seal type

0	Metal seal
1	Rubber seal

Ⓒ Function

Nil Note 1)	Standard (0.95 W)
Y	Low wattage type (0.4 W)
R Note 2)	External pilot

∗ When multiple symbols are specified, indicate them alphabetically.

Note 1) When the power is energized continuously, refer to "Specific Product Precautions 1" in the **WEB catalog** or the VQC4000/5000 series catalog (CAT. ES11-108).

Note 2) For details about the external pilot type, refer to the **WEB catalog** or the VQ4000/5000 series catalog (CAT. ES11-104). In addition, an external pilot type cannot be combined with the double check spacer.

Ⓓ Coil voltage

5	24 VDC

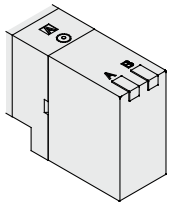
Ⓔ Light/surge voltage suppressor

Nil	With
E	Without light, with surge voltage suppressor

Ⓕ Manual override

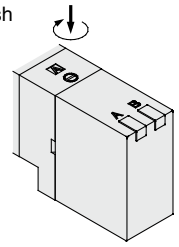
Nil

Non-locking push
(tool required)



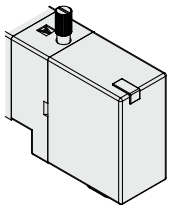
B

Locking push
(tool required)



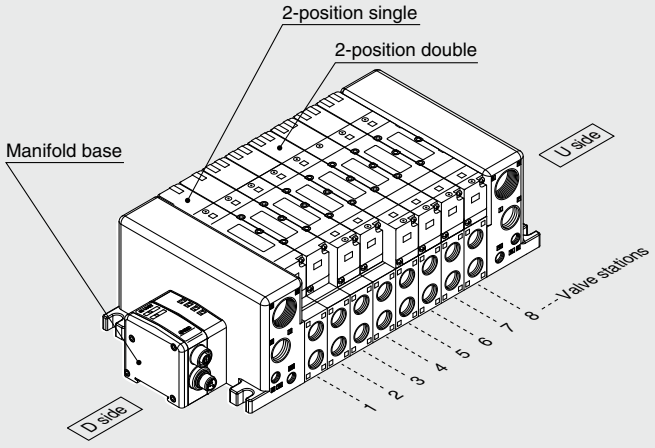
C

Turn locking
(manual)



How to Order Manifold Assembly

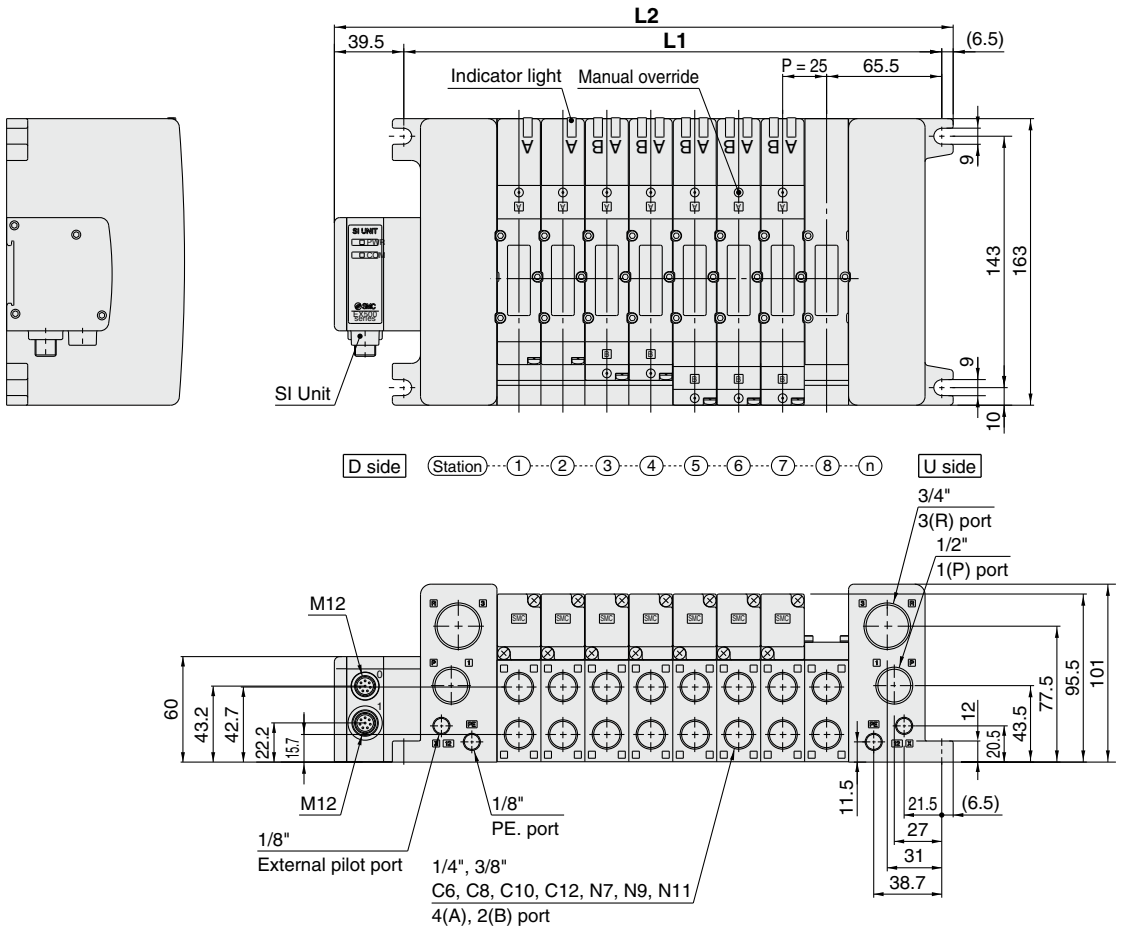
Example



VV5QC41-0802SDA2N·····1 set (Manifold base part number)
∗ VQC4100-51 ·····4 sets (2-position single part number)
∗ VQC4200-51 ·····4 sets (2-position double part number)
The asterisk denotes the symbol for assembly.
Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

Dimensions



Formula: L1 = 25n + 106, L2 = 25n + 152 n: Stations (Maximum 16 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	131	156	181	206	231	256	281	306	331	356	381	406	431	456	481	506
L2	177	202	227	252	277	302	327	352	377	402	427	452	477	502	527	552

5 Port Solenoid Valve

Series VQC5000

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the VQC4000/5000 series catalog (CAT. ES11-108).

How to Order Manifold

VV5QC51-[08][03][ ]SDA2[N]-[ ]

❶ ❷ ❸ ❹ ❺ ❻

❶ Valve stations

	Stations	Note
01	1 station	Double wiring
⋮	⋮	
08	8 stations	
01	1 station	Mixed wiring, Specified layout Note) (Available up to 12 solenoids)
⋮	⋮	
12	12 stations	

Note) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.) In addition, select the option "K".

❷ Cylinder port size

03	3/8 Note)
04	1/2 Note)
B	Bottom ported 1/4 Note)
CM	Mixed sizes

Note) Compatible with Rc, G, NPT/NPTF.
Part number displayed is as shown below.

❸ Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

❹ SI Unit (Number of outputs, Max. number of valve stations)

SD0	Without SI Unit
SDA2	16 outputs, 1 to 8 stations (12 stations Note))

Note) ( ): Maximum number of stations for mixed single and double wiring.

❺ SI Unit (Output polarity)

Nil	Positive common
N	Negative common

∗ Select "Nil" for without SI Unit.

❻ Option

Nil	None
K Note)	Special wiring specification (Except double wiring)

Note) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.

How to Order Valves

VQC 5 [1] 0 [0] [ ] – 5 [ ] [ ] 1

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ

Ⓐ Type of actuation

1	2-position single	4	3-position exhaust center
2	2-position double	5	3-position pressure center
3	3-position closed center	6 Note)	3-position double check

Note) For double check type, refer to the **WEB catalog** or the VQC4000/5000 series catalog (CAT. ES11-108).

Ⓑ Seal type

0	Metal seal
1	Rubber seal

Ⓒ Function

Nil Note 1)	Standard (0.95 W)
Y Note 1)	Low wattage type (0.4 W)
R Note 2)	External pilot

∗ When multiple symbols are specified, indicate them alphabetically.

Note 1) When the power is energized continuously, refer to "Specific Product Precautions 1" in the **WEB catalog** or the VQC4000/5000 series catalog (CAT. ES11-108).

Note 2) For details about the external pilot type, refer to the **WEB catalog** or the VQ4000/5000 series catalog (CAT. ES11-104). In addition, an external pilot type cannot be combined with the double check spacer.

Ⓓ Coil voltage

5	24 VDC

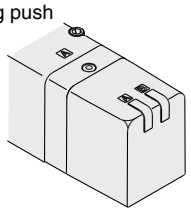
Ⓔ Light/surge voltage suppressor

Nil	With
E	Without light, with surge voltage suppressor

Ⓕ Manual override

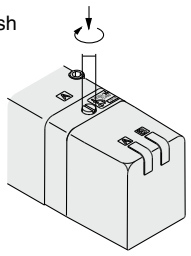
Nil

Non-locking push
(tool required)



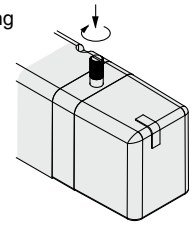
B

Locking push
(tool required)



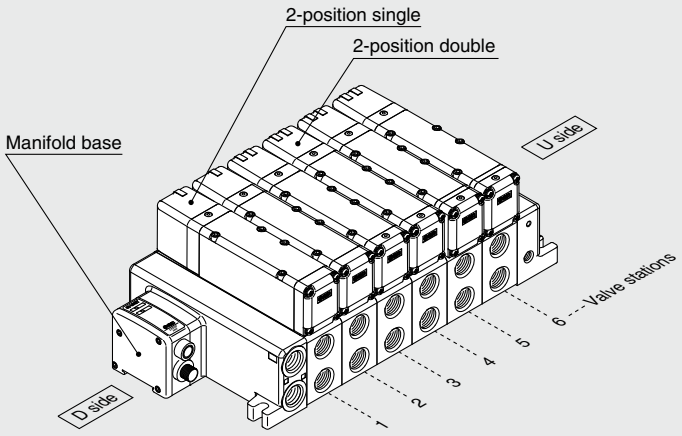
C

Turn locking
(manual)



How to Order Manifold Assembly

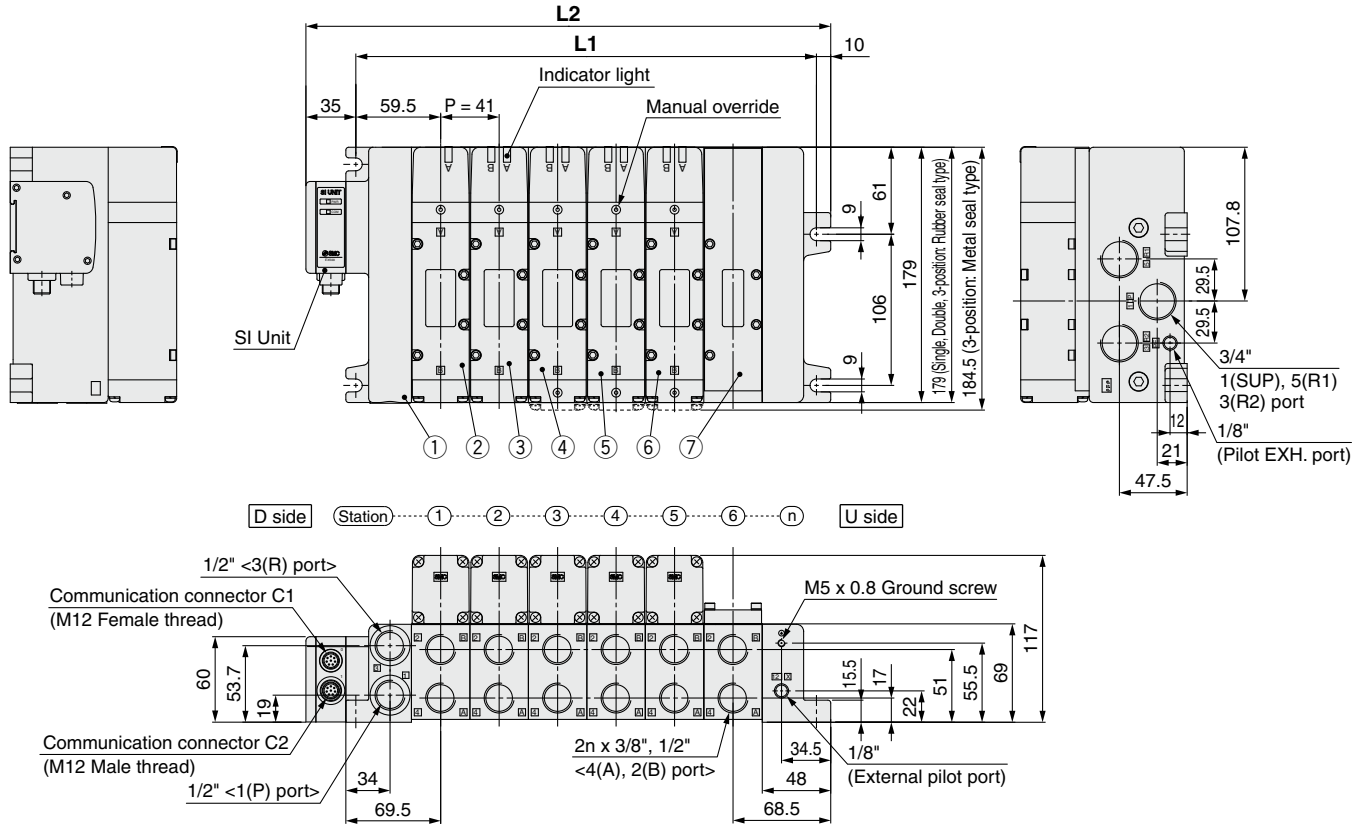
Example



VV5QC51-0603SDA2N·····1 set (Manifold base part number)
∗ VQC5100-51·····2 sets (2-position single part number)
∗ VQC5200-51·····2 sets (2-position double part number)
∗ VQC5300-51·····2 sets (3-position closed center part number)
The asterisk denotes the symbol for assembly.
Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

Dimensions



Formula: L1 = 41n + 77, L2 = 41n + 122 n: Stations (Maximum 12 stations)

L \ n	1	2	3	4	5	6	7	8	9	10	11	12
L1	118	159	200	241	282	323	364	405	446	487	528	569
L2	163	204	245	286	327	368	409	450	491	532	573	614

Gateway Decentralized System

5 Port Solenoid Valve

Series S0700

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the S0700 series catalog (CAT. ES11-88).

How to Order Manifold

SS0750 − 08 C4 C8 SDA2 N − B

❶ ❷ ❸ ❹ ❺ ❻

❶ Valve stations

	Stations	Note
01	1 station	Double wiring
⋮	⋮	
08	8 stations	
01	1 station	Mixed wiring, Specified layout Note) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that 2-position double, 3-position and 4-position valves cannot be used where single wiring has been specified.) In addition, select the option "K".

❷ A, B port size

Metric size

C2	ø2 One-touch fitting
C3	ø3.2 One-touch fitting
C4	ø4 One-touch fitting
CM Note)	Mixed sizes and with port plug

Inch size

N1	ø1/8" One-touch fitting
N3	ø5/32" One-touch fitting
NM Note)	Mixed sizes and with port plug

Note) Indicate the sizes on the manifold specification sheet.

❸ P, R port size

Metric size

Nil	ø8 One-touch fitting Note)
C6	ø6 One-touch fitting
C8	ø8 One-touch fitting

Inch size

N7	ø1/4" One-touch fitting
N9	ø5/16" One-touch fitting

Note) When A and B ports are inch size, the One-touch fitting will be changed to ø5/16".

❹ SI Unit (Number of outputs, Max. number of valve stations)

SD0	Without SI Unit
SDA2	16 outputs, 1 to 8 stations (16 stations) Note)

Note) ( ): Maximum number of stations for mixed single and double wiring.

❺ SI Unit (Output polarity)

Nil	Positive common
N	Negative common

∗ Ensure a match with the common specification of the valve to be used.
∗ Select "Nil" for without SI Unit.

❻ Option

Nil	None
B Note 1)	With back pressure check valve (All stations)
D	With DIN bracket, DIN rail with standard length
D0	With DIN bracket, without DIN rail
D□ Note 2)	With DIN bracket, DIN rail for □ stations
K Note 3)	Special wiring specification (Except double wiring)
N	With name plate
R Note 4)	External pilot
S	Built-in silencer

∗ When multiple symbols are specified, indicate them alphabetically. Example) "-BKN"

Note 1) When a back pressure check valve is used only for specified station, specify the back pressure check valve part number, and specify the station number to which the valve is mounted, on the manifold specification sheet.

Note 2) □: Specify a longer rail than the length of valve stations.
Example) "-D08"
In this case, the valves will be mounted on the DIN rail for 8 stations, regardless of the number of manifold stations.

Note 3) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.

Note 4) For external pilot option "-R", indicate the external pilot specification "R" for the applicable valves as well.

How to Order Valves

S07 1 0 □ – 5

Ⓐ Ⓑ Ⓒ

Ⓐ Type of actuation

1	2-position single
2	2-position double
A Note)	4-position dual 3-port (N.C. + N.C.)
B Note)	4-position dual 3-port (N.O. + N.O.)
C Note)	4-position dual 3-port (N.C. + N.O.)

Note) For 4-position dual 3-port, select "Nil" internal pilot.

Ⓑ Function

Nil	Internal pilot
R Note)	External pilot

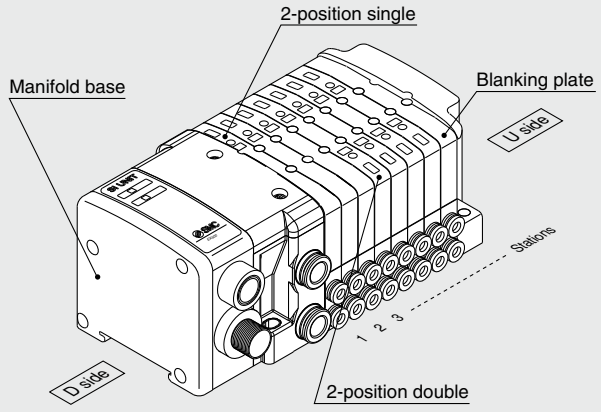
Note) For external pilot, select "1" 2-position single or "2" 2-position double.

Ⓒ Rated voltage

5	24 VDC

How to Order Manifold Assembly

Example

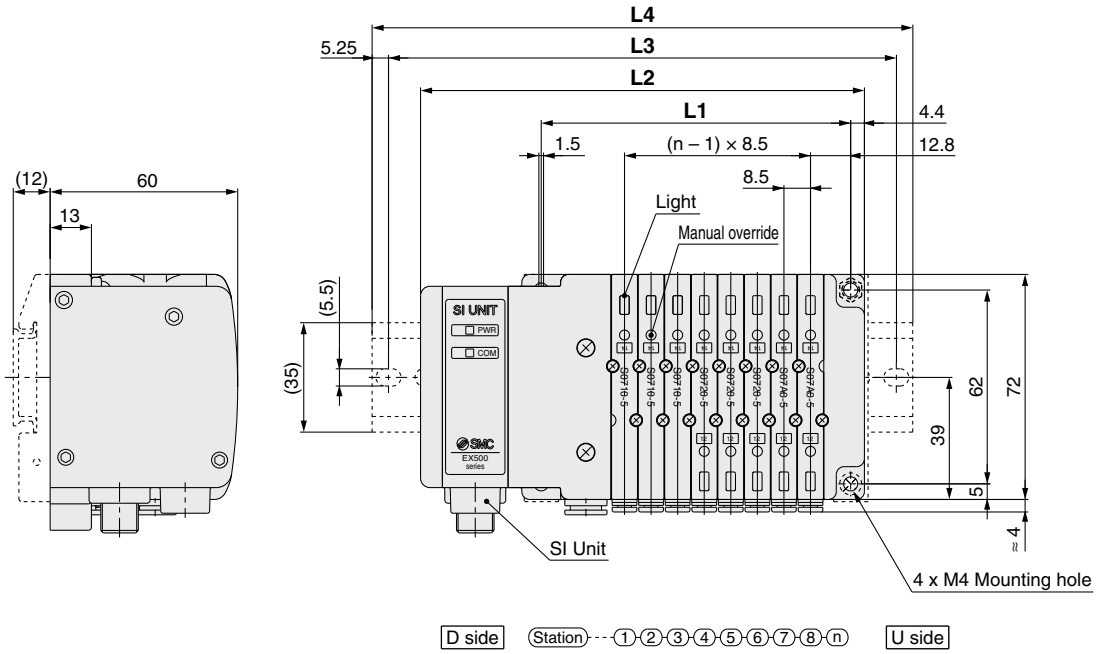


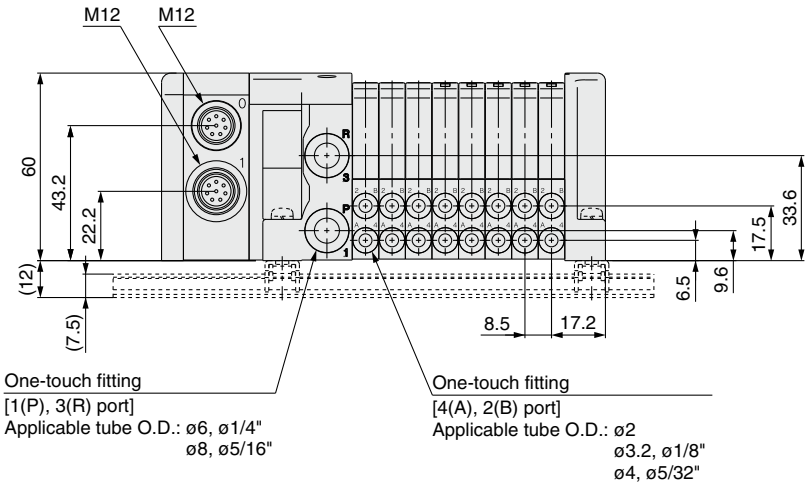
SS0750-08C4SDA2·····1 set (Manifold base part number)
∗ S0710-5·····3 sets (2-position single part number)
∗ S0720-5·····4 sets (2-position double part number)
∗ SS0700-10A-1·····1 set (Blanking plate part number)

The asterisk denotes the symbol for assembly.
Prefix it to the part numbers of the valve etc.

- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

Dimensions





Dimensions

Formula: L1 = 8.5n + 31, L2 = 8.5n + 74 n: Stations (Maximum 16 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167
L2	91	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210
L3	112.5	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5
L4	123	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248

5 Port Solenoid Valve

Series SV1000/2000/3000/4000

For detailed specifications, Common Precautions and Specific Product Precautions, refer to the **WEB catalog** or the SV series catalog (CAT. ES11-81).

How to Order Manifold

●Tie-rod base

SS5V ❶ 1 – W10S ❸ A2W D – ❹ 05 ❺ U ❻ ☐ – ❼ ☐ – ❽ ☐ (❾)

●Cassette base

SS5V ❶ 1 – W16S ❸ A2W D – ❹ 05 ❺ U ❻ ☐ – ❼ ☐ – ❽ ☐ (❾)

❶ Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

❷ Series

1	SV1000
2	SV2000

❸ SI Unit (Number of outputs, Output polarity, Max. number of valve stations)

0	Without SI Unit
A2W	16 outputs, Positive common, 1 to 8 stations (16 stations) Note)

Note) ( ): Maximum number of stations for mixed single and double wiring.

❹ Valve stations

	Stations	Note
02	2 stations	Double wiring Note 1)
⋮	⋮	
08	8 stations	
02	2 stations	Mixed wiring, Specified layout Note 2) (Available up to 16 solenoids)
⋮	⋮	
16	16 stations	

Note 1) Double wiring: single, double, 3-position and 4-position valves can be used on all manifold stations.
Use of a single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

Note 2) Specified layout: Indicate the wiring specifications on the manifold specification sheet. (Note that double, 3-position and 4-position valves cannot be used where single wiring has been specified.)

❺ P, E port entry

U	U side (2 to 10 stations)
D	D side (2 to 10 stations)
B	Both sides (2 to 16 stations)

❻ SUP/EXH block assembly

Nil	Internal pilot
S	Internal pilot, Built-in silencer Note)
R	External pilot
RS	External pilot, Built-in silencer Note)

Note) When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

❽ DIN rail length specified

Nil	With DIN bracket, DIN rail with standard length
3 Note)	With DIN bracket, DIN rail for 3 stations
⋮	⋮
16 Note)	With DIN bracket, DIN rail for 16 stations

Note) Specify a longer rail than the length of valve stations.

∗ If the DIN rail must be mounted without an SI Unit, select "D0" and order the DIN rail separately. Refer to L3 of the dimensions for the DIN rail length. For the DIN rail part number, refer to the **WEB catalog** or the SY series catalog (CAT. ES11-103).

❾ Mounting

Nil	Direct mounting
D	With DIN bracket, DIN rail with standard length
D0	With DIN bracket, without DIN rail
D3 Note)	With DIN bracket, DIN rail for 3 stations
⋮	⋮
D16 Note)	With DIN bracket, DIN rail for 16 stations

Note) Specify a longer rail than the length of valve stations.

∗ If the DIN rail must be mounted without an SI Unit, select "D0" and order the DIN rail separately. Refer to L3 of the dimensions for the DIN rail length. For the DIN rail part number, refer to the **WEB catalog** or the SV series catalog (CAT. ES11-81).

❼ A, B port size

Metric size

Symbol	A, B port	P, E port	Applicable series
C3	ø3.2 One-touch fitting	ø8 One-touch fitting	SV1000
C4	ø4 One-touch fitting		
C6	ø6 One-touch fitting		
C4	ø4 One-touch fitting	ø10 One-touch fitting	SV2000
C6	ø6 One-touch fitting		
C8	ø8 One-touch fitting		
C6	ø6 One-touch fitting	ø12 One-touch fitting	SV3000
C8	ø8 One-touch fitting		
C10	ø10 One-touch fitting		
C8	ø8 One-touch fitting	ø12 One-touch fitting	SV4000
C10	ø10 One-touch fitting		
C12	ø12 One-touch fitting		
02	Rc1/4	Rc3/8	
03	Rc3/8		
02F	G1/4	G3/8	
03F	G3/8		
M Note)	A, B port mixed		

Inch size

Symbol	A, B port	P, E port	Applicable series
N1	ø1/8" One-touch fitting	ø5/16" One-touch fitting	SV1000
N3	ø5/32" One-touch fitting		
N7	ø1/4" One-touch fitting		
N3	ø5/32" One-touch fitting	ø3/8" One-touch fitting	SV2000
N7	ø1/4" One-touch fitting		
N9	ø5/16" One-touch fitting		
N7	ø1/4" One-touch fitting	ø3/8" One-touch fitting	SV3000
N9	ø5/16" One-touch fitting		
N11	ø3/8" One-touch fitting		
N9	ø5/16" One-touch fitting	ø3/8" One-touch fitting	SV4000
N11	ø3/8" One-touch fitting		
02N	NPT1/4	NPT3/8	
03N	NPT3/8		
02T	NPTF1/4	NPTF3/8	
03T	NPTF3/8		
M Note)	A, B port mixed		

Note) Indicate the sizes on the manifold specification sheet.

∗ The X and PE port size of external pilot type [R, RS] are ø4 (mm) or ø5/32" (inch) for the SV1000/2000 series, and ø6 (mm) or ø1/4" (inch) for the SV3000/4000 series.

How to Order Valves

SV 1 1 0 0 □ □ – 5 F □ □ – □ – □

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ

Ⓐ Series

1	SV1000
2	SV2000
3	SV3000
4	SV4000

Ⓑ Type of actuation

1	2-position single
2	2-position double
3	3-position closed center
4	3-position exhaust center
5	3-position pressure center
A Note)	4-position dual 3-port valve (N.C./N.C.)
B Note)	4-position dual 3-port valve (N.O./N.O.)
C Note)	4-position dual 3-port valve (N.C./N.O.)

Note) Select the SV1000 or SV2000 series for the 4-position dual 3-port valve.

∗ Select the internal pilot type for the 4-position dual 3-port valve.

Ⓒ Pilot type

Nil	Internal pilot
R	External pilot

Ⓓ Back pressure check valve

Nil	None
K	Built-in

∗ Built-in back pressure check valve type is applicable to the SV1000 series only.

∗ The product with a back pressure check valve is not available for 3-position valves.

∗ Refer to the **WEB catalog** for built-in back pressure check valve type.

Ⓔ Rated voltage

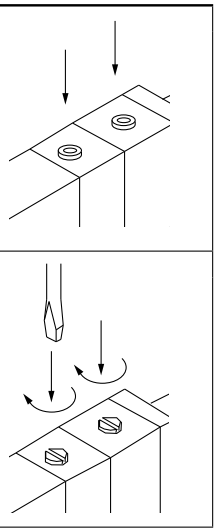
5	24 VDC

Ⓕ Light/surge voltage suppressor

U	With light/surge voltage suppressor
R	Without light, with surge voltage suppressor

Ⓖ Manual override

Nil	Non-locking push
D	Push-turn locking (slotted)



Ⓗ Manifold block

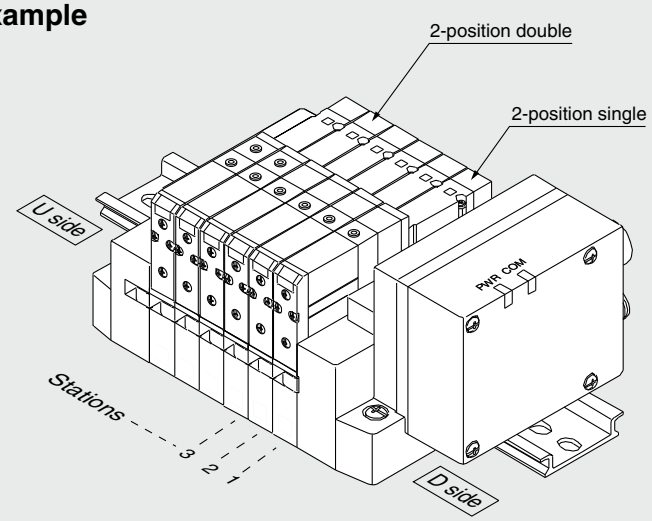
If stations are to be added, order the product with manifold block.
(For details, refer to the **WEB catalog**.)

Ⓘ Made to Order

Nil	—
X90	Main valve fluororubber specification (For details, refer to the **WEB catalog**.)

How to Order Manifold Assembly

Example

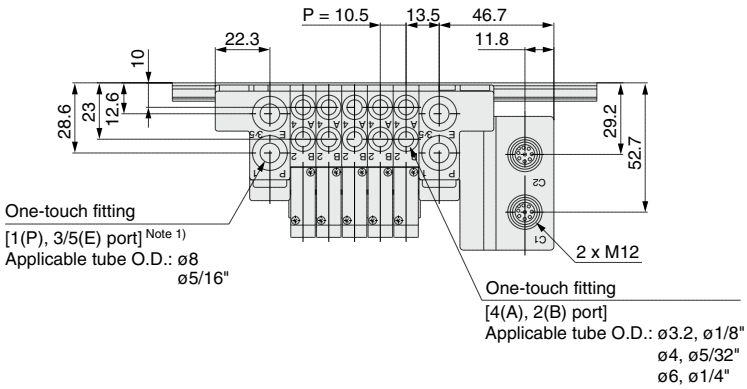


SS5V1-W16SA2WD-06B-C6 ·····1 set (Manifold base part number)
∗ SV1100-5FU ·····4 sets (2-position single part number)
∗ SV1200-5FU ·····2 sets (2-position double part number)
The asterisk denotes the symbol for assembly. Prefix it to the part numbers of the valve etc.

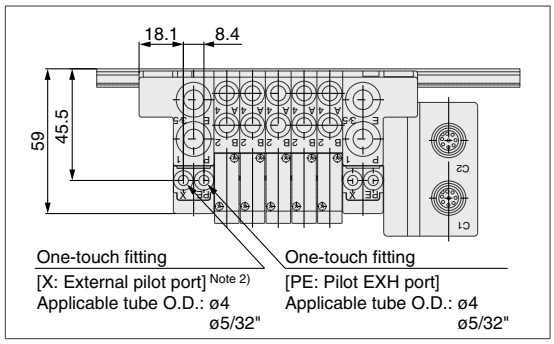
- The valve arrangement is numbered as the 1st station from the D side.
- Under the manifold base part number, state the valves to be mounted in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

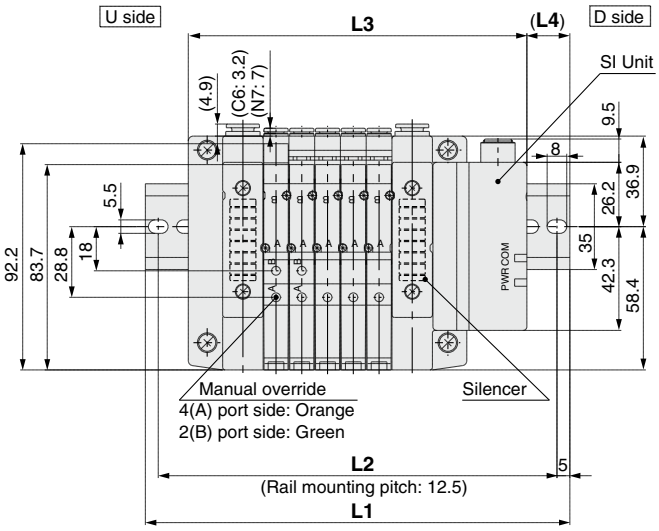
Dimensions

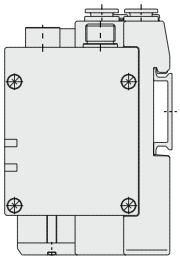
Cassette Base **Series SV1000**

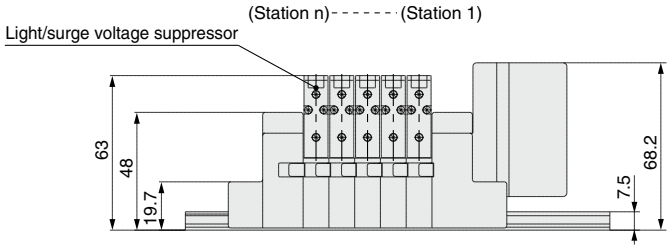


With External Pilot Specification

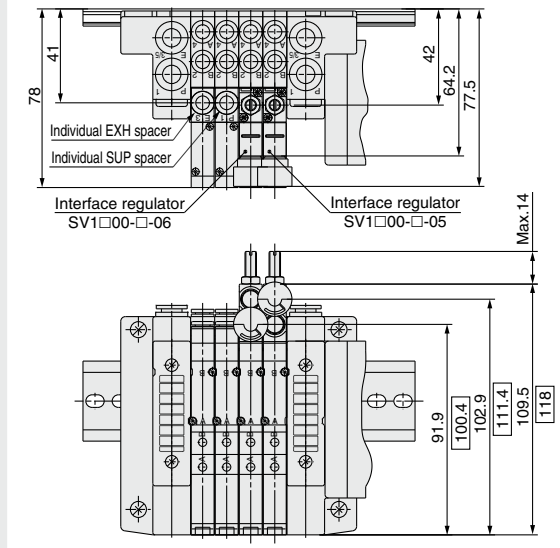








With Option



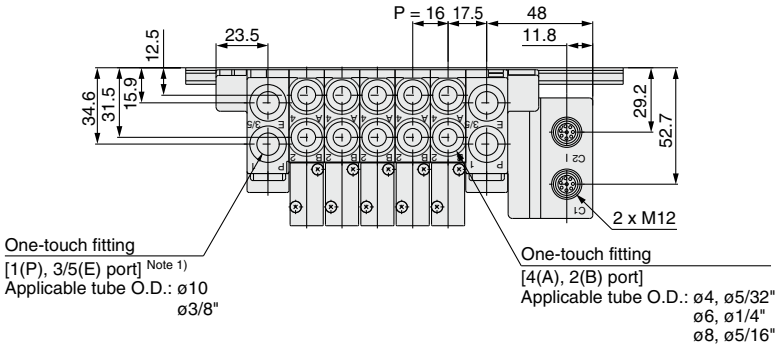
Note 1) When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
Note 2) External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

L: Dimensions

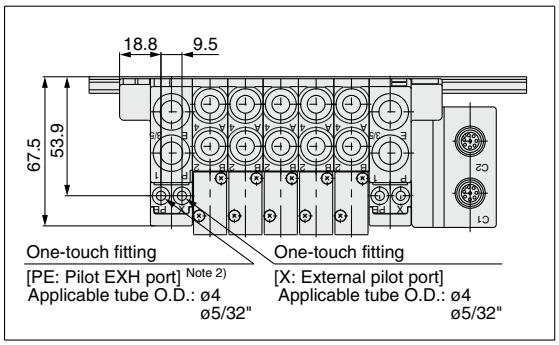
n: Stations

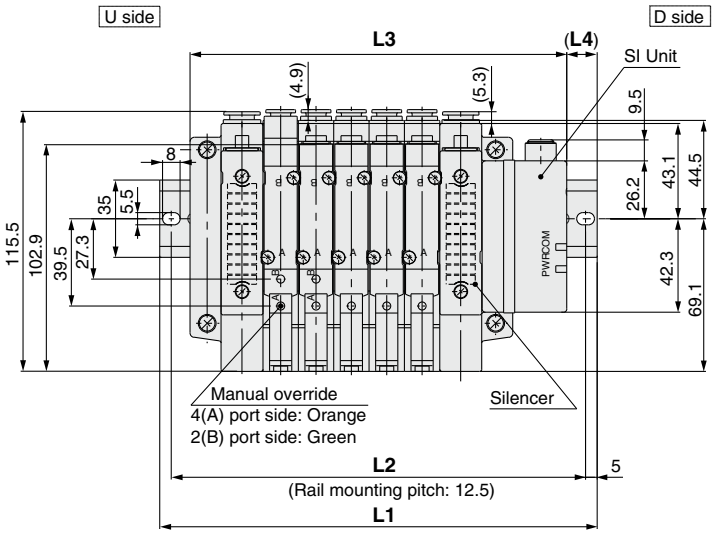
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	135.5	148	160.5	173	173	185.5	198	210.5	223	235.5	235.5	248	260.5	273	285.5
L2	125	137.5	150	162.5	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5	275
L3	106.5	117	127.5	138	148.5	159	169.5	180	190.5	201	211.5	222	232.5	243	253.5
L4	14.5	15.5	16.5	17.5	12.5	13.5	14.5	15.5	16.5	17.5	12	13	14	15	16

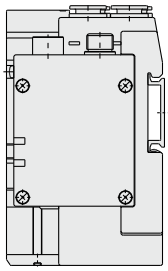
Dimensions

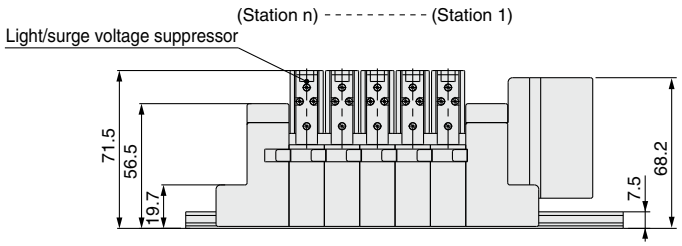


With External Pilot Specification

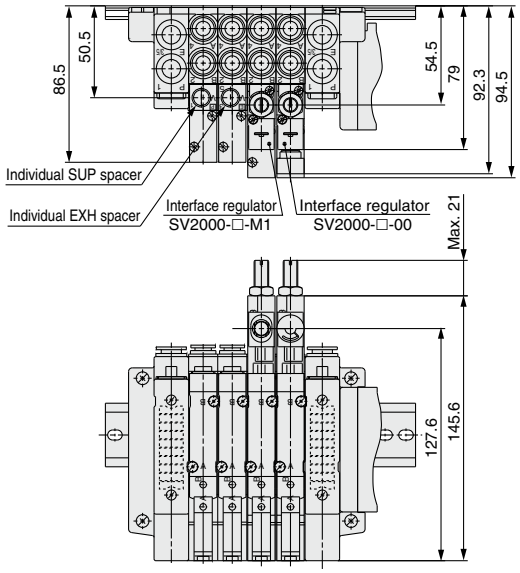








With Option



Note 1) When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.

Note 2) External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

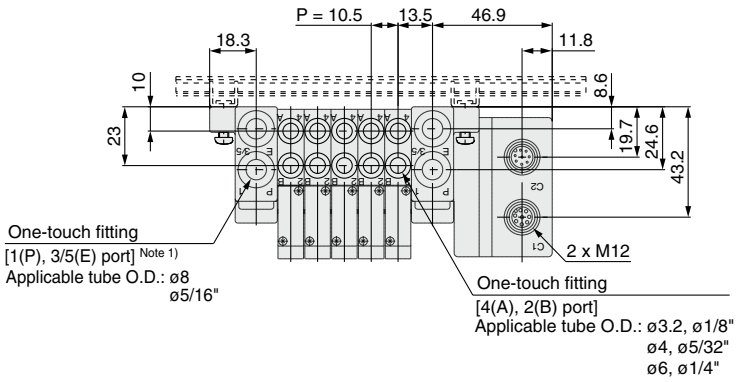
L: Dimensions

n: Stations

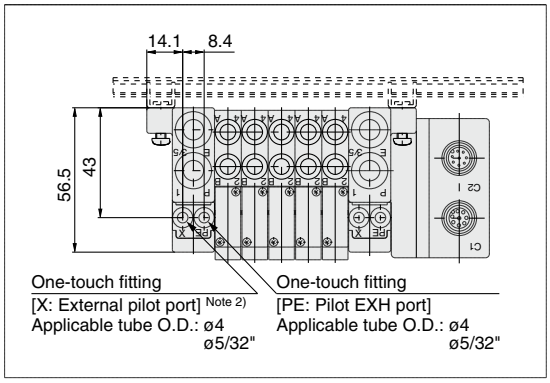
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	173	185.5	198	210.5	235.5	248	260.5	285.5	298	310.5	323	348	360.5	373
L2	137.5	162.5	175	187.5	200	225	237.5	250	275	287.5	300	312.5	337.5	350	362.5
L3	122.5	138.5	154.5	170.5	186.5	202.5	218.5	234.5	250.5	266.5	282.5	298.5	314.5	330.5	346.5
L4	13	17.5	15.5	14	12	16.5	15	13	17.5	16	14	12.5	17	15	13.5

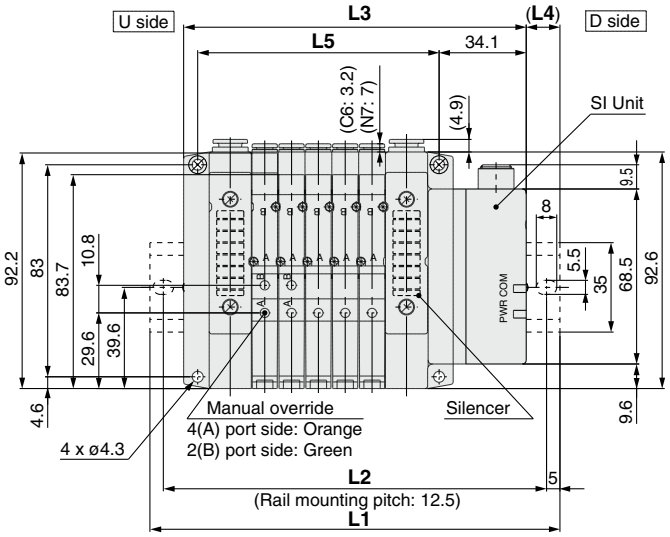
Dimensions

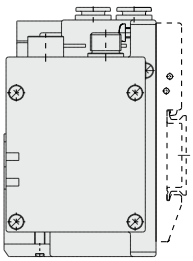
Tie-rod Base | Series SV1000

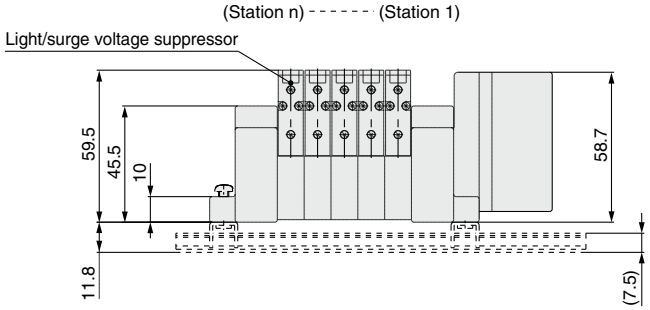


With External Pilot Specification

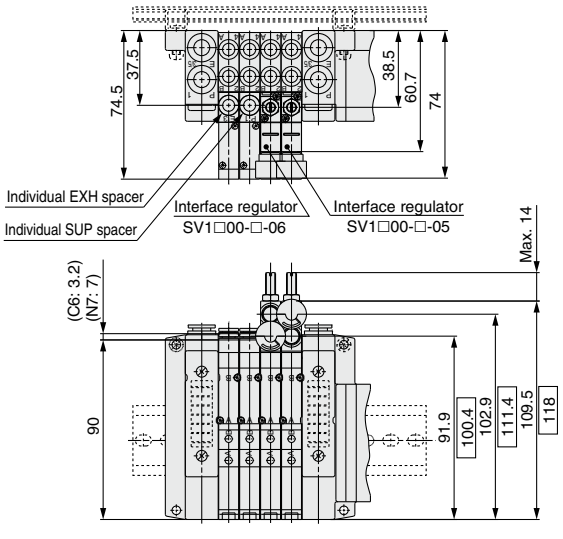








With Option



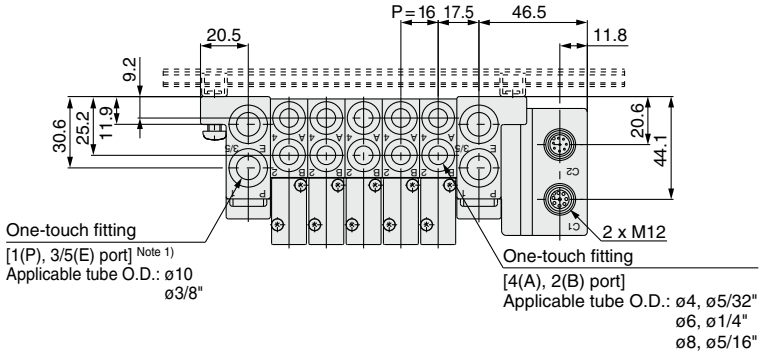
Note 1) When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
Note 2) External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

L: Dimensions

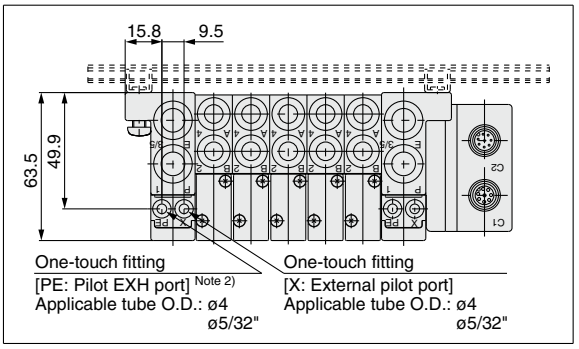
n: Stations

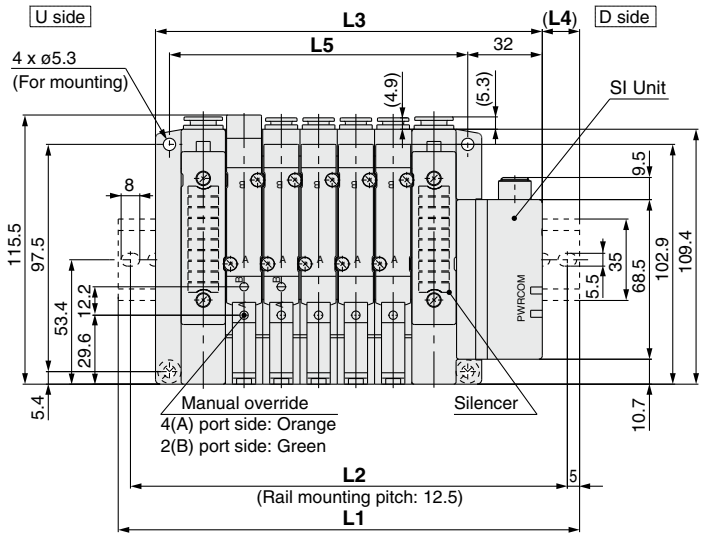
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	135.5	148	148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	273	273
L2	125	137.5	137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	262.5	262.5
L3	102.6	113.1	123.6	134.1	144.6	155.1	165.6	176.1	186.6	197.1	207.6	218.1	228.6	239.1	249.6
L4	16.5	17.5	12	13	14	15	16	17	12	13	14	15	16	17	11.5
L5	63	73.5	84	94.5	105	115.5	126	136.5	147	157.5	168	178.5	189	199.5	210

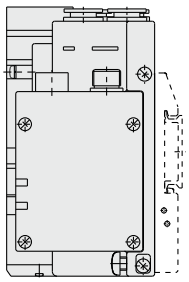
Dimensions

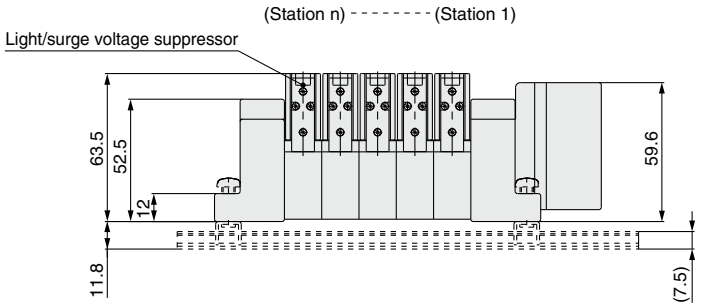


With External Pilot Specification

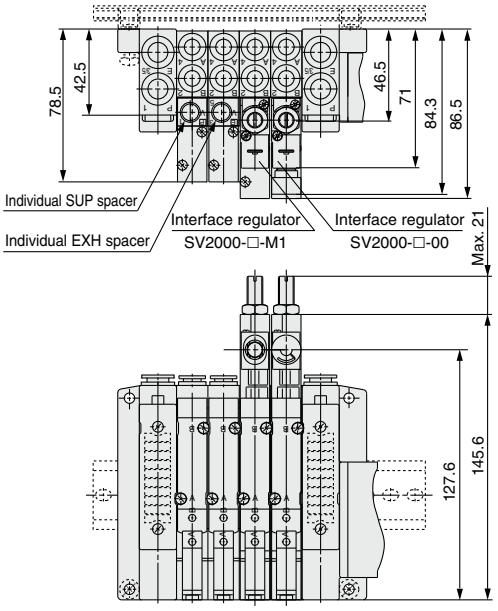








With Option



Note 1) When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.

Note 2) External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

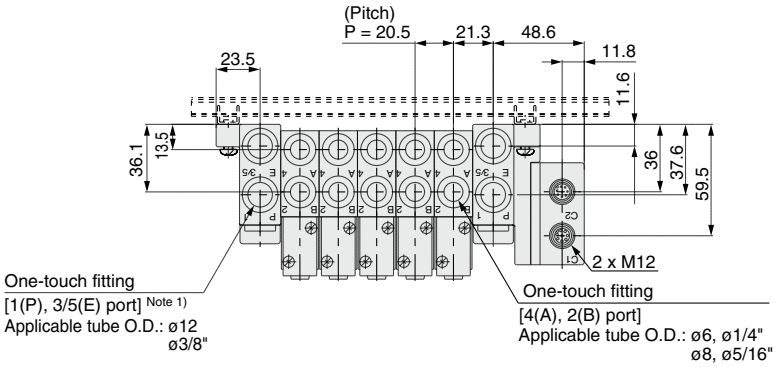
L: Dimensions

n: Stations

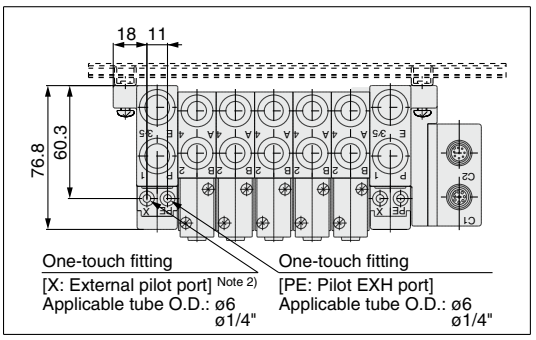
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	160.5	185.5	198	210.5	223	248	260.5	273	285.5	310.5	323	335.5	360.5	373
L2	137.5	150	175	187.5	200	212.5	237.5	250	262.5	275	300	312.5	325	350	362.5
L3	118	134	150	166	182	198	214	230	246	262	278	294	310	326	342
L4	15	13.5	18	16	14.5	12.5	17	15.5	13.5	12	16.5	14.5	13	17.5	15.5
L5	80	96	112	128	144	160	176	192	208	224	240	256	272	288	304

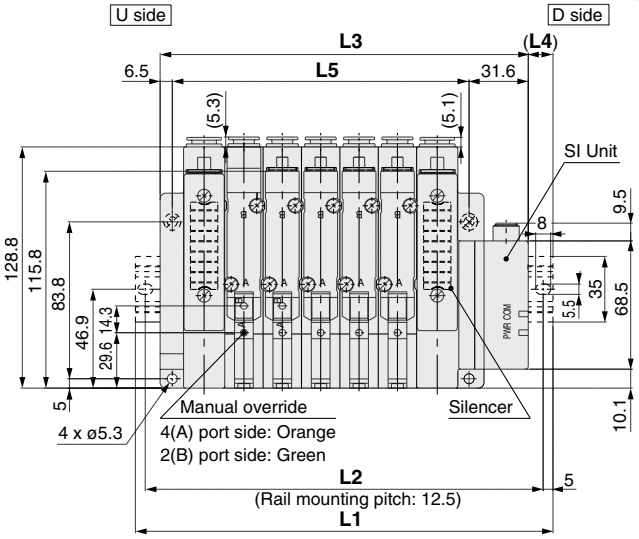
Dimensions

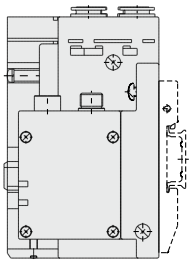
Tie-rod Base | Series SV3000

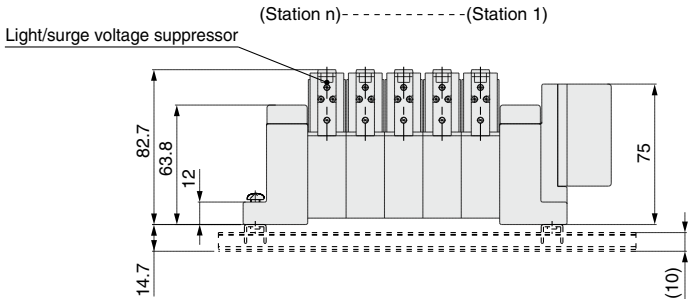


With External Pilot Specification

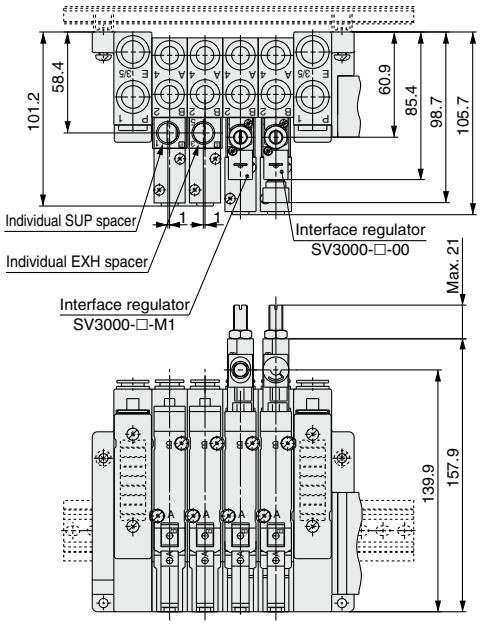








With Option



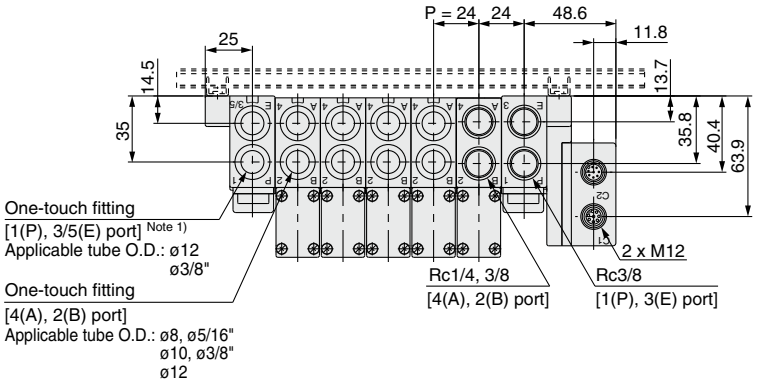
Note 1) When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
Note 2) External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

L: Dimensions

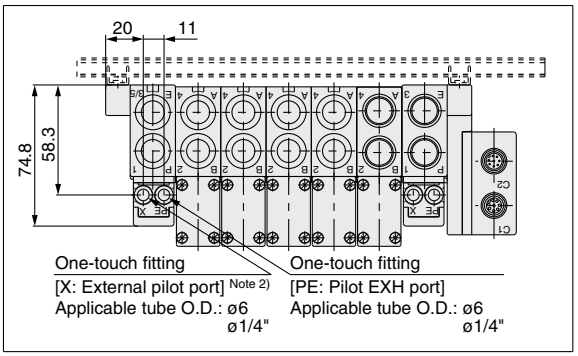
n: Stations

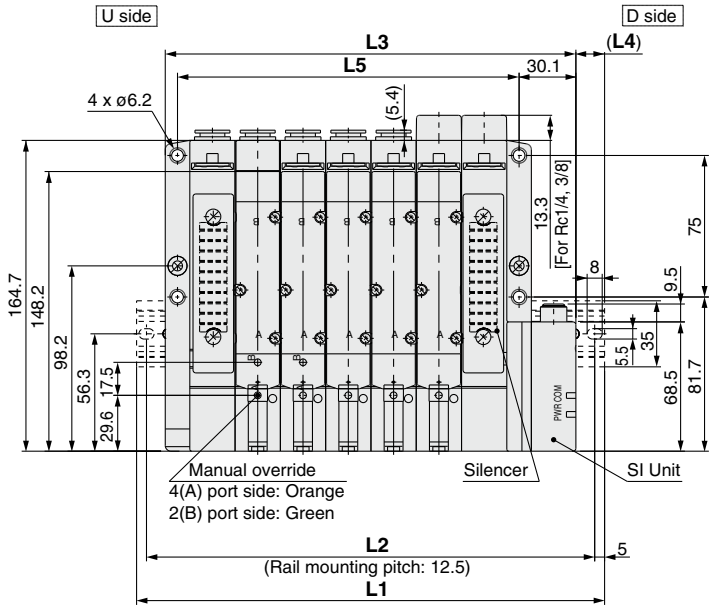
L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	160.5	185.5	210.5	223	248	273	285.5	310.5	323	348	373	385.5	410.5	435.5	448
L2	150	175	200	212.5	237.5	262.5	275	300	312.5	337.5	362.5	375	400	425	437.5
L3	135.1	155.6	176.1	196.6	217.1	237.6	258.1	278.6	299.1	319.6	340.1	360.6	381.1	401.6	422.1
L4	12.5	15	17	13	15.5	17.5	13.5	16	12	14	16.5	12.5	14.5	17	13
L5	97	117.5	138	158.5	179	199.5	220	240.5	261	281.5	302	322.5	343	363.5	384

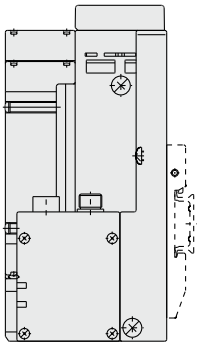
Dimensions

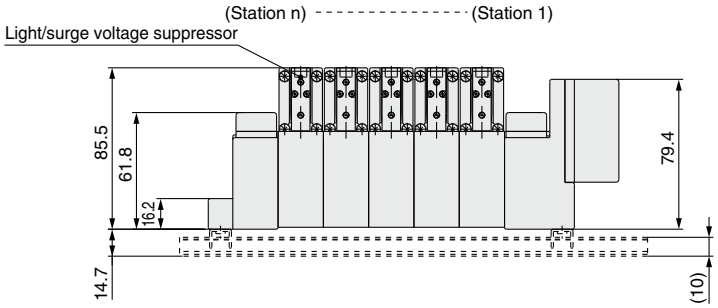


With External Pilot Specification

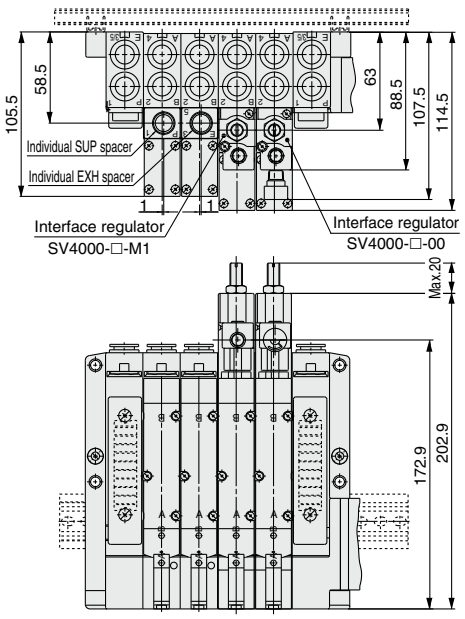








With Option



Note 1) When P, E port outlets are indicated on the U side or D side, the P, E ports on the opposite side are plugged.
Note 2) External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

L: Dimensions

n: Stations

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	173	198	223	248	273	298	323	348	373	385.5	410.5	435.5	460.5	485.5	510.5
L2	162.5	187.5	212.5	237.5	262.5	287.5	312.5	337.5	362.5	375	400	425	450	475	500
L3	145.6	169.6	193.6	217.6	241.6	265.6	289.6	313.6	337.6	361.6	385.6	409.6	433.6	457.6	481.6
L4	13.5	14	14.5	15	15.5	16	16.5	17	17.5	12	12.5	13	13.5	14	14.5
L5	109	133	157	181	205	229	253	277	301	325	349	373	397	421	445

Series EX500
Specific Product Precautions 1

Be sure to read this before handling. Refer to the back cover for Safety Instructions. For 3/4/5 Port Solenoid Valve Precautions, refer to "Handling Precautions for SMC Products" and the Operation Manual on the SMC website, http://www.smcworld.com

Design / Selection

⚠Warning

1. Do not use beyond the specification range.
Using beyond the specification range can cause a fire, malfunction, or damage to the system.
Check the specifications before operation.

2. When using for an interlock circuit:
- **Provide a multiple interlock system which is operated by another system (such as mechanical protection function).**
- **Perform an inspection to confirm that it is working properly.**

Otherwise, this may cause possible injuries due to malfunction.

⚠Caution

1. When applicable to UL, use a Class 2 power supply unit conforming to UL1310 for direct current power supply.

2. Use within the specified voltage range.
Using beyond the specified voltage range is likely to cause the product to be damaged or to malfunction.

3. Do not install in places where it can be used as a foothold.
Applying any excessive load such as stepping on the product by mistake or placing a foot on it, will cause it to break.

4. Keep the surrounding space free for maintenance.
When designing a system, take into consideration the amount of free space needed for performing maintenance.

5. Do not remove the name plate.
Improper maintenance or incorrect use of Operation Manual can cause equipment failure or malfunction. Also, there is a risk of losing conformity with safety standards.

Mounting

⚠Caution

1. When removing from / attaching to the valve manifold,
- **Do not apply excessive force to the Unit.**
  The connecting portions are firmly joined with seals.
- **Take care not to get fingers caught.**
  Injury can result.

2. Do not drop, bump, or apply excessive impact.
Otherwise, this can cause damage, equipment failure or malfunction.

3. Observe the tightening torque range.
Tightening outside of the allowable torque range will likely damage the screw.
IP65/IP67 cannot be guaranteed if the screws are not tightened to the specified torque.

Mounting

⚠Caution

4. When lifting a large size valve manifold, take care to avoid causing stress to the valve connection joint.
The connection joint of the product may be damaged.
Because the product may be heavy, carrying and installation should be performed by more than one operator to avoid strain or injury.

5. When placing a manifold, mount it on a flat surface.
Torsion in the whole manifold can lead to trouble such as air leakage or contact failure.

Wiring

⚠Caution

1. Provide the grounding to maintain the safety of the product and to improve the noise immunity.
Provide a specific grounding as close to the product as possible to minimize the distance to grounding.

2. Avoid repeatedly bending or stretching the cable and applying a heavy object or force to it.
Wiring applying repeated bending and tensile stress to the cable can break the circuit.

3. Avoid miswiring.
If miswired, there is a danger of malfunction or damage to the product.

4. Do not wire while energizing the product.
There is a danger of malfunction or damage to the product or input/output device.

5. Avoid wiring the power line and high pressure line in parallel.
Noise or surge produced by signal line resulting from the power line or high pressure line could cause a malfunction.
Wiring of the product or input/output device and the power line or high pressure line should be separated from each other.

6. Check for the wiring insulation.
Defective insulation (contact with other circuits, improper insulation between terminals, etc.) may cause damage to the product or input/output device due to excessive voltage or current.

Series EX500
Specific Product Precautions 2

Be sure to read this before handling. Refer to the back cover for Safety Instructions. For 3/4/5 Port Solenoid Valve Precautions, refer to "Handling Precautions for SMC Products" and the Operation Manual on the SMC website, http://www.smcworld.com

Wiring

⚠Caution

7. When the product is installed in machinery/equipment, provide adequate protection against noise by using noise filters etc.

Noise in signal lines may cause a malfunction.

8. When connecting wires, prevent water, solvent or oil from entering inside from the connecter section.

Otherwise, this can cause damage, equipment failure or malfunction.

9. Avoid wiring patterns in which excessive stress is applied to the connector.

This may cause equipment failure or malfunction due to contact failure.

Operating Environment

⚠Warning

1. Do not use in an atmosphere containing an inflammable gas or explosive gas.

Use in such an atmosphere is likely to cause a fire or explosion. This system is not explosion-proof.

⚠Caution

1. Select the proper type of enclosure according to the environment of operation.

IP65/67 is achieved when the following conditions are met.

1) Provide appropriate wiring between the products using electrical wiring cables, communication connectors and cables with M12 connectors.

2) Suitable mounting of the product and valve manifold.

3) Be sure to mount a seal cap on any unused connectors.

If using in an environment that is exposed to water splashes, please take measures such as using a cover.
When the enclosure is IP40, do not use in an operating environment or atmosphere where it may come in contact with corrosive gas, chemical agents, seawater, water, or water vapor.

2. Provide adequate protection when operating in locations such as the following.

Failure to do so may cause a malfunction or equipment failure. The effect of countermeasures should be checked in individual equipment and machine.

1) Where noise is generated by static electricity etc.

2) Where there is a strong electric field

3) Where there is a danger of exposure to radiation

4) When in close proximity to power supply lines

3. Do not use in an environment where oil and chemicals are used.

Operating in environments with coolants, cleaning solvents, various oils or chemicals may cause adverse effects (damage, malfunction) to the product even in a short period of time.

Operating Environment

⚠Caution

4. Do not use in an environment where the product could be exposed to corrosive gas or liquid.

This may damage the product and cause it to malfunction.

5. Do not use in locations with sources of surge generation.

Installation of the product in an area around the equipment (electromagnetic lifters, high frequency induction furnaces, welding machine, motors, etc.), which generates the large surge voltage could cause to deteriorate an internal circuitry element of the product or result in damage. Implement countermeasures against the surge from the generating source, and avoid touching the lines with each other.

6. When directly driving a load (output device) which generates surge voltage by relay, solenoid valves or lamp, use a load that has an integrated surge absorption element.

When a surge generating load is directly driven, the product may be damaged.

7. The product is CE marked, but not immune to lightning strikes. Take measures against lightning strikes in your system.

8. Keep dust, wire scraps and other foreign matter from entering inside the product.

This may cause equipment failure or malfunction.

9. Mount the product in such locations, where no vibration or shock is affected.

This may cause equipment failure or malfunction.

10. Do not use in places where there are cyclic temperature changes.

In case that the cyclic temperature is beyond normal temperature changes, the internal product is likely to be adversely affected.

11. Do not use in direct sunlight.

This may cause equipment failure or malfunction.

12. Observe the ambient temperature range.

This may cause a malfunction.

13. Do not use in places where there is radiated heat around it.

Such places are likely to cause a malfunction.

Series EX500
Specific Product Precautions 3

Be sure to read this before handling. Refer to the back cover for Safety Instructions. For 3/4/5 Port Solenoid Valve Precautions, refer to "Handling Precautions for SMC Products" and the Operation Manual on the SMC website, http://www.smcworld.com

Adjustment / Operation

⚠Warning

1. **Do not perform operation or setting with wet hands.**
   There is a risk of electrical shock.

<Web server function>

2. **The valve operation test is a function which forcibly changes the signal status Please check safety of the ambient environment and the device before using this function.**
   This may cause injuries or equipment damage.
3. **If the communication line and PC are shut down during a valve operation test, the valve output status will be held (It remains in the output status before the communication line and/or PC was shut down). Please check safety of the ambient environment and the device when performing this function.**
   This may cause injuries or equipment damage.

⚠Caution

1. **Use a watchmaker's screwdriver with thin blade for the setting switch.**
   When setting the switch, do not touch other unrelated parts.
   This may cause parts damage or malfunction due to a short circuit.
2. **Provide adequate setting for the operating conditions.**
   Failure to do so could result in malfunction.
   Refer to the Operation Manual for the setting switch.
3. **For details on programming and address setting, refer to the manual from the PLC manufacturer.**
   The content of programming related to protocol is designed by the manufacturer of the PLC used.

Maintenance

⚠Warning

1. **Do not disassemble, modify (including circuit board replacement) or repair this product.**
   Such actions are likely to cause injuries or equipment failure.
2. **When an inspection is performed,**
   - **Turn off the power supply.**
   - **Stop the air supply, exhaust the residual pressure in piping and verify that the air is released before performing maintenance work.**

   Unexpected malfunction of system components and injury can result.

⚠Caution

1. **When removing from / attaching to the valve manifold,**
   - **Do not apply excessive force to the Unit.**
     The connecting portions are firmly joined with seals.
   - **Take care not to get fingers caught.**
     Injury can result.
2. **Perform periodic inspection.**
   Unexpected malfunction in the system composition devices is likely to occur due to malfunction of machinery or equipment.
3. **After maintenance, make sure to perform an appropriate functionality inspection.**
   In cases of abnormality such as faulty operation, stop operation. Unexpected malfunction in the system composition devices is likely to occur.
4. **Do not use benzine and thinner for cleaning the product.**
   Damage to the surface or erasure of the display can result. Wipe off any stains with a soft cloth.
   If the stain is persistent, wipe off with a cloth soaked in a dilute solution of neutral detergent and wring out tightly, and then finish with a dry cloth.

Other

⚠Caution

1. **Refer to the catalog of each series for Common Precautions and Specific Product Precautions on valve manifolds.**

⚠ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of **"Caution," "Warning"** or **"Danger."** They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

⚠ Caution: **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

⚠ Warning: **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

⚠ Danger : **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

*1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines.
(Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots – Safety.
etc.

⚠ Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

⚠ Caution

1. The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".
Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
   Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
   This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) **Vacuum pads are excluded from this 1 year warranty.**
A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

⚠ Caution

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.