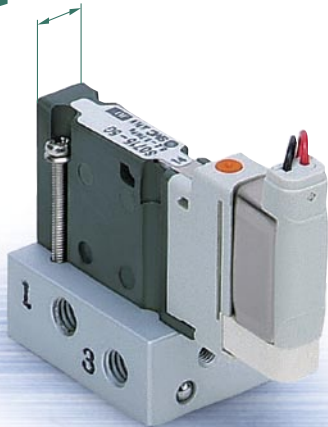


Width: **7 mm**



Flow Characteristics
 $C[\text{dm}^3/(\text{s}\cdot\text{bar})]$: **0.39**
 b : **0.39**
 C_v : **0.11**



7 mm Width Compact Pilot Type 5 Port Solenoid Valve



Series **S0700**

7 mm Width Compact Pilot Type 5 Port Solenoid Valve



Series S0700

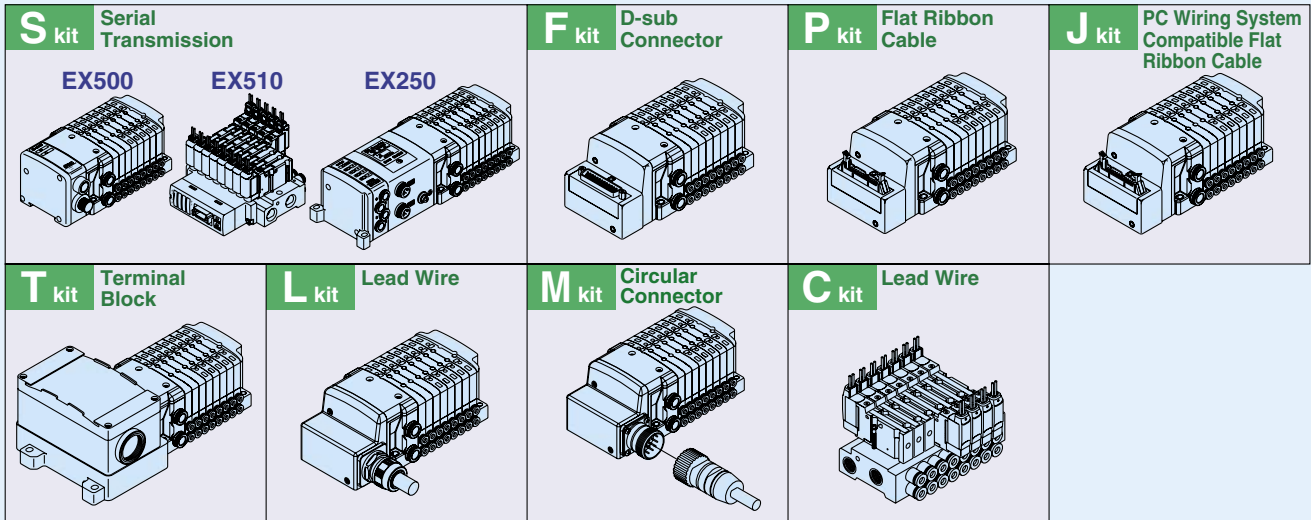
Compact design with high flow capacity

Series	Type of actuation	Model	Flow characteristics						Note 2) Response time (msec)	
			1→4/2 (P→A/B)			4/2→5/3 (A/B→R1/R2)				
			C [dm ³ /(s·bar)]	b	Cv	C [dm ³ /(s·bar)]	b	Cv		
Plug-in type	2 position	Single	S0710	0.39	0.39	0.11	0.37	0.39	0.10	18 or less
		Double	S0720	0.39	0.39	0.11	0.37	0.39	0.10	10 or less
	4 position	Dual 3 port valve	S07A B C	0.34	0.34	0.09	0.33	0.33	0.08	18 or less
Plug lead type	2 position	Single	S0715	0.39	0.39	0.11	0.37	0.39	0.10	12 or less
		Double	S0725	0.39	0.39	0.11	0.37	0.39	0.10	10 or less
	4 position	Dual 3 port valve	S07A B C	0.34	0.34	0.09	0.33	0.33	0.08	12 or less

Note 1) The value for cylinder port fitting port size C6.

Note 2) Based on JIS B 8375-1993 (Supply pressure: 0.5 MPa, with indicator light and surge voltage suppressor, clean air. This will change depending on pressure and air quality.) The value when ON for the double type.

Many combinations available to suit your needs



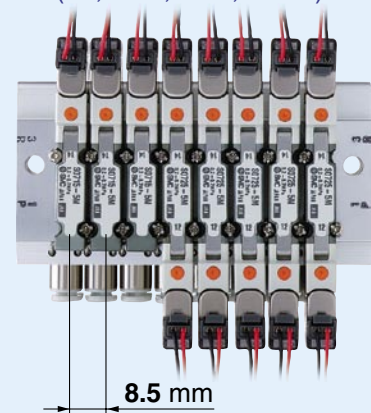
Applicable to Serial Wiring Gateway Type

S kit			
Series	Applicable protocol	Model	
EX500	Gateway System Decentralised Serial <ul style="list-style-type: none"> Remote I/O DeviceNet PROFIBUS-DP CC-Link EtherNet/IP 		
EX510	Gateway System Decentralised Serial <ul style="list-style-type: none"> DeviceNet PROFIBUS-DP CC-Link 		
EX250	For Input and Output <ul style="list-style-type: none"> DeviceNet PROFIBUS-DP CC-Link AS-i ControlNet CANopen EtherNet/IP 		

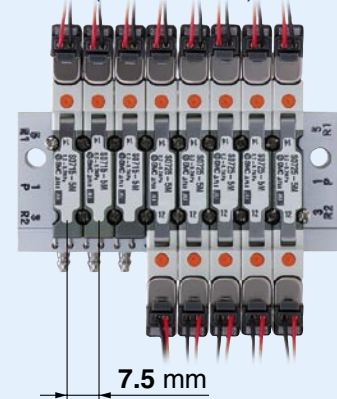
2 Types of manifold pitch are selectable.

(Plug lead type)

8.5 mm pitch
with one-touch fittings
($\phi 2$, $\phi 3.2$, $\phi 1/8$, $\phi 5/32$)



7.5 mm pitch
with barb fittings
($\phi 2$, $\phi 3.2$, $\phi 4$)

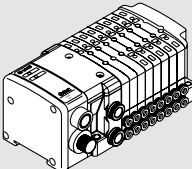
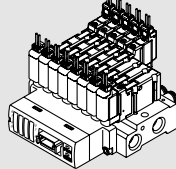
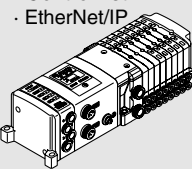
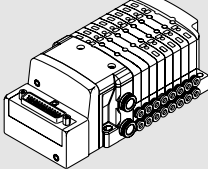
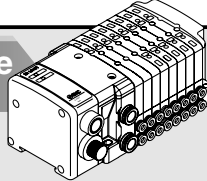
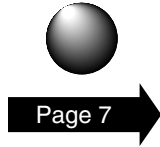
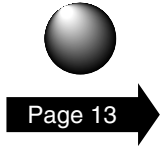
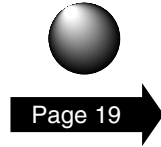
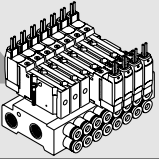
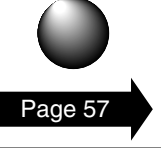


The mounting screw is tightened with the valve.

4 Position Dual 3 Port Valve

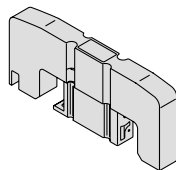
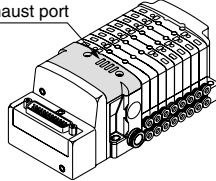
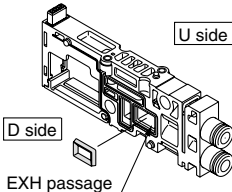
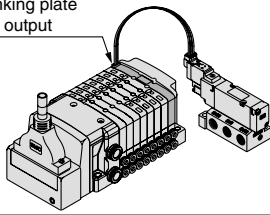
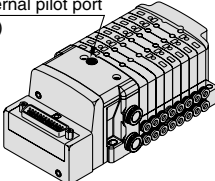
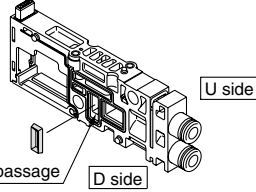
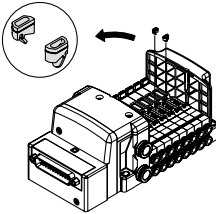
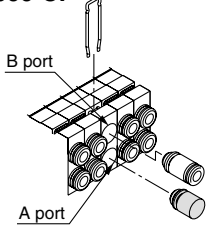
- Two 3 port valves in one body.
- Independently operating 3 port valve for each port side of A and B.
- The number of stations occupied for 3 port valve is halved.
- Available as 4 position 5 port valve.

A side	B side	Symbol
N.C.	N.C.	
N.O.	N.O.	
N.C.	N.O.	

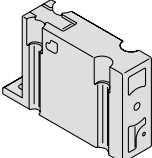
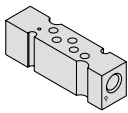
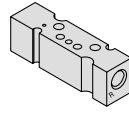
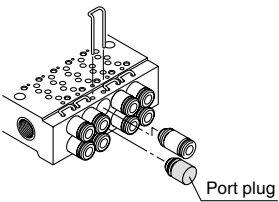
		S Kit Serial Transmission			F Kit D-sub Connector
		EX500 Decentralised Serial Gateway system Applicable network · Remote I/O · DeviceNet · PROFIBUS-DP · CC-Link · EtherNet/IP	EX510 Decentralised Serial Gateway system Applicable network · DeviceNet · PROFIBUS-DP · CC-Link	EX250 For Input and Output Applicable network · DeviceNet · PROFIBUS-DP · CANopen · CC-Link · AS-i · ControlNet · EtherNet/IP	MIL standard
					
Base Mounted	Plug-in type Stacking base				
	Plug lead type Bar base				

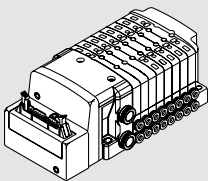
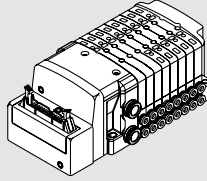
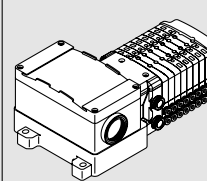
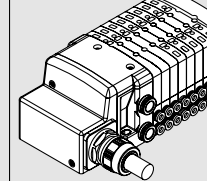
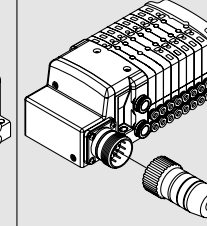
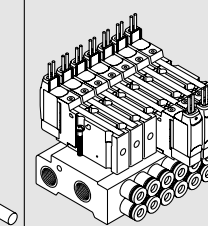






Options

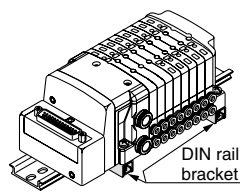
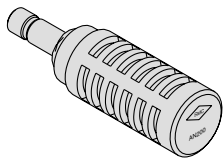
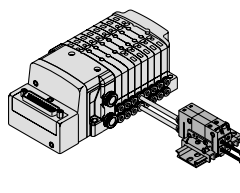
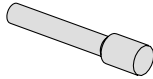
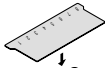
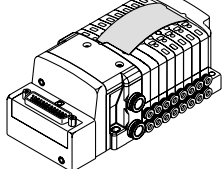
Plug-in/Options

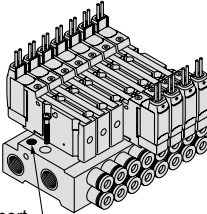
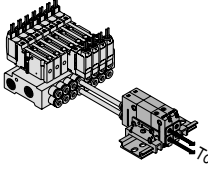
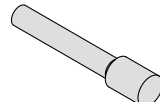

Blanking plate SS0700-10A-1 	P.43	Built-in silencer, Direct exhaust [-S]  Exhaust port	P.43	EXH block plate SS0700-B-R  U side D side EXH passage	P.44	Blanking plate with output SS0700-1C-□  Blanking plate with output	P.45
External pilot [-R]  External pilot port (M5)	P.43	SUP block plate SS0700-B-P  U side D side SUP passage	P.44	Back pressure check valve [-B] SS0700-7A-1  U side	P.44	Port plug VVQ0000-CP  B port A port	P.45

Plug Lead/Options

Blanking plate SS0700-10A-5 	P.64	Individual SUP spacer SS0700-P-5-M5 	P.64	Individual EXH spacer SS0700-R-5-M5 	P.64	Port plug VVQ0000-CP  Port plug	P.64
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P Kit Flat Ribbon Cable	J Kit PC Wiring System Compatible Flat Ribbon Cable	T Kit Terminal Block	L Kit Lead Wire	M Kit Circular Connector	C Kit Lead Wire
MIL standard · 26 pins, 20 pins	MIL standard · 20 pins				
					
 Page 23 →	 Page 27 →	 Page 31 →	 Page 35 →	 Page 39 →	
					 Page 53 →

DIN rail mounting  DIN rail mounting bracket	P.45	Silencer (for EXH port) AN200-KM8 	P.46	Double check block (Separated) P.47 VQ1000-FPG-□□  To CYL port
Blanking plug (for one-touch fitting) KJP-02 KQ2P-23/04/06 	P.45	Name plate  	P.46	

External pilot [-R]  External pilot port (M3)	P.64	Double check block (Separated) VQ1000-FPG-□□  To CYL port	P.65	Blanking plug (for one-touch fitting) KJP-02 KQ2P-23/04/06 	P.66	Silencer (for manifold EXH port) AN110-01 	P.66
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Valve Specifications

Valve Specifications

Model

Series	Type of actuation	Model	Flow characteristics						Note 2) Response time (msec)	Weight (g)	
			1→4/2 (P→A/B)			4/2→5/3 (A/B→R1/R2)					
			C[dm ³ /(s·bar)]	b	Cv	C[dm ³ /(s·bar)]	b	Cv			
Plug-in type	2 position	Single	S0710	0.39	0.39	0.11	0.37	0.39	0.10	18 or less	30
		Double	S0720	0.39	0.39	0.11	0.37	0.39	0.10	10 or less	38
	4 position	Dual 3 port valve	S0730^A_C	0.34	0.34	0.09	0.33	0.33	0.08	18 or less	38
Plug lead type	2 position	Single	S0715	0.39	0.39	0.11	0.37	0.39	0.10	12 or less	28
		Double	S0725	0.39	0.39	0.11	0.37	0.39	0.10	10 or less	36
	4 position	Dual 3 port valve	S0735^A_C	0.34	0.34	0.09	0.33	0.33	0.08	12 or less	36

Note 1) The value for cylinder port fitting port size C6.

Note 2) Based on JIS B 8375-1993 (Supply pressure: 0.5 MPa, with indicator light and surge voltage suppressor, clean air. This will change depending on pressure and air quality.)
The value when ON for the double type.

Standard Specifications

Valve specification	Valve construction	Rubber seal	
	Fluid	Air/Inert gas	
	Max. operating pressure	0.7 MPa	
	Min. operating pressure	0.2 MPa	
	Ambient and fluid temperature	-10 to 50°C (Note 1)	
	Max. operating cycle	5 Hz	
	Pilot valve exhaust method	Plug-in type Common exhaust (Note 2)	Plug lead type Individual exhaust
	Pilot valve manual override	Push type	
	Lubrication	Not required	
	Impact resistance/Vibration resistance (Note 3)	30/100 m/s ²	
Enclosure	IP40		
Electrical specification	Coil rated voltage	24 VDC	
	Allowable voltage fluctuation	±10% of rated voltage	
	Coil insulation type	Class B or equivalent	
	Power consumption (Current)	24 VDC	DC 0.35 W (15 mA)

Note 1) Use dry air to prevent condensation when operating at low temperatures.

Note 2) Valves with the external pilot specifications have a pilot EXH with individual exhaust specifications.

Note 3) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energised and de-energised states every once for each condition.

Vibration resistance: No malfunction occurred in a one-sweep test between 8 and 2000 Hz. Test was performed at both energised and de-energised states in the axial direction and at the right angles to the main valve and armature.

Manifold Specifications

Manifold Specifications

Model

Base model	Port specification		Type of connection	Applicable stations <small>Note 1)</small>	5-station weight (g) <small>Note 3)</small>	Addition per/station (g) <small>Note 3)</small>
	Port size					
	1(P), 3(R)	4(A), 2(B)				
Plug-in type SS0750-□□□□	C8 (for ø8) Option (Direct exhaust with built-in silencer)	C2 (for ø2) C3 (for ø3.2) C4 (for ø4) N1 (for ø1/8") N3 (for ø5/32")	S kit: Serial transmission (EX500)	Max. 16 stations	360	20
			S kit: Serial transmission (EX250)	Max. 24 stations <small>Note 2)</small>	560 <small>Note 4)</small>	20
			F kit: D-sub connector	Max. 24 stations	330	20
			P kit: Flat ribbon cable	Max. 24 stations	325	20
			J kit: PC wiring compatible flat ribbon cable	Max. 16 stations	325	20
			T kit: Terminal block	Max. 20 stations	660	20
			L kit: Lead wire	Max. 24 stations	455 <small>Note 5)</small>	20
M kit: Circular connector	Max. 24 stations	390	20			
Plug lead type SS0755-□□□□C (Manifold pitch: 8.5) SS0755-□V□□C (Manifold pitch: 7.5)	Rc 1/8	M5 thread C2 (for ø2) C3 (for ø3.2) C4 (for ø4) N1 (for ø1/8") N3 (for ø5/32")	C kit: Lead wire	Max. 20 stations	115	20
			S kit: Serial transmission (EX510)	Max. 16 stations	155	20
	M5 thread	M3 (M3 thread) V2 (Barb fitting for ø2) V3 (Barb fitting for ø3.2) V4 (Barb fitting for ø5)	C kit: Lead wire	Max. 20 stations	75	10
Single unit S07□5-5□-M5	M5 thread	M5 thread	Connector kit	—	14 <small>Note 6)</small>	

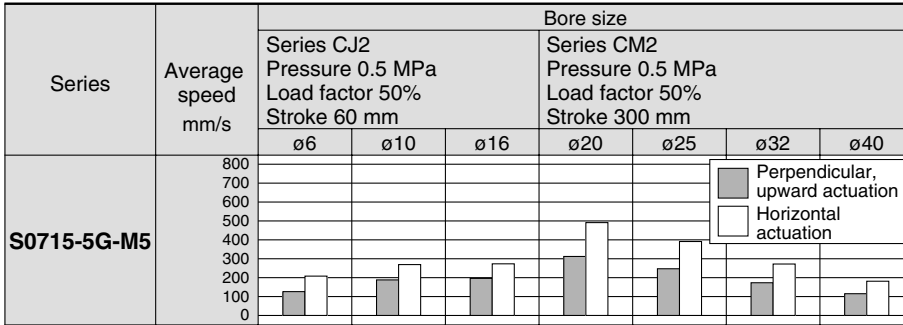
- Note 1) Maximum stations in case of mixed single and double wiring
 Note 2) Differs depending on the serial unit type. For details, refer to page 15.
 Note 3) Weight excluding valve. Refer to page 3 for valve weight.
 Note 4) Weight with 1 input block
 Note 5) Weight for lead wire length of 0.6m
 Note 6) Weight of sub-plate only. Refer to page 3 for valve weight.

Series S0700

Cylinder Speed Chart

Use as a guide for selection.
Please confirm the actual conditions with
SMC's Model Selection Software.

Base Mounted



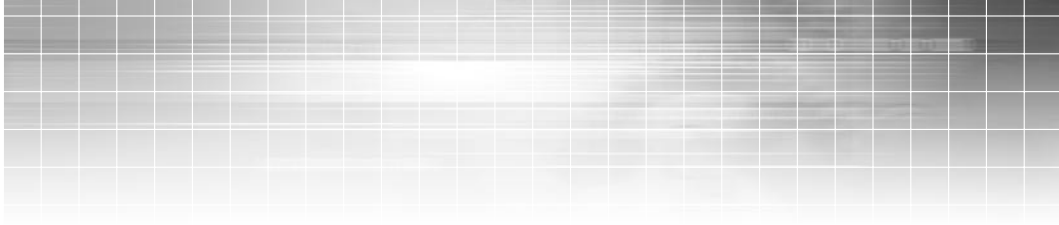
- * For when the cylinder is extending with meter-out control by a speed controller which is directly connected to the cylinder, with its needle valve being fully open.
- * The average velocity of the cylinder is the stroke length is divided by the total stroke time.
- * Load factor: ((Load weight x 9.8)/Theoretical force) x 100%

Conditions

	Base mounted	Series CJ2	Series CM2
S0715-5G-M5	Tube bore x Length	ø6 x 1 m	
	Speed controller	AS2001F-06	AS2301F-06
	Silencer	AN120-M5	

Symbol

Model	Type of actuation	JIS symbol
S0710 S0715	2 position single	
S0720 S0725	2 position double	
S07A0 S07A5	4 position dual 3 port N.C. + N.C. (Exhaust centre)	
S07B0 S07B5	4 position dual 3 port N.O. + N.O. (Pressure centre)	
S07C0 S07C5	4 position dual 3 port N.C. + N.O.	



Plug-in

Serial Transmission

S Kit

Stacking Base



Decentralised
Serial
EX500

→ P.7



For Input
and Output
EX250

→ P.13

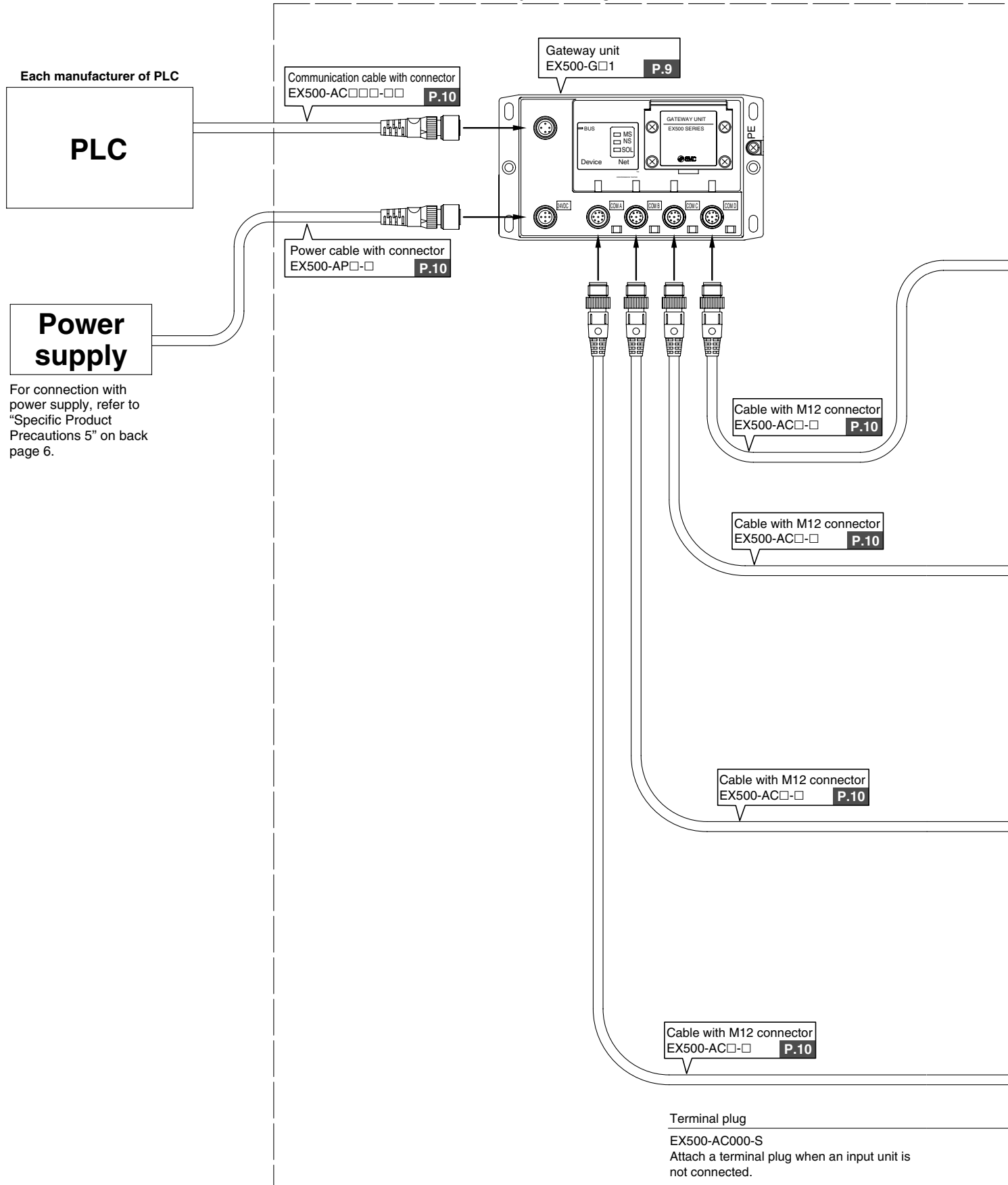
S S0700

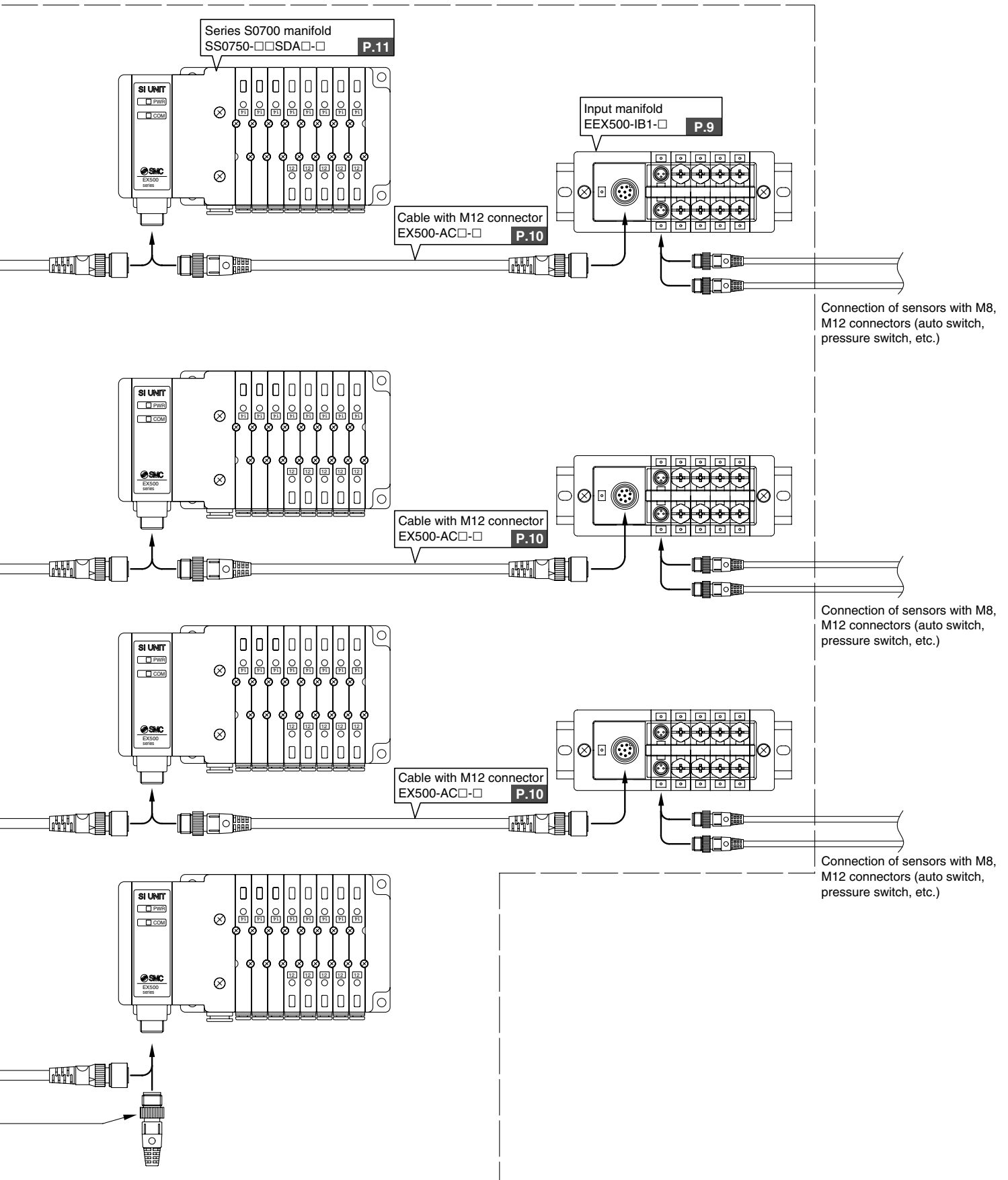
Kit (Serial Transmission) Decentralised Serial EX500

A configuration of the EX500 series system with the S0700 series is shown below.

- One gateway unit can be configured with manifold valves (outputs) and input unit manifold (inputs) for up to 16 input/output points per branch. Each gateway unit can support a maximum of 4 branches. (This provides a maximum total of 64 input/output points.)

Series EX500 Decentralised Serial System Configuration





S S0700 Kit (Serial Transmission) Decentralised Serial EX500

Gateway System Serial Transmission System

- The connector type wiring improves the working efficiency and prevents incorrect wiring. The S kit is available for combination with a Gateway unit.

Gateway (GW) Unit



How to Order

EX500 — G DN1

● Communication protocol

DN1	DeviceNet
PR1A	PROFIBUS-DP
AB1-X1	Remote I/O (RIO)
MJ1	CC-Link
EN1	EtherNet/IP

Specifications

Model	EX500-GAB1-X1	EX500-GDN1	EX500-GPR1A	EX500-GMJ1	EX500-GEN1
Applicable PLC/Communication protocol	Rockwell Automation, Inc. PLC	DeviceNet Release2.0	PROFIBUS-DP (EN50170)	CC-Link Ver.1.10	EtherNet/IP Release 1.0
Communication speed	57.6/115.2/230.4 kbit/sec	125/250/500 kbit/sec	9.6/19.2/45.45/93.75/187.5/500 kbit/sec 1.5/3/6/12 Mbit/sec	156/625 kbit/sec 2.5/5/10 Mbit/sec	10M/100Mbit/sec
Rated voltage	24 VDC				
Power supply voltage range	Input and control unit power supply: 24 VDC ±10% Solenoid valve power supply: 24 VDC +10%/−5% (Power drop warning at approx. 20 V)				
Current consumption	—	Communication power supply for DeviceNet 11 to 25 VDC	—	—	—
No. of inputs/outputs	200 mA or less (GW unit)				
No. of input/output branches	—				
Branch cable	200 mA or less (GW unit)				
Branch cable length	—				
Communication connector	—				
Power connector	—				
Ambient operating temperature/humidity	—				
Enclosure	—				
Applicable standard	—				
Weight (g)	—				

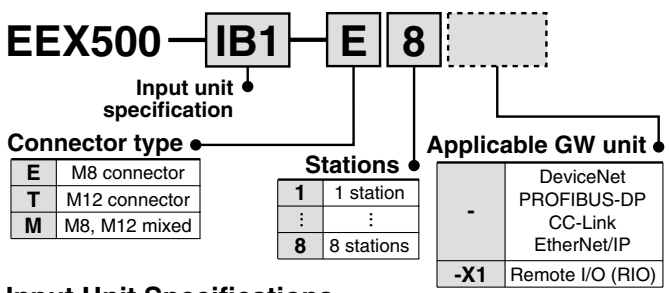
* Communication cables and connectors are sold separately.

Input Block

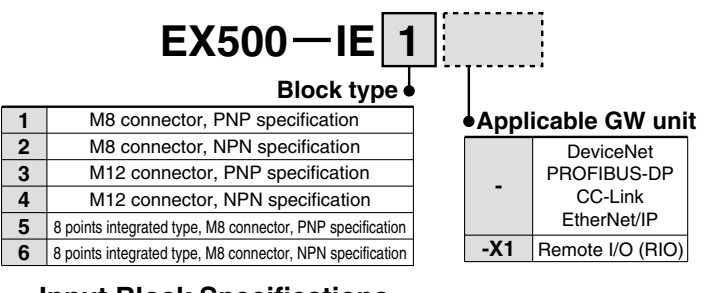


When ordering an input unit manifold, enter the [Input manifold part no.] + [Input block part no.] together. The [Input unit], [End block] and [DIN rail] are included in the input manifold. Refer to the indications below.

How to Order Input Manifold



How to Order Input Block



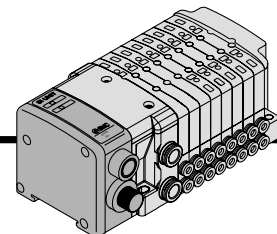
Input Unit Specifications

Connection block	Current source type input block (PNP input block) or Current sink type input block (NPN input block)
Communication connector	M12 connector (8 pins, plug)
Number of connection blocks	Maximum 8 blocks
Block supply voltage	24 VDC
Block supply current	0.65 A maximum
Current consumption	100 mA or less (at rated voltage)
Short circuit protection	Operates at 1ATyp. (Power supply cut) GW unit reset by turning power OFF and back ON.
Enclosure	IP65
Weight (g) (Note)	100 (Input block + End block)

Note) DIN rail weight is not included.

Input Block Specifications

Sensor applicable	Current source type (PNP output) or Current sink type (NPN output)
Sensor connector	M8 connector (3 pins) or, M12 connector (4 pins)
Number of inputs	2 inputs/8 inputs (M8 only)
Rated voltage	24 VDC
Indication	Green LED
Insulation	None
Sensor supply current	Maximum 30 mA/Sensor
Enclosure	IP65
Weight (g)	[For M8: 20] [For M12: 40] [8 points integrated type, for M8: 55]



SI Unit

How to Order

EX500—Q 0 01

Output COM.

0	+COM.
1	-COM.

Applicable GW unit

-	DeviceNet PROFIBUS-DP CC-Link EtherNet/IP
-X1	Remote I/O (RIO)

- Double wiring is adopted for the internal wiring of each station, regardless of valve and option types. The optional specification permits the mixture of single and double wiring.

SI unit output and coil numbering

<Wiring example 1>

SI unit	0	1	2	3	4	5	6	7	8	9
output no.										
	A	B	A	B	A	Open	A	Open	A	B
SI unit	Double	Double	Double	Double	Single	Single	Single	Single	Single	Single
Stations	1	2	3	4	5					

Double wiring (Standard)

<Wiring example 2>

SI unit	0	1	2	3	4	5	6	7
output no.								
	A	B	A	B	A	A	A	B
SI unit	Double	Double	Double	Single	Single	Single	Double	Double
Stations	1	2	3	4	5			

Single/Double mixed wiring (Option)

Mixed wiring is optionally available. Add "K" for the option and specify the wiring specification for each station on a manifold specification sheet.

Specifications

Connection block	Solenoid valve (single, double) Relay output module (1 output, 2 outputs)
Communication connector	M12 connector (8 pins, plug, socket)
Connection block stations	Double solenoid valve Relay output module (2 points): Maximum 8 stations Single solenoid valve Relay output module (1 point): Maximum 16 stations
Block supply voltage	24 VDC
Block supply current	0.65 A maximum
Current consumption	100 mA or less (at rated voltage)
Weight (g)	115

Cable

Communication connector cable (For DeviceNet type GW unit)

EX500—AC 050—DN



Cable length

010	1 m
050	5 m

Cable with M12 connector

EX500—AC 030—SSPS

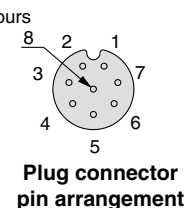
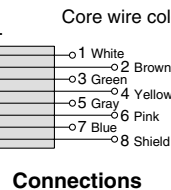
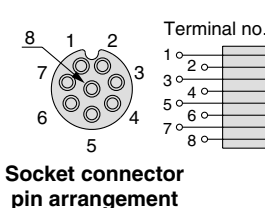
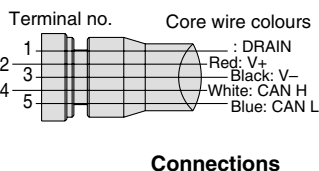
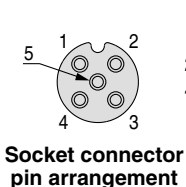


Cable length

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

Connector specification

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



Power cable with connector

EX500—AP 050—S

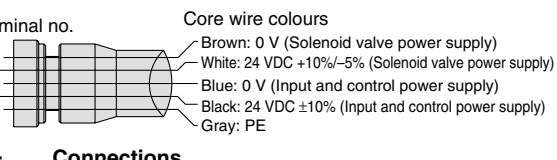
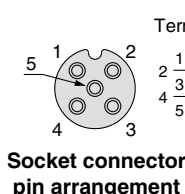


Cable length

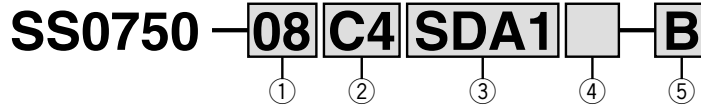
010	1 m
050	5 m

Connector specification

S	Straight
A	Angle



How to Order Manifold



① Stations

Symbol	Stations
01	1 station
⋮	⋮
16 ^{Note)}	16 stations

Note) The maximum number of stations will be different depending on the wiring specification.

② Cylinder port size

Symbol	Port size	
C2	With one-touch fitting for ø2	Metric
C3	With one-touch fitting for ø3.2	
C4	With one-touch fitting for ø4	
CM	Mixed size/with port plug ^{Note)}	
N1	With one-touch fitting for ø1/8"	Inch
N3	With one-touch fitting for ø5/32"	
NM	Mixed size/with port plug ^{Note)}	

Note) Specify "Mixed size/with port plug" on a manifold specification sheet.

③ Kit name

Kit name		Symbol	Specification	Standard station	Max. number of stations for special wiring specification	Max. number of solenoids
S kit	Decentralised serial wiring serial transmission	SD0	Without serial unit	1 to 8 stations	16 stations	16
		SDA1	Remote I/O			
		SDA2	DeviceNet/PROFIBUS-DP/CC-Link/EtherNet/IP			

Note 1) The maximum number of stations is determined by the total number of solenoids.

For mixed single and double wirings, enter "K" to the order code options.

Note 2) For SI unit part number, refer to page 50.

Type of actuation	Single type	Double, Dual 3 port type
Number of solenoids	1	2

④ SI unit COM.

SI unit COM.		EX500				
		DeviceNet	PROFIBUS-DP	CC-Link	Remote I/O	EtherNet/IP
-	+COM.	○	○	○	○	○
N	-COM.	○	○	○	○	○

Note) Without SI unit (SD0), the symbol is "-".

⑤ Option

Symbol	Stations
-	None
B ^{Note 2)}	With back pressure check valve (all stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (with bracket)
D□ ^{Note 3)}	With DIN rail Designated length (□: station)
K ^{Note 4)}	Special wiring specification (Except double wiring)
N	With name plate
R ^{Note 5)}	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -BRS

Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on a manifold specification sheet.

Note 3) The available number of stations is larger than the number of manifold stations.

Note 4) Indicate the wiring specification for mixed single and double wirings.

Note 5) For details, refer to page 43.

* For manifold optional parts, refer to page 43.

* For manifold exploded view, refer to page 49.

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

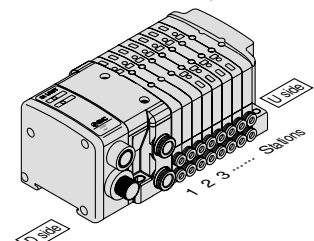
<Example>

Serial transmission kit

SS0750-08C4SDA1 1 set – Manifold base no.
 * S0710-5 3 sets – Valve part no. (Stations 1 to 3)
 * S0720-5 2 sets – Valve part no. (Stations 4 to 5)
 * S07A0-5 2 sets – Valve part no. (Stations 6 to 7)
 * SS0700-10A-1 1 set – Blanking plate part no. (Station 8)

Prefix the asterisk to the part nos. of the solenoid valve, etc.

Write sequentially from the 1st station on the D side. When all the part nos. written become complicated, please specify them by using a manifold specification sheet.



How to Order Valves



Type of actuation

Symbol	Specification
1	2 position single
2	2 position double
A	4 position dual 3 port type (N.C. + N.C.) [Exhaust centre]
B	4 position dual 3 port type (N.O. + N.O.) [Pressure centre]
C	4 position dual 3 port type (N.C. + N.O.)

Note) For JIS symbol, refer to page 5.

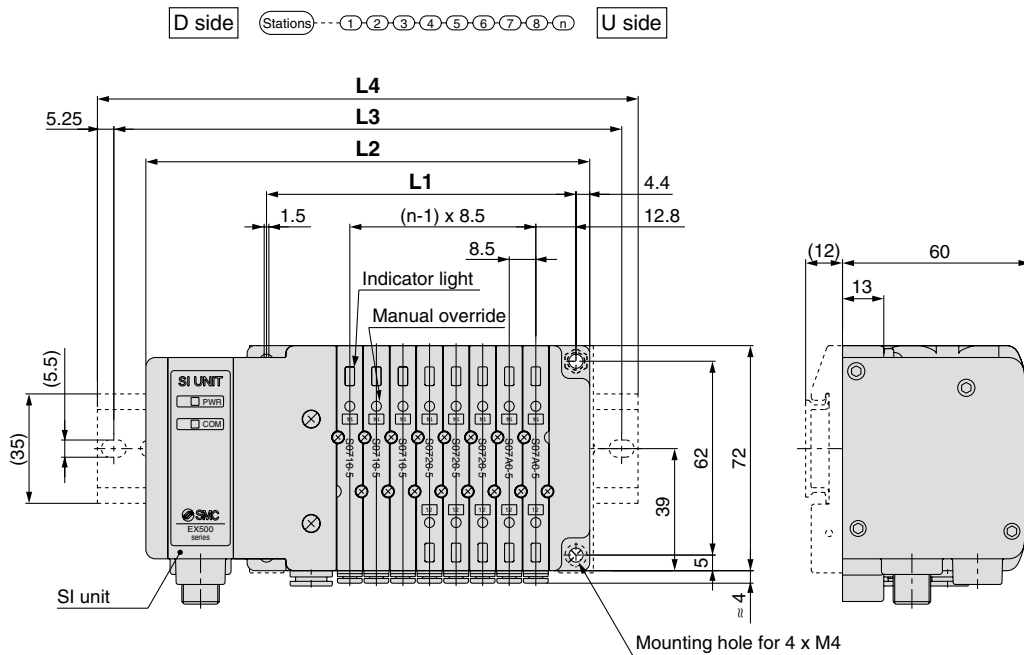
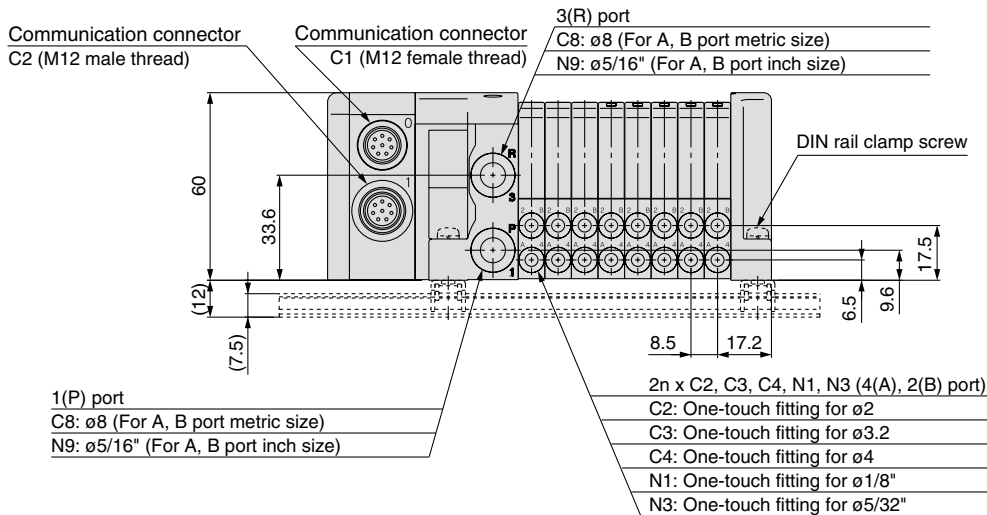
• Voltage: 24 VDC

Function

Symbol	Specification
-	Standard
R	External pilot

Base mounted plug-in

SS0750
S Kit (Serial transmission: EX500)

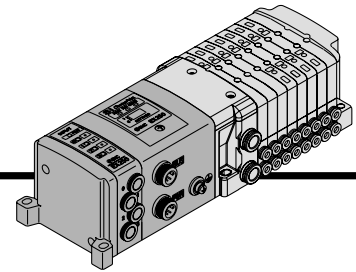


Dimensions

Formula $L1 = 8.5n + 31$, $L2 = 8.5n + 74$ n: Station (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

S S0700 Kit (Serial Transmission) For Input and Output EX250



Applicable Network

DeviceNet / PROFIBUS-DP / CC-Link / ControlNet / CANopen / AS-i

Please contact SMC for details about product applicable to EtherNet/IP.

- The serial transmission system reduces wiring work, while minimising wiring and saving space.

SI unit

As a DeviceNet/PROFIBUS slave unit, it is capable of solenoid valve ON/OFF control up to a maximum of 32 points (4 or 8 points for AS-i). In addition, by connecting an input block a maximum of 32 sensor signal inputs (4 or 8 for AS-i) are possible.

Input block

This is an expansion block which connects to an SI unit to perform sensor input from auto switches, etc. Two or four sensor inputs can be accommodated by one input block, and the common can be matched to the sensor by an NPN/PNP switch. Input connectors are available in both M8 and M12 types.

- Double wiring is adopted for the internal wiring of each station, regardless of valve and option types. The optional specification permits the mixture of single and double wiring.

● SI unit output and coil numbering

<Wiring example 1>

SI unit output no.	0	1	2	3	4	5	6	7	8	9
	A	B	A	B	A Open	A Open	A	B		
SI unit	Double		Double		Single	Single	Single			
Stations	1		2		3	4	5			

Double wiring (Standard)

<Wiring example 2>

SI unit output no.	0	1	2	3	4	5	6	7
	A	B	A	B	A	A	A	B
SI unit	Double		Double		Single	Single	Double	
Stations	1		2		3	4	5	

Single/Double mixed wiring (Option)

Mixed wiring is optionally available. Add "-K" for the option and specify the wiring specification for each station on a manifold specification sheet.

Details of Connector



* For details on specifications and handling, refer to the separate technical instruction manual.

● Input connector: M12, 5 pins (Receptacle)

Cable side connector example: XS2G made by OMRON Corp.
2-input block (EX250-IE1)
4-input block (EX250-IE2)

Number	Description	Function
1	SW+	Sensor power supply +
2 *	N.C (SIGNAL)	Open *
3	SW-	Sensor power supply -
4	SIGNAL	Sensor input signal
5	E	Protective sensor ground

* In the case of 4-input unit (EX250-IE2), this is the sensor input signal.

● Communication connector (DeviceNet): M12, 5 pins (for DeviceNet compliant)

Example of corresponding cable assemblies with connector: OMRON Corp.: DCA1-5CN05F1 Karl Lumberg GmbH & Co. KG: RKT5-56

Number	Description	Function
1	Drain	Drain/Shield
2	V+	Circuit power supply +
3	V-	Circuit power supply -
4	CAN_H	Signal H
5	CAN_L	Signal L

● Input connector: M8, 3 pins (Receptacle)

Cable side connector example: 718,768 series made by FranzBinder GmbH
4-input block (EX250-IE3)

Number	Description	Function
1	24V	Sensor power supply +
3	0V	Sensor power supply -
4	IN	Sensor input signal

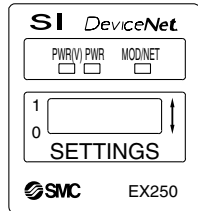
● Power supply connector: M12, 5 pins (Boss configuration differs from plug and communication connector)

Example of corresponding cable assemblies with connector: SAKW4.5T-2 made by TURCK

Number	Description	Function
1	SV24V	For solenoid valve +24 V
2	SV0V	For solenoid valve 0 V
3	SW24V	For sensor unit +24 V
4	SW0V	For sensor unit 0 V
5	E	Ground

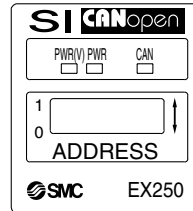
SI Unit: Descriptions of Indicator Unit (LED) and its Functions

■ DeviceNet (EX250-SDN1)



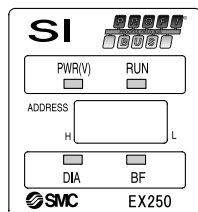
Description	Function
PWR(V)	ON when solenoid valve power supply is turned ON
PWR	ON when DeviceNet circuit power supply input is turned ON
MOD/NET	OFF: Power supply off, off line, or when checking duplication of MAC_ID
	Green blinking: Waiting for connection (On line)
	Green ON: Connection established (On line)
	Red blinking: Connection time out (Minor communication abnormality occurs)
	Red ON: MAC_ID duplication error, or BUSOFF error (Major communication abnormality occurs)

■ CANopen (EX250-SCA1)



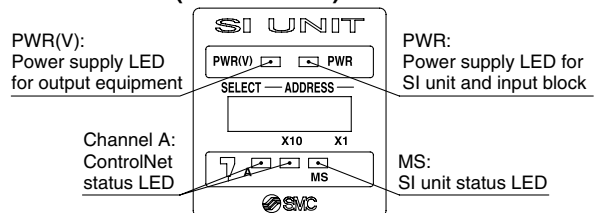
Description	Status of LED	Function
PWR(V)	Green LED illuminates.	The solenoid valve power supply is turned on.
PWR	Green LED illuminates.	The CANopen power supply is turned on.
CAN	Green LED illuminates.	The SI unit is in the operation state.
	Green LED flashes. (blinking)	The SI unit is the pre-operational state.
	Green LED flashes. (single flash)	The SI unit is in the stopped state.
	Red LED flashes. (single flash)	The CAN controller error occurs.
	Red LED flashes. (double flash)	The error control event occurs.
	Green/Red LED flashes. (flickering)	The SI unit is in the configuration mode (LSS services).
Red LED illuminates.	The SI unit is in the "Bus OFF" condition.	

■ PROFIBUS-DP (EX250-SPR1)

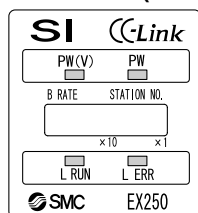


Description	Function
PWR(V)	Green LED illuminates when the solenoid valve power supply is turned on, and it goes off when the power supply voltage decreases to 19 V or less.
RUN	Green LED remains illuminated during operation.
DIA	Red LED illuminates when an error is detected by self-diagnosis.
BF	Red LED illuminates when a bus error occurs.

■ ControlNet (EX250-SCN1)



■ CC-Link (EX250-SMJ2)

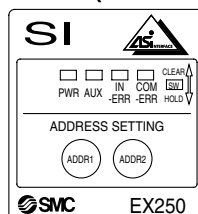


Description	Function
PW	Illuminates: The input and control power supply is turned on. Goes off: The power to the input and control power supply is turned off.
PW(V)	Illuminates: The solenoid valve power supply is turned on. Goes off: The solenoid valve power supply voltage is 19V or less.
L RUN	Illuminates: The communication is performing normally. Goes off: The communication is cut off (time-out error).
L ERR	Illuminates: A communication error occurs. Flashes: Setting the address and/or baud rate is undertaken during energising (with flashing interval of 0.4s). Goes off: The communication is performing normally.

"PW", "PW(V)" and "L RUN" light up when the data link is established normally.

Description	Status of LED	Function
PWR(V)	Green LED illuminates.	The power is supplied to the output equipment.
PWR	Green LED illuminates.	The power is supplied to the SI unit and input block.
MS	No LED illuminates.	No power is supplied.
	Green LED flashes.	The unit is performing self-diagnosis or a connection with a network is being established.
	Green LED illuminates.	The unit is operating normally.
	Red LED flashes.	A light error (recoverable fault)
	Red LED illuminates.	A serious error (recoverable fault)

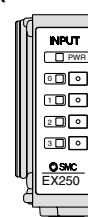
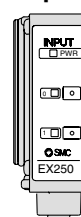
■ AS-i (EX250-SAS□)



Description	Status of LED	Function
PWR	Green LED illuminates.	The AS-I line power supply is turned on.
AUX	Green LED illuminates.	The power supply for the output equipment is turned on. - (It does not light up for normal operation.)
IN-ERR	Red LED illuminates.	Overcurrent of the input power supply is detected. (It does not light up for normal operation.)
COM-ERR	Red LED illuminates.	A communication error occurs. (It does not light up for normal operation.)
	Red LED flashes.	An error occurs on the peripheral equipment. (overcurrent of the input power supply, open fuse, etc.)

Indication of 2 LEDs	Channel A		Function
	[]	[]	
Viewed together	No LED illuminates.		No power is supplied.
	Red LED illuminates.		The unit fails.
	Green/Red LED alternatively illuminate.		The self-diagnosis is working.
	Red LED alternatively illuminates and goes off.		The node construction is inadequate. (Duplicated address, etc.)
Viewed independently	No LED illuminates.		The channel is invalid.
	Green LED illuminates.	Green LED goes off.	The unit is operating normally.
	Green LED flashes.		Temporary error occurs.
	Red LED flashes.		The media (cable, connector and terminal resistance) fails.
	Red/Green LED flashes.		The network construction is inadequate.

■ Input block (EX250-IE1/2/3)



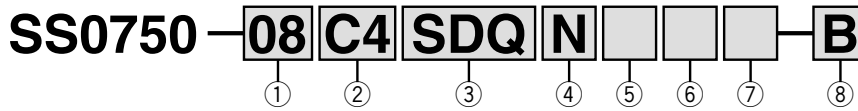
Description	Function
PWR	ON when sensor power is turned ON. OFF when short circuit protection is working.
0 to 1 (3)	ON when each sensor input goes ON.

2-input point type (EX250-IE1) 4-input point type (EX250-IE2/3)

* For details on specifications and handling, refer to the separate instruction manual.

S S0700 Kit (Serial Transmission) For Input and Output EX250

How to Order Manifold



① Stations

Symbol	Stations
01	1 station
⋮	⋮
24 ^{Note)}	24 stations

Note) The maximum number of stations will be different depending on the wiring specification.

② Cylinder port size

Symbol	Port size	
C2	With one-touch fitting for $\varnothing 2$	Metric
C3	With one-touch fitting for $\varnothing 3.2$	
C4	With one-touch fitting for $\varnothing 4$	
CM	Mixed size/with port plug ^{Note)}	Inch
N1	With one-touch fitting for $\varnothing 1/8"$	
N3	With one-touch fitting for $\varnothing 5/32"$	
NM	Mixed size/with port plug ^{Note)}	

Note) Specify "Mixed size/with port plug" on a manifold specification sheet.

③ Kit name

Kit name	Symbol ^{Note 2)}	Specification	Standard station	Max. number of stations for special wiring specification	Max. number of solenoids
S kit For I/O serial transmission	SD0	Without serial unit	1 to 12 stations	24 stations	24
	SDQ	DeviceNet			
	SDN	PROFIBUS-DP			
	SDV	CC-Link			
	SDY	CANopen			
	SDZCN	ControlNet			
	SDTA	AS-i 31SLAVE 8 IN/8 OUT 2 power supply system	1 to 4 stations	8	8
	SDTB	AS-i 31SLAVE 4 IN/4 OUT 2 power supply system	1 to 2 stations	4	4
	SDTC	AS-i 31SLAVE 8 IN/8 OUT 1 power supply system	1 to 4 stations	8	8
SDTD	AS-i 31SLAVE 4 IN/4 OUT 1 power supply system	1 to 2 stations	4	4	

Note 1) The maximum number of stations is determined by the total number of solenoids. For mixed single and double wirings, enter "K" to the order code options.

Note 2) For SI unit part number, refer to page 50.

Type of actuation	Single type	Double, Dual 3 port type
Number of solenoids	1	2

④ SI unit COM.

SI unit COM.		EX250					
-	+COM.	DeviceNet	PROFIBUS-DP	CC-Link	AS-i	CANopen	ControlNet
N	-COM.	○	○	○	○	○	○

Note) Without SI unit (SD0), the symbol is "-".

How to Order Valves



Type of actuation

Symbol	Specification
1	2 position single
2	2 position double
A	4 position dual 3 port type (N.C. + N.C.) [Exhaust centre]
B	4 position dual 3 port type (N.O. + N.O.) [Pressure centre]
C	4 position dual 3 port type (N.C. + N.O.)

Note) For JIS symbol, refer to page 5.

Function

Symbol	Specification
-	Standard
R	External pilot

Base mounted plug-in

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

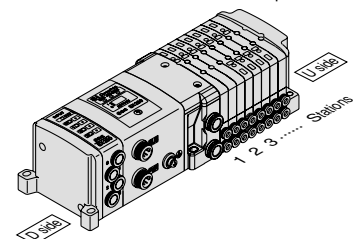
<Example>

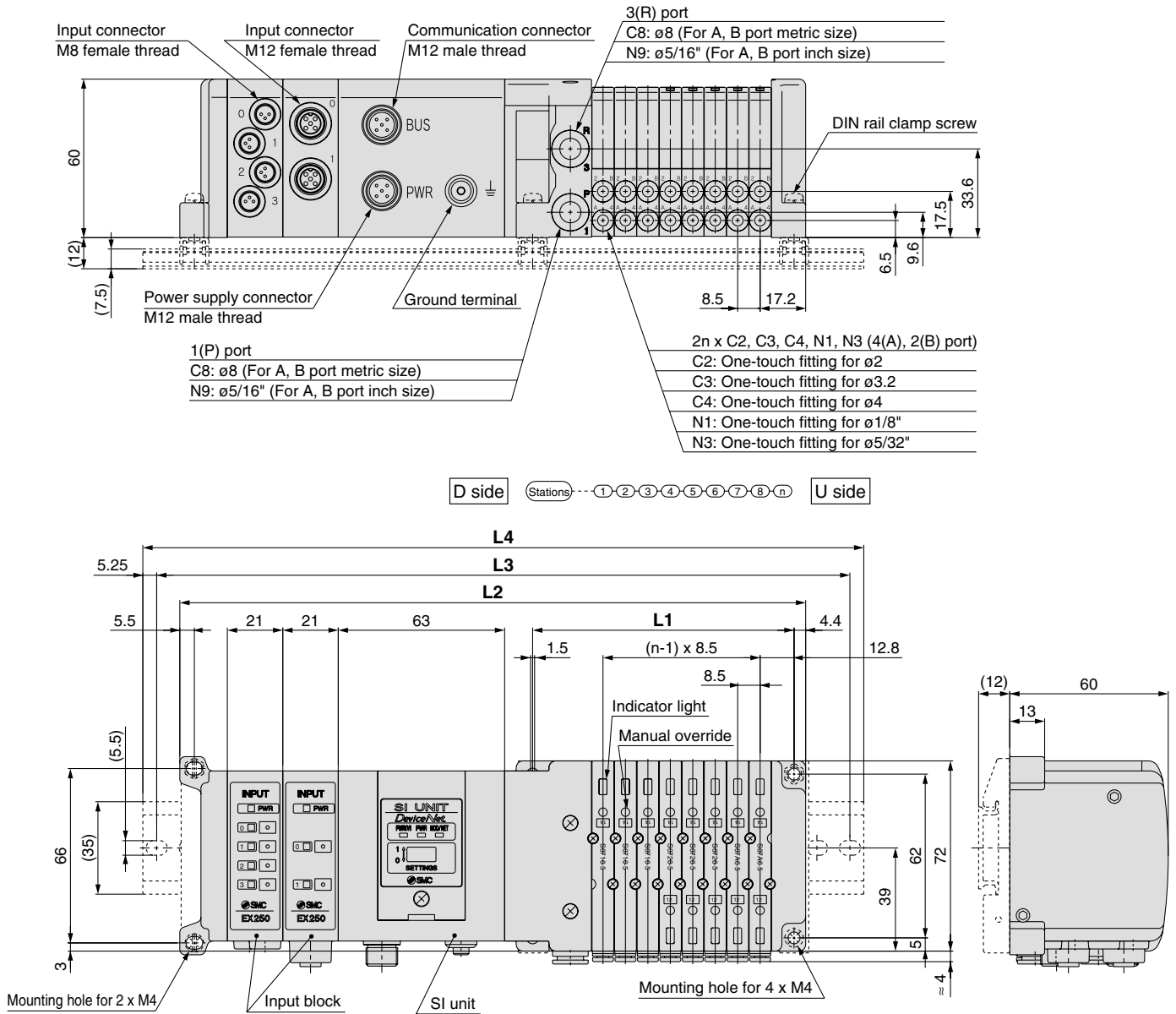
Serial transmission kit

- SS0750-08C4SDQN13N 1 set - Manifold base no.
- * S0710-5 3 sets - Valve part no. (Stations 1 to 3)
- * S0720-5 2 sets - Valve part no. (Stations 4 to 5)
- * S07A0-5 2 sets - Valve part no. (Stations 6 to 7)
- * SS0700-10A-1 1 set - Blanking plate part no. (Station 8)

Prefix the asterisk to the part nos. of the solenoid valve, etc.

Write sequentially from the 1st station on the D side. When all the part nos. written become complicated, please specify them by using the manifold specification sheet.

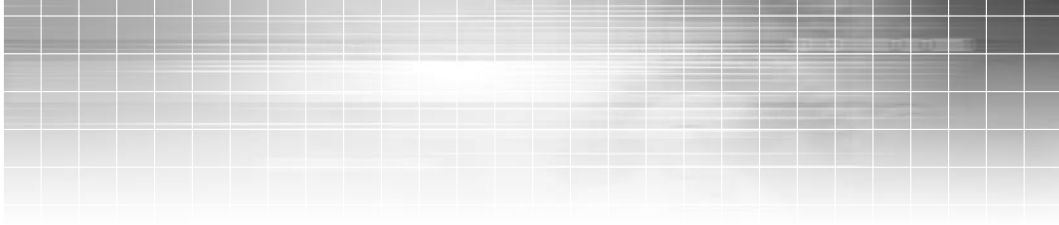




Dimensions Formula L1 = 8.5n + 31, L2 = 8.5n + 169 (In the case of 2 input block 21 mm is added per 1 pc.) n: Station (Maximum 24 stations)

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	186	194.5	203	211.5	220	228.5	237	245.5	254	262.5	271	279.5	288	296.5	305
L3	212.5	225	225	237.5	250	250	262.5	275	275	287.5	300	300	312.5	325	325
L4	223	235.5	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323	335.5	335.5

L \ n	17	18	19	20	21	22	23	24
L1	175.5	184	192.5	201	209.5	218	226.5	235
L2	313.5	322	330.5	339	347.5	356	364.5	373
L3	337.5	350	350	362.5	375	387.5	387.5	400
L4	348	360.5	360.5	373	385.5	398	398	410.5



Plug-in

D-sub Connector

F Kit



MIL Standard

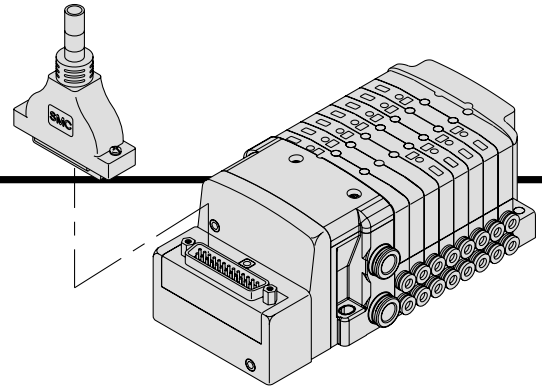
- 25 pins
- Cable length
 - 1.5 m
 - 3 m
 - 5 m

Connector entry direction can be changed from the top to the side, and vice versa.

→ P.19

F S0700 Kit (D-sub Connector)

- The D-sub connector reduces installation labour for electrical connections.
- Using the D-sub connector (25P), conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.
- Top or side receptacle position can be selected in accordance with the available mounting space.



Electrical Wiring Specifications

D-sub connector

As the standard electrical wiring specifications, double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station for 12 stations or less, regardless of valve and option types. Mixed single and double wiring is available as an option. For details, refer to "Special Wiring Specifications" (Option) below.

D-sub connector assembly wire colour (AXT100-DS25-015-030-050)

Terminal no.	Polarity	Lead wire colour	Dot marking	
1 station				
SOL.A	1 (-)	(+)	Black	None
SOL.B	14 (-)	(+)	Yellow	Black
2 stations				
SOL.A	2 (-)	(+)	Brown	None
SOL.B	15 (-)	(+)	Pink	Black
3 stations				
SOL.A	3 (-)	(+)	Red	None
SOL.B	16 (-)	(+)	Blue	White
4 stations				
SOL.A	4 (-)	(+)	Orange	None
SOL.B	17 (-)	(+)	Purple	None
5 stations				
SOL.A	5 (-)	(+)	Yellow	None
SOL.B	18 (-)	(+)	Gray	None
6 stations				
SOL.A	6 (-)	(+)	Pink	None
SOL.B	19 (-)	(+)	Orange	Black
7 stations				
SOL.A	7 (-)	(+)	Blue	None
SOL.B	20 (-)	(+)	Red	White
8 stations				
SOL.A	8 (-)	(+)	Purple	White
SOL.B	21 (-)	(+)	Brown	White
9 stations				
SOL.A	9 (-)	(+)	Gray	Black
SOL.B	22 (-)	(+)	Pink	Red
10 stations				
SOL.A	10 (-)	(+)	White	Black
SOL.B	23 (-)	(+)	Gray	Red
11 stations				
SOL.A	11 (-)	(+)	White	Red
SOL.B	24 (-)	(+)	Black	White
12 stations				
SOL.A	12 (-)	(+)	Yellow	Red
SOL.B	25 (-)	(+)	White	None
COM.	13 (+)	(-)	Orange	Red

Note) Mounting valves have no polarity. It can also be used as a negative common.

Special Wiring Specifications (Option) [-K]

(For 25P)

Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

- How to order valves**
Indicate an option symbol, -K, for the manifold no. and be sure to specify the mounting position and number of stations for single and double wiring by using a manifold specification sheet.
- Wiring specifications**
Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without shipping any terminal numbers.

Cable assembly

■ D-sub connector cable assembly (25 pin)

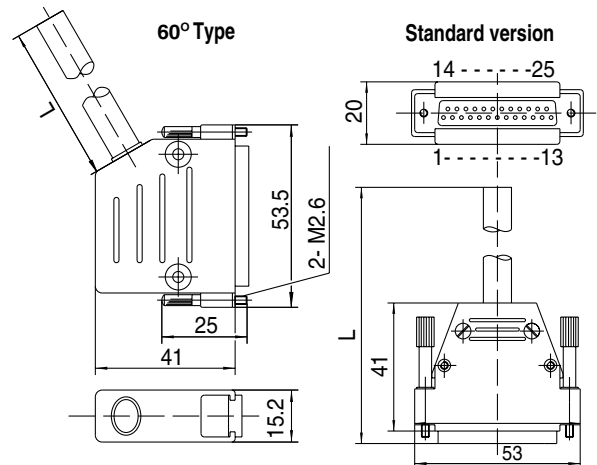
GVVZS3000-21A-□

D sub connector / cable

Cable length (L)	Part no.	Plug type
1m	GVVZS3000-21A-160	60° outlet
3m	GVVZS3000-21A-260	60° outlet
5m	GVVZS3000-21A-360	60° outlet
8m	GVVZS3000-21A-460	60° outlet
3m	GVVZS3000-21A-2	Standard
5m	GVVZS3000-21A-3	Standard
8m	GVVZS3000-21A-4	Standard

Shielded cable

Cable length (L)	Part no.	Cable type
1m	GVVZS3000-21A-1S	shielded
3m	GVVZS3000-21A-2S	shielded
5m	GVVZS3000-21A-3S	shielded
8m	GVVZS3000-21A-4S	shielded
20m	GVVZS3000-21A-5S	on demand



Electrical characteristics

Item	Characteristics
Conductor resistance $\Omega/\text{km}, 20^\circ\text{C}$	57 or less
Electric strength V, 5min, AC	1500
Insulation resistance $\text{M}\Omega/\text{km}$	20

Standard version

(See also AXT100-DS25-015-030-050 which conforms to colour code MIL-C24308)

* For detailed specifications and handling, please contact SMC.

How to Order Manifold

SS0750-08C4FD1-B

Stations

Symbol	Stations
02	2 stations
⋮	⋮
24 ^{Note)}	24 stations

Note) The maximum number of stations will be different depending on the wiring specification.

Cylinder port size

Symbol	Port size	
C2	With one-touch fitting for $\phi 2$	Metric
C3	With one-touch fitting for $\phi 3.2$	
C4	With one-touch fitting for $\phi 4$	
CM	Mixed size/with port plug ^{Note)}	
N1	With one-touch fitting for $\phi 1/8"$	Inch
N3	With one-touch fitting for $\phi 5/32"$	
NM	Mixed size/with port plug ^{Note)}	

Note) Specify "Mixed size/with port plug" on a manifold specification sheet.

Option

Symbol	Option
-	None
B ^{Note 2)}	With back pressure check valve (all stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (with bracket)
D□ ^{Note 3)}	With DIN rail Designated length (□: station)
K ^{Note 4)}	Special wiring specification (Except double wiring)
N	With name plate
R ^{Note 5)}	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -BRS

Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on a manifold specification sheet.

Note 3) The available number of stations is larger than the number of manifold stations.

Note 4) Indicate the wiring specification for mixed single and double wirings.

Note 5) For details, refer to page 43.

* For manifold optional parts, refer to page 43.
* For manifold exploded view, refer to page 49.

Kit name / Cable length

Kit name	Symbol	Specification	Standard station	Max. number of stations for special wiring specification	Max. number of solenoids
F kit	FD0	D-sub connector (25P), without cable	1 to 12 stations	24 stations	24
	FD1	D-sub connector (25P), with 1.5 m cable			
	FD2	D-sub connector (25P), with 3.0 m cable			
	FD3	D-sub connector (25P), with 5.0 m cable			

Note) The maximum number of stations is determined by the total number of solenoids.
For mixed single and double wirings, enter "K" to the order code options.

Type of actuation	Single type	Double, Dual 3 port type
Number of solenoids	1	2

How to Order Valves

S07 1 0 □ 5

Type of actuation

Symbol	Specification
1	2 position single
2	2 position double
A	4 position dual 3 port type (N.C. + N.C.) [Exhaust centre]
B	4 position dual 3 port type (N.O. + N.O.) [Pressure centre]
C	4 position dual 3 port type (N.C. + N.O.)

Note) For JIS symbol, refer to page 5.

Voltage

Symbol	Specification
5	24 VDC
6	12 VDC

Function

Symbol	Specification
-	Standard
R	External pilot

Base mounted plug-in

How to Order Manifold Assembly

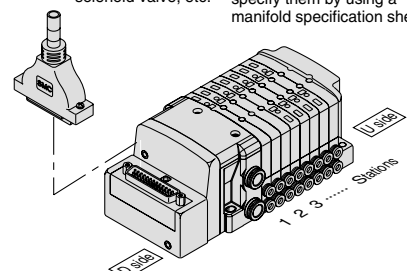
Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>

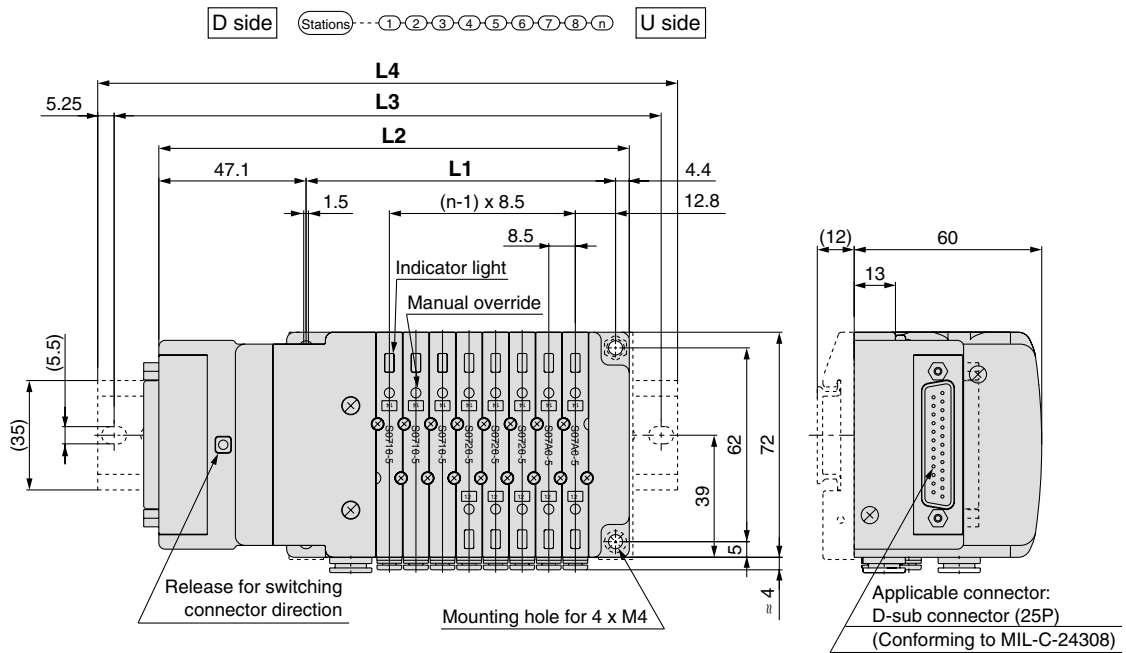
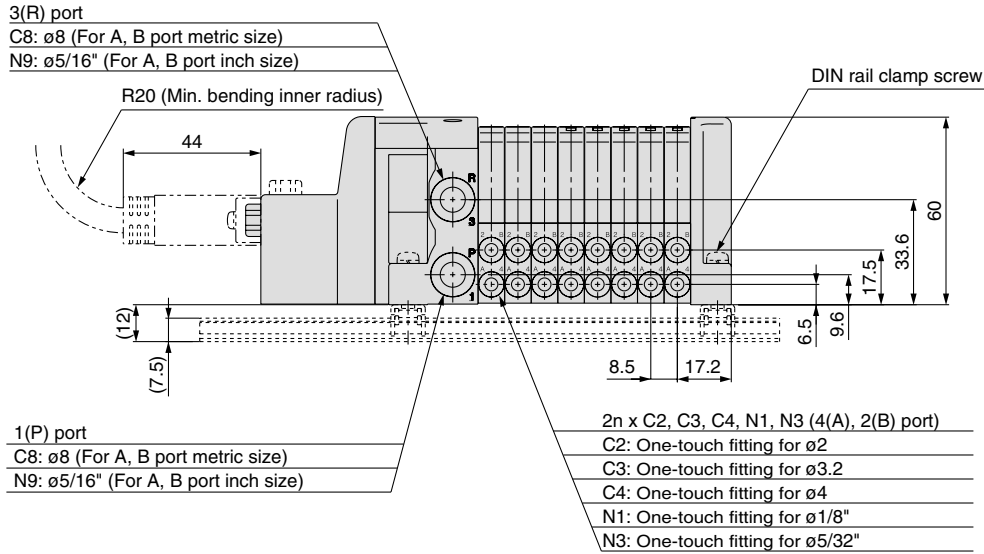
Serial transmission kit

- * SS0750-08C4FD1 ... 1 set - Manifold base no.
- * S0710-5 3 sets - Valve part no. (Stations 1 to 3)
- * S0720-5 2 sets - Valve part no. (Stations 4 to 5)
- * S07A0-5 2 sets - Valve part no. (Stations 6 to 7)
- * SS0700-10A-1 1 set - Blanking plate part no. (Station 8)

Write sequentially from the 1st station on the D side. When all the part nos. written become complicated, please specify them by using a manifold specification sheet.



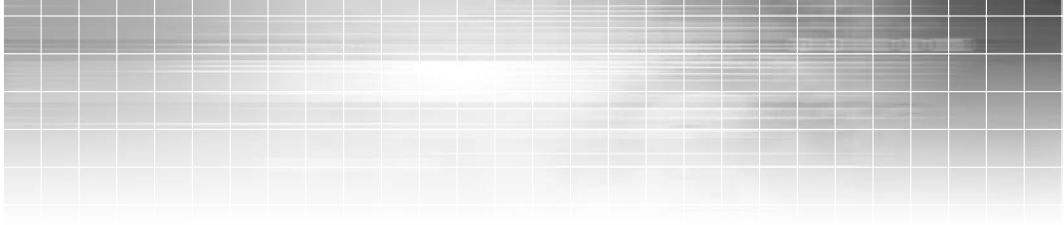
F S0700 Kit (D-sub Connector)



Dimensions

Formula $L1 = 8.5n + 31$, $L2 = 8.5n + 82.5$ n: Station (Maximum 24 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167	175.5	184	192.5	201	209.5	218	226.5	235
L2	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210	218.5	227	235.5	244	252.5	261	269.5	278	286.5
L3	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5	250	250	262.5	275	275	287.5	300	300	312.5
L4	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323



Plug-in

Flat Ribbon Cable

P Kit



MIL Standard

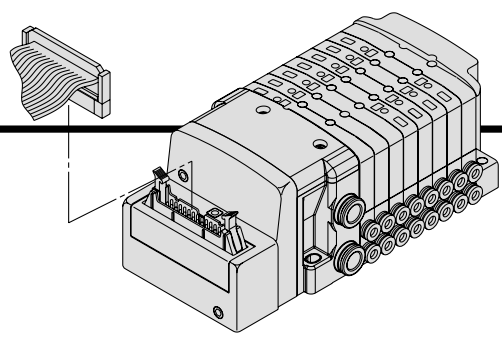
- 26 pins,
20 pins
- Cable length
1.5 m
3 m
5 m

Connector entry direction can be changed from the top to the side, and vice versa.

→ P.23

P S0700 Kit (Flat Ribbon Cable)

- Flat ribbon cable connector reduces installation labour for electrical connection.
- Using the connector for flat ribbon cable (26P, 20P) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.
- Top or side receptacle position can be selected in accordance with the available mounting space.



Electrical Wiring Specifications

Flat ribbon cable connector

26 □ □25
24 □ □23
22 □ □21
20 □ □19
18 □ □17
16 □ □15
14 □ □13
12 □ □11
10 □ □9
8 □ □7
6 □ □5
4 □ □3
2 □ □1

Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types. Mixed single and double wiring is available as an option. For details, refer to "Special Wiring Specifications" (Option) below.

Connector terminal no. (Triangle mark indicator position)

<26P>

Terminal no.	Polarity
1 station SOL.A	1 (-) (+)
1 station SOL.B	2 (-) (+)
2 stations SOL.A	3 (-) (+)
2 stations SOL.B	4 (-) (+)
3 stations SOL.A	5 (-) (+)
3 stations SOL.B	6 (-) (+)
4 stations SOL.A	7 (-) (+)
4 stations SOL.B	8 (-) (+)
5 stations SOL.A	9 (-) (+)
5 stations SOL.B	10 (-) (+)
6 stations SOL.A	11 (-) (+)
6 stations SOL.B	12 (-) (+)
7 stations SOL.A	13 (-) (+)
7 stations SOL.B	14 (-) (+)
8 stations SOL.A	15 (-) (+)
8 stations SOL.B	16 (-) (+)
9 stations SOL.A	17 (-) (+)
9 stations SOL.B	18 (-) (+)
10 stations SOL.A	19 (-) (+)
10 stations SOL.B	20 (-) (+)
11 stations SOL.A	21 (-) (+)
11 stations SOL.B	22 (-) (+)
12 stations SOL.A	23 (-) (+)
12 stations SOL.B	24 (-) (+)
COM.	25 (+) (-)
COM.	26 (+) (-)

Positive common specification (Note) Negative common specification

<20P>

Terminal no.	Polarity
1 station SOL.A	1 (-) (+)
1 station SOL.B	2 (-) (+)
2 stations SOL.A	3 (-) (+)
2 stations SOL.B	4 (-) (+)
3 stations SOL.A	5 (-) (+)
3 stations SOL.B	6 (-) (+)
4 stations SOL.A	7 (-) (+)
4 stations SOL.B	8 (-) (+)
5 stations SOL.A	9 (-) (+)
5 stations SOL.B	10 (-) (+)
6 stations SOL.A	11 (-) (+)
6 stations SOL.B	12 (-) (+)
7 stations SOL.A	13 (-) (+)
7 stations SOL.B	14 (-) (+)
8 stations SOL.A	15 (-) (+)
8 stations SOL.B	16 (-) (+)
9 stations SOL.A	17 (-) (+)
9 stations SOL.B	18 (-) (+)
COM.	19 (+) (-)
COM.	20 (+) (-)

Positive common specification Negative common specification

Note) Mounting valves have no polarity. It can also be used as a negative common.

Cable Assembly

AXT100-FC²⁰₂₆₋₂¹₃

(Type 26P flat ribbon cable connector assemblies can be ordered with manifolds. Refer to "How to Order Manifold".)

Flat Ribbon Cable Connector Assembly (Option)

Cable length (L)	Assembly part no.	
	26P	20P
1.5 m	AXT100-FC26-1	AXT100-FC20-1
3 m	AXT100-FC26-2	AXT100-FC20-2
5 m	AXT100-FC26-3	AXT100-FC20-3

* For other commercial connectors, use a 26 pins type with strain relief conforming to MIL-C-83503.
* Cannot be used for transfer wiring.

Connector manufacturers' example

- Hirose Electric Co., Ltd.
- Sumitomo 3M Limited
- Fujitsu Limited
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.
- Oki Electric Cable Co., Ltd.

Special Wiring Specifications (Option) [-K]

Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24 for 26P, 18 for 20P.

1. How to order valves
Indicate an option symbol, -K, for the manifold no. and be sure to specify the mounting position and number of stations for single and double wiring by using a manifold specification sheet.

2. Wiring specifications
Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without shipping any terminal numbers.

How to Order Manifold

SS0750-08C4PD1-B

Stations

Symbol	Stations
02	2 stations
⋮	⋮
24 ^{Note)}	24 stations

Note) The maximum number of stations will be different depending on the wiring specification.

Cylinder port size

Symbol	Port size	
C2	With one-touch fitting for $\varnothing 2$	Metric
C3	With one-touch fitting for $\varnothing 3.2$	
C4	With one-touch fitting for $\varnothing 4$	
CM	Mixed size/with port plug ^{Note)}	
N1	With one-touch fitting for $\varnothing 1/8"$	Inch
N3	With one-touch fitting for $\varnothing 5/32"$	
NM	Mixed size/with port plug ^{Note)}	

Note) Specify "Mixed size/with port plug" on a manifold specification sheet.

Option

Symbol	Option
-	None
B ^{Note 2)}	With back pressure check valve (all stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (with bracket)
D□ ^{Note 3)}	With DIN rail Designated length (□: station)
K ^{Note 4)}	Special wiring specification (Except double wiring)
N	With name plate
R ^{Note 5)}	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -BRS

Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on a manifold specification sheet.

Note 3) The available number of stations is larger than the number of manifold stations.

Note 4) Indicate the wiring specification for mixed single and double wirings.

Note 5) For details, refer to page 43.

* For manifold optional parts, refer to page 43.
* For manifold exploded view, refer to page 49.

Kit name / Cable length

Kit name	Symbol	Specification	Standard station	Max. number of stations for special wiring specification	Max. number of solenoids
P kit	PD0	Flat ribbon cable (26P), without cable	1 to 12 stations	24 stations	24
	PD1	Flat ribbon cable (26P), with 1.5 m cable			
	PD2	Flat ribbon cable (26P), with 3.0 m cable			
	PD3	Flat ribbon cable (26P), with 5.0 m cable			
	PDC	Flat ribbon cable (20P), without cable	1 to 9 stations	18 stations	18

Note) The maximum number of stations is determined by the total number of solenoids.
For mixed single and double wirings, enter "-K" to the order code options.

Type of actuation	Single type	Double, Dual 3 port type
Number of solenoids	1	2

How to Order Valves

S07 1 0 □ 5

Type of actuation

Symbol	Specification
1	2 position single
2	2 position double
A	4 position dual 3 port type (N.C. + N.C.) [Exhaust centre]
B	4 position dual 3 port type (N.O. + N.O.) [Pressure centre]
C	4 position dual 3 port type (N.C. + N.O.)

Note) For JIS symbol, refer to page 5.

Voltage

Symbol	Specification
5	24 VDC
6	12 VDC

Function

Symbol	Specification
-	Standard
R	External pilot

Base mounted plug-in

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

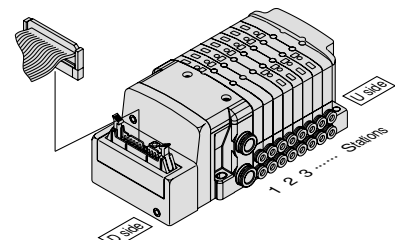
<Example>

Serial transmission kit

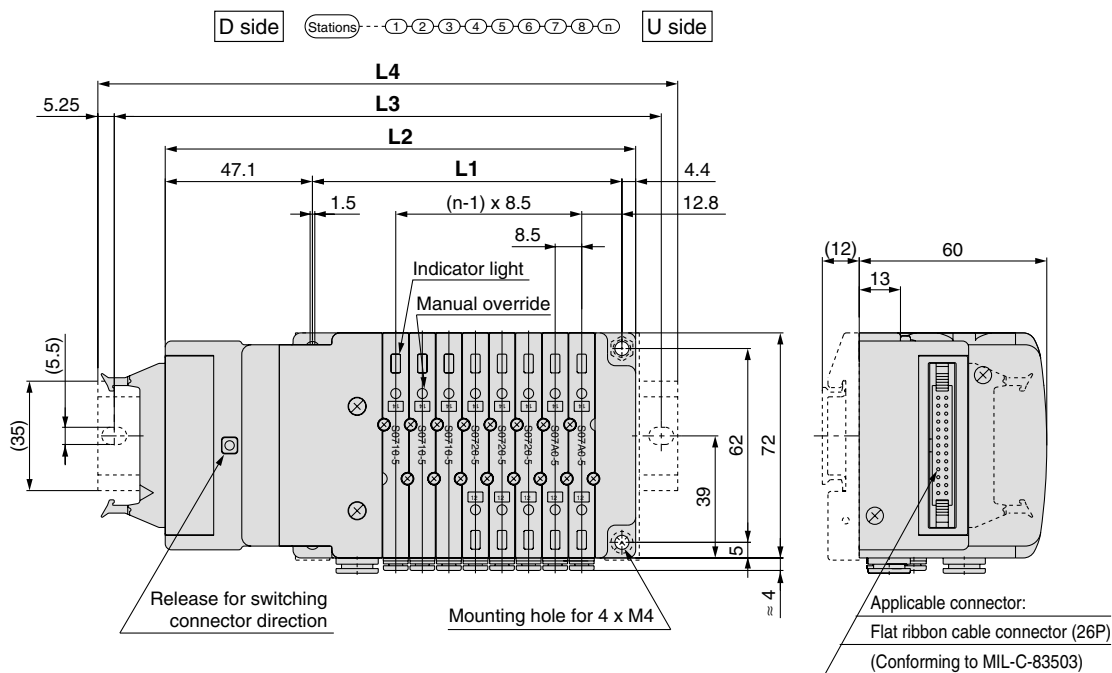
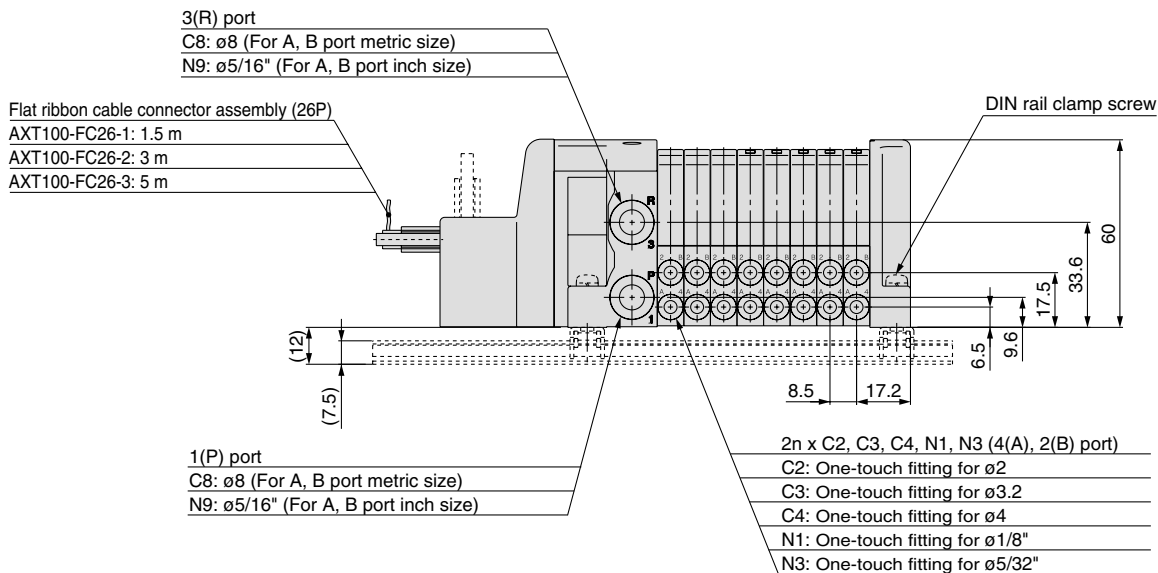
SS0750-08C4PD1 ... 1 set - Manifold base no.

* S0710-5 3 sets - Valve part no. (Stations 1 to 3)
* S0720-5 2 sets - Valve part no. (Stations 4 to 5)
* S07A0-5 2 sets - Valve part no. (Stations 6 to 7)
* SS0700-10A-1 1 set - Blanking plate part no. (Station 8)

Write sequentially from the 1st station on the D side. When all the part nos. written become complicated, specify them by using a manifold specification sheet.



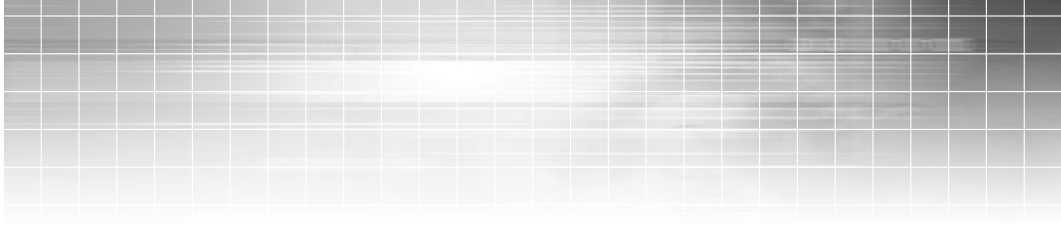
P S0700 Kit (Flat Ribbon Cable)



Dimensions

Formula L1 = 8.5n + 31, L2 = 8.5n + 82.5 n: Station (Maximum 24 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167	175.5	184	192.5	201	209.5	218	226.5	235
L2	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210	218.5	227	235.5	244	252.5	261	269.5	278	286.5
L3	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5	250	250	262.5	275	275	287.5	300	300	312.5
L4	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323



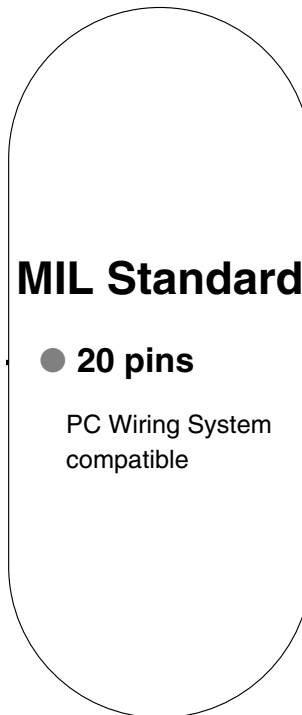
Plug-in

**PC Wiring System Compatible
Flat Ribbon Cable**

J Kit



20 pins



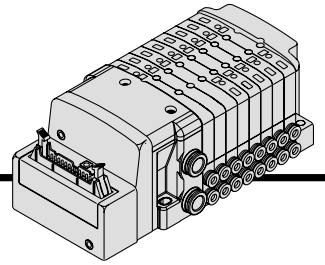
MIL Standard

● **20 pins**

PC Wiring System
compatible

→ **P.27**

J S0700 Kit (PC Wiring System Compatible Flat Ribbon Cable)

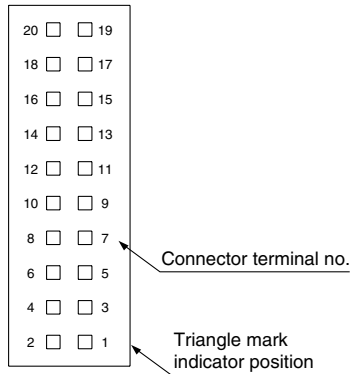


- Compatible with PC wiring system.
- Using connector for flat ribbon cable (20P) conforming to MIL standard permits the use of connectors put on the market and gives a wide interchangeability.
- Top or side receptacle position can be selected in accordance with the available mounting space.

Electrical Wiring Specifications

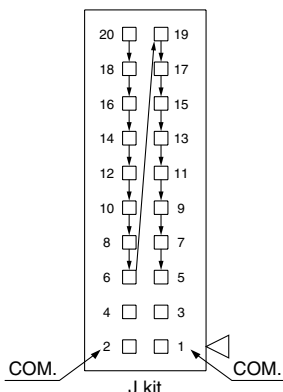
Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types. Mixed single and double wiring is available as an option. For details, refer to "Special Wiring Specifications" (Option) below.

Flat ribbon cable connector



Note) Mounting valves have no polarity. It can also be used as a negative common. For details about the PC Wiring System, refer to catalogue CAT.ES02-20 separately.

Special Wiring Specifications (Option) [-K]



J kit
Flat ribbon cable connector (20P)
PC wiring compatible

	Terminal no.	Polarity
1 station	SOL.A 20	(-) (+)
	SOL.B 18	(-) (+)
2 stations	SOL.A 16	(-) (+)
	SOL.B 14	(-) (+)
3 stations	SOL.A 12	(-) (+)
	SOL.B 10	(-) (+)
4 stations	SOL.A 8	(-) (+)
	SOL.B 6	(-) (+)
5 stations	SOL.A 19	(-) (+)
	SOL.B 17	(-) (+)
6 stations	SOL.A 15	(-) (+)
	SOL.B 13	(-) (+)
7 stations	SOL.A 11	(-) (+)
	SOL.B 9	(-) (+)
8 stations	SOL.A 7	(-) (+)
	SOL.B 5	(-) (+)
	4	(-) (+)
	3	(-) (+)
	COM. 2	(+) (-)
	COM. 1	(+) (-)

Positive common specification Negative common specification Note)

Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 16.

1. How to order valves

Indicate an option symbol, -K, for the manifold no. and be sure to specify the mounting position and number of stations for single and double wiring by using a manifold specification sheet.

2. Wiring specifications

Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without shipping any terminal numbers.

How to Order Manifold

SS0750-08 C4 JD0-B

Stations

Symbol	Stations
02	2 stations
⋮	⋮
16 ^{Note)}	16 stations

Note) The maximum number of stations will be different depending on the wiring specification.

Cylinder port size

Symbol	Port size	
C2	With one-touch fitting for $\varnothing 2$	Metric
C3	With one-touch fitting for $\varnothing 3.2$	
C4	With one-touch fitting for $\varnothing 4$	
CM	Mixed size/with port plug ^{Note)}	
N1	With one-touch fitting for $\varnothing 1/8"$	Inch
N3	With one-touch fitting for $\varnothing 5/32"$	
NM	Mixed size/with port plug ^{Note)}	

Note) Specify "Mixed size/with port plug" on a manifold specification sheet.

Option

Symbol	Option
-	None
B ^{Note 2)}	With back pressure check valve (all stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (with bracket)
D□ ^{Note 3)}	With DIN rail Designated length (□: station)
K ^{Note 4)}	Special wiring specification (Except double wiring)
N	With name plate
R ^{Note 5)}	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -BRS

Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on a manifold specification sheet.

Note 3) The available number of stations is larger than the number of manifold stations.

Note 4) Indicate the wiring specification for mixed single and double wirings.

Note 5) For details, refer to page 43.

* For manifold optional parts, refer to page 43.

* For manifold exploded view, refer to page 49.

Kit name

Kit name	Symbol	Specification	Standard station	Max. number of stations for special wiring specification	Max. number of solenoids
J kit	JD0	Flat ribbon cable (20P) PC wiring system compatible ^{Note 1)}	1 to 8 stations	16 stations	16

Note 1) Separately order the 20P type cable assembly for the J kit.

Note 2) The maximum number of stations is determined by the total number of solenoids. For mixed single and double wirings, enter "-K" to the order code options.

Type of actuation	Single type	Double, Dual 3 port type
Number of solenoids	1	2

How to Order Valves

S07 1 0 □ 5

Type of actuation

Symbol	Specification
1	2 position single
2	2 position double
A	4 position dual 3 port type (N.C. + N.C.) [Exhaust centre]
B	4 position dual 3 port type (N.O. + N.O.) [Pressure centre]
C	4 position dual 3 port type (N.C. + N.O.)

Note) For JIS symbol, refer to page 5.

Voltage

Symbol	Specification
5	24 VDC
6	12 VDC

Function

Symbol	Specification
-	Standard
R	External pilot

Base mounted plug-in

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>

Flat ribbon cable connector kit

SS0750-08C4JD0 ... 1 set - Manifold base no.

* S0710-5 3 sets - Valve part no. (Stations 1 to 3)

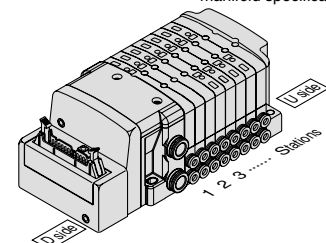
* S0720-5 2 sets - Valve part no. (Stations 4 to 5)

* S07A0-5 2 sets - Valve part no. (Stations 6 to 7)

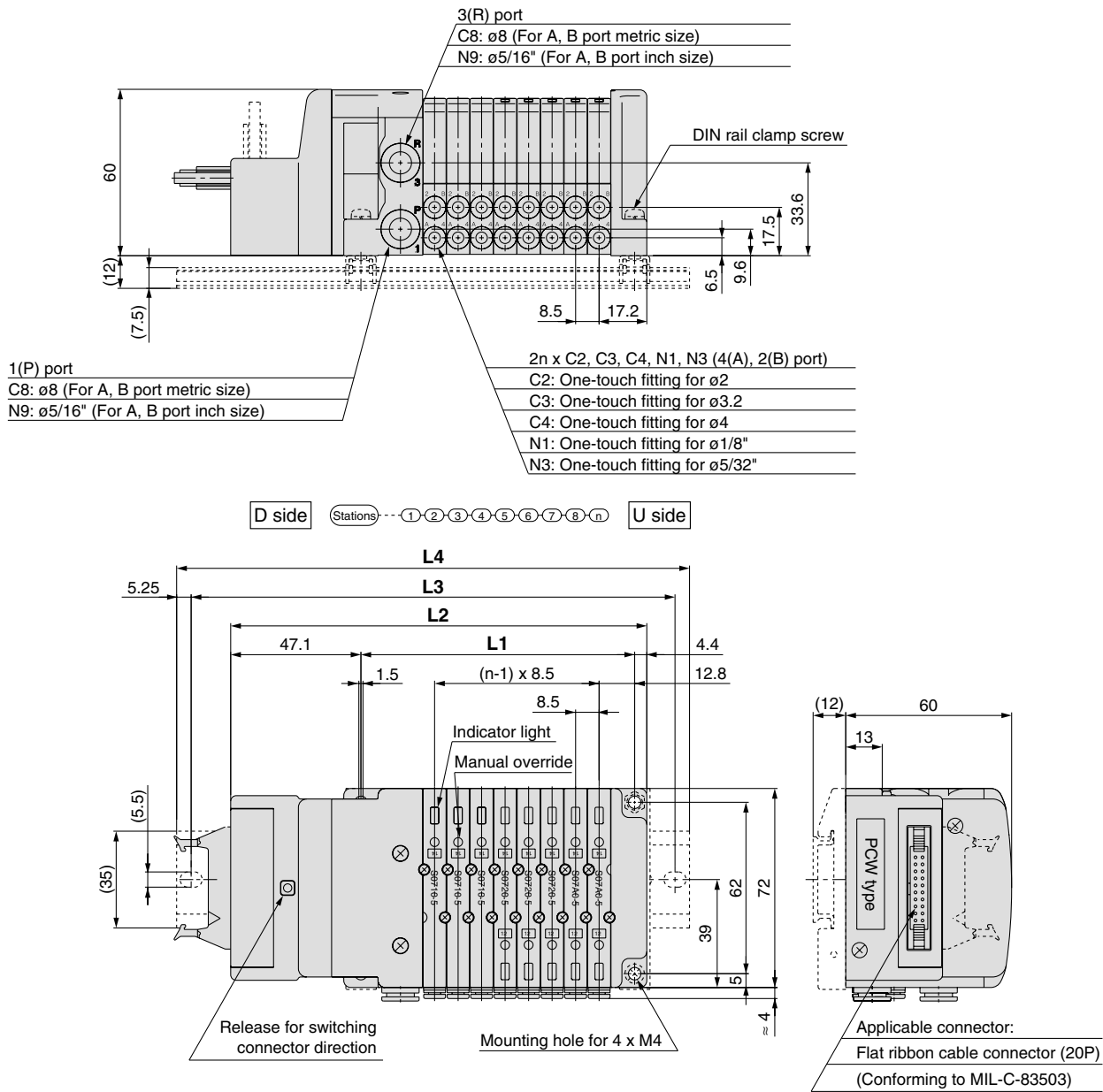
* SS0700-10A-1 1 set - Blanking plate part no. (Station 8)

Write sequentially from the 1st station on the D side. When all the part nos. written become complicated, specify them by using a manifold specification sheet.

Prefix the asterisk to the part nos. of the solenoid valve, etc.



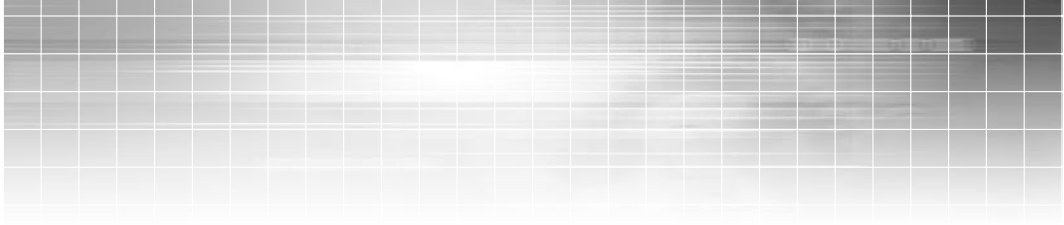
J S0700 Kit (PC Wiring System Compatible Flat Ribbon Cable)



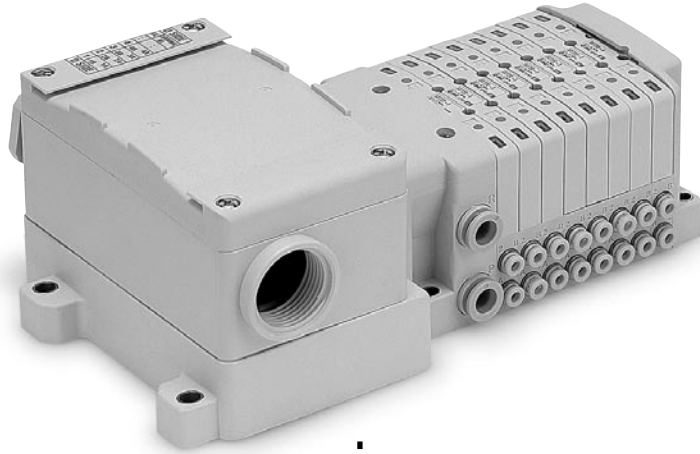
Dimensions

Formula L1 = 8.5n + 31, L2 = 8.5n + 82.5 n: Station (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	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210	218.5
L3	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5	250
L4	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248	260.5



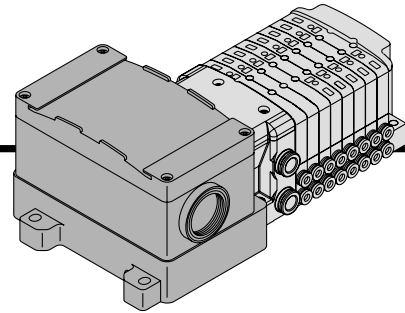
Plug-in
Terminal Block
T Kit



With Terminal
Block

P.31

T S0700 Kit (Terminal Block)

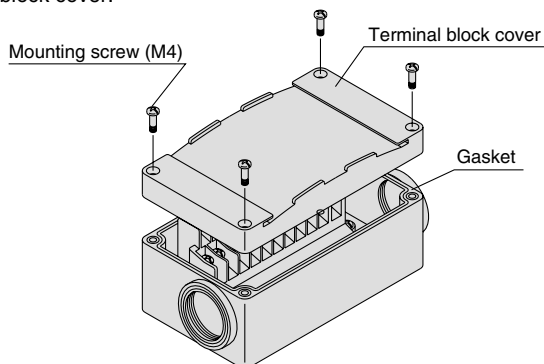


- This kit has a small terminal box inside a junction box. The electrical entry port {G 3/4} permits connection of conduit fittings.

Terminal Block Connection

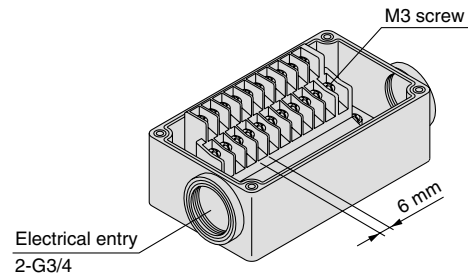
Step 1. How to remove terminal block cover

Loosen the 4 mounting screws (M4) and open the terminal block cover.



Step 2. The diagram below shows the terminal block wiring schematic. All stations are provided with double solenoid wiring.

Connect each wire to the power supply side, according to the markings provided inside the terminal block.



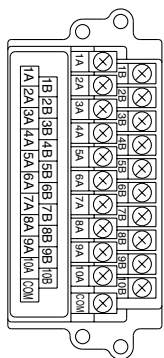
Step 3. How to replace terminal block cover

Securely tighten the screws with the torque shown in the table below, after confirming that the gasket is installed correctly.

Proper tightening torque (N·m)
0.7 to 1.2

- Applicable crimp terminal: 1.25-3S, 1.25Y-3, 1.25Y-3N, 1.25Y-3.5

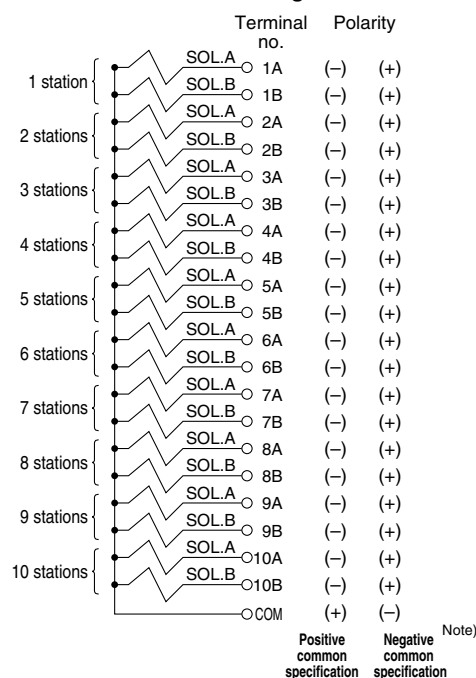
Electrical Wiring Specifications



Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types. Mixed single and double wiring is available as an option.

Note) Mounting valves have no polarity. It can also be used as a negative common.

Standard wiring



Special Wiring Specifications (Option) [-K]

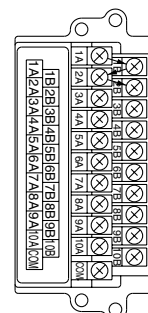
Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 20.

1. How to order valves

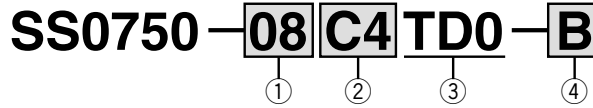
Indicate an option symbol, -K, for the manifold no. and be sure to specify the mounting position and number of stations for single and double wiring by using a manifold specification sheet.

2. Wiring specifications

Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without shipping any terminal numbers.



How to Order Manifold



① Stations

Symbol	Stations
01	1 station
⋮	⋮
20 <small>Note)</small>	20 stations

Note) The maximum number of stations will be different depending on the wiring specification.

② Cylinder port size

Symbol	Port size	
C2	With one-touch fitting for $\phi 2$	Metric
C3	With one-touch fitting for $\phi 3.2$	
C4	With one-touch fitting for $\phi 4$	
CM	Mixed size/with port plug <small>Note)</small>	
N1	With one-touch fitting for $\phi 1/8"$	Inch
N3	With one-touch fitting for $\phi 5/32"$	
NM	Mixed size/with port plug <small>Note)</small>	

Note) Specify "Mixed size/with port plug" on a manifold specification sheet.

③ Kit name

Kit name	Symbol	Specification	Standard station	Max. number of stations for special wiring specification	Max. number of solenoids
T kit	TD0	Terminal block	1 to 10 stations	20 stations	20

Note) The maximum number of stations is determined by the total number of solenoids.
For mixed single and double wirings, enter "K" to the order code options.

Type of actuation	Single type	Double, Dual 3 port type
Number of solenoids	1	2

④ Option

Symbol	Option
-	None
B <small>Note 2)</small>	With back pressure check valve (all stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (with bracket)
D□ <small>Note 3)</small>	With DIN rail Designated length (□: station)
K <small>Note 4)</small>	Special wiring specification (Except double wiring)
N	With name plate
R <small>Note 5)</small>	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically.
Example) -BKN

Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on a manifold specification sheet.

Note 3) The available number of stations is larger than the number of manifold stations.

Note 4) Indicate the wiring specification for mixed single and double wirings.

Note 5) For details, refer to page 43.

* For manifold optional parts, refer to page 43.

* For manifold exploded view, refer to page 49.

How to Order Valves



Type of actuation

Symbol	Specification
1	2 position single
2	2 position double
A	4 position dual 3 port type (N.C. + N.C.) [Exhaust centre]
B	4 position dual 3 port type (N.O. + N.O.) [Pressure centre]
C	4 position dual 3 port type (N.C. + N.O.)

Note) For JIS symbol, refer to page 5.

Voltage

Symbol	Specification
5	24 VDC
6	12 VDC

Function

Symbol	Specification
-	Standard
R	External pilot

Base mounted plug-in

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>

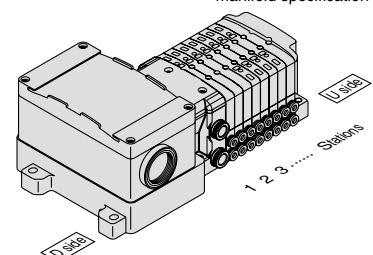
Terminal block kit

SS0750-08C4TD0 ... 1 set – Manifold base no.

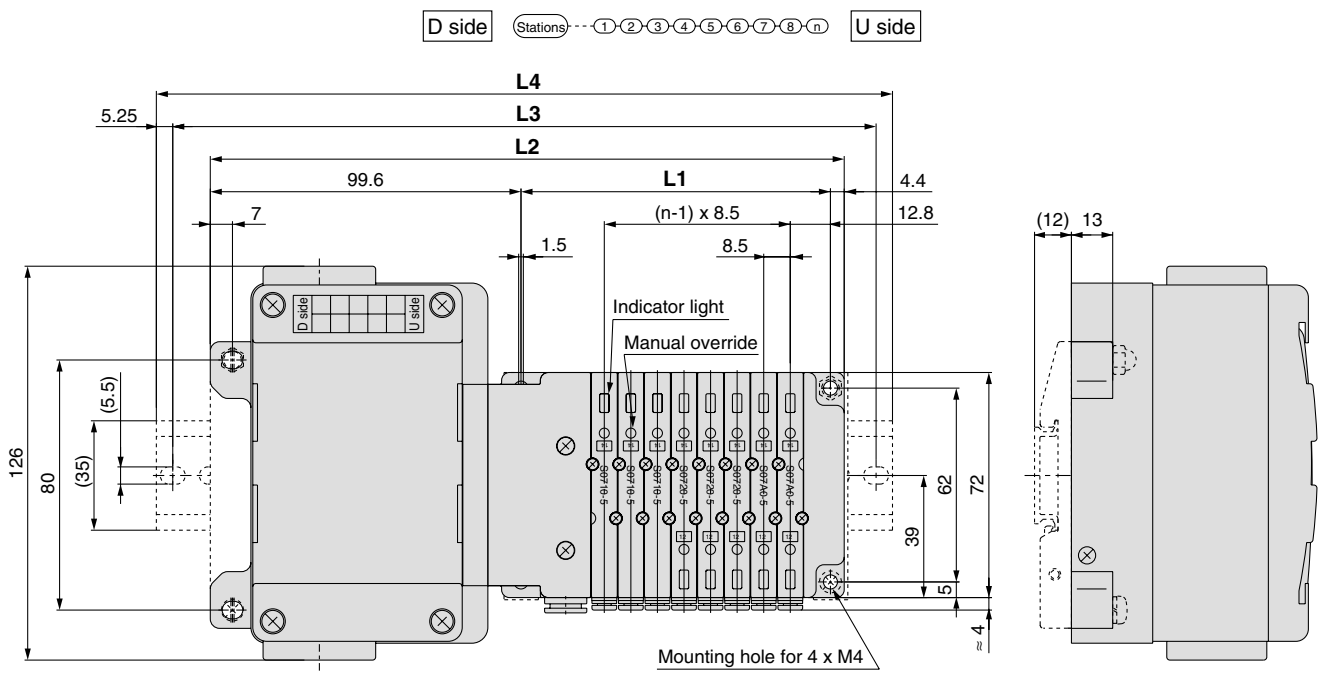
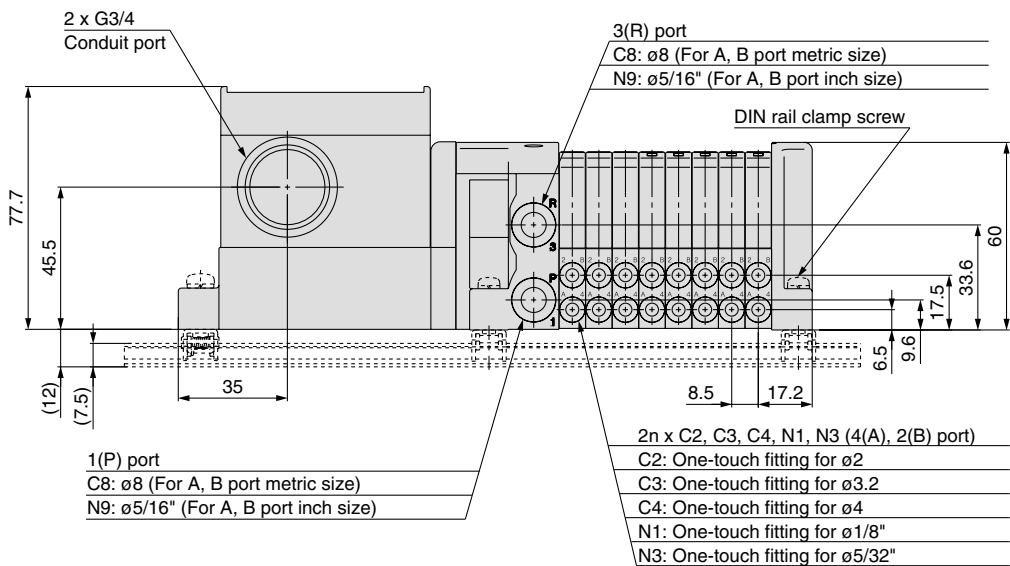
* S0710-5 3 sets – Valve part no. (Stations 1 to 3)
 * S0720-5 2 sets – Valve part no. (Stations 4 to 5)
 * S07A0-5 2 sets – Valve part no. (Stations 6 to 7)
 * SS0700-10A-1 1 set – Blanking plate part no. (Station 8)

Prefix the asterisk to the part nos. of the solenoid valve, etc.

Write sequentially from the 1st station on the D side. When all the part nos. written become complicated, specify them by using a manifold specification sheet.



T S0700 Kit (Terminal Block)



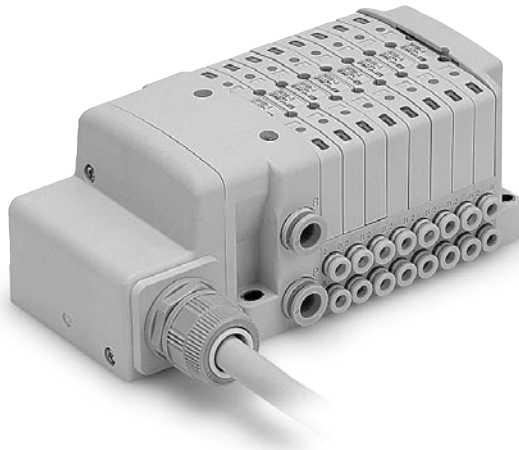
Dimensions

Formula L1 = 8.5n + 31, L2 = 8.5n + 135 n: Station (Maximum 20 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167	175.5	184	192.5	201
L2	152	160.5	169	177.5	186	194.5	203	211.5	220	228.5	237	245.5	254	262.5	271	279.5	288	296.5	305
L3	175	187.5	200	200	212.5	225	225	237.5	250	250	262.5	275	275	287.5	300	300	312.5	325	325
L4	185.5	198	210.5	210.5	223	235.5	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323	335.5	335.5

**Plug-in
Lead Wire**

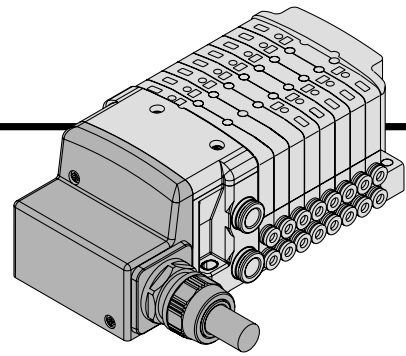
L Kit



**Lead Wire
Direct Entry
Type**

P.35

L S0700 Kit (Lead Wire)

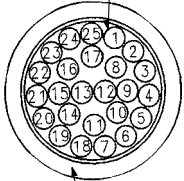


● Direct electrical entry type

Electrical Wiring Specifications

Wiring specifications

Lead wire
0.3 mm² x 25 cores



Sheath
Colour: White

As the standard electrical wiring specifications, double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station for 12 stations or less, regardless of valve and option types. Mixed single and double wiring is available as an option. For details, refer to "Special Wiring Specifications" (Option) below.

	Terminal no.	Polarity	Lead wire colour	Dot marking	
1 station	SOL.A 1	(-)	(+)	Black	None
	SOL.B 14	(-)	(+)	Yellow	Black
2 stations	SOL.A 2	(-)	(+)	Brown	None
	SOL.B 15	(-)	(+)	Pink	Black
3 stations	SOL.A 3	(-)	(+)	Red	None
	SOL.B 16	(-)	(+)	Blue	White
4 stations	SOL.A 4	(-)	(+)	Orange	None
	SOL.B 17	(-)	(+)	Purple	None
5 stations	SOL.A 5	(-)	(+)	Yellow	None
	SOL.B 18	(-)	(+)	Gray	None
6 stations	SOL.A 6	(-)	(+)	Pink	None
	SOL.B 19	(-)	(+)	Orange	Black
7 stations	SOL.A 7	(-)	(+)	Blue	None
	SOL.B 20	(-)	(+)	Red	White
8 stations	SOL.A 8	(-)	(+)	Purple	White
	SOL.B 21	(-)	(+)	Brown	White
9 stations	SOL.A 9	(-)	(+)	Gray	Black
	SOL.B 22	(-)	(+)	Pink	Red
10 stations	SOL.A 10	(-)	(+)	White	Black
	SOL.B 23	(-)	(+)	Gray	Red
11 stations	SOL.A 11	(-)	(+)	White	Red
	SOL.B 24	(-)	(+)	Black	White
12 stations	SOL.A 12	(-)	(+)	Yellow	Red
	SOL.B 25	(-)	(+)	White	None
	COM. 13	(+)	(-)	Orange	Red

Positive common specification Negative common specification Note)

Note) Mounting valves have no polarity. It can also be used as a negative common.

Lead wire length

SS0750 - 08 C4 LD 0

Lead wire length

0	0.6 m
1	1.5 m
2	3.0 m

Electric Characteristics

Item	Characteristics
Conductor resistance Ω/km, 20°C	65 or less
Voltage limit V, 1 min, AC	1000
Insulation resistance MΩ/km, 20°C	5 or more

Note) Cannot be used for transfer wiring. The min. bending radius of D-sub cable assembly is 20 mm.

Special Wiring Specifications (Option) [-K]

Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

1. How to order valves

Indicate an option symbol, -K, for the manifold no. and be sure to specify the mounting position and number of stations for single and double wiring by using a manifold specification sheet.

2. Wiring specifications

Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without shipping any terminal numbers.

How to Order Manifold

SS0750-08 C4 LD0-B

Stations

Symbol	Stations
02	2 stations
⋮	⋮
24 ^{Note)}	24 stations

Note) The maximum number of stations will be different depending on the wiring specification.

Cylinder port size

Symbol	Port size	
C2	With one-touch fitting for $\varnothing 2$	Metric
C3	With one-touch fitting for $\varnothing 3.2$	
C4	With one-touch fitting for $\varnothing 4$	
CM	Mixed size/with port plug ^{Note)}	Inch
N1	With one-touch fitting for $\varnothing 1/8$ "	
N3	With one-touch fitting for $\varnothing 5/32$ "	
NM	Mixed size/with port plug ^{Note)}	

Note) Specify "Mixed size/with port plug" on a manifold specification sheet.

Option

Symbol	Option
-	None
B ^{Note 2)}	With back pressure check valve (all stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (with bracket)
D□ ^{Note 3)}	With DIN rail Designated length (□: station)
K ^{Note 4)}	Special wiring specification (Except double wiring)
N	With name plate
R ^{Note 5)}	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically. Example) -BKN

Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on a manifold specification sheet.

Note 3) The available number of stations is larger than the number of manifold stations.

Note 4) Indicate the wiring specification for mixed single and double wirings.

Note 5) For details, refer to page 43.

* For manifold optional parts, refer to page 43.

* For manifold exploded view, refer to page 49.

Kit name / Cable length

Kit name	Symbol	Specification	Standard station	Max. number of stations for special wiring specification	Max. number of solenoids
L kit	LD0	Lead wire, with 0.6 m cable	1 to 12 stations	24 stations	24
	LD1	Lead wire, with 1.5 m cable			
	LD2	Lead wire, with 3.0 m cable			

Note) The maximum number of stations is determined by the total number of solenoids.
For mixed single and double wirings, enter "K" to the order code options.

Type of actuation	Single type	Double, Dual 3 port type
Number of solenoids	1	2

How to Order Valves

S07 1 0 □ 5

Type of actuation

Symbol	Specification
1	2 position single
2	2 position double
A	4 position dual 3 port type (N.C. + N.C.) [Exhaust centre]
B	4 position dual 3 port type (N.O. + N.O.) [Pressure centre]
C	4 position dual 3 port type (N.C. + N.O.)

Note) For JIS symbol, refer to page 5.

Voltage

Symbol	Specification
5	24 VDC
6	12 VDC

Function

Symbol	Specification
-	Standard
R	External pilot

Base mounted plug-in

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>

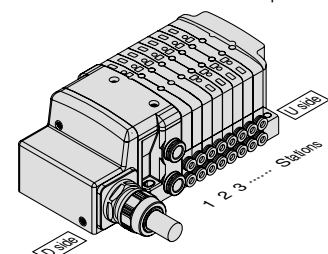
Lead wire kit

SS0750-08C4LD0 ... 1 set - Manifold base no.

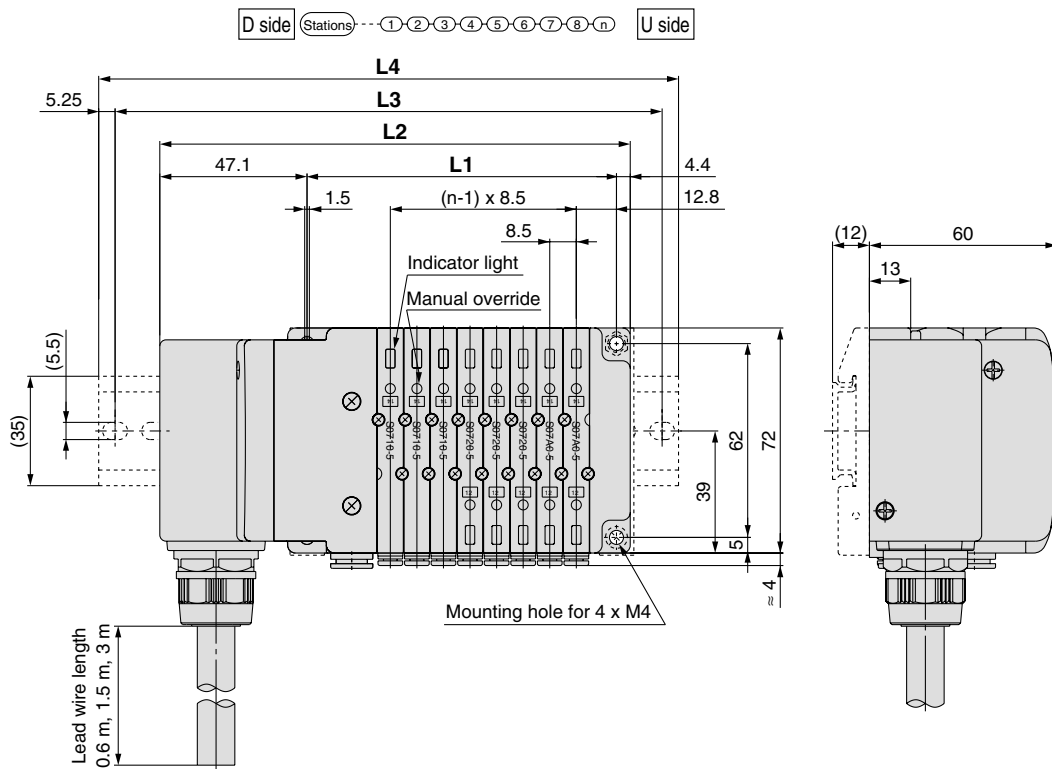
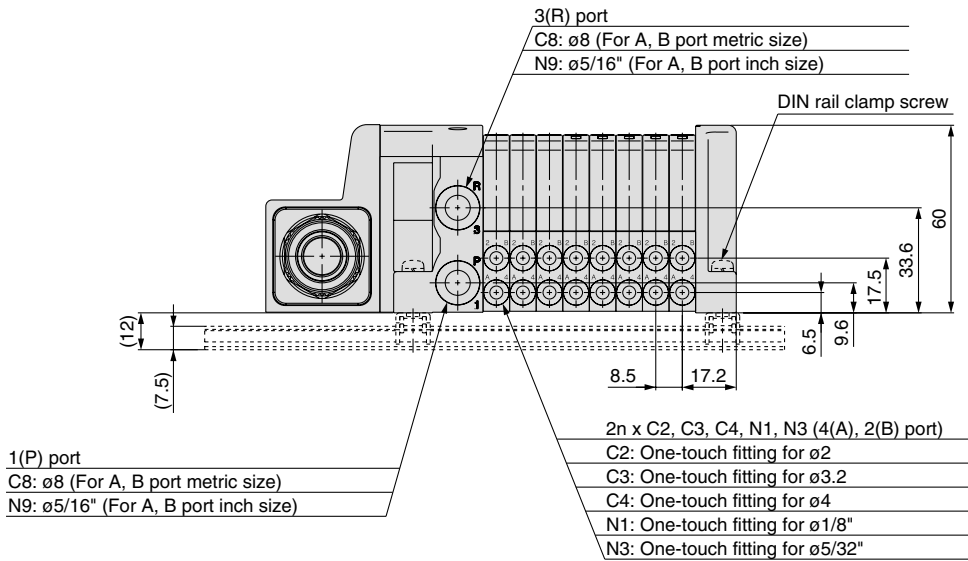
* S0710-5 3 sets - Valve part no. (Stations 1 to 3)
 * S0720-5 2 sets - Valve part no. (Stations 4 to 5)
 * S07A0-5 2 sets - Valve part no. (Stations 6 to 7)
 * SS0700-10A-1 1 set - Blanking plate part no. (Station 8)

Write sequentially from the 1st station on the D side. When all the part nos. written become complicated, specify them by using a manifold specification sheet.

Prefix the asterisk to the part nos. of the solenoid valve, etc.



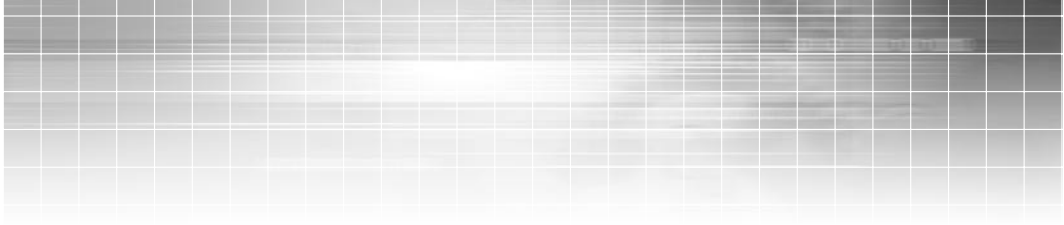
S0700 Kit (Lead Wire)



Dimensions

Formula $L1 = 8.5n + 31$, $L2 = 8.5n + 82.5$ n: Station (Maximum 24 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167	175.5	184	192.5	201	209.5	218	226.5	235
L2	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210	218.5	227	235.5	244	252.5	261	269.5	278	286.5
L3	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5	250	250	262.5	275	275	287.5	300	300	312.5
L4	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323



Plug-in

Circular Connector

M Kit

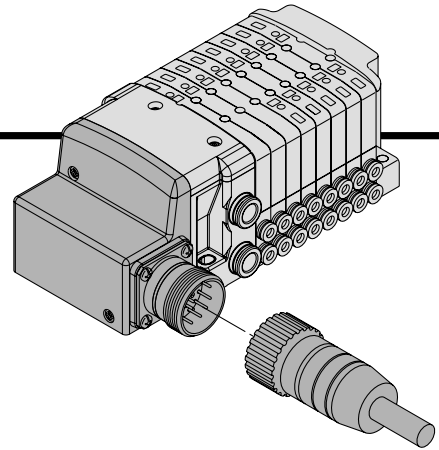


Circular
Connector
26 Pins

P.39

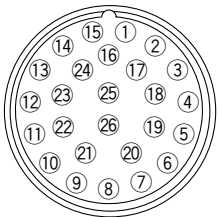
M S0700 Kit (Circular Connector)

- Simplification and labour savings for wiring work can be achieved by using a circular connector for the electrical connection.



Electrical Wiring Specifications

Circular Connector



Double wiring (connected to SOL. A and SOL. B) is adopted for the internal wiring of each station, regardless of valve and option types.

Mixed single and double wiring is available as an option. For details, refer to "Special Wiring Specifications" (Option) below.

	Terminal no.	Polarity	
1 station	SOL.A 1	(-)	(+)
	SOL.B 2	(-)	(+)
2 stations	SOL.A 3	(-)	(+)
	SOL.B 4	(-)	(+)
3 stations	SOL.A 5	(-)	(+)
	SOL.B 6	(-)	(+)
4 stations	SOL.A 7	(-)	(+)
	SOL.B 8	(-)	(+)
5 stations	SOL.A 9	(-)	(+)
	SOL.B 10	(-)	(+)
6 stations	SOL.A 11	(-)	(+)
	SOL.B 12	(-)	(+)
7 stations	SOL.A 13	(-)	(+)
	SOL.B 14	(-)	(+)
8 stations	SOL.A 15	(-)	(+)
	SOL.B 16	(-)	(+)
9 stations	SOL.A 17	(-)	(+)
	SOL.B 18	(-)	(+)
10 stations	SOL.A 19	(-)	(+)
	SOL.B 20	(-)	(+)
11 stations	SOL.A 21	(-)	(+)
	SOL.B 22	(-)	(+)
12 stations	SOL.A 23	(-)	(+)
	SOL.B 24	(-)	(+)
	COM. 25	(+)	(-)
	COM. 26	(+)	(-)

Note)
Positive common specification Negative common specification



Note) Mounting valves have no polarity. It can also be used as a negative common.

Special Wiring Specifications (Option) [-K]

Mixed single and double wiring are available as an option. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

1. How to order valves

Indicate an option symbol, -K, for the manifold no. and be sure to specify the mounting position and number of stations for single and double wiring by using a manifold specification sheet.

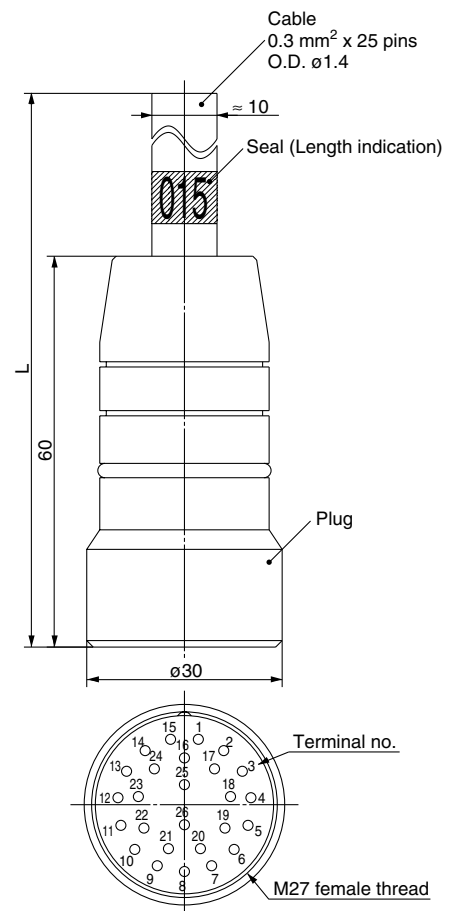
2. Wiring specifications

Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without shipping any terminal numbers.

Cable Assembly

015
AXT100-MC26-030
050

(Circular connector assembly (26P type) included in a specific manifold (model no. specific manifold model no. Refer to "How to Order Manifold".)

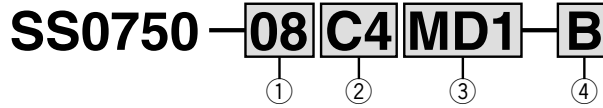


Circular Connector Cable Assembly (Option)

Cable length (L)	Assembly part no.
	26P
1.5 m	AXT100-MC26-015
3 m	AXT100-MC26-030
5 m	AXT100-MC26-050

* Cannot be used for transfer wiring.

How to Order Manifold



① Stations

Symbol	Stations
02	2 stations
⋮	⋮
24 <small>Note)</small>	24 stations

Note) The maximum number of stations will be different depending on the wiring specification.

② Cylinder port size

Symbol	Port size	
C2	With one-touch fitting for $\phi 2$	Metric
C3	With one-touch fitting for $\phi 3.2$	
C4	With one-touch fitting for $\phi 4$	
CM	Mixed size/with port plug <small>Note)</small>	
N1	With one-touch fitting for $\phi 1/8''$	Inch
N3	With one-touch fitting for $\phi 5/32''$	
NM	Mixed size/with port plug <small>Note)</small>	

Note) Specify "Mixed size/with port plug" on a manifold specification sheet.

④ Option

Symbol	Option
-	None
B <small>Note 2)</small>	With back pressure check valve (all stations)
D	With DIN rail (Rail length: Standard)
D0	Without DIN rail (with bracket)
D <small>Note 3)</small>	With DIN rail Designated length (□: station)
K <small>Note 4)</small>	Special wiring specification (Except double wiring)
N	With name plate
R <small>Note 5)</small>	External pilot
S	Built-in silencer

Note 1) When two or more options are specified, indicate them alphabetically.
Example) -BKN

Note 2) When installing a back pressure check valve on the required station, enter the part number and specify the station position on a manifold specification sheet.

Note 3) The available number of stations is larger than the number of manifold stations.

Note 4) Indicate the wiring specification for mixed single and double wirings.

Note 5) For details, refer to page 43.

* For manifold optional parts, refer to page 43.

* For manifold exploded view, refer to page 49.

③ Kit name / Cable length

Kit name	Symbol	Specification	Standard station	Max. number of stations for special wiring specification	Max. number of solenoids
M kit	MD0	Circular connector (26P), without cable	1 to 12 stations	24 stations	24
	MD1	Circular connector (26P), with 1.5 m cable			
	MD2	Circular connector (26P), with 3.0 m cable			
	MD3	Circular connector (26P), with 5.0 m cable			

Note) The maximum number of stations is determined by the total number of solenoids.
For mixed single and double wirings, enter "K" to the order code options.

Type of actuation	Single type	Double, Dual 3 port type
Number of solenoids	1	2

How to Order Valves



Type of actuation

Symbol	Specification
1	2 position single
2	2 position double
A	4 position dual 3 port type (N.C. + N.C.) [Exhaust centre]
B	4 position dual 3 port type (N.O. + N.O.) [Pressure centre]
C	4 position dual 3 port type (N.C. + N.O.)

Note) For JIS symbol, refer to page 5.

Voltage

Symbol	Specification
5	24 VDC
6	12 VDC

Function

Symbol	Specification
-	Standard
R	External pilot

Base mounted plug-in

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

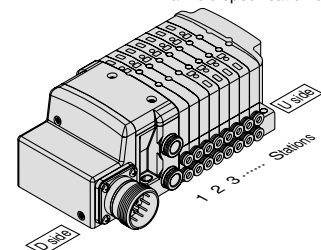
<Example>

Circular connector kit

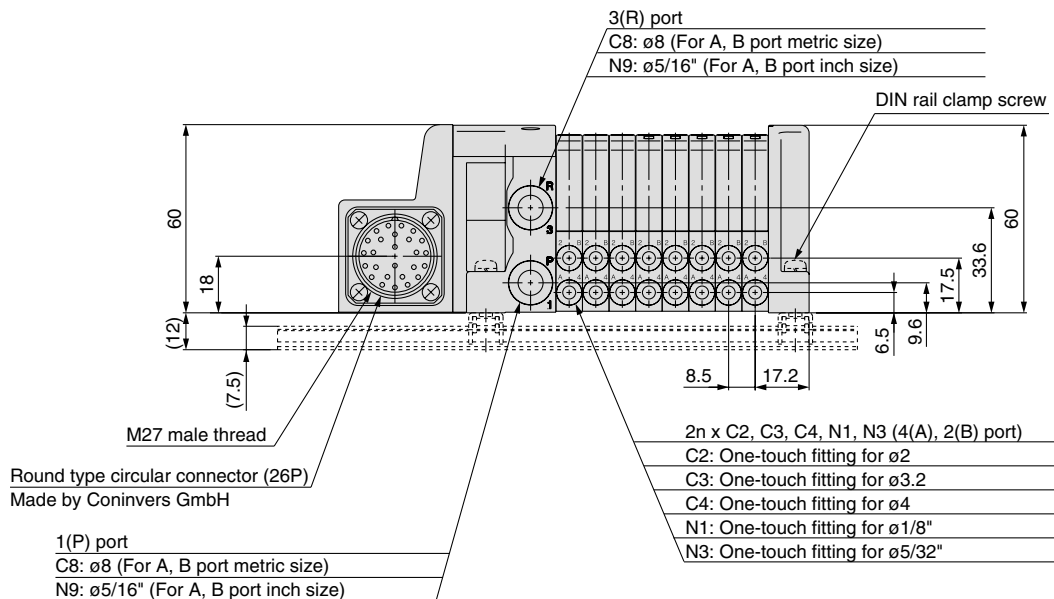
SS0750-08C4MD0-1 set - Manifold base no.

- * S0710-5 3 sets - Valve part no. (Stations 1 to 3)
- * S0720-5 2 sets - Valve part no. (Stations 4 to 5)
- * S07A0-5 2 sets - Valve part no. (Stations 6 to 7)
- * SS0700-10A-1 1 set - Blanking plate part no. (Station 8)

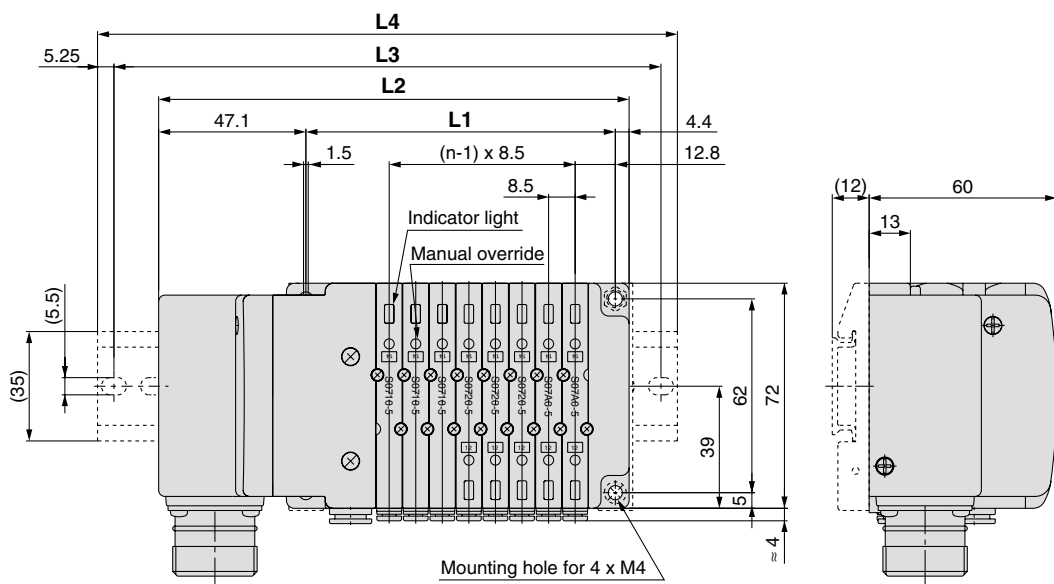
Prefix the asterisk to the part nos. of the solenoid valve, etc. Write sequentially from the 1st station on the D side. When all the part nos. written become complicated, specify them by using the manifold specification sheet.



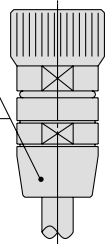
M S0700 Kit (Circular Connector)



D side Stations 1 2 3 4 5 6 7 8 n U side



Circular connector cable assembly
AXT100-MC26-015: 1.5 m
AXT100-MC26-030: 3 m
AXT100-MC26-050: 5 m



Dimensions

Formula L1 = 8.5n + 31, L2 = 8.5n + 82.5 n: Station (Maximum 24 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	48	56.5	65	73.5	82	90.5	99	107.5	116	124.5	133	141.5	150	158.5	167	175.5	184	192.5	201	209.5	218	226.5	235
L2	99.5	108	116.5	125	133.5	142	150.5	159	167.5	176	184.5	193	201.5	210	218.5	227	235.5	244	252.5	261	269.5	278	286.5
L3	125	137.5	137.5	150	162.5	162.5	175	187.5	187.5	200	212.5	212.5	225	237.5	250	250	262.5	275	275	287.5	300	300	312.5
L4	135.5	148	148	160.5	173	173	185.5	198	198	210.5	223	223	235.5	248	260.5	260.5	273	285.5	285.5	298	310.5	310.5	323

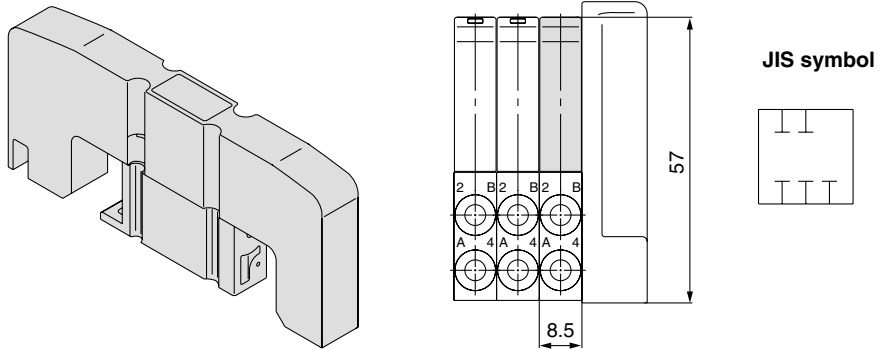
Series S0700 Plug-in Manifold Optional Parts

Blanking plate

SS0700-10A-1

It is used by attaching it to the manifold block for preparation of removing a valve for maintenance reasons or planning to mount a spare valve, etc.

Weight: 25 g



External pilot [-R]

This can be used when the air pressure is 0.1 to 0.2 MPa lower than the minimum operating pressure of the solenoid valves, or when used for vacuum specifications.

Add R to the part numbers of manifolds and valves to indicate the external pilot specification. An M5 port is built into the top side of the manifold's SUP/EXH block.

● How to Order Valves (Example)

S0710 R -5

External pilot

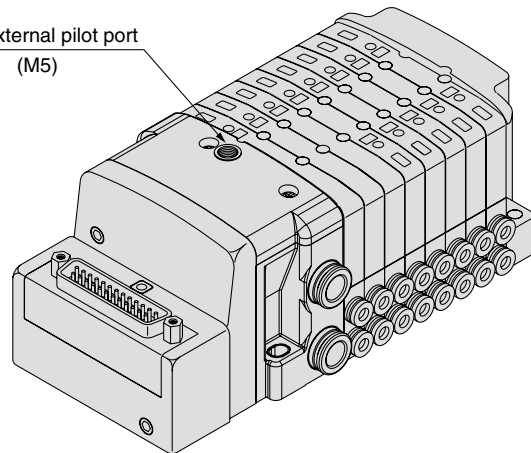
● How to Order Manifold (Example)

* Indicate R for an option.

SS0750-08C4FD1-R

External pilot

External pilot port
(M5)



Note 1) The dual 3 port valve is not available.

Note 2) When the internal pilot type and external pilot type of valves are mixed up on the manifold, order the manifold suitable for the specifications of the external pilot valve.

Note 3) Valves with the external pilot have a pilot EXH with individual exhaust specifications and EXH can be pressurised. However, the pressure supplied from EXH should be 0.4 MPa or lower.

Built-in silencer, Direct exhaust [-S]

This is a type with an exhaust port built into the top of the manifold end plate. The built-in silencer exhibits an excellent noise suppression effect. (Silencing effect: 30 dB)

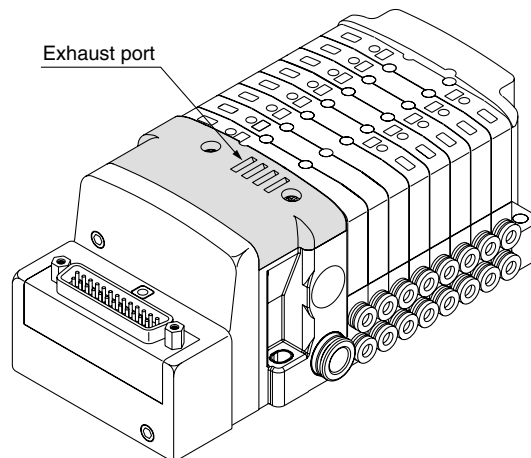


Note) If a large quantity of drainage is generated in the air source this will result in exhaust of air together with drainage.

* When ordering assemblies incorporated with a manifold, add suffix "-S" to the manifold no.

* For precautions on handling and how to replace elements, refer to "Specific Product Precautions."

Exhaust port



SUP block plate

SS0700-B-P

When different pressures, high and low, are supplied to one manifold, a SUP block plate is inserted between the stations with the different pressures.

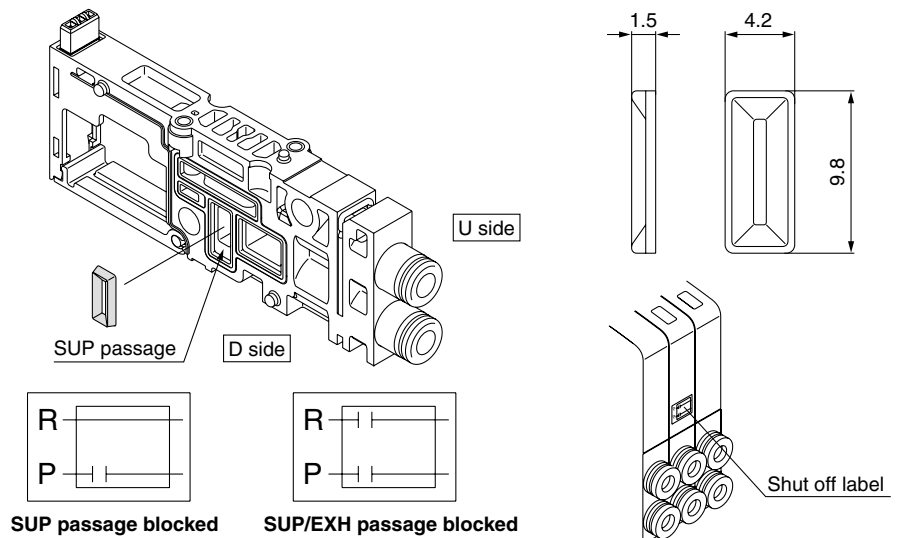
* Specify the number of stations on a manifold specification sheet.

<Shut off label>

When using block plates for SUP passage, an indication label for confirmation of the blocking position from the outside is attached. (One label of each)

* When ordering a SUP block plate incorporated with the manifold no., a block indication label is attached to the manifold.

Weight: 0.3 g



EXH block plate

SS0700-B-R

When a valve exhaust affects the other stations on the circuit, insert an EXH block disk in between the stations to separate the valve exhaust.

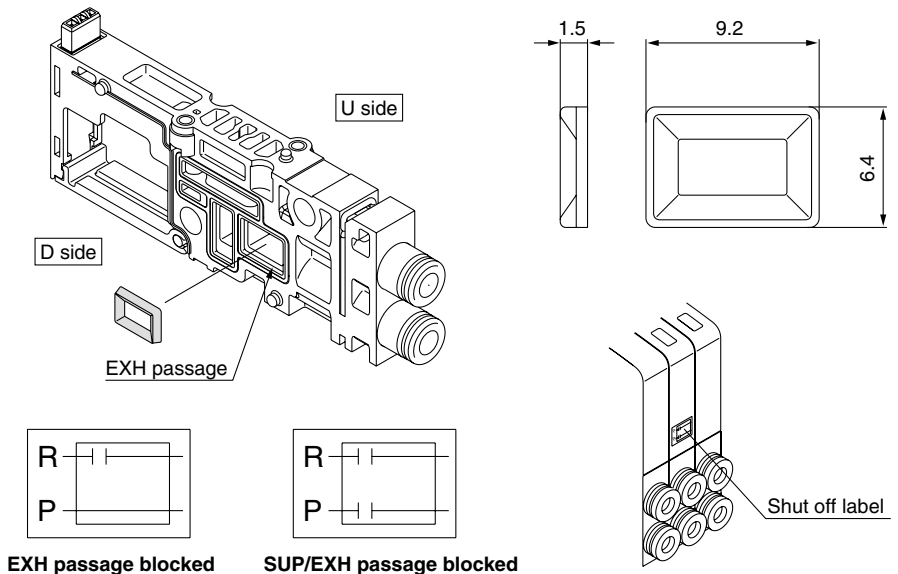
* Specify the number of stations on a manifold specification sheet.

<Shut off label>

When using block plates for EXH passage, an indication label for confirmation of the blocking position from the outside is attached. (One label of each)

* When ordering a EXH block plate incorporated with the manifold no., a block indication label is attached to the manifold.

Weight: 0.3 g



Back pressure check valve [-B]

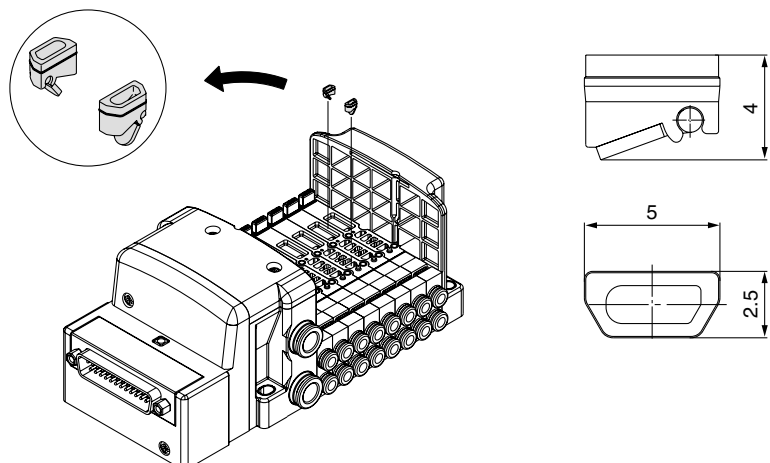
SS0700-7A-1

It prevents cylinder malfunction caused by the exhaust from other valves. Insert it into R (EXH) port on the manifold side of the valve which is affected. It is effective when a single action cylinder is used or an exhaust centre type solenoid valve is used.

* When a check valve for back pressure prevention is desired, and is to be installed only in certain manifold stations, write clearly the part no. and specify the number of stations by using a manifold specification sheet.

* When ordering assemblies incorporated with a manifold, add suffix "-B" to the manifold no.

Weight: 0.1 g



⚠ Precautions

1. The back pressure check valve assembly has a check valve structure. However, as slight air leakage is allowed for the back pressure, take care that the exhaust air is not throttled at the exhaust port.
2. When a back pressure check valve is mounted, the effective area of the valve will decrease, by about 20%.

Series S0700 Plug-in Manifold Optional Parts

Blanking plate with output

SS0700-1C-

Lead wire length (mm)

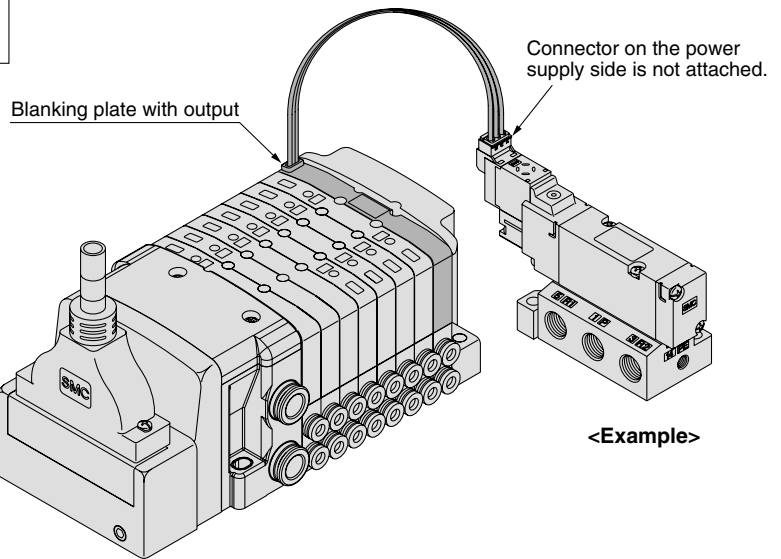
-	600	20	2000
10	1000	25	2500
15	1500	30	3000

Blanking plate with a connector for individually outputting electricity to drive a single valve or equipment that is not on the manifold base.

* Electric current should be 0.5 A or less. (Including the mounted valves.)

Weight: 34 g

JIS symbol

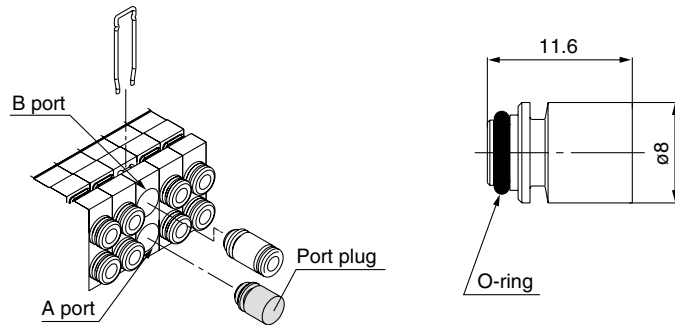


Port plug

VVQ0000-CP

The plug is used to block the cylinder port when using a 5 port valve as a 3 port valve.

* When ordering a plug incorporated with a manifold, indicate "CM" for the port size in the manifold no., as well as, the mounting position and number of stations and cylinder port mounting positions, A and B, on a manifold specification sheet.



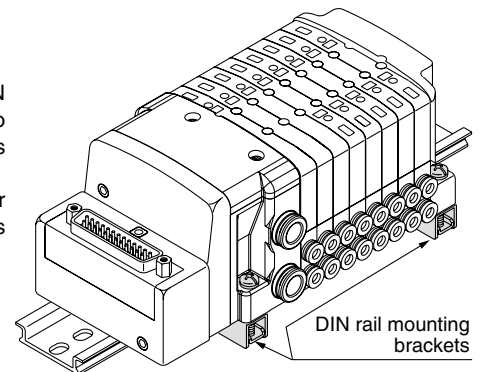
DIN rail mounting bracket

SS0700-57A-

Symbol	Specification
-	S(EX500), F, P, L M kit
S	S(EX250) kit
T	T kit

It is used for mounting a manifold on a DIN rail. The DIN rail mounted bracket is fixed to the manifold end plate. (The specification is the same as that for the option "-D".)

1 set of DIN rail mounting bracket is used for 1 manifold (2 or 3 DIN rail mounting brackets (S, T kit)).

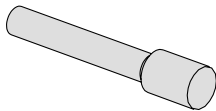


* When ordering assemblies incorporated with a manifold, add suffix "D" to the manifold no.

Blanking plug (For one-touch fittings)

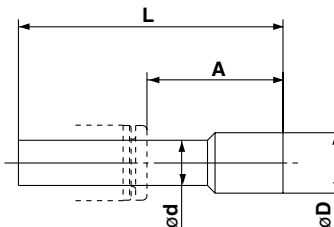
KJP-02

23
KQ2P-04
06



It is inserted into an unused cylinder port and SUP/EXH ports.

Purchasing order is available in units of 10 pieces.



Dimensions

Applicable fitting size ød	Model	A	L	D	Weight: g
2	KJP-02	8.2	17	3	0.1
3.2	KQ2P-23	16	31.5	3.2	1
4	KQ2P-04	16	32	6	1
6	KQ2P-06	18	35	8	1

Applicable to DIN rail mounting

Each manifold can be mounted on a DIN rail.

Order it by indicating a manifold mounting symbol for the DIN rail mounting style, -D.

Standard DIN rail which is approx. 30 mm longer than the manifold length with the specified number of stations is attached.

The following options are also available.

● DIN rail length longer than the standard type (for stations to be added later, etc.)

In the manifold part number, specify -D for the manifold mounting symbol and add the number of required stations after the symbol.

Example) **SS0750-08C4FD0-D09K**



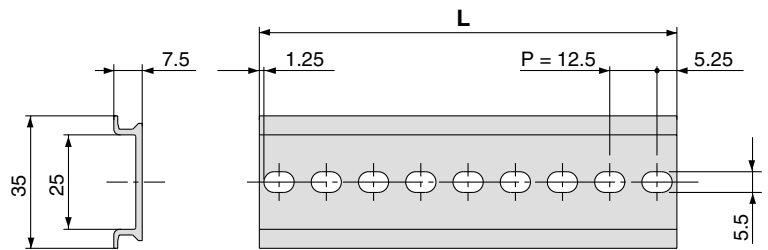
● How to Order DIN rail only

DIN rail part no.

AXT100-DR-n



Note) For n, enter a number from the No. line in the table below.
For L dimension, refer to the dimensions of each kit.



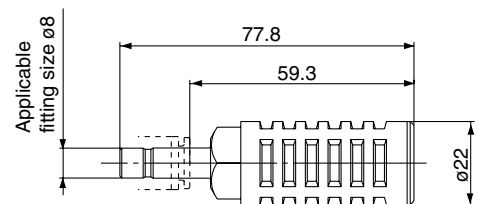
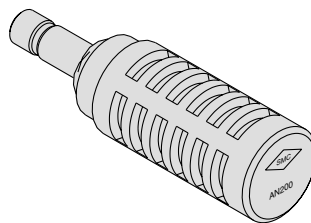
L Dimension

$$L = 12.5 \times n + 10.5$$

No.	1	2	3	4	5	6	7	8	9	10
L dimension	23	35.5	48	60.5	73	85.5	98	110.5	123	135.5
No.	11	12	13	14	15	16	17	18	19	20
L dimension	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5
No.	21	22	23	24	25	26	27	28	29	30
L dimension	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5
No.	31	32	33	34	35	36	37	38	39	40
L dimension	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5

Silencer (For EXH port)

This silencer is to be inserted into the EXH port (one-touch fitting) of the common exhaust type.



Specification

Model	Effective area (mm ²) (Cv factor)	Noise reduction (dB)
AN200-KM8	20 (1.1)	30

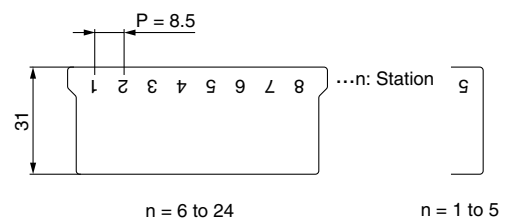
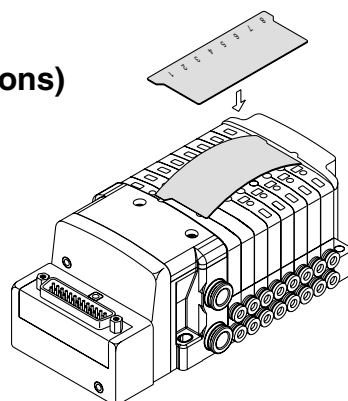
Name plate [-N]

SS0700-N-Station (1 to max. stations)

It is a transparent resin plate for placing a label that indicates the solenoid valve function, etc.

Insert it into the groove on the side of the end plate and bend it as shown in the figure.

* When ordering assemblies incorporated with a manifold, add suffix "-N" to the manifold no.



Series S0700 Plug-in Manifold Optional Parts

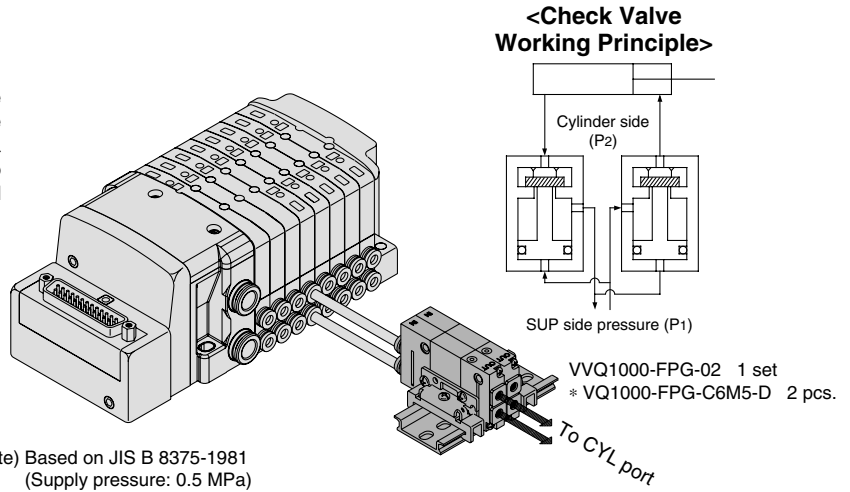
Double check block (Separated)

VQ1000-FPG-□□□

It is used on the outlet side piping to keep the cylinder in the intermediate position for a long time. Combining the double check block with a built-in pilot type double check valve and a 2 position single/double solenoid valve will permit this block to be used for preventing the dropping at the cylinder stroke end when the SUP residual pressure is released.

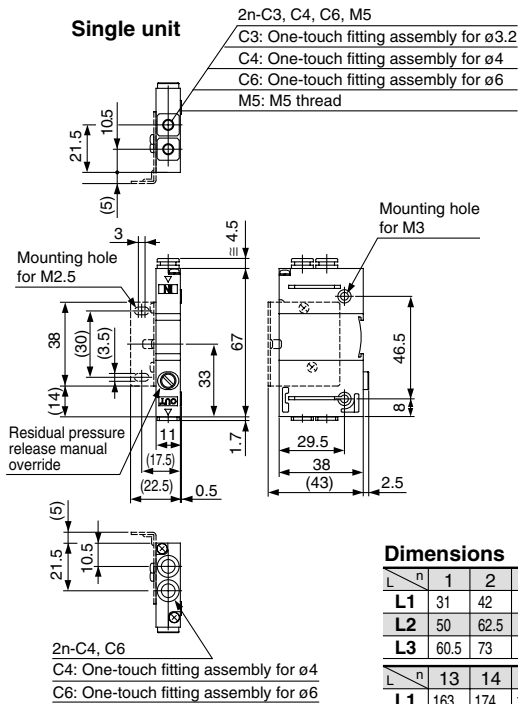
Specifications

Max. operating pressure	0.8 MPa
Min. operating pressure	0.15 MPa
Ambient and fluid temp.	-5 to 50°C
Flow characteristics: C	0.60 dm ³ /(s·bar)
Max. operating frequency	180 c.p.m



Note) Based on JIS B 8375-1981
(Supply pressure: 0.5 MPa)

Dimensions



Dimensions		Formula L1 = 11n + 20 n: Station (Max. 24 stations)											
L1	n	1	2	3	4	5	6	7	8	9	10	11	12
L1	n	31	42	53	64	75	86	97	108	119	130	141	152
L2	n	50	62.5	75	87.5	100	112.5	125	137.5	150	162.5	175	
L3	n	60.5	73	85.5	98	110.5	123	135.5	148	160.5	173	185.5	
L1	n	13	14	15	16	17	18	19	20	21	22	23	24
L1	n	163	174	185	196	207	218	229	240	251	262	273	284
L2	n	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5	300
L3	n	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.5

How to Order

Single unit, double check block

VQ1000-FPG-**C4****M5**-**F**

IN side port size

C4	One-touch fitting for ø4
C6	One-touch fitting for ø6

OUT side port size

M5	M5 thread
C3	One-touch fitting for ø3.2
C4	One-touch fitting for ø4
C6	One-touch fitting for ø6

Option

-	None
D	DIN rail mounting style (For manifold)
F	With bracket
N	With name plate

Note) When two or more symbols are specified, indicate them alphabetically.
Example) -DN

Manifold

VVQ1000-FPG-**06**

<Example>

VVQ1000-FPG-06--6 stations manifold
* VQ1000-FPG-C4M5-D: 3set } Double check block
* VQ1000-FPG-C6M5-D: 3set }

Bracket Assembly

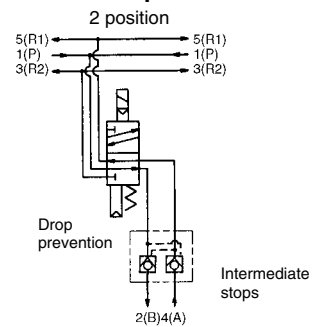
Part no.	Tightening torque
VQ2000-FPG-FB	0.22 to 0.25 N·m

Stations	
01	1 station
⋮	⋮
16	16 stations

Caution

- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for a long time. Check the leakage using neutral household detergent, such as dish washing soap. Also check the cylinder's tube gasket, piston packing and rod packing for air leakage.
- Since one-touch fittings allow slight air leakage, screw piping (with M5 thread) is recommended when stopping the cylinder in an intermediate position for a long time.

<Example>

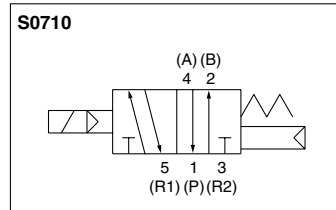
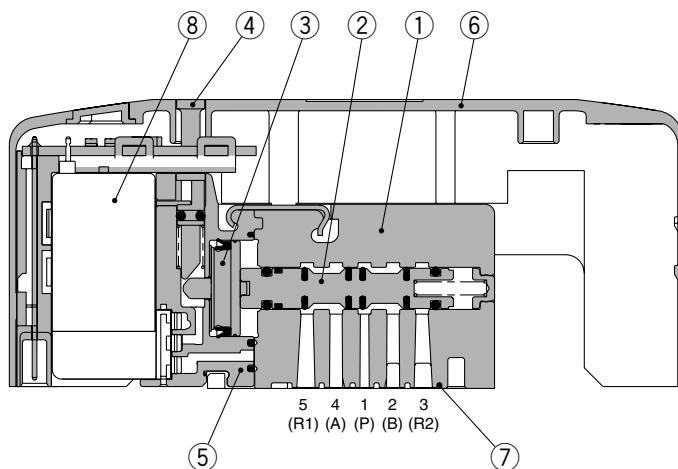


- M5 fitting assembly is attached, not incorporated into the double check block. After screwing in the M5 fittings, mount the assembly on the double check block. {Tightening torque: 0.8 to 1.2 N·m}
- If the exhaust of the double check block is throttled too much, the cylinder may not operate properly and may not stop immediately.
- Set the cylinder load so that the cylinder pressure will be within two times that of the supply pressure.

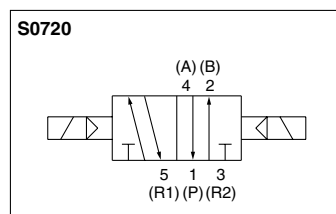
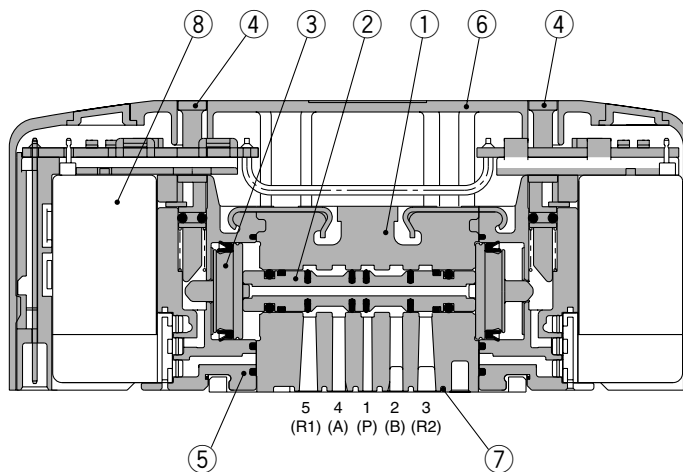
Series S0700 Plug-in

Construction

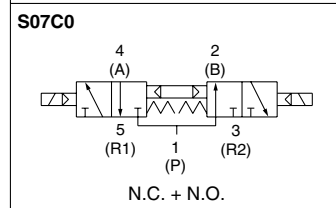
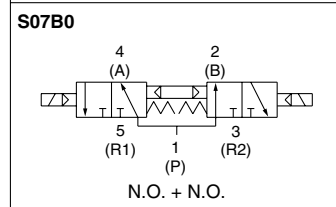
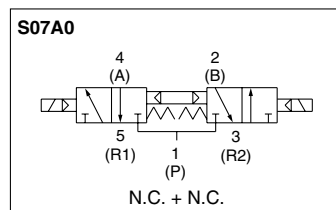
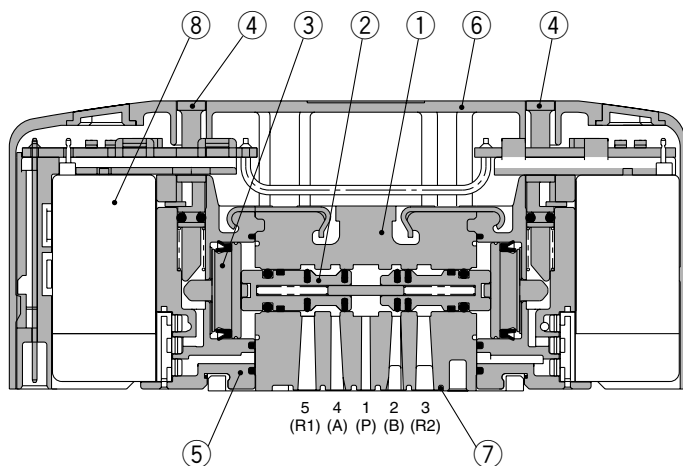
Single: S0710



Double: S0720



Dual 3 Port: S07B0 A C

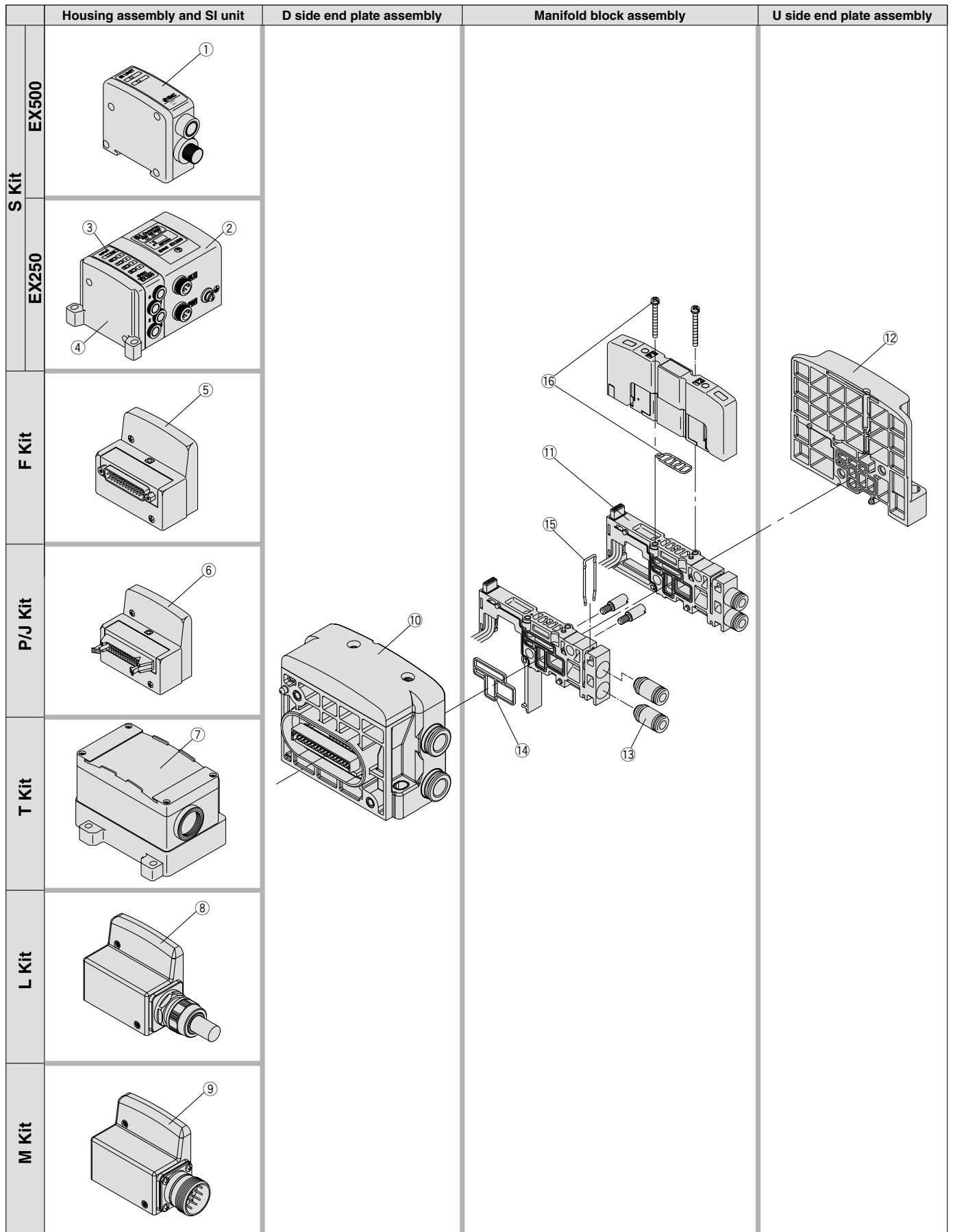


Component Parts

No.	Part no.	Material
1	Body	Zinc die-casted
2	Spool	Aluminum
3	Piston	Resin
4	Manual	Resin
5	Adaptor plate	Resin
6	Cover	Resin
7	Interface gasket	HNBR
8	Pilot valve assembly ^{Note)}	—

Note) Please consult SMC for pilot valve replacement.

Multi-kit Plug-in Type Manifold Exploded View

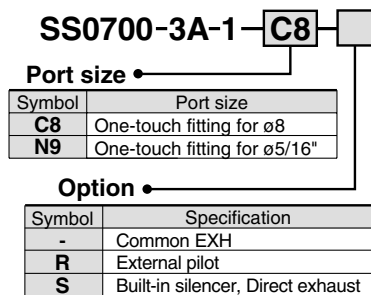


Manifold Assembly No.

<Housing Assembly and SI Unit, Input Block>

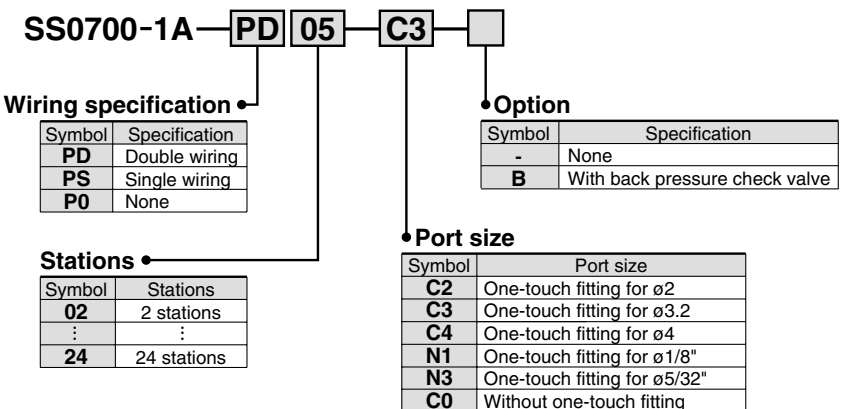
No.	Description	Part no.	Note
①	SI unit	EX500-Q001	DeviceNet/PROFIBUS-DP/CC-Link/EtherNet/IP (+COM.)
		EX500-Q001-X1	Remote I/O (+COM.)
		EX500-Q101	DeviceNet/PROFIBUS-DP/CC-Link/EtherNet/IP (-COM.)
		EX500-Q101-X1	Remote I/O (-COM.)
②	SI unit	EX250-SDN1	DeviceNet (-COM.)
		EX250-SPR1	PROFIBUS-DP (-COM.)
		EX250-SMJ2	CC-Link (+COM.)
		EX250-SAS3	AS-i 31SLAVE 8 IN/8 OUT 2 power supply system
		EX250-SAS5	AS-i 31SLAVE 4 IN/4 OUT 2 power supply system
		EX250-SAS7	AS-i 31SLAVE 8 IN/8 OUT 1 power supply system
		EX250-SAS9	AS-i 31SLAVE 4 IN/4 OUT 1 power supply system
		EX250-SCA1	CANopen
③	Input block	EX250-IE1	M12 2 inputs
		EX250-IE2	M12 4 inputs
		EX250-IE3	M8 4 inputs
④	End plate assembly	EX250-EA1	For standard
		EX250-EA2	For DIN rail mounting
⑤	D-sub connector assembly	VVQC1000-F25-1	F kit 25 pins
⑥	Flat ribbon cable housing assembly	VVQC1000-P26-1	P kit 26 pins
		VVQC1000-P20-1	P kit 20 pins
		VVQC1000-J20-1	J kit 20 pins
⑦	Terminal block housing assembly	VVQC1000-T0-1	T kit
⑧	Lead wire housing assembly	VVQC1000-L25-0-1	L kit Lead wire length 0.6 m
		VVQC1000-L25-1-1	L kit Lead wire length 1.5 m
		VVQC1000-L25-2-1	L kit Lead wire length 3.0 m
⑨	Circular connector housing assembly	VVQC1000-M26-1	M kit 26 pins

⑩ D side end plate assembly part no.



Note) When both options are specified, indicate as "-RS".

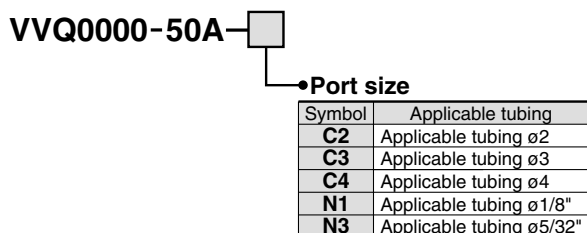
⑪ Manifold block assembly



⑫ U side end plate assembly part no.

SS0700-2A-2

⑬ Fitting assembly part no.



Note 1) Purchasing order is available in units of 10 pieces.
 Note 2) For one-touch fittings replacement, refer to "Specific Product Precautions."

<Replacement Parts for Manifold Block>

Replacement Parts

No.	Part no.	Description	Q'ty
⑭	SS0700-80A-2	Gasket	10
⑮	SS0700-80A-4	Clip	10

Note) A set of parts containing 10 pcs. of each is enclosed.

<Replacement Parts for Valve>

Replacement Parts

No.	Part no.	Description	Q'ty
⑯	S0700-GS-5	Gasket, Screw	10

Note) Above part number consists of 10 units. Each unit has one gasket and two screws.

Series S0700

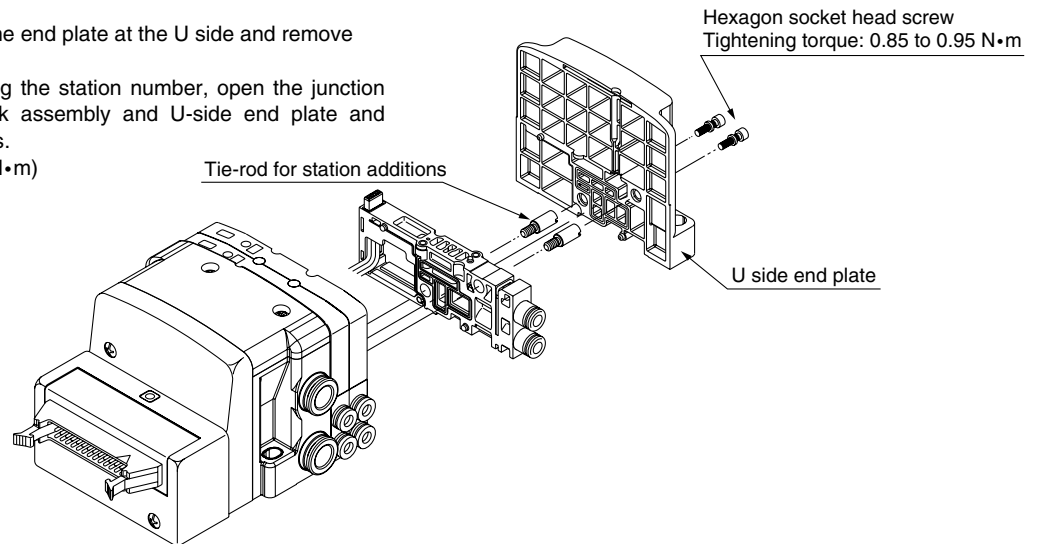
How to Add Manifold Stations (Plug-in Type / Lead Wire Connection Type)

What to order

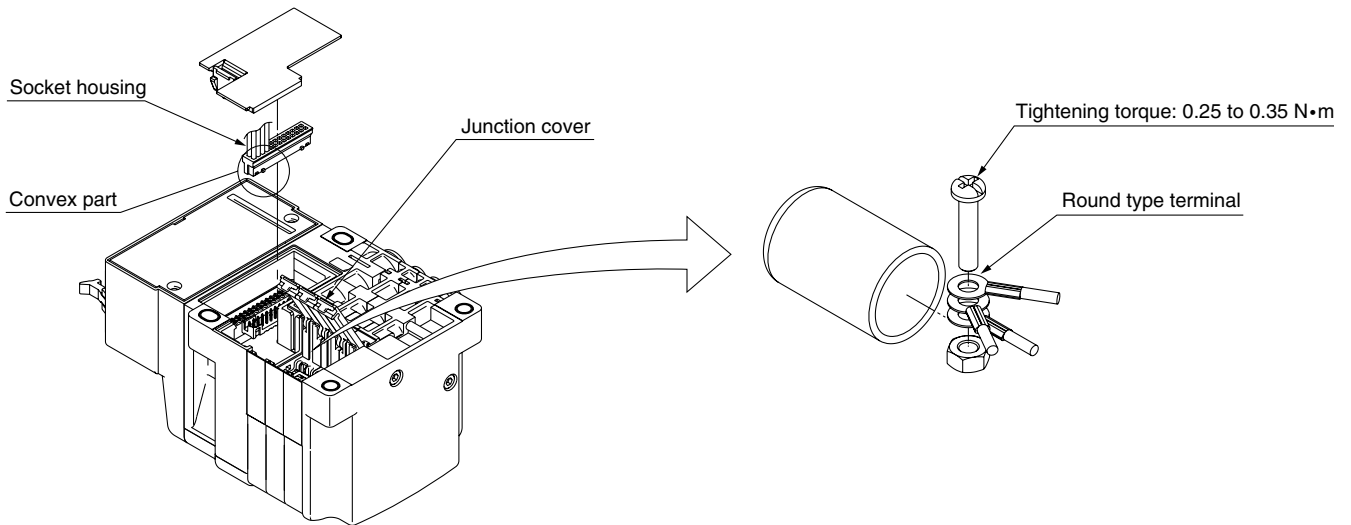
Manifold block assembly (Refer to page 50.)

Steps for adding stations

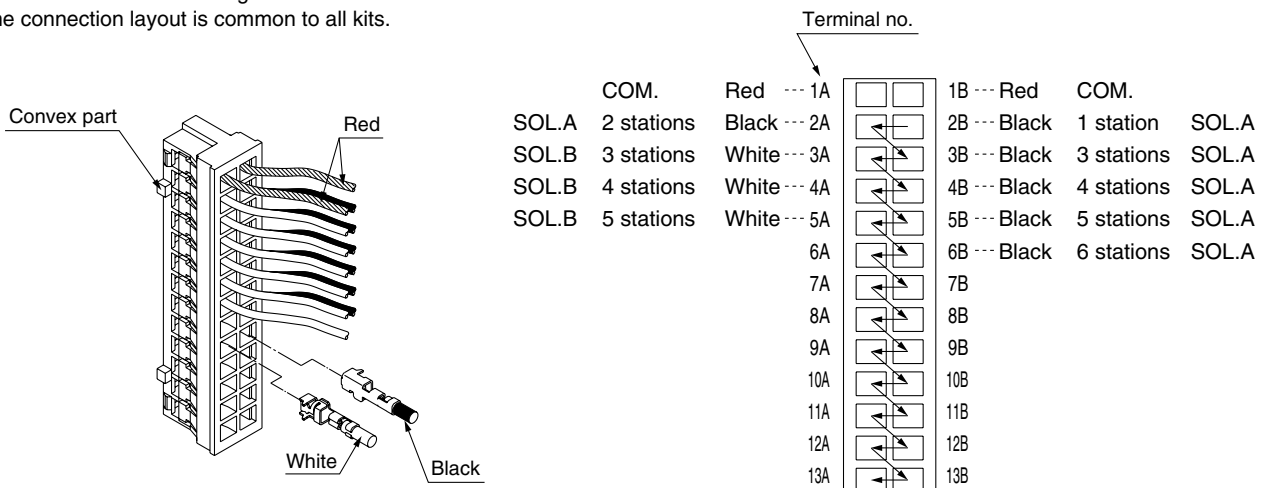
- ① Loosen the hexagon bolts from the end plate at the U side and remove the end plate.
- ② Connect the tie rod for increasing the station number, open the junction cover, mount the manifold block assembly and U-side end plate and tighten them by the hexagon bolts.
(Tightening torque: 0.85 to 0.95 N·m)



- ③ Connect the lead wire assemblies included with manifold blocks as follows.

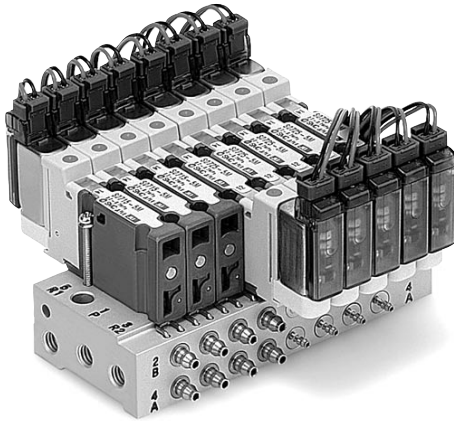


- ④ Take out the socket housing and connect the black and white lead wires. The connection layout is common to all kits.

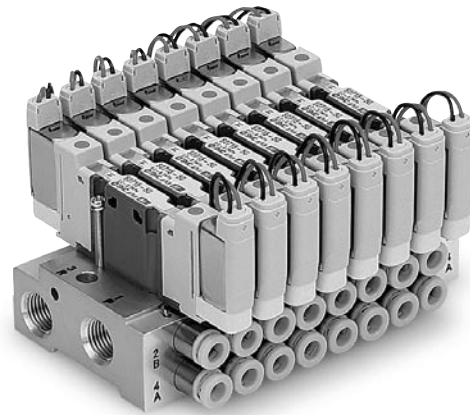


Plug Lead
Lead Wire

C Kit



With barb fittings



With one-touch fittings

Individual
Connector

P.53

How to Order Manifold

SS0755-08C4- - C-

Plug lead

Stations

Symbol	Stations
02	2 stations
⋮	⋮
20	20 stations

Option

Symbol	Option
-	None
R ^{Note)}	External pilot

Note) For details, refer to page 64.
* For manifold optional parts, refer to page 64.

Connector kit

P, R Port thread type

Symbol	Manifold pitch	
	8.5	7.5
-	Rc (PT)	M5
F	G (PF)	
N	NPT	
T	NPTF	

Cylinder port size

Symbol	Port size		Manifold pitch
M5	M5 thread		
C2	With one-touch fitting for ø2		
C3	With one-touch fitting for ø3.2		
C4	With one-touch fitting for ø4		
CM	Mixed size/with port plug ^{Note)}	Inch	8.5
N1	With one-touch fitting for ø1/8"		
N3	With one-touch fitting for ø5/32"	Metric	7.5
NM	Mixed size/with port plug ^{Note)}		
M3	M3 thread		
V2	With barb fitting for ø2		
V3	With barb fitting for ø3.2		
V4	With barb fitting for ø4		
VM	Mixed size/with port plug ^{Note)}		

Note) Specify "Mixed size/with port plug" on a manifold specification sheet.

How to Order Valves

S07 1 5 - 5 G

Type of actuation

Symbol	Specification
1	2 position single
2	2 position double
A	4 position dual 3 port type (N.C. + N.C.) [exhaust centre]
B	4 position dual 3 port type (N.O. + N.O.) [pressure centre]
C	4 position dual 3 port type (N.C. + N.O.)

Note) For JIS symbol, refer to page 5.

Electrical entry

Symbol	Specification
G	Grommet
M	Plug connector, with lead wire (Light/surge voltage suppressor)
MO	Plug connector, without lead wire (Light/surge voltage suppressor)

Voltage

Symbol	Specification
5	24 VDC
6	12 VDC

Function

Symbol	Specification
-	Standard
R	External pilot

Base mounted plug lead

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

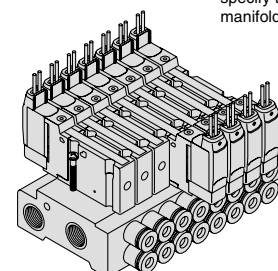
<Example>

Lead wire kit

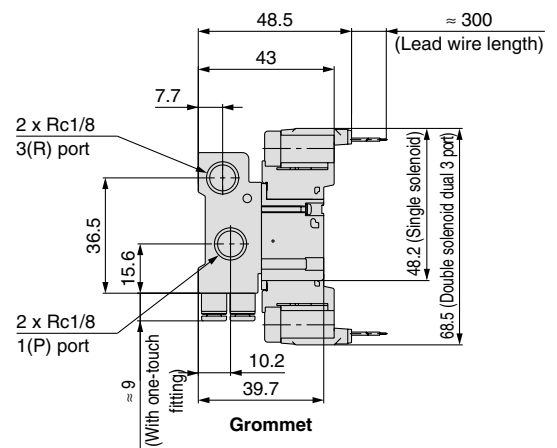
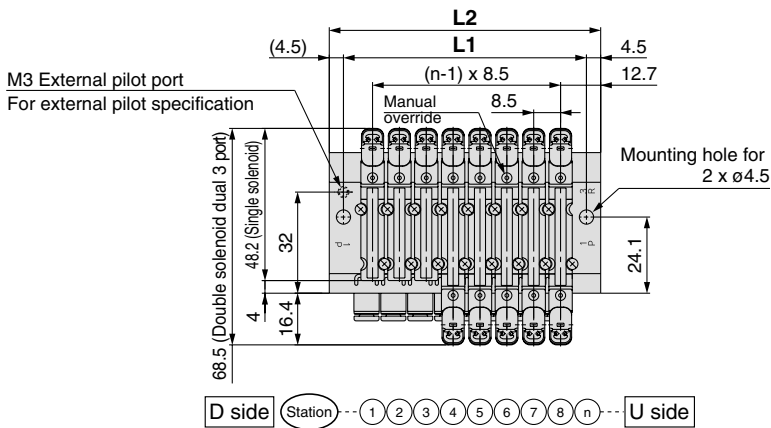
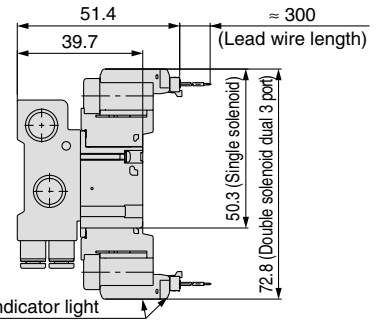
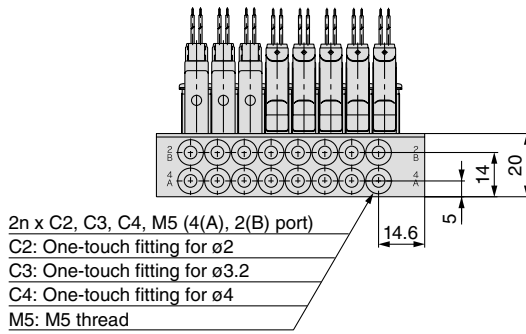
SS0755-07C4 1 set – Manifold base no.
 * S0715-5G 3 sets – Valve part no. (Stations 1 to 3)
 * S0725-5G 2 sets – Valve part no. (Stations 4 to 5)
 * S07A5-5G 2 sets – Valve part no. (Stations 6 to 7)

Prefix the asterisk to the part nos. of the solenoid valve, etc.

Write sequentially from the 1st station on the D side. When all the parts nos. written become complicated, specify them by using the manifold specification sheet.



SS0755-□ M5
C□
N□

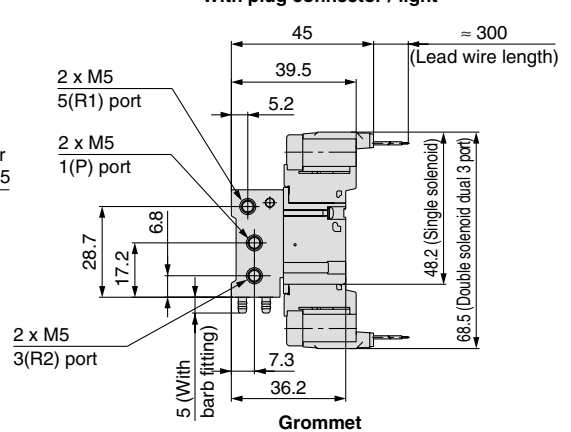
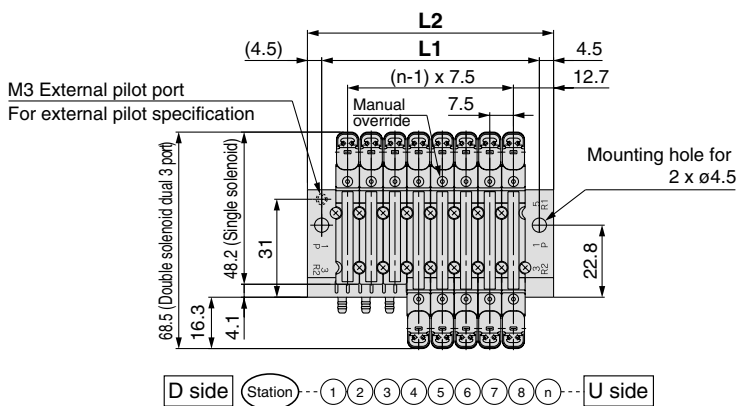
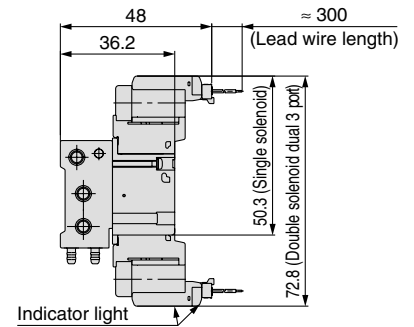
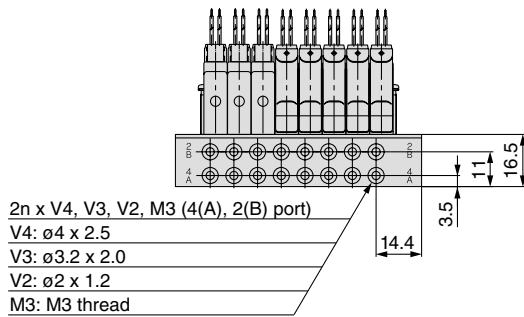


Dimensions

Formula $L1 = 8.5n + 8.9$, $L2 = 8.5n + 17.9$ n: Station (Maximum 20 stations)

L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1		25.9	34.4	42.9	51.4	59.9	68.4	76.9	85.4	93.9	102.4	110.9	119.4	127.9	136.4	144.9	153.4	161.9	170.4	178.9
L2		34.9	43.4	51.9	60.4	68.9	77.4	85.9	94.4	102.9	111.4	119.9	128.4	136.9	145.4	153.9	162.4	170.9	179.4	187.9

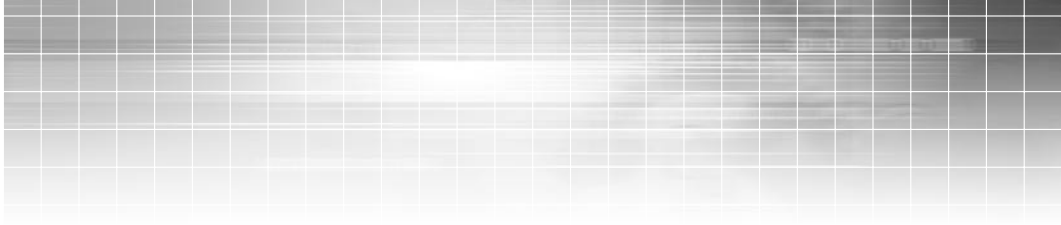
SS0755-□ M3
V□



Dimensions

Formula $L1 = 7.5n + 8.9$, $L2 = 7.5n + 17.9$ n: Station (Maximum 20 stations)

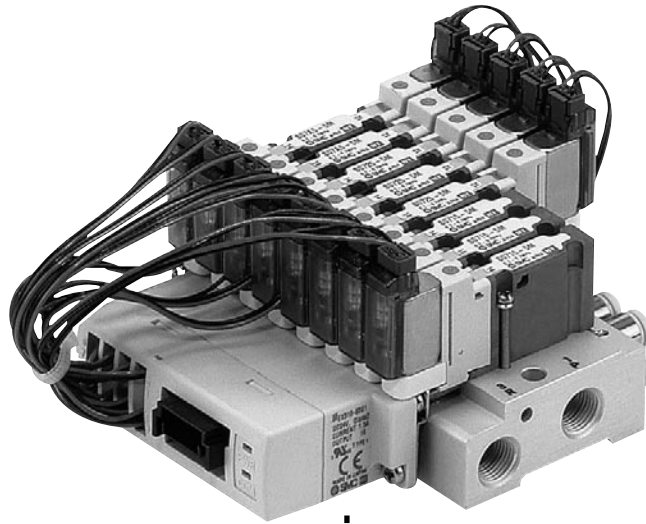
L	n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1		23.9	31.4	38.9	46.4	53.9	61.4	68.9	76.4	83.9	91.4	98.9	106.4	113.9	121.4	128.9	136.4	143.9	151.4	158.9
L2		32.9	40.4	47.9	55.4	62.9	70.4	77.9	85.4	92.9	100.4	107.9	115.4	122.9	130.4	137.9	145.4	152.9	160.4	167.9



Plug Lead

Serial Transmission

S Kit



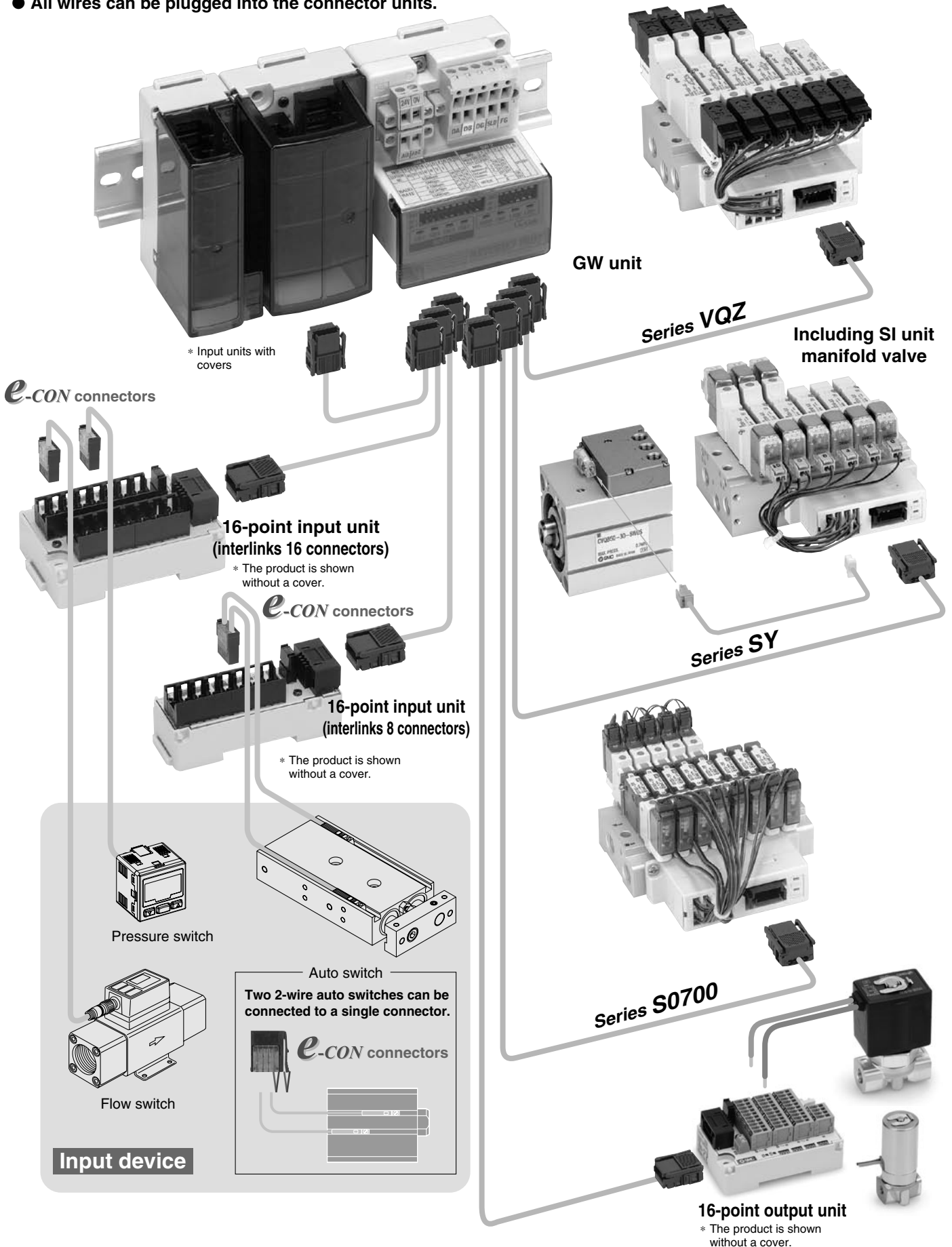
EX510

Connect all wiring
using
connectors.

P.57

S S0700 Kit (Serial Transmission System) Decentralised Serial EX510

- All wires can be plugged into the connector units.



How to Order Manifold

SS0755-SA **08** **C4**

S kit
EX510 serial wiring

SI unit COM.

-	+COM.
N	-COM.

Stations

Symbol	Stations
02	2 stations
⋮	⋮
16	16 stations

Note) The maximum number of stations is determined by the total number of solenoids.
For mixed single and double wirings, enter "-K" to the order code options.

Standard station	Max. number of stations for special wiring specification	Max. number of solenoids
1 to 8 stations	16 stations	16

Type of actuation	Single type	Double, Dual 3 port type
Number of solenoids	1	2

Option

Symbol	Option
-	None
K <small>Note 2)</small>	Special wiring specification (Except double wiring)
R <small>Note 3)</small>	External pilot

Note 1) When two or more options are specified, indicate them alphabetically. Example) -KR

Note 2) Indicate the wiring specification for mixed single and double wirings.

Note 3) For details, refer to page 66.

* For manifold optional parts, refer to page 64.

P, R Port thread type

Symbol	Manifold pitch
-	8.5
-	Rc (PT)
F	G (PF)
N	NPT
T	NPTF

Cylinder port size

Symbol	Port size	
M5	M5 thread	Metric
C2	With one-touch fitting for ø2	
C3	With one-touch fitting for ø3.2	
C4	With one-touch fitting for ø4	
CM	Mixed size/with port plug <small>Note)</small>	Inch
N1	With one-touch fitting for ø1/8"	
N3	With one-touch fitting for ø5/32"	
NM	Mixed size/with port plug <small>Note)</small>	

Note) Specify "Mixed size/with port plug" on a manifold specification sheet.

How to Order Valves

S07 1 **5** **5 MO**

Type of actuation

Symbol	Specification
1	2 position single
2	2 position double
A	4 position dual 3 port type (N.C. + N.C.) [Exhaust centre]
B	4 position dual 3 port type (N.O. + N.O.) [Pressure centre]
C	4 position dual 3 port type (N.C. + N.O.)

Note) For JIS symbol, refer to page 5.

Base mounted plug lead

Function

Symbol	Specification
-	Standard
R	External pilot

Electrical entry

M plug connector, without lead wire (Light/surge voltage suppressor)

Voltage: 24 VDC

How to Order Manifold Assembly

Specify the part numbers for valves and options together beneath the manifold base part number.

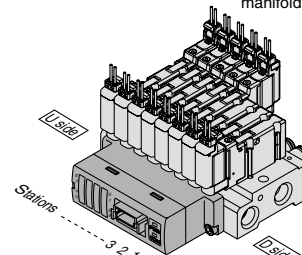
<Example>

Lead wire kit

SS0755-SA08C4 1 set - Manifold base no.

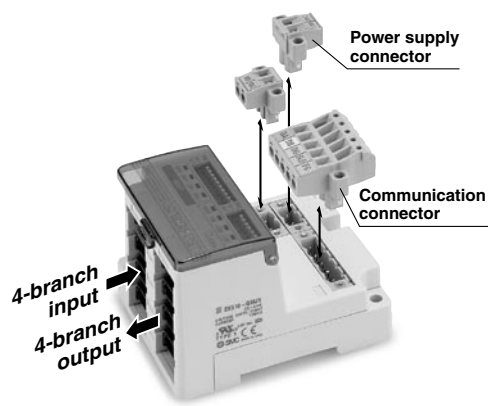
* S0715-5G 3 sets - Valve part no. (Stations 1 to 3)
* S0725-5G 3 sets - Valve part no. (Stations 4 to 6)
* S07A5-5G 2 sets - Valve part no. (Stations 7 to 8)

Prefix the asterisk to the part nos. of the solenoid valve, etc. Write sequentially from the 1st station on the D side. When all the part nos. written become complicated, specify them by using a manifold specification sheet.



S S0700 Kit (Serial Transmission System) Decentralised Serial EX510

Gateway (GW) Unit



EX510-G MJ1

•Communication protocol

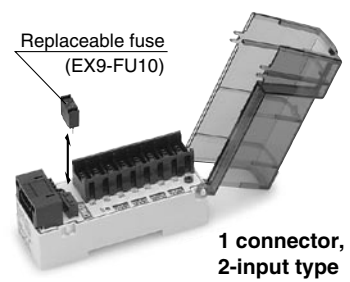
MJ1	CC-Link
DN1	DeviceNet
PR1	PROFIBUS-DP

Specifications

Model	EX510-GMJ1	EX510-GDN1	EX510-GPR1
Communication protocol	CC-Link (Ver.1.10)	DeviceNet (Release2.0)	PROFIBUS-DP (EN501700)
GW type	Remote device station	Group2 Only Server	DPV0 Class2
Communication speed	156/625 kbps 2.5/5/10 Mbps	125/250/500 kbps	9.6/19.2/45.45/93.75/ 187.5/500 kbps 1.5/3/6/12 Mbps
Device data file <small>Note 1)</small>	—	EDS file	GSD file
Rated voltage	24 VDC		
Power supply voltage range	Power supply for input and control unit for GW: 24 VDC ±10% Power supply for output: 24 VDC +10%/−5% (with power drop warning at approx. 20 V)		
Current consumption	—	Communication power supply for DeviceNet 11 to 25 VDC	—
	100 mA or less (GW unit)		
	—	Communication power supply for DeviceNet 50 mA or less	—
Number of inputs/outputs	[Usable I/O points] • Setting to occupy 2 stations Input 32 points/Output 32 points • Setting to occupy 3 stations Input 64 points/Output 64 points * Number of occupied stations can be changed by setting a switch.	Number of inputs: Max. 64 points / Number of outputs: Max. 64 points Number of inputs/outputs can be changed respectively by setting a switch. • Number of inputs settings 0, 16, 32, 64 points • Number of outputs settings 0, 16, 32, 64 points	
Number of input/output branches	Input 4 branches/Output 4 branches		
Branch cable	4-core flat ribbon cable		
Branch cable length	Within 20 m		
Ambient operating temperature/humidity	−10 to 50°C/35 to 85% RH (no condensation)		
Ambient stored temperature	−20 to 60°C		
Enclosure	IP20		
Applicable standards	UL, CSA, CE <small>Note 2)</small>		
Weight	160 g (accessory included)		

Note 1) The file for using when setting the device automatically. Contact our sales representative for each file.
Note 2) EMC directive 89/336/EEC; EN61000-6-2: 2001, EN55011: 1998+A1+A2

Input Unit



EX510-DX N 1

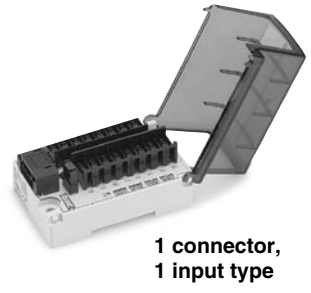
•Unit type

1	1 connector, 2-input type
2	1 connector, 1 input type

•Compliant sensor

N	NPN output
P	PNP output
B	2-wire type

Note 1) B (2-wire type) is available with 1 connector, 2-input type only.



Specifications

Model	EX510-DXN□	EX510-DXP□, DXB1
Input type	NPN input	PNP input
Number of inputs	16 points	
Sensor supply voltage	24 VDC	
Max. sensor supply current	0.2 A per point, 0.9 A per unit	
Consumption current	100 mA (Input unit internal parts)	
Input resistance	5.6 kΩ	
Rated input current	Approx. 4 mA	
ON voltage/ON current	17 V or greater/2.5 mA or greater (Between input terminal and for sensor + 24 VDC)	17 V or greater/2.5 mA or greater (Between input terminal and for sensor 0 VDC)
OFF voltage/OFF current	7 V or less/1 mA or less (Between input terminal and for sensor + 24 VDC)	7 V or less/1 mA or less (Between input terminal and for sensor 0 VDC)
Display	Green LED (illuminated when ON)	
Weight	EX510-DX□1: 90 g EX510-DX□2: 110 g (accessory included)	

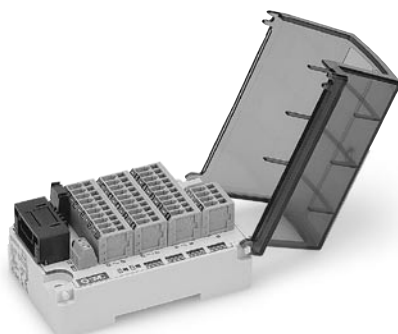
Output Unit

EX510-DY **P** **3**
Output specification

N	NPN output
P	PNP output

Connector type

3	Terminal box type (Internal power supply)
4	Terminal box type (External power supply)



Specifications

Model	EX510-DYN3	EX510-DYP3	EX510-DYN4	EX510-DYP4
Output type	NPN output (sink type)	PNP output (source type)	NPN output (sink type)	PNP output (source type)
Rated load voltage	24 VDC			
Power supply type	Internal power supply (supplied by GW unit)		External power supply (supplied by power supply connector)	
Applicable cable for power supply connector	—		0.14 to 1.5 mm ² (AWG16 to 26)	
Number of outputs	16 points			
Output connector type	Spring type			
Applicable cable	0.08 to 1.5 mm ² (AWG16 to 28)			
Max. load current	Meet the following 3 conditions: 1. 0.5 A or less per point 2. 1 A or less per unit 3. The total current for OUT0 to 7 must be 1 A or less. The total current for OUT8 to 15 must be 1 A or less.		Meet the following 3 conditions: 1. 0.5 A or less per point 2. 3 A or less per unit 3. The total current for OUT0 to 7 must be 1.5 A or less. The total current for OUT8 to 15 must be 1.5 A or less.	
Protection	Built-in short circuit protection			
Current consumption	50 mA or less (inside a unit)			
Weight	130 g (including accessories)			

SI Unit

EX510-S **0** **0** **1** **□**
Output specification

0	NPN output (common (+))
1	PNP output (common (-))

Applicable valve manifold

1	Non-plug-in manifold
2	Plug-in manifold

Mounting specification

-	Screw mounting
A	Mounting on DIN rail vertically
B	Mounting on DIN rail horizontally
C	Mounting on DIN rail horizontally (Dedicated for the SJ manifold) ^{Note)}

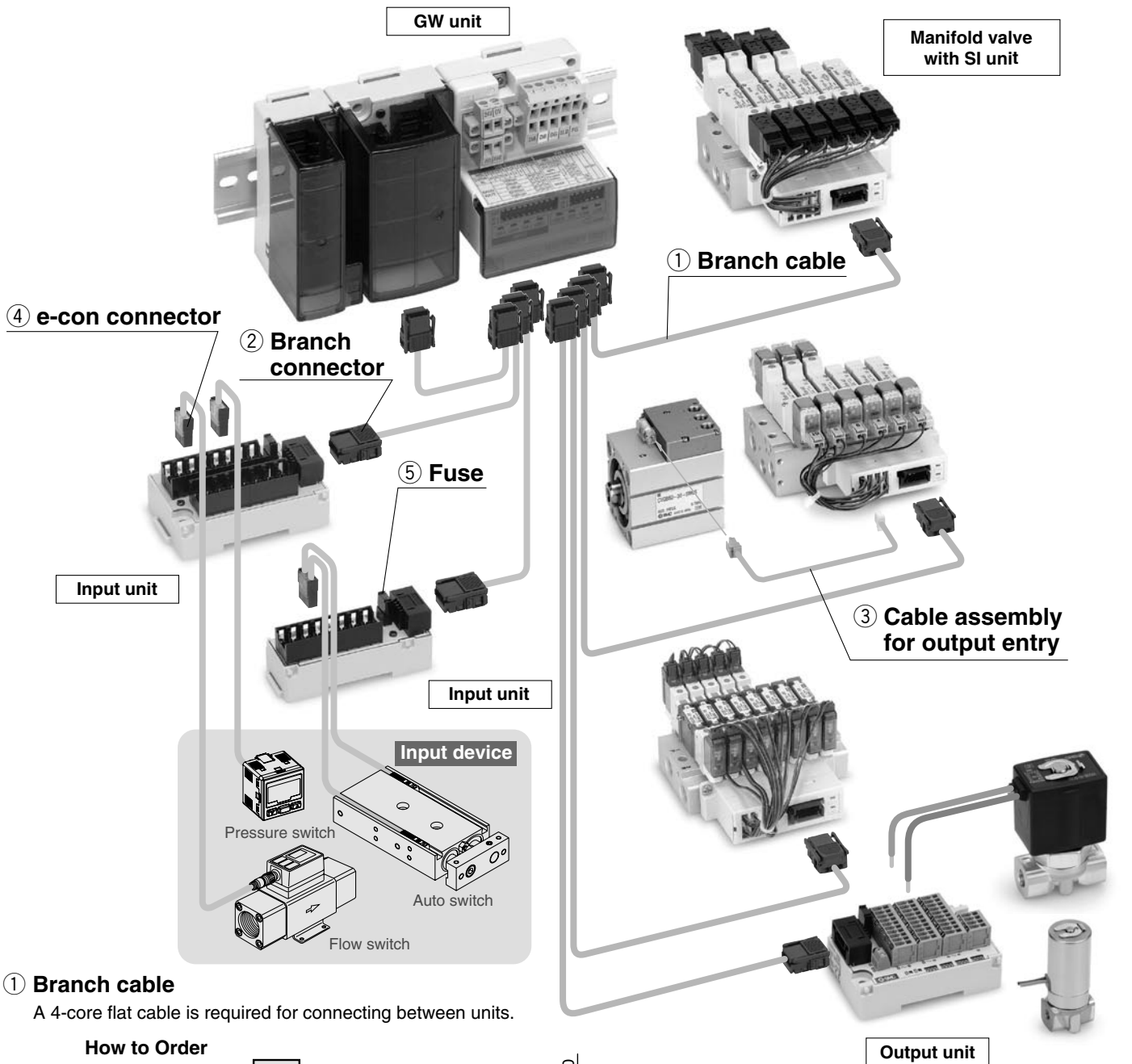
Note) Applicable for EX510-S□02 only.

Specifications

Model	EX510-S001□, S002□	EX510-S101□, S102□
Output type	NPN output (sink type)	PNP output (source type)
Number of outputs	16 points	
Rated load voltage	24 VDC	
Max. load current	Meet the following 3 conditions: 1. 0.25 A or less per point 2. 1.4 A or less per unit 3. Total current for OUT 0 to 7 must be 1 A or less. Total current for OUT 8 to 15 must be 1 A or less.	
Protection	Built-in short circuit protection	
Current consumption	50 mA or less (SI unit internal parts)	
Weight	EX510-S□01: 40 g EX510-S□01A, B: 80 g EX510-S□02: 50 g EX510-S□02A, B, C: 90 g (including accessories)	

Series S0700

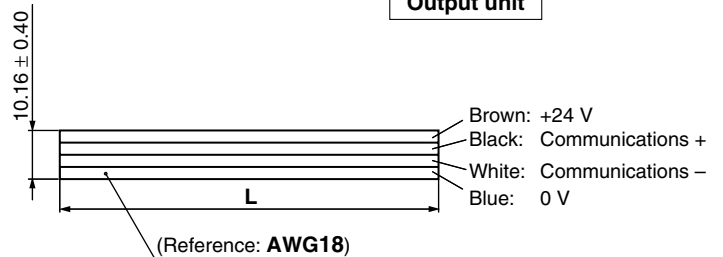
System Composition/Options



- ① **Branch cable**
A 4-core flat cable is required for connecting between units.

How to Order
EX510-FC 10

Cable length (L)	
01	1 m
02	2 m
05	5 m
10	10 m
20	20 m
60	60 m



- ② **Branch connector (Unit 1 pc.)**
Connector required for connecting a branch cable to each unit.
Two branch cables are attached to the SI unit and the input unit respectively.

How to Order
EX510-LC1



(When press-fitting)

Electrical specification	
Rated voltage	24 VDC
Rated current	Max. 5.0 A
Contact resistance	20 mΩ or less
Withstand voltage	1000 VAC 1 minute (Leak current 1 mA or less)

③ Cable assembly for output entry

Cable assembly for connecting the unused outputs in the SI unit.

How to Order
EX510-V S 10 S

Output

S	1 point
W	2 points

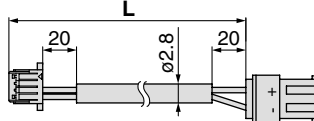
Cable length (L)

10	1 m
30	3 m

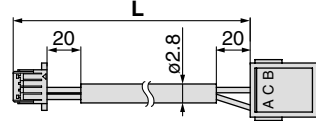
Valve connector

-	None
S	For SY, SYJ series
Q	For VQ, VQZ series

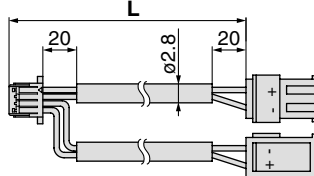
EX510-VS□S



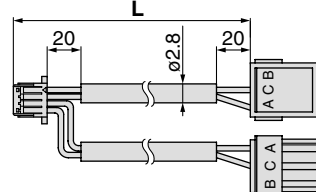
EX510-VS□Q



EX510-VW□S



EX510-VW□Q



④ e-con connector

Connector for connecting a sensor to an input unit (EX510-DX□□). Refer to the connector part numbers which are applicable for each sensor.

How to Order
ZS-28-C □ □

e-con

Product	Switch model	e-con part number			
		Tyco Electronics AMP K.K.		Sumitomo 3M Limited	
		SMC part no.	Manufacturer's part no.	SMC part no.	Manufacturer's part no.
Auto switch	D-A9 □	ZS-28-CA-2	1-1473562-4	ZS-28-C	37104-3101-000FL
	D-M9 □	ZS-28-CA-2	1-1473562-4	ZS-28-C	37104-3101-000FL
	D-Y □	ZS-28-CA-3	1473562-4	ZS-28-C	37104-3101-000FL
	D-Z73	ZS-28-CA-2	1-1473562-4	ZS-28-C	37104-3101-000FL
	D-Z76	ZS-28-CA-3	1473562-4	ZS-28-C-1	37104-3122-000FL
	D-Z80	ZS-28-CA-3	1473562-4	ZS-28-C-1	37104-3122-000FL
Pressure switch	Z/ISE1 ^{Note 1)}	ZS-28-CA-3	1473562-4	ZS-28-C-1	37104-3122-000FL
	Z/ISE2 ^{Note 1)}	ZS-28-CA-3	1473562-4	ZS-28-C-1	37104-3122-000FL
	Z/ISE30	ZS-28-CA-3	1473562-4	ZS-28-C-1	37104-3122-000FL
	Z/ISE40 ^{Note 2)}	ZS-28-CA-3	1473562-4	ZS-28-C-1	37104-3122-000FL
	Z/ISE50 ^{Note 2)}	ZS-28-CA-3	1473562-4	ZS-28-C-1	37104-3122-000FL
	Z/ISE60 ^{Note 2)}	ZS-28-CA-3	1473562-4	ZS-28-C-1	37104-3122-000FL
	ISE7 □	ZS-28-CA-4	2-1473562-4	ZS-28-C-1	37104-3122-000FL
Flow switch	PF2A7 □	ZS-28-CA-4	2-1473562-4	ZS-28-C-1	37104-3122-000FL
	PF2W7 □	ZS-28-CA-4	2-1473562-4	ZS-28-C-1	37104-3122-000FL

Note 1) Grommet type only

Note 2) Connect 2 outputs. Avoid connecting an analogue output and an auto shift input to a connector. These need to be wired separately. Connector part numbers which are applicable for each sensor other than above, please consult with SMC.

Refer to each connector manufacturer for detailed information on the *e-con* connector.

Applicable Wire Table

SMC part no. (1 pc.)	Cover colour	Compliant wire diameter (φ)	Nominal cross sectional area (mm ²)	Tyco Electronics AMP part no.
ZS-28-CA-1	Orange	0.6 to 0.9	0.1 to 0.5 (AWG26 to 20)	3-1473562-4
ZS-28-CA-2	Red	0.9 to 1.0		1-1473562-4
ZS-28-CA-3	Yellow	1.0 to 1.15		1473562-4
ZS-28-CA-4	Blue	1.15 to 1.35		2-1473562-4
ZS-28-CA-5	Green	1.35 to 1.60		4-1473562-4
SMC part no. (1 pc.)	Cover colour	Compliant wire diameter (φ)	Nominal cross sectional area (mm ²)	Sumitomo 3M Ltd. part no.
ZS-28-C	Red	0.8 to 1.0	0.14 to 0.3 (AWG26 to 24)	37104-3101-000FL
ZS-28-C-1	Yellow	1.0 to 1.2		37104-3122-000FL
ZS-28-C-2	Orange	1.2 to 1.6		37104-3163-000FL
ZS-28-C-3	Green	1.0 to 1.2	0.3 to 0.5 (AWG22 to 20)	37104-2124-000FL
ZS-28-C-4	Blue	1.2 to 1.6		37104-2165-000FL
ZS-28-C-5	Gray	1.6 to 2.0		37104-2206-000FL
SMC part no. (1 pc.)	Cover colour	Compliant wire diameter (φ)	Nominal cross sectional area (mm ²)	OMRON Corp. part no.
—	Clear	to 1.5	0.08 to 0.5 (AWG28 to 20)	XN2A-1430*

* Cable could be pulled out if the pulling force is 12 N or greater.

⑤ Replacement fuse

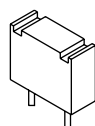
Replacement fuse for input unit (EX510-DX□□) and output unit (EX510-DY□□).

How to Order
EX9-FU10

Fuse rated current

10	1 A
50	5 A

Fuse

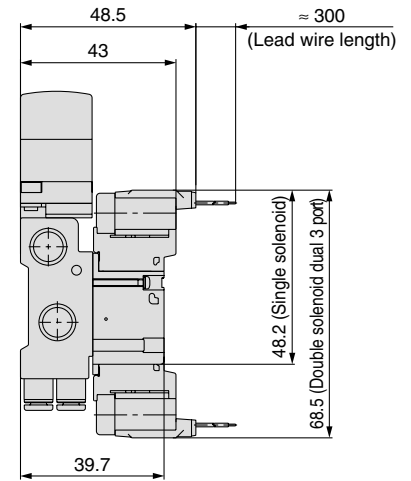
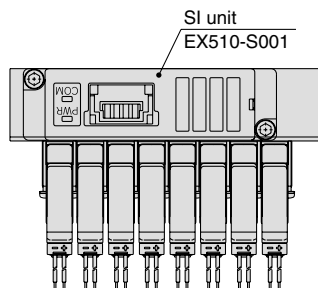
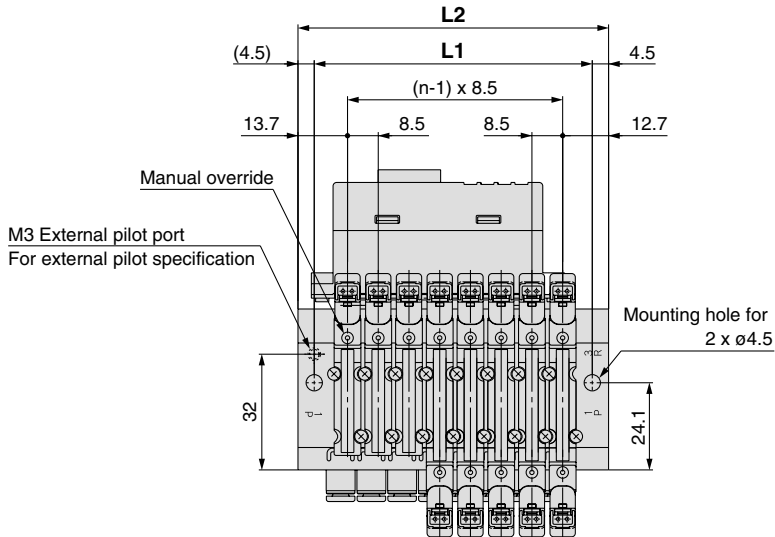
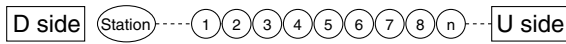
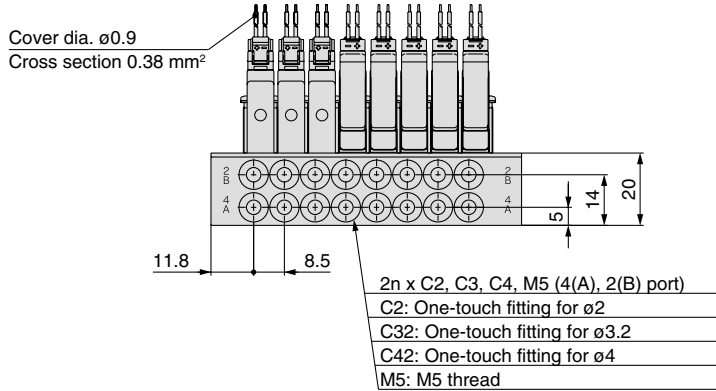


Part no.	Electrical specification	
	EX9-FU10	EX9-FU50
Applicable model	EX510-DX□□ EX510-DY□□	EX510-DY□□
Rated current	1 A	5 A
Rated insulation capacity	AC/DC 48 V 50 A	
Fuse resistance value	0.145 Ω	18 mΩ

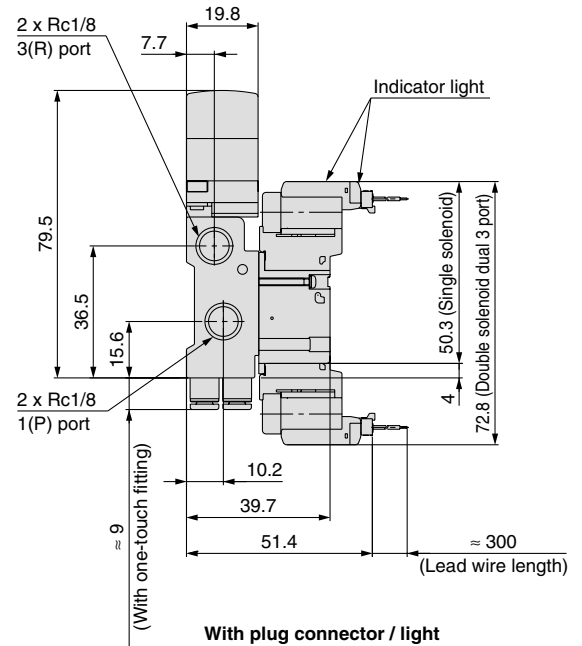


S0700

Kit (Serial Transmission System) Decentralised Serial EX510



Grommet



Dimensions

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	68.4	68.4	68.4	68.4	68.4	68.4	76.9	85.4	93.9	102.4	110.9	119.4	127.9	136.4	144.9
L2	77.4	77.4	77.4	77.4	77.4	77.4	85.9	94.4	102.9	111.4	119.9	128.4	136.9	145.4	153.9

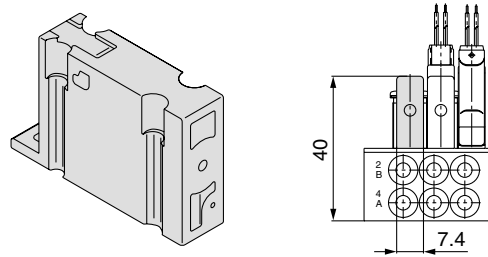
Manifold Options

Blanking plate assembly

SS0700-10A-5

It is used by attaching it to the manifold block for preparation of removing a valve for maintenance reasons or planning to mount a spare valve, etc.

Weight: 21 g



Individual SUP spacer

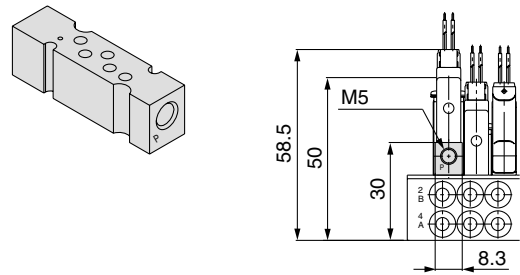
SS0700-P-5-M5

• Port size

M5 M5 thread

Mounted on the manifold block to make an independent supply port when each solenoid valve uses different operating pressures.

Weight: 7 g



Individual EXH spacer

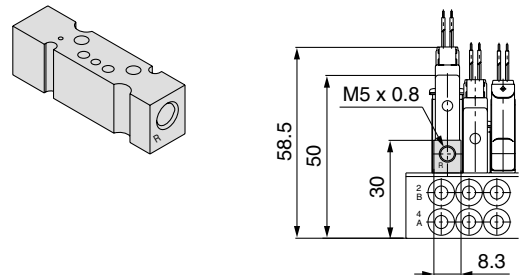
SS0700-R-5-M5

• Port size

M5 M5 thread

Mounted on the manifold block to make an independent exhaust port when the exhaust from one valve affects the valves on other stations in the air circuit.

Weight: 7 g

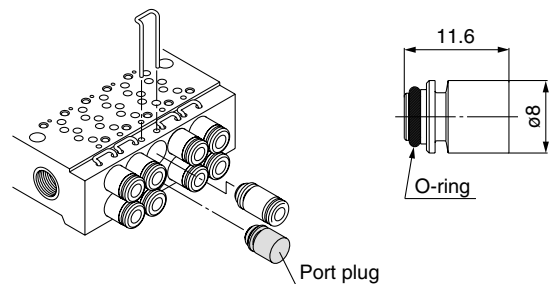


Port plug

VVQ0000-CP

The plug is used to block the cylinder port when using a 5 port valve as a 3 port valve.

* When ordering a plug incorporated with a manifold, indicate "CM" for the port size in the manifold no., as well as, the mounting position and number of stations and cylinder port mounting positions, A and B, by using a manifold specification sheet.



External pilot [-R]

This can be used for when the air pressure is 0.1 to 0.2 MPa lower than the minimum operating pressure of the solenoid valves, or when used for vacuum specifications.

Add R to the part numbers of manifolds and valves to indicate the external pilot specification.

An M5 port will be installed on the top side of the manifold's SUP/EXH block.

● How to Order Valves (Example)

S0715 **R** -5G

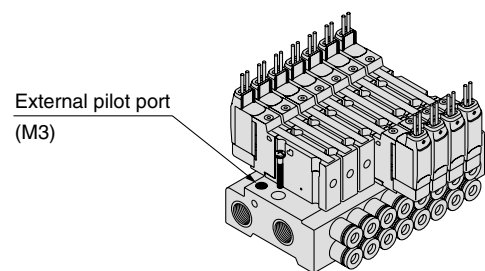
• External pilot

● How to Order Manifold (Example)

* Indicate R for an option.

SS0755-08C4C-**R**

• External pilot



Note 1) The dual 3 port valve is not available.

Note 2) When the internal pilot type and external pilot type of valves are mixed up on the manifold, order the manifold suitable for the specifications of the external pilot valve.

Note 3) Valves with the external pilot have a pilot EXH with individual exhaust specifications and EXH can be pressurised. However, the pressure supplied from EXH should be 0.4 MPa or lower.

Manifold Options

Double check block (Separated)

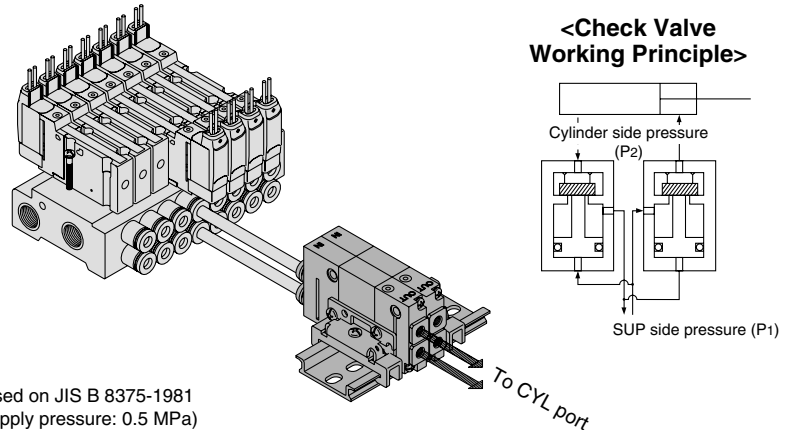
VQ1000-FPG-□□

It is used on the outlet side piping to keep the cylinder in the intermediate position for a long time. Combining the double check block with a built-in pilot type double check valve and a 2 position single/double solenoid valve will permit this block to be used for preventing the dropping at the cylinder stroke end when the SUP residual pressure is released.

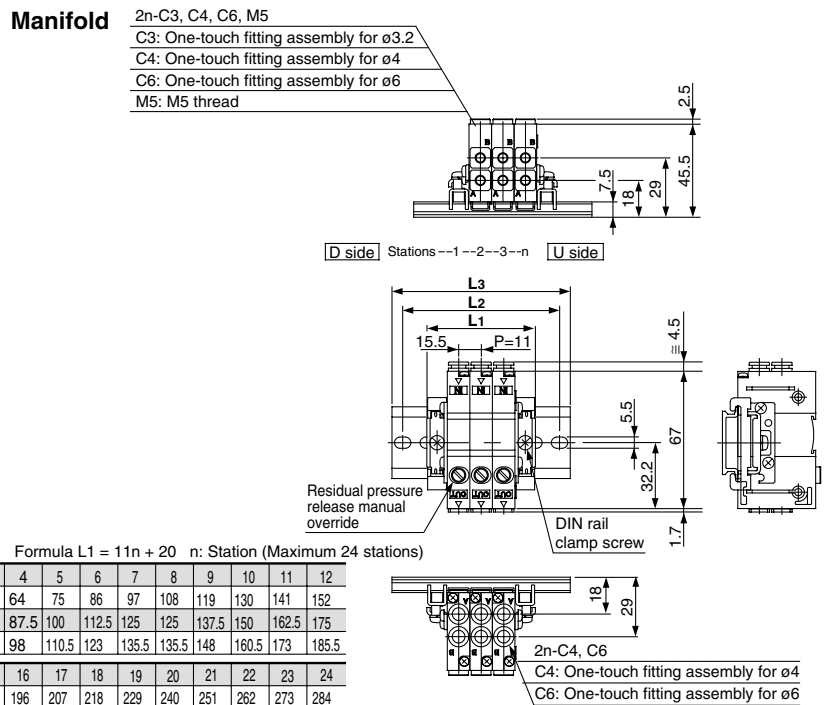
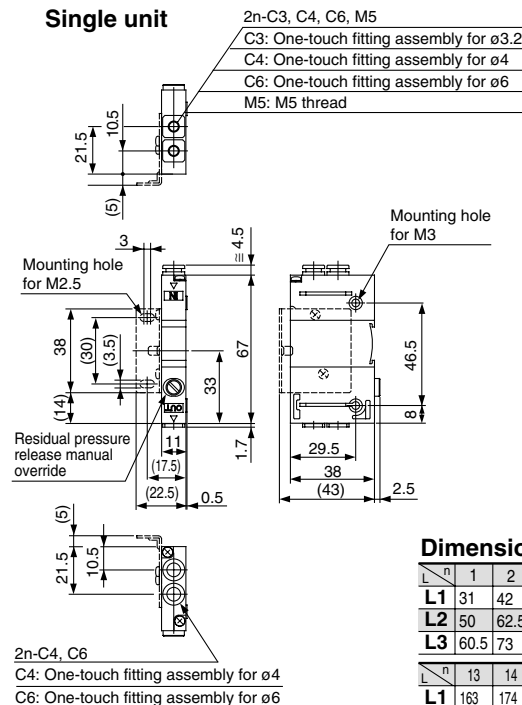
Specifications

Max. operating pressure	0.8 MPa
Min. operating pressure	0.15 MPa
Ambient and fluid temperature	-5 to 50°C
Flow characteristics: C	0.60 dm ³ /(s·bar)
Max. operating frequency	180 c.p.m

Note) Based on JIS B 8375-1981
(Supply pressure: 0.5 MPa)



Dimensions



How to Order

Single unit, double check block

VQ1000-FPG-**C4** **M5** **F**

IN side port size

C4	One-touch fitting for ø4
C6	One-touch fitting for ø6

OUT side port size

M5	M5 thread
C3	One-touch fitting for ø3.2
C4	One-touch fitting for ø4
C6	One-touch fitting for ø6

Option

-	None
D	DIN rail mounting style (For manifold)
F	With bracket
N	With name plate

Note) When two or more symbols are specified, indicate them alphabetically.
Example) -DN

Manifold

VVQ1000-FPG-**06**

Stations

01	1 station
⋮	⋮
16	16 stations

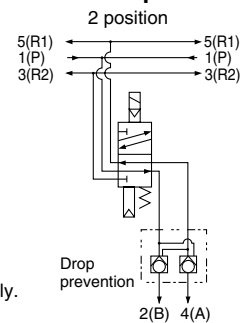
<Example>

VVQ1000-FPG-06 ... 6 stations manifold
 * VQ1000-FPG-C4M5-D, 3 sets } Double check block
 * VQ1000-FPG-C6M5-D, 3 sets }

Caution

- Air leakage from the pipe between the valve and cylinder or from the fittings will prevent the cylinder from stopping for a long time. Check the leakage using neutral household detergent, such as dish washing soap. Also check the cylinder's tube gasket, piston packing and rod packing for air leakage.
- Since one-touch fittings allow slight air leakage, screw piping (with M5 thread) is recommended when stopping the cylinder in an intermediate for a long time.
- M5 fitting assembly is attached, not incorporated into the double check block. After screwing in the M5 fittings, mount the assembly on the double check block. {Tightening torque: 0.8 to 1.2 N·m}
- If the exhaust of the double check block is throttled too much, the cylinder may not operate properly and may not stop immediately.

<Example>



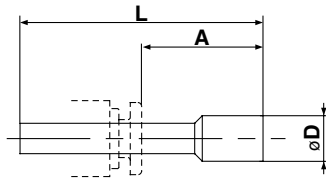
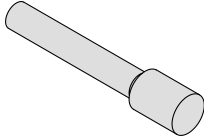
Bracket Assembly

Part no.	Tightening torque
VQ1000-FPG-FB	0.22 to 0.25 N·m

Note) This torque is used to mount the bracket on the double check block.

Blanking plug
KJP-02

23
KQ2P-04
06



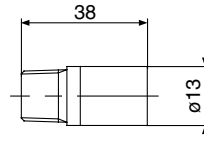
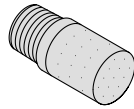
Dimensions

					(mm)
Applicable fitting size ϕd	Model	A	L	D	Weight (g)
2	KJP-02	8.2	17	3	0.1
3.2	KQ2P-23	16	31.5	3.2	1
4	KQ2P-04	16	32	6	1
6	KQ2P-06	18	35	8	1

Silencer
(For manifold EXH port)

AN110-01

Silencer is installed in the EXH port.



Base
Mounted

Plug Lead

5 Port Solenoid Valve

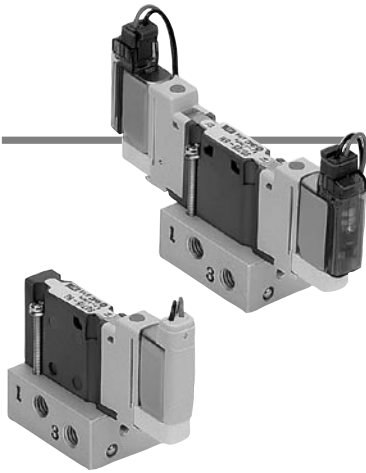
Series **S0700**

Single Unit



For details about certified products conforming to international standards, visit us at www.smcworld.com.

How to Order Valves



S07 1 5 □ 5 G M5

• **With / Without sub-plate**

Symbol	Specification
-	Without sub-plate
M5	With sub-plate

• **Type of actuation**

Symbol	Specification
1	2 position single
2	2 position double
A	4 position dual 3 port type (N.C. + N.C.) [exhaust centre]
B	4 position dual 3 port type (N.O. + N.O.) [pressure centre]
C	4 position dual 3 port type (N.C. + N.O.)

Note) For JIS symbol, refer to page 5.

• **Plug lead**

• **Function**

Symbol	Specification
-	Standard
R	External pilot

• **Electrical entry**

Symbol	Specification	Shape
G	Grommet	
M	M plug connector, with lead wire (Light/surge voltage suppressor)	
MO	M plug connector, without lead wire (Light/surge voltage suppressor)	

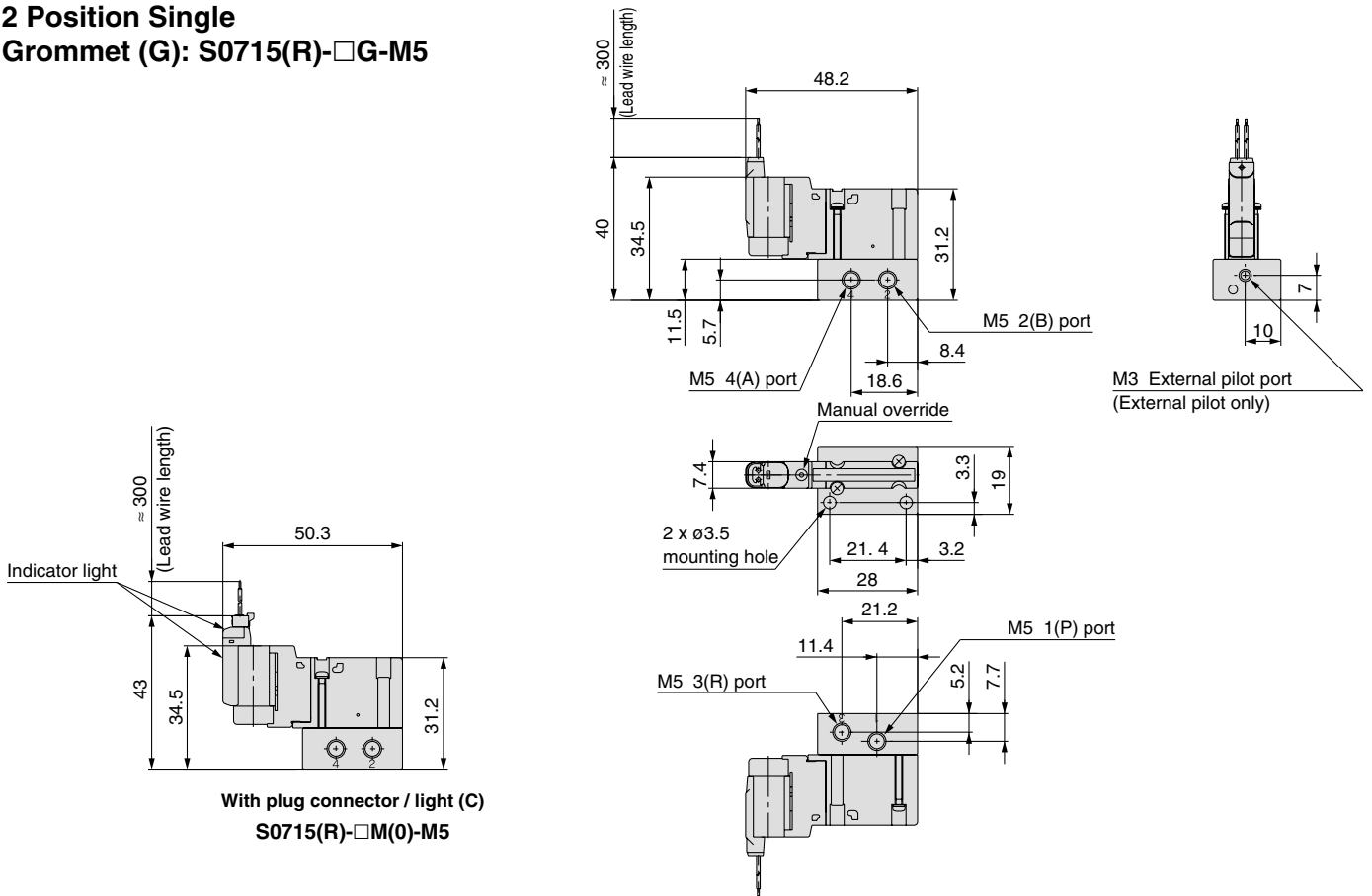
• **Electrical entry**

Symbol	Specification
5	24 VDC
6	12 VDC

Dimensions

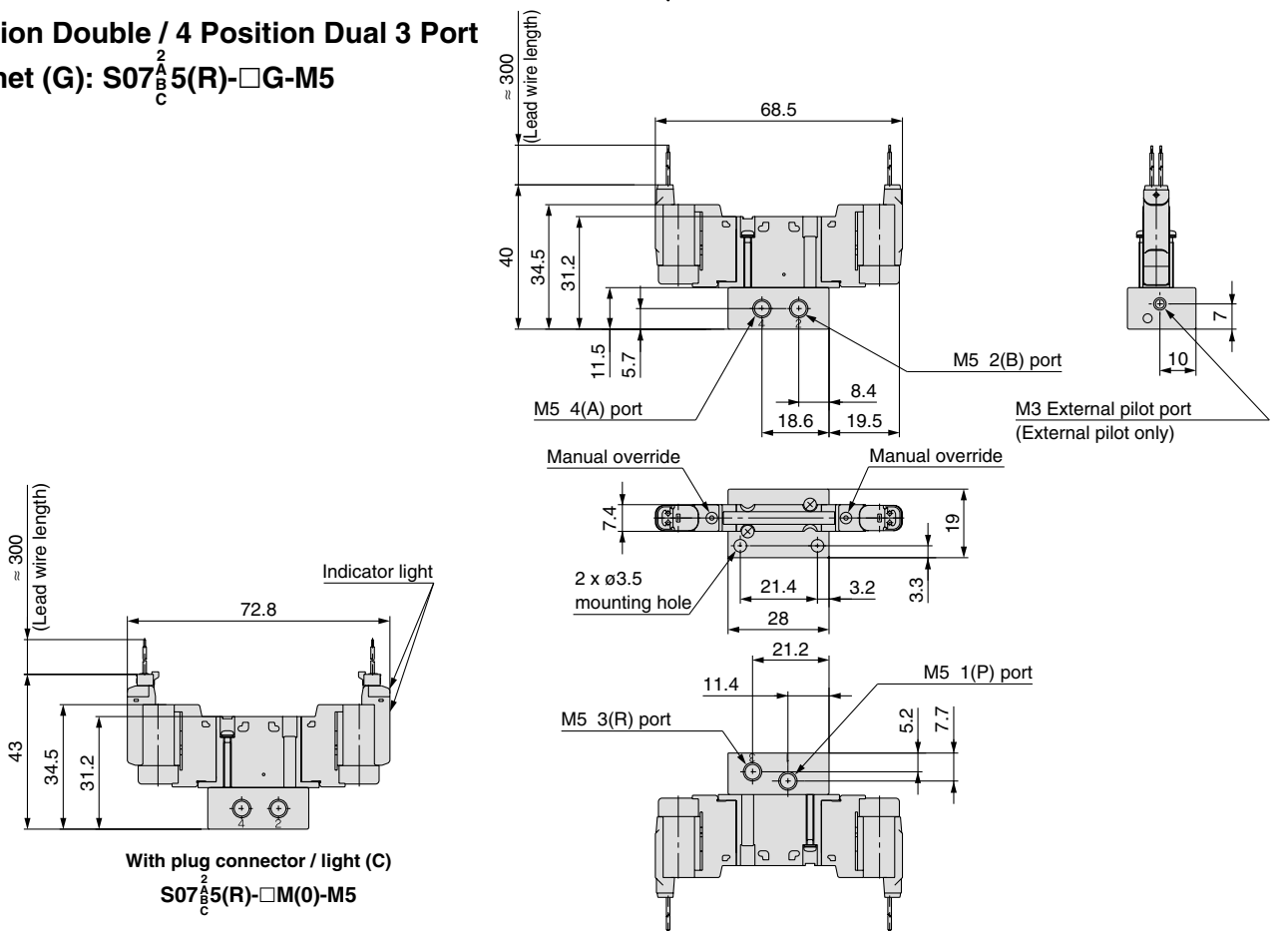
2 Position Single

Grommet (G): S0715(R)-□G-M5



2 Position Double / 4 Position Dual 3 Port

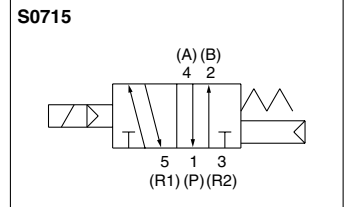
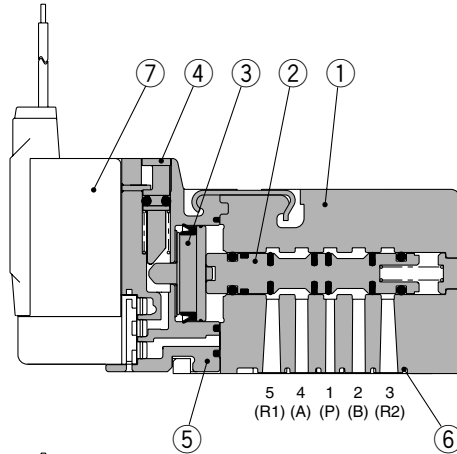
Grommet (G): S0715(R)-□G-M5



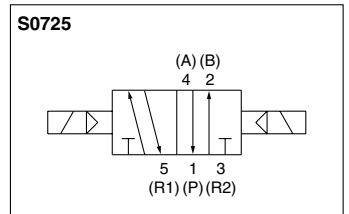
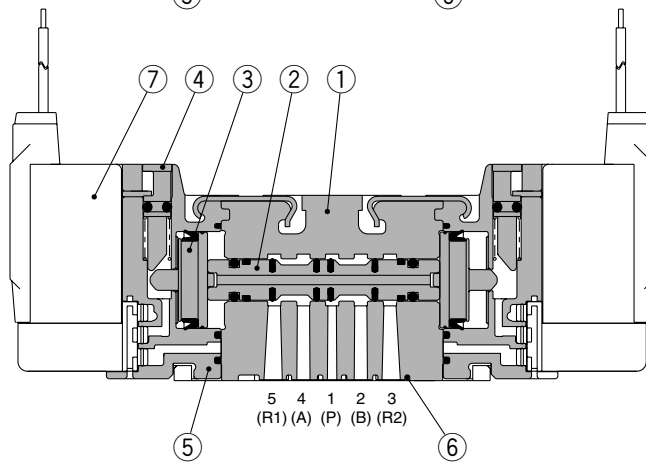
Series S0700 Plug Lead

Construction: Main Parts / Replacement Parts

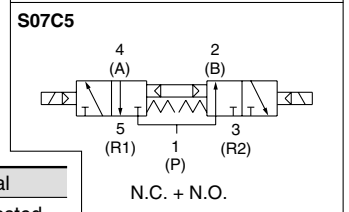
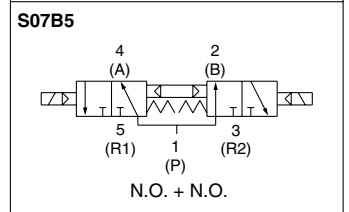
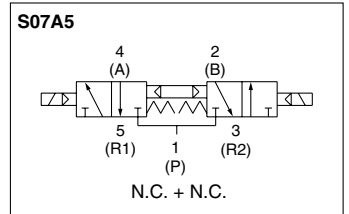
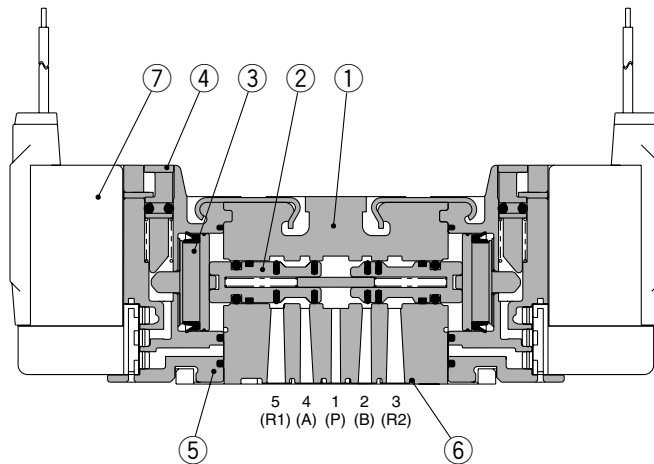
2 Position Single



2 Position Double



4 Position Dual 3 Port Valve



<Pilot Valve Assembly Part No.>

S070P-5 B G -1

Voltage

Symbol	Specification
5	24 VDC
6	12 VDC

Accessory

Symbol	Specification
-	None
-1	Stopper plate is included.

Electrical entry

Symbol	Specification
G	Grommet
C	Plug connector, with lead wire (Light/surge voltage suppressor)
CO	Plug connector, without lead wire (Light/surge voltage suppressor)

Note) For pilot valve assembly replacement, refer to "Specific Product Precautions 4".

Component Parts

No.	Description	Material
1	Body	Zinc die-casted
2	Spool	Aluminum
3	Piston	Resin
4	Manual override	Resin
5	Adapter plate	Resin
6	Interface gasket	HNBR

Replacement Parts


No.	Description	Material
7	Pilot valve assembly	—

Note) For pilot valve assembly replacement, refer to "Specific Product Precautions 4".


Series S0700 Plug Lead Type Replacement Parts

<One-touch Fitting Assembly (For Cylinder Port)>

Manifold pitch	Port size	Part no.
8.5	One-touch fitting for $\phi 2$	VVQ0000-50A-C2
	One-touch fitting for $\phi 3.2$	VVQ0000-50A-C3
	One-touch fitting for $\phi 4$	VVQ0000-50A-C4
	One-touch fitting for $\phi 1/8"$	VVQ0000-50A-N1
	One-touch fitting for $\phi 5/32"$	VVQ0000-50A-N3
7.5	Barb fitting for $\phi 2$	SS070-50A-20
	Barb fitting for $\phi 3.2$	SS070-50A-32
	Barb fitting for $\phi 4$	SS070-50A-40


 Note) A set of parts containing 10 pcs. each is enclosed.

<Plug Connector Assembly>




S070-14A 

Lead wire length

Symbol	Length
-	150 mm
3	300 mm
6	600 mm
10	1000 mm

 Note) Standard wire length of valve with plug connector is 300 mm. When ordering a lead wire length of 600 mm or longer, list the part numbers for the valve without connector and the connector assembly.

<Pilot Valve Assembly>

S070P-B-

Voltage


Symbol	Specification
5	24 VDC
6	12 VDC

Accessory

Symbol	Specification
-	None
-1	Stopper plate is included.


Electrical entry

Symbol	Specification
G	Grommet
C	Plug connector with lead wire (With indicator light and surge voltage suppressor)
CO	Plug connector without lead wire (With indicator light and surge voltage suppressor)

 Note) For pilot valve assembly replacement, refer to "Specific Product Precautions 4".

<Gasket, Screw Assembly>


Part no.
S0700-GS-5

 Note) Above part number consists of 10 units. Each unit has one gasket and two screws.

<Sub-plate>

Part no.
S0700-S-M5

<SI Unit (Series EX510)>

EX510-S01

Output specification

0	NPN output (common (+))
1	PNP output (common (-))






Series S0700

Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by labels of "Caution", "Warning" or "Danger". To ensure safety, be sure to observe ISO 4414 ^{Note 1)}, JIS B 8370 ^{Note 2)} and other safety practices.

■ Explanation of the Labels

Labels	Explanation of the labels
 Danger	In extreme conditions, there is a possible result of serious injury or loss of life.
 Warning	Operator error could result in serious injury or loss of life.
 Caution	Operator error could result in injury ^{Note 3)} or equipment damage. ^{Note 4)}

Note 1) ISO 4414: Pneumatic fluid power – General rules relating to systems

Note 2) JIS B 8370: General Rules for Pneumatic Equipment

Note 3) Injury indicates light wounds, burns and electrical shocks that do not require hospitalisation or hospital visits for long-term medical treatment.

Note 4) Equipment damage refers to extensive damage to the equipment and surrounding devices.

■ Selection/Handling/Applications

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

Since the products specified here are used in various operating conditions, their compatibility for the specific pneumatic system must be based on specifications or post analysis and/or tests to meet the specific requirements. The expected performance and safety assurance are the responsibility of the person who has determined the compatibility of the system. This person should continuously review the suitability of all items specified, referring to the latest catalogue information with a view to giving due consideration to any possibility of equipment failure when configuring a system.

2. Only trained personnel should operate pneumatic machinery and equipment.

Compressed air can be dangerous if handled incorrectly. Assembly, handling or repair of the systems using pneumatic equipment should be performed by trained and experienced operators. (Understanding JIS B 8370 General Rules for Pneumatic Equipment, and other safety rules are included.)

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

1. Inspection and maintenance of the machinery/equipment should only be performed once measures to prevent falling or runaway of the driven objects have been confirmed.
2. If the equipment must be removed, confirm the safety process as mentioned above. Turn off the supply pressure for the equipment and exhaust all residual compressed air in the system, and release all the energy (liquid pressure, spring, condenser, gravity).
3. Before the machinery/equipment is restarted, take measures to prevent quick extension of a cylinder piston rod, etc.

4. If the equipment will be used in the following conditions or environment, please contact SMC first and be sure to take all necessary safety precautions.

1. Conditions and environments beyond the given specifications, or if product is used outdoors.
2. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency stop circuits, clutch and brake circuits in press applications, or safety equipment.
3. An application which has the possibility of having negative effects on people, property, requiring special safety analysis.
4. If the products are used in an interlock circuit, prepare a double interlock style circuit with a mechanical protection function for the prevention of a breakdown. And, examine the devices periodically if they function normally or not.

■ Exemption from Liability

1. SMC, its officers and employees shall be exempted from liability for any loss or damage arising out of earthquakes or fire, action by a third person, accidents, customer error with or without intention, product misuse, and any other damages caused by abnormal operating conditions.

2. SMC, its officers and employees shall be exempted from liability for any direct or indirect loss or damage, including consequential loss or damage, loss of profits, or loss of chance, claims, demands, proceedings, costs, expenses, awards, judgments and any other liability whatsoever including legal costs and expenses, which may be suffered or incurred, whether in tort (including negligence), contract, breach of statutory duty, equity or otherwise.

3. SMC is exempted from liability for any damages caused by operations not contained in the catalogues and/or instruction manuals, and operations outside of the specification range.

4. SMC is exempted from liability for any loss or damage whatsoever caused by malfunctions of its products when combined with other devices or software.



Series S0700

Specific Product Precautions 1

Be sure to read this before handling.

For 5 Port Solenoid Valve Precautions and Common Precautions, refer to “Precautions for Handling Pneumatic Devices” (M-03-E3A).

⚠ Warning

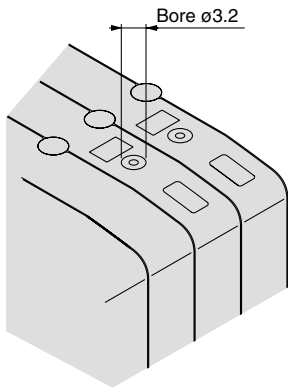
Manual Override

The manual override is used for switching the main valve.

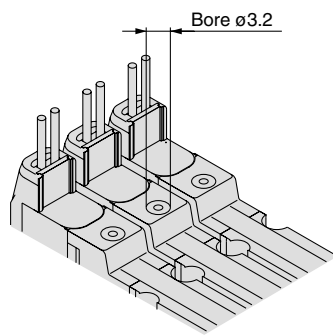
Push type (Tool required)

Push down on the manual override button with a small screwdriver until it stops.

Plug-in



Plug lead

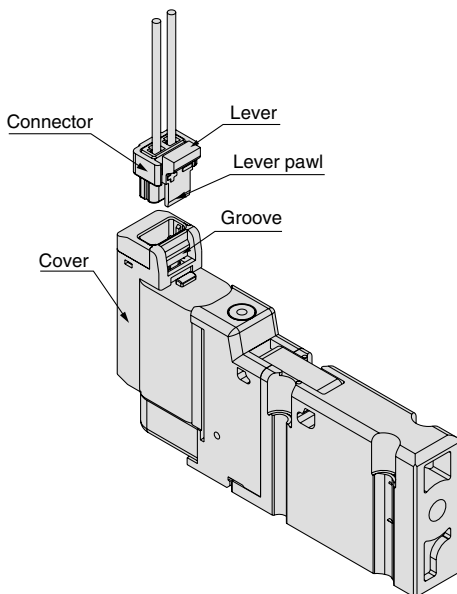


How to Attach and Detach a Connector

<Plug lead type only>

To attach a connector, hold the lever and connector unit between your fingers and insert it straight onto the pins of the solenoid valve so that the lever's pawl is pushed into the groove and locks.

To detach a connector, remove the pawl from the groove by pushing the lever downward with your thumb, and pull the connector straight out.



Note) In order not to damage the connector and cover, do not pull the lead wire excessively (with a force of 10 N or more).

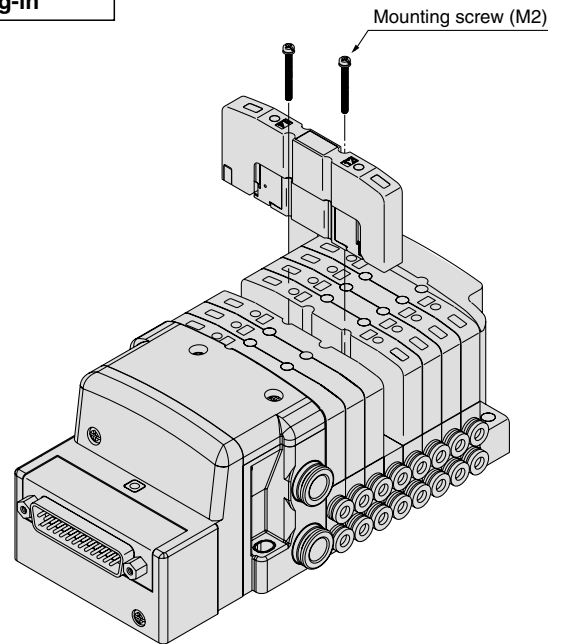
⚠ Caution

Mounting of Valves

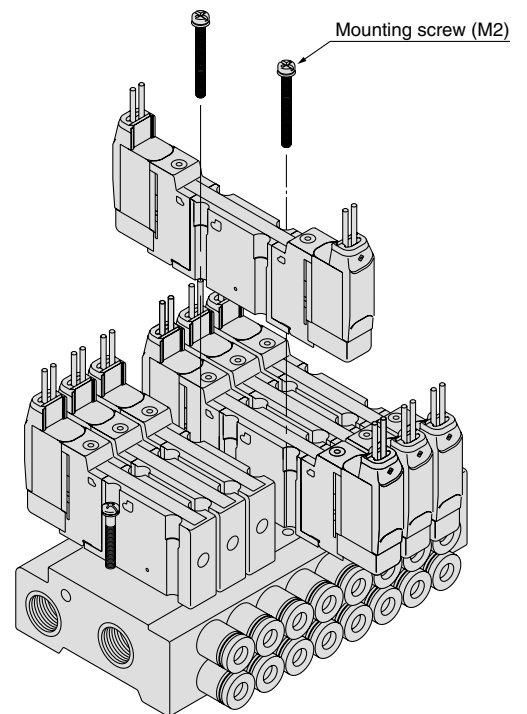
Tighten the bolts firmly to stop the gasket from coming away from the valve by using the appropriate torque as shown on the following table.

Proper torque N·m
0.17 to 0.23

Plug-in



Plug lead





Series S0700

Specific Product Precautions 2

Be sure to read this before handling.

For 5 Port Solenoid Valve Precautions and Common Precautions, refer to “Precautions for Handling Pneumatic Devices” (M-03-E3A).

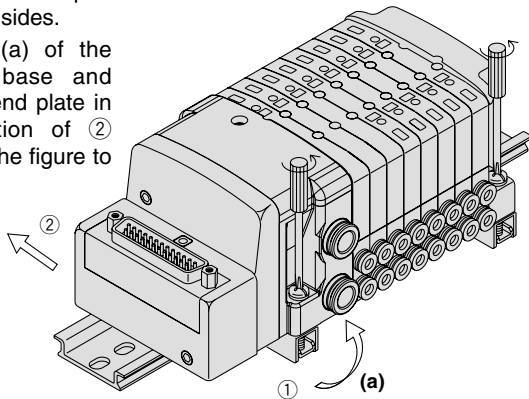
⚠ Caution

Mounting/Removing from the DIN Rail

Plug-in

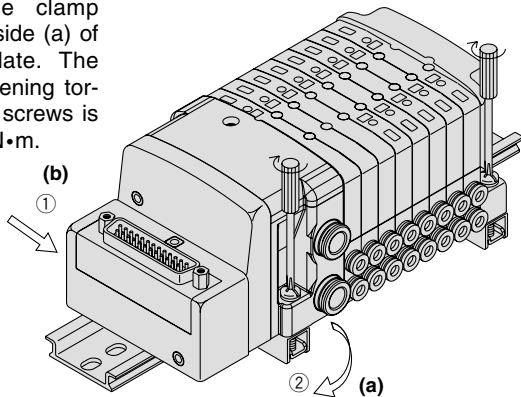
Removing

- 1) Loosen the clamp screw of the end plate on both sides.
- 2) Lift side (a) of the manifold base and slide the end plate in the direction of ② shown in the figure to remove.



Mounting

- 1) Hook side (b) of the manifold base on the DIN rail.
- 2) Press down side (a) and mount the end plate on the DIN rail. Tighten the clamp screws on side (a) of the end plate. The proper tightening torque for the screws is 0.4 to 0.6 N·m.

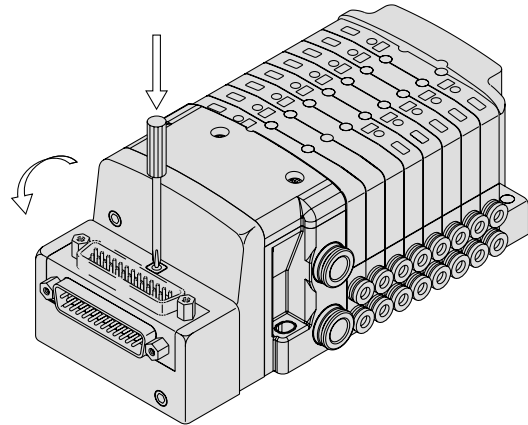


⚠ Caution

How to Change Connector Entry Direction

<Plug-in type only>

The connector entry direction can be changed from the top to the side by simply pressing the manual release button. It is not necessary to use the manual release button when switching from the side to the top.



⚠ Caution

Built-in Silencer Replacement Element

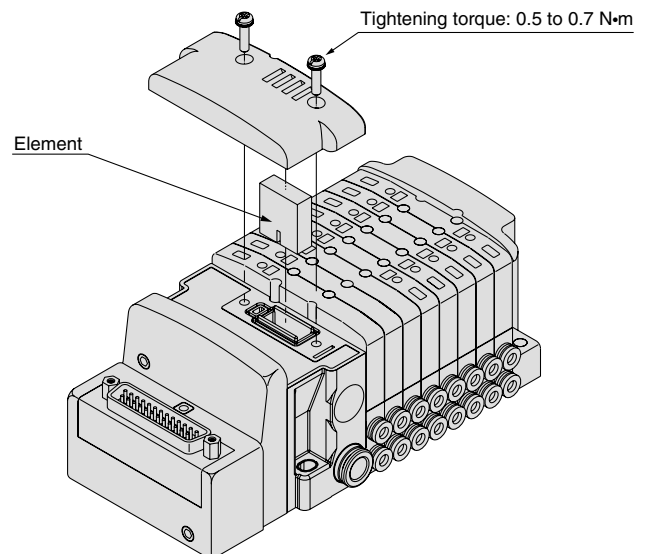
<Plug-in type only>

A silencer element is incorporated into the manifold base and plate. A dirty and choked element may reduce cylinder speed or cause malfunction. Clean or replace the dirty element.

Element Part No.

Type	Element part no.
Built-in silencer, Direct exhaust (-S)	SS0700-82A

* Above part number is for a set of ten elements.



Remove the cover from the side of the end plate and remove the old element with a screwdriver, etc.



Series S0700

Specific Product Precautions 3

Be sure to read this before handling.

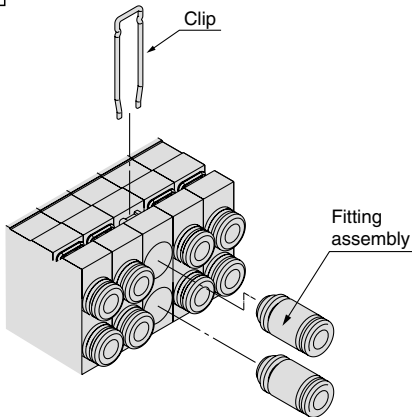
For 5 Port Solenoid Valve Precautions and Common Precautions, refer to "Precautions for Handling Pneumatic Devices" (M-03-E3A).

Warning

Replacement of Cylinder Port Fittings

The cylinder port fittings are a cassette for easy replacement. The fittings are locked by a clip inserted from the top of the valve. Remove the clip with a screwdriver to remove the fittings. For replacement, insert the fitting assembly until it presses against the inside wall and then re-insert the clip to the specified position.

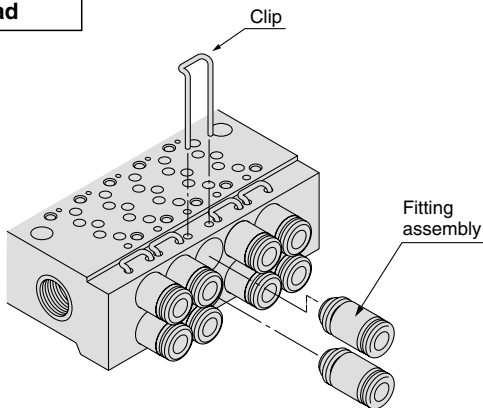
Plug-in



Applicable tubing O.D.	One-touch fitting part no.
Applicable tubing ø2	VVQ0000-50A-C2
Applicable tubing ø3.2	VVQ0000-50A-C3
Applicable tubing ø4	VVQ0000-50A-C4
Applicable tubing ø1/8"	VVQ0000-50A-N1
Applicable tubing ø5/32"	VVQ0000-50A-N3

* Part number is for one fitting assembly. Please order it in 10-piece units.

Plug lead



	Applicable tubing O.D.	Barb fitting part no.
8.5 mm pitch	Applicable tubing ø2	VVQ0000-50A-C2
	Applicable tubing ø3.2	VVQ0000-50A-C3
	Applicable tubing ø4	VVQ0000-50A-C4
	Applicable tubing ø1/8"	VVQ0000-50A-N1
	Applicable tubing ø5/32"	VVQ0000-50A-N3
7.5 mm pitch	Barb fitting ø2	SS070-50A-20
	Barb fitting ø3.2	SS070-50A-32
	Barb fitting ø4	SS070-50A-40

* Part number is for one fitting assembly. Please order it in 10-piece units.

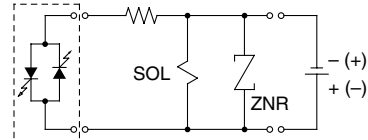
Caution

Internal Wiring Specifications

Light/surge voltage suppressor

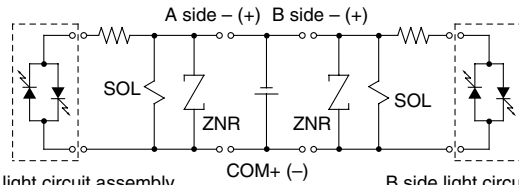
No polarity by adopting non-polar light.

Plug-in Single/Plug lead



Light circuit assembly

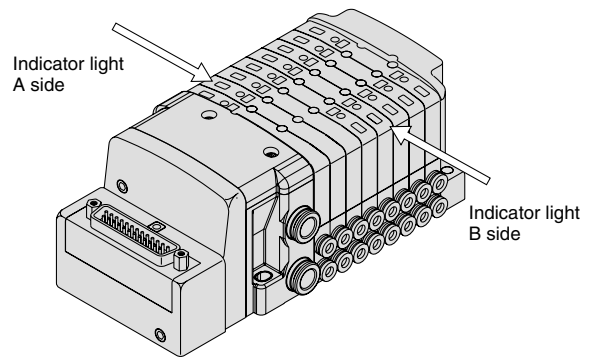
Plug-in Double, Dual 3 Port



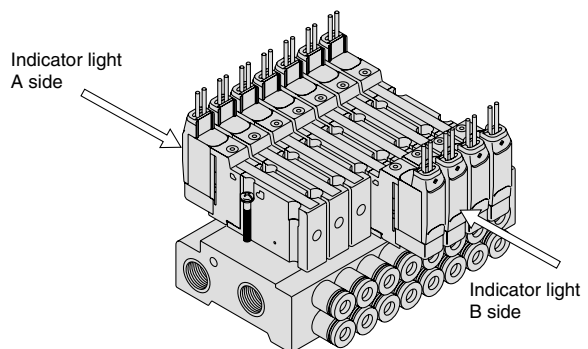
A side light circuit assembly

B side light circuit assembly

Plug-in



Plug lead





Series S0700

Specific Product Precautions 4

Be sure to read this before handling.

For 5 Port Solenoid Valve Precautions and Common Precautions, refer to “Precautions for Handling Pneumatic Devices” (M-03-E3A).

⚠ Caution

Intrusion of the Surge Voltage

The surge voltage created when the power supply is cut off could apply to the de-energised load equipment through the output circuit. In cases where the energised load equipment has a larger capacity (power consumption) and is connected to the same power supply as the product, the surge voltage could malfunction and/or damage the internal circuit element of the product and the internal device of the output equipment. To avoid this situation, place a diode which can suppress the surge voltage between the COM lines of the load equipment and output

⚠ Caution

How to Exchange Pilot Valves

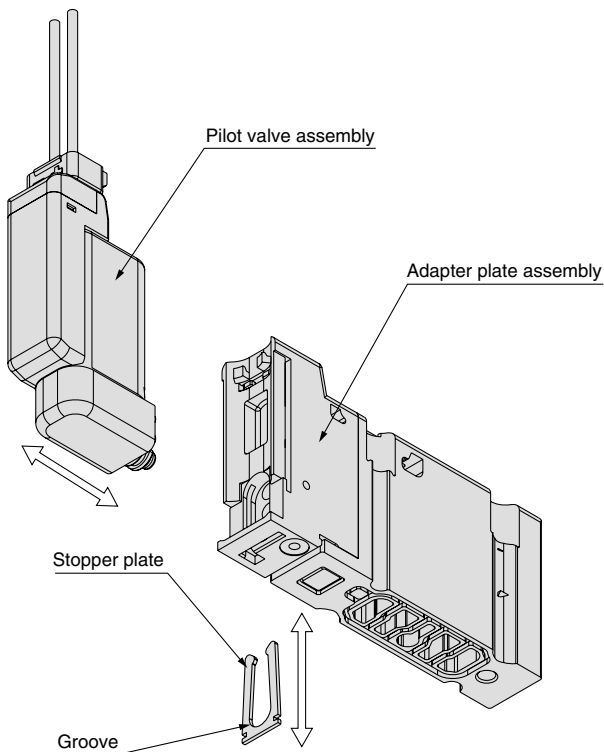
<For plug lead>

Removing

- 1) Remove the stopper plate from the adapter plate assembly by using a flat driver on the concave of the stopper plate.
- 2) Take off the pilot valve in a horizontal direction.

Mounting

- 1) Mount the pilot valve on the adapter plate assembly.
- 2) Insert the stopper plate into the adapter plate so that the stopper plate will not protrude from the end of the adapter plate.

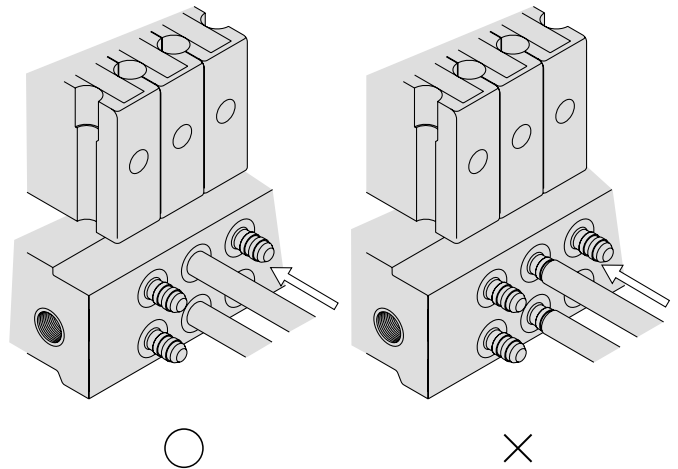


⚠ Caution

Connection of Tubing

<Plug lead For Barb fittings>

- 1) Perpendicularly cut the tube to the necessary length by using an SMC tube cutter TK-1, 2 or 3.
- 2) Firmly insert the tube into the barb fitting. Insufficient insertion of the tube could cause the air leakage and/or disconnection of the tube.
- 3) When inserting the tube into the barb fitting, move the tube in parallel to the axis of the barb fitting to avoid any excessive side load to the fitting.



- 4) Pay attention not to apply any excessive side load to the barb fitting when removing it from the tube. When using a tube cutter or something similar, be careful not to damage or crack the fitting.
- 5) Do not apply any excessive load such as tensile, compressive or bending force to the tube once it is connected.



Series S0700

Specific Product Precautions 5

Be sure to read this before handling.

For 5 Port Solenoid Valve Precautions and Common Precautions, refer to “Precautions for Handling Pneumatic Devices” (M-03-E3A).

Serial Wiring EX500/EX250 Precautions

Warning

1. These products are intended for use in general factory automation equipment.
Avoid using these products in machinery/equipment which affects human safety, and in cases where malfunction or failure can result in extensive damage.
2. Do not use in an explosive atmosphere, environment with inflammable gases, or corrosive atmosphere.
This can cause injury or fire, etc.
3. Work such as transporting, installing, piping, wiring, operation, control and maintenance should be performed by personnel with specialised knowledge. There is a danger of electrocution, injury or fire, etc.
4. Install an external emergency stop circuit that can promptly stop operation and shut off the power supply.
5. Do not modify these products, as there is a danger of injury and damage.

Caution

1. Read the instruction manual carefully, strictly observe the precautions and operate within the range of the specifications.
2. Do not drop these products or submit them to strong impacts. This can cause damage, failure or malfunction, etc.
3. In locations with poor electrical conditions, take steps to ensure a steady flow of the rated power supply. Use of a voltage outside of the specifications can cause malfunction, damage to the unit, electrocution or fire, etc.
4. Do not touch connector terminals or internal substrates when current is being supplied. There is a danger of malfunction, damage to the unit or electrocution if connector terminals or internal substrates are touched when current is being supplied.
Be sure that the power supply is OFF when adding or removing manifold valves or input blocks, etc., or when connecting or disconnecting connectors.
5. Operate at an ambient temperature that is within the specifications. Even when the ambient temperature range is within the specifications, do not use in locations where there are rapid temperature changes.
6. Keep wire scraps and other extraneous material from getting inside these products. This can cause fire, failure or malfunction, etc.
7. This product is not constructed to withstand water or oil penetration. Therefore it should be fitted with a protective cover when used in environments where it could be exposed to water or oil splashes.
8. Observe the proper tightening torque.
There is a possibility of damaging threads if tightening exceeds the tightening torque range.
9. Adjustment / Operation
DIP switches and rotary switches should be set with a small watchmakers screwdriver.

Caution

10. Provide adequate protection when operating in locations such as the following:
 - Where noise is generated by static electricity, etc.
 - Where there is a strong electric field
 - Where there is a danger of exposure to radiation
 - When in close proximity to power supply lines
11. When these products are installed in equipment, provide adequate protection against noise by using noise filters, etc.
12. Since these products are components that are used after installation in other equipment, the customer should confirm conformity to EMC directives for the finished product.
13. Do not remove the name plate.
14. Perform periodic inspections and confirm normal operation. It may otherwise be impossible to guarantee safety due to unexpected malfunction or erroneous operation.

Safety Instructions for Power Supply

Caution

1. Operation is possible with a single power supply or a separate power supply. However, be sure to provide two wiring systems (one for solenoid valves, and one for input and control units).
2. Use the following UL approved products for DC power supply combinations.
 - 1) Controlled voltage current circuit conforming to UL508
Circuit uses the secondary coil of an isolated transformer as the power supply, satisfying the following conditions.
 - Max. voltage (with no load): 30 Vrms (42.4 V peak) or less
 - Max. current: (1) 8 A or less (including shorts), and
 - (2) When controlled by a circuit protector (fuse, etc.) with the following rating

No-load voltage (V peak)	Max. current rating
0 to 20 [V]	5.0
Over 20 [V] to 30 [V]	100
	Peak voltage value

- 2) A circuit (class 2 circuit) with maximum 30 Vrms (42.4 V peak) or less, and a power supply consisting of a class 2 power supply unit conforming to UL1310, or a class 2 transformer conforming to UL1585



Series S0700

Specific Product Precautions 6

Be sure to read this before handling.

For 5 Port Solenoid Valve Precautions and Common Precautions, refer to “Precautions for Handling Pneumatic Devices” (M-03-E3A).

Serial Wiring EX500/EX250 Precautions

Safety Instructions for Cable

⚠ Caution

1. **Be careful of miswiring. This can cause malfunction, damage and fire in the unit.**

Avoid using these products in machinery/equipment which affects human safety, and in cases where malfunction or failure can result in extensive damage.

2. **Do not connect cables during energising.**

This could damage or cause malfunction to the SI unit.

3. **To prevent noise and surge in signal lines, keep all wiring separate from power lines and high voltage lines. Otherwise, this can cause malfunction.**

4. **Check wiring insulation, as defective insulation can cause damage to the unit due to excessive voltage or current.**

5. **Do not bend or pull cables repeatedly, and do not place heavy objects on them or allow them to be pinched. This can cause broken lines.**

Serial Wiring EX510 Precautions

Caution on Design and Selection

⚠ Warning

1. **Use within the allowable voltage range.**

Using beyond the allowable voltage range is likely to cause the units and connecting devices to be damaged or to malfunction.

2. **Do not use beyond the specification range.**

Using beyond the specification range is likely to cause a fire, malfunction, or breakdown in the units and connecting devices. Check the specifications before handling.

3. **Establish a backup system beforehand, which employs fail-safe concepts such as multiple equipment and devices to prevent breakage or malfunction of this product.**

4. **Provide an external emergency stop circuit that will immediately stop an operation and cut off the power supply.**

5. **When using for an interlock circuit:**

- Provide a double interlock which is operated by another system (such mechanical protection function).
- Perform an inspection to check that it is working properly because it can cause possible injuries.

⚠ Caution

1. **Keep the surrounding space free for maintenance.**

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

2. **Use the following UL approved products for DC power supply combinations.**

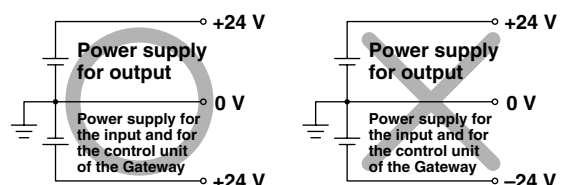
- 1) Controlled voltage current circuit conforming to UL508
Circuit uses the secondary coil of an isolated transformer as the power supply, satisfying the following conditions.
- Max. voltage (with no load): 30 Vrms (42.4 V peak) or less
 - Max. current: (1) 8 A or less (including shorts), and (2) When controlled by a circuit protector (fuse, etc.) with the following rating

No-load voltage (V peak)	Max. current rating
0 to 20 [V]	5.0
Over 20 [V] to 30 [V]	100
	Peak voltage value

- 2) A circuit (class 2 circuit) with maximum 30 Vrms (42.4 V peak) or less, and a power supply consisting of a class 2 power supply unit conforming to UL1310, or a class 2 transformer conforming to UL1585

3. **This product is one of the components to be equipped into a final equipment. Confirm the adaptability to the EMC directive as the whole equipment by customers themselves.**

4. **The power supply for the Gateway unit should be 0 V as the standard for both power supply for outputs as well as inputs and for the control unit of the Gateway.**





Series S0700

Specific Product Precautions 7

Be sure to read this before handling.

For 5 Port Solenoid Valve Precautions and Common Precautions, refer to “Precautions for Handling Pneumatic Devices” (M-03-E3A).

Serial Wiring EX510 Precautions

Mounting

Caution

- 1. Do not drop, bump, or apply excessive impact.**
Otherwise, the unit can become damaged, malfunction, or fail to function.
- 2. Hold the body while handling this product.**
Otherwise, the unit can become damaged, malfunction, or fail to function.
- 3. Observe the tightening torque range.**
Tightening outside of the allowable torque range will likely damage the product.
- 4. Do not install a unit in a place where it can be used as a scaffold.**
Applying any excessive load such as stepping on the unit by mistake or placing a foot on it, will cause it to break.

Wiring

Warning

- 1. Avoid miswiring.**
If miswired, there is a probability of damaging units or connecting devices.
- 2. Do not wire while energising the product.**
It is likely to damage the units or connecting devices.
- 3. 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 reduced wiring system and the power line or high pressure line should be separated from each other.
- 4. Confirm the wiring insulation.**
Inferior insulation (contact with other circuit, insulation between terminals, etc.) will likely cause damage to the units or connecting devices due to excessive voltage or the influx of current.

Caution

- 1. Take measures to avoid applying repeated bending force or pulling force to the cable.**
Also, pay attention not to place any heavy matter on the cable or clipping. It is likely to cause a broken wire.
- 2. Confirm grounding to maintain the safety of the reduced wiring system and for anti-noise performance.**
Grounding should be close to units and keep the grounding distance short.

Operating Environment

Warning

- 1. Do not use this product in the presence of dust, particles, water, chemicals, and oil.**
Use with such materials is likely to cause a malfunction or breakage.
- 2. Do not use this product in the presence of a magnetic field.**
Use in such an environment is likely to cause a malfunction.
- 3. Do not use this product in an atmosphere containing an inflammable gas, explosive gas, or corrosive gas.**
Use in such an atmosphere is likely to cause a fire, explosion, or corrosion.
This wire-reduced system is not explosion-proof.
- 4. Do not use this product in places where there are cyclic temperature changes.**
In case that the cyclic temperature is beyond normal temperature changes, the internal unit is likely to be adversely affected.
- 5. Do not use this product in places where there is radiated heat around it.**
Such a place is likely to cause a malfunction or breakage.
- 6. Do not use this product near sources that generate a surge which exceeds the benchmark test, even though this product is CE-marked certified.**
The internal circuit components are likely to deteriorate or become damaged when there are equipment (solenoid type lifter, high frequency guided furnace, motor, etc.) which generate a large surge around the reduced wiring system. Take measures to prevent an electrical surge and avoid having the wires touch each other.
- 7. Use the product type that has an integrated surge absorption element when directly driving a load which generates surge voltage by relay or solenoid valves.**
- 8. The reduced wiring system should be installed in places with no vibration or shock.**
If installed in a place with vibration or shock, a malfunction or breakage is likely to occur.



Series S0700

Specific Product Precautions 8

Be sure to read this before handling.

For 5 Port Solenoid Valve Precautions and Common Precautions, refer to “Precautions for Handling Pneumatic Devices” (M-03-E3A).

Serial Wiring EX510 Precautions

Adjustment and Operation

Warning

1. Do not short-circuit a load.

If a load is short-circuited, excessive can cause damage to the connected devices. The fuse of the input unit will melt and below. The output and SI unit will activate its overcurrent protection function. However, they cannot cover all modes, so damage is likely to occur.

2. Do not manipulate or perform settings with wet hands.

Performing such activity will likely cause an electrical shock.

Caution

1. DIP switches and rotary switches should be set with a small watchmaker's screwdriver.

Maintenance

Warning

1. Do not disassemble, modify (including circuit board replacement) or repair this product.

Such actions are likely to cause injuries or breakage.

2. Perform periodic inspection.

Confirm that wiring or screws are not loose.

Otherwise, unpredicted malfunction in the system composition devices is likely to occur.

3. When an inspection is performed.

- Turn off the power supply.
- Stop the supplied fluid and discharge the fluid in the piping and confirm the release to the atmosphere before performing an inspection. It is likely to cause injuries.

Caution

1. Do not wipe this product with chemicals such as benzene or thinner.

Using such chemicals is likely to cause damage.

Troubleshooting

Trouble	In the event of product failure, take remedial measures by checking the following items as detailed below .	Cause	Measures
<p>Operating failure</p> <p>The air supply direction has not been changed.</p>	<pre> graph TD Q1[Does the product operate by pressing a manual button?] -- NO --> C1[1) Slide failure or sticking of the main valve. Foreign matter from the air source has been caught in the main valve and has caused slide failure and sticking.] Q1 -- YES --> C2[2) Pressure drop. The pressure of the air source decreases and fails to reach the minimum operating pressure of the valve, resulting in operating failure.] Q2[Does the indicator light illuminate when energising?] -- NO --> C3[1) Electric system error: Sequencer failure, Incorrect wiring, Open fuse and lead wire disconnection, Voltage drop.] Q2 -- YES --> C4[1) Voltage drop. The product may not operate due to a voltage drop even when its indicator light remains illuminated.] Q2 -- YES --> C5[2) Current leakage. The product does not shift from off to on due to the residual voltage.] Q2 -- YES --> C6[3) Pilot valve failure: Foreign matter from the air source has entered the inside of the pilot valve and has caused operating failure, Open coil circuit.] </pre>	<p>1) Slide failure or sticking of the main valve. Foreign matter from the air source has been caught in the main valve and has caused slide failure and sticking.</p> <p>2) Pressure drop The pressure of the air source decreases and fails to reach the minimum operating pressure of the valve, resulting in operating failure.</p> <p>1) Electric system error</p> <ul style="list-style-type: none"> • Sequencer failure • Incorrect wiring • Open fuse and lead wire disconnection • Voltage drop <p>1) Voltage drop The product may not operate due to a voltage drop even when its indicator light remains illuminated.</p> <p>2) Current leakage The product does not shift from off to on due to the residual voltage.</p> <p>3) Pilot valve failure</p> <ul style="list-style-type: none"> • Foreign matter from the air source has entered the inside of the pilot valve and has caused operating failure. • Open coil circuit. 	<ul style="list-style-type: none"> • Replace the valve. • Purify the air source. (Refer to P6.) <p>Adjust the pressure of the valve to within the operating pressure range.</p> <p>} Check each item and take applicable measures.</p> <p>Check the voltage and take applicable measures if decreased.</p> <p>Check the residual voltage, which shall be 2% or less of the rated voltage.</p> <ul style="list-style-type: none"> • Replace the pilot valve assembly. <Part no. of the pilot valve assembly> <p style="text-align: center;">S070P- $\begin{matrix} & G \\ 5 & B \\ 6 & C \\ & CO \end{matrix}$</p> <ul style="list-style-type: none"> • Purify the air source. (Refer to P6.)
<p>Response failure</p> <p>The product operates, but has a time delay.</p>		<p>1) Current leakage The response of the product was delayed due to the residual voltage.</p> <p>2) Clogging of the filter element of the manifold.</p> <p>2) Foreign matter from the air source has entered the main valve and has caused slide failure and sticking.</p>	<p>Check the residual voltage, which should be 2% or less of the rated voltage.</p> <ul style="list-style-type: none"> • Clean or replace the element. <ul style="list-style-type: none"> • Replace the valve. • Purify the air source. (Refer to P6.)

Troubleshooting

Trouble	In the event of product failure, take remedial measures by checking the following items as detailed below .	Cause	Measures
Air leakage	<div style="border: 1px solid black; padding: 5px; display: inline-block;">Check the part where the air is leaking.</div> 1. Leakage between the valve and base →	1-1) The clamp screw of mounting bolt is loose.	Tighten the clamp screw. Appropriate tightening torque 0.17 to 0.23 N•m Replace the gasket if it was damaged.
		1-2) The gasket got caught.	Replace the gasket. <Part no. of the gasket and spare parts> S0700-G2-5 (10 sets.)
	2. Air leakage from the one-touch fitting →	2-1) The tube did not bottom out. 2-2) The tube had a flaw. 2-3) The tube end was cut unevenly.	} Check each item and take applicable measures.
		2-4) The packing of the one-touch fitting was damaged.	
	3. Leakage from R port. →	3-1) The mounting screw is loose.	Tighten the mounting bolt. Appropriate tightening torque • 0.17 to 0.23 N•m Replace the gasket if it was damaged.
		3-2) Foreign matter from the air source got caught in the main valve and increased the internal leakage.	• Replace the valve. Purify the air source.

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Ireland	☎ +353 (0)14039000	www.smc-pneumatics.ie	sales@smc-pneumatics.ie	Turkey	☎ +90 (0)2122211512	www.entek.com.tr	smc-entek@entek.com.tr
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