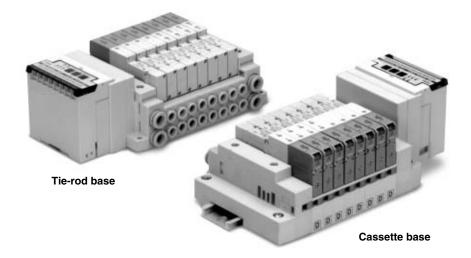
# **Dedicated Output Serial Wiring**

## Series EX120



Amiliaahla aasiaa	Cassette base manifold SV1000/SV2000
Applicable series	Tie-rod base manifold SV1000/SV2000/SV3000/SV4000
	Number of outputs points: 16 points

SV

SZ

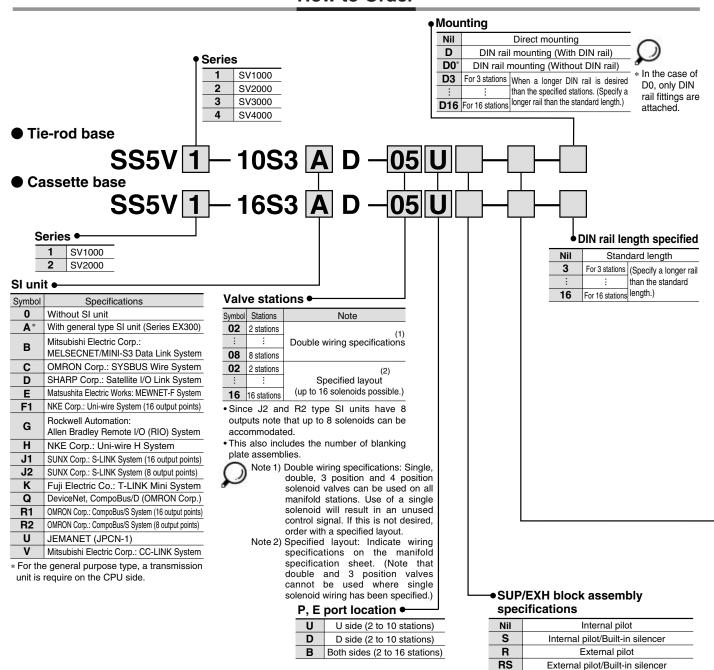
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# Series EX120 Dedicated Output Serial Wiring Series SV

#### **How to Order**



#### SI Unit Part No.

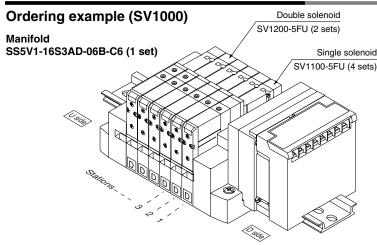
Symbol	Specifications	For SS5V□-□□S3
<b>A</b> *	With general type SI unit (Series EX300)	EX320-S001
В	Mitsubishi Electric Corp.: MELSECNET/MINI-S3 Data Link System	EX120-SMB1
С	OMRON Corp.: SYSBUS Wire System	EX120-STA1
D	SHARP Corp.: Satellite I/O Link System	EX120-SSH1
E	Matsushita Electric Works: MEWNET-F System	EX120-SPA1
F1	NKE Corp.: Uni-wire System (16 output points)	EX120-SUW1
G	Rockwell Automation: Allen Bradlev Remote I/O (RIO) System	EX120-SAB1

Symbol	Specifications	For SS5V□-□□S3
Н	NKE Corp.: Uni-wire H System	EX120-SUH1
J1	SUNX Corp.: S-LINK System (16 output points)	EX120-SSL1
J2	SUNX Corp.: S-LINK System (8 output points)	EX120-SSL2
K	Fuji Electric Co.: T-LINK Mini System	EX120-SFU1
Q	DeviceNet, CompoBus/D (OMRON Corp.)	EX120-SDN1
R1	OMRON Corp.: CompoBus/S System (16 output points)	EX120-SCS1
R2	OMRON Corp.: CompoBus/S System (8 output points)	EX120-SCS2
U	JEMANET (JPCN-1)	EX120-SJN1
V	Mitsubishi Electric Corp.: CC-LINK System	EX120-SMJ1

h \* For terminal LED descriptions for each SI unit and cable wiring, etc., refer to pages 1-2-46 to 1-2-48.



#### **How to Order Valve Manifold Assembly**



SS5V1-16S3AD-06B-C6·······1 set (manifold part no.) \*SV1100-5FU······4 sets (Single solenoid part no.) \*SV1200-5FU······2 sets (Double solenoid part no.)

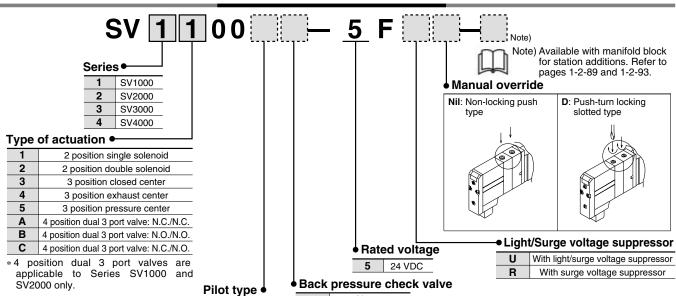
SV SZ

SY

SYJ

SX

#### **How to Order Solenoid Valves**



Nil Internal pilot

R External pilot

\* External pilot specifications is not available for 4 position dual 3 port valves.

- \* Built-in back pressure check valve type is applicable to Series SV1000 only.
- \* Back pressure check valve is not available for 3 position closed center and 3 position pressure center.

Refer to Precautions 2 on page 1-2-9.

None

Built-in

#### A, B port size (Metric)

#### ♦A, B port size (Inch)

Nil

, ., _ r	7011 0120 (III.01110)				port 0:20 (o)		
Symbol	A, B port	P, E port	Applicable series	Symbol	A, B port	P, E port	Applicable series
C3	One-touch fitting for ø3.2			N1	One-touch fitting for ø1/8"		
C4	One-touch fitting for ø4	One-touch	SV1000	N3	One-touch fitting for ø5/32"	One-touch	SV1000
C6	One-touch fitting for ø6	fitting for ø8		N7	One-touch fitting for ø1/4"	fitting for ø5/16"	
C4	One-touch fitting for ø4			N3	One-touch fitting for ø5/32"		
C6	One-touch fitting for ø6	One-touch fitting for ø10	SV2000	N7	One-touch fitting for ø1/4"	One-touch	SV2000
C8	One-touch fitting for ø8	Tilling for \$10		N9	One-touch fitting for ø5/16"	fitting for ø3/8"	
C6	One-touch fitting for ø6	0 4		N7	One-touch fitting for ø1/4"		
C8	One-touch fitting for ø8	One-touch fitting for ø12	SV3000	N9	One-touch fitting for ø5/16"	One-touch	SV3000
C10	One-touch fitting for ø10	Tilling for \$12		N11	One-touch fitting for ø3/8"	fitting for ø3/8"	
C8	One-touch fitting for ø8	0 4		N9	One-touch fitting for ø5/16"	One-touch	
C10	One-touch fitting for ø10	One-touch fitting for ø12		N11	One-touch fitting for ø3/8"	fitting for ø3/8"	
C12	One-touch fitting for ø12	Tilling for \$12		02N	NPT 1/4	NPT 3/8	SV4000
02	Rc 1/4	D 0/0	SV4000	03N	NPT 3/8	INP 1 3/8	374000
03	Rc 3/8	Rc 3/8		02T	NPTF 1/4	NIDTE 0/0	
02F	G 1/4	C 0/0		03T	NPTF 3/8	NPTF 3/8	
03F	G 3/8	G 3/8		M	A, B ports	s mixed	
M	A, B ports	s mixed					

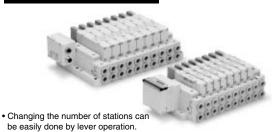
\* In the case of mixed specifications (M), indicate separately on the manifold specification sheet.

Port sizes of X, PE port for external pilot specification (R, RS) are ø4 (metric), ø5/32" (inch) for SV1000/2000 and ø6 (metric) and ø1/4" (inch) for SV3000/4000.



# Series SV

#### Cassette base manifold



#### **Manifold Specifications**

App	olicable series	SV1000	SV2000	
Manifold type		Stacking type cassette base manifold		
1 (P: SUP)/3,	5 (E: EXH) type	Common SUP, EXH		
Valve stations (maximum)		18 stations	20 stations	
Max. number of solenoids		18 points	26 points	
	1(P), 3/5(E) port	C8, N9	C10, N11	
Port size	4(A), 2(B) port	C3, C4, C6	C4, C6, C8	
	4(A), 2(b) port	N1, N3, N7	N3, N7, N9	

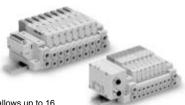
#### Flow Characteristics

1 low official co									
	Port size		Flow characteristics						
Model	1, 5, 3	4, 2	$1 \rightarrow 4/2 \text{ (P} \rightarrow A/B) \qquad \qquad 4/2 \rightarrow 3/5 \text{ (A/B} \rightarrow E)$			E)			
	(P, EA, EB)	(A, B)	C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm3/(s·bar)]	b	Cv	
SS5V1-16	C8	C6	0.89	0.22	0.22	0.98	0.21	0.23	
SS5V2-16	C10	C8	2.3	0.28	0.50	2.7	0.18	0.56	



Note) The value is for manifold base with 5 stations and individually operated 2 position type.

#### Tie-rod base manifold



• 34 pins connector allows up to 16 stations with double solenoids.

#### **Manifold Specifications**

marinolu Sp	ecilications					
App	licable series	SV1000	SV2000	SV3000	SV4000	
Manifold type			Tie-rod bas	e manifold	•	
1 (P: SUP)/3, 5 (E	E: EXH) type		Common S	SUP, EXH		
Valve stations (maximum)		20 stations				
Max. number of s	olenoids		32 pc	oints		
	1(P), 3/5(E) port	C8, N9	C10, N11	C12, N11	C12, N11, 03	
Port size	4(A), 2(B) port	C3, C4, C6	C4, C6, C8	C6, C8, C10	C8, C10, C12	
	7(7), 2(B) port	N1 N3 N7	N3 N7 N9	N7 N9 N11	N9 N11 02 03	

#### **Flow Characteristics**

	Port	size	Flow characteristics					
Model	1, 5, 3	4, 2		$1 \rightarrow 4/2(P \rightarrow A/B)$			$1/2 \rightarrow 3/5 (A/B \rightarrow E)$	<u>:</u> )
	(P, EA, EB)	(A, B)	C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv
SS5V1-10	C8	C6	0.98	0.26	0.24	1.1	0.35	0.28
SS5V2-10	C10	C8	2.1	0.20	0.46	2.4	0.18	0.48
SS5V3-10	C12	C10	4.2	0.22	0.91	4.3	0.21	0.93
SS5V4-10	C12	C12	6.2	0.19	1.3	7.0	0.18	1.6

Note) The value is for manifold base with 5 stations and individually operated 2 position type.

### Enclosure of Manifold Variations (Common for cassette base and tie-rod base)

(Common to: Cassosite Base and its	. Cu bucc,
Series	Enclosure (Based on IEC529)
Series EX500 Decentralized serial wiring	IP67 *
Series EX250 Serial wiring with input/output onit	IP67
Series EX120 Dedicated output serial wiring	Dusttight (IP40)
For circular connector	IP67
D-sub connector	Dusttight (IP40)
Flat ribbon cable	Dusttight (IP40)

<sup>\*</sup> Enclosure of a gateway unit and input manifold is IP65.

#### Series SV Solenoid Valve Specifications



**Made to Order Specifications** (For details, refer to page 1-2-108.)

#### JIS Symbol

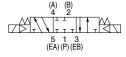
2 position single solenoid



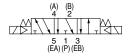
2 position double solenoid



3 position closed center



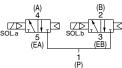
3 position exhaust center



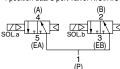
3 position pressure center



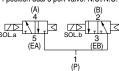
4 position dual 3 port valve: N.C./N.C.



4 position dual 3 port valve: N.O./N.O.



4 position dual 3 port valve: N.C./N.O.



Fluid			Air	
Internal pilot Operating	2 position single 4 position dual 3 port valve		0.15 to 0.7	
pressure range	2 positio	on double	0.1 to 0.7	
(MPa)	3 positio	on	0.2 to 0.7	
External pilot	Operatir	ng pressure range	-100 kPa to 0.7	
Operating pressure range (MPa)	2 positio	on single, double on	0.25 to 0.7	
Ambient and	fluid tem	perature (°C)	-10 to 50 (No freezing. Refer to page 1-7-4.)	
Max. operating frequency	2 position single, double 4 position dual 3 port valve		5	
(Hz)	3 positio	on	3	
Manual overr	ido		Non-locking push type	
iviariuai Overi	ide		Push-turn locking slotted type	
Pilot exhaust	method	Internal pilot	Common exhaust type for main and pilot valve	
1 IIOt exilaust	metriou	External pilot	Pilot valve individual exhaust	
Lubrication			Not required	
Mounting orie	entation		Unrestricted	
Impact/Vibrat	tion resis	tance (ms²)	150/30	
Enclosure			IP67 (Based on IEC529)	
Coil rated vol	tage		24 VDC, 12 VDC	
Allowable vol	tage fluc	tuation	±10% of rated voltage	
Power consu	mption		0.6 (With indicator light: 0.65)	
Surge voltage	e suppres	ssor	Zener diode	
Indiator light			LED	

Note) 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 energized and de-energized states every once for each condition. (Values at the initial period)

Vibration resisitance: No malfunction occured in a one-sweep test between 45 and 2000 Hz. Test was perfomed at both energized and deenergized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

#### **Response Time**

Time of activation	Response time (ms) (at the pressure of 0.5 MPa)					
Type of actuation	SV1000	SV2000	SV3000	SV4000		
2 position single	11 or less	25 or less	28 or less	40 or less		
2 position double	10 or less	17 or less	26 or less	40 or less		
3 position	18 or less	29 or less	32 or less	82 or less		
4 position dual 3 port valve	15 or less	33 or less	_	_		



Note) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage)

#### Weight

Weight	Weight						
Series	Type of actuation	Weight (g)					
SV1000	Single solenoid	66					
	Double solenoid	71					
	3 position	73					
	4 position dual 3 port	71					
	Single solenoid	74					
SV2000	Double solenoid	78					
	3 position	83					
	4 position dual 3 port	78					
	Single solenoid	99					
SV3000	Double solenoid	102					
	3 position	110					
	Single solenoid	186					
SV4000	Double solenoid	190					
	3 position	211					

Note) Weight of solenoid valve only.



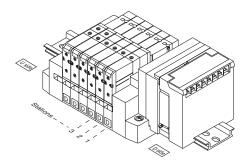
SV

SY SYJ

SX

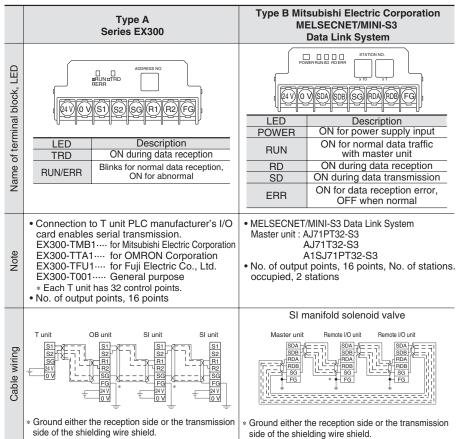
#### Series SV

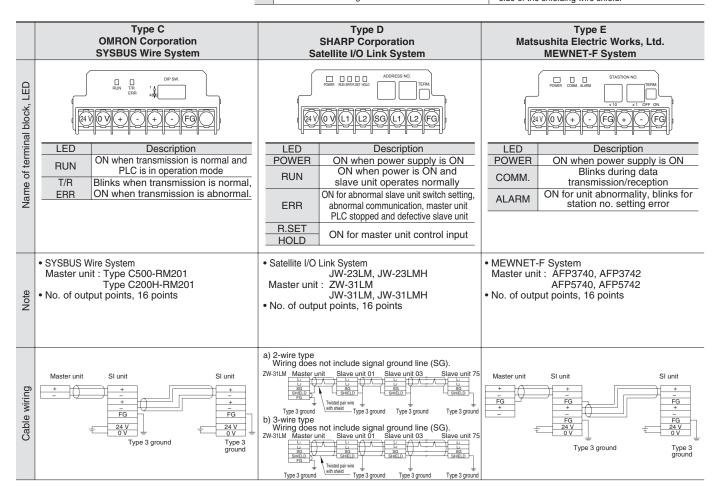
- The serial transmission system reduces wiring work, while minimizing wiring and saving space.
- Maximum 16 stations (Specify a model with more than 9 stations by means of the manifold specification sheet.)



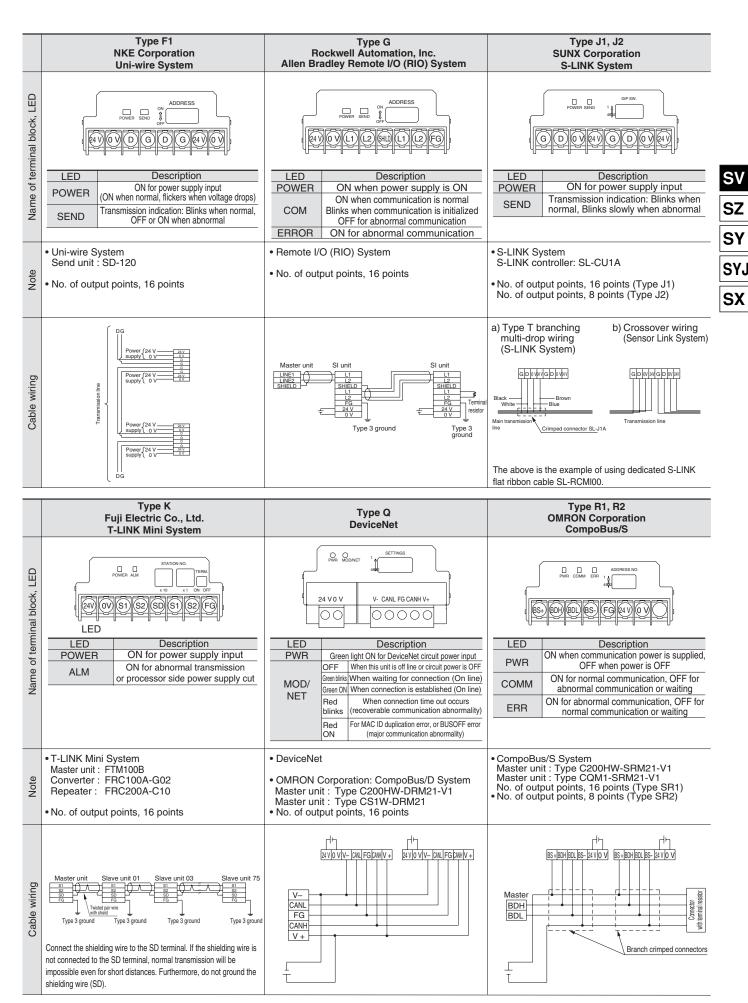
- Stations are counted from D side as the 1st.
- A maximum of 16 solenoids is possible (16 stations with single solenoids).

Item	Specifications						
External power supply	24 VDC + 10%/- 5%						
Current consumption (Internal unit)	0.1 A	A, B, D, E, F1, G, J1, J2, K, R1, R2, H, U, V					
(IIIIciliai uliii)	0.3 A	C. Q					





# Series EX120 Dedicated Output Serial Wiring Series SV



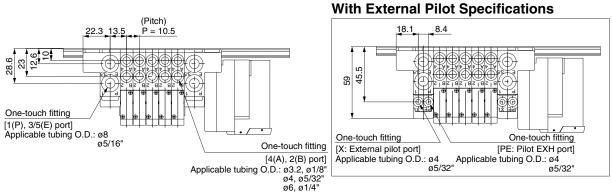
# Series SV

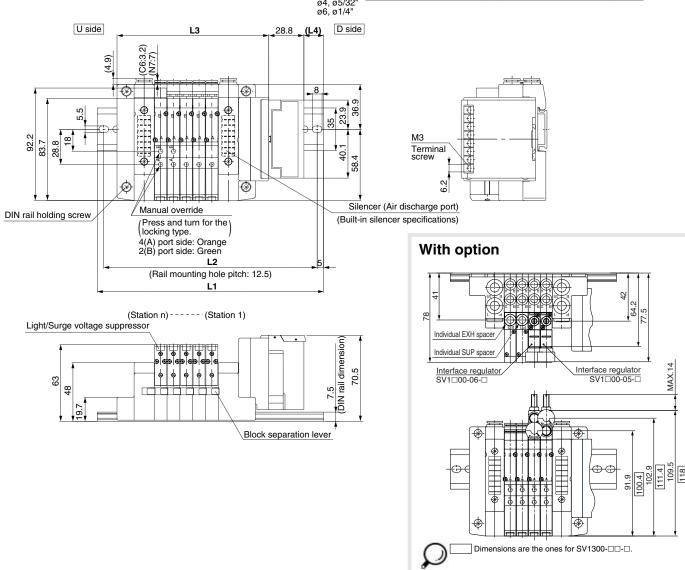
	Type H NKE Corporation Uni-wire H System	Type U JEMANET (JPCN-1)	Type V Mitsubishi Electric Corporation CC-LINK System			
Name of terminal block, LED	ADDRESS  DESCRIPTION  ON FOWER SEND OFF DIVIDUOUS OFF DIVI	LED Description POWER ON for SI unit power supply input COMM On for normal communication ALARM ON for abnormal communication	LED Description  PW ON when communication power is supplied, OFF when power is OFF  L RUN ON when normal data is being received  SD ON when data is transmitted  RD ON when data is received  ON for transmission error/wrong setting, Blinks when station or transmission speed setting changes during operation			
Note	Uni-wire H System Send unit: SD-H2     No. of output points, 16 points	JEMANET (JPCN-1)     (Reference)     AJ71J92-S3 (Mitsubishi Electric Corporation)     A1SJ71J92-S3 (Mitsubishi Electric Corporation)     Type C200HW-JRM21 (OMRON Corporation)     NJ-JPCN-1 (Fuji Electric Co., Ltd.)     NP1L-JP1 (Fuji Electric Co., Ltd.)     No. of output points, 16 points	CC-Link System Master unit: AJ61BT11 Master unit: A1SJ61BT11 Master unit: AJ61QBT11 Master unit: AJ61QBT11 Master unit: A1SJ61QBT11  No. of output points, 16 points			
Cable wiring	Power { 24 V 24 V supply { 0 V 0 V 0 V 0 V 0 V 0 V 0 V 0 V 0 V 0	a) 2-wire type  Master station Slave unit Slave unit (S1 unit) (S1	Terminal DB DB DB DB Terminal Terminal Terminal Terminal DB DB DB Terminal			

#### Dimensions: Series SV1000 for EX120 Dedicated Output Serial Wiring

Cassette base manifold: SS5V1-16S3□D-Stations B (S, R, RS)-C4, N3 (S, N1 C6, N7 C6

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





		on

L Difficion												Julionio			
<u>L</u>	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	148	160.5	173	185.5	198	198	210.5	223	235.5	248	260.5	260.5	273	285.5	298
L2	137.5	150	162.5	175	187.5	187.5	200	212.5	225	237.5	250	250	262.5	275	287.5
L3	92.9	103.4	113.9	124.4	134.9	145.4	155.9	166.4	176.9	187.4	197.9	208.4	218.9	229.4	239.9
L4	13	14	15	16	17	12	13	14	15	16	17	11.5	12.5	13.5	14.5

Note) The width of type E (Matsushita Electric Works, Ltd.) and type G (Rockwell Automation, Inc.) SI units are 24.3 mm greater. For details, please contact SMC.



n: Stations

SV

SZ

SY

SYJ

SX