Fieldbus System
(Output device for driving 5 port solenoid valves)

Compact
28 mm
(Actual size)

Space-saving Installation

- IP67*
  * For units with D-sub connector, and when connected to S0700 manifolds, it is IP40.
- Drives up to 32 solenoids

Daisy-chain wiring communication

Applicable Fieldbus protocols

**New**

RoHS

EtherNet/IP™ added!

Series EX260

Top ported valve
Bottom ported valve
Side ported valve
7 mm width valve

IP67
IP67
IP67
IP40

CAT.NAS02-25B
Manifold length is shortened by the small fieldbus output module (SI unit). Wiring and piping from the same direction is possible. Effective for installation in locations where space is limited above the valve.

External branch connector is not necessary. Daisy-chain wiring is possible. Reduced wiring space.

External terminating resistor is not necessary. (Only available for M12 PROFIBUS DP, CC-Link communication connectors)

ON/OFF switching is possible with an internal terminating resistor. External terminating resistor is not necessary.

**Product Specification Variations**

<table>
<thead>
<tr>
<th>Number of outputs</th>
<th>PROFIBUS DP</th>
<th>CCLink</th>
<th>EtherCAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output polarity</th>
<th>PROFIBUS DP</th>
<th>CCLink</th>
<th>EtherCAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNP</td>
<td>PNP</td>
<td>PNP</td>
<td>PNP</td>
</tr>
<tr>
<td>NPN</td>
<td>NPN</td>
<td>NPN</td>
<td>NPN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Communication connector</th>
<th>M12</th>
<th>M12</th>
<th>M12</th>
<th>M12</th>
<th>M12</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-sub</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Communication connector examples**

- **M12 communication connector** (PROFIBUS DP)
- **D-sub communication connector** (PROFIBUS DP)
### Series SY3000/5000

**Valve piping direction variations**
- Piping is possible from 3 directions.

**Valves can be freely connected up to 24 stations.**
- It is possible to connect only the number of valves required, from 1 to 24 stations, to suit the application. (Maximum number of solenoids connected: 32)

**Mixed valve sizes manifold**
- Valves of different sizes, SY3000 and SY5000, can be mounted on the same manifold.

### Series S0700

7 mm width valves can be connected.

#### Applicable Valve Series

<table>
<thead>
<tr>
<th>Series</th>
<th>Flow-rate characteristics (4/2→5/3)</th>
<th>Maximum number of solenoids</th>
<th>Power consumption (W)</th>
<th>Enclosure</th>
<th>Standards</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY3000</td>
<td>1.6 C [dm³/(s·bar)] 0.19 b</td>
<td>32</td>
<td>0.35 (standard)</td>
<td>IP67</td>
<td></td>
<td>page 7</td>
</tr>
<tr>
<td>SY5000</td>
<td>3.6 C [dm³/(s·bar)] 0.17 b</td>
<td>32</td>
<td>0.1 (with power-saving circuit)</td>
<td>IP67</td>
<td></td>
<td>page 38</td>
</tr>
<tr>
<td>S0700</td>
<td>0.37 C [dm³/(s·bar)] 0.39 b</td>
<td>32</td>
<td>0.35</td>
<td>IP40</td>
<td></td>
<td>page 24</td>
</tr>
<tr>
<td>SV1000</td>
<td>1.1 C [dm³/(s·bar)] 0.35</td>
<td>32</td>
<td>0.6</td>
<td>IP67</td>
<td></td>
<td>page 29</td>
</tr>
<tr>
<td>SV2000</td>
<td>2.4 C [dm³/(s·bar)] 0.18</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SV3000</td>
<td>4.3 C [dm³/(s·bar)] 0.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VQC1000</td>
<td>1.0 C [dm³/(s·bar)] 0.30</td>
<td>24</td>
<td>0.4 (standard)</td>
<td>IP67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VQC2000</td>
<td>3.2 C [dm³/(s·bar)] 0.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VQC4000</td>
<td>7.3 C [dm³/(s·bar)] 0.38</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note** For units with D-sub communication connector, it is IP40.
### Fieldbus System Variations

#### IP67/65 specification models

<table>
<thead>
<tr>
<th>Number of Valve Outputs</th>
<th>Number of Inputs</th>
<th>Number of Valve Outputs</th>
<th>Number of Inputs</th>
<th>SI Unit Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>None</td>
<td>16</td>
<td>2</td>
<td>EX260</td>
</tr>
<tr>
<td>16</td>
<td>32</td>
<td>16</td>
<td>4</td>
<td>EX126</td>
</tr>
<tr>
<td>16</td>
<td>32</td>
<td>16</td>
<td>4</td>
<td>EX124</td>
</tr>
<tr>
<td>16</td>
<td>32</td>
<td>16 (total 64)</td>
<td>8</td>
<td>EX260</td>
</tr>
<tr>
<td>16</td>
<td>32</td>
<td>16 (total 64)</td>
<td>8</td>
<td>EX500</td>
</tr>
<tr>
<td>16</td>
<td>32</td>
<td>16 (total 64)</td>
<td>8</td>
<td>EX500</td>
</tr>
<tr>
<td>16</td>
<td>32</td>
<td>144</td>
<td>16</td>
<td>EX600</td>
</tr>
<tr>
<td>16</td>
<td>32</td>
<td>32</td>
<td>2</td>
<td>EX250</td>
</tr>
</tbody>
</table>

#### Open network

- **PROFINET**: 
- **EtherCAT**: 
- **EtherCAT/IP™**: 
- **PROFIBUS DP**: 
- **DeviceNet™**: 
- **CC-Link**: 
- **AS-Interface**: 
- **CANopen**: 
- **CompoNet™**:

#### Applicable valve series

- **SY** (Plug-in connector connecting base):
  - 3000: 
  - 5000: 
  - 0700 (Stacking base): 
- **SV**: 
  - 1000: 
  - 2000: 
  - 3000: 
  - 4000: 
- **VQC**: 
  - 1000: 
  - 2000: 
  - 4000: 
  - 5000: 
- **VQ**: 
  - 1000: 
  - 2000: 
  - 4000: 
  - 5000:
### Fieldbus System Variations

#### IP20 specification models

<table>
<thead>
<tr>
<th></th>
<th>I/O separated type</th>
<th>I/O integrated type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Valve outputs only</td>
<td>Gateway-type</td>
</tr>
<tr>
<td></td>
<td>Inputs only</td>
<td>valve outputs only</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inputs only</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Valve outputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>with multiple I/Os</td>
</tr>
<tr>
<td></td>
<td></td>
<td>with inputs</td>
</tr>
</tbody>
</table>

#### Number of valve outputs and inputs

<table>
<thead>
<tr>
<th>Number of valve outputs</th>
<th>16</th>
<th>32</th>
<th>16 (total 64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of inputs</td>
<td>None</td>
<td>16 (total 64)</td>
<td></td>
</tr>
</tbody>
</table>

#### SI unit series

<table>
<thead>
<tr>
<th>SI unit series</th>
<th>EX120</th>
<th>EX121</th>
<th>EX122</th>
<th>EX140</th>
<th>EX180</th>
<th>EX510</th>
</tr>
</thead>
</table>

#### Open network

- **PROFINET**
- **EtherCAT**
- **EtherNet/IP™**
- **PROFIBUS DP**
- **DeviceNet™**
- **CC-Link**
- **AS-Interface**
- **CANopen**
- **CompoNet™**

#### Applicable valve series

- **SY** (Plug-in connector connecting base)
  - 3000
  - 5000
- **SJ**
  - 2000
  - 3000
- **SY** (Plug-in metal base)
  - 3000
  - 5000
- **SY** (Bar stock)
  - 0700
- **SY** (Stacking base)
  - 3000
  - 5000
- **SV**
  - 1000
  - 2000
  - 3000
  - 4000
- **VQ**
  - 1000
  - 2000
  - 4000
  - 5000
- **SQ**
  - 1000
  - 2000
- **SZ**
  - 3000
- **VQZ**
  - 1000
  - 2000
  - 3000
- **SYJ**
  - 3000
  - 5000
  - 7000

#### Features

- 4
Compact design

Compact design for space saving

Number of outputs

Each 32/16 digital output type available in the series

Output polarity

Each negative common (PNP) / positive common (NPN) type available in the series

Enclosure

IP67 (For units with D-sub connector, and when connected with S0700 manifolds, it is IP40.)

Internal terminating resistor

ON/OFF switching is possible with an internal terminating resistor for communication.
(Only for units compatible with M12 PROFIBUS DP, CC-Link communication connectors)

How to Order SI Units

| EX260 – S PR1 |

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Number of outputs</th>
<th>SI unit output polarity</th>
<th>Communication connector</th>
<th>Manifold symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>DeviceNet™</td>
<td>32</td>
<td>Source/PNP (Negative common)</td>
<td>M12</td>
<td>QAN</td>
</tr>
<tr>
<td>DeviceNet™</td>
<td>32</td>
<td>Sink/NPN (Positive common)</td>
<td>M12</td>
<td>QA</td>
</tr>
<tr>
<td>DeviceNet™</td>
<td>16</td>
<td>Source/PNP (Negative common)</td>
<td>M12</td>
<td>QBN</td>
</tr>
<tr>
<td>DeviceNet™</td>
<td>16</td>
<td>Sink/NPN (Positive common)</td>
<td>M12</td>
<td>QB</td>
</tr>
<tr>
<td>PROFIBUS DP</td>
<td>32</td>
<td>Source/PNP (Negative common)</td>
<td>M12</td>
<td>NAN</td>
</tr>
<tr>
<td>PROFIBUS DP</td>
<td>32</td>
<td>Sink/NPN (Positive common)</td>
<td>M12</td>
<td>NA</td>
</tr>
<tr>
<td>PROFIBUS DP</td>
<td>16</td>
<td>Source/PNP (Negative common)</td>
<td>M12</td>
<td>NBN</td>
</tr>
<tr>
<td>PROFIBUS DP</td>
<td>16</td>
<td>Sink/NPN (Positive common)</td>
<td>M12</td>
<td>NB</td>
</tr>
<tr>
<td>CC-Link</td>
<td>32</td>
<td>Source/PNP (Negative common)</td>
<td>M12</td>
<td>NC</td>
</tr>
<tr>
<td>CC-Link</td>
<td>32</td>
<td>Sink/NPN (Positive common)</td>
<td>M12</td>
<td>NCN</td>
</tr>
<tr>
<td>CC-Link</td>
<td>16</td>
<td>Source/PNP (Negative common)</td>
<td>D-sub (Note)</td>
<td>ND</td>
</tr>
<tr>
<td>CC-Link</td>
<td>16</td>
<td>Sink/NPN (Positive common)</td>
<td>D-sub (Note)</td>
<td>NDN</td>
</tr>
<tr>
<td>EtherCAT</td>
<td>32</td>
<td>Source/PNP (Negative common)</td>
<td>M12</td>
<td>VAN</td>
</tr>
<tr>
<td>EtherCAT</td>
<td>32</td>
<td>Sink/NPN (Positive common)</td>
<td>M12</td>
<td>VA</td>
</tr>
<tr>
<td>EtherCAT</td>
<td>16</td>
<td>Source/PNP (Negative common)</td>
<td>M12</td>
<td>VBN</td>
</tr>
<tr>
<td>EtherCAT</td>
<td>16</td>
<td>Sink/NPN (Positive common)</td>
<td>M12</td>
<td>VB</td>
</tr>
<tr>
<td>PROFINET</td>
<td>32</td>
<td>Source/PNP (Negative common)</td>
<td>M12</td>
<td>DAN</td>
</tr>
<tr>
<td>PROFINET</td>
<td>32</td>
<td>Sink/NPN (Positive common)</td>
<td>M12</td>
<td>DA</td>
</tr>
<tr>
<td>EtherNet/IP™</td>
<td>32</td>
<td>Source/PNP (Negative common)</td>
<td>M12</td>
<td>DBN</td>
</tr>
<tr>
<td>EtherNet/IP™</td>
<td>32</td>
<td>Sink/NPN (Positive common)</td>
<td>M12</td>
<td>DB</td>
</tr>
<tr>
<td>EtherNet/IP™</td>
<td>16</td>
<td>Source/PNP (Negative common)</td>
<td>M12</td>
<td>EAN</td>
</tr>
<tr>
<td>EtherNet/IP™</td>
<td>16</td>
<td>Sink/NPN (Positive common)</td>
<td>M12</td>
<td>EA</td>
</tr>
</tbody>
</table>

Note) The SY3000/5000, VQC1000/2000/4000, and S0700 are not yet UL-compatible.
### SI Unit Specifications

**Integrated-type/For Output**  
**Series EX260**

#### Applicable system

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CC-Link</td>
<td>CC-Link</td>
<td>CC-Link</td>
<td>CC-Link</td>
<td>CC-Link</td>
<td>CC-Link</td>
<td>CC-Link</td>
<td>CC-Link</td>
<td>CC-Link</td>
</tr>
</tbody>
</table>

#### Version

<table>
<thead>
<tr>
<th>Note 1)</th>
<th>Volume 1 (Edition 3.5)</th>
<th>Volume 3 (Edition 1.5)</th>
<th>Ver.1.10</th>
</tr>
</thead>
</table>

#### Configuration file

<table>
<thead>
<tr>
<th>Note 2)</th>
<th>GSD file</th>
<th>EDS file</th>
</tr>
</thead>
</table>

#### I/O occupation area (Inputs/Outputs)

| SPRI: 0/32 | SPR2: 0/32 | SPR5: 0/32 | SPR6: 0/32 | SDN1: 0/32 | SDN3: 0/32 | SDN4: 0/32 | SMJ1: 32/32 | SMJ4: 32/32 |
| SPR3: 0/16 | SPR4: 0/16 | SPR7: 0/16 | SPR8: 0/16 | SDN3: 16/16 | SDN4: 16/16 | SDN4: 0/16 | SMJ3: 32/32 | SMJ4: 32/32 |

#### Communication speed

| 9.6 k/19.2 k/45.45 k/93.75 k/187.5 k/500 k/1.5 M/6 M/12 Mbps | 125 k/250 k/500 kbps | 156 k/255 k/2.5 M/5 M/10 Mbps |

#### Power supply for control

| 21.6 to 26.4 VDC | — | 21.6 to 26.4 VDC | — |

#### Power supply for output

| Power supply voltage | Internal current consumption | — | 100 mA or less | — |

#### Power supply for communication

| Power supply voltage | Internal current consumption | — | 100 mA or less | — |

#### Communication connector specification

<table>
<thead>
<tr>
<th>M12</th>
<th>D-sub</th>
<th>M12</th>
</tr>
</thead>
</table>

#### Terminating resistor switch

<table>
<thead>
<tr>
<th>Built-in</th>
<th>None</th>
</tr>
</thead>
</table>

#### Output

<table>
<thead>
<tr>
<th>Output type</th>
<th>Source/PNP (Negative common)</th>
<th>Sink/NPN (Positive common)</th>
<th>Source/PNP (Negative common)</th>
<th>Sink/NPN (Positive common)</th>
<th>Source/PNP (Negative common)</th>
<th>Sink/NPN (Positive common)</th>
<th>Source/PNP (Negative common)</th>
<th>Sink/NPN (Positive common)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of outputs</td>
<td>SPR1: 32 points</td>
<td>SPR2: 32 points</td>
<td>SPR5: 32 points</td>
<td>SPR6: 32 points</td>
<td>SDN1: 32 points</td>
<td>SDN3: 32 points</td>
<td>SDN4: 32 points</td>
<td>SMJ1: 32 points</td>
</tr>
<tr>
<td>SPR3: 16 points</td>
<td>SPR4: 16 points</td>
<td>SPR7: 16 points</td>
<td>SPR8: 16 points</td>
<td>SDN3: 16/16</td>
<td>SDN4: 16/16</td>
<td>SDN4: 0/16</td>
<td>SMJ3: 16/16</td>
<td></td>
</tr>
</tbody>
</table>

#### Load

<table>
<thead>
<tr>
<th>Load</th>
<th>Solenoid valve with protective circuit for surge voltage of 24 VDC/1.5 W or less (SMC)</th>
</tr>
</thead>
</table>

#### Supplied voltage

| 24 VDC |

#### Environmental resistance

| Operating temperature range | 14 to 122°F (–10 to 50°C) |
| Operating humidity range | 35 to 85%RH (No condensation) |
| Withstand voltage | 500 VAC for 1 minute between terminals and housing |

#### Standards

| CE marking, UL (CSA) compatible |
| Weight | 0.44 lbs (200 g) |

#### Accessories

| EX9-AWTS (1 pc.) | — |

---

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

Note 2) Use a CAT5 or higher transmission cable for EtherCAT, PROFINET, EtherNet/IP™.

Note 3) Each file can be downloaded from the SMC website, http://www.smcworld.com
Series EX260

SI Unit Dimensions (mm)

M12 communication connector type

D-sub communication connector type

Functions of SI Unit Parts

<LED indication and setting switch>

<Setting switch>
- Address switch
- Communication speed switch
- Terminating resistor switch
- Others

<LED indication>
- Communication state
- Unit power supply state
- Valve power supply state

Note) The setting switch varies depending on the model.
Refer to the operation manual for details.
Please download it via the SMC website, http://www.smcworld.com

Part no. Communication protocol

EX260-SPR1/-SPR2/-SPR3/-SPR4 PROFIBUS DP
EX260-SDN DeviceNet™
EX260-SMJ CC-Link
EX260-SEC EtherCAT
EX260-SPN PROFINET
EX260-SEN EtherNet/IP™

Communication connector (M12) BUS OUT
M3 5 pins, socket, B code 5 pins, socket, A code 5 pins, socket, A code 4 pins, socket, D code

Communication connector (M12) BUS IN
5 pins, plug, B code 5 pins, plug, A code 4 pins, plug, A code 4 pins, socket, D code

Ground terminal
M3

Power connector (M12)
5 pins, plug, A code 4 pins, plug, A code 5 pins, plug, B code 5 pins(Note1), 4 pins(Note2), plug, A code

Note 1) For EtherCAT, PROFINET
Note 2) For EtherNet/IP™

Part no. Communication protocol

EX260-SPR5/-SPR6/-SPR7/-SPR8 PROFIBUS DP

Ground terminal
M3

Communication connector (D-sub) BUS IN/OUT
9 pins, socket

Power connector (M12)
5 pins, plug, A code
### Accessories

#### Communication cable with connector

For SI units compatible with PROFIBUS DP, DeviceNet™, CC-Link

Refer to the catalog (CAT. NAS100-73) for details.

<table>
<thead>
<tr>
<th>Cable length (L)</th>
<th>010</th>
<th>1000 [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>020</td>
<td>2000 [mm]</td>
</tr>
<tr>
<td></td>
<td>030</td>
<td>3000 [mm]</td>
</tr>
<tr>
<td></td>
<td>050</td>
<td>5000 [mm]</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>10000 [mm]</td>
</tr>
</tbody>
</table>

**Connector specification**

| PSRJ | M12 plug (straight) ⇔ RJ-45 connector |

**Connections (Straight cable)**

#### PCA-1446566

For SI units compatible with EtherCAT, PROFINET, EtherNet/IP™

**Cable length**

| 1446566 | 5000 [mm] |

**Plug connector pin arrangement**

**D code**

**Terminal no.**

**Core wire colors**

- 1 White: RD+
- 2 Orange: TD+
- 3 White: RD–
- 4 Orange: TD–
- 5 Green: RD–
- 6 Orange: TD–
- 7 Orange: TD–
- 8 Green: RD–

**Connection**

- Wire guide color (Yellow: TD+, White: RD+, Orange: TD–, Blue: RD–)

#### Fieldwireable connector

**PCA-1446553**

**Plug connector pin arrangement**

**D code**

**Width across flats**

≈ 61

≈ 7.5
2 Power cable with connector (for SI units)

For SI units compatible with PROFIBUS DP, DeviceNet™, EtherCAT, PROFINET, EtherNet/IP™

**EX500 – AP 050 – S**

Cable length (L)
- 010 1000 [mm]
- 050 5000 [mm]

Connector specification
- S Straight
- A Angle

Socket connector pin arrangement
- A code

**SPEEDCON**

**PCA – 1401804**

Cable length (L)
- 1401804 1500 [mm]
- 1401805 3000 [mm]
- 1401806 5000 [mm]

Terminal no.
1 2 3 4 5

Core wire colors
- Brown: 24 VDC +10% to –5% (Solenoid valve power supply)
- White: 0 V (Solenoid valve power supply)
- Blue: 24 VDC ±10% (Control power supply)
- Black: 0 V (Control power supply)
- Gray: Not connected

Connections (PROFIBUS DP/EtherCAT)

**PCA – 1401807**

Cable length (L)
- 1401807 1500 [mm]
- 1401808 3000 [mm]
- 1401809 5000 [mm]

Terminal no.
1 2 3 4 5

Core wire colors
- Brown: 24 VDC +10% to –5% (Solenoid valve power supply)
- White: 0 V (Solenoid valve power supply)
- Blue: 24 VDC ±10% (Control power supply)
- Black: 0 V (Control power supply)
- Gray: Not connected

Connections (DeviceNet™, EtherNet/IP™)

3 Seal cap: For M12 connector socket

Use this on ports that are not being used for communication connector (M12 connector socket).
Use of this seal cap maintains the integrity of the IP67 enclosure.
Note) Tighten the seal cap with the prescribed tightening torque. (For M12: 0.07 lbf·ft (0.1 N·m)}
Manifold Solenoid Valves for Series EX260 Integrated-type (For Output) Serial Transmission System

- **Series SY3000/5000** Page 7
- **Series SV1000/2000/3000** Page 24
- **Series VQC1000/2000/4000** Page 29
- **Series S0700** Page 38
The SY5000 manifold base is used for the bottom ported dimensions.

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

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

Note 3) Includes the number of blanking plate assemblies. Note 4) For the model without the SI unit (S0), note the unused control signal. If this is not desired, order on the manifold specification sheet.

Note) IP40 for the D-sub applicable communication connector specification. For SI unit port number, refer to page 1. DIN rail and SI unit output polarity “N” cannot be selected for the product without SI unit.

Note 1) Ensure a match with the common specifications of the valve to be used.

Note 2) Without SI unit, the symbol is nil.

A, B port size (Metric)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>A, B port</th>
<th>Type 10</th>
<th>Type 11</th>
<th>Type 10</th>
<th>Type 11</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SY3000</td>
<td>SY5000</td>
<td>SY3000</td>
<td>SY5000</td>
</tr>
<tr>
<td>C2</td>
<td>ø2 One-touch fitting</td>
<td>●</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>C3</td>
<td>ø3.2 One-touch fitting</td>
<td>●</td>
<td>●</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>C4</td>
<td>ø4 One-touch fitting</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>C6</td>
<td>ø6 One-touch fitting</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>C8</td>
<td>ø8 One-touch fitting</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>CM</td>
<td>Straight, mixed sizes</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>L4</td>
<td>ø4 One-touch fitting</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>L6</td>
<td>ø6 One-touch fitting</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>L8</td>
<td>ø8 One-touch fitting</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>B4</td>
<td>ø4 One-touch fitting</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>B6</td>
<td>ø6 One-touch fitting</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>B8</td>
<td>ø8 One-touch fitting</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Lm</td>
<td>Elbow port, mixed sizes (Including upward and downward piping)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>P, E port size (One-touch fittings)</td>
<td>ø8, ø10, ø10</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly (Refer to the SY3000/5000 series catalog (CAT. NAS11-103)).
## How to Order Manifold Assembly

### Example (SSS3Y-10SNAN-□)

<table>
<thead>
<tr>
<th>Station</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2-position single (24 VDC)</td>
</tr>
<tr>
<td>2</td>
<td>2-position double (24 VDC)</td>
</tr>
<tr>
<td>3</td>
<td>3-position closed center (24 VDC)</td>
</tr>
<tr>
<td>4</td>
<td>3-position pressure center</td>
</tr>
</tbody>
</table>

### Manifold base (4 stations)
SSS3Y-10SNAN-04D-C6

### How to Order Valves (With two mounting screws)

**SY 3 1 0 0 5 1**

- **Base mounted**

1. **Series**
   - 3: SY3000
   - 5: SY5000

2. **Type of actuation**
   - 1: 2-position single
   - 2: 2-position double
   - 3: 3-position closed center
   - 4: 3-position exhaust center
   - 5: 3-position pressure center
   - A*: 4-position dual 3-port valve (N.O., N.C.)
   - B*: 4-position dual 3-port valve (N.O., N.O.)
   - C*: 4-position dual 3-port valve (N.C., N.C.)

   * Only rubber seal type is available for the 4-position dual 3-port valve.

3. **Seal type**
   - 0: Rubber seal
   - 1: Metal seal

4. **Pilot type**
   - Nil: Internal pilot
   - R: External pilot

5. **Back pressure check valve**
   - Nil: None
   - H: Built-in

   * Only rubber seal type. Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for details. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

   * The built-in valve type back pressure check valve is not available for the 3-position type.

6. **Pilot valve option**
   - Nil: Standard (0.7 MPa)
   - B: Quick response type (0.7 MPa)
   - K*: High pressure type (1.0 MPa)

   * Only metal seal type is available for the high pressure type.

7. **Coil type**
   - Nil: Standard
   - T: With power saving circuit (Continuous duty type)

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

   * Note the specified energizing time when power saving circuit is selected.

8. **Rated voltage**
   - 5: 24 VDC

9. **Light/surge voltage suppressor and common specification**
   - R: With surge voltage suppressor (Non-polar)
   - U: With light/surge voltage suppressor (Non-polar)
   - S: With surge voltage suppressor (Positive common)
   - Z: With light/surge voltage suppressor (Positive common)
   - NS: With surge voltage suppressor (Negative common)
   - NZ: With light/surge voltage suppressor (Negative common)

   * Only “Z” and “NZ” types are available for the product with power saving circuit. Select a valve from R, U, S or Z when the SI unit output polarity is N (Negative common).

10. **Manual override**
    - Nil: Non-locking push type
    - D: Push-turn locking slot type
    - E: Push-turn locking manual type
    - F: Slide locking type

11. **Type of mounting screw**
    - Nil: Round head combination screw
    - B: Hexagon socket head cap screw (Falling-out-prevention type)
    - K: Round head combination screw (Falling-out-prevention type)
    - H: Hexagon socket head cap screw (Falling-out-prevention type)

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

   * When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for part numbers of the base gasket and mounting screw.

   * “B” and “H” cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

---

Refer to the SMC website or the SY3000/5000 series catalog (CAT.NAS11-103) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.
Series SY3000/5000

Dimensions: Type 10/For EX260/Series SY3000

SS5Y3-10S□□-Stations(U, R) - (S, N) (D)

- DIN rail holding screw (for DIN rail mounting)
- Silencer (exhaust port)
- Built-in silencer specification
- DIN rail
- Light/surge voltage suppressor
- Push-turn locking slotted type: Press, then rotate it.
- 4(A) port side: Blue (for rubber seal)
- 2(B) port side: Yellow
- Manual override
- One-touch fitting
- [Communication connector D-sub]
- [External pilot]

Note) These figures show the “SSSY3-10SQA-05D-C6”.
Dimensions: Type 10/For EX260/Series SY5000

SS5Y5-10S□□-Stations U (S, R) - C4, N3 (D) C6, N7 (D)

DIN rail holding screw (For DIN rail mounting)
Silencer (exhaust port) (Built-in silencer specification)
Light/surge voltage suppressor

Manual override
Push-turn locking slotted type:
Press, then rotate it.
4(A) port side: Blue (For rubber seal)
2(B) port side: Yellow

One-touch fitting
1(P), 3/5(E) port
Applicable tube O.D.: ø4, ø5/32”

One-touch fitting
4(A), 2(B) port
Applicable tube O.D.: ø6, ø1/4”
: ø8, ø5/16”

Note) These figures show the “SSSYS-10SQA-05D-C8”.

n: Station
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
L1 120.7 136.7 152.7 168.7 184.7 200.7 216.7 232.7 248.7 264.7 280.7 296.7 312.7 328.7 344.7 360.7 376.7 392.7 408.7 424.7 440.7 456.7 472.7
L2 80 96 112 128 144 160 176 192 208 224 240 256 272 288 304 320 336 352 368 384 400 416 432
L3 148 160.5 185.5 198 210.5 235.5 248 260.5 273 286 301.5 314 327 340 353 366 379 392 405 418 431 444 457 470
L4 137.5 150 175 187.5 200 225 237.5 250 262.5 275 287.5 300 312.5 325 337.5 350 362.5 375 388 400 412.5 425 437.5 450
L5 13.5 12 16.5 14.5 13 17.5 15.5 14 12 16.5 15 13 17.5 16 14 12.5 17 15 13.5 11.5 16 14.5 12.5
## How to Order Manifold

Refer to pages 15, 16 for Type 12/Top ported dimensions.

### Series

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SY3000</td>
</tr>
<tr>
<td>2</td>
<td>SY5000</td>
</tr>
</tbody>
</table>

### SI unit specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Protocol</th>
<th>Number of outputs</th>
<th>Communication connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>QA</td>
<td>DeviceNet™</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>QB</td>
<td>PROFIBUS DP</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>NA</td>
<td>PROFIBUS DP</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>NB</td>
<td>PROFIBUS DP</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>NC</td>
<td>PROFIBUS DP</td>
<td>32</td>
<td>D-sub</td>
</tr>
<tr>
<td>ND</td>
<td>CC-Link</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>VA</td>
<td>EtherCAT</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>VB</td>
<td>EtherCAT</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>DA</td>
<td>PROFINET</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>DB</td>
<td>PROFINET</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>FA</td>
<td>EtherNet/IP™</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>FB</td>
<td>EtherNet/IP™</td>
<td>16</td>
<td>M12</td>
</tr>
</tbody>
</table>

Note) IP40 for the D-sub applicable communication connector specification.

For SI unit part number, refer to page 1.

DIN rail and SI unit output polarity “N” cannot be selected for the product without SI unit.

### SI unit output polarity

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Positive common</td>
</tr>
<tr>
<td>N</td>
<td>Negative common</td>
</tr>
</tbody>
</table>

Note 1) Ensure a match with the common specifications of the valve to be used.

Note 2) Without SI unit, the symbol is nil.

### Valve stations

#### In the case of the 32-output SI unit

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Double wiring (Note 1)</td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td>Specified layout (Note 2)</td>
</tr>
<tr>
<td>24</td>
<td>24 stations</td>
<td>(Available up to 32 solenoids)</td>
</tr>
</tbody>
</table>

#### In the case of the 16-output SI unit

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Double wiring (Note 1)</td>
</tr>
<tr>
<td>08</td>
<td>8 stations</td>
<td>Specified layout (Note 2)</td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td>(Available up to 16 solenoids)</td>
</tr>
</tbody>
</table>

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations.

Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

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

### P, E port entry

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Note</th>
<th>P, E port size (One-touch fittings)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>Note)</td>
<td>U side (2 to 10 stations)</td>
</tr>
<tr>
<td>D</td>
<td>Note)</td>
<td>D side (2 to 10 stations)</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>Both sides (2 to 24 stations)</td>
</tr>
</tbody>
</table>

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

### SUP/EXH block assembly

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Internal pilot</td>
</tr>
<tr>
<td>S</td>
<td>Internal pilot, Built-in silencer</td>
</tr>
<tr>
<td>R</td>
<td>External pilot</td>
</tr>
</tbody>
</table>

* For built-in silencer type, P and E ports are available on U and D sides. 3/5(E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry. (Example: When the P, E port entry is D side, the silencer exhaust port is U side.)

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

### P, E port size (One-touch fittings)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>SY3000</th>
<th>SY5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>ø8</td>
<td>ø10</td>
</tr>
<tr>
<td>N</td>
<td>ø5/16”</td>
<td>ø3/8”</td>
</tr>
</tbody>
</table>

* For N, sizes are in inches.

### Mounting

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>DIN rail mounting (With DIN rail)</td>
</tr>
<tr>
<td>D0</td>
<td>DIN rail mounting (Without DIN rail)</td>
</tr>
<tr>
<td>D3</td>
<td>For 3 stations</td>
</tr>
<tr>
<td>D24</td>
<td>For 24 stations</td>
</tr>
</tbody>
</table>

* When it is necessary to mount a DIN rail without an SI unit, select D0 and order DIN rail length separately, referring to L3 in the dimensions. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for part numbers of DIN rail.
How to Order Manifold Assembly

![Manifold base (4 stations)](SSY3-12SNAN-04D)

Example (SSY3-12SNAN-)

- 2-position single (24 VDC)
  - SY3130-5U1-C6 (2 sets)
- 2-position double (24 VDC)
  - SY3230-5U1-C6 (1 set)
- 3-position closed center (24 VDC)
  - SY3330-5U1-C6 (1 set)

The built-in valve type back pressure check valve is
Only rubber seal type.

Type of actuation

1. 2-position single
2. 2-position double
3. 3-position closed center
4. 3-position exhaust center
5. 3-position pressure center

Only rubber seal type is available for the 4-position dual 3-port valve.

Seal type

0. Rubber seal
1. Metal seal

Pilot type

Nil: Internal pilot
R: External pilot

Back pressure check valve
(Built-in valve type)

Nil: None
H: Built-in

Only rubber seal type.
Manifold installed type is available if the back pressure check valve is required for a valve with metal seal. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for details. However, it is not recommended to use the built-in valve type and the manifold installed type at the same time because it will reduce the flow.

The built-in valve type back pressure check valve is not available for the 3-position type.

Pilot valve option

Nil: Standard (101 psi (0.7 MPa))
B: Quick response type (101 psi (0.7 MPa))
K: High pressure type (145 psi (1.0 MPa))

Only metal seal type is available for the high pressure type.

Coil type

Nil: Standard
T: With power saving circuit (Continuous duty type)

Be sure to select the power saving circuit type when a valve with a manifold installed type is used to stop the mountingscrews from falling out when the valve is removed for maintenance etc.

Rated voltage

5: 24 VDC

Light/surge voltage suppressor and common specification

R: With surge voltage suppressor (Non-polar)
U: With light/surge voltage suppressor (Non-polar)
S: With surge voltage suppressor (Positive common)
Z: With light/surge voltage suppressor (Positive common)
NS: With surge voltage suppressor (Negative common)
NZ: With light/surge voltage suppressor (Negative common)

Only “Z” and “NZ” types are available for the product with a manifold installed type.
Select a valve from R, U, NS or NZ when the SI unit output polarity is Nil (Positive common).
Select a valve from R, U, S or Z when the SI unit output polarity is N (Negative common).

Manual override

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

For “K” and “H”, the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for part numbers of the base gasket and mounting screw.
*B” and “H” cannot be selected for the individual SUP/EXH spacer assembly.

Protective class class III (Mark: )

Refer to the SMC website or the SY3000/5000 series catalog (CAT.NAS11-103) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.
### Series SY3000/5000

**Dimensions: Type 12/For EX260/Series SY3000**

**SS5Y3-12**□□□□□ Stations U B (S, R) (-D)

![Diagram of SS5Y3-12S□□□□□](image)

**DIN rail holding screw**
(For DIN rail mounting)

**One-touch fitting**

1. [P], 3/5(E) port
   - Applicable tube O.D.: ø8, ø5/16"

**Light/surge voltage suppressor**

**4 x M4 mounting hole**

**Silencer (exhaust port)**
(Built-in silencer specification)

**Manual override**

Push-turn locking slotted type:
Press, then rotate it.

1. 4(A) port side: Blue (For rubber seal)
   - Gray (For metal seal)
2. 2(B) port side: Yellow

**External pilot**

One-touch fitting

- [PE: Pilot EXH port]
- [X: External pilot port]

Applicable tube O.D.: ø4, ø5/32"

**One-touch fitting**

- [4(A), 2(B) port]

Applicable tube O.D.: ø2, ø1/8"
- ø4, ø5/32"
- ø6, ø1/4"

**Communication connector D-sub**

- Push-turn locking slotted type:
  Press, then rotate it.

<table>
<thead>
<tr>
<th>Station</th>
<th>L3</th>
<th>L4</th>
<th>L2</th>
<th>L1</th>
</tr>
</thead>
<tbody>
<tr>
<td>L3</td>
<td>15.3</td>
<td>16.7</td>
<td>17.5</td>
<td>18.2</td>
</tr>
<tr>
<td>L4</td>
<td>19.2</td>
<td>20.5</td>
<td>21.2</td>
<td>22.0</td>
</tr>
<tr>
<td>L5</td>
<td>23.0</td>
<td>24.0</td>
<td>25.0</td>
<td>26.0</td>
</tr>
</tbody>
</table>

**Fitting for the type with P/E ports on U and/or D sides**

**[External pilot]**

One-touch fitting

- [PE: Pilot EXH port]
- [X: External pilot port]

Applicable tube O.D.: ø4, ø5/32"

**[Communication connector D-sub]**

Note 1) These figures show the “SSSY3-12SOA-05D”.

Note 2) For built-in silencer type, a silencer is mounted on the opposite side of U or D side with P or E port.

| n:Stations | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| L1         | 103.7 | 114.2 | 124.7 | 135.2 | 145.7 | 156.2 | 166.7 | 177.2 | 187.7 | 198.2 | 208.7 | 219.2 | 229.7 | 240.2 | 250.7 | 261.2 | 271.7 | 282.2 | 292.7 | 303.2 | 313.7 | 324.2 | 334.7 |
| L2         | 63 | 73.5 | 84 | 94.5 | 105 | 115.5 | 126 | 136.5 | 147 | 157.5 | 168 | 178.5 | 189 | 199.5 | 210 | 220.5 | 231 | 241.5 | 252 | 262.5 | 273 | 283.5 | 294 |
| L3         | 135.5 | 148 | 148 | 160.5 | 173 | 185.5 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 360.5 |
| L4         | 125 | 137.5 | 137.5 | 150 | 162.5 | 175 | 187.5 | 200 | 212.5 | 225 | 237.5 | 250 | 262.5 | 275 | 287.5 | 300 | 312.5 | 325 | 337.5 | 350 |
| L5         | 16 | 17 | 11.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12.5 | 13.5 | 14.5 | 15.5 | 16.5 | 17.5 | 12 | 13 | 14 | 15 | 16 | 17 | 12 | 13 |
Dimensions: Type 12/For EX260/ Series SY5000

SS5Y5-12S□□- Stations U/B (S, R) (-D)  D side

- DIN rail holding screw
  - (For DIN rail mounting)
- One-touch fitting
  - [4(A), 3/5(E) port]
  - Applicable tube O.D.: ø10, ø3/8"

L1
- Light/urge voltage suppressor
  - Pitch: P = 16

L3
- Silencer (exhaust port)
  - (Built-in silencer specification)

L4
- 4 x M5 mounting hole
  - [4(A), 2(B) port]

L5
- One-touch fitting
  - [4(A), 2(B) port]
  - Applicable tube O.D.: ø4, ø5/32"

- One-touch fitting
  - [PE: Pilot EXH port]
  - [X: External pilot port]
- Applicable tube O.D.: ø4, ø5/32"

- Note 1: These figures show the "SS5Y5-12SQA-05D".
- Note 2: For built-in silencer type, a silencer is mounted on the opposite side of U or D side with P or E port.

| Stations | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L1       | 120.7 | 136.7 | 152.7 | 168.7 | 184.7 | 200.7 | 216.7 | 232.7 | 248.7 | 264.7 | 280.7 | 296.7 | 312.7 | 328.7 | 344.7 | 360.7 | 376.7 | 392.7 | 408.7 | 424.7 | 440.7 | 456.7 | 472.7 |
| L2       | 80   | 96   | 112  | 128  | 144  | 160  | 176  | 192  | 208  | 224  | 240  | 256  | 272  | 288  | 304  | 320  | 336  | 352  | 368  | 384  | 400  | 416  | 432  |     |
| L3       | 148  | 160.5 | 185.5 | 198  | 210.5 | 235.5 | 248  | 260.5 | 273  | 298  | 310.5 | 323  | 348  | 360.5 | 373  | 385.5 | 410.5 | 423  | 435.5 | 448  | 473  | 485.5 | 498  |     |
| L4       | 137.5 | 150  | 175  | 187.5 | 200  | 225  | 237.5 | 250  | 262.5 | 287.5 | 300  | 312.5 | 337.5 | 350  | 362.5 | 375  | 400  | 412.5 | 425  | 437.5 | 462.5 | 475  | 487.5 |     |
| L5       | 13.5 | 12   | 16.5 | 14.5 | 13   | 17.5 | 15.5 | 14   | 12   | 16.5 | 15   | 13   | 17.5 | 16   | 14   | 12.5 | 17   | 15   | 13.5 | 11.5 | 15   | 14.5 | 12.5 |     |
Plug-in Connector Connecting Base: Plug-in Mixed Mounting Type Manifold
For EX260 Integrated-type (For Output)
Serial Transmission System

Series SY3000/5000

SY3000 can be mounted onto SY5000 size manifold.

How to Order Manifold

Refer to page 20 for Type 11/Bottom ported dimensions.

Mixed Mounting Type

It is possible to mount SY3000 size valves on all stations. In this case, there is no need to fill in part 2 in the order code. However, the manifold block width should be 12.5 mm.

1 Type

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Protocol</th>
<th>Number of outputs</th>
<th>Communication connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>QA</td>
<td>DeviceNet™</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>QB</td>
<td>PROFIBUS DP</td>
<td>16</td>
<td>D-sub Note)</td>
</tr>
<tr>
<td>NA</td>
<td>PROFIBUS DP</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>NB</td>
<td>PROFIBUS DP</td>
<td>16</td>
<td>D-sub Note)</td>
</tr>
<tr>
<td>NC</td>
<td>PROFIBUS DP</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>ND</td>
<td>PROFIBUS DP</td>
<td>16</td>
<td>D-sub Note)</td>
</tr>
<tr>
<td>VA</td>
<td>CC-Link</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>VB</td>
<td>EtherCAT</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>DA</td>
<td>PROFINET</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>FA</td>
<td>PROFINET</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>FB</td>
<td>EtherNet/IP™</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>EB</td>
<td></td>
<td>16</td>
<td>M12</td>
</tr>
</tbody>
</table>

Note) IP40 for the D-sub applicable communication connector specification.
For SI unit part number, refer to page 1. DIN rail and SI unit output polarity “N” cannot be selected for the product without SI unit.

2 SI unit specifications

3 SI unit output polarity

<table>
<thead>
<tr>
<th>Note</th>
<th>Symbol</th>
<th>Protocol</th>
<th>Number of outputs</th>
<th>Communication connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Positive common</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>Negative common</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 1) Ensure a match with the common specifications of the valve to be used.
Note 2) Without SI unit, the symbol is nil.

4 Valve stations

In the case of the 32-output SI unit

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Double wiring Note 1)</td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td>Specified layout Note 2) Available up to 32 solenoids</td>
</tr>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Specified layout Note 2) Available up to 16 solenoids</td>
</tr>
<tr>
<td>24</td>
<td>24 stations</td>
<td>Specified layout Note 2) Available up to 16 solenoids</td>
</tr>
</tbody>
</table>

Note 1) Double wiring: 2-position single, double, 3-position and 4-position valves can be used on all manifold stations. Use of a 2-position single solenoid will result in an unused control signal. If this is not desired, order with a specified layout.

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

Note 3) Includes the number of blanking plate assemblies.

Note 4) For the model without the SI unit (S0), note the maximum number of solenoids of the SI unit that will be mounted. If the layout is specified, indicate it on the manifold specification sheet.

5 P, E port entry

Example (SS5Y5-M10SNAN-□)

2-position double
SY3200-SU1(3 sets)

SS5Y5-M10F1-05D-C86

The asterisk denotes the symbol for assembly.
*Prefix it to the port nos. of the valve, etc.

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

Note 1) When mounting top ported valves, select from page 21. In this case, use caution as there is also output on the A and B port on base side. Specify on a manifold specification sheet if plugs are required on the A and B port on base side.

Note 2) Only direct mounting is available for Type 11 (Bottom ported).

6 SUP/EXH block assembly

Example (SS5Y5-M10SNAN-□)

2-position double
SY3200-SU1(2 sets)

SS5Y5-M10F1-05D-C86

Mounting and Option

Symbol | Mounting | Option
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Direct mounting</td>
<td>Name plate (With station number)</td>
</tr>
<tr>
<td>AA</td>
<td>Direct mounting</td>
<td>Name plate (Without station number)</td>
</tr>
<tr>
<td>BA</td>
<td>Direct mounting</td>
<td>Without name plate</td>
</tr>
<tr>
<td>D</td>
<td>DIN rail mounting</td>
<td>Name plate (With station number)</td>
</tr>
<tr>
<td>A</td>
<td>DIN rail mounting</td>
<td>Name plate (Without station number)</td>
</tr>
</tbody>
</table>

Note 1) Enter the number of stations inside □.
(Refer to “DIN Rail Option” below.)

Note 2) Only direct mounting is available for Type 11 (Bottom ported).

DIN Rail Option

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Standard length</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Without DIN rail (with bracket)</td>
</tr>
<tr>
<td>3</td>
<td>For 3 stations Specify a longer rail than the total length of specified stations. (The SY5000 valve is now at a mountable length (manifold block length of 16 mm).)</td>
</tr>
<tr>
<td>24</td>
<td>For 24 stations</td>
</tr>
</tbody>
</table>

* When it is necessary to mount a DIN rail without an SI unit, select D0 and calculate DIN rail length, referring to L3 in the dimensions on page 19.

Refer to the page on the right for 7, 8, 9

Type 10
Side Ported

Type 11
Bottom Ported
Plug-in Connector Connecting Base  Series SY3000/5000

7 Fitting type

<table>
<thead>
<tr>
<th>Symbol</th>
<th>A, B port</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Metric size: Straight one-touch fitting</td>
</tr>
<tr>
<td>L</td>
<td>Metric size: Elbow one-touch fitting for upward (Note)</td>
</tr>
<tr>
<td>B</td>
<td>Metric size: Elbow one-touch fitting for downward (Note)</td>
</tr>
<tr>
<td>N</td>
<td>Inch size: Straight one-touch fitting</td>
</tr>
<tr>
<td>LN</td>
<td>Inch size: Elbow one-touch fitting for upward (Note)</td>
</tr>
<tr>
<td>BN</td>
<td>Inch size: Elbow one-touch fitting for downward (Note)</td>
</tr>
<tr>
<td>CM*</td>
<td>Straight port, mixed sizes</td>
</tr>
<tr>
<td>LM*</td>
<td>Elbow port, mixed sizes (including upward and downward piping) (Note)</td>
</tr>
</tbody>
</table>

Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly.

- Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".
- The direction of P, E port fittings is the same as for A,B port.
- If selecting "LM", indicate it on the manifold specification sheet for the P, E port fitting direction.
- Elbow fittings: ø2, ø3.2 and ø1.8" are not available for the SY3000 series. ø2, ø3.2, ø1.8" and ø5/32" are not available for the SY5000 series.

8 SY5000: A, B port size

<table>
<thead>
<tr>
<th>Metric</th>
<th>(Symbol)</th>
<th>Port size</th>
<th>(Inch)</th>
<th>(Symbol)</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>a4</td>
<td>One-touch fitting</td>
<td>3</td>
<td>ø5/32&quot;</td>
<td>One-touch fitting</td>
</tr>
<tr>
<td>6</td>
<td>ø6</td>
<td>One-touch fitting</td>
<td>7</td>
<td>ø1/4&quot;</td>
<td>One-touch fitting</td>
</tr>
<tr>
<td>8</td>
<td>ø8</td>
<td>One-touch fitting</td>
<td>9</td>
<td>ø5/16&quot;</td>
<td>One-touch fitting</td>
</tr>
<tr>
<td>Nil</td>
<td>For all stations of SY3000</td>
<td>Nil</td>
<td>For all stations of SY3000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* No symbol needs to be specified when fitting type "CM", "LM" is selected.

9 SY3000: A, B port size

<table>
<thead>
<tr>
<th>Metric</th>
<th>(Symbol)</th>
<th>Port size</th>
<th>(Inch)</th>
<th>(Symbol)</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>ø2</td>
<td>One-touch fitting</td>
<td>1</td>
<td>ø1/8&quot;</td>
<td>One-touch fitting</td>
</tr>
<tr>
<td>3</td>
<td>ø3.2</td>
<td>One-touch fitting</td>
<td>3</td>
<td>ø5/32&quot;</td>
<td>One-touch fitting</td>
</tr>
<tr>
<td>4</td>
<td>ø4</td>
<td>One-touch fitting</td>
<td>7</td>
<td>ø1/4&quot;</td>
<td>One-touch fitting</td>
</tr>
<tr>
<td>6</td>
<td>ø6</td>
<td>One-touch fitting</td>
<td>9</td>
<td>ø5/16&quot;</td>
<td>One-touch fitting</td>
</tr>
</tbody>
</table>

* No symbol needs to be specified when fitting type "CM", "LM" is selected.

How to Order Valves (With two mounting screws)

Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for details on valve specifications.

10 Manual override

D: Push-turn locking slotted type
F: Slide locking type

11 Type of mounting screw

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

- For "K" and "H", the valve body cover has a drop prevention construction to stop the mounting screws from falling out when the valve is removed for maintenance etc.
- When ordering a valve individually, the base gasket is not included. Since the base gasket is attached to the manifold, please order the base gasket separately if it is needed for maintenance service.
- Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for part numbers of the base gasket and mounting screw.
- "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or double check spacer assembly with residual pressure release valve.

Refer to the SMC website or the SY3000/5000 series catalog (CAT.NAS11-103) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.
Series SY3000/5000

Dimensions: Type 10/For EX260/Mixed Mounting Type

SS5Y5-M10S□□-Stations\(^{U\ B}D\) (-D)

---

Note 1) These figures show the “SSSY5-M10SQA-05D-C86”.

Note 2) Refer to page 10 for dimensions of D-sub communication connector, external pilot and built-in silencer.

EX260 Serial transmission  Calculation of dimensions

| L1 | 12.5 x n1 + 16 x n2 + 88.7 |
| L2 | 12.5 x n1 + 16 x n2 + 48 |
| M  | L1/12.5 + 1 Remove all numbers after the decimal |
| L3 | 12.5 x M + 23 |
| L4 | L3 – 10.5 |
| L5 | (L3 – L1)/2 |

n1: SY3000 Valve stations
n2: SY5000 Valve stations
Dimensions: Type 11/For EX260/Mixed Mounting Type

SS5Y5-M11S Stations

Panel cut dimensions

4 x M5 hole
4 x ø5.5

Cut dimensions for panel mounting
Refer to panel cut dimensions for details.

One-touch fitting
[1(P), 3/5(E) port]
Applicable tube O.D.: ø10, ø3/8"

One-touch fitting
[4(A), 2(B) port]
Applicable tube O.D.: ø4, ø5/32"
: ø6, ø1/4"
: ø8, ø5/16"

One-touch fitting
[4(A), 2(B) port]
Applicable tube O.D.: ø2
: ø3.2, ø1/8"
: ø4, ø5/32"
: ø6, ø1/4"

EX260 Serial transmission Calculation of dimensions

L1 = 12.5 x n1 + 16 x n2 + 88.7
L2 = 12.5 x n1 + 16 x n2 + 48

n1: SY3000 Valve stations
n2: SY5000 Valve stations

Note 1) These figures show the "SS5Y5-M11SOA-05D-C86".
Note 2) Refer to page 11 for dimensions of D-sub communication connector, external pilot and built-in silencer.
**How to Order Manifold**

**SS5Y5 – M12S NA N - 05 U -**

1. **SI unit specifications**
   - **Symbol**: DeviceNet™, PROFIBUS DP, CC-Link, EtherCAT, PROFINET, DeviceNet™, PROFIBUS DP, CC-Link, EtherCAT, PROFINET
   - **Protocol**: Without SI unit
   - **Number of outputs**: 32, 16, 32, 32, 32, 32, 32, 32, 32, 32, 32, 32
   - **Communication connector**: M12

2. **SI unit output polarity**
   - **Nil**: Positive common
   - **N**: Negative common

3. **Valve stations**
   - **In the case of the 32-output SI unit**
     - **Symbol**: DeviceNet™, PROFIBUS DP, CC-Link, EtherCAT, PROFINET
     - **Stations**: 02, 16, 02, 24
     - **Note**: Double wiring, specified layout
   - **In the case of the 16-output SI unit**
     - **Symbol**: DeviceNet™, PROFIBUS DP, CC-Link, EtherCAT, PROFINET
     - **Stations**: 02, 08, 02, 16
     - **Note**: Specified layout, specified layout

4. **P, E port entry**
   - **P**: U side (2 to 10 stations)
   - **E**: D side (2 to 10 stations)
   - **B**: Both sides (2 to 24 stations)

5. **SUP/EXH block assembly**
   - **Nil**: Internal pilot
   - **S**: Internal pilot, Built-in silencer
   - **R**: External pilot

- For built-in silencer type, P and E ports are available on U and D sides. 3/5(P,E) port is plugged. The silencer exhaust port is located on the opposite side of P, E port entry.
- When the built-in silencer type is used, keep the exhaust port from coming in direct contact with water or other liquids.

6. **P, E port size (One-touch fittings)**
   - **Nil**: ø10
   - **N**: ø3/8

7. **Mounting**
   - **Nil**: Direct mounting
   - **D**: DIN rail mounting (With DIN rail)
   - **D0**: DIN rail mounting (Without DIN rail)
   - **D3**: For 3 stations, specify a longer rail than the standard length.
   - **D24**: For 24 stations

- When it is necessary to mount a DIN rail without an SI unit, select D0 and order DIN rail length separately, referring to L3 in the dimensions. Refer to the SY3000/5000 series catalog (CAT.NAS11-103) for part numbers of DIN rail.
How to Order Valves (With two mounting screws)

```
SY 3 1 3 0 - 5 - 1 - C6 -
```

- **1 Series**
  - 3: SY3000
  - 5: SY5000

- **2 Type of actuation**
  - 1: 2-position single
  - 2: 2-position double
  - 3: 3-position closed center
  - 4: 3-position exhaust center
  - 5: 3-position pressure center

- **3 Seal type**
  - 0: Rubber seal
  - 1: Metal seal

- **4 Pilot type**
  - Nil: Internal pilot
  - R: External pilot

- **5 Back pressure check valve (Built-in valve type)**
  - Nil: None
  - H: Built-in

- **6 Pilot valve option**
  - Nil: Standard (101 psi (0.7 MPa))
  - B: Quick response type (101 psi (0.7 MPa))
  - K*: High pressure type (145 psi (1.0 MPa))

- **7 Coil type**
  - Nil: Standard
  - T: With power saving circuit (Continuous duty type)

- **8 Rated voltage**
  - 5: 24 VDC

- **9 Light/surge voltage suppressor and common specification**
  - Nil: Without light/surge voltage suppressor (Non-polar)
  - R: With surge voltage suppressor (Non-polar)
  - U: With light/surge voltage suppressor (Non-polar)
  - S: With surge voltage suppressor (Positive common)
  - Z: With light/surge voltage suppressor (Positive common)
  - NS: With surge voltage suppressor (Negative common)
  - NZ: With light/surge voltage suppressor (Negative common)

- **10 Manual override**
  - Nil: Non-locking push type
  - D: Push-turn locking slotted type
  - E: Push-turn locking manual type
  - F: Slide locking type

- **11 A, B port size**

- **12 Thread type**

- **13 Type of mounting screw**

Refer to the SMC website or the SY3000/5000 series catalog (CAT.NAS11-103) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.
**Series SY3000/5000**

**Dimensions: Type 12/Mixed Mounting Type**

SS5Y5-M12S- Stations

---

**Note 1)** These figures show the "SS5Y5-M12SQA-05D".

**Note 2)** Refer to page 16 for dimensions of D-sub communication connector, external pilot and built-in silencer.

---

**EX260 Serial transmission**  **Calculation of dimensions**

\[
L_1 = 12.5 \times n_1 + 16 \times n_2 + 88.7
\]

\[
L_2 = 12.5 \times n_1 + 16 \times n_2 + 48
\]

\[
M = L_1/12.5 + 1 \text{ Remove all numbers after the decimal.}
\]

\[
L_3 = 12.5 \times M + 23
\]

\[
L_4 = L_3 - 10.5
\]

\[
L_5 = (L_3 - L_1)/2
\]

- **n1**: SY3000 Valve stations
- **n2**: SY5000 Valve stations
How to Order Manifold

**Series SV**

1. **Series**
   - 1: SV1000
   - 2: SV2000
   - 3: SV3000

2. **SI unit specifications**
   - Symbol | Protocol | Number of outputs | Communication connector
   - QA | DeviceNet™ | 32 | M12
   - QB | DeviceNet™ | 16 | M12
   - NA | PROFIBUS DP | 32 | M12
   - NB | PROFIBUS DP | 16 | M12
   - NC | PROFINET | 32 | D-sub
   - ND | PROFINET | 16 |
   - VA | CC-Link | 32 | M12
   - VB | CC-Link | 16 | M12
   - DA | EtherCAT | 32 | M12
   - DB | EtherCAT | 16 | M12
   - EA | EtherCAT/IP™ | 32 | M12
   - EB | EtherCAT/IP™ | 16 |

3. **Valve stations**
   - In the case of the 32-output SI unit
     - Symbol | Stations | Note
     - 02 | 2 stations | Double wiring
     - 16 | 16 stations |
   - In the case of the 16-output SI unit
     - Symbol | Stations | Note
     - 02 | 2 stations | Double wiring
     - 08 | 8 stations |
     - 16 | 16 stations |

4. **SI unit output polarity**
   - Nil: Positive common
   - N: Negative common

5. **Mounting**
   - Nil: Direct mounting
   - D: DIN rail mounting (With DIN rail)
   - D0: DIN rail mounting (Without DIN rail)
   - D3: For 3 stations
   - D20: For 20 stations

Note: Without SI unit, the symbol is nil.

---

**Notes:**
- DIN rail cannot be selected for the product without SI unit.
- For SI unit part number, refer to page 1.
- For SI unit specifications, refer to Note 1) of the SI unit specifications.
Series SV

How to Order Manifold Assembly

Example (SV1000)

<table>
<thead>
<tr>
<th>Series</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>SV1000</td>
</tr>
<tr>
<td>2</td>
<td>SV2000</td>
</tr>
<tr>
<td>3</td>
<td>SV3000</td>
</tr>
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</table>

1. Series

2. Type of actuation

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>2-position single</td>
</tr>
<tr>
<td>2</td>
<td>2-position double</td>
</tr>
<tr>
<td>3</td>
<td>3-position closed center</td>
</tr>
<tr>
<td>4</td>
<td>3-position exhaust center</td>
</tr>
<tr>
<td>5</td>
<td>3-position pressure center</td>
</tr>
</tbody>
</table>

* 4-position dual 3-port valves are applicable to the SV1000/2000 series only.

3. Pilot type

<table>
<thead>
<tr>
<th>Description</th>
<th>Pilot type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>Nil</td>
</tr>
<tr>
<td>External</td>
<td>R</td>
</tr>
</tbody>
</table>

* External pilot specification is not available for 4-position dual 3-port valves.

4. Back pressure check valve

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
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<tbody>
<tr>
<td>Nil</td>
<td>None</td>
</tr>
<tr>
<td>K</td>
<td>Built-in</td>
</tr>
</tbody>
</table>

* Built-in back pressure check valve type is applicable to the SV1000 series only.
* Back pressure check valve is not available for 3-position valve.

5. Rated voltage

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>24 VDC</td>
</tr>
</tbody>
</table>

6. Light/surge voltage suppressor

<table>
<thead>
<tr>
<th>Description</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>With light/surge</td>
<td>U</td>
</tr>
<tr>
<td>With surge voltage</td>
<td>R</td>
</tr>
</tbody>
</table>

7. Manual override

<table>
<thead>
<tr>
<th>Description</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-locking push</td>
<td>Nil</td>
</tr>
<tr>
<td>Push-turn locking</td>
<td>D</td>
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</table>

8. Made to Order

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
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</tr>
<tr>
<td>X90</td>
<td>Main valve fluororubber</td>
</tr>
</tbody>
</table>

* Available with manifold block for station additions. Refer to Best Pneumatics No. 1.

Refer to the SMC website or the SV series in Best Pneumatics No.1 for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.
Dimensions: For EX260 Integrated-type (For Output) Serial Transmission System/Series SV1000

**Tie-rod base manifold: SS5V1-W10S1□□□□D - Stations U B (S, R, RS) - C3, C4, C6, C7 (-D)**

- 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.

---

**L: DIN Rail Overall Length**

<table>
<thead>
<tr>
<th>L</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
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</thead>
<tbody>
<tr>
<td>L1</td>
<td>135.5</td>
<td>148</td>
<td>148</td>
<td>160.5</td>
<td>173</td>
<td>185.5</td>
<td>198</td>
<td>210.5</td>
<td>210.5</td>
<td>223</td>
<td>235.5</td>
<td>248</td>
<td>260.5</td>
<td>273</td>
<td>273</td>
<td>285.5</td>
<td>298</td>
<td>310.5</td>
<td>323</td>
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<tr>
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<td>125</td>
<td>137.5</td>
<td>137.5</td>
<td>150</td>
<td>162.5</td>
<td>175</td>
<td>187.5</td>
<td>200</td>
<td>200</td>
<td>212.5</td>
<td>225</td>
<td>237.5</td>
<td>250</td>
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<td>262.5</td>
<td>275</td>
<td>287.5</td>
<td>300</td>
<td>312.5</td>
</tr>
<tr>
<td>L3</td>
<td>102.2</td>
<td>112.7</td>
<td>123.2</td>
<td>133.7</td>
<td>144.2</td>
<td>154.7</td>
<td>165.2</td>
<td>175.7</td>
<td>186.2</td>
<td>196.7</td>
<td>207.2</td>
<td>217.7</td>
<td>228.2</td>
<td>238.7</td>
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<tr>
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<td>115.5</td>
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<td>136.5</td>
<td>147</td>
<td>157.5</td>
<td>168</td>
<td>178.5</td>
<td>189</td>
<td>199.5</td>
<td>210</td>
<td>220.5</td>
<td>231</td>
<td>241.5</td>
<td>252</td>
</tr>
</tbody>
</table>

---

**Notes:**
- DIN rail mounting hole pitch: 12.5 mm
- DIN rail holding screw (For DIN rail mounting)
- One-touch fitting
- Manual override
- Light/surge voltage suppressor
- Manual override for the locking type
- External pilot port positions and silencer discharge port positions are the same as P, E port outlet positions.

---

**Tie-rod Base:**
- For EX260 Integrated-type (For Output) Serial Transmission System

---

**Series SV**
- BUS IN
- BUS OUT
- BUS

---

**Communication connector D-sub**
- [PE: Pilot EXH port]
- Applicable tube O.D. C8: ø8 (SMC)
- N9: ø5/16" (SMC)

---

**Silencer (exhaust port)**
- (Built-in silencer specification)
Dimensions: For EX260 Integrated-type (For Output) Serial Transmission System/Series SV2000

- Tie-rod base manifold: SS5V2-W10S1□□D- [Station U b (S, R, RS)- C4, N3 (S, R, RS)- C6, N7 (-D)]

  - When P, E 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 outlet positions.

<table>
<thead>
<tr>
<th>L</th>
<th>n</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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</thead>
<tbody>
<tr>
<td>L1</td>
<td>148</td>
<td>160.5</td>
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<td>248</td>
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<td>216.2</td>
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<td>320</td>
<td>336</td>
<td>352</td>
<td>368</td>
<td></td>
</tr>
</tbody>
</table>

L: DIN Rail Overall Length  n: Stations

*[Communication connector D-sub]*

- Manual override
- Light/surge voltage suppressor
- Manual portion
- One-touch fitting
- [X: External pilot port]
  - Applicable tube O.D. C4: ø4 (SMC)
  - N3: ø5/32" (SMC)
- [PE: Pilot EXH port]
  - Applicable tube O.D. C4: ø4 (SMC)
  - C6: ø6 (SMC)
  - C8: ø8 (SMC)
  - N3: ø5/32" (SMC)
  - N7: ø1/4" (SMC)
  - N9: ø5/16" (SMC)
- [4(A), 2(B) port]
  - Applicable tube O.D. C4: ø4 (SMC)
  - C6: ø6 (SMC)
  - C8: ø8 (SMC)
  - N3: ø5/32" (SMC)
  - N7: ø1/4" (SMC)
  - N9: ø5/16" (SMC)
Dimensions: For EX260 Integrated-type (For Output) Serial Transmission System/Series SV3000

- Tie-rod base manifold: SS5V3-W10S1□□D- Stations U (S, R, RS) - C6, N7 C8, N9 C10, N11 (-D)

- 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.

<table>
<thead>
<tr>
<th>L</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>17</th>
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<tbody>
<tr>
<td>L1</td>
<td>173</td>
<td>185.5</td>
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<tr>
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<tr>
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<td>467.7</td>
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<td>L4</td>
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<td>17</td>
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<tr>
<td>L5</td>
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<td>158.5</td>
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<td>384</td>
<td>404.5</td>
<td>425</td>
<td>445.5</td>
<td>466</td>
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</tbody>
</table>

L: DIN Rail Overall Length

n: Stations
Plug-in Unit:
For EX260 Integrated-type (For Output)
Serial Transmission System

Series VQC1000

How to Order Manifold

1 Series

1 VQC1000

2 Manifold model

1 Plug-in unit

3 Stations

In the case of the 32-output SI unit

Symbol | Stations | Note
--- | --- | ---
02 | 2 stations | Double wiring Note 1
12 | 12 stations | Specified layout Note 2
02 | 2 stations | (Available up to 24 solenoids)
24 | 24 stations | Specified layout Note 2

In the case of the 16-output SI unit

Symbol | Stations | Note
--- | --- | ---
02 | 2 stations | Double wiring Note 1
08 | 8 stations | Specified layout Note 2
16 | 16 stations | Specified layout Note 2

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

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

Note 3) Includes the number of blanking plate assemblies.

4 Cylinder port size

C3 With ø3.2 One-touch fitting
C4 With ø4 One-touch fitting
C6 With ø6 One-touch fitting
M5 M5 thread
CM Mixed sizes and with port plug
L3 Top ported elbow with ø3.2 One-touch fitting
L4 Top ported elbow with ø4 One-touch fitting
L6 Top ported elbow with ø6 One-touch fitting
L5 Bottom ported elbow with ø6 One-touch fitting
B3 Bottom ported elbow with ø3.2 One-touch fitting
B4 Bottom ported elbow with ø4 One-touch fitting
B6 Bottom ported elbow with ø6 One-touch fitting
B5 M5 thread
LM Elbow port, mixed sizes

5 Kit type

S Kit (Serial transmission kit (for Output))

6 SI unit output polarity

Nil Positive common
N Negative common

7 Option

Nil None
B With back pressure check valve (All stations) Note 2
D With DIN rail (Rail length: Standard)
D With DIN rail (Rail length: Special) Note 3
K Special wiring spec. (Except double wiring) Note 4
N With name plate
R External pilot Note 5
S Built-in silencer, Direct exhaust Note 6

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

Note 2) When the back pressure check valve is desired, and is to be installed only in certain manifold stations, specify the mounting position on the manifold specification sheet.

Note 3) For special DIN rail length, indicate “D” (Enter the number of stations inside “<”.) Example: -DO8

In this case, stations will be mounted on a DIN rail for 8 stations regardless of the actual number of manifold stations. The specified number of stations must be larger than the number of stations on the manifold. Indicate “-D0” for the option without DIN rail.

Note 4) Specify wiring type of each station on the manifold specification sheet.

Note 5) For external pilot option, “-R”, indicate the external pilot specification “R” for the applicable valves as well.

Note 6) Built-in silencer type does not satisfy IP67.

Note 7) When the “SD0” (Without SI unit) is specified, “-D”, “-DC” cannot be selected.

8 Kit

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Protocol</th>
<th>Number of outputs</th>
<th>Communication connector</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Without SI unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SQA</td>
<td>DeviceNet™</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SQB</td>
<td>16</td>
<td>M12</td>
<td></td>
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<tr>
<td>SNA</td>
<td>PROFIBUS DP</td>
<td>32</td>
<td>D-sub Note 1</td>
</tr>
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<td>SNB</td>
<td>16</td>
<td>M12</td>
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<td>SNC</td>
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<td>M12</td>
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<td>EtherNet/IP™</td>
<td>32</td>
<td>M12</td>
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<tr>
<td>SEB</td>
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<td>M12</td>
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</tr>
</tbody>
</table>

Note 1) D-sub S kit: IP40 specification (IP67 specification for all other S kits)

Note 2) For SI unit part number, refer to page 1.
### How to Order Valves

#### VQC 1100 - 51

<table>
<thead>
<tr>
<th>Series VQC1000</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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</thead>
<tbody>
<tr>
<td><strong>Type of actuation</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>1 Position single</td>
<td>2-position single (Metal)</td>
<td>2-position double (Metal)</td>
<td>2-position double (Rubber)</td>
<td>3-position closed center</td>
<td>3-position exhaust center</td>
<td>3-position pressure center</td>
</tr>
<tr>
<td>(A4)</td>
<td>2(B)</td>
<td>(R1)</td>
<td>2(R2)</td>
<td>(P)</td>
<td>(R1)</td>
<td>2(R2)</td>
</tr>
<tr>
<td><strong>Seal type</strong></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>0</td>
<td>Metal seal</td>
<td>1</td>
<td>Rubber seal</td>
<td>Nil</td>
<td>Non-locking push type (Tool required)</td>
<td>B: Locking type (Tool required)</td>
</tr>
<tr>
<td><strong>Function</strong></td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Nil</td>
<td>Standard (0.4 W)</td>
<td>Quick response type (0.95 W)</td>
<td>High pressure type (145 psi (1.0 MPa), 0.95 W)</td>
<td>Negative common</td>
<td>External pilot</td>
<td></td>
</tr>
<tr>
<td>Note 2</td>
<td>Note 3</td>
<td>Note 4</td>
<td>Note 1</td>
<td>When two or more symbols are specified, indicate them alphabetically. However, combination of “B” and “K” is not possible.</td>
<td>Only metal seal type</td>
<td>When negative common is specified for SI unit, select and mount the valve of negative common.</td>
</tr>
<tr>
<td><strong>Coil voltage</strong></td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>5</td>
<td>24 VDC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Light/surge voltage suppressor</strong></td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>Nil</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Refer to the SMC website or the VQC1000/2000 series catalog (CAT.NAS11-101) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.
Series VQC1000
Kit (Serial transmission) For EX260 Integrated-type (For Output) Serial Transmission System

VV5QC11
S Kit (Serial transmission kit: EX260)

[DIN rail mounting hole pitch: 12.5]

Manual override
(Press and turn for the locking type.)

One-touch fitting
[1(P), 3(R) port]
Applicable tube O.D. C8: ø8 (SMC)
N9: ø5/16” (SMC)

One-touch fitting
[4(A), 2(B) port]
Applicable tube O.D. C3: ø3.2 (SMC)
C4: ø4 (SMC)
C6: ø6 (SMC)
N1: ø1/8” (SMC)
N3: ø5/32” (SMC)
N7: ø1/4” (SMC)
M5: M5 thread

| n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| L1 | 55.5 | 66 | 76.5 | 87 | 97.5 | 108 | 118.5 | 129 | 139.5 | 150 | 160.5 | 171 | 181.5 | 192 | 202.5 | 213 | 223.5 | 234 | 244.5 | 255 | 265.5 | 276 | 286.5 | 297 |
| L2 | 104.2 | 114.7 | 125.2 | 135.7 | 146.2 | 156.7 | 167.2 | 177.7 | 188.2 | 198.7 | 209.2 | 219.7 | 230.2 | 240.7 | 251.2 | 261.7 | 272.2 | 282.7 | 293.2 | 303.7 | 314.2 | 324.7 | 335.2 | 345.7 |
| L3 | 127 | 139.5 | 152 | 164.5 | 177 | 189.5 | 202 | 214.5 | 227 | 239.5 | 252 | 264.5 | 277 | 289.5 | 302 | 314.5 | 327 | 339.5 | 352 | 364.5 | 377 |
| L4 | 137.5 | 150 | 162.5 | 175 | 187.5 | 197.5 | 200 | 212.5 | 225 | 237.5 | 250 | 250 | 262.5 | 275 | 287.5 | 300 | 312.5 | 325 | 325 | 337.5 | 350 | 362.5 | 375 | 387.5 |

n: Stations (Maximum 24 stations)
Plug-in Unit: 
For EX260 Integrated-type (For Output) 
Serial Transmission System 
Series VQC2000 

How to Order Manifold

1. Series 
   2. VQC2000

2. Manifold model 
   1. Plug-in unit

3. Stations 
   In the case of the 32-output SI unit 
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Double wiring Note 1)</td>
</tr>
<tr>
<td>12</td>
<td>12 stations</td>
<td>Specified layout Note 2)</td>
</tr>
<tr>
<td>24</td>
<td>24 stations</td>
<td>Specified layout Note 2)</td>
</tr>
</tbody>
</table>

   In the case of the 16-output SI unit 
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>2 stations</td>
<td>Double wiring Note 1)</td>
</tr>
<tr>
<td>08</td>
<td>8 stations</td>
<td>Specified layout Note 2)</td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td>Specified layout Note 2)</td>
</tr>
</tbody>
</table>

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

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

Note 3) Includes the number of blanking plate assemblies.

4. Cylinder port size 
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>ø4</td>
<td>One-touch fitting</td>
</tr>
<tr>
<td>C6</td>
<td>ø6</td>
<td>One-touch fitting</td>
</tr>
<tr>
<td>C8</td>
<td>ø8</td>
<td>One-touch fitting</td>
</tr>
<tr>
<td>CM</td>
<td></td>
<td>Mixed sizes and with port plug</td>
</tr>
<tr>
<td>L4</td>
<td></td>
<td>Top ported elbow with ø4 One-touch fitting</td>
</tr>
<tr>
<td>L6</td>
<td></td>
<td>Top ported elbow with ø6 One-touch fitting</td>
</tr>
<tr>
<td>L8</td>
<td></td>
<td>Top ported elbow with ø8 One-touch fitting</td>
</tr>
<tr>
<td>B4</td>
<td></td>
<td>Bottom ported elbow with ø4 One-touch fitting</td>
</tr>
<tr>
<td>B6</td>
<td></td>
<td>Bottom ported elbow with ø6 One-touch fitting</td>
</tr>
<tr>
<td>B8</td>
<td></td>
<td>Bottom ported elbow with ø8 One-touch fitting</td>
</tr>
<tr>
<td>LM</td>
<td></td>
<td>Elbow port, mixed sizes</td>
</tr>
</tbody>
</table>

Note 1) Indicate the sizes on the manifold specification sheet in the case of "CM", "LM".
Note 2) When selecting the mixed size for different types of piping or dual flow fitting assembly, enter "MM" and give instructions in the manifold specification sheet.
Note 3) Symbols for inch sizes are as follows: 
• N3: ø5/32" 
• N7: ø1/4" 
• N9: ø5/16" 
• NM: Mixed 
The top ported elbow is LN□ and the bottom ported elbow is BNS□.

5. SI unit output polarity 
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Positive common</td>
</tr>
<tr>
<td>N</td>
<td>Negative common</td>
</tr>
</tbody>
</table>

6. Option 
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Protocol</th>
<th>Number of outputs</th>
<th>Communication connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD0</td>
<td>Without SI unit</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>SQA</td>
<td>DeviceNet™</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SQB</td>
<td></td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>SNA</td>
<td>PROFIBUS DP</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SNB</td>
<td></td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>SNC</td>
<td></td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SND</td>
<td></td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>SVA</td>
<td>CC-Link</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SVB</td>
<td></td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>SDA</td>
<td>EtherCAT</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SDB</td>
<td></td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>SFA</td>
<td>PROFINET</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SFB</td>
<td></td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>SEA</td>
<td>EtherNet/IP™</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SEB</td>
<td></td>
<td>16</td>
<td>M12</td>
</tr>
</tbody>
</table>

Note 1) D-sub S kit: IP40 specification (IP67 specification for all other S kits) 
Note 2) For SI unit part number, refer to page 1. 

Kit type 
(Serial transmission kit for Output) 

Symbol Protocol Number of outputs Communication connector 
SQA DeviceNet™ 32 M12 
SQB 16 M12 
SNA PROFIBUS DP 32 M12 
SNB 16 M12 
SNC 32 M12 
SND 16 M12 
SVA CC-Link 32 M12 
SVB 16 M12 
SDA EtherCAT 32 M12 
SDB 16 M12 
SFA PROFINET 32 M12 
SFB 16 M12 
SEA EtherNet/IP™ 32 M12 
SEB 16 M12 

Note 1) D-sub S kit: IP40 specification (IP67 specification for all other S kits) 
Note 2) For SI unit part number, refer to page 1.
# How to Order Valves

## VQC 2 1 0 0 5 1

**Series VQC2000**

### 1. Type of actuation

- **2-position single**
  - Type: A
  - Port: (A) 4 (B) 2

- **2-position double (Metal)**
  - Type: A
  - Port: (A) 4 (B) 2

- **2-position double (Rubber)**
  - Type: A
  - Port: (A) 4 (B) 2

- **3-position closed center**
  - Type: A
  - Port: (A) 4 (B) 2

- **3-position exhaust center**
  - Type: A
  - Port: (A) 4 (B) 2

- **3-position pressure center**
  - Type: A
  - Port: (A) 4 (B) 2

### 2. Seal type

- 0: Metal seal
- 1: Rubber seal

### 3. Function

- **Nil**: Standard (0.4 W)
- **B**: Quick response type (0.95 W)
- **K** *(Note 2)*: High pressure type (145 psi (1.0 MPa), 0.95 W)
- **N** *(Note 3)*: Negative common
- **R** *(Note 4)*: External pilot

**Note 1)** When two or more symbols are specified, indicate them alphabetically. However, combination of “B” and “K” is not possible.

**Note 2)** Only metal seal type

**Note 3)** When negative common is specified for SI unit, select and mount the valve of negative common.

**Note 4)** Not applicable for dual 3-port valves

### 4. Coil voltage

- 5: 24 VDC

### 5. Light/surge voltage suppressor

- **Nil**: Yes

### 6. Manual override

- **Nil**: Non-locking push type (Tool required)
- **B**: Locking type (Tool required)
- **C**: Locking type (Manual)
- **D**: Slide locking type (Manual)

**Note**

- Only rubber seal type

---

Refer to the SMC website or the VQC1000/2000 series catalog (CAT.NAS11-101) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.
Series VQC2000
Kit (Serial transmission) For EX260 Integrated-type (For Output) Serial Transmission System

VV5QC21
S Kit (Serial transmission kit: EX260)

(DIN rail)

Manual override
(Press and turn for the locking type.)

One-touch fitting
[1(P), 3(R) port]
Applicable tube O.D.
C10: ø10 (SMC)
N11: ø3/8" (SMC)
(C12: ø12 (SMC) (In case of double sided type))

Manual portion
(DIN rail)

One-touch fitting
[4(A), 2(B) port]
Applicable tube O.D.
C4: ø4 (SMC)
C6: ø6 (SMC)
C8: ø8 (SMC)
N3: ø5/32" (SMC)
N7: ø1/4" (SMC)
N9: ø5/16" (SMC)

SI unit
(DIN rail clamping screw)

n: Stations (Maximum 24 stations)
### Base Mounted Plug-in Unit: For EX260 Integrated-type (For Output) Serial Transmission System

**Series VQC4000**

#### How to Order Manifold

**VV5QC 4 1 16 03 SNA N S Kit**

### 1 Series
- **Series**
  - 4: VQC4000

### 2 Manifold model
- **1** Plug-in unit

### 4 Cylinder port size
- **C8** With ø8 One-touch fitting
- **C10** With ø10 One-touch fitting
- **C12** With ø12 One-touch fitting
- **02** Rc1/4
- **03** Rc3/8
- **B** Bottom ported Rc1/4
- **CM** Mixed

Note 1) Indicate the sizes on the manifold specification sheet in the case of “CM”.

Note 2) Symbols for inch sizes are as follows:
- **N7**: ø1/4”
- **N9**: ø5/16”
- **N11**: ø3/8”
- **NM**: Mixed

### 5 Thread type
- **Nil** Rc
- **F** G
- **T** NPT/NPTF

### 6 Kit type
- **S** (Serial transmission kit (for Output))

#### 3 Stations

**In the case of the 32-output SI unit**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1 station</td>
<td>Double wiring (Note 1)</td>
</tr>
<tr>
<td>12</td>
<td>12 stations</td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>1 station</td>
<td>Specified layout (Note 2)</td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td>(Available up to 24 solenoids)</td>
</tr>
</tbody>
</table>

**In the case of the 16-output SI unit**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1 station</td>
<td>Double wiring (Note 1)</td>
</tr>
<tr>
<td>08</td>
<td>8 stations</td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>1 station</td>
<td>Specified layout (Note 2)</td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td>(Available up to 16 solenoids)</td>
</tr>
</tbody>
</table>

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

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

Note 3) Includes the number of blanking plate assemblies.

### 7 SI unit output polarity
- **Nil** Positive common
- **N** Negative common

### 8 Option
- **Nil** None
- **S** Built-in silencer, Direct exhaust (Note 1)
- **K** Special wiring spec. (Except double wiring) (Note 2)

Note 1) Built-in silencer type does not satisfy IP67.
Note 2) Specify wiring type of each station on the manifold specification sheet.

**DeviceNet™**

**PROFIBUS DP**

**CC-Link**

**EtherCAT**

**PROFINET**

**EtherNet/IP™**

**M12**

**D-sub** (Note 1)

**SD0A**

**SQA**

**SQB**

**SNA**

**SNB**

**SNC**

**SND**

**SVA**

**SVB**

**SDA**

**SDB**

**SFA**

**SFB**

**SEA**

**SEB**

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

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

Note 3) Includes the number of blanking plate assemblies.

---

**Symbol Protocol Number of outputs Communication connector**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Protocol</th>
<th>Number of outputs</th>
<th>Communication connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD0A</td>
<td>Without SI unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SQA</td>
<td>DeviceNet™</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SQB</td>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>SNA</td>
<td>PROFIBUS DP</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SNB</td>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>SNC</td>
<td></td>
<td>32</td>
<td>D-sub (Note 1)</td>
</tr>
<tr>
<td>SND</td>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>SVA</td>
<td>CC-Link</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SVB</td>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>SDA</td>
<td>EtherCAT</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SDB</td>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>SFA</td>
<td>PROFINET</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SFB</td>
<td></td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>SEA</td>
<td>EtherNet/IP™</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SEB</td>
<td></td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

Note 1) D-sub S kit: IP40 specification (IP67 specification for all other S kits)
Note 2) For SI unit part number, refer to page 1.
## How to Order Valves

### VQC 4 1 0 0 - 5

**Series VQC4000**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### 1 Type of actuation

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### 2 Seal type

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 3 Function

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>R</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 1) When two or more symbols are specified, indicate them alphabetically.

Note 2) Select “Y” when a valve is continuously energized for long periods of time.

### 4 Coil voltage

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 5 Light/surge voltage suppressor

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 6 Manual override

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Nil:** Non-locking push type (Tool required)

**B:** Locking type (Tool required)

---

Refer to the SMC website or the VQC4000 series in Best Pneumatics No.1 for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.
VV5QC41
S Kit (Serial transmission kit: EX260)
Plug-in Manifold Stacking Base S Kit (Serial Transmission): For EX260 Integrated-type (For Output)

**Series S0700**

**How to Order Manifold**

**SS0750 - 08 C4 C8 SNA N - B**

### Stations

**In the case of the 32-output SI unit**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1 station</td>
<td></td>
</tr>
<tr>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>1 station</td>
<td></td>
</tr>
<tr>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>24 stations</td>
<td></td>
</tr>
</tbody>
</table>

**In the case of the 16-output SI unit**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Stations</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1 station</td>
<td></td>
</tr>
<tr>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>08</td>
<td>8 stations</td>
<td></td>
</tr>
<tr>
<td>:</td>
<td>:</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>16 stations</td>
<td></td>
</tr>
</tbody>
</table>

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

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

Note 3) Includes the number of blanking plate assemblies.

### Cylinder port size

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2</td>
<td>With ø2 One-touch fitting</td>
</tr>
<tr>
<td>C3</td>
<td>With ø3.2 One-touch fitting</td>
</tr>
<tr>
<td>C4</td>
<td>With ø4 One-touch fitting</td>
</tr>
<tr>
<td>CM</td>
<td>Mixed sizes and with port plug</td>
</tr>
<tr>
<td>N1</td>
<td>With ø1/8” One-touch fitting</td>
</tr>
<tr>
<td>N3</td>
<td>With ø5/32” One-touch fitting</td>
</tr>
<tr>
<td>NM</td>
<td>Mixed sizes and with port plug</td>
</tr>
</tbody>
</table>

Note) Indicate the sizes on the manifold specification sheet in the case of “CM”, “NM”.

### P, R port size

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
</tr>
</thead>
<tbody>
<tr>
<td>C6</td>
<td>With ø6 One-touch fitting</td>
</tr>
<tr>
<td>C8</td>
<td>With ø8 One-touch fitting</td>
</tr>
<tr>
<td>N7</td>
<td>With ø7/8” One-touch fitting</td>
</tr>
<tr>
<td>N9</td>
<td>With ø5/16” One-touch fitting</td>
</tr>
</tbody>
</table>

Note) The cylinder port is ø5/16” when measured in inches.

### Kit type

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Protocol</th>
<th>Number of outputs</th>
<th>Communication connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD0</td>
<td>Without SI unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SQA</td>
<td>DeviceNet™</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SQB</td>
<td>PROFIBUS DP</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>SNA</td>
<td>PROFIBUS DP</td>
<td>32</td>
<td>D-sub</td>
</tr>
<tr>
<td>SNC</td>
<td>CC-Link</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SND</td>
<td>EtherCAT</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SVA</td>
<td>PROFINET</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SVB</td>
<td>CC-Link</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>SDA</td>
<td>EtherCAT</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>SDB</td>
<td>PROFINET</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>SFA</td>
<td>CC-Link</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SFB</td>
<td>EtherCAT</td>
<td>32</td>
<td>M12</td>
</tr>
<tr>
<td>SEA</td>
<td>CC-Link</td>
<td>16</td>
<td>M12</td>
</tr>
<tr>
<td>SEB</td>
<td>EtherCAT</td>
<td>16</td>
<td>M12</td>
</tr>
</tbody>
</table>

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 1.

### Option

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>None</td>
</tr>
<tr>
<td>B</td>
<td>With back pressure check valve (All stations)</td>
</tr>
<tr>
<td>D</td>
<td>DIN rail (Rail length: Standard)</td>
</tr>
<tr>
<td>D0</td>
<td>DIN rail (Rail length: Standard)</td>
</tr>
<tr>
<td>K</td>
<td>DIN rail (Rail length specified, Stations)</td>
</tr>
<tr>
<td>N</td>
<td>With name plate</td>
</tr>
<tr>
<td>R</td>
<td>External pilot</td>
</tr>
<tr>
<td>S</td>
<td>Built-in silencer</td>
</tr>
</tbody>
</table>

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

Note 2) When the back pressure check valve is desired, and is to be installed only in certain manifold stations, specify the mounting position on the manifold specification sheet.

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

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

Note 5) Refer to the S0700 series catalog (CAT.NAS11-88) for details.

Note 6) Refer to the S0700 series catalog (CAT.NAS11-88) for manifold exploded view.

Note 7) When the “SD0” (Without SI unit) is specified, “-D”, “-D/L50132” cannot be selected.

### Communication connector

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Number of outputs</th>
<th>Communication connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>M12</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>M12</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>M12</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>M12</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>M12</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>M12</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>M12</td>
<td>32</td>
<td></td>
</tr>
</tbody>
</table>

### SI unit output polarity

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Positive common</td>
</tr>
<tr>
<td>N</td>
<td>Negative common</td>
</tr>
</tbody>
</table>

**How to Order Manifold**

**SS0750 - 08 C4 C8 SNA N - B**

1. Stations
   - In the case of the 32-output SI unit
     - Symbol: Stations
       - Symbol | Stations | Note |
       - 01     | 1 station|       |
       - :     | :       |      |
       - 16     | 16 stations|     |
       - 01     | 1 station|       |
       - :     | :       |      |
       - 24     | 24 stations|    |
   - In the case of the 16-output SI unit
     - Symbol: Stations
       - Symbol | Stations | Note |
       - 01     | 1 station|       |
       - :     | :       |      |
       - 08     | 8 stations|      |
       - :     | :       |      |
       - 16     | 16 stations|     |

2. Cylinder port size
   - Symbol | Port size |
   - C2     | With ø2 One-touch fitting |
   - C3     | With ø3.2 One-touch fitting |
   - C4     | With ø4 One-touch fitting |
   - CM     | Mixed sizes and with port plug |
   - N1     | With ø1/8” One-touch fitting |
   - N3     | With ø5/32” One-touch fitting |
   - NM     | Mixed sizes and with port plug |

3. P, R port size
   - Symbol | Port size |
   - C6     | With ø6 One-touch fitting |
   - C8     | With ø8 One-touch fitting |
   - N7     | With ø7/8” One-touch fitting |
   - N9     | With ø5/16” One-touch fitting |

4. Kit type
   - Symbol | Protocol | Number of outputs | Communication connector |
   - SD0    | Without SI unit |               |                         |
   - SQA    | DeviceNet™ | 32               | M12                     |
   - SQB    | PROFIBUS DP | 16               | M12                     |
   - SNA    | PROFIBUS DP | 32               | D-sub                   |
   - SNC    | CC-Link   | 32               | M12                     |
   - SND    | EtherCAT   | 32               | M12                     |
   - SVA    | PROFINET   | 32               | M12                     |
   - SVB    | CC-Link   | 16               | M12                     |
   - SDA    | EtherCAT   | 16               | M12                     |
   - SDB    | PROFINET   | 16               | M12                     |
   - SFA    | CC-Link   | 32               | M12                     |
   - SFB    | EtherCAT   | 32               | M12                     |
   - SEA    | CC-Link   | 16               | M12                     |
   - SEB    | EtherCAT   | 16               | M12                     |

5. SI unit output polarity
   - Symbol | Option |
   - Nil    | Positive common |
   - N      | Negative common |
### How to Order Manifold Assembly

**Example (Serial transmission kit)**

![Manifold assembly diagram]

#### Note)
- Prefix the asterisk to the part nos. of the solenoid valve, etc.
- Write sequentially from the 1st station on the D side.
- When part nos. written collectively are complicated, specified on the manifold specification sheet.
- Specify the part numbers for valves and options together beneath the manifold base part number.

### How to Order Valves

![Valve symbol chart]

#### Note)
- Refer to the SMC website or the S0700 series catalog (CAT.NAS11-88) for details on solenoid valve specifications, Common Precautions and Specific Product Precautions.
Series S0700

Plug-in Manifold Stacking Base S Kit (Serial Transmission): For EX260 Integrated-type (For Output) Serial Transmission System

Dimensions (mm)

SS0750
S Kit (Serial transmission kit: EX260)

Dimensions

[Communication connector D-sub]

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

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

1. Use this product within the specification range.
   Using beyond the specified specifications range can cause fire, malfunction, or damage to the system. 
   Check the specifications before operation.

2. When using for an interlock circuit:
   • Provide a multiple interlock system which is operated by another system (such as mechanical protection function).
   • Perform an inspection to confirm that it is working properly.
   This may cause possible injury due to malfunction.

**Caution**

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

2. Use this product within the specified voltage range.
   Using beyond the specified voltage range is likely to cause the units and connecting devices to be damaged or to malfunction.

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

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

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

**Mounting**

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

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

**Wiring**

1. Check the grounding to maintain the safety of the reduced wiring system and for anti-noise performance.
   Provide a specific grounding as close to the unit as possible to minimize the distance to grounding.

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

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

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

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

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

7. When a reduced wiring system is installed in machinery/equipment, provide adequate protection against noise by using noise filters, etc.
   Noise in signal lines may cause malfunction.
**Series EX260**

**Specific Product Precautions 2**

Be sure to read before handling. Refer to back cover for Safety Instructions, “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” for 3/4/5 Port Solenoid Valve Precautions. The Operation Manual can be downloaded from the SMC website, http://www.smcworld.com

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### Wiring

**Caution**

8. When connecting wires of output device, prevent water, solvent or oil from entering inside the connector section.

   This can cause damage, equipment failure or malfunction.

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

   This may cause malfunction or damage to the unit due to contact failure.

10. Select connectors that are ø16 or less if mounting manifolds directly using fieldwireable connectors for SI unit power supply wiring.

    Using large diameter connectors causes interference with the mounting surface.

    The following cables with connectors are recommended.

    - For EX260-SPR5/6/7/8
      - EX500-AP/SDN/SEC/SPN/SEN
      - Cable with connector>

    - For EX260-SMJ
      - EX9-AC/SEC/SPN/SEN
      - Cable with connector>

### Operating Environment

**Caution**

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

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

   1) Where noise is generated by static electricity, etc.

   2) Where there is a strong electric field

   3) Where there is a danger of exposure to radiation

   4) When in close proximity to power lines or high voltage lines

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

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

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

   This may damage the unit and cause it to malfunction.

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

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

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

7. Keep dust, wire scraps and other extraneous material from getting inside the product.

   This may cause malfunction or damage.

8. Mount the unit in such locations, where no vibration or shock is affected.

   This may cause malfunction or damage.

9. Do not use 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 effected.

10. Do not use in direct sunlight.

    Do not use in direct sunlight. It may cause malfunction or damage.

11. Use this product within the specified ambient temperature range.

    This may cause malfunction.

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

    Such a place is likely to cause malfunction.
**Warning**

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

**Caution**

1. Use a watchmakers' screwdriver with thin blade for the setting of each switch of the SI unit.
   When setting the switch, do not touch other unrelated parts.
   This may cause parts damage or malfunction due to a short circuit.

2. Provide adequate setting for the operating conditions.
   Failure to do so could result in malfunction.
   Refer to the operation manual for setting of the switches.

3. For details on programming and address setting, refer to the manual from the PLC manufacturer.
   The content of programming related to protocol is designed by the manufacturer of the PLC used.

4. For the EX260-SPN, the side of the SI unit may become hot.
   It may cause burns.

**Warning**

1. Do not disassemble, modify (including circuit board replacement) or repair this product.
   Such actions are likely to cause injuries or breakage.

2. When an inspection is performed,
   - Turn off the power supply.
   - Stop the air supply, exhaust the residual pressure in piping and verify that the air is released before performing maintenance work.
   Unexpected malfunction of system components and injury can result.

**Caution**

1. When handling and replacing the unit:
   - Do not apply excessive force to the unit when disassembling.
     The connecting portions of the unit are firmly joined with seals.
   - When joining units, take care not to get fingers caught between units.
     Injury can result.

2. Perform periodic inspection.
   Unexpected malfunction in the system composition devices is likely to occur due to malfunction of machinery or equipment.

3. After maintenance, make sure to perform an appropriate functionality inspection.
   In cases of abnormality such as faulty operation, stop operation.
   Unexpected malfunction in the system composition devices is likely to occur.

4. Do not use benzene and thinner for cleaning units.
   Damage to the surface or erasure of the display can result.
   Wipe off any stains with a soft cloth.
   If the stain is persistent, wipe off with a cloth soaked in a dilute solution of neutral detergent and wrung out tightly, and then finish with a dry cloth.

**Caution**

1. Refer to the catalog of each series for Common Precautions and Specific Product Precautions on manifold solenoid valves.

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**Trademark**

DeviceNet™ is a trademark of ODVA.
EtherCAT® is a registered trademark of Beckhoff Automation GmbH, Germany.
EtherCAT® is a trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

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

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

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

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

---

### Safety Instructions

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

2. Only personnel with appropriate training should operate machinery and equipment.
   The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.
   1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent failing or runaway of the driven objects have been confirmed.
   2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
   3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

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

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### Warning

1. The product is provided for use in manufacturing industries.
   The product herein described is basically provided for peaceful use in manufacturing industries.

2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and local rules governing that export are known and followed.

3. Prior to using SMC products, please read and understand the “Limited warranty and Disclaimer” and “Compliance Requirements”.

4. Contact SMC beforehand and exchange specifications or a contract if necessary.

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### Limited warranty and Disclaimer

**Limited warranty and Disclaimer**

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered.

2. Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.

3. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.

4. This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.

5. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

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### Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.

2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

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### Revision history

**Edition B** • EtherNet/IP™ added to applicable Fieldbus protocols.
Global Manufacturing, Distribution and Service Network

North & South America

- U.S.A SMC Corporation of America
- CANADA SMC Pneumatics (Canada) Ltd.
- MEXICO SMC Corporation de Mexico, S.A. de C.V.
- BRAZIL SMC Pneumaticos do Brasil Ltda.
- CHILE SMC Pneumatics (Chile) S.A.
- COLOMBIA SMC Colombia Sucursal de SMC Chile S.A.
- ARGENTINA SMC Argentina S.A.
- BOLIVIA SMC Pneumaticas Bolivia S.R.L.
- VENEZUELA SMC Neumatica Venezuela S.A.
- PERU (Distributor) IMPECO Automation Industrial S.A.C.
- ECUADOR (Distributor) ASSISTECH CIA. LTDA.

Asia/Oceania

- CHINA SMC (China) Co., Ltd.
- CHINA SMC Pneumatics (Guangzhou) Ltd.
- HONG KONG SMC Pneumatics (Hong Kong) Ltd.
- TAIWAN SMC Pneumatics (Taiwan) Co., Ltd.
- KOREA SMC Pneumatics Korea Co., Ltd.
- SINGAPORE SMC Pneumatics (S.E.A.) Pte. Ltd.
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