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# Fieldbus System
## (For Input/Output)

New

CE cULus RoHS

**Compatible Protocols**

CC-Link V2 DeviceNet PROFIBUS EtherNet/IP EtherCAT PROFINET

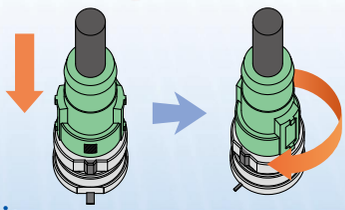


### New Unit type added

**Dual port SI Unit (EtherNet/IP™) product**

- Can be used for linear type or DLR type topology.
- Supports QuickConnect™ function.
- Status checks and settings can be performed on a web browser.

### Reduction in wiring time with SPEEDCON (Phoenix Contact). Just insert and make 1/2 rotation!

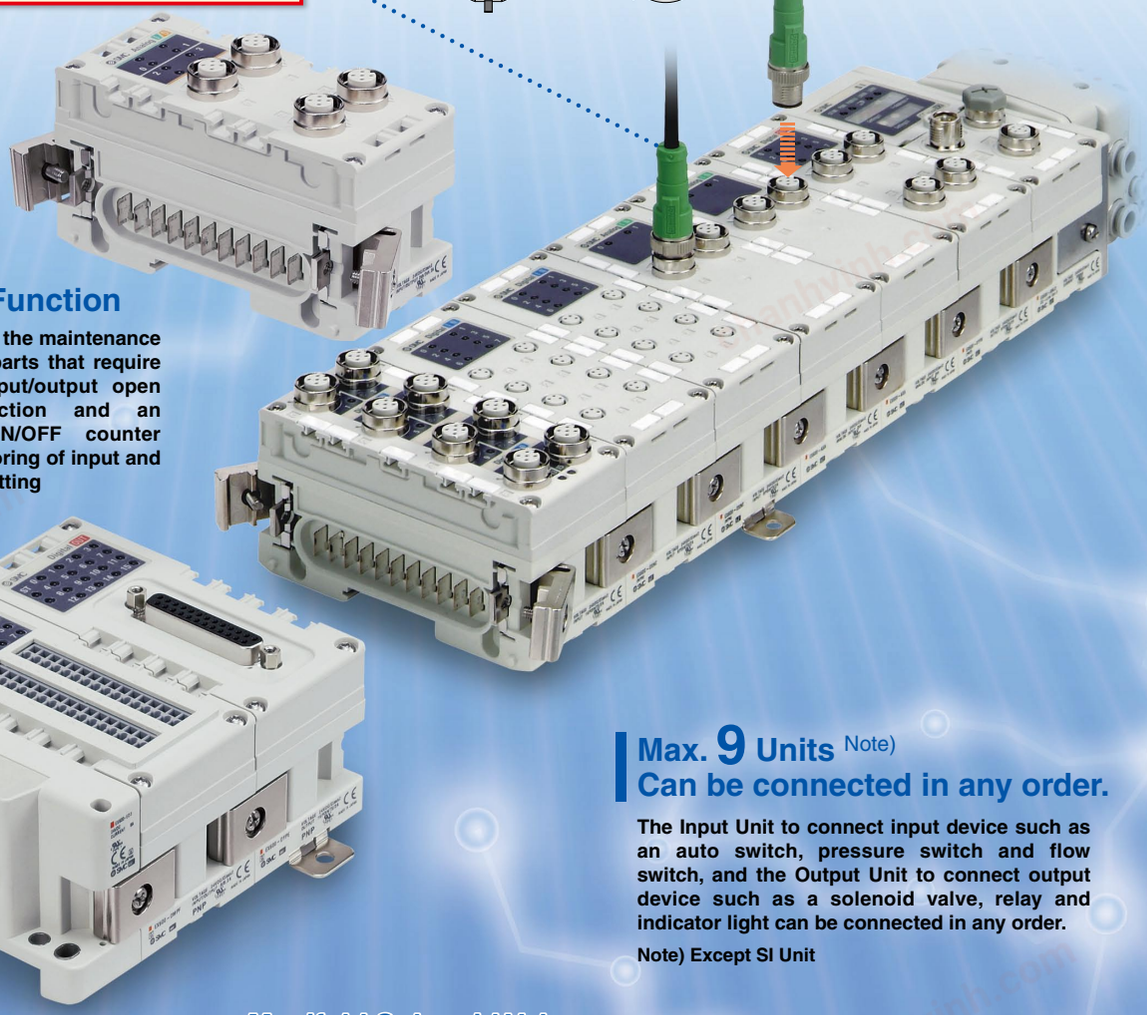


### IP67

Note) Some products are IP40.



Handheld Terminal



### Self Diagnosis Function

It is possible to ascertain the maintenance period and identify the parts that require maintenance, by an input/output open circuit detection function and an input/output signal ON/OFF counter function. Also, the monitoring of input and output signals and the setting of parameters can be performed with a Handheld Terminal.



### Max. 9 Units Note) Can be connected in any order.

The Input Unit to connect input device such as an auto switch, pressure switch and flow switch, and the Output Unit to connect output device such as a solenoid valve, relay and indicator light can be connected in any order.

Note) Except SI Unit

### Manifold Solenoid Valves

**Series SY3000/5000/7000**



IP67

**Series SV1000/2000/3000**



IP67

**Series S0700**



IP40

**Series VQC1000/2000/4000/5000**



IP67

Note) The SY3000/5000/7000, S0700, and VQC1000/2000/4000/5000 are not UL-compatible.

# Series EX600

SMC

CAT.E02-24E Ⓐ

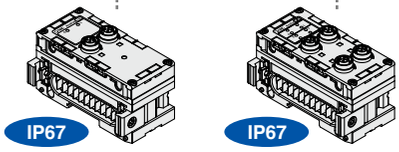
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# Series EX600 Configurations

## Analog Unit

M12 connector (5 pins)

- Input Unit — 2CH
- Output Unit — 2CH
- Input/Output Unit — 2CH/2CH




**Input device**



Pressure sensor — Flow sensor

**Output device**



Electro-pneumatic regulator etc.

## SI Unit

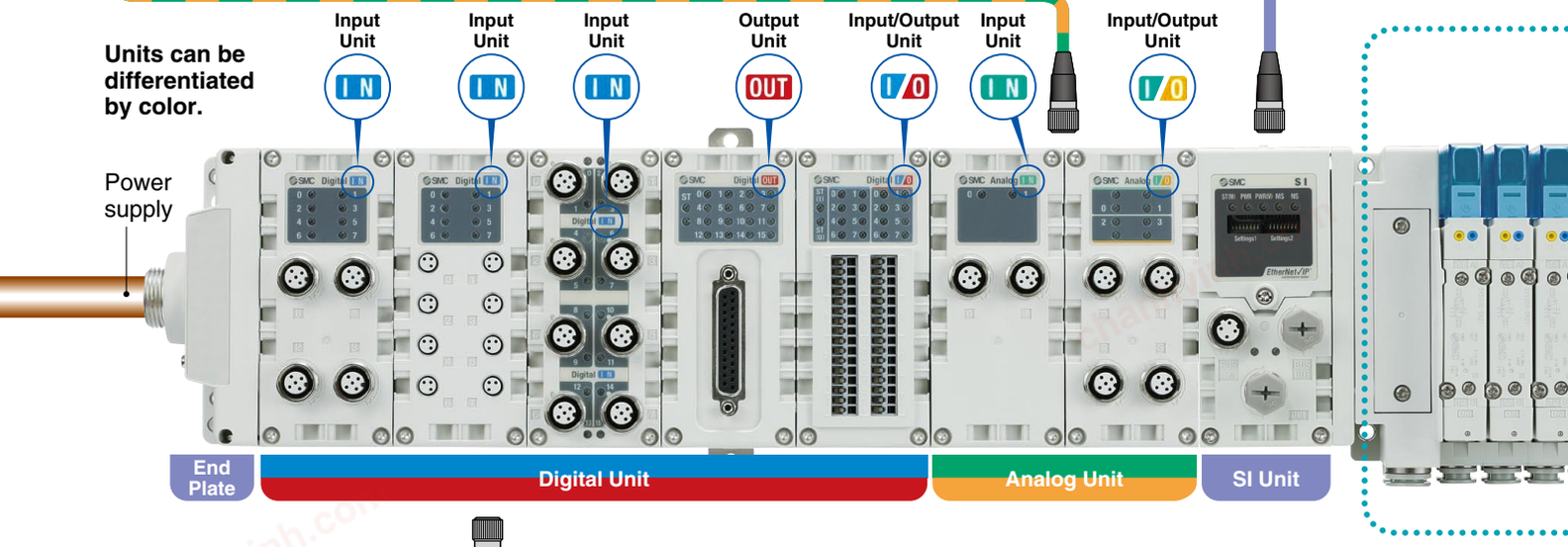
Dual port EtherNet/IP™ product added to compatible communication networks ▶P.9






**Handheld Terminal**
Parameter setting and I/O monitor tool ▶P.16

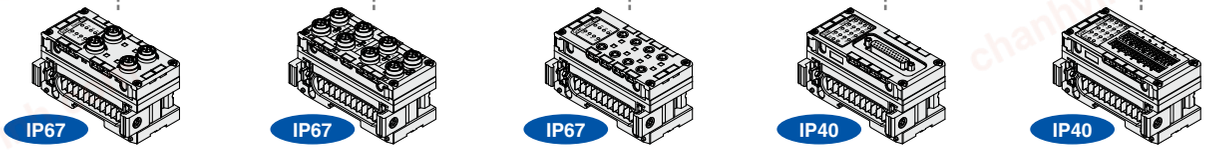
Units can be differentiated by color.




For detailed specifications of connectable device, refer to the catalog of each device and select the right device for your application. If anything is unclear, please contact SMC.

## Digital Unit

| | M12 connector (5 pins) | | M8 connector (3 pins) | D-sub connector | Spring type terminal block |
|---|---|---|---|---|---|
| Input Unit | 8 inputs | 16 inputs | 8 inputs | 16 inputs | 16 inputs |
| Output Unit | 8 outputs | | | 16 outputs | 16 outputs |
| Input/Output Unit | | | | 8 inputs/8 outputs | 8 inputs/8 outputs |




**Input device**



Flow switch — Auto switch — Pressure switch

**Others**
Proximate sensor
Photoelectric switch
Limit switch

**Output device**



Solenoid valve

**Others**
Indicator light
Relay
Buzzer

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## SI Unit

**Unit to connect various Fieldbus with the EX600 system**


- How to Order ▶P. 9
- Specifications ▶P. 11, 12
- Parts Description ▶P. 17
- Dimensions ▶P. 19




## Digital Unit

**Unit to input or output digital (switch) signals**


- How to Order ▶P. 9
- Specifications ▶P. 13, 14
- Parts Description ▶P. 18
- Dimensions ▶P. 20




## Analog Unit

**Unit to input or output analog (voltage/current) signals**


- How to Order ▶P. 10
- Specifications ▶P. 15, 16
- Parts Description ▶P. 18
- Dimensions ▶P. 20




## End Plate

**Unit to supply power to the EX600 system**


- How to Order ▶P. 10
- Specifications ▶P. 16
- Parts Description ▶P. 18
- Dimensions ▶P. 19




## Handheld Terminal

**Parameter setting and I/O monitor tool**


- How to Order ▶P. 10
- Specifications ▶P. 16
- Parts Description ▶P. 17
- Dimensions ▶P. 19




## Accessories

**Options including a power supply cable etc. for the EX600 series**



▶P. 21

### Manifold solenoid valves

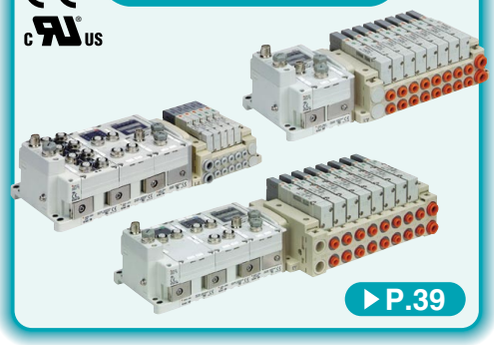


### Series SY (IP67)



▶P.27

### Series SV (IP67)



▶P.39

### Series S0700 (IP40)



▶P.47

### Series VQC (IP67)



▶P.51


Table of Mountable Units ▶P. 25
Manifold Solenoid Valves for EX600 ▶P. 26
Specific Product Precautions ▶P. 63

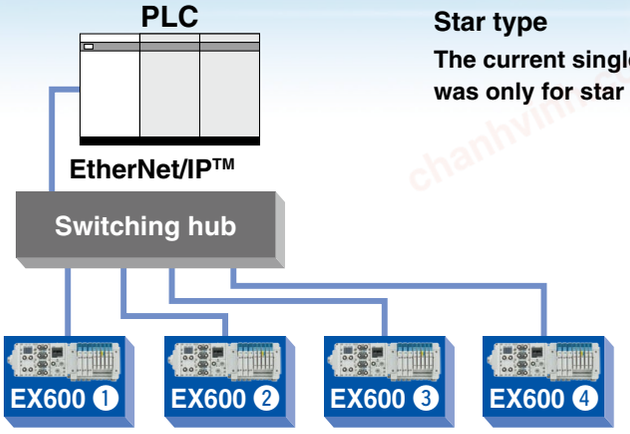
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# Latest EtherNet/IP™ Technology

**The following functions are available for the dual port EtherNet/IP™ product (EX600-SEN3/4).**

## Added Compatible Topologies (connection configuration).

### EX600-SEN1/2

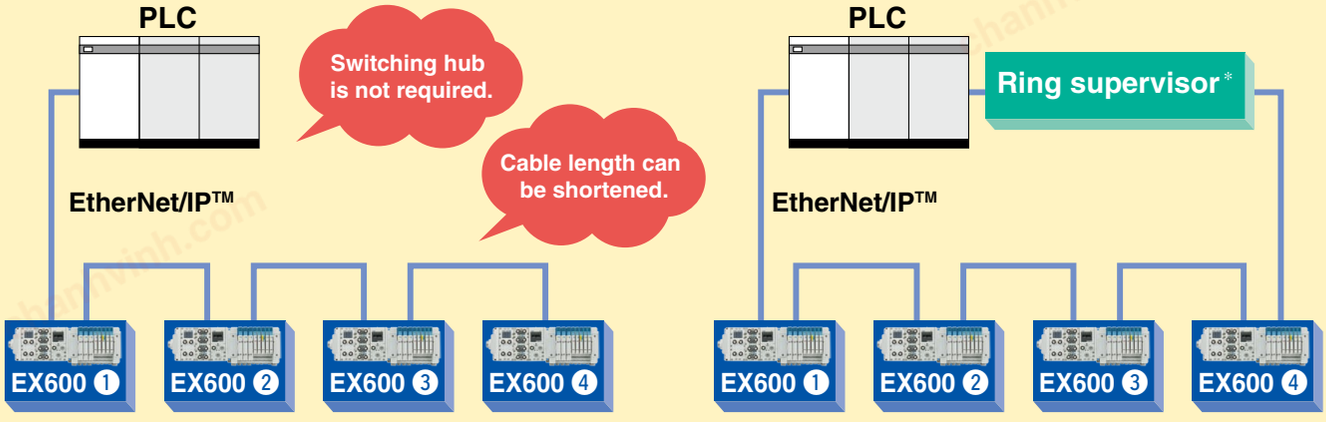



**Star type**

**The current single port product (EX600-SEN1/2) was only for star topology.**

### EX600-SEN3/4

**The new dual port product (EX600-SEN3/4) is available for both the linear and device level ring topologies, in addition to the star type.**

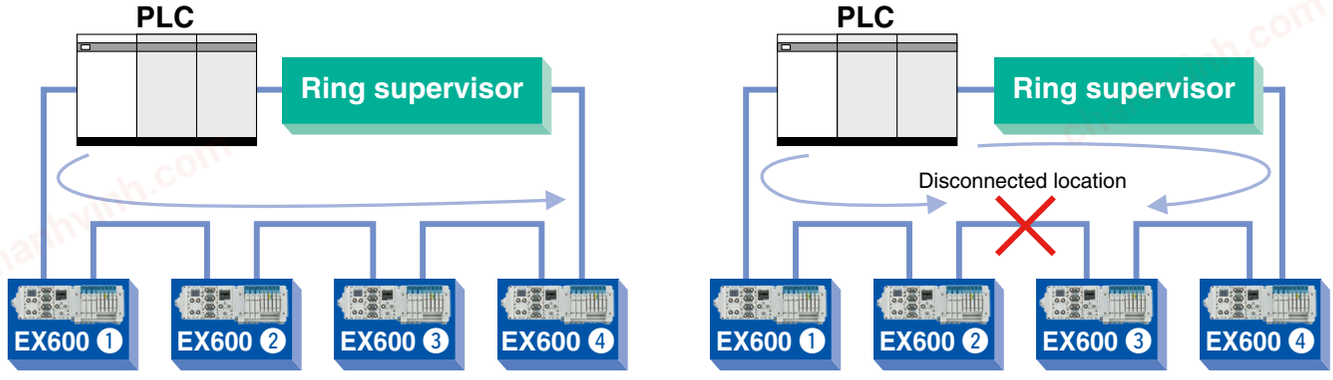



**Linear type**

**Device level ring (DLR) type**

* One or more **ring supervisors** are required.

**In the device level ring type, even though the communication cable is disconnected in one location, EtherNet/IP™ communication can be continued, and the disconnected portion can be specified by the ring supervisor.**




**Normal flow of data**

**Data flow when the communication cable is disconnected**

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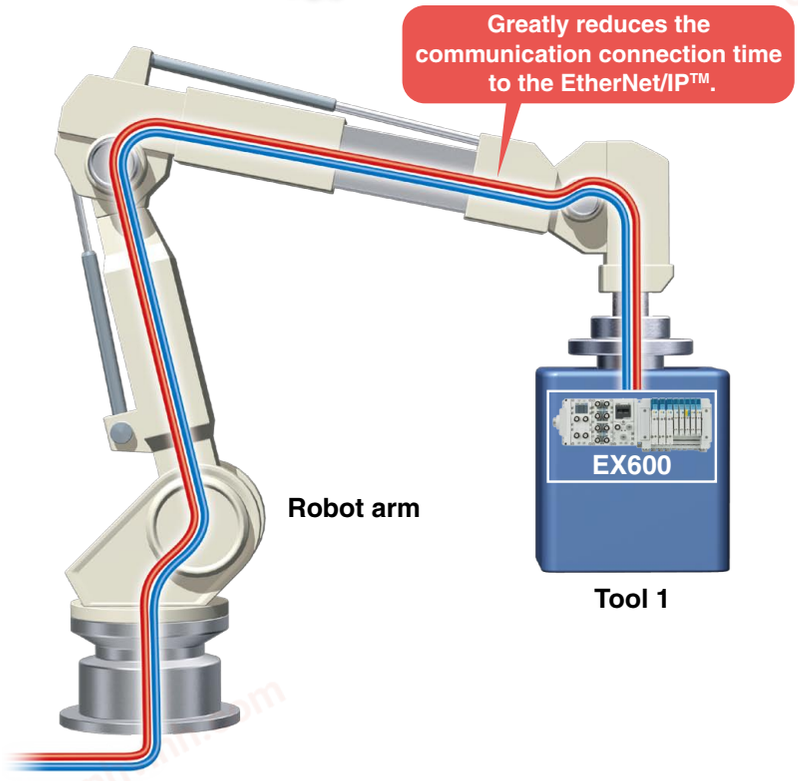


## QuickConnect™ Function Available

From Power ON to communication connection

10 sec. → Approx. 0.5 sec.

In the case of a tool changer, it takes about 10 seconds for the communication to be connected in common EtherNet/IP™ products, after the power of the device installed on the tool is turned ON.
Since the QuickConnect™ function* is available in the EX600-SEN3/4, the communication can be connected in about 0.5 seconds.

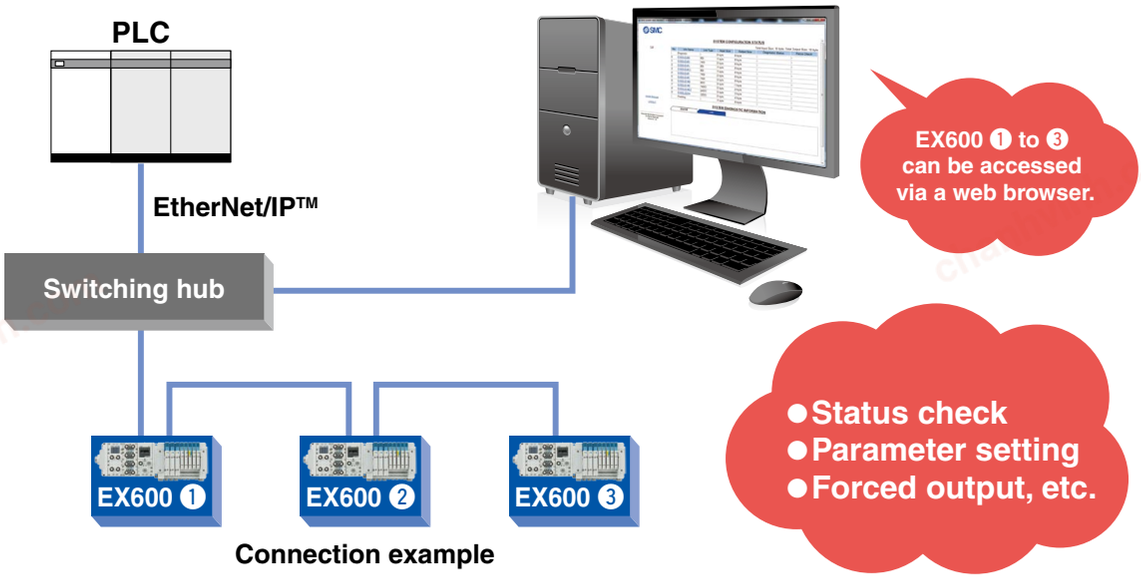



* To use the QuickConnect™ function, the PLC should be able to support the QuickConnect™ function.




## Built-in Web Server Function

The EX600-SEN3/4 has a built-in web server function, which enables status checks, parameter settings and forced output of the EX600 using general-purpose web browsers, such as Internet Explorer. Start-up of the system and maintenance can be performed efficiently.



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# Fieldbus System EX600

## D-sub Connector

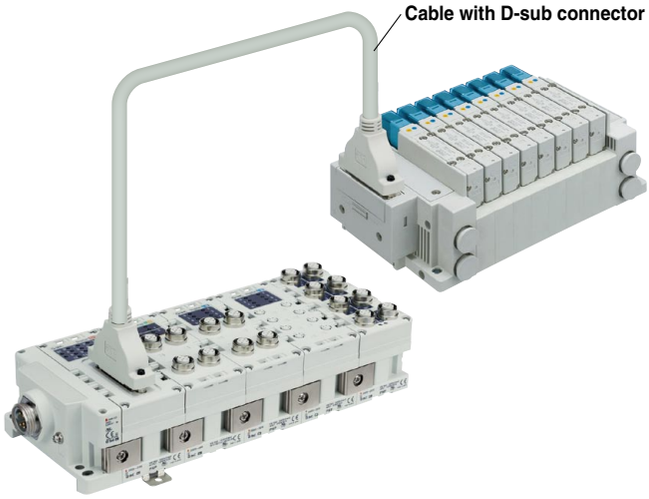
IP40

These Units are capable of connection using a D-sub connector. There are three types of Units, for Digital Input, Output, and Input/Output. The Digital Output Unit can be connected with an SMC manifold solenoid valve F kit (D-sub connector).

**Manifold solenoid valve can be connected using cable with D-sub connector.**

- Series **SY**
- Series **S0700**
- Series **SJ**
- Series **SQ**
- Series **SV**
- Series **VQC**
- Series **VQ**

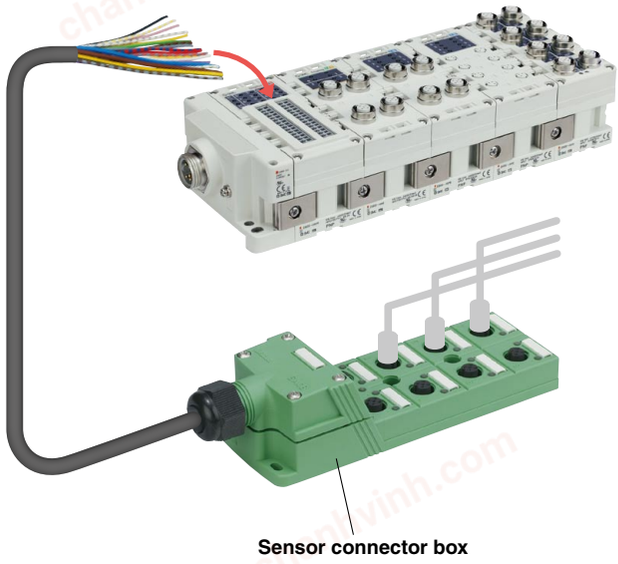
* Please limit the number of valve connections to 16 stations for single and 8 stations for double. Refer to the catalog for each product for pin assignment details.




## Spring Type Terminal Block

IP40

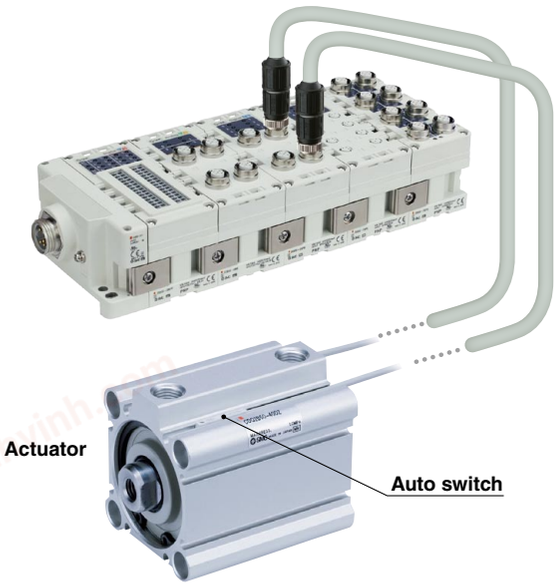
These Terminal Block Units are compatible with individual wiring configurations. There are three types of Units, for Digital Input, Output, and Input/Output. Wiring connection to a sensor connector box, etc., can be carried out easily using only a flat head screwdriver.




## Digital Input Unit

IP67

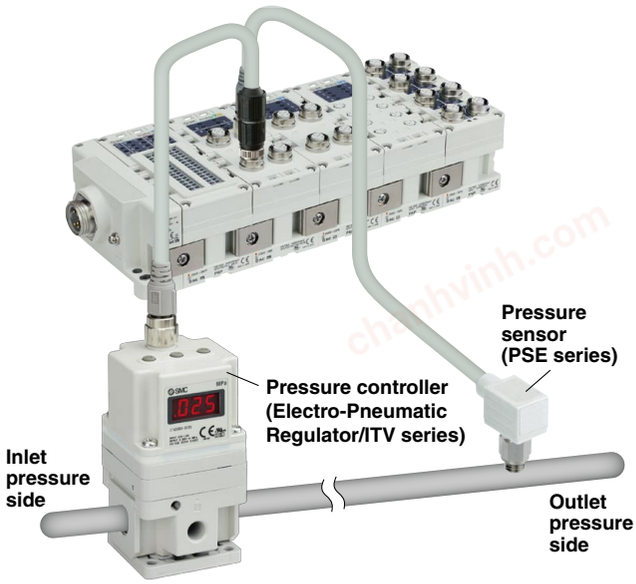
This Unit is for inputting a digital signal (ON/OFF signal). The signal of a 2-wire/3-wire auto switch attached to the actuator can be acquired to feedback a signal to the PLC. The control signal of an entire system can be managed by Fieldbus System.




## Analog Input/Output Unit

IP67

These Units are for inputting or outputting an analog signal (voltage/ current). A single Unit performs both input and output, allowing feedback control where analog signals are received from a pressure sensor and sent to a pressure controller. Installation space is minimized as well.



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## Self Diagnosis Function

In combination with the Handheld Terminal, the following two functions are available.

### Short/Open Circuit Detection Function

It is possible to detect short or open circuit of input device such as an electronic 2-wire switch and 3-wire switch and output device such as a solenoid valve. The location of the error can be identified by the indicator light and the network.




Green ON Normal




Red ON Short circuit

Red flashing Open circuit

### Counter Function

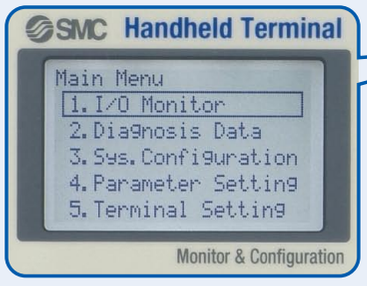
It is possible to ascertain the maintenance period and identify the parts that require maintenance by an input and output signal ON/OFF counter function. When the counter function is enabled and a certain number of contact operations is reached, the display of counter will flash in red.

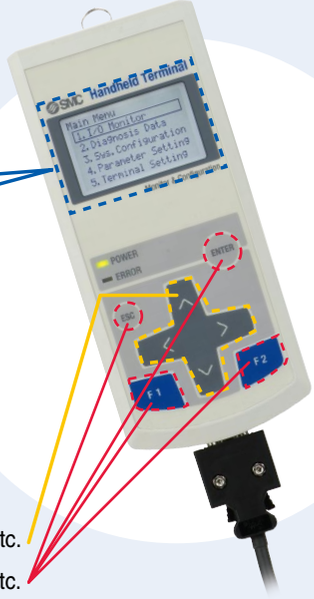
Note) The counter function is not provided with the Analog Unit.

## Handheld Terminal

### Forced Input and Output Function

The input and output signals are controlled forcedly without a PLC. The startup time after facility introduction can be shortened.




### Password Setting Function

### Simple Operation

Cursor button: Mode and setting change etc.

Function key: Value and command entry etc.

### Can be used for the adjustment of internal parameters and the monitoring of input and output signal status.

Parameters: Analog data format
Analog measurement range
Input filter selection
Counter function
Open circuit detection function, etc.

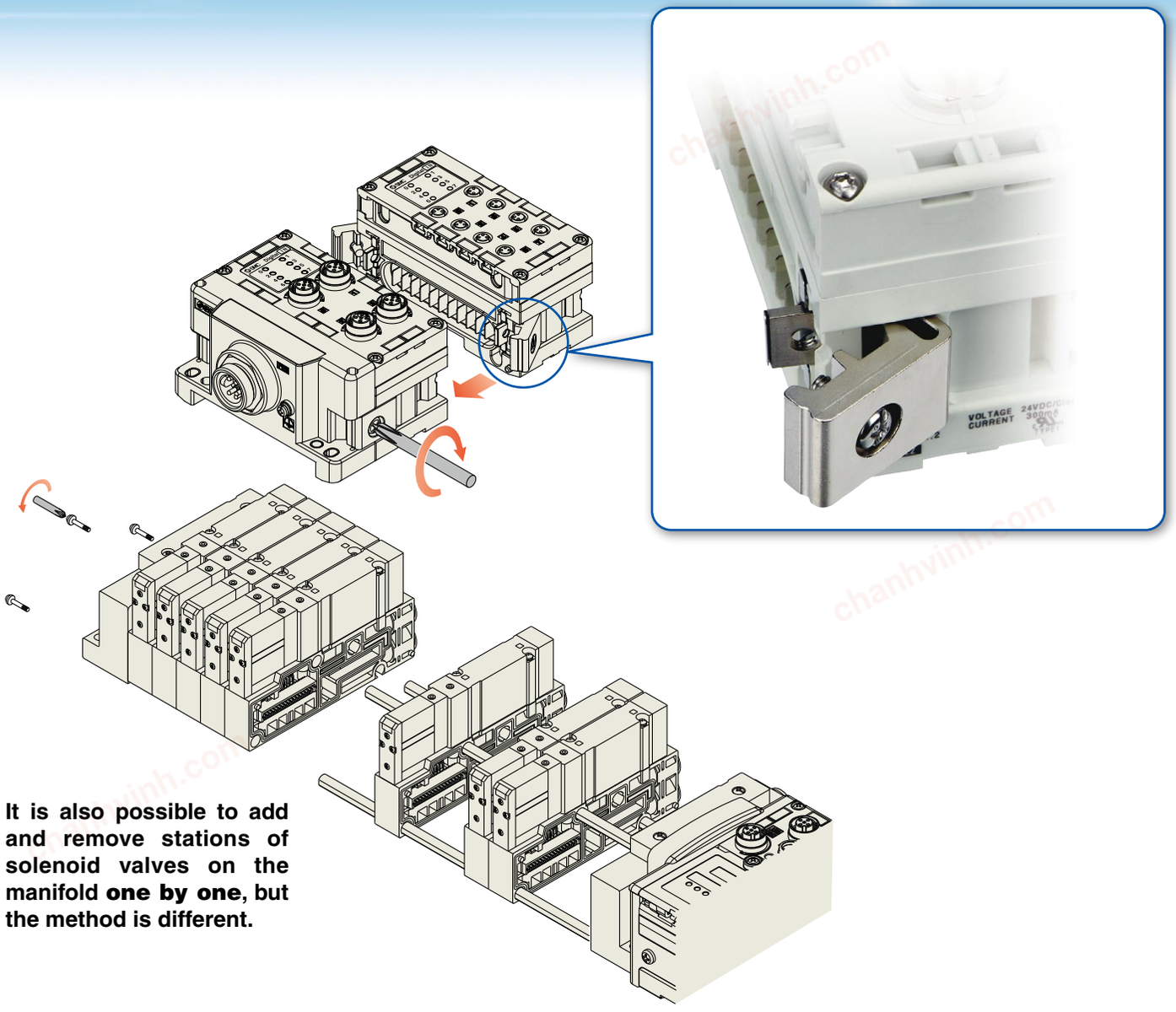
**A parameter** is a set value to change the function and operation of the product through a PLC or Handheld Terminal. The desired operation for the customer's application is realized by the set values. There are some parameters that can only be set using the Handheld Terminal of this series.

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# Fieldbus System EX600

## Individual Units can be connected and removed one by one.

**A unique clamping method is adopted to prevent screws from falling out.**
**It is easy to separate the Unit just by loosening joint bracket.**



**It is also possible to add and remove stations of solenoid valves on the manifold one by one, but the method is different.**

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# 5 Port Solenoid Valves SY3000/5000/7000

## Different sizes (SY3000/5000 or SY5000/7000) can be mixed!

**The installation area can be reduced, and the number of SI Units and the wiring can also be reduced.**

Overall length of manifold
Approx. 22% reduction

Example of SY3000 and SY5000

**Installation space**

**Single manifold**
SY5000 3 stations



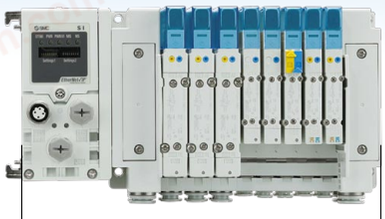
Approx. 102 mm

**Single manifold**
SY3000 5 stations



Approx. 117 mm

**Mixed manifold**
SY5000 3 stations SY3000 5 stations



Approx. 170 mm

**Number of SI Units, Unit cost**



+



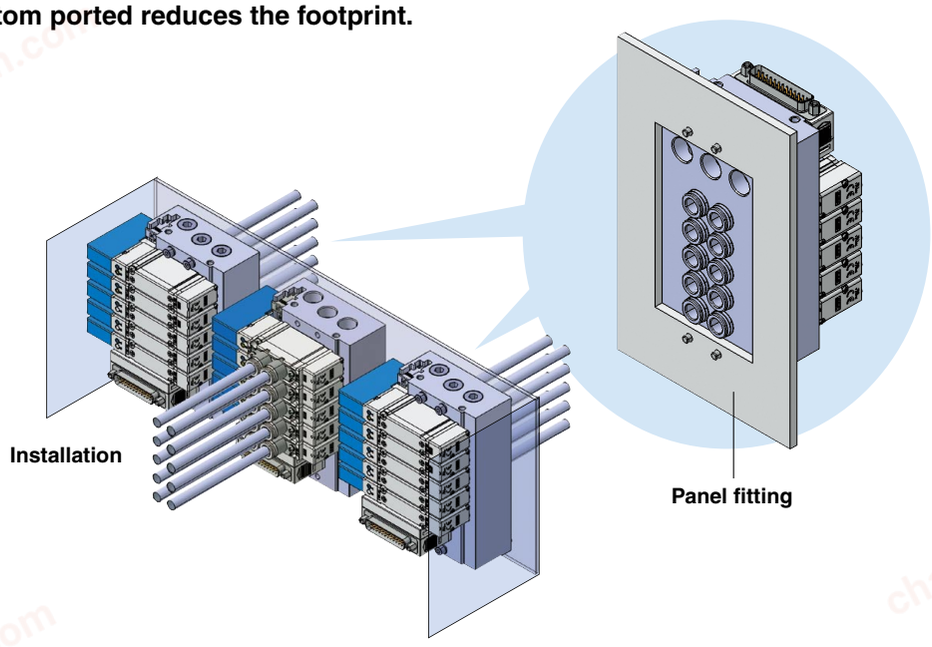
Manifold 2 pcs.
Serial Units 2 sets



Manifold 1 pc.
Serial Unit 1 set

## Bottom ported type is available!

**Top or bottom ported reduces the footprint.**



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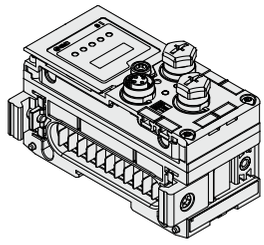
# Fieldbus System

## Series EX600

## How to Order

### SI Unit

**EX600-S EN 3 ☐**



**Protocol**

| Symbol | Description |
|---|---|
| PR | PROFIBUS DP |
| DN | DeviceNet™ |
| MJ | CC-Link |
| EN | EtherNet/IP™ Note 1) |
| EC | EtherCAT® Note 1) |
| PN | PROFINET Note 1) |

**Version**

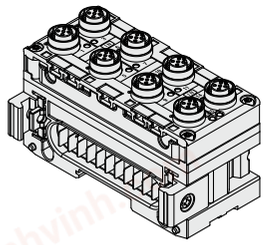
| Symbol | Condition |
|---|---|
| Nil | Select in the case of MJ, EN, EC or PN. |
| A | Select in the case of PR or DN. |

**Output type**

| Symbol | Description | Condition |
|---|---|---|
| 1 | PNP (Negative common) | Can be selected by all protocols. |
| 2 | NPN (Positive common) | Can be selected by all protocols. |
| 3 | PNP (Negative common) EtherNet/IP (2 ports) | Can be selected in the case of EN. |
| 4 | NPN (Positive common) EtherNet/IP (2 ports) | Can be selected in the case of EN. |

### Digital Input Unit

**EX600-DX P D**



**Input type**

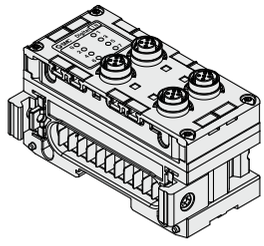
| Symbol | Description |
|---|---|
| P | PNP |
| N | NPN |

**Number of Inputs, Open circuit detection, and Connector**

| Symbol | Number of inputs | Open circuit detection | Connector |
|---|---|---|---|
| B | 8 inputs | No | M12 connector (5 pins) 4 pcs. |
| C | 8 inputs | No | M8 connector (3 pins) 8 pcs. |
| C1 | 8 inputs | Yes | M8 connector (3 pins) 8 pcs. |
| D | 16 inputs | No | M12 connector (5 pins) 8 pcs. |
| E | 16 inputs | No | D-sub connector (25 pins) Note1) 2) |
| F | 16 inputs | No | Spring type terminal block (32 pins) Note1) 2) |

### Digital Output Unit

**EX600-DY P B**



**Output type**

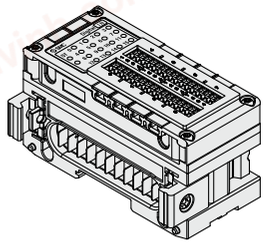
| Symbol | Description |
|---|---|
| P | PNP |
| N | NPN |

**Number of Outputs and Connector**

| Symbol | Number of outputs | Connector |
|---|---|---|
| B | 8 outputs | M12 connector (5 pins) 4 pcs. |
| E | 16 outputs | D-sub connector (25 pins) Note1) 2) |
| F | 16 outputs | Spring type terminal block (32 pins) Note1) 2) |

### Digital Input/Output Unit

**EX600-DM P F**



**Input/Output type**

| Symbol | Description |
|---|---|
| P | PNP |
| N | NPN |

**Number of Inputs/Outputs and Connector**

| Symbol | Number of inputs | Number of outputs | Connector |
|---|---|---|---|
| E | 8 inputs | 8 outputs | D-sub connector (25 pins) Note1) 2) |
| F | 8 inputs | 8 outputs | Spring type terminal block (32 pins) Note1) 2) |

Note 1) Cannot be communicated with the EX600-HT1-☐. Refer to page 25 for "Table of Mountable Units."
Note 2) Cannot be connected with the EX600-SPR1, EX600-SPR2, EX600-SDN1, or EX600-SDN2. Refer to page 25 for "Table of Mountable Units."

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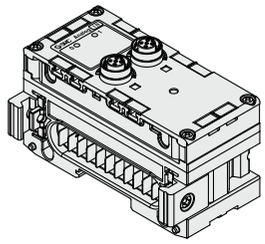




## How to Order

### Analog Input Unit

**EX600 – AX A**



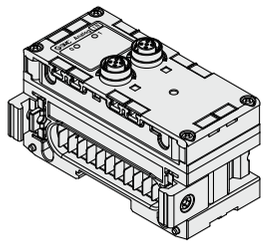
**Analog input**

**Number of Input channels and Connector**

| Symbol | Number of input channels | Connector |
|---|---|---|
| **A** | 2 channels | M12 connector (5 pins) 2 pcs. |

### Analog Output Unit

**EX600 – AY A**



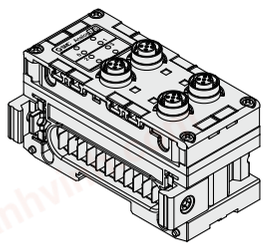
**Analog output**

**Number of Output channels and Connector**

| Symbol | Number of output channels | Connector |
|---|---|---|
| **A** | 2 channels | M12 connector (5 pins) 2 pcs. Note1) 2) |

### Analog Input/Output Unit

**EX600 – AM B**



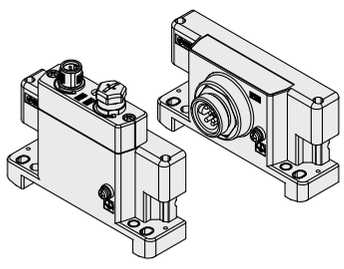
**Analog input/output**

**Number of Input/Output channels and Connector**

| Symbol | Number of input channels | Number of output channels | Connector |
|---|---|---|---|
| **B** | 2 channels | 2 channels | M12 connector (5 pins) 4 pcs. Note1) 2) |

### End Plate

**EX600 – ED 2 – □**



**Power connector**

| Symbol | Connector |
|---|---|
| **2** | M12 (5 pins) |
| **3** | 7/8 inch (5 pins) |

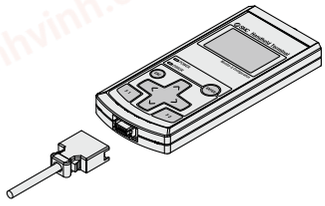
**Mounting method**

| Symbol | Description |
|---|---|
| **Nil** | Without DIN rail mounting bracket |
| **2** | With DIN rail mounting bracket |
| **3** | With DIN rail mounting bracket (Specialized for SY series) |

### Handheld Terminal

**EX600 – HT1 A – 3**

**Handheld Terminals are not yet UL-compatible.**



**Version**

**Cable length**

| Symbol | Description |
|---|---|
| **Nil** | No cable |
| **1** | 1 m |
| **3** | 3 m |

Note 1) Cannot be communicated with the EX600-HT1-□. Refer to page 25 for "Table of Mountable Units."
Note 2) Cannot be connected with the EX600-SPR1, EX600-SPR2, EX600-SDN1, or EX600-SDN2. Refer to page 25 for "Table of Mountable Units."

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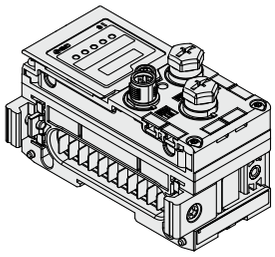


## SI Unit Specifications

### All Units Common Specifications

| | | |
|---|---|---|
| Environmental resistance | **Operating temperature range** | –10 to 50°C |
| | **Storage temperature range** | –20 to 60°C |
| | **Operating humidity range** | 35 to 85% RH (No dew condensation) |
| | **Withstand voltage** Note) | 500 VAC for 1 minute between external terminals and FE |
| | **Insulation resistance** Note) | 500 VDC, 10 MΩ or more between external terminals and FE |

Note) Except Handheld Terminals

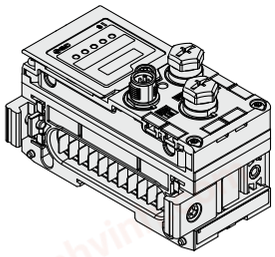


EX600-SPR□A

### SI Unit (EX600-SPR□A)

| Model | | EX600-SPR1A | EX600-SPR2A |
|---|---|---|---|
| Communication | **Protocol** | PROFIBUS DP (DP-V0) | |
| | **Device type** | PROFIBUS DP Slave | |
| | **Communication speed** | 9.6/19.2/45.45/93.75/187.5/500 kbps<br>1.5/3/6/12 Mbps | |
| | **Configuration file** | GSD file Note) | |
| | **Occupation area (Number of inputs/outputs)** | Max. (512 inputs/512 outputs) | |
| **Terminating resistor** | | Internally implemented | |
| **Internal current consumption (Power supply for Control/Input)** | | 80 mA or less | |
| Output | **Output type** | Source/PNP (Negative common) | Sink/NPN (Positive common) |
| | **Number of outputs** | 32 outputs (8/16/24/32 outputs selectable) | |
| | **Load** | Solenoid valve with surge voltage suppressor 24 VDC, 1.5 W or less (SMC) | |
| | **Power supply** | 24 VDC, 2 A | |
| | **Fail safe** | HOLD/CLEAR/Forced power ON | |
| | **Protection** | Short-circuit protection | |
| **Enclosure** | | IP67 (Manifold assembly) | |
| **Standards** | | CE Marking, UL (CSA), RoHS compliant | |
| **Weight** | | 300 g | |

Note) The setting file can be downloaded from the SMC website, http://www.smcworld.com

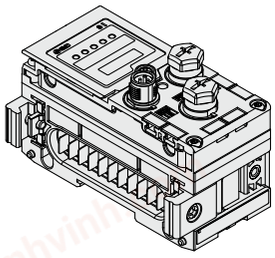


EX600-SDN□A

### SI Unit (EX600-SDN□A)

| Model | | EX600-SDN1A | EX600-SDN2A |
|---|---|---|---|
| Communication | **Protocol** | DeviceNet™: Volume 1 (Edition 2.1), Volume 3 (Edition 1.1) | |
| | **Device type** | Group 2 Only Server | |
| | **Communication speed** | 125/250/500 kbps | |
| | **Configuration file** | EDS file Note) | |
| | **Occupation area (Number of inputs/outputs)** | Max. (512 inputs/512 outputs) | |
| | **Applicable messages** | Duplicate MAC ID Check Message<br>Group 2 Only Unconnected Explicit Message<br>Explicit Message (Group 2)<br>Poll I/O Message (Predefined M/S Connection set) | |
| **DeviceNet™ power supply** | | 11 to 25 VDC (Current consumption 50 mA or less) | |
| **Internal current consumption (Power supply for Control/Input)** | | 55 mA or less | |
| Output | **Output type** | Source/PNP (Negative common) | Sink/NPN (Positive common) |
| | **Number of outputs** | 32 outputs (8/16/24/32 outputs selectable) | |
| | **Load** | Solenoid valve with surge voltage suppressor 24 VDC, 1.5 W or less (SMC) | |
| | **Power supply** | 24 VDC, 2 A | |
| | **Fail safe** | HOLD/CLEAR/Forced power ON | |
| | **Protection** | Short-circuit protection | |
| **Enclosure** | | IP67 (Manifold assembly) | |
| **Standards** | | CE Marking, UL (CSA), RoHS compliant | |
| **Weight** | | 300 g | |

Note) The setting file can be downloaded from the SMC website, http://www.smcworld.com



EX600-SMJ□

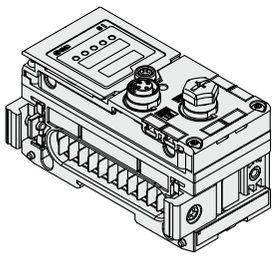
### SI Unit (EX600-SMJ□)

| Model | | EX600-SMJ1 | EX600-SMJ2 |
|---|---|---|---|
| Communication | **Protocol** | CC-Link (Ver. 1.10, Ver. 2.00) | |
| | **Station type** | Remote Device Station | |
| | **Communication speed** | 156/625 kbps 2.5/5/10 Mbps | |
| | **Occupation area (Number of inputs/outputs)** | Max. (512 inputs/512 outputs)<br>1/2/3/4 stations occupied | |
| **Internal current consumption (Power supply for Control/Input)** | | 75 mA or less | |
| Output | **Output type** | Source/PNP (Negative common) | Sink/NPN (Positive common) |
| | **Number of outputs** | 32 outputs (8/16/24/32 outputs selectable) | |
| | **Load** | Solenoid valve with surge voltage suppressor 24 VDC, 1.5 W or less (SMC) | |
| | **Power supply** | 24 VDC, 2 A | |
| | **Fail safe** | HOLD/CLEAR/Forced power ON | |
| | **Protection** | Short-circuit protection | |
| **Enclosure** | | IP67 (Manifold assembly) | |
| **Standards** | | CE Marking, UL (CSA), RoHS compliant | |
| **Weight** | | 300 g | |

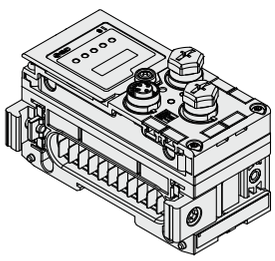
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EX600-SEN1/2

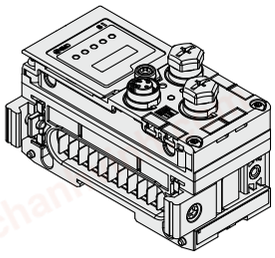


EX600-SEN3/4

## SI Unit (EX600-SEN□)

| Model | | EX600-SEN1 | EX600-SEN2 | EX600-SEN3 | EX600-SEN4 |
|---|---|---|---|---|---|
| Communication | Number of communication ports | 1 port | | 2 ports | |
| | Protocol | EtherNet/IP™ (Conformance version: Composite 6) | | EtherNet/IP™ (Conformance version: Composite 11) | |
| | Communication speed | 10/100 Mbps | | | |
| | Communication method | Full duplex/Half duplex | | | |
| | Configuration file | EDS file Note) | | | |
| | Occupation area (Number of inputs/outputs) | Max. (512 inputs/512 outputs) | | | |
| | IP address setting range | SI Unit switch settings: 192.168.0 or 1.1 to 254<br>Through DHCP server: Optional address | | | |
| | Device information | Vendor ID: 7 (SMC Corporation)<br>Device type: 12 (Communication Adapter)<br>Product code: 126 | | Vendor ID: 7 (SMC Corporation)<br>Device type: 12 (Communication Adapter)<br>Product code: 203 | |
| | QuickConnect™ | — | | Compliant | |
| | DLR | — | | Compliant | |
| | WEB server | — | | Compliant | |
| Internal current consumption | | 120 mA or less | | | |
| Output | Output type | Source/PNP (Negative common) | Sink/NPN (Positive common) | Source/PNP (Negative common) | Sink/NPN (Positive common) |
| | Number of outputs | 32 outputs (8/16/24/32 outputs selectable) | | 32 outputs | |
| | Load | Solenoid valve with surge voltage suppressor 24 VDC, 1.5 W or less (SMC) | | Solenoid valve with surge voltage suppressor 24 VDC, 1.0 W or less (SMC) | |
| | Power supply | 24 VDC, 2 A | | | |
| | Fail safe | HOLD/CLEAR/Forced power ON | | | |
| | Protection | Short-circuit protection | | | |
| Enclosure | | IP67 (Manifold assembly) | | | |
| Standards | | CE Marking, UL (CSA), RoHS compliant | | | |
| Weight | | 300 g | | | |

Note) The setting file can be downloaded from the SMC website, http://www.smcworld.com

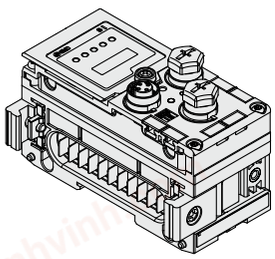


EX600-SEC□

## SI Unit (EX600-SEC□)

| Model | | EX600-SEC1 | EX600-SEC2 |
|---|---|---|---|
| Communication | Protocol | EtherCAT® (Conformance Test Record V.1.2) | |
| | Communication speed | 100 Mbps | |
| | Configuration file | XML file Note) | |
| | Occupation area (Number of inputs/outputs) | Max. (512 inputs/512 outputs) | |
| Internal current consumption (Power supply for Control/Input) | | 100 mA or less | |
| Output | Output type | Source/PNP (Negative common) | Sink/NPN (Positive common) |
| | Number of outputs | 32 outputs (8/16/24/32 outputs selectable) | |
| | Load | Solenoid valve with surge voltage suppressor 24 VDC, 1.5 W or less (SMC) | |
| | Power supply | 24 VDC, 2 A | |
| | Fail safe | HOLD/CLEAR/Forced power ON | |
| | Protection | Short-circuit protection | |
| Enclosure | | IP67 (Manifold assembly) | |
| Standards | | CE Marking, UL (CSA), RoHS compliant | |
| Weight | | 300 g | |

Note) The setting file can be downloaded from the SMC website, http://www.smcworld.com



EX600-SPN□

## SI Unit (EX600-SPN□)

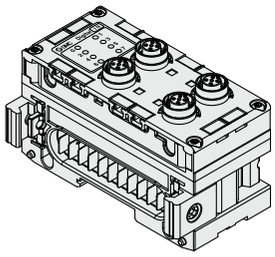
| Model | | EX600-SPN1 | EX600-SPN2 |
|---|---|---|---|
| Communication | Protocol | PROFINET IO (PROFINET RT) | |
| | Communication speed | 100 Mbps | |
| | Configuration file | GSDML file Note) | |
| | Occupation area (Number of inputs/outputs) | Max. (512 inputs/512 outputs) | |
| Internal current consumption (Power supply for Control/Input) | | 120 mA or less | |
| Output | Output type | Source/PNP (Negative common) | Sink/NPN (Positive common) |
| | Number of outputs | 32 outputs | |
| | Load | Solenoid valve with surge voltage suppressor 24 VDC, 1.0 W or less (SMC) | |
| | Power supply | 24 VDC, 2 A | |
| | Fail safe | HOLD/CLEAR/Forced power ON | |
| | Protection | Short-circuit protection | |
| Enclosure | | IP67 (Manifold assembly) | |
| Standards | | CE Marking, UL (CSA), RoHS compliant | |
| Weight | | 300 g | |

Note) The setting file can be downloaded from the SMC website, http://www.smcworld.com

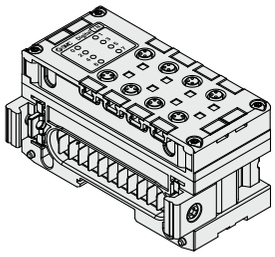
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# Series EX600

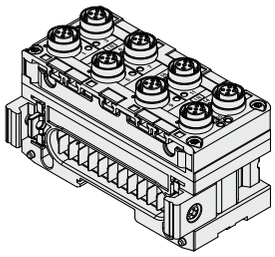
## Digital Unit Specifications



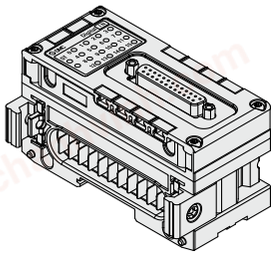
EX600-DX□B



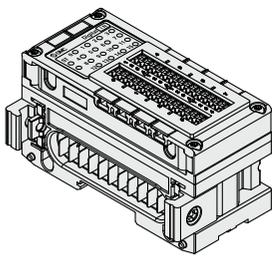
EX600-DX□C□



EX600-DX□D



EX600-DX□E



EX600-DX□F

### Digital Input Unit

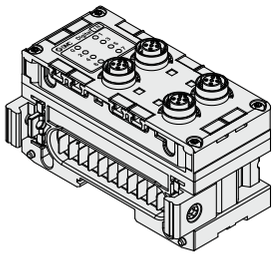
| Model | | | EX600-DXPB | EX600-DXNB | EX600-DXPC□ | EX600-DXNC□ | EX600-DXPD | EX600-DXND |
|---|---|---|---|---|---|---|---|---|
| Input | Input type | | PNP | NPN | PNP | NPN | PNP | NPN |
| | Input connector | | M12 (5-pin) socket Note 1) | | M8 (3-pin) socket Note 3) | | M12 (5-pin) socket Note 1) | |
| | Number of inputs | | 8 inputs (2 inputs/Connector) | | 8 inputs (1 input/Connector) | | 16 inputs (2 inputs/Connector) | |
| | Supplied voltage | | 24 VDC | | | | | |
| | Max. supplied current | | 0.5 A/Connector<br>2 A/Unit | | 0.25 A/Connector<br>2 A/Unit | | 0.5 A/Connector<br>2 A/Unit | |
| | Protection | | Short-circuit protection | | | | | |
| | Input current (at 24 VDC) | | 9 mA or less | | | | | |
| | ON voltage | | 17 V or more (At NPN input, between the pin for input terminal and supplied voltage of +24 V)<br>(At PNP input, between the pin for input terminal and supplied voltage of 0 V) | | | | | |
| | OFF voltage | | 5 V or less (At NPN input, between the pin for input terminal and supplied voltage of +24 V)<br>(At PNP input, between the pin for input terminal and supplied voltage of 0 V) | | | | | |
| | Open circuit detection current | 2 wires | — | | 0.5 mA/Input Note 2) | | — | |
| | | 3 wires | — | | 0.5 mA/Connector Note 2) | | — | |
| Current consumption | | | 50 mA or less | | 55 mA or less | | 70 mA or less | |
| Enclosure | | | IP67 (Manifold assembly) | | | | | |
| Standards | | | CE Marking, UL (CSA), RoHS compliant | | | | | |
| Weight | | | 300 g | | 275 g | | 340 g | |

Note 1) M12 (4-pin) connector can be connected.
Note 2) Function only applies to the EX600-DX□C1.
Note 3) When connecting the M8 plug connector, the tightening torque must be 0.2 N·m ±10%. If tightened with an excessive tightening torque, this may cause the connector thread of the Unit to break.

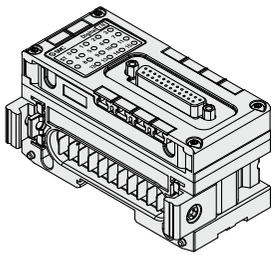
| Model | | EX600-DXPE | EX600-DXNE | EX600-DXPF | EX600-DXNF |
|---|---|---|---|---|---|
| Input | Input type | PNP | NPN | PNP | NPN |
| | Input connector | D-sub socket (25 pins)<br>Lock screw: No.4-40 UNC | | Spring type terminal block (32 pins) | |
| | Number of inputs | 16 inputs | | 16 inputs (2 inputs x 8 blocks) | |
| | Supplied voltage | 24 VDC | | | |
| | Max. supplied current | 2 A/Unit | | 0.5 A/Block<br>2 A/Unit | |
| | Protection | Short-circuit protection | | | |
| | Input current (at 24 VDC) | 5 mA or less | | | |
| | ON voltage | 17 V or more (At NPN input, between the pin for input terminal and supplied voltage of +24 V)<br>(At PNP input, between the pin for input terminal and supplied voltage of 0 V) | | | |
| | OFF voltage | 5 V or less (At NPN input, between the pin for input terminal and supplied voltage of +24 V)<br>(At PNP input, between the pin for input terminal and supplied voltage of 0 V) | | | |
| Applicable wire | | — | | 0.08 to 1.5 mm² (AWG16 to 28) | |
| Current consumption | | 50 mA or less | | 55 mA or less | |
| Enclosure | | IP40 (Manifold assembly) | | | |
| Standards | | CE Marking, UL (CSA), RoHS compliant | | | |
| Weight | | 300 g | | | |

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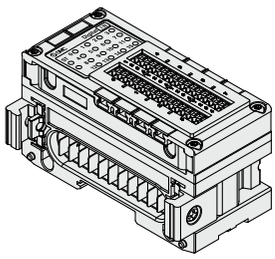




**EX600-DY□B**



**EX600-DY□E**
**EX600-DM□E**



**EX600-DY□F**
**EX600-DM□F**

## Digital Output Unit

| Model | | EX600-DYPB | EX600-DYNB | EX600-DYPE | EX600-DYNE | EX600-DYPF | EX600-DYNF |
|---|---|---|---|---|---|---|---|
| Output | Output type | PNP | NPN | PNP | NPN | PNP | NPN |
| | Output connector | M12 (5-pin) socket Note) | | D-sub socket (25 pins) Lock screw: No.4-40 UNC | | Spring type terminal block (32 pins) | |
| | Number of outputs | 8 outputs (2 outputs/Connector) | | 16 outputs | | 16 outputs (2 outputs x 8 blocks) | |
| | Supplied voltage | 24 VDC | | | | | |
| | Max. load current | 0.5 A/Output<br>2 A/Unit | | | | | |
| | Protection | Short-circuit protection | | | | | |
| Applicable wire | | — | | — | | 0.08 to 1.5 mm² (AWG16 to 28) | |
| Current consumption | | 50 mA or less | | | | | |
| Enclosure | | IP67 (Manifold assembly) | | IP40 (Manifold assembly) | | | |
| Standards | | CE Marking, UL (CSA), RoHS compliant | | | | | |
| Weight | | 300 g | | | | | |

Note) M12 (4-pin) connector can be connected.

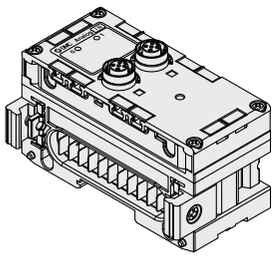
## Digital Input/Output Unit

| Model | | EX600-DMPE | EX600-DMNE | EX600-DMPF | EX600-DMNF |
|---|---|---|---|---|---|
| Input/Output type | | PNP | NPN | PNP | NPN |
| Connector | | D-sub socket (25 pins) Lock screw: No.4-40 UNC | | Spring type terminal block (32 pins) | |
| Input | Number of inputs | 8 inputs | | 8 inputs (2 inputs x 4 blocks) | |
| | Supplied voltage | 24 VDC | | | |
| | Max. supplied current | 2 A/Unit | | 0.5 A/Block<br>2 A/Unit | |
| | Protection | Short-circuit protection | | | |
| | Input current (at 24 VDC) | 5 mA or less | | | |
| | ON voltage | 17 V or more (At NPN input, between the pin for input terminal and supplied voltage of +24 V)<br>(At PNP input, between the pin for input terminal and supplied voltage of 0 V) | | | |
| | OFF voltage | 5 V or less (At NPN input, between the pin for input terminal and supplied voltage of +24 V)<br>(At PNP input, between the pin for input terminal and supplied voltage of 0 V) | | | |
| Output | Number of outputs | 8 outputs | | 8 outputs (2 outputs x 4 blocks) | |
| | Supplied voltage | 24 VDC | | | |
| | Max. load current | 0.5 A/Output<br>2 A/Unit | | | |
| | Protection | Short-circuit protection | | | |
| Applicable wire | | — | | 0.08 to 1.5 mm² (AWG16 to 28) | |
| Current consumption | | 50 mA or less | | 60 mA or less | |
| Enclosure | | IP40 (Manifold assembly) | | | |
| Standards | | CE Marking, UL (CSA), RoHS compliant | | | |
| Weight | | 300 g | | | |

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## Analog Unit Specifications

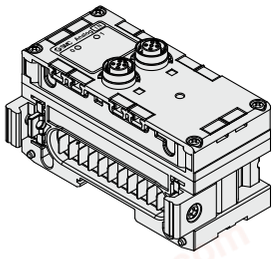


EX600-AXA

### Analog Input Unit

| Model | | | EX600-AXA | |
|---|---|---|---|---|
| Input | Input type | | Voltage input | Current input |
| | Input connector | | M12 (5-pin) socket Note 1) | |
| | Input channel | | 2 channels (1 channel/Connector) | |
| | Supplied voltage | | 24 VDC | |
| | Max. supplied current | | 0.5 A/Connector | |
| | Protection | | Short-circuit protection | |
| | Input signal range | 12 bit resolution | 0 to 10 V, 1 to 5 V, 0 to 5 V | 0 to 20 mA, 4 to 20 mA |
| | | 16 bit resolution | –10 to 10 V, –5 to 5 V | –20 to 20 mA |
| | Max. rated input signal | | ±15 V | ±22 mA Note 2) |
| | Input impedance | | 100 kΩ | 50 Ω |
| | Linearity (25°C) | | ±0.05% F.S. | |
| | Repeatability (25°C) | | ±0.15% F.S. | |
| | Absolute accuracy (25°C) | | ±0.5% F.S. | ±0.6% F.S. |
| Current consumption | | | 70 mA or less | |
| Enclosure | | | IP67 (Manifold assembly) | |
| Standards | | | CE Marking, UL (CSA), RoHS compliant | |
| Weight | | | 290 g | |

Note 1) M12 (4-pin) connector can be connected.
Note 2) When input signal exceeds 22 mA, the protection function activates and the input signal is interrupted.



EX600-AYA

### Analog Output Unit

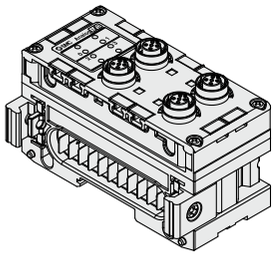
| Model | | | EX600-AYA | |
|---|---|---|---|---|
| Output | Output type | | Voltage output | Current output |
| | Output connector | | M12 (5-pin) socket Note) | |
| | Output channel | | 2 channels (1 channel/Connector) | |
| | Supplied voltage | | 24 VDC | |
| | Max. load current | | 0.5 A/Connector | |
| | Protection | | Short-circuit protection | |
| | Output signal range | 12 bit resolution | 0 to 10 V, 1 to 5 V, 0 to 5 V | 0 to 20 mA, 4 to 20 mA |
| | Load impedance | | 1 kΩ or more | 600 Ω or less |
| | Linearity (25°C) | | ±0.05% F.S. | |
| | Repeatability (25°C) | | ±0.15% F.S. | |
| | Absolute accuracy (25°C) | | ±0.5% F.S. | ±0.6% F.S. |
| Current consumption | | | 70 mA or less | |
| Enclosure | | | IP67 (Manifold assembly) | |
| Standards | | | CE Marking, UL (CSA), RoHS compliant | |
| Weight | | | 290 g | |

Note) M12 (4-pin) connector can be connected.

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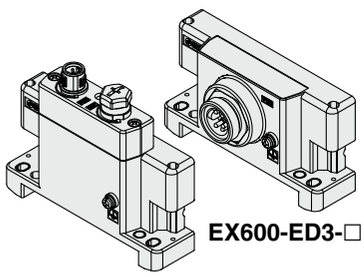


EX600-AMB

## Analog Input/Output Unit

| Model | | | EX600-AMB | |
|---|---|---|---|---|
| Input | Input type | | Voltage input | Current input |
| | Input connector | | M12 (5-pin) socket Note 1) | |
| | Input channel | | 2 channels (1 channel/Connector) | |
| | Supplied voltage | | 24 VDC | |
| | Max. supplied current | | 0.5 A/Connector | |
| | Protection | | Short-circuit protection | |
| | Input signal range | 12 bit resolution | 0 to 10 V, 1 to 5 V, 0 to 5 V | 0 to 20 mA, 4 to 20 mA |
| | Max. rated input signal | | 15 V | 22 mA Note 2) |
| | Input impedance | | 100 kΩ | 250 Ω |
| | Linearity (25°C) | | ±0.05% F.S. | |
| | Repeatability (25°C) | | ±0.15% F.S. | |
| | Absolute accuracy (25°C) | | ±0.5% F.S. | ±0.6% F.S. |
| Output | Output type | | Voltage output | Current output |
| | Output connector | | M12 (5-pin) socket Note 1) | |
| | Output channel | | 2 channels (1 channel/Connector) | |
| | Supplied voltage | | 24 VDC | |
| | Max. load current | | 0.5 A/Connector | |
| | Protection | | Short-circuit protection | |
| | Output signal range | 12 bit resolution | 0 to 10 V, 1 to 5 V, 0 to 5 V | 0 to 20 mA, 4 to 20 mA |
| | Load impedance | | 1 kΩ or more | 600 Ω or less |
| | Linearity (25°C) | | ±0.05% F.S. | |
| | Repeatability (25°C) | | ±0.15% F.S. | |
| | Absolute accuracy (25°C) | | ±0.5% F.S. | ±0.6% F.S. |
| Current consumption | | | 100 mA or less | |
| Enclosure | | | IP67 (Manifold assembly) | |
| Standards | | | CE Marking, UL (CSA), RoHS compliant | |
| Weight | | | 300 g | |

Note 1) M12 (4-pin) connector can be connected.
Note 2) When input signal exceeds 22 mA, the protection function activates and the input signal is interrupted.

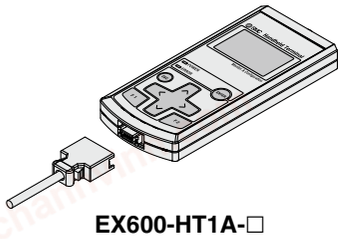


EX600-ED3-□

EX600-ED2-□

## End Plate

| Model | | EX600-ED2-□ | EX600-ED3-□ |
|---|---|---|---|
| Power specifications | Power connector | M12 (5-pin) plug | 7/8 inch (5-pin) plug |
| | Power supply (for Control/Input) | 24 VDC ±10%, Class 2, 2 A | 24 VDC ±10%, 8 A |
| | Power supply (for Output) | 24 VDC +10/–5%, Class 2, 2 A | 24 VDC +10/–5%, 8 A |
| Enclosure | | IP67 (Manifold assembly) | |
| Standards | | CE Marking, UL (CSA), RoHS compliant | |
| Weight | | 170 g | 175 g |



EX600-HT1A-□

## Handheld Terminal

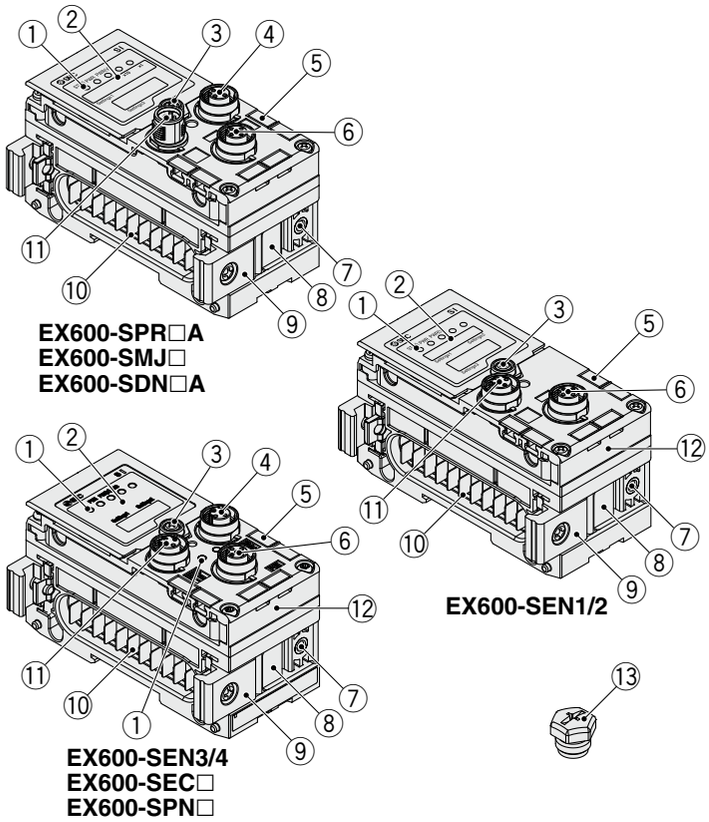
| Model | EX600-HT1A-□ |
|---|---|
| Power supply | Power supplied from SI Unit connector (24 VDC) |
| Current consumption | 50 mA or less |
| Display | LCD with backlight |
| Connection cable | Handheld Terminal cable<br>(1 m ··· EX600-AC010-1, 3 m ··· EX600-AC030-1) |
| Enclosure | IP20 |
| Standards | CE Marking, RoHS compliant |
| Weight | 160 g |

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## Parts Description

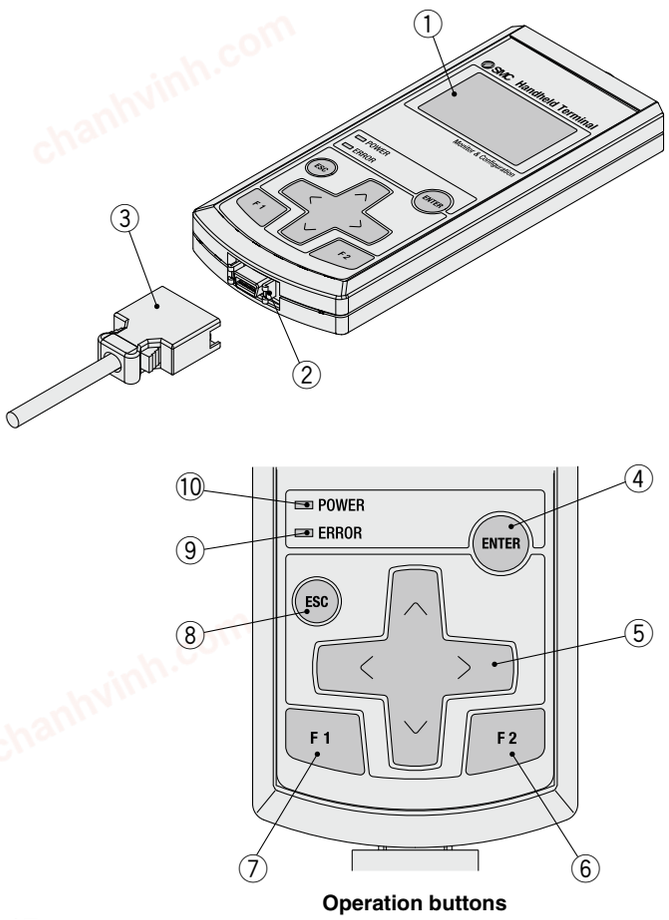
### SI Unit




| No. | Name | Use |
|---|---|---|
| 1 | **Status indication LED** | Displays Unit status. |
| 2 | **Indication cover** | Open for setting the switch. |
| 3 | **Indication cover set screw** | Loosen for opening the indication cover. |
| 4 | **Connector (BUS OUT)** | Connects to the fieldbus output cable. |
| 5 | **Marker groove** | Can be used to mount a marker. |
| 6 | **Connector (PCI)** | Connects to the Handheld Terminal cable. |
| 7 | **Valve plate mounting holes** | Fixes a valve plate in place. |
| 8 | **Valve plate mounting groove** | Inserts a valve plate. |
| 9 | **Joint bracket** | Links Units to one another. |
| 10 | **Connector for Unit (Plug)** | Transmits signals to the neighboring Unit and supplies power. |
| 11 | **Connector (BUS IN)** | Connects to the cable for fieldbus input. |
| 12 | **MAC address name plate** Note) | Displays a unique 12-digit MAC address for each SI Unit. |
| 13 | **Seal cap** | Mounted on the connectors (BUS OUT and PCI) at the time of shipment. |

Note) MAC address name plate is not provided on the EX600-SEC□.

### Handheld Terminal




Operation buttons

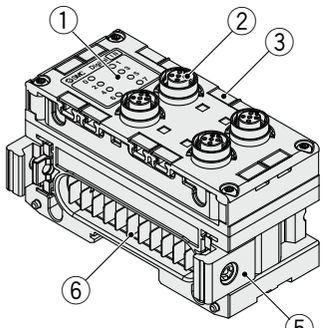
| No. | Name | Use |
|---|---|---|
| 1 | **LCD** | Displays operation and Unit information. |
| 2 | **Connector** | Connects to the Handheld Terminal cable. |
| 3 | **Handheld Terminal cable** | Connects the SI Unit to the Handheld Terminal. |
| 4 | **Enter button (ENTER)** | From the selection screen, goes to the screen for the item selected.<br>On the settings screen, registers the settings that have been made so far. |
| 5 | **Cursor button (▲ ▼ ◀ ▶)** | Moves the cursor on the LCD up, down, left or right.<br>Moves the cursor on the selection screen up, down, left or right to make selections.<br>On the settings screen, increases or decreases the value of settings or turns settings on and off. |
| 6 | **F2 button (F2)** | Functions in accordance with on-screen display or instructions. |
| 7 | **F1 button (F1)** | Functions in accordance with on-screen display or instructions. |
| 8 | **Escape button (ESC)** | On the selection screen, goes back to the previous screen.<br>On the settings screen, cancels the settings that have been made so far and goes back to the previous screen. |
| 9 | **ERROR LED** | Lights up red when the EX600 diagnosis errors occur. |
| 10 | **POWER LED** | Connects to the EX600 SI Unit, and lights up green when control/input power supply is on. |

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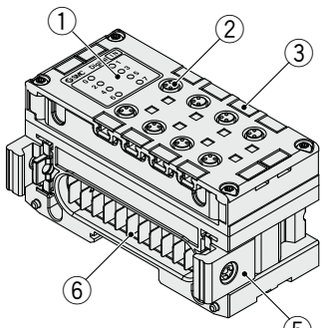




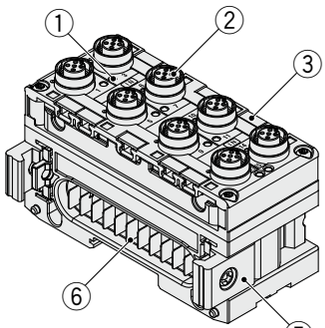
## Digital Unit




**EX600-DX□B**
**EX600-DY□B**

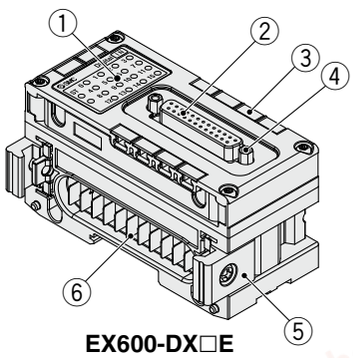



**EX600-DX□C□**

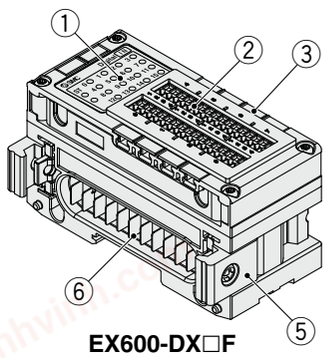



**EX600-DX□D**

| No. | Name | Use |
|---|---|---|
| 1 | **Status indication LED** | Displays Unit status. |
| 2 | **Connector** | Connects with input or output devices. |
| 3 | **Marker groove** | Can be used to mount a marker. |
| 4 | **Lock screw** | Fixes the D-sub connector in place. (No.4-40 UNC) |
| 5 | **Joint bracket** | Links Units to one another. |
| 6 | **Connector for Unit (Plug)** | Transmits signals to the neighboring Unit and supplies power. |

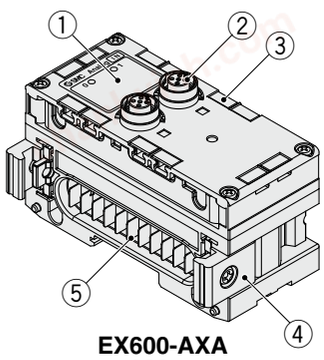



**EX600-DX□E**
**EX600-DY□E**
**EX600-DM□E**

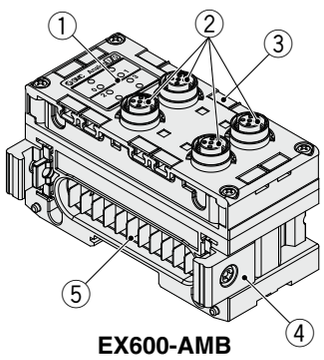



**EX600-DX□F**
**EX600-DY□F**
**EX600-DM□F**

## Analog Unit



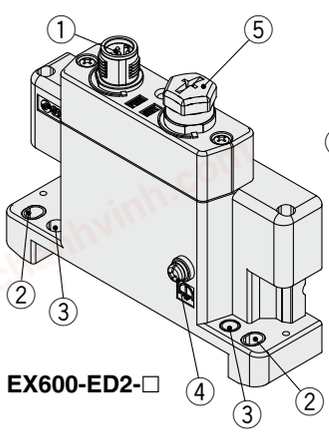

**EX600-AXA**
**EX600-AYA**



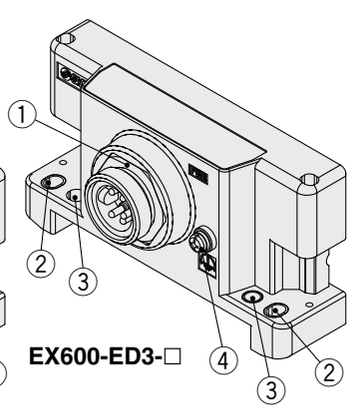

**EX600-AMB**

| No. | Name | Use |
|---|---|---|
| 1 | **Status indication LED** | Displays Unit status. |
| 2 | **Connector** | Connects with input or output devices. |
| 3 | **Marker groove** | Can be used to mount a marker. |
| 4 | **Joint bracket** | Links Units to one another. |
| 5 | **Connector for Unit (Plug)** | Transmits signals to the neighboring Unit and supplies power. |

## End Plate




**EX600-ED2-□**




**EX600-ED3-□**

| No. | Name | Use |
|---|---|---|
| 1 | **Power connector** | Supplies power to the Unit and/or input/output devices. |
| 2 | **Fixing hole for direct mounting** | Connects directly to equipment. |
| 3 | **Fixing hole for DIN rail** | Converts to manifold or for DIN rail mounting. |
| 4 | **FE terminal** | Used for grounding. Ground this terminal securely to improve the noise immunity. |
| 5 | **Connector (Unused)** | This connector has not yet been used. Do not remove the seal cap. |

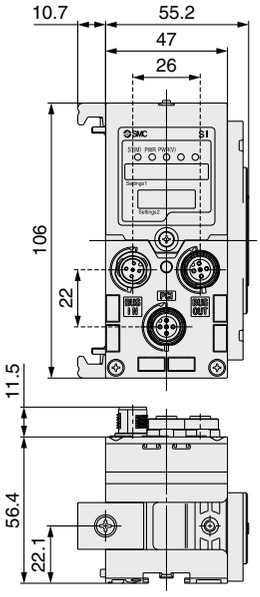
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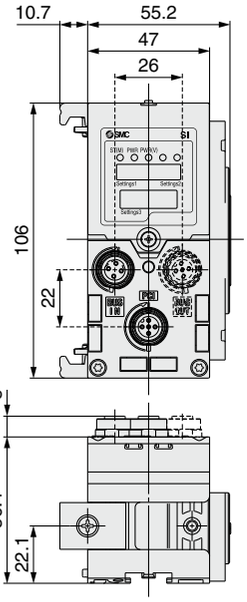
## Dimensions

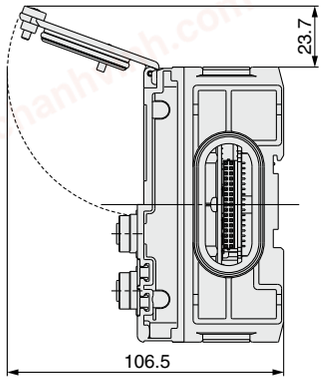
### SI Unit

**EX600-SPR□A**
**EX600-SDN□A**
**EX600-SMJ□**



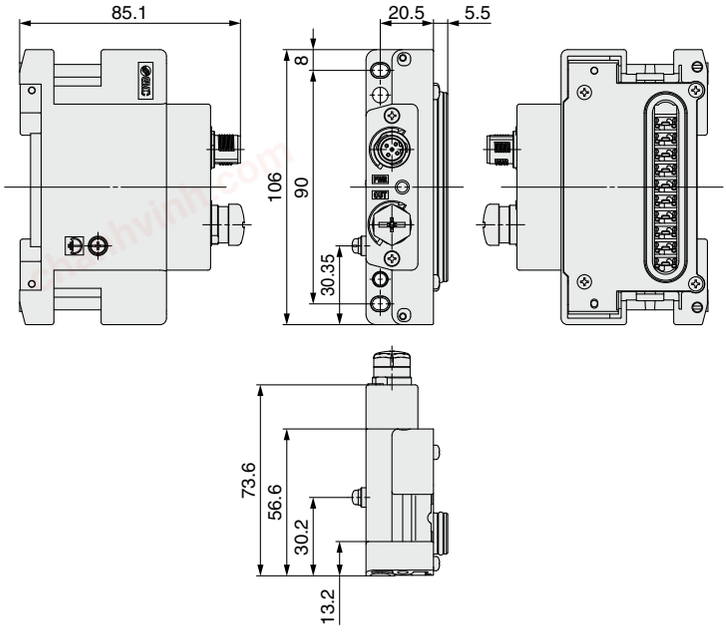

**EX600-SEN□**
**EX600-SEC□**
**EX600-SPN□**



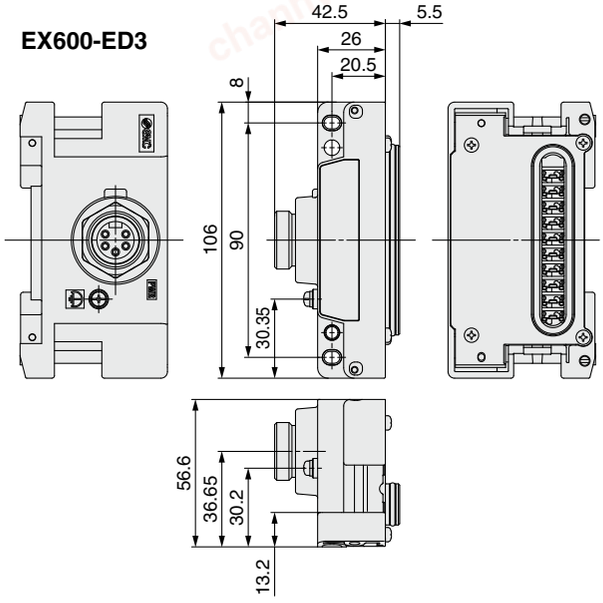




### End Plate

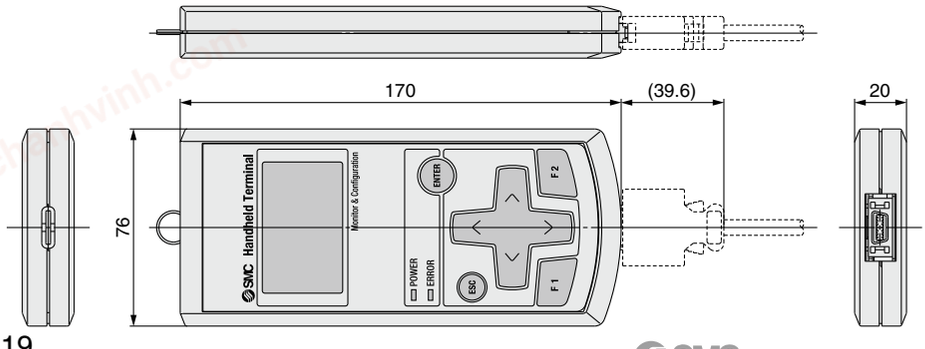
**EX600-ED2**




**EX600-ED3**




### Handheld Terminal



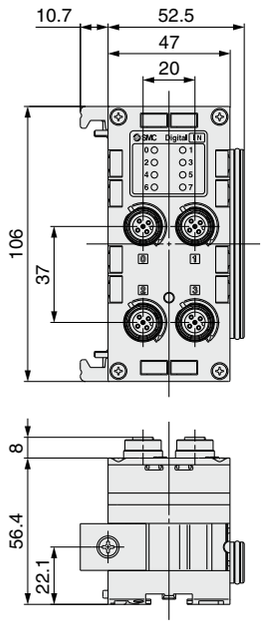
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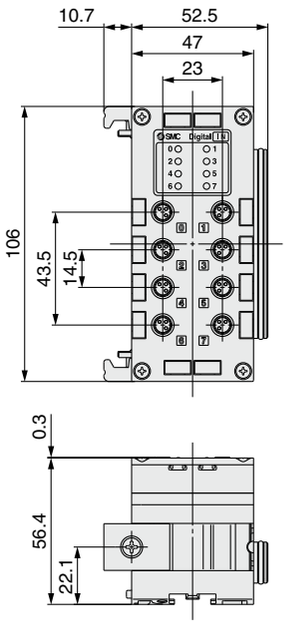


## Digital Unit

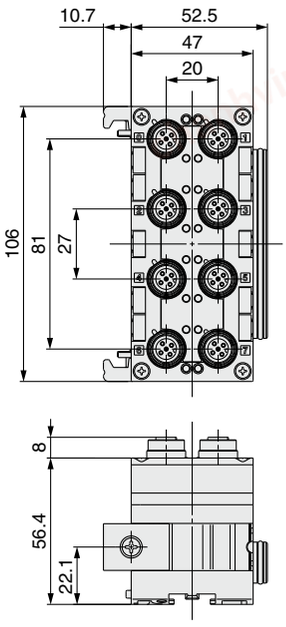
**EX600-DX□B**
**EX600-DY□B**



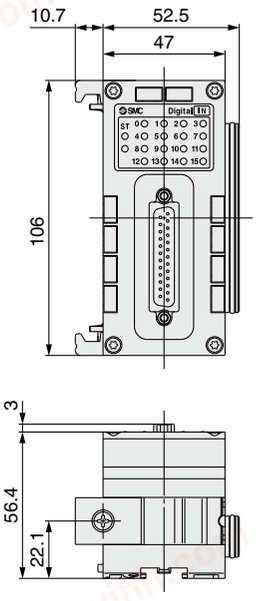

**EX600-DX□C□**



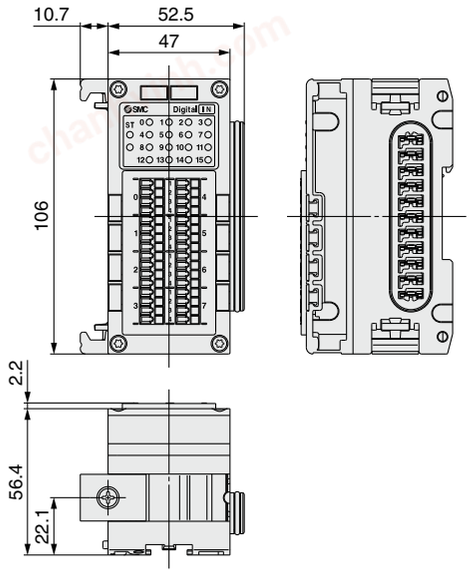

**EX600-DX□D**




**EX600-DX□E**
**EX600-DY□E**
**EX600-DM□E**

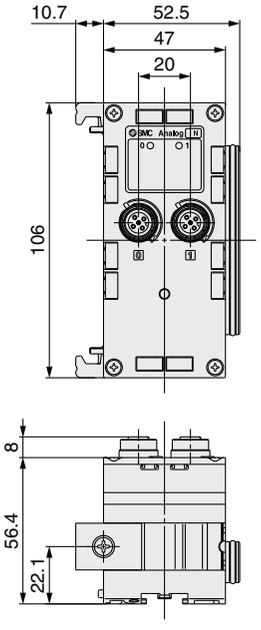



**EX600-DX□F**
**EX600-DY□F**
**EX600-DM□F**

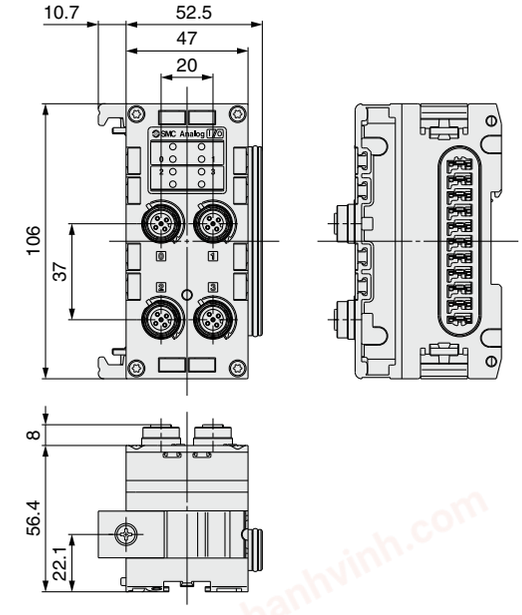



## Analog Unit

**EX600-AXA**
**EX600-AYA**

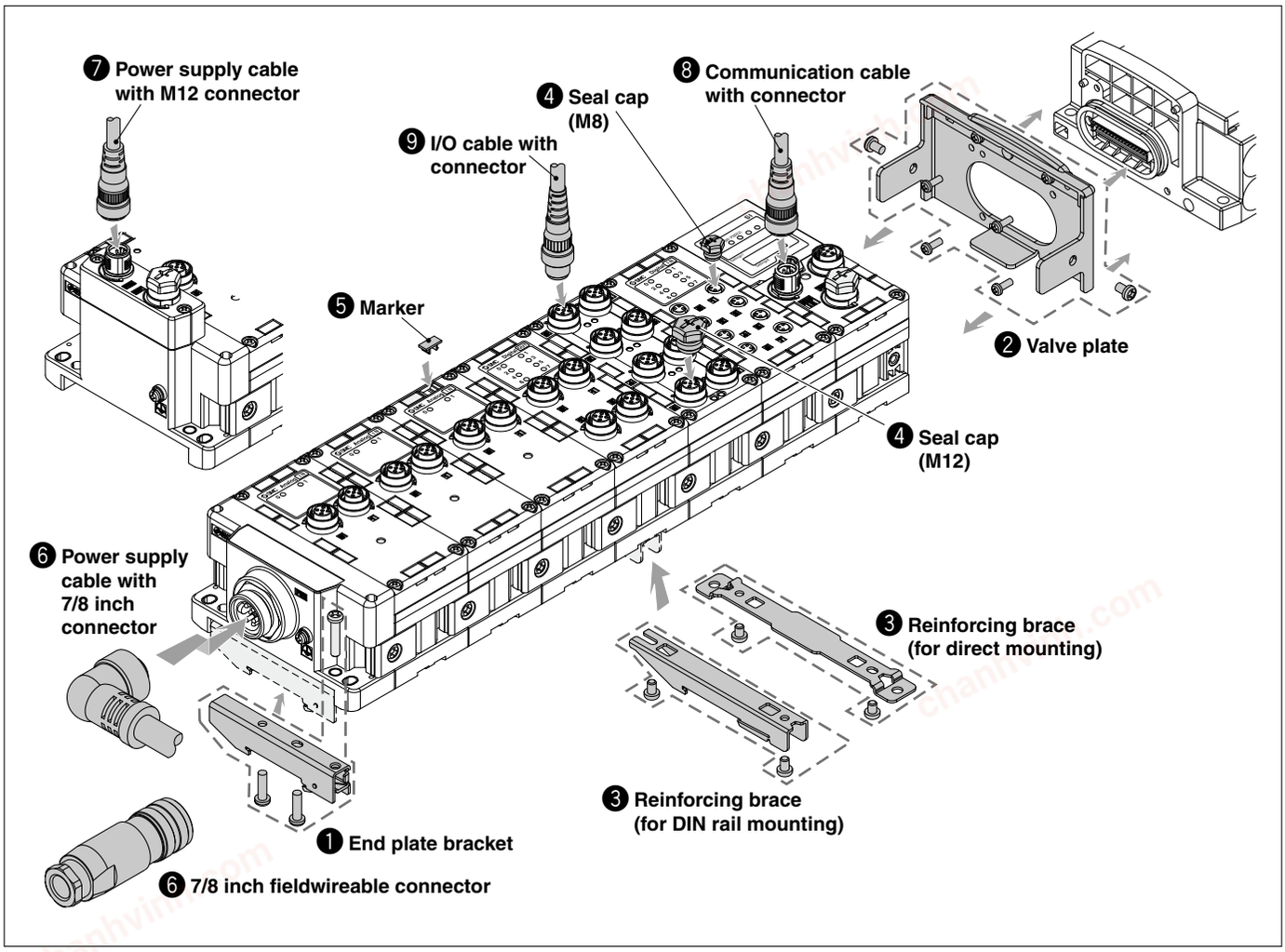



**EX600-AMB**



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# Series EX600
# Accessories




## ❶ End Plate Bracket

This bracket is used for the end plate of DIN rail mounting.



**EX600-ZMA2**

**Enclosed parts**

| | |
|---|---|
| Round head screw (M4 x 20) | 1 pc. |
| P-tight screw (4 x 14) | 2 pcs. |

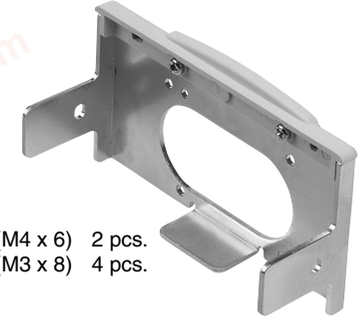
**EX600-ZMA3**
**(Specialized for SY series)**

**Enclosed parts**

| | |
|---|---|
| Round head screw with washer (M4 x 20) | 1 pc. |
| P-tight screw (4 x 14) | 2 pcs. |

## ❷ Valve Plate

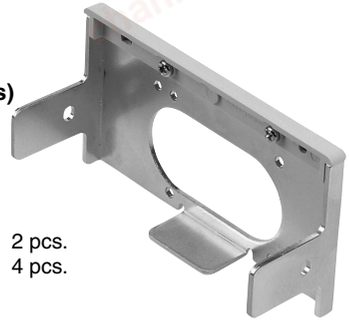
**EX600-ZMV1**



**Enclosed parts**

| | |
|---|---|
| Round head screw (M4 x 6) | 2 pcs. |
| Round head screw (M3 x 8) | 4 pcs. |

**EX600-ZMV2**
**(Specialized for SY series)**



**Enclosed parts**

| | |
|---|---|
| Round head screw (M4 x 6) | 2 pcs. |
| Round head screw (M3 x 8) | 4 pcs. |

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## ❸ Reinforcing Brace

This bracket is used on the bottom of the Unit at the intermediate position for connecting 6 Units or more.
Note) Be sure to attach this bracket to prevent connection failure between the Units caused by deflection.

**For direct mounting**
**EX600-ZMB1**



**Enclosed parts**
Round head screw (M4 x 5) 2 pcs.

**For DIN rail mounting**
**EX600-ZMB2**



**Enclosed parts**
Round head screw (M4 x 6) 2 pcs.

## ❹ Seal Cap (10 pcs.)

Be sure to mount a seal cap on any unused I/O connectors. Otherwise, the specified enclosure cannot be maintained.

**EX9-AWES**
**For M8**



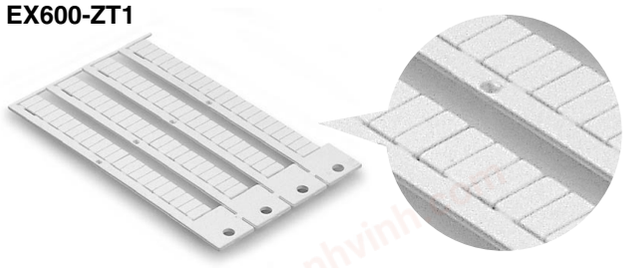
**EX9-AWTS**
**For M12**



## ❺ Marker (1 sheet, 88 pcs.)

The signal name of I/O device and each Unit address can be entered and mounted on each Unit.

**EX600-ZT1**



## ❻ 7/8 Inch Connector and Its Related Parts

- **Power supply cable with 7/8 inch connector**

| | |
|---|---|
| **PCA-1558810** | Straight 2 m |
| **PCA-1558823** | Straight 6 m |
| **PCA-1558836** | Right angle 2 m |
| **PCA-1558849** | Right angle 6 m |



- **Fieldwireable 7/8 inch connector** [compatible to AWG22-16]

| | |
|---|---|
| **PCA-1578078** | Plug |
| **PCA-1578081** | Socket |



## ❼ Power Supply Cable with M12 Connector (5-pin B-coded)

| | |
|---|---|
| **PCA-1564927** | Straight 2 m |
| **PCA-1564930** | Straight 6 m |
| **PCA-1564943** | Right angle 2 m |
| **PCA-1564969** | Right angle 6 m |

SPEEDCON



Note) For M12 connector, description of B-coded for a reverse type is used as a connector shape.

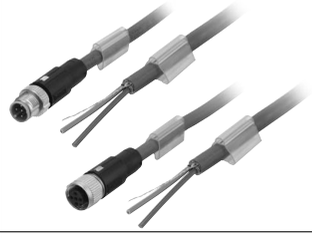
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## ❽ Communication Cable with Connector/Communication Connector

### For SI Unit compatible with CC-Link, DeviceNet™ and PROFIBUS DP

For details, refer to the M8/M12 connector catalog available on SMC website.

| Name | Use | Part no. | Description |
|---|---|---|---|
| Cable with connector SPEEDCON | For Fieldbus communication  | **PCA-1567720** | Communication cable for CC-Link (Socket) |
| | | **PCA-1567717** | Communication cable for CC-Link (Plug) |
| | | **PCA-1557633** | Communication cable for DeviceNet™ (Socket) |
| | | **PCA-1557646** | Communication cable for DeviceNet™ (Plug) |
| | | **PCA-1557688** | Communication cable for PROFIBUS DP (Socket/B-coded) |
| | | **PCA-1557691** | Communication cable for PROFIBUS DP (Plug/B-coded) |
| Fieldwireable connector | For Fieldbus communication  | **PCA-1557617** | Fieldwireable connector for CC-Link (Plug/Spring-caged) |
| | | **PCA-1557620** | Fieldwireable connector for CC-Link (Socket/Spring-caged) |
| | | **PCA-1557659** | Fieldwireable connector for DeviceNet™ (Plug/Spring-caged) |
| | | **PCA-1557662** | Fieldwireable connector for DeviceNet™ (Socket/Spring-caged) |
| | | **PCA-1557701** | Fieldwireable connector for PROFIBUS DP (Plug/B-coded/Spring-caged) |
| | | **PCA-1557714** | Fieldwireable connector for PROFIBUS DP (Socket/B-coded/Spring-caged) |

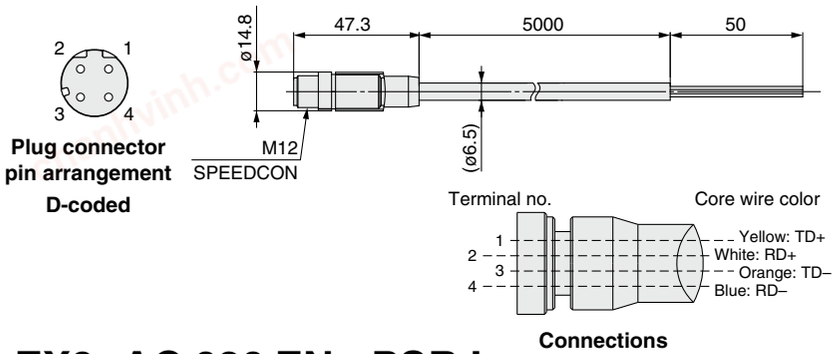
### For SI Unit compatible with EtherNet/IP™, EtherCAT® and PROFINET

**Cable with connector**

**PCA−1446566** SPEEDCON

Cable length

| | |
|---|---|
| **1446566** | 5000 [mm] |

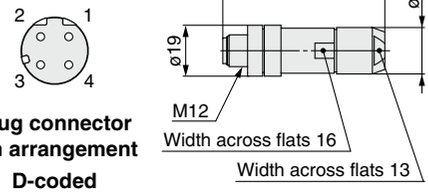



Plug connector pin arrangement
D-coded

Connections

**Fieldwireable connector**

**PCA−1446553**




Plug connector pin arrangement
D-coded

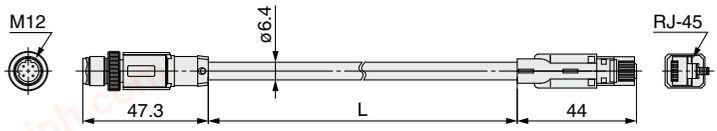
**EX9−AC 020 EN−PSRJ**

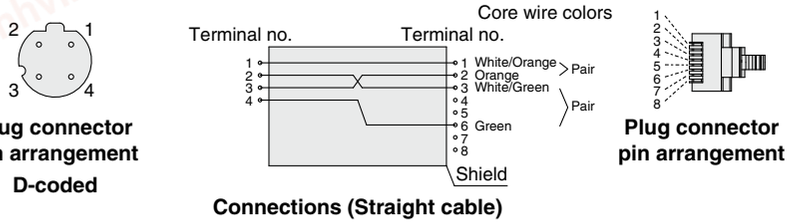
Cable length

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

Connector specification

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




Plug connector pin arrangement
D-coded

Connections (Straight cable)

Plug connector pin arrangement

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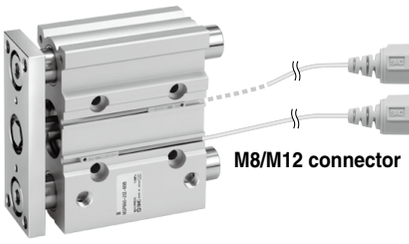


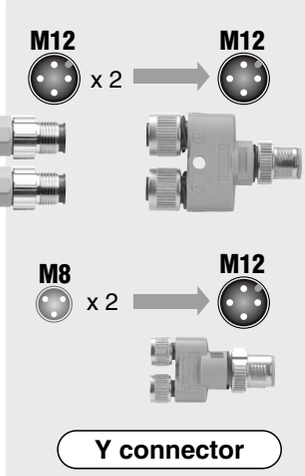
## ❾ I/O Cable with Connector/I/O Connector

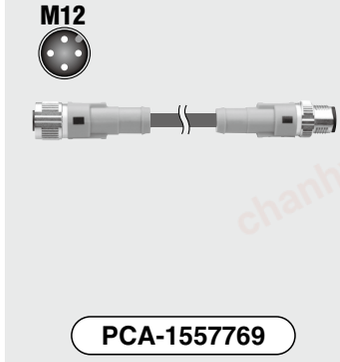
For details, refer to the M8/M12 connector catalog available on SMC website.

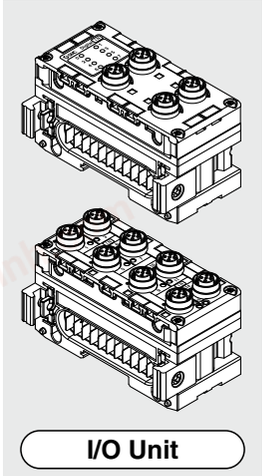
| Name | Use | Part no. | Description |
|---|---|---|---|
| **Cable with connector** | For sensor  | **PCA-1557769** | Cable with M12 connector (4 pins/3 m) |
| | | **PCA-1557772** | Cable with M8 connector (3 pins/3 m) |
| **Fieldwireable connector** | For sensor  | **PCA-1557730** | Fieldwireable connector (M8/3 pins/Plug/Piercecon® connection) |
| | | **PCA-1557743** | Fieldwireable connector (M12/4 pins/Plug/QUICKON-ONE connection/SPEEDCON) |
| | | **PCA-1557756** | |
| **Y connector** | For sensor  | **PCA-1557785** | Y connector (2 x M12 (5 pins)-M12 (5 pins)/SPEEDCON) |
| | | **PCA-1557798** | Y connector (2 x M8 (3 pins)-M12 (4 pins)/SPEEDCON) |

Note) When using the Y connector, connect it to the connector on the I/O Unit through the sensor cable (PCA-1557769) with the M12 connector.

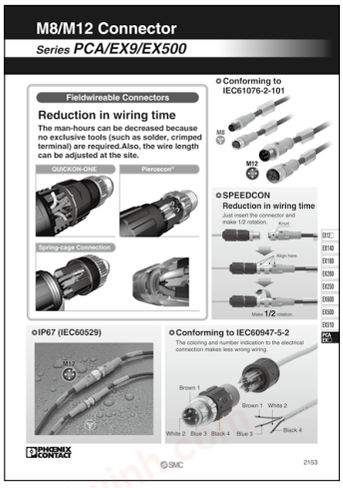



### M8/M12 connector




For details about the cables and connectors that can be purchased from SMC, refer to the **WEB catalog** or the Best Pneumatics No. 1.

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# Series EX600
# Table of Mountable Units

**The Units that can be connected differ depending on the product number.**
**Before mounting, please check the types of Units that can be connected.**

○: Acceptable
×: Not acceptable

## Table of Compatible Units Mountable with Each SI Unit

| | | | Product number: SI Unit | | | |
|---|---|---|---|---|---|---|
| | | | EX600-SPR□ (PROFIBUS DP) EX600-SDN□ (DeviceNet™) | EX600-SPR□A (PROFIBUS DP) EX600-SDN□A (DeviceNet™) | EX600-SMJ□ (CC-Link) | EX600-SEN□ (EtherNet/IP™) EX600-SEC□ (EtherCAT®) EX600-SPN□ (PROFINET) |
| | | | Version Nil | Version A | Version Nil | Version Nil |
| Product number | Digital Input Unit | EX600-DX□B | ○ | ○ | ○ | ○ |
| | | EX600-DX□C□ | ○ | ○ | ○ | ○ |
| | | EX600-DX□D | ○ | ○ | ○ | ○ |
| | | EX600-DX□E | × | ○ | ○ | ○ |
| | | EX600-DX□F | × | ○ | ○ | ○ |
| | Digital Output Unit | EX600-DY□B | ○ | ○ | ○ | ○ |
| | | EX600-DY□E | × | ○ | ○ | ○ |
| | | EX600-DY□F | × | ○ | ○ | ○ |
| | Digital Input/Output Unit | EX600-DM□E | × | ○ | ○ | ○ |
| | | EX600-DM□F | × | ○ | ○ | ○ |
| | Analog Input Unit | EX600-AXA | ○ | ○ | ○ | ○ |
| | Analog Output Unit | EX600-AYA | × | ○ | ○ | ○ |
| | Analog Input/Output Unit | EX600-AMB | × | ○ | ○ | ○ |
| | Handheld Terminal | EX600-HT1-□ | ○ | ○ | ○ | × |
| | | EX600-HT1A-□ | ○ | ○ | ○ | ○ |

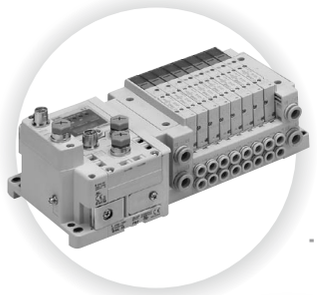
## Table of Compatible Units Capable of Communication with Handheld Terminals

| | | | Product number: Handheld Terminal | |
|---|---|---|---|---|
| | | | EX600-HT1-□ | EX600-HT1A-□ |
| | | | Version Nil | Version A |
| Product number | SI Unit | EX600-SPR□ (PROFIBUS DP) | ○ | ○ |
| | | EX600-SPR□A (PROFIBUS DP) | ○ | ○ |
| | | EX600-SDN□ (DeviceNet™) | ○ | ○ |
| | | EX600-SDN□A (DeviceNet™) | ○ | ○ |
| | | EX600-SMJ□ (CC-Link) | ○ | ○ |
| | | EX600-SEN□ (EtherNet/IP™) | × | ○ |
| | | EX600-SEC□ (EtherCAT®) | × | ○ |
| | | EX600-SPN□ (PROFINET) | × | ○ |
| | Digital Input Unit | EX600-DX□B | ○ | ○ |
| | | EX600-DX□C□ | ○ | ○ |
| | | EX600-DX□D | ○ | ○ |
| | | EX600-DX□E | × | ○ |
| | | EX600-DX□F | × | ○ |
| | Digital Output Unit | EX600-DY□B | ○ | ○ |
| | | EX600-DY□E | × | ○ |
| | | EX600-DY□F | × | ○ |
| | Digital Input/Output Unit | EX600-DM□E | × | ○ |
| | | EX600-DM□F | × | ○ |
| | Analog Input Unit | EX600-AXA | ○ | ○ |
| | Analog Output Unit | EX600-AYA | × | ○ |
| | Analog Input/Output Unit | EX600-AMB | × | ○ |

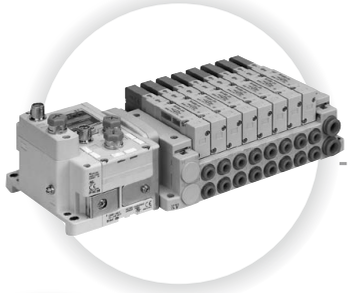
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# Manifold Solenoid Valves for *Series EX600*



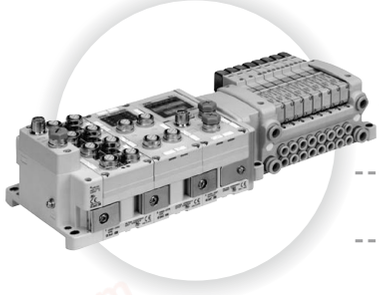
*Series* **SY3000/5000/7000**
Type 10 Side Ported/ Type 11 Bottom Ported P. 27
Type 12 Top Ported P. 37



*Series* **SV1000/2000/3000** P. 39



*Series* **S0700** P. 47



*Series* **VQC1000** P. 51
*Series* **VQC2000** P. 55
*Series* **VQC4000** P. 59
*Series* **VQC5000** P. 62-1

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Type 10
Side Ported

Type 11
Bottom Ported

EX600

# 5 Port Solenoid Valve

## Series SY3000/5000/7000

RoHS

## How to Order Manifold

**Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of Type 11/ Bottom ported type.**

**SS5Y** **3** – **10** **S6** **Q** □ **2** – **05** **U** – **C6** □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

### ❶ Series

| | |
|---|---|
| **3** | SY3000 |
| **5** | SY5000 |
| **7** | SY7000 |

### ❷ Type

| | |
|---|---|
| **10** | Side ported |
| **11** | Bottom ported* |

* Bottom ported type of the SY3000 uses the manifold base of the SY5000. When ordering, refer to How to Order "Plug-in Mixed Mounting Type Manifold" in the SY5000/5000/7000 series catalog (CAT.ES11-103).

### ❸ SI Unit

| | |
|---|---|
| **0** | Without SI Unit Note 1) 2) |
| **Q** | DeviceNet™ |
| **N** | PROFIBUS DP |
| **V** | CC-Link |
| **ZE** | EtherNet/IP™ (1 port) |
| **EA** | EtherNet/IP™ (2 ports) |
| **D** | EtherCAT® |
| **F** | PROFINET |

Note 1) I/O Unit cannot be mounted without SI Unit.
Note 2) Valve plate which connects manifold and SI Unit is not mounted to a valve without SI Unit. Refer to page 65 for mounting method.

### ❹ SI Unit output polarity, end plate type

| SI Unit output polarity | Power supply with M12 connector | Power supply with 7/8 inch connector |
|---|---|---|
| Without SI Unit | **Nil** | |
| SI Unit positive common | **2** | **3** |
| SI Unit negative common | **4** | **5** |

* Ensure a match with the common specification of the valve to be used.
* Without SI Unit, the symbol is nil.

### ❺ I/O Unit stations

| | |
|---|---|
| **Nil** | None |
| **1** | 1 station |
| ⋮ | ⋮ |
| **9** | 9 stations |

* Without SI Unit, the symbol is nil.
* SI Unit is not included in I/O Unit stations.
* When I/O Unit is selected, it is shipped separately, and assembled by users. Refer to the attached operation manual for mounting method.

### ❻ Valve stations

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

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

### ❼ P, E port entry, SUP/EXH block assembly

| P, E port entry | Internal pilot | Internal pilot, Built-in silencer | External pilot |
|---|---|---|---|
| U side (2 to 10 stations) | **U** | **C** | **G** |
| D side (2 to 10 stations) | **D** | **E** | **H** |
| Both sides (2 to 24 stations) | **B** | **F** | **J** |

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

**Refer to the page on the right for ❽.**

### ❾ Mounting and Option

| Symbol | Mounting | Option | |
|---|---|---|---|
| | | Name plate | Station number printed |
| **Nil** | Direct mounting Note 2) | — | — |
| **AA** | | ● | ● |
| **BA** | | ● | — |
| **D□** Note 1) | DIN rail mounting | — | — |
| **A□** Note 1) | | ● | ● |
| **B□** Note 1) | | ● | — |

Note 1) Enter the number of stations inside □ when it is larger than the number of valve stations. (Refer to "DIN Rail Option" below.)
Note 2) Only direct mounting is available for Type 11 (Bottom ported).

**DIN Rail Option**

| | | |
|---|---|---|
| **Nil** | Direct mounting | |
| **0** | Without DIN rail (with bracket) | |
| **3** | For 3 stations | Specify a longer rail than the total length of specified stations. |
| ⋮ | ⋮ | |
| **24** | For 24 stations | |

* If the DIN rail must be mounted without an SI Unit, select D0. Then, refer to L3 of the dimensions for the DIN rail length and order separately. (Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for the DIN rail part number.)
* Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for the fixation of DIN rail mounting type manifold.

Refer to the catalog of each series for details on manifold solenoid valve specifications, Common Precautions and Specific Product Precautions.

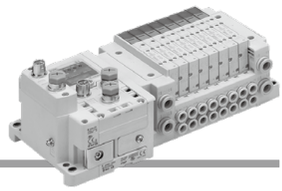


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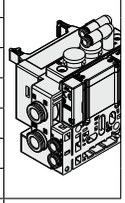


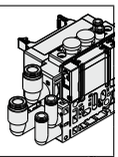


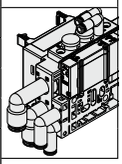


## ⑧ A, B port size (Metric/One-touch fitting)

| Symbol | A, B port | | Type 10/Side ported | | | Type 11/Bottom ported | |
|---|---|---|---|---|---|---|---|
| | | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| C2 | Straight | ø2 | ● | — | — | — | — |
| C3 | | ø3.2 | ● | — | — | — | — |
| C4 | | ø4 | ● | ● | — | ● | — |
| C6 | | ø6 | ● | ● | ● | ● | ● |
| C8 | | ø8 | — | ● | ● | ● | ● |
| C10 | | ø10 | — | — | ● | — | ● |
| C12 | | ø12 | — | — | ● | — | ● |
| CM* | | Straight port, mixed sizes | ● | ● | ● | ● | ● |
| L4 | Elbow (Note) Upward | ø4 | ● | ● | — | — | — |
| L6 | | ø6 | ● | ● | ● | — | — |
| L8 | | ø8 | — | ● | ● | — | — |
| L10 | | ø10 | — | — | ● | — | — |
| L12 | | ø12 | — | — | ● | — | — |
| B4 | Elbow (Note) Downward | ø4 | ● | ● | — | — | — |
| B6 | | ø6 | ● | ● | ● | — | — |
| B8 | | ø8 | — | ● | ● | — | — |
| B10 | | ø10 | — | — | ● | — | — |
| B12 | | ø12 | — | — | ● | — | — |
| LM* | | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — |
| P, E port size (One-touch fittings) | | | ø8 | ø10 | ø12 | ø10 | ø12 |

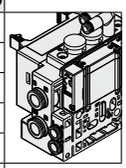


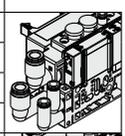


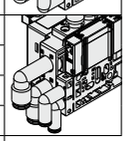


## A, B port size (Inch/One-touch fitting)

| Symbol | A, B port | | Type 10/Side ported | | | Type 11/Bottom ported | |
|---|---|---|---|---|---|---|---|
| | | | SY3000 | SY5000 | SY7000 | SY5000 | SY7000 |
| N1 | Straight | ø1/8" | ● | — | — | — | — |
| N3 | | ø5/32" | ● | ● | — | ● | — |
| N7 | | ø1/4" | ● | ● | ● | ● | ● |
| N9 | | ø5/16" | — | ● | ● | ● | ● |
| N11 | | ø3/8" | — | — | ● | — | ● |
| CM* | | Straight port, mixed sizes | ● | ● | ● | ● | ● |
| LN3 | Elbow (Note) Upward | ø5/32" | ● | — | — | — | — |
| LN7 | | ø1/4" | ● | ● | — | — | — |
| LN9 | | ø5/16" | — | ● | — | — | — |
| LN11 | | ø3/8" | — | — | ● | — | — |
| BN3 | Elbow (Note) Downward | ø5/32" | ● | — | — | — | — |
| BN7 | | ø1/4" | ● | ● | — | — | — |
| BN9 | | ø5/16" | — | ● | — | — | — |
| BN11 | | ø3/8" | — | — | ● | — | — |
| LM* | | Elbow port, mixed sizes (Including upward and downward piping) | ● | ● | ● | — | — |
| P, E port size (One-touch fittings) | | | ø5/16" | ø3/8" | ø1/2" | ø3/8" | ø1/2" |







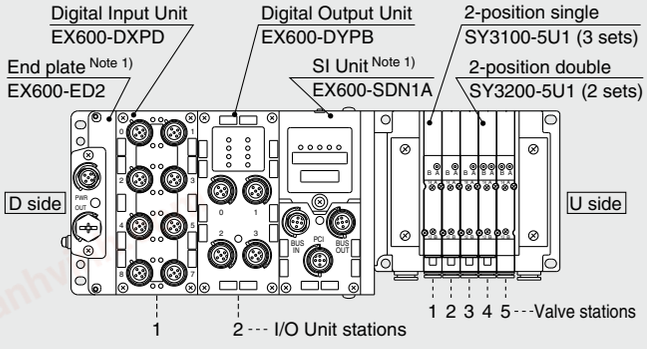
Note) To avoid interference with the body or piping, select downward elbow port when mounting the optional spacer assembly [SY3000/5000/7000 series catalog (CAT.ES11-103)].

∗ 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.

## How to Order Manifold Assembly

### Example (SS5Y3-10S6□-□)




**SS5Y3-10S6Q42-05B-C6 ··· 1 set (Type 10 5-station manifold base part no.)**
**∗SY3100-5U1 ····· 3 sets (2-position single part number)**
**∗SY3200-5U1 ····· 2 sets (2-position double part number)**
**∗EX600-DXPD ····· 1 set I/O Unit part number (Station 1)**
**∗EX600-DYPB ····· 1 set I/O Unit part number (Station 2)**

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

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

Note 1) Do not enter the SI Unit part number and the end plate part number together.

Note 2) When mixing top ported configurations, select from the SY3000/5000/7000 series catalog (CAT.ES11-103). In this case, use caution as there is also output on the A and B port on base side. Specify on the manifold specification sheet if plugs are required on the A and B port on base side.

⚠ Protective class class Ⅲ (Mark: ⏚)

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# Series SY3000/5000/7000

Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for valve specifications.

## How to Order Valves (With mounting screw)

SY 3 1 0 0 □ □ □ □ – 5 □ □ 1 – □

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫

● Base mounted

### ❶ Series

| | |
|---|---|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

### ❷ Type of actuation

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

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

### ❸ Seal type

| | |
|---|---|
| 0 | Rubber seal |
| 1 | Metal seal |

### ❹ Pilot type

| | |
|---|---|
| Nil | Internal pilot |
| R | External pilot |

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

| | |
|---|---|
| Nil | None |
| H | 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 SY3000/5000/7000 series catalog (CAT.ES11-103) for Ordering Example. However, it is not recommended to use built-in valve type and manifold installed type at the same time because it will reduce the flow.
* Built-in valve type back pressure check valve is not available for 3-position type and the SY7000.

### ❻ 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 high pressure type.

### ❼ Coil type

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

* Be sure to select power saving circuit type when the valve is continuously energized for long periods of time.
* Be careful of the energizing time when the power saving circuit is selected. Refer to the SY3000/5000/7000 series catalog (CAT. ES11-103) for details.

### ❽ Rated voltage

| | |
|---|---|
| 5 | 24 VDC |

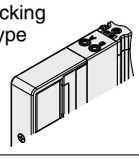
### ❾ Light/surge voltage suppressor and common specification

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

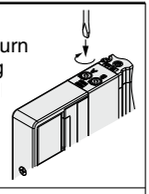
* Select a valve from R, U, S or Z when the SI Unit polarity is positive common. Select a valve from R, U, NS or NZ when the SI Unit output polarity is negative common.
* Only “Z” and “NZ” types are available for product with power saving circuit.

### ❿ Manual override

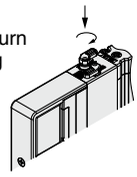
**Nil**: Non-locking push type



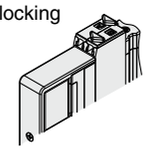
**D**: Push-turn locking slotted type



**E**: Push-turn locking lever type



**F**: Slide locking type



* Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for with safety slide locking manual override.

### ⓫ Type of mounting screw

| | |
|---|---|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Falling-out-prevention type) |
| 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 SY3000/5000/7000 series catalog (CAT.ES11-103) for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly, interface regulator or double check spacer assembly with residual pressure release valve.

Protective class class Ⅲ (Mark: Ⅲ)

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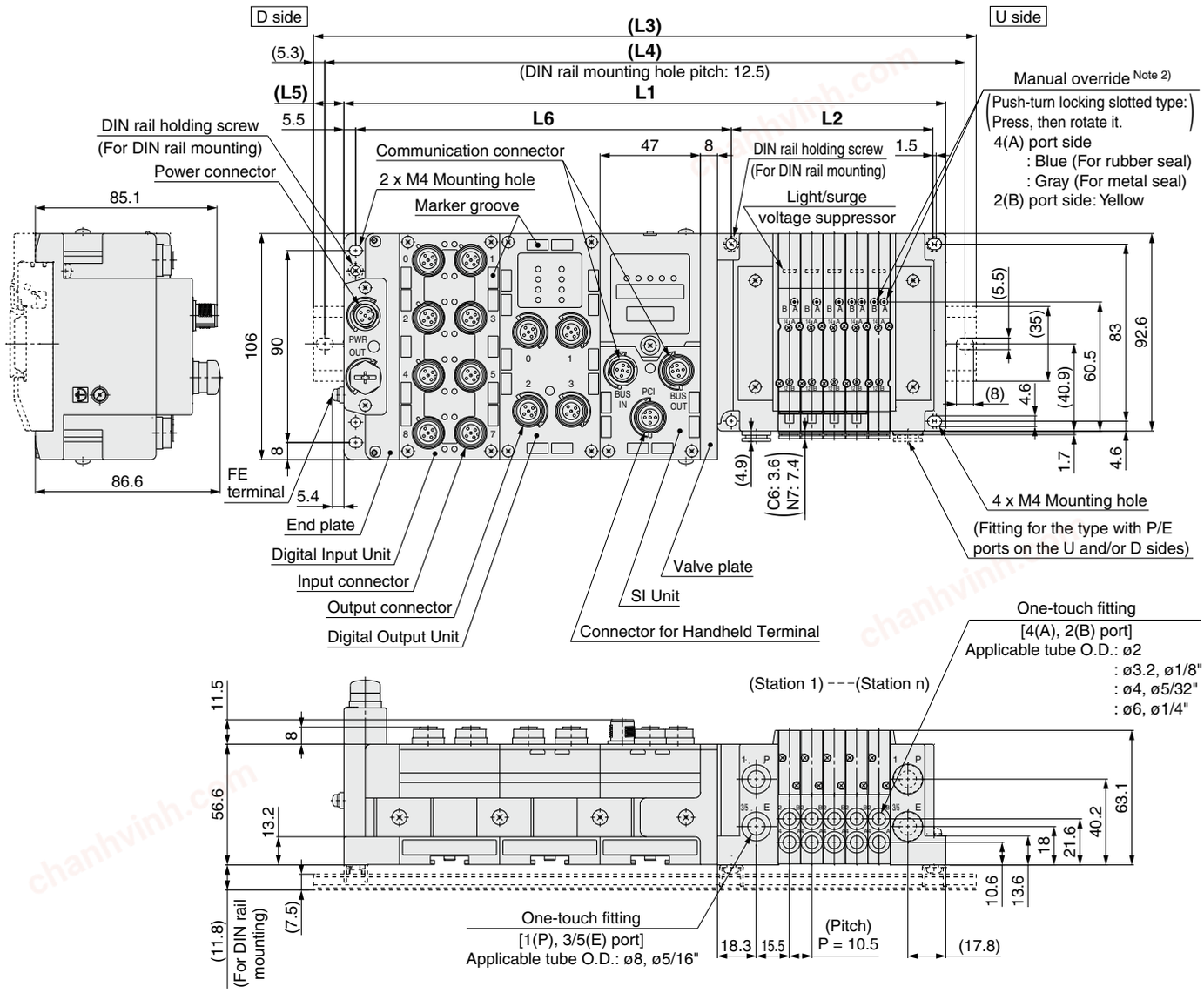






## Dimensions

### Power supply with M12 connector




L1 = 10.5 x n1 + 135.5 + 47 x n2
L2 = 10.5 x n1 + 42
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = 47 x n2 + 82

n1: Valve stations
n2: I/O Unit stations

Note 1) These figures show the "SS5Y3-10S6Q22-05D-C6".
Note 2) Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of A or B port top-ported type.

### L3: DIN Rail Overall Length

[mm]

| I/O Unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 185.5 | 198 | 210.5 | 223 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 |
| **1** | 235.5 | 248 | 248 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 | 323 | 335.5 | 348 | 360.5 | 373 | 385.5 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 448 | 460.5 |
| **2** | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 410.5 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 |
| **3** | 323 | 335.5 | 348 | 360.5 | 373 | 385.5 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 510.5 | 523 | 535.5 | 548 | 560.5 |
| **4** | 373 | 385.5 | 398 | 410.5 | 410.5 | 423 | 435.5 | 448 | 460.5 | 473 | 473 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 548 | 560.5 | 573 | 585.5 | 598 | 610.5 |
| **5** | 423 | 435.5 | 448 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 510.5 | 523 | 535.5 | 548 | 560.5 | 573 | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 635.5 | 648 |
| **6** | 473 | 473 | 485.5 | 498 | 510.5 | 523 | 535.5 | 535.5 | 548 | 560.5 | 573 | 585.5 | 598 | 610.5 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 673 | 685.5 | 698 |
| **7** | 510.5 | 523 | 535.5 | 548 | 560.5 | 573 | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 698 | 710.5 | 723 | 735.5 | 748 |
| **8** | 560.5 | 573 | 585.5 | 598 | 598 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 673 | 685.5 | 698 | 710.5 | 723 | 735.5 | 735.5 | 748 | 760.5 | 773 | 785.5 | 798 |
| **9** | 610.5 | 623 | 635.5 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 698 | 710.5 | 723 | 735.5 | 748 | 760.5 | 760.5 | 773 | 785.5 | 798 | 810.5 | 823 | 835.5 | 835.5 |

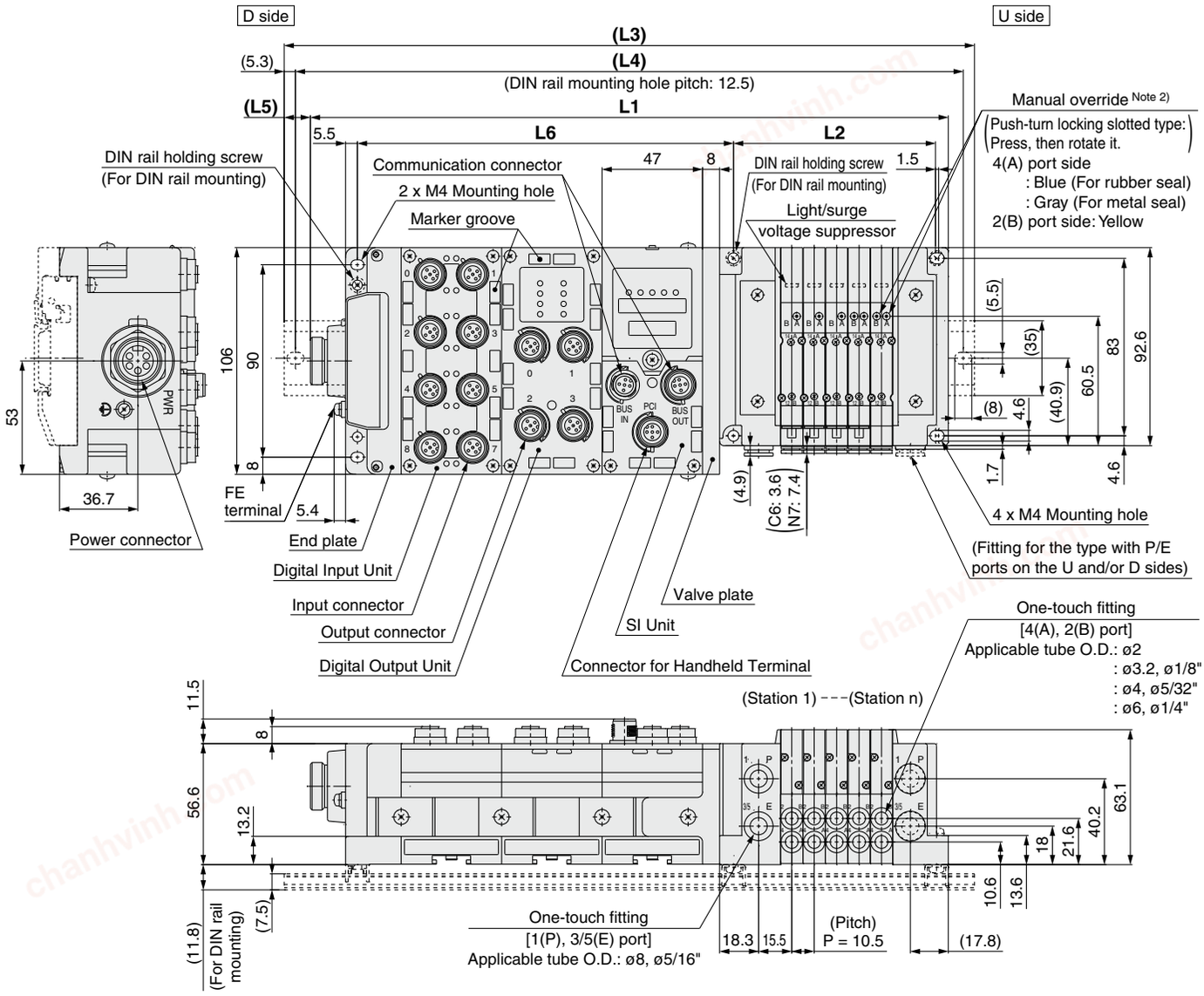
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# Series SY3000/5000/7000



## Dimensions

### Power supply with 7/8 inch connector




L1 = 10.5 x n1 + 152 + 47 x n2
L2 = 10.5 x n1 + 42
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = 47 x n2 + 82

n1: Valve stations
n2: I/O Unit stations

Note 1) These figures show the "SS5Y3-10S6Q32-05D-C6".
Note 2) Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of A or B port top-ported type.

### L3: DIN Rail Overall Length

[mm]

| I/O Unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 | 323 | 335.5 | 348 | 360.5 | 373 | 385.5 | 385.5 | 398 | 410.5 | 423 | 435.5 |
| 1 | 248 | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 360.5 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 |
| 2 | 298 | 310.5 | 323 | 323 | 335.5 | 348 | 360.5 | 373 | 385.5 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 523 | 523 |
| 3 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 548 | 560.5 | 573 |
| 4 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 510.5 | 523 | 535.5 | 548 | 560.5 | 573 | 585.5 | 585.5 | 598 | 610.5 | 623 |
| 5 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 548 | 560.5 | 573 | 585.5 | 598 | 610.5 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 |
| 6 | 485.5 | 498 | 510.5 | 510.5 | 523 | 535.5 | 548 | 560.5 | 573 | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 648 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 710.5 |
| 7 | 535.5 | 548 | 548 | 560.5 | 573 | 585.5 | 598 | 610.5 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 673 | 685.5 | 698 | 710.5 | 723 | 735.5 | 735.5 | 748 | 760.5 |
| 8 | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 710.5 | 723 | 735.5 | 748 | 760.5 | 773 | 773 | 785.5 | 798 | 810.5 |
| 9 | 623 | 635.5 | 648 | 660.5 | 673 | 673 | 685.5 | 698 | 710.5 | 723 | 735.5 | 735.5 | 748 | 760.5 | 773 | 785.5 | 798 | 798 | 810.5 | 823 | 835.5 | 848 | 860.5 |

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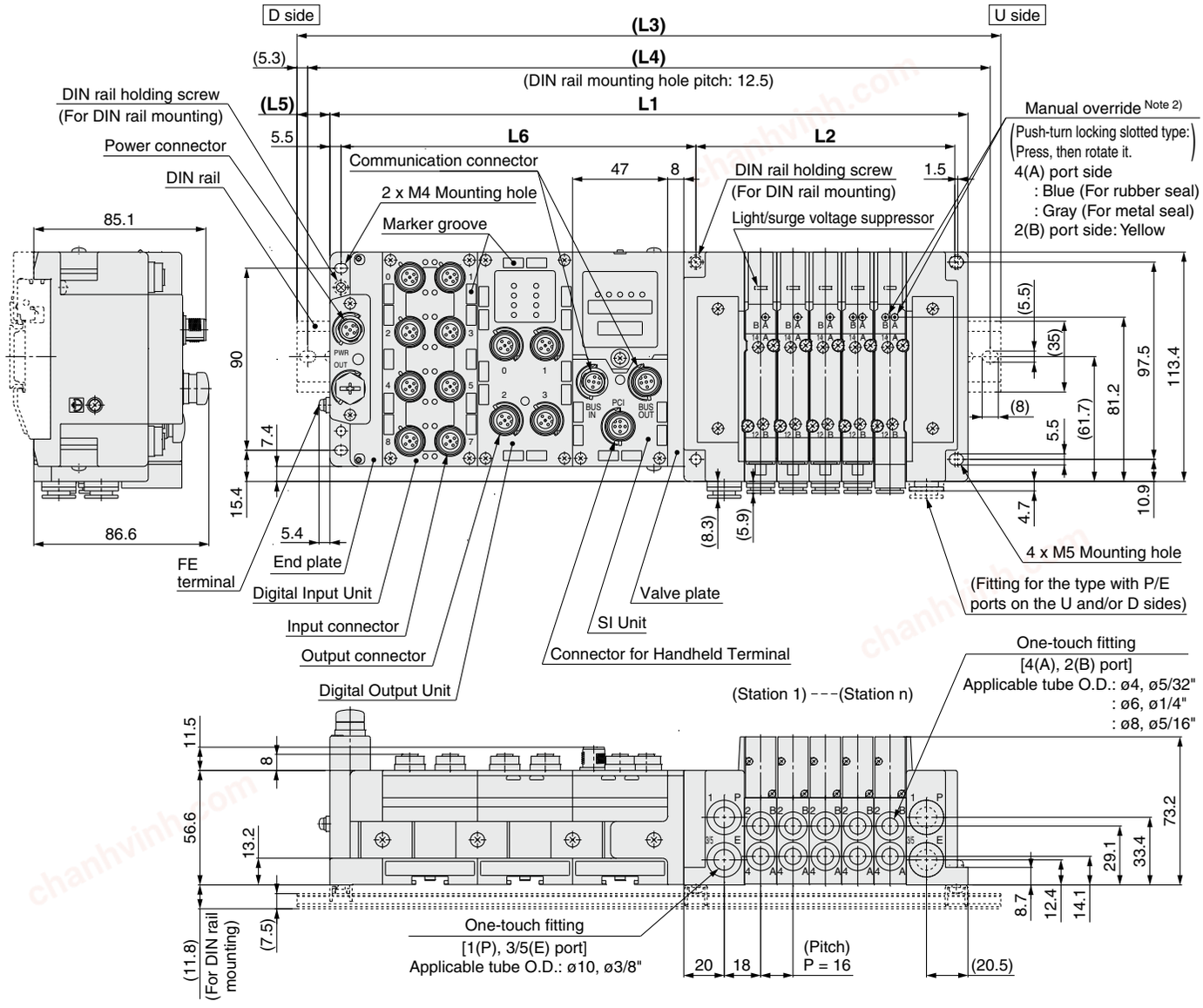




## Dimensions

**Series SY5000** **Type 10 Side Ported**

### Power supply with M12 connector




L1 = 16 x n1 + 141.5 + 47 x n2
L2 = 16 x n1 + 48
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = 47 x n2 + 81.5

n1: Valve stations
n2: I/O Unit stations

Note 1) These figures show the "SS5Y5-10S6Q22-05D-C8".
Note 2) Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of A or B port top-ported type.

### L3: DIN Rail Overall Length

[mm]

| I/O Unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 198 | 223 | 235.5 | 248 | 273 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 560.5 |
| **1** | 248 | 260.5 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 |
| **2** | 298 | 310.5 | 323 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 623 | 635.5 | 648 |
| **3** | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 685.5 | 698 |
| **4** | 385.5 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 748 |
| **5** | 435.5 | 448 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 748 | 760.5 | 773 | 785.5 |
| **6** | 485.5 | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 810.5 | 823 | 835.5 |
| **7** | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 873 | 885.5 |
| **8** | 573 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 873 | 885.5 | 898 | 910.5 | 935.5 |
| **9** | 623 | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 748 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 860.5 | 885.5 | 898 | 910.5 | 935.5 | 948 | 960.5 | 973 |

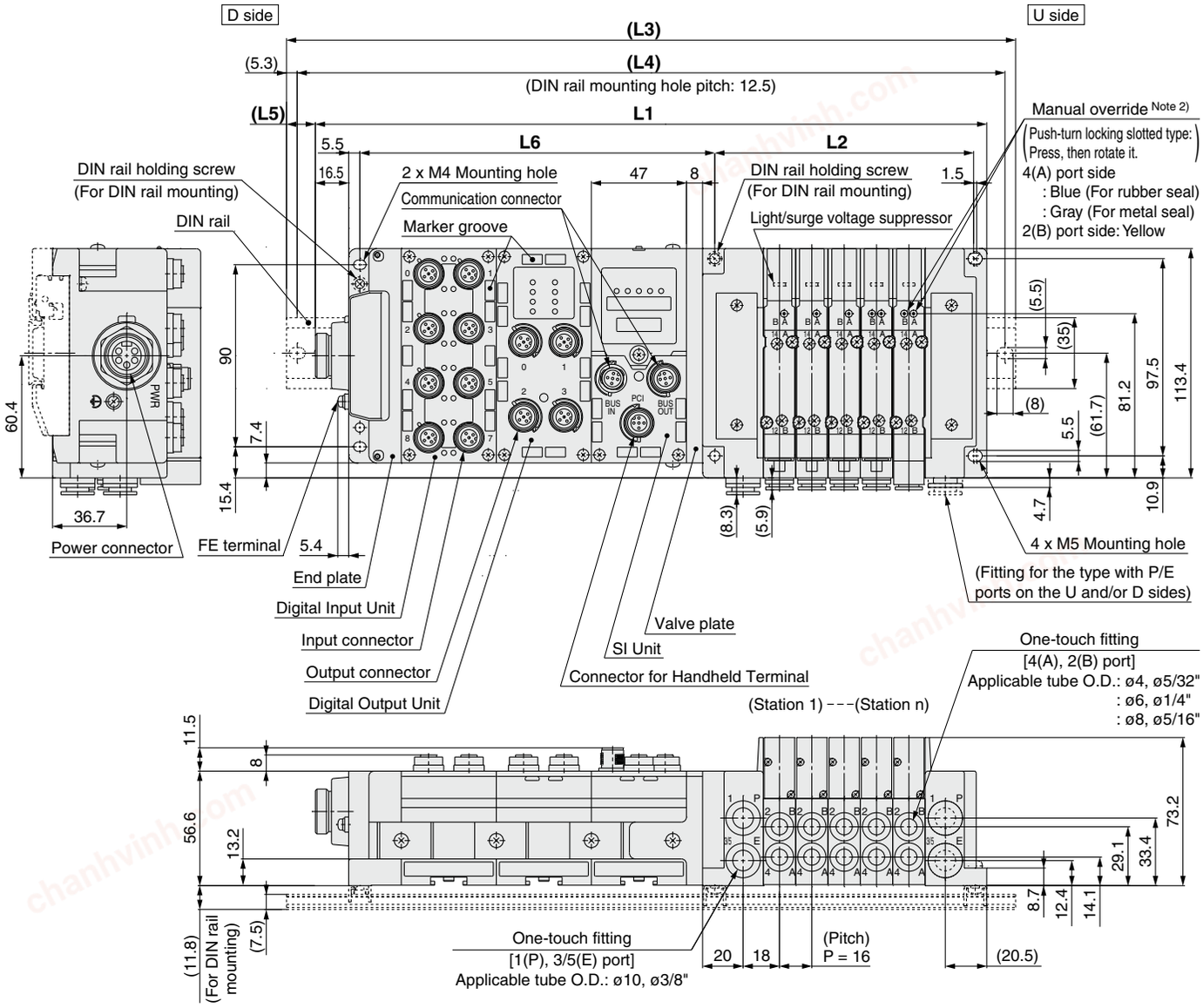
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# Series SY3000/5000/7000



## Dimensions

### Power supply with 7/8 inch connector




L1 = 16 x n1 + 158 + 47 x n2
L2 = 16 x n1 + 48
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = 47 x n2 + 81.5

n1: Valve stations
n2: I/O Unit stations

Note 1) These figures show the “SS5Y5-10S6Q32-05D-C8”.
Note 2) Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of A or B port top-ported type.

### L3: DIN Rail Overall Length

[mm]

| I/O Unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 223 | 235.5 | 248 | 273 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 385.5 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 560.5 | 573 |
| 1 | 260.5 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 560.5 | 573 | 585.5 | 598 | 623 |
| 2 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 623 | 635.5 | 648 | 660.5 |
| 3 | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 685.5 | 698 | 710.5 |
| 4 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 685.5 | 698 | 710.5 | 723 | 748 | 760.5 |
| 5 | 460.5 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 748 | 760.5 | 773 | 785.5 | 810.5 |
| 6 | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 810.5 | 823 | 835.5 | 848 |
| 7 | 548 | 560.5 | 585.5 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 810.5 | 823 | 835.5 | 848 | 873 | 885.5 | 898 |
| 8 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 873 | 885.5 | 898 | 910.5 | 935.5 | 948 |
| 9 | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 860.5 | 885.5 | 898 | 910.5 | 935.5 | 948 | 960.5 | 973 | — |



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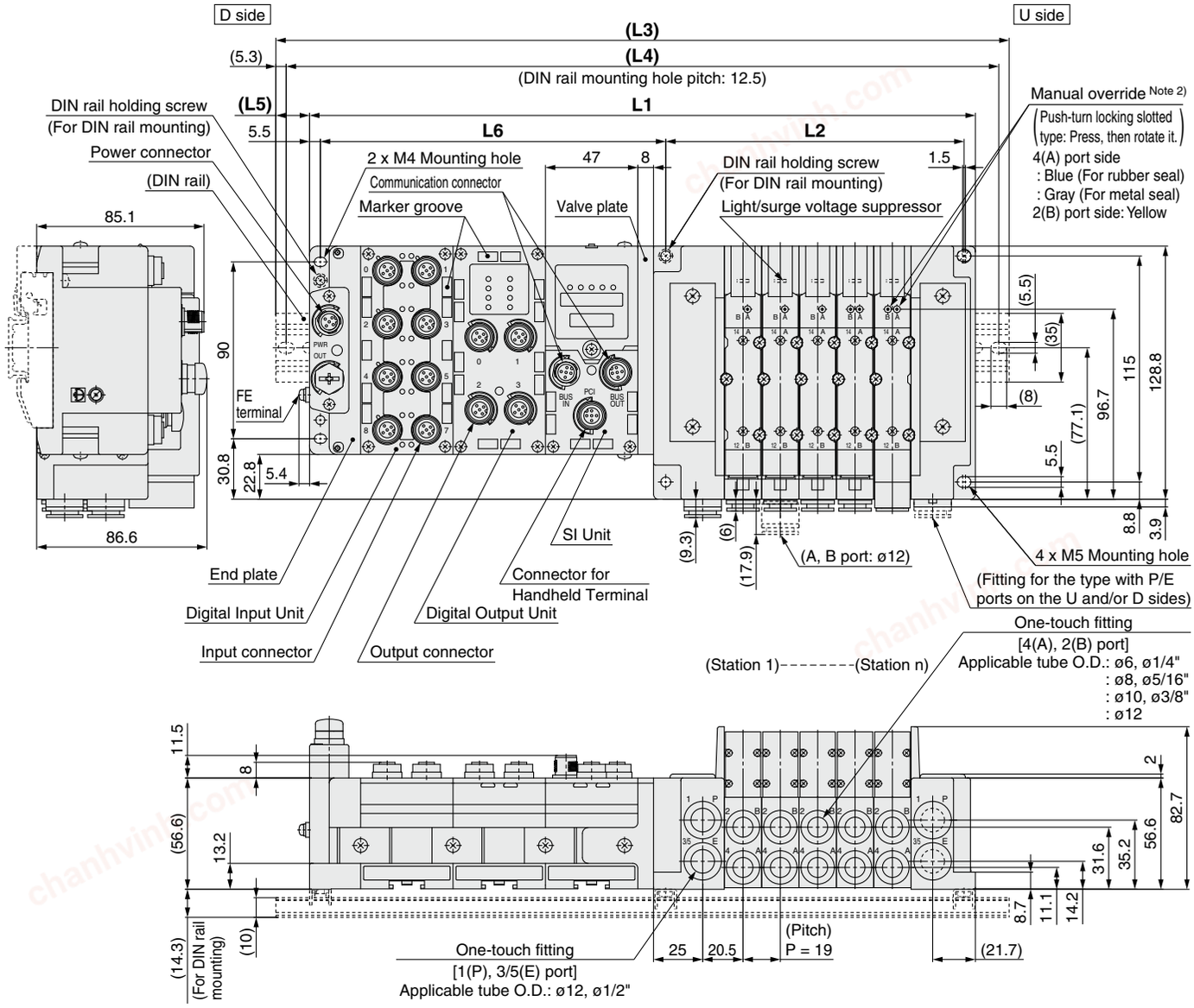






## Dimensions

### Power supply with M12 connector




L1 = 19 x n1 + 149.7 + 47 x n2
L2 = 19 x n1 + 56
L3 = DIN rail dimension
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = 47 x n2 + 81.7

n1: Valve stations
n2: I/O Unit stations

Note 1) These figures show the "SS5Y7-10S6Q22-05D-C10".
Note 2) Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of A or B port top-ported type.

### L3: DIN Rail Overall Length

[mm]

| I/O unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 223 | 235.5 | 260.5 | 273 | 298 | 310.5 | 335.5 | 348 | 373 | 385.5 | 410.5 | 423 | 448 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 |
| **1** | 260.5 | 285.5 | 298 | 323 | 335.5 | 360.5 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 498 | 510.5 | 535.5 | 548 | 573 | 585.5 | 610.5 | 623 | 648 | 660.5 | 685.5 |
| **2** | 310.5 | 335.5 | 348 | 373 | 385.5 | 410.5 | 423 | 448 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 |
| **3** | 360.5 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 573 | 585.5 | 610.5 | 623 | 648 | 660.5 | 685.5 | 698 | 723 | 735.5 | 760.5 | 773 |
| **4** | 410.5 | 423 | 448 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 | 823 |
| **5** | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 | 598 | 623 | 648 | 660.5 | 685.5 | 698 | 723 | 735.5 | 760.5 | 773 | 798 | 810.5 | 835.5 | 848 | 873 |
| **6** | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 | 823 | 835.5 | 860.5 | 873 | 898 | 923 |
| **7** | 548 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 673 | 698 | 723 | 735.5 | 760.5 | 773 | 798 | 810.5 | 835.5 | 848 | 873 | 885.5 | 910.5 | 923 | 948 | 960.5 |
| **8** | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 | 823 | 835.5 | 860.5 | 873 | 898 | 910.5 | 935.5 | 948 | 973 | — | — |
| **9** | 635.5 | 660.5 | 673 | 698 | 710.5 | 735.5 | 748 | 773 | 798 | 810.5 | 835.5 | 848 | 873 | 885.5 | 910.5 | 923 | 948 | 960.5 | 985.5 | — | — | — | — |

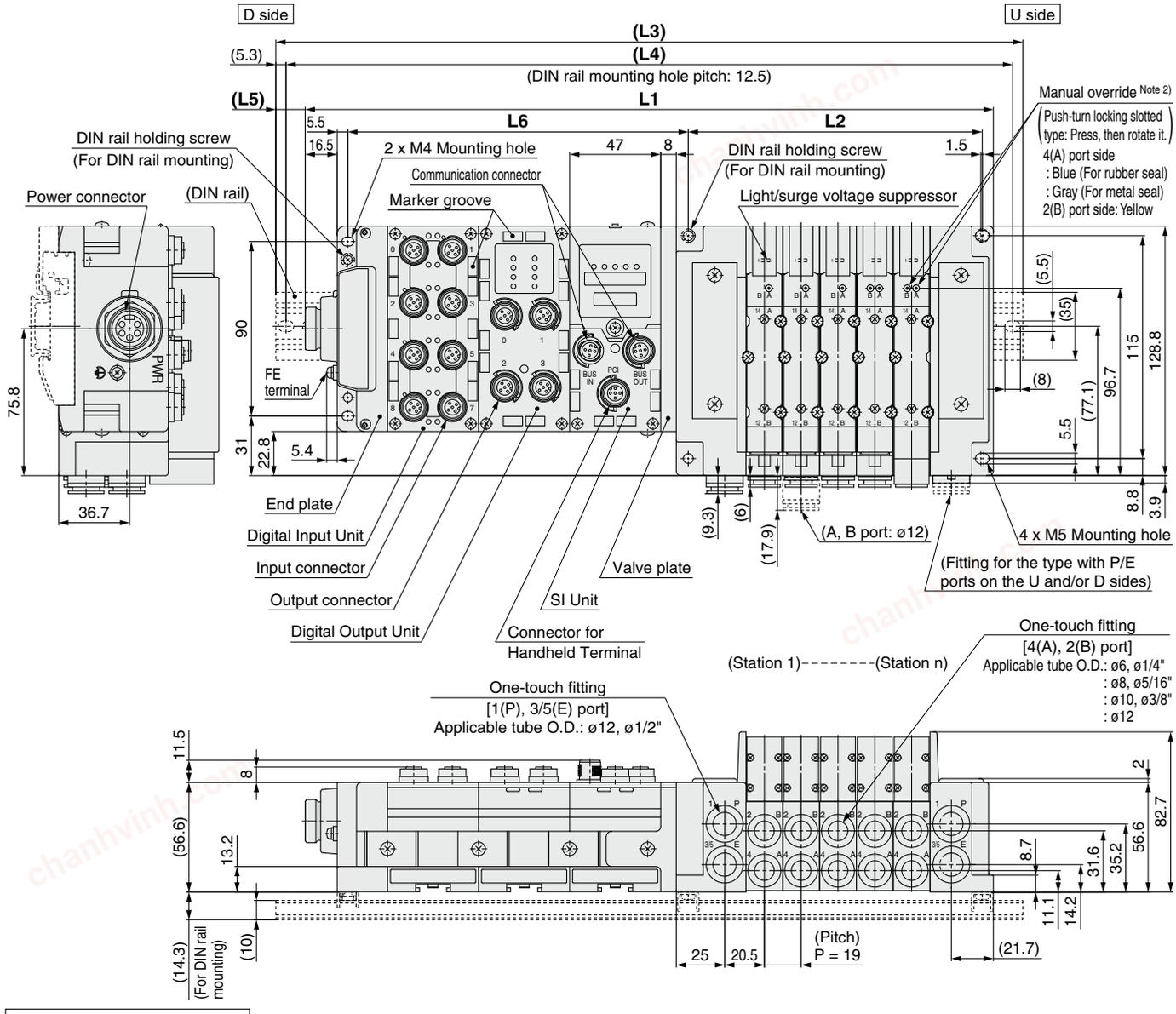
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# Series SY3000/5000/7000



## Dimensions

### Power supply with 7/8 inch connector




L1 = 19 x n1 + 166.2 + 47 x n2
L2 = 19 x n1 + 56
L4 = L3 – 10.5
L5 = (L3 – L1)/2
L6 = 47 x n2 + 81.7

n1: Valve stations
n2: I/O Unit stations

Note 1) These figures show the “SS5Y7-10S6Q32-05D-C10”.
Note 2) Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of external pilot, silencer, elbow fittings and slide locking manual override.
Note 3) Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for dimensions of A or B port top-ported type.

### L3: DIN Rail Overall Length

[mm]

| I/O unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 235.5 | 248 | 273 | 285.5 | 310.5 | 323 | 348 | 360.5 | 385.5 | 410.5 | 423 | 448 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 |
| 1 | 285.5 | 298 | 323 | 335.5 | 360.5 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 685.5 | 698 |
| 2 | 323 | 348 | 360.5 | 385.5 | 398 | 423 | 435.5 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 |
| 3 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 673 | 698 | 710.5 | 735.5 | 760.5 | 773 | 798 |
| 4 | 423 | 435.5 | 460.5 | 473 | 498 | 510.5 | 535.5 | 560.5 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 | 823 | 835.5 |
| 5 | 473 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 673 | 698 | 710.5 | 735.5 | 748 | 773 | 785.5 | 810.5 | 835.5 | 848 | 873 | 885.5 |
| 6 | 510.5 | 535.5 | 548 | 573 | 585.5 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 | 823 | 835.5 | 860.5 | 873 | 898 | 910.5 | 935.5 |
| 7 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 673 | 698 | 710.5 | 735.5 | 748 | 773 | 785.5 | 810.5 | 823 | 848 | 860.5 | 885.5 | 910.5 | 923 | 948 | 960.5 | 985.5 |
| 8 | 610.5 | 623 | 648 | 660.5 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 798 | 823 | 835.5 | 860.5 | 873 | 898 | 910.5 | 935.5 | 948 | 973 | 985.5 | — | — |
| 9 | 660.5 | 673 | 698 | 710.5 | 735.5 | 748 | 773 | 785.5 | 810.5 | 823 | 848 | 860.5 | 885.5 | 898 | 923 | 935.5 | 960.5 | 985.5 | — | — | — | — | — |

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EX600

# 5 Port Solenoid Valve

## Series SY3000/5000/7000

Type 12
Top Ported

RoHS

## How to Order Manifold

Refer to the SY3000/5000 /7000 series catalog (CAT. ES11-103) for dimensions of Type 12/Top ported type.

**SS5Y** [3] – **12S6** [Q] [ ] [2] – [05] [U] – [ ] [ ]
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽

### ❶ Series

| | |
|---|---|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

### ❷ SI Unit

| | |
|---|---|
| 0 | Without SI Unit Note 1, 2) |
| Q | DeviceNet™ |
| N | PROFIBUS DP |
| V | CC-Link |
| ZE | EtherNet/IP™ (1 port) |
| EA | EtherNet/IP™ (2 ports) |
| D | EtherCAT® |
| F | PROFINET |

Note 1) I/O Unit cannot be mounted without SI Unit.
Note 2) Valve plate which connects manifold and SI Unit, is not mounted to a valve without SI Unit. Refer to page 65 for mounting method.

### ❸ SI Unit output polarity, end plate type

| SI Unit output polarity | Power supply with M12 connector | Power supply with 7/8 inch connector |
|---|---|---|
| Without SI Unit | Nil | |
| SI Unit positive common | 2 | 3 |
| SI Unit negative common | 4 | 5 |

∗ Without SI Unit, the symbol is nil.
∗ Ensure a match with the common specification of the value to be used.

### ❹ I/O Unit stations

| | |
|---|---|
| Nil | None |
| 1 | 1 station |
| ⋮ | ⋮ |
| 9 | 9 stations |

∗ Without SI Unit, the symbol is nil.
∗ SI Unit is not included in I/O Unit stations.
∗ When I/O Unit is selected, it is shipped separately, and assembled by users. Refer to the attached operation manual for mounting method.

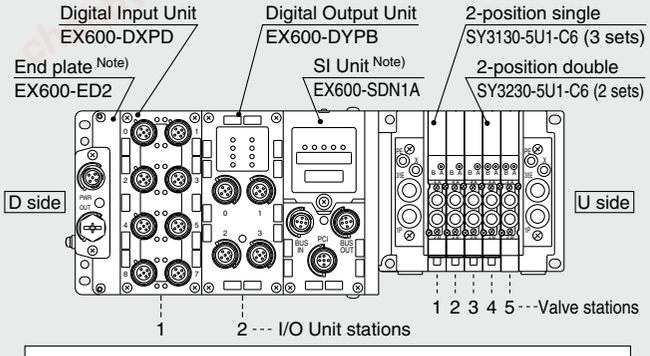
### ❺ Valve stations

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

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

## How to Order Manifold Assembly

### Example (SS5Y3-12S6□-□)




**SS5Y3-12S6Q42-05B ····· 1 set (Type 12 5-station manifold base part no.)**
**∗SY3130-5U1-C6 ····· 3 sets (2-position single part number)**
**∗SY3230-5U1-C6 ····· 2 sets (2-position double part number)**
**∗EX600-DXPD ····· 1 set I/O Unit part number (Station 1)**
**∗EX600-DYPB ····· 1 set I/O Unit part number (Station 2)**
**The asterisk denotes the symbol for assembly.**
**Prefix it to the part numbers of the solenoid 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, then the I/O Units in order from the 1st station as shown in the figure above. If the arrangement becomes complicated, specify on the manifold specification sheet.

Note) Do not enter the SI Unit part number and the end plate part number together.

Refer to the catalog of each series for details on manifold solenoid valve specifications, Common Precautions and Specific Product Precautions.

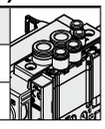
### ❻ P, E port entry, SUP/EXH block assembly

| P, E port entry | Internal pilot | Internal pilot, Built-in silencer | External pilot |
|---|---|---|---|
| U side (2 to 10 stations) | U | C Note) | G |
| D side (2 to 10 stations) | D | E Note) | H |
| Both sides (2 to 24 stations) | B | — | J |

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

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

| Symbol | SY3000 | SY5000 | SY7000 |
|---|---|---|---|
| Nil | ø8 | ø10 | ø12 |
| N | ø5/16" | ø3/8" | ø1/2" |



∗ For N, sizes are in inches.

### ❽ 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 the DIN rail with required length separately by referring to L3 in the dimensions. (Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for the DIN rail part number.)
∗ Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for the fixation of DIN rail mounting type manifold.

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Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for valve specifications.

## How to Order Valves (With mounting screw)

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

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿ ⓫ ⓬ ⓭

● Top ported

### ❶ Series

| | |
|---|---|
| 3 | SY3000 |
| 5 | SY5000 |
| 7 | SY7000 |

### ❷ Type of actuation

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

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

### ❸ Seal type

| | |
|---|---|
| 0 | Rubber seal |
| 1 | Metal seal |

### ❹ Pilot type

| | |
|---|---|
| Nil | Internal pilot |
| R | External pilot |

### ❺ Back pressure check valve

| | |
|---|---|
| Nil | None |
| H | 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 SY3000/5000/7000 series catalog (CAT.ES11-103) for Ordering Example. However, it is not recommended to use built-in valve type and manifold installed type at the same time because it will reduce the flow.
* Built-in valve type back pressure check valve is not available for 3-position type and SY7000 series.

### ❻ 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 high pressure type.

### ❼ Coil type

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

* Be sure to select power saving circuit type when the valve is continuously energized for long periods of time.
* Note the specified energizing time when power saving circuit is selected. Refer to the SY3000/5000/7000 series catalog (CAT. ES11-103) for details.

### ❽ Rated voltage

| | |
|---|---|
| 5 | 24 VDC |

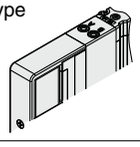
### ❾ Light/surge voltage suppressor and common specification

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

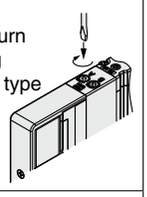
* Select a valve from R, U, S or Z when the SI Unit output polarity is positive common. Select a valve from R, U, NS or NZ when the SI Unit output polarity is negative common.
* Only "Z" and "NZ" types are available for the product with power saving circuit.

### ❿ Manual override

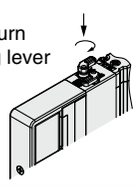
**Nil**: Non-locking push type



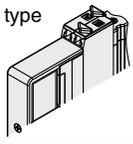
**D**: Push-turn locking slotted type



**E**: Push-turn locking lever type



**F**: Slide locking type



* Refer to the SY3000/5000/7000 series catalog (CAT.ES11-103) for with safety slide locking manual override.

### ⓫ A, B port size

**Thread piping**

| Symbol | Port size | Applicable series |
|---|---|---|
| M5 | M5 x 0.8 | SY3000 |
| 01 | 1/8 | SY5000 |
| 02 | 1/4 | SY7000 |

**One-touch fitting (Metric)**

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

**One-touch fitting (Inch)**

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

### ⓬ Thread type

| | |
|---|---|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

* Only Nil is available for M5.

### ⓭ Type of mounting screw

| | |
|---|---|
| Nil | Round head combination screw |
| B | Hexagon socket head cap screw |
| K | Round head combination screw (Falling-out-prevention type) |
| 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 SY3000/5000/7000 series catalog (CAT.ES11-103) for part numbers of the base gasket and mounting screw.
* "B" and "H" cannot be selected for the individual SUP/EXH spacer assembly or interface regulator.

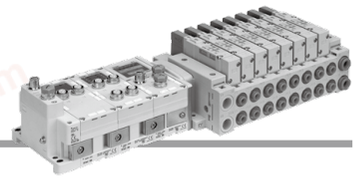
⚠ Protective class class Ⅲ (Mark: ⋔)

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EX600

# 5 Port Solenoid Valve

## Series SV1000/2000/3000



## How to Order Manifold

### ● Tie-rod Base

**SS5V 1 – □ 10S6 Q □ □ □ D – 05 U □ – C6 – □**

**Series**

| | |
|---|---|
| 1 | SV1000 |
| 2 | SV2000 |
| 3 | SV3000 |

**Enclosure**

| | |
|---|---|
| Nil | IP40 |
| W | IP67 |

- When I/O Unit EX600-D□□E or EX600-D□□F are selected, enclosure is IP40. Refer to page 64 for details.

**SI Unit**

| | |
|---|---|
| 0 | Without SI Unit |
| Q | DeviceNet™ |
| N | PROFIBUS DP |
| V | CC-Link |
| ZE | EtherNet/IP™ (1 port) |
| EA | EtherNet/IP™ (2 ports) |
| D | EtherCAT® |
| F | PROFINET |

- When "Without SI Unit" is specified, I/O Unit cannot be mounted.
- When "Without SI Unit" is specified, a valve plate which connects the valve manifold and SI Unit, is not mounted. Refer to page 65 for mounting method.

**End plate type**

| | |
|---|---|
| Nil | No end plate |
| 2 | Power supply with M12 connector (Max. supplied current 2 A) |
| 3 | Power supply with 7/8 inch connector (Max. supplied current 8 A) |

- Without SI Unit, the symbol is nil.

**SI Unit output polarity**

| | |
|---|---|
| Nil | Positive common |
| N | Negative common |

- Without SI Unit, the symbol is nil.

**I/O Unit stations**

| | |
|---|---|
| Nil | None |
| 1 | 1 station |
| ⋮ | ⋮ |
| 9 | 9 stations |

- Without SI Unit, the symbol is nil.
- SI Unit is not included in I/O Unit stations.
- When I/O Unit is selected, it is shipped separately and assembled by users. Refer to the attached operation manual for mounting method.

**Mounting**

| | | |
|---|---|---|
| Nil | Direct mounting | |
| D | DIN rail mounting (With DIN rail) | |
| D0 Note 1) | DIN rail mounting (Without DIN rail) | |
| D3 | For 3 stations | When a longer DIN rail is desired than the specified stations. (Specify a longer rail than the standard length.) |
| ⋮ | ⋮ | |
| D20 | For 20 stations | |

Note 1) In the case of D0, only DIN rail mounting bracket is attached.
Note 2) DIN rail is not attached (but shipped together) on the manifold in the case of with DIN rail. Refer to the SV series catalog for mounting method.
Note 3) When selecting the DIN rail mounting (with DIN rail) of the SV3000 series, and 9 I/O Unit stations will result in a total of 18 valve stations. With 19 and 20 stations, the DIN rail mounting (with DIN rail) cannot be indicated, so please exercise caution. (Refer to "DIN Rail Overall Length" on pages 45 and 46 .)
Note 4) When it is necessary to mount a DIN rail without an SI Unit, select D0 and order the DIN rail with required length separately by referring to L1 in the dimensions.

**SUP/EXH block assembly**

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

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

**Valve stations**

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

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

**P, E port entry**

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

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

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

**A, B port size (Inch)**

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

∗ In the case of mixed specifications (M), indicate separately on the manifold specification sheet.
∗ The X and PE port size of External pilot type (R), and X port size of External pilot, Built-in silencer type (RS) are ø4 (mm) or ø5/32" (inch) for the SV1000/2000 series, and ø6 (mm) or ø1/4" (inch) for the SV3000 series.

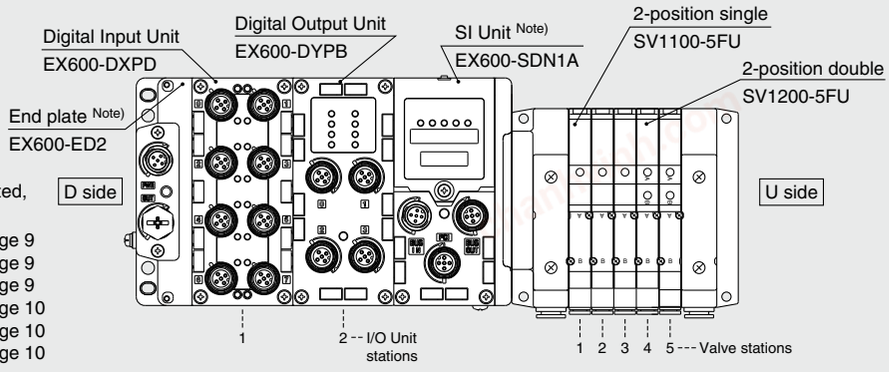
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## How to Order Manifold Assembly

### Example (SS5V1)




For the I/O Unit part number mounted, refer to the following pages.

- Digital Input Unit ····· Page 9
- Digital Output Unit ····· Page 9
- Digital Input/Output Unit ····· Page 9
- Analog Input Unit ····· Page 10
- Analog Output Unit ····· Page 10
- Analog Input/Output Unit ····· Page 10

**SS5V1-W10S6Q2N2D-05B-C6 ···· 1 set** **Manifold base part number**
∗ **SV1100-5FU ····· 3 sets** **Valve part number (Stations 1 to 3)**
∗ **SV1200-5FU ····· 2 sets** **Valve part number (Stations 4 to 5)**
∗ **EX600-DXPD ····· 1 set** **I/O Unit part number (Station 1)**
∗ **EX600-DYPB ····· 1 set** **I/O Unit part number (Station 2)**

Enter in order starting from the first station on the D side. If the arrangement becomes complicated, specify on the manifold specification sheet.

Enter in order starting from the first station on the D side. If the arrangement becomes complicated, specify on the manifold specification sheet.

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

Note) Do not enter the SI Unit part number and the end plate part number together.

## How to Order Valves

**SV 1 1 00 – 5 F U – **

### Series

| | |
|---|---|
| **1** | SV1000 |
| **2** | SV2000 |
| **3** | SV3000 |

### 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.C./N.C.) |
| **B** | 4-position dual 3-port valve (N.O./N.O.) |
| **C** | 4-position dual 3-port valve (N.C./N.O.) |

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

### Pilot type

| | |
|---|---|
| **Nil** | Internal pilot |
| **R** | External pilot |

∗ External pilot type is not available for 4-position dual 3-port valves.

### Back pressure check valve

| | |
|---|---|
| **Nil** | None |
| **K** | Built-in |

∗ Built-in back pressure check valve type is applicable to the SV1000 series only.
∗ The product with a back pressure check valve is not available for 3-position valves.

### Rated voltage

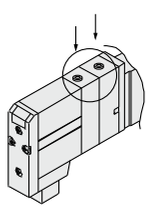
| | |
|---|---|
| **5** | 24 VDC |

### Light/surge voltage suppressor

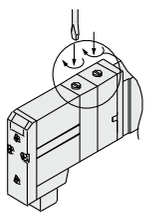
| | |
|---|---|
| **U** | With light/surge voltage suppressor |
| **R** | With surge voltage suppressor |

### Manual override

**Nil**: Non-locking push type



**D**: Push-turn locking slotted type



### Made to Order

| | |
|---|---|
| **Nil** | — |
| **X90** | Fluororubber specification |

Refer to the catalog of each series for details on manifold solenoid valve specifications, Common Precautions and Specific Product Precautions.

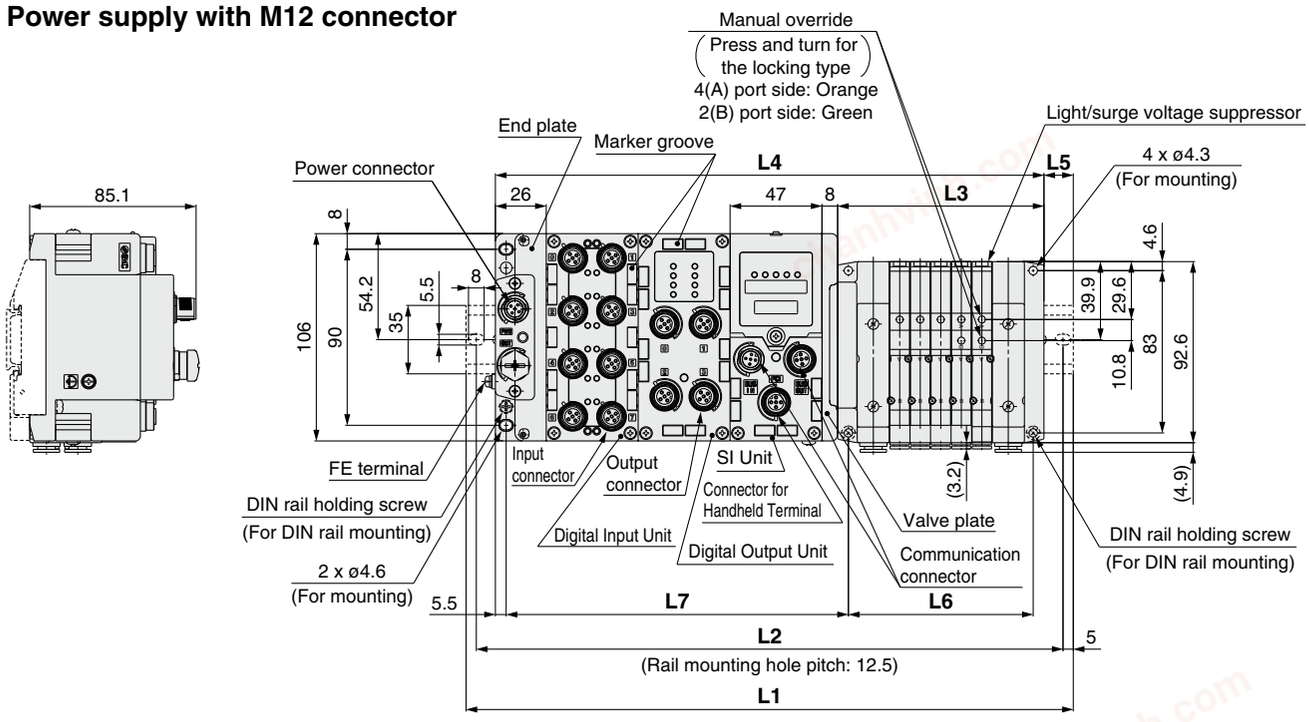
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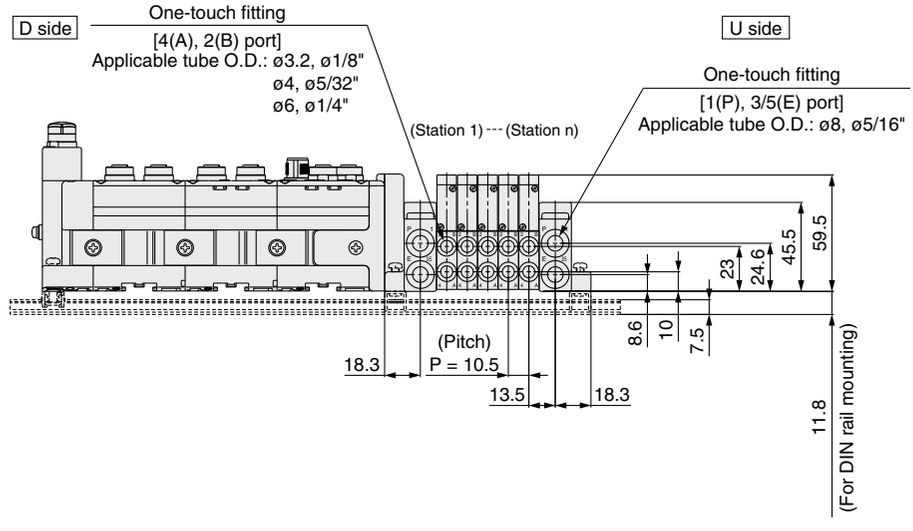
# Series SV1000/2000/3000

## Dimensions

Series SV1000

### Power supply with M12 connector




L2 = L1 – 10.5
L3 = 10.5 x n1 + 53
L4 = L3 + 81 + 47 x n2
L5 = (L1 – L4)/2
L6 = 10.5 x n1 + 42
L7 = 47 x n2 + 81

n1: Valve stations
n2: I/O Unit stations

### L1: DIN Rail Overall Length

[mm]

| I/O Unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 185.5 | 198 | 210.5 | 210.5 | 223 | 235.5 | 248 | 260.5 | 273 | 273 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 |
| **1** | 235.5 | 248 | 248 | 260.5 | 273 | 285.5 | 298 | 310.5 | 310.5 | 323 | 335.5 | 348 | 360.5 | 373 | 373 | 385.5 | 398 | 410.5 | 423 |
| **2** | 273 | 285.5 | 298 | 310.5 | 323 | 335.5 | 335.5 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 410.5 | 423 | 435.5 | 448 | 460.5 | 473 |
| **3** | 323 | 335.5 | 348 | 360.5 | 373 | 373 | 385.5 | 398 | 410.5 | 423 | 435.5 | 435.5 | 448 | 460.5 | 473 | 485.5 | 498 | 498 | 510.5 |
| **4** | 373 | 385.5 | 398 | 398 | 410.5 | 423 | 435.5 | 448 | 460.5 | 473 | 473 | 485.5 | 498 | 510.5 | 523 | 535.5 | 535.5 | 548 | 560.5 |
| **5** | 423 | 435.5 | 435.5 | 448 | 460.5 | 473 | 485.5 | 498 | 498 | 510.5 | 523 | 535.5 | 548 | 560.5 | 560.5 | 573 | 585.5 | 598 | 610.5 |
| **6** | 460.5 | 473 | 485.5 | 498 | 510.5 | 523 | 535.5 | 535.5 | 548 | 560.5 | 573 | 585.5 | 598 | 598 | 610.5 | 623 | 635.5 | 648 | 660.5 |
| **7** | 510.5 | 523 | 535.5 | 548 | 560.5 | 560.5 | 573 | 585.5 | 598 | 610.5 | 623 | 623 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 698 |
| **8** | 560.5 | 573 | 585.5 | 598 | 598 | 610.5 | 623 | 635.5 | 648 | 660.5 | 660.5 | 673 | 685.5 | 698 | 710.5 | 723 | 723 | 735.5 | 748 |
| **9** | 610.5 | 623 | 623 | 635.5 | 648 | 660.5 | 673 | 685.5 | 685.5 | 698 | 710.5 | 723 | 735.5 | 748 | 760.5 | 760.5 | 773 | 785.5 | 798 |

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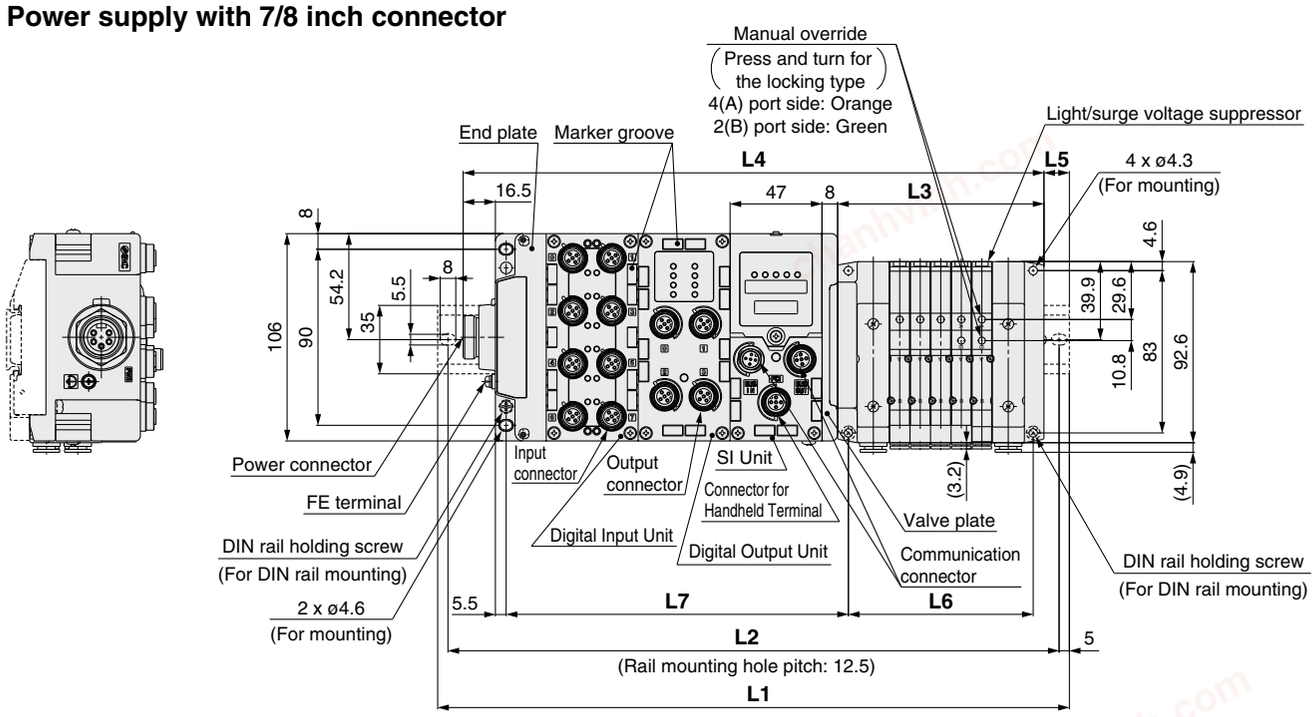


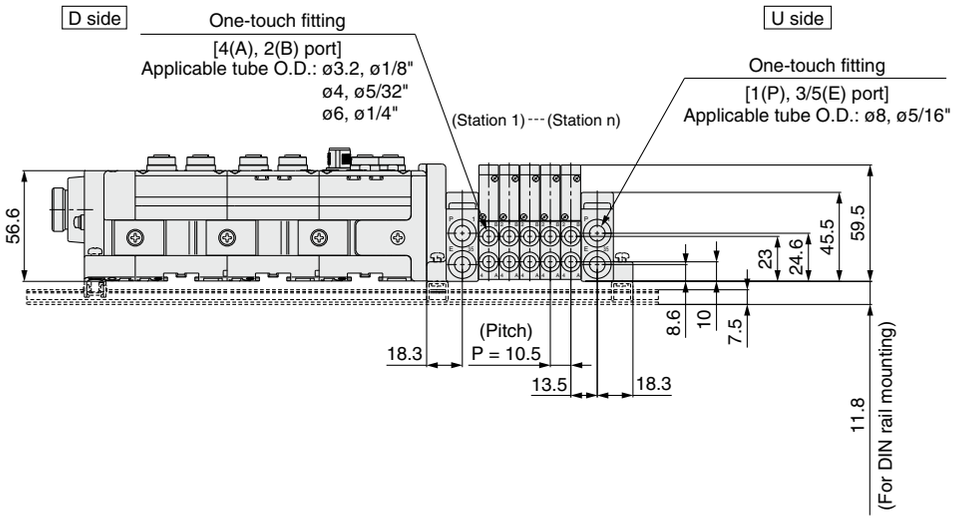


## Dimensions

**Series SV1000**

### Power supply with 7/8 inch connector




L2 = L1 – 10.5
L3 = 10.5 x n1 + 53
L4 = L3 + 97.5 + 47 x n2
L5 = (L1 – L4)/2
L6 = 10.5 x n1 + 42
L7 = 47 x n2 + 81

n1: Valve stations
n2: I/O Unit stations

### L1: DIN Rail Overall Length

[mm]

| I/O Unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 198 | 210.5 | 223 | 235.5 | 248 | 248 | 260.5 | 273 | 285.5 | 298 | 310.5 | 310.5 | 323 | 335.5 | 348 | 360.5 | 373 | 385.5 | 385.5 |
| **1** | 248 | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 410.5 | 423 | 435.5 |
| **2** | 298 | 310.5 | 310.5 | 323 | 335.5 | 348 | 360.5 | 373 | 373 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 448 | 460.5 | 473 | 485.5 |
| **3** | 348 | 348 | 360.5 | 373 | 385.5 | 398 | 410.5 | 410.5 | 423 | 435.5 | 448 | 460.5 | 473 | 473 | 485.5 | 498 | 510.5 | 523 | 535.5 |
| **4** | 385.5 | 398 | 410.5 | 423 | 435.5 | 435.5 | 448 | 460.5 | 473 | 485.5 | 498 | 510.5 | 510.5 | 523 | 535.5 | 548 | 560.5 | 573 | 573 |
| **5** | 435.5 | 448 | 460.5 | 473 | 473 | 485.5 | 498 | 510.5 | 523 | 535.5 | 535.5 | 548 | 560.5 | 573 | 585.5 | 598 | 598 | 610.5 | 623 |
| **6** | 485.5 | 498 | 498 | 510.5 | 523 | 535.5 | 548 | 560.5 | 573 | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 635.5 | 648 | 660.5 | 673 |
| **7** | 535.5 | 535.5 | 548 | 560.5 | 573 | 585.5 | 598 | 598 | 610.5 | 623 | 635.5 | 648 | 660.5 | 660.5 | 673 | 685.5 | 698 | 710.5 | 723 |
| **8** | 573 | 585.5 | 598 | 610.5 | 623 | 635.5 | 635.5 | 648 | 660.5 | 673 | 685.5 | 698 | 698 | 710.5 | 723 | 735.5 | 748 | 760.5 | 760.5 |
| **9** | 623 | 635.5 | 648 | 660.5 | 660.5 | 673 | 685.5 | 698 | 710.5 | 723 | 723 | 735.5 | 748 | 760.5 | 773 | 785.5 | 798 | 798 | 810.5 |

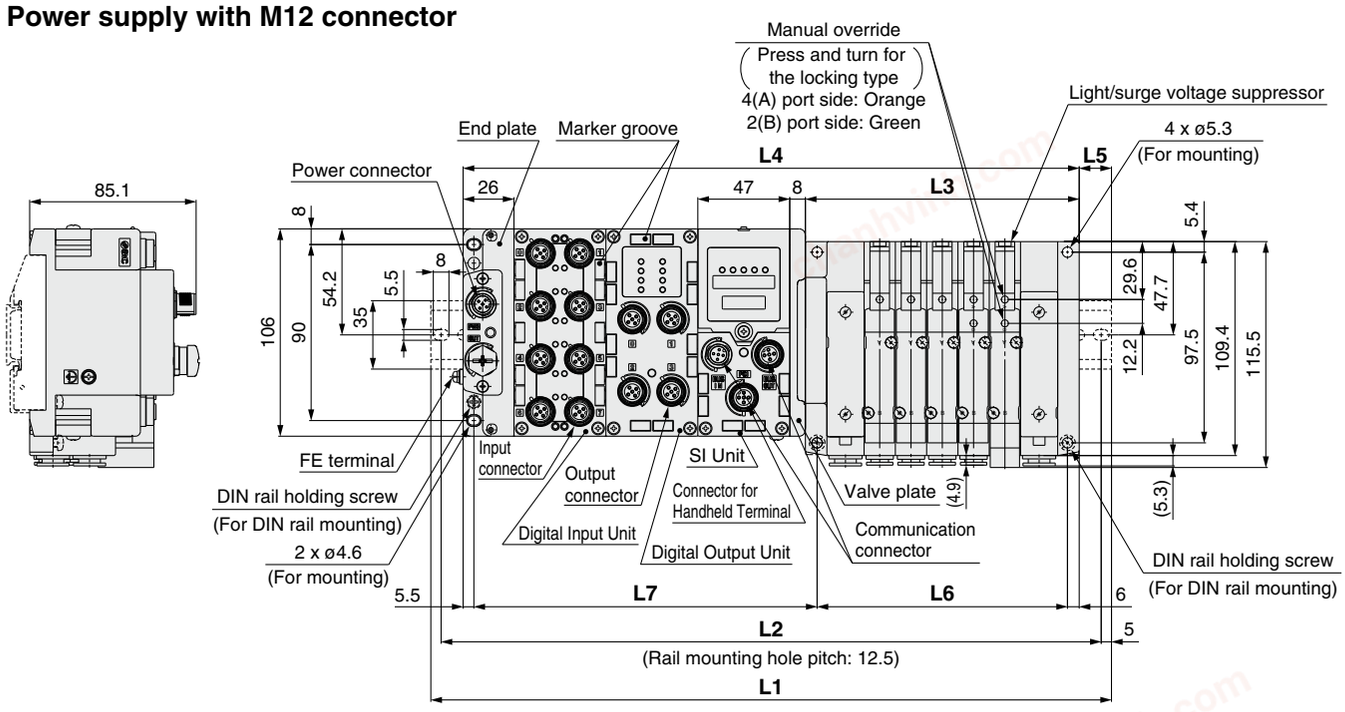
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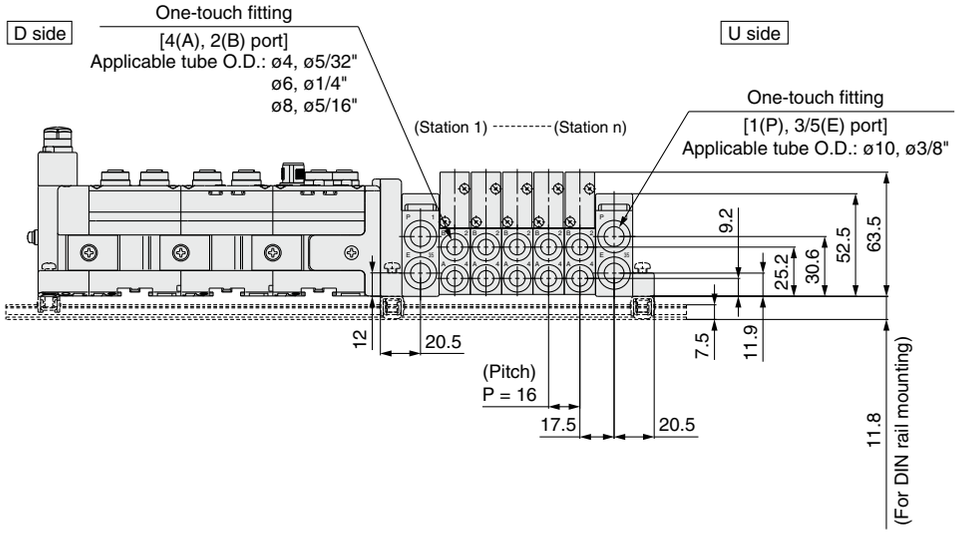
# Series SV1000/2000/3000

## Dimensions

Series SV2000

### Power supply with M12 connector




L2 = L1 – 10.5
L3 = 16 x n1 + 60
L4 = L3 + 81 + 47 x n2
L5 = (L1 – L4)/2
L6 = 16 x n1 + 48
L7 = 47 x n2 + 81.5

n1: Valve stations
n2: I/O Unit stations

### L1: DIN Rail Overall Length

[mm]

| I/O Unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 198 | 223 | 235.5 | 248 | 260.5 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 |
| **1** | 248 | 260.5 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 |
| **2** | 298 | 310.5 | 323 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 |
| **3** | 348 | 360.5 | 373 | 385.5 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 |
| **4** | 385.5 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 |
| **5** | 435.5 | 448 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 | 698 | 710.5 | 723 |
| **6** | 485.5 | 498 | 510.5 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 735.5 | 760.5 | 773 |
| **7** | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 798 | 823 |
| **8** | 573 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 860.5 |
| **9** | 623 | 635.5 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 748 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 860.5 | 885.5 | 898 | 910.5 |

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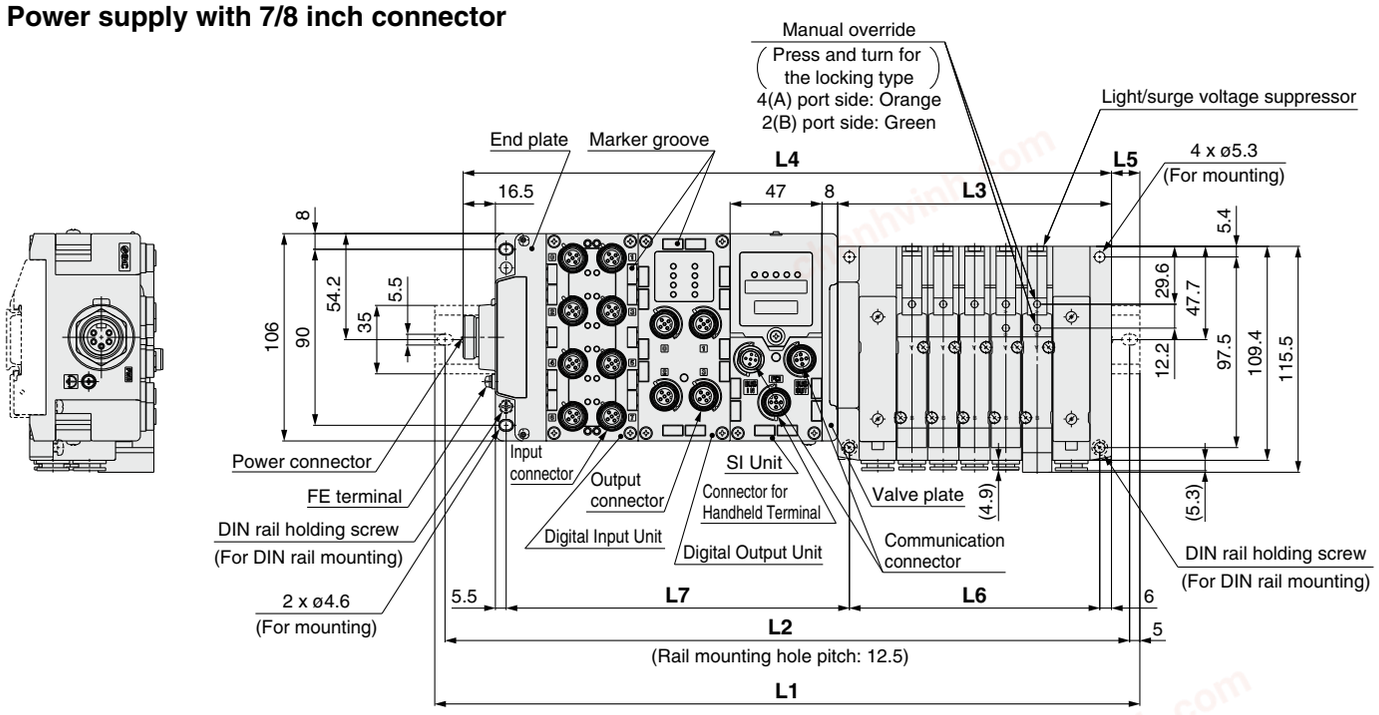


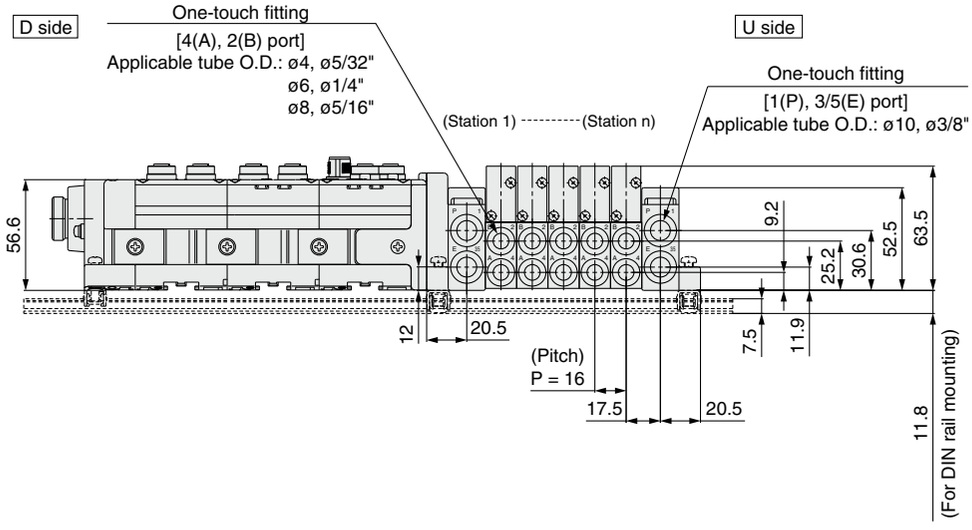


## Dimensions

**Series SV2000**

### Power supply with 7/8 inch connector




L2 = L1 – 10.5
L3 = 16 x n1 + 60
L4 = L3 + 97.5 + 47 x n2
L5 = (L1 – L4)/2
L6 = 16 x n1 + 48
L7 = 47 x n2 + 81.5

n1: Valve stations
n2: I/O Unit stations

### L1: DIN Rail Overall Length

[mm]

| I/O Unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 223 | 235.5 | 248 | 273 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 |
| **1** | 260.5 | 285.5 | 298 | 310.5 | 335.5 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 |
| **2** | 310.5 | 323 | 348 | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 |
| **3** | 360.5 | 373 | 398 | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 | 648 |
| **4** | 410.5 | 423 | 435.5 | 460.5 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 | 698 |
| **5** | 448 | 473 | 485.5 | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 748 |
| **6** | 498 | 523 | 535.5 | 548 | 560.5 | 585.5 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 |
| **7** | 548 | 560.5 | 585.5 | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 798 | 823 | 835.5 |
| **8** | 598 | 610.5 | 623 | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 760.5 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 873 | 885.5 |
| **9** | 648 | 660.5 | 673 | 685.5 | 710.5 | 723 | 735.5 | 748 | 773 | 785.5 | 798 | 823 | 835.5 | 848 | 860.5 | 885.5 | 898 | 910.5 | 935.5 |

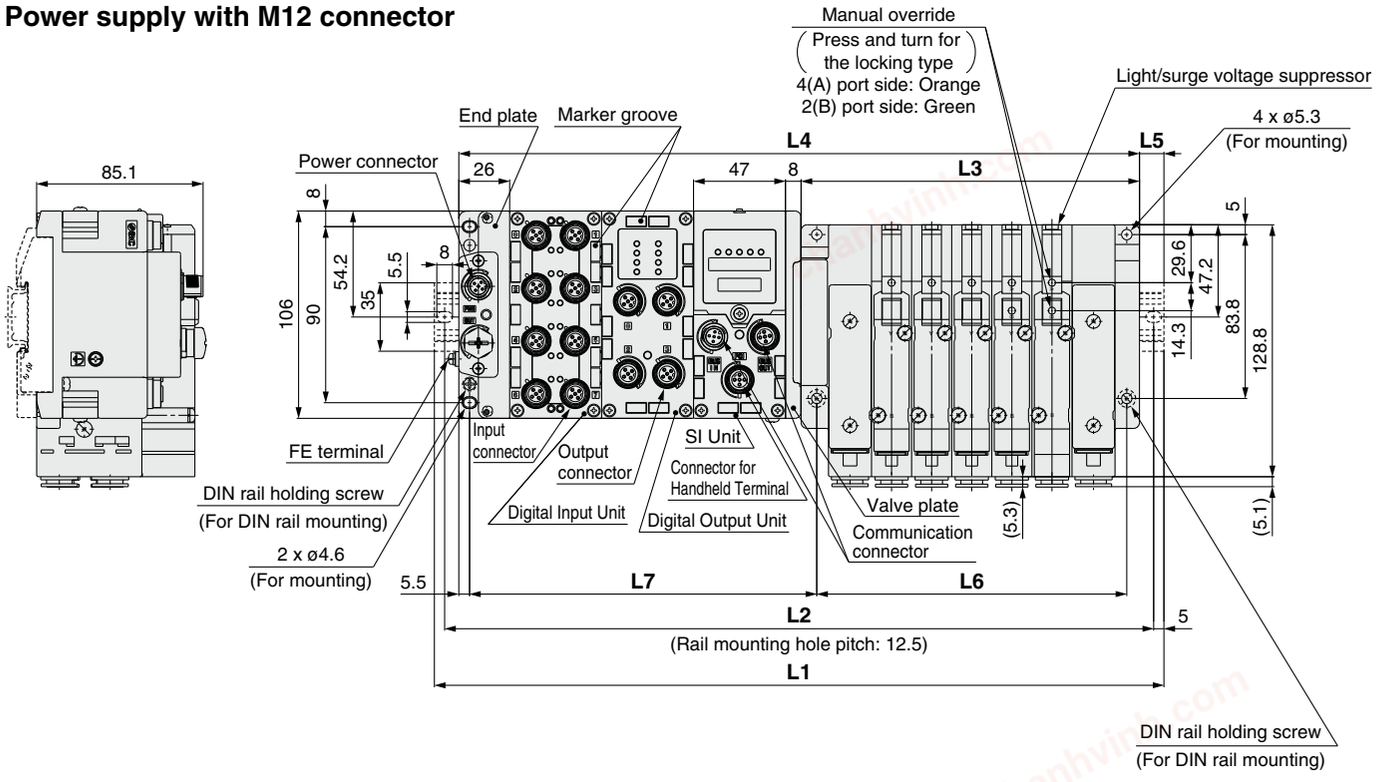
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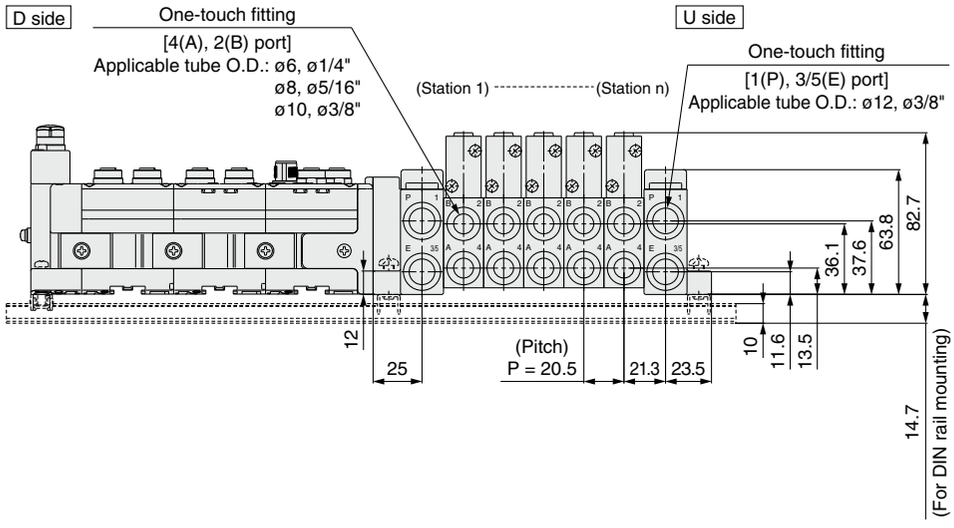
# Series SV1000/2000/3000

## Dimensions

Series SV3000

### Power supply with M12 connector




L2 = L1 – 10.5
L3 = 20.5 x n1 + 70.5
L4 = L3 + 81 + 47 x n2
L5 = (L1 – L4)/2
L6 = 20.5 x n1 + 56
L7 = 47 x n2 + 83.5

n1: Valve stations
n2: I/O Unit stations

### L1: DIN Rail Overall Length

[mm]

| I/O Unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 223 | 248 | 260.5 | 285.5 | 298 | 323 | 348 | 360.5 | 385.5 | 410.5 | 423 | 448 | 473 | 485.5 | 510.5 | 535.5 | 548 | 573 | 585.5 |
| **1** | 273 | 285.5 | 310.5 | 335.5 | 348 | 373 | 398 | 410.5 | 435.5 | 448 | 473 | 498 | 510.5 | 535.5 | 560.5 | 573 | 598 | 623 | 635.5 |
| **2** | 310.5 | 335.5 | 360.5 | 373 | 398 | 423 | 435.5 | 460.5 | 485.5 | 498 | 523 | 535.5 | 560.5 | 585.5 | 598 | 623 | 648 | 660.5 | 685.5 |
| **3** | 360.5 | 385.5 | 398 | 423 | 448 | 460.5 | 485.5 | 510.5 | 523 | 548 | 573 | 585.5 | 610.5 | 635.5 | 648 | 673 | 685.5 | 710.5 | 735.5 |
| **4** | 410.5 | 435.5 | 448 | 473 | 498 | 510.5 | 535.5 | 548 | 573 | 598 | 610.5 | 635.5 | 660.5 | 673 | 698 | 723 | 735.5 | 760.5 | 773 |
| **5** | 460.5 | 473 | 498 | 523 | 535.5 | 560.5 | 585.5 | 598 | 623 | 635.5 | 660.5 | 685.5 | 698 | 723 | 748 | 760.5 | 785.5 | 810.5 | 823 |
| **6** | 498 | 523 | 548 | 560.5 | 585.5 | 610.5 | 623 | 648 | 673 | 685.5 | 710.5 | 735.5 | 748 | 773 | 785.5 | 810.5 | 835.5 | 848 | 873 |
| **7** | 548 | 573 | 598 | 610.5 | 635.5 | 648 | 673 | 698 | 710.5 | 735.5 | 760.5 | 773 | 798 | 823 | 835.5 | 860.5 | 873 | 898 | 923 |
| **8** | 598 | 623 | 635.5 | 660.5 | 685.5 | 698 | 723 | 735.5 | 760.5 | 785.5 | 798 | 823 | 848 | 860.5 | 885.5 | 910.5 | 923 | 948 | 973 |
| **9** | 648 | 660.5 | 685.5 | 710.5 | 723 | 748 | 773 | 785.5 | 810.5 | 835.5 | 848 | 873 | 885.5 | 910.5 | 935.5 | 948 | 973 | — | — |

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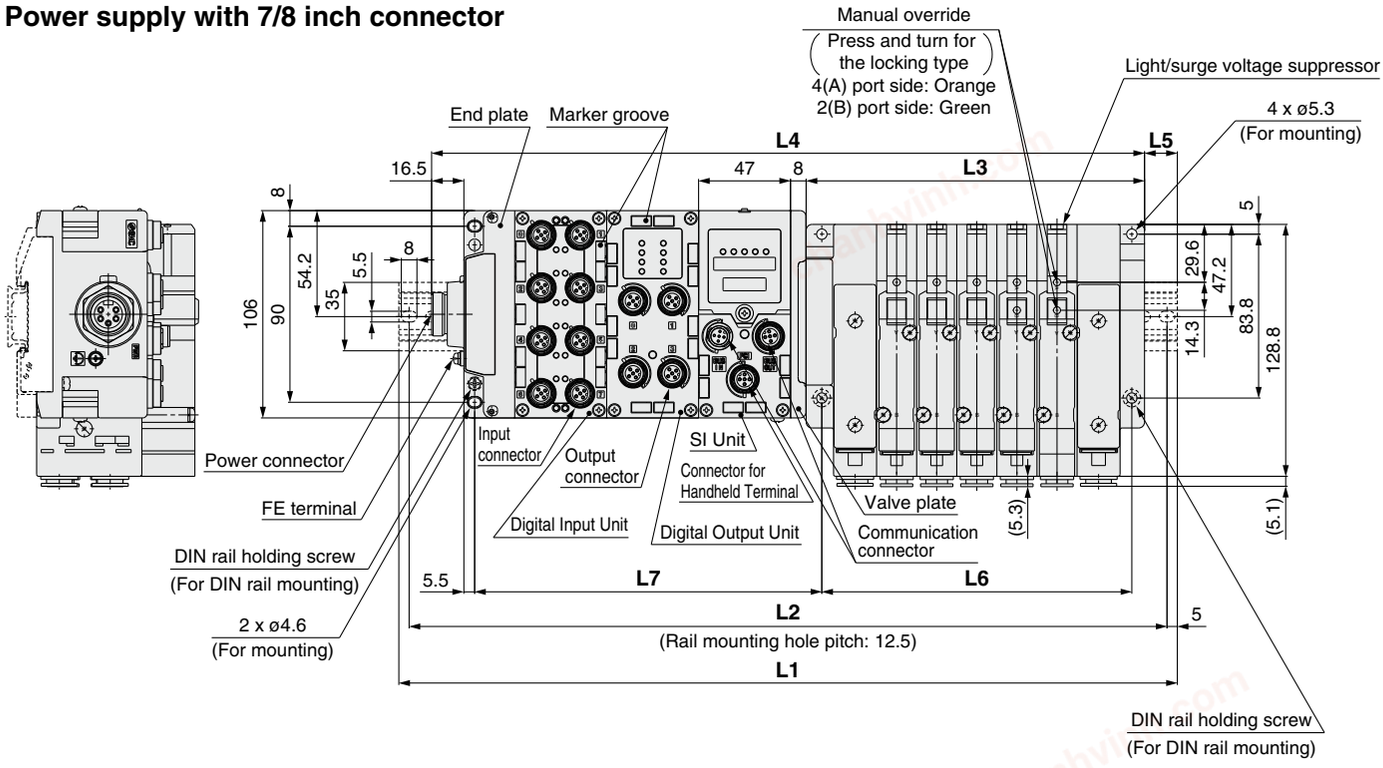


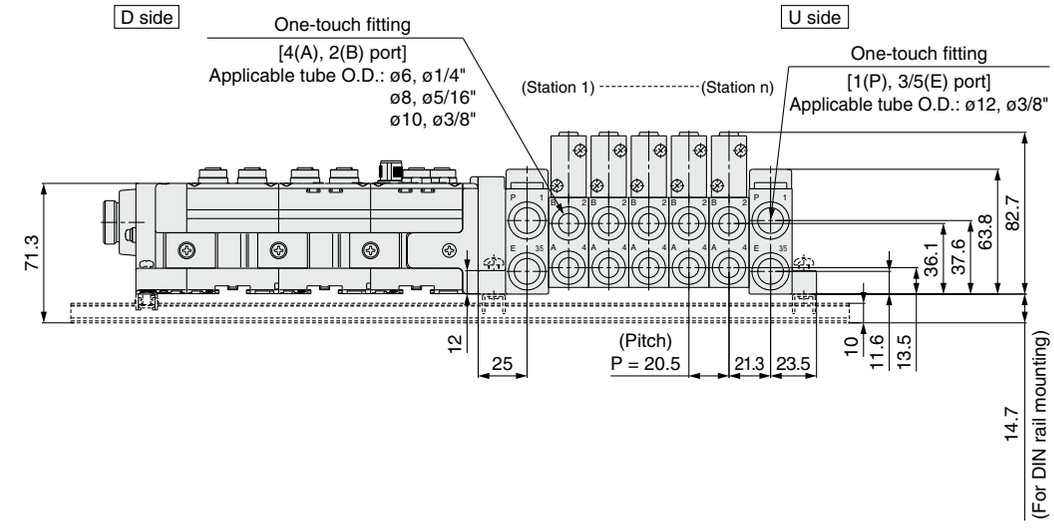


## Dimensions

**Series SV3000**

### Power supply with 7/8 inch connector




L2 = L1 – 10.5
L3 = 20.5 x n1 + 70.5
L4 = L3 + 97.5 + 47 x n2
L5 = (L1 – L4)/2
L6 = 20.5 x n1 + 56
L7 = 47 x n2 + 83.5

n1: Valve stations
n2: I/O Unit stations

### L1: DIN Rail Overall Length

[mm]

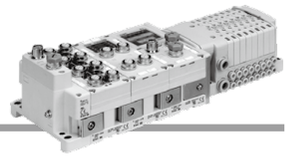
| I/O Unit stations (n2) \ Valve stations (n1) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 235.5 | 260.5 | 285.5 | 298 | 323 | 335.5 | 360.5 | 385.5 | 398 | 423 | 448 | 460.5 | 485.5 | 510.5 | 523 | 548 | 560.5 | 585.5 | 610.5 |
| **1** | 285.5 | 310.5 | 323 | 348 | 373 | 385.5 | 410.5 | 423 | 448 | 473 | 485.5 | 510.5 | 535.5 | 548 | 573 | 598 | 610.5 | 635.5 | 660.5 |
| **2** | 335.5 | 348 | 373 | 398 | 410.5 | 435.5 | 460.5 | 473 | 498 | 523 | 535.5 | 560.5 | 573 | 598 | 623 | 635.5 | 660.5 | 685.5 | 698 |
| **3** | 385.5 | 398 | 423 | 435.5 | 460.5 | 485.5 | 498 | 523 | 548 | 560.5 | 585.5 | 610.5 | 623 | 648 | 660.5 | 685.5 | 710.5 | 723 | 748 |
| **4** | 423 | 448 | 473 | 485.5 | 510.5 | 523 | 548 | 573 | 585.5 | 610.5 | 635.5 | 648 | 673 | 698 | 710.5 | 735.5 | 760.5 | 773 | 798 |
| **5** | 473 | 498 | 510.5 | 535.5 | 560.5 | 573 | 598 | 623 | 635.5 | 660.5 | 673 | 698 | 723 | 735.5 | 760.5 | 785.5 | 798 | 823 | 848 |
| **6** | 523 | 535.5 | 560.5 | 585.5 | 598 | 623 | 648 | 660.5 | 685.5 | 710.5 | 723 | 748 | 760.5 | 785.5 | 810.5 | 823 | 848 | 873 | 885.5 |
| **7** | 573 | 585.5 | 610.5 | 623 | 648 | 673 | 685.5 | 710.5 | 735.5 | 748 | 773 | 798 | 810.5 | 835.5 | 860.5 | 873 | 898 | 910.5 | 935.5 |
| **8** | 610.5 | 635.5 | 660.5 | 673 | 698 | 723 | 735.5 | 760.5 | 773 | 798 | 823 | 835.5 | 860.5 | 885.5 | 898 | 923 | 948 | 960.5 | 985.5 |
| **9** | 660.5 | 685.5 | 698 | 723 | 748 | 760.5 | 785.5 | 810.5 | 823 | 848 | 860.5 | 885.5 | 910.5 | 923 | 948 | 973 | 985.5 | — | — |

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EX600

# 5 Port Solenoid Valve

## *Series S0700*



## How to Order Manifold

**SS0750 – 08 C4 SD6Q 2 N 1 – B**

### Valve stations

| Symbol | Stations |
|---|---|
| **01** | 1 station |
| ⋮ | ⋮ |
| **24** Note) | 24 stations |

Note) The maximum number of stations depends on the wiring specifications.

### Cylinder port size

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

Note) Indicate the sizes on the manifold specification sheet in the case of "CM" and "NM".

### SI Unit specifications

| Symbol | Protocol | Stations | Max. number of stations for special wiring specification | Max. number of solenoids |
|---|---|---|---|---|
| **SD60** | Without SI Unit | 1 to 16 stations | 24 stations Note) | 32 |
| **SD6Q** | DeviceNet™ | | | |
| **SD6N** | PROFIBUS DP | | | |
| **SD6V** | CC-Link | | | |
| **SD6ZE** | EtherNet/IP™ (1 port) | | | |
| **SD6EA** | EtherNet/IP™ (2 ports) | | | |
| **SD6D** | EtherCAT® | | | |
| **SD6F** | PROFINET | | | |

- The maximum number of stations depends on the number of solenoids. Add the option symbol "-K" when the combination of single wiring and double wiring is specified.
- When "Without SI Unit" is specified, a valve plate which connects the manifold and SI Unit, is not mounted. Refer to page 65 for mounting method.
- When "Without SI Unit" is specified, I/O Unit cannot be mounted.

Note) Up to 24 stations due to the structure of the manifold. Note the maximum number of stations is 24 for single wiring, too.

| Type of actuation | Single type | Double, dual 3-port type |
|---|---|---|
| Number of solenoids | 1 | 2 |

### End plate type

| | |
|---|---|
| **Nil** | No end plate |
| **2** | Power supply with M12 connector (Max. supplied current 2 A) |
| **3** | Power supply with 7/8 inch connector (Max. supplied current 8 A) |

- Without SI Unit, the symbol is nil.

### Option

| Symbol | Option |
|---|---|
| **Nil** | None |
| **B** Note 2) | With back pressure check valve (All stations) |
| **D** | With DIN rail (Rail length: Standard) |
| **D0** | Without DIN rail (with bracket) |
| **D□** Note 3) | With DIN rail (Rail length specified, □: Stations) |
| **K** Note 4) | Special wiring specification (Except double wiring) |
| **N** | With name plate |
| **R** | External pilot |
| **S** | Built-in silencer |

Note 1) When multiple symbols are specified, indicate them alphabetically. Example) "-BKN"
Note 2) When a back pressure check valve is used only for specified station, specify the back pressure check valve part number, and specify the station number to which the valve is mounted, on the manifold specification sheet.
Note 3) Specified station number shall be longer than manifold station number.
Note 4) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.
Note 5) When "Without SI Unit" is specified, "With DIN rail (D)" cannot be selected.

### I/O Unit stations

| | |
|---|---|
| **Nil** | None |
| **1** | 1 station |
| ⋮ | ⋮ |
| **9** | 9 stations |

- Without SI Unit, the symbol is nil.
- SI Unit is not included in I/O Unit stations.
- When I/O Unit is selected, it is shipped separately and assembled by users. Refer to the attached operation manual for mounting method.

### SI Unit output polarity

| | |
|---|---|
| **Nil** | Positive common |
| **N** | Negative common |

- Without SI Unit, the symbol is nil.

Refer to the catalog of each series for details on manifold solenoid valve specifications, Common Precautions and Specific Product Precautions.

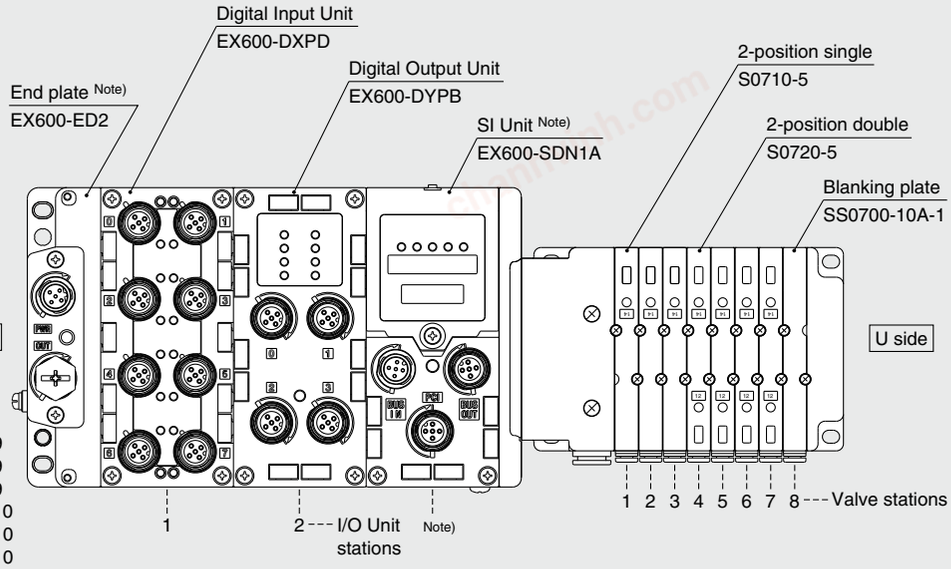
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## How to Order Manifold Assembly

### Example




For the I/O Unit part number mounted, refer to the following pages.

- Digital Input Unit ····· Page 9
- Digital Output Unit ····· Page 9
- Digital Input/Output Unit ····· Page 9
- Analog Input Unit ····· Page 10
- Analog Output Unit ····· Page 10
- Analog Input/Output Unit ····· Page 10

**SS0750-08C4SD6Q2N2 ···· 1 set** **Manifold base part number**
*** S0710-5 ····· 3 sets** **Valve part number (Stations 1 to 3)**
*** S0720-5 ····· 4 sets** **Valve part number (Stations 4 to 7)**
*** SS0700-10A-1 ····· 1 set** **Blanking plate part number (Station 8)**
*** EX600-DXPD ····· 1 set** **I/O Unit part number (Station 1)**
*** EX600-DYPB ····· 1 set** **I/O Unit part number (Station 2)**

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

Enter in order starting from the first station on the D side. If the arrangement becomes complicated, specify on the manifold specification sheet.

Enter in order starting from the first station on the D side.

Note) Do not enter the SI Unit part number and the end plate part number together.

## How to Order Valves

**S07 1 0 □ – 5**

**Type of actuation**

| | | | |
|---|---|---|---|
| **1** | 2-position single<br>(A)4 2(B)<br>(R1)5 1 3(R2)<br>(P) | **A** | 4-position dual 3-port valve<br>(N.C. + N.C.)<br>[Exhaust center]<br>4(A) 2(B)<br>5(R1) 3(R2)<br>1(P) |
| **2** | 2-position double<br>(A)4 2(B)<br>(R1)5 1 3(R2)<br>(P) | **B** | 4-position dual 3-port valve<br>(N.O. + N.O.)<br>[Pressure center]<br>4(A) 2(B)<br>5(R1) 3(R2)<br>1(P) |
| | | **C** | 4-position dual 3-port valve<br>(N.C. + N.O.)<br>4(A) 2(B)<br>5(R1) 3(R2)<br>1(P) |

**Coil voltage**

| | |
|---|---|
| **5** | 24 VDC |

**Function**

| Symbol | Type |
|---|---|
| **Nil** | Standard |
| **R** | External pilot Note) |

Note) Not applicable for dual 3-port valves

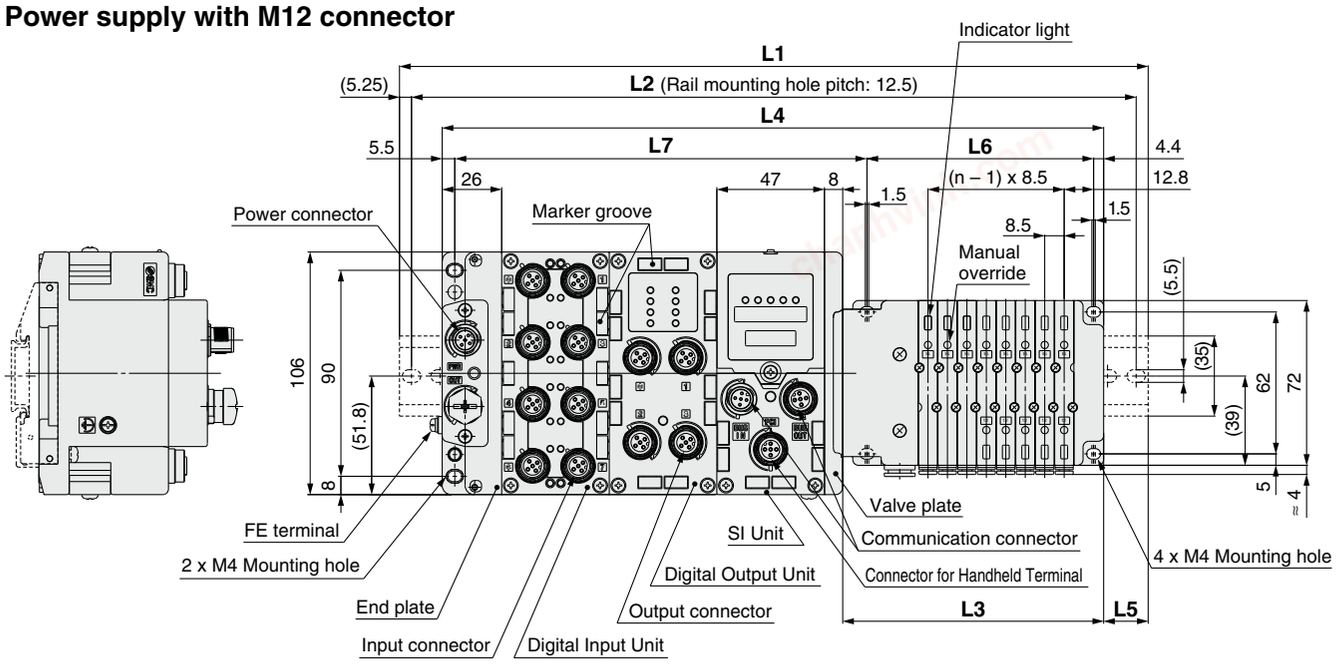
**Base mounted plug-in**

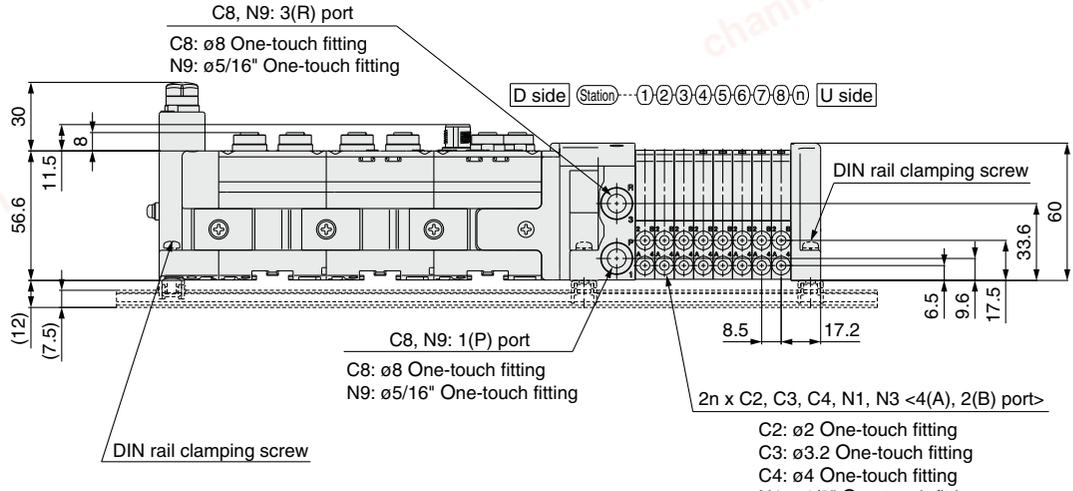
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# Series S0700

## Dimensions

### Power supply with M12 connector




L2 = L1 – 10.5
L3 = 8.5 x n1 + 46
L4 = L3 + 81 + 47 x n2
L5 = (L1 – L4)/2
L6 = 8.5 x n1 + 31
L7 = 47 x n2 + 86.1

n1: Valve stations
n2: I/O Unit stations

### L1: DIN Rail Overall Length

[mm]

| I/O Unit stations (n2) \ Valve stations (n1) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 173 | 185.5 | 185.5 | 198 | 210.5 | 210.5 | 223 | 235.5 | 235.5 | 248 | 260.5 | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 310.5 | 323 | 335.5 | 335.5 | 348 | 360.5 | 373 |
| **1** | 223 | 223 | 235.5 | 248 | 248 | 260.5 | 273 | 273 | 285.5 | 298 | 298 | 310.5 | 323 | 323 | 335.5 | 348 | 360.5 | 360.5 | 373 | 385.5 | 385.5 | 398 | 410.5 | 410.5 |
| **2** | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 310.5 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 373 | 385.5 | 398 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 448 | 460.5 |
| **3** | 310.5 | 323 | 335.5 | 335.5 | 348 | 360.5 | 360.5 | 373 | 385.5 | 385.5 | 398 | 410.5 | 410.5 | 423 | 435.5 | 435.5 | 448 | 460.5 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 |
| **4** | 360.5 | 373 | 373 | 385.5 | 398 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 448 | 460.5 | 473 | 473 | 485.5 | 498 | 498 | 510.5 | 523 | 535.5 | 535.5 | 548 | 560.5 |
| **5** | 410.5 | 410.5 | 423 | 435.5 | 435.5 | 448 | 460.5 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 523 | 523 | 535.5 | 548 | 548 | 560.5 | 573 | 573 | 585.5 | 598 | 598 |
| **6** | 448 | 460.5 | 473 | 473 | 485.5 | 498 | 510.5 | 510.5 | 523 | 535.5 | 535.5 | 548 | 560.5 | 560.5 | 573 | 585.5 | 585.5 | 598 | 610.5 | 610.5 | 623 | 635.5 | 635.5 | 648 |
| **7** | 498 | 510.5 | 523 | 523 | 535.5 | 548 | 548 | 560.5 | 573 | 573 | 585.5 | 598 | 598 | 610.5 | 623 | 623 | 635.5 | 648 | 648 | 660.5 | 673 | 673 | 685.5 | 698 |
| **8** | 548 | 560.5 | 560.5 | 573 | 585.5 | 585.5 | 598 | 610.5 | 610.5 | 623 | 635.5 | 635.5 | 648 | 660.5 | 660.5 | 673 | 685.5 | 698 | 698 | 710.5 | 723 | 723 | 735.5 | 748 |
| **9** | 598 | 598 | 610.5 | 623 | 623 | 635.5 | 648 | 648 | 660.5 | 673 | 685.5 | 685.5 | 698 | 710.5 | 710.5 | 723 | 735.5 | 735.5 | 748 | 760.5 | 760.5 | 773 | 785.5 | 785.5 |



SMC

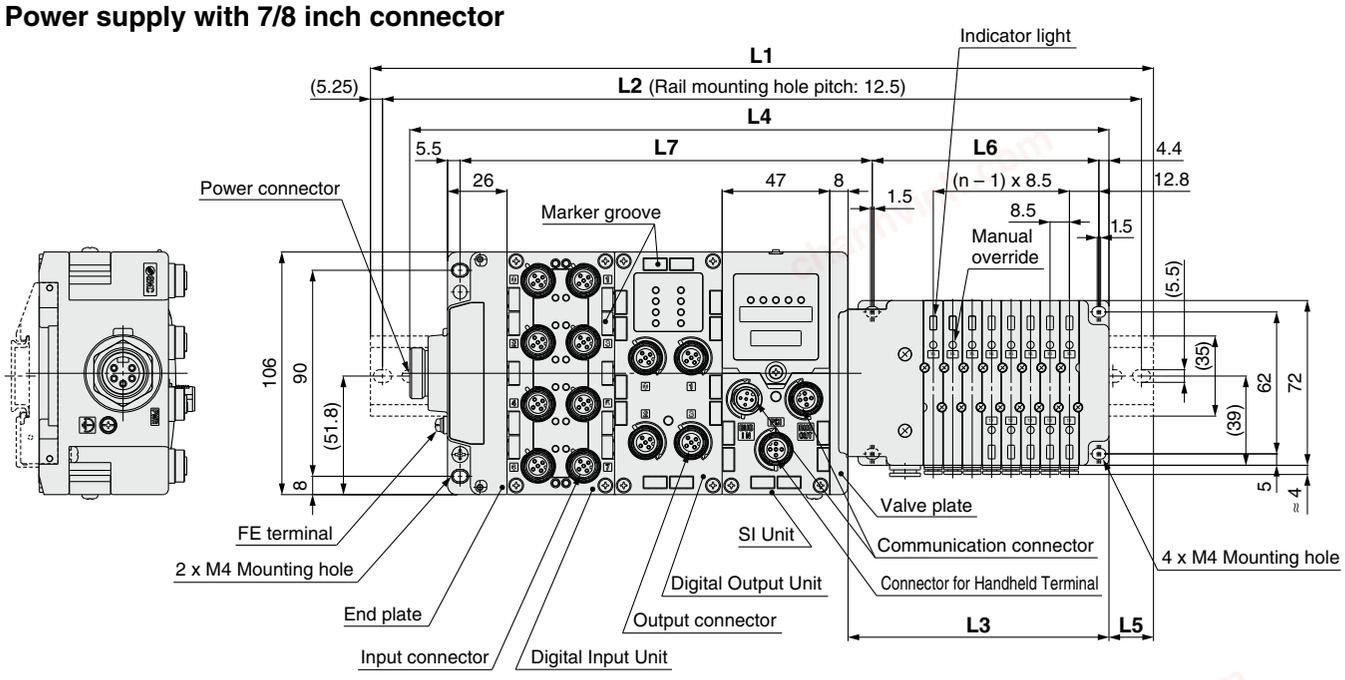
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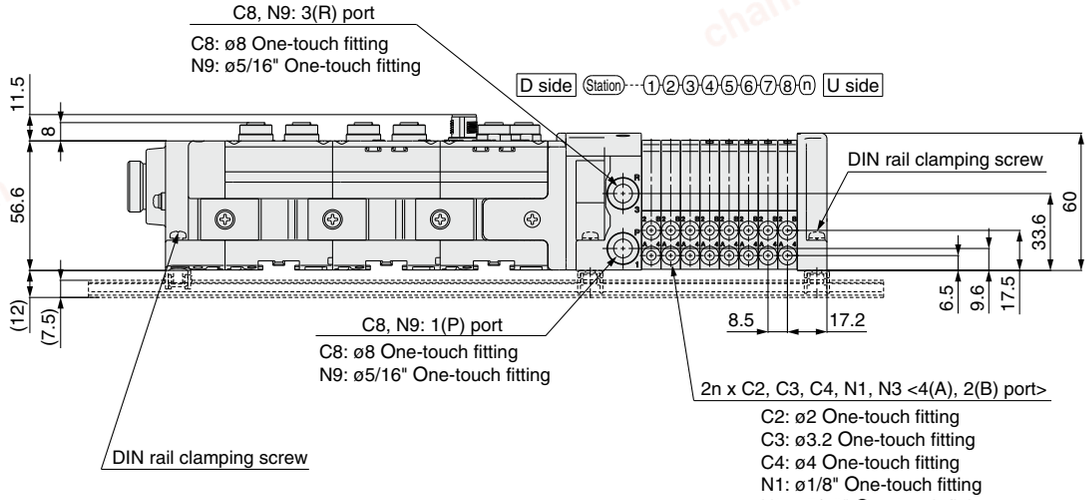




## Dimensions

### Power supply with 7/8 inch connector




L2 = L1 – 10.5
L3 = 8.5 x n1 + 46
L4 = L3 + 97.5 + 47 x n2
L5 = (L1 – L4)/2
L6 = 8.5 x n1 + 31
L7 = 47 x n2 + 86.1

n1: Valve stations
n2: I/O Unit stations

### L1: DIN Rail Overall Length

[mm]

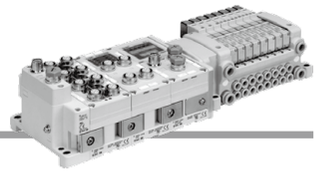
| I/O Unit stations (n2) \ Valve stations (n1) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 185.5 | 198 | 210.5 | 210.5 | 223 | 235.5 | 235.5 | 248 | 260.5 | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 310.5 | 323 | 335.5 | 335.5 | 348 | 360.5 | 360.5 | 373 | 385.5 |
| **1** | 235.5 | 248 | 248 | 260.5 | 273 | 273 | 285.5 | 298 | 298 | 310.5 | 323 | 323 | 335.5 | 348 | 348 | 360.5 | 373 | 385.5 | 385.5 | 398 | 410.5 | 410.5 | 423 | 435.5 |
| **2** | 285.5 | 285.5 | 298 | 310.5 | 310.5 | 323 | 335.5 | 335.5 | 348 | 360.5 | 373 | 373 | 385.5 | 398 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 448 | 460.5 | 473 | 473 |
| **3** | 323 | 335.5 | 348 | 360.5 | 360.5 | 373 | 385.5 | 385.5 | 398 | 410.5 | 410.5 | 423 | 435.5 | 435.5 | 448 | 460.5 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 510.5 | 523 |
| **4** | 373 | 385.5 | 398 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 448 | 460.5 | 473 | 473 | 485.5 | 498 | 498 | 510.5 | 523 | 523 | 535.5 | 548 | 560.5 | 560.5 | 573 |
| **5** | 423 | 435.5 | 435.5 | 448 | 460.5 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 510.5 | 523 | 535.5 | 548 | 548 | 560.5 | 573 | 573 | 585.5 | 598 | 598 | 610.5 | 623 |
| **6** | 473 | 473 | 485.5 | 498 | 498 | 510.5 | 523 | 535.5 | 535.5 | 548 | 560.5 | 560.5 | 573 | 585.5 | 585.5 | 598 | 610.5 | 610.5 | 623 | 635.5 | 635.5 | 648 | 660.5 | 660.5 |
| **7** | 523 | 523 | 535.5 | 548 | 548 | 560.5 | 573 | 573 | 585.5 | 598 | 598 | 610.5 | 623 | 623 | 635.5 | 648 | 648 | 660.5 | 673 | 673 | 685.5 | 698 | 698 | 710.5 |
| **8** | 560.5 | 573 | 585.5 | 585.5 | 598 | 610.5 | 610.5 | 623 | 635.5 | 635.5 | 648 | 660.5 | 660.5 | 673 | 685.5 | 685.5 | 698 | 710.5 | 723 | 723 | 735.5 | 748 | 748 | 760.5 |
| **9** | 610.5 | 623 | 623 | 635.5 | 648 | 648 | 660.5 | 673 | 673 | 685.5 | 698 | 710.5 | 710.5 | 723 | 735.5 | 735.5 | 748 | 760.5 | 760.5 | 773 | 785.5 | 785.5 | 798 | 810.5 |

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EX600

# 5 Port Solenoid Valve

## Series VQC1000



## How to Order Manifold

**VV5QC 1 1 – 08 C6 SD6Q 2 N 1 – □**

**Series VQC1000**

**Base mounted plug-in**

**Valve stations**

| Symbol | Stations |
|---|---|
| **01** | 1 station |
| ⋮ | ⋮ |
| **24** Note) | 24 stations |

Note) The maximum number of stations depends on the wiring specifications.

**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** | M5 thread |
| **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** | Mixed port sizes of elbow piping |

Note 1) Indicate the sizes on the manifold specification sheet in the case of "CM" and "LM".
Note 2) Symbols for inch size are as follows.
- N1: ø1/8"
- N7: ø1/4"
- N3: ø5/32"
- NM: Mixed sizes

The top ported elbow is LN□ and the bottom ported elbow is BN□.
For NM, specify it on the manifold specification sheet.

**SI Unit specifications**

| Symbol | Protocol | Stations | Max. number of stations for special wiring specification | Max. number of solenoids |
|---|---|---|---|---|
| **SD60** | Without SI Unit | 1 to 12 stations | 24 stations | 24 |
| **SD6Q** | DeviceNet™ | | | |
| **SD6N** | PROFIBUS DP | | | |
| **SD6V** | CC-Link | | | |
| **SD6ZE** | EtherNet/IP™ (1 port) | | | |
| **SD6EA** | EtherNet/IP™ (2 ports) | | | |
| **SD6D** | EtherCAT® | | | |
| **SD6F** | PROFINET | | | |

Note) The maximum number of stations depends on the number of solenoids. Add the option symbol "-K" when the combination of single wiring and double wiring is specified.
- When "Without SI Unit" is specified, I/O Unit cannot be mounted.
- When "Without SI Unit" is specified, a valve plate which connects the manifold and SI Unit, is not mounted. Refer to page 65 for mounting method.

Refer to the catalog of each series for details on manifold solenoid valve specifications, Common Precautions and Specific Product Precautions.

**Option**

| | |
|---|---|
| **Nil** | None |
| **B** Note 2) | With back pressure check valve (All stations) |
| **D** | With DIN rail (Rail length: Standard) |
| **D0** | Without DIN rail (with bracket) |
| **D□** Note 3) | With DIN rail (Rail length specified, □: Stations) |
| **K** Note 4) | Special wiring specification (Except double wiring) |
| **N** | With name plate |
| **R** Note 5) | External pilot |
| **S** Note 6) | Built-in silencer, Direct exhaust |

Note 1) When multiple symbols are specified, indicate them alphabetically. Example) "-BRS"
Note 2) When a back pressure check valve is used only for specified station, specify the back pressure check valve part number, and specify the station number to which the valve is mounted, on the manifold specification sheet.
Note 3) D□: When the length of the DIN rail is specific (□ is the number of stations). Example) "-D08"
In this case, the valves will be mounted on the DIN rail for 8 stations, regardless of the number of manifold stations. Specified station number shall be longer than manifold station number.
Note 4) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.
Note 5) When external pilot type is selected, also specify external pilot type for valves.
Note 6) Built-in silencer type dose not satisfy IP67.
Note 7) When specification change from no DIN rail type to DIN rail mounting type, please consult SMC.
Note 8) When "Without SI Unit" is specified, "With DIN rail (D)" cannot be selected.
Note 9) DIN rail is not attached (but shipped together) on the manifold in the case of with DIN rail. Refer to the **WEB catalog** for mounting method.

**I/O Unit stations**

| | |
|---|---|
| **Nil** | None |
| **1** | 1 station |
| ⋮ | ⋮ |
| **9** | 9 stations |

Note 1) Without SI Unit, the symbol is nil.
Note 2) SI Unit is not included in I/O Unit stations.
Note 3) When I/O Unit is selected, it is shipped separately and assembled by users.
Refer to the attached operation manual for mounting method.
Note 4) Refer to page 64 for details on enclosure.

**SI Unit output polarity**

| | |
|---|---|
| **Nil** | Positive common |
| **N** | Negative common |

Note) Without SI Unit, the symbol is nil.

**End plate type**

| | |
|---|---|
| **Nil** | No end plate |
| **2** | Power supply with M12 connector (Max. supplied current 2 A) |
| **3** | Power supply with 7/8 inch connector (Max. supplied current 8 A) |

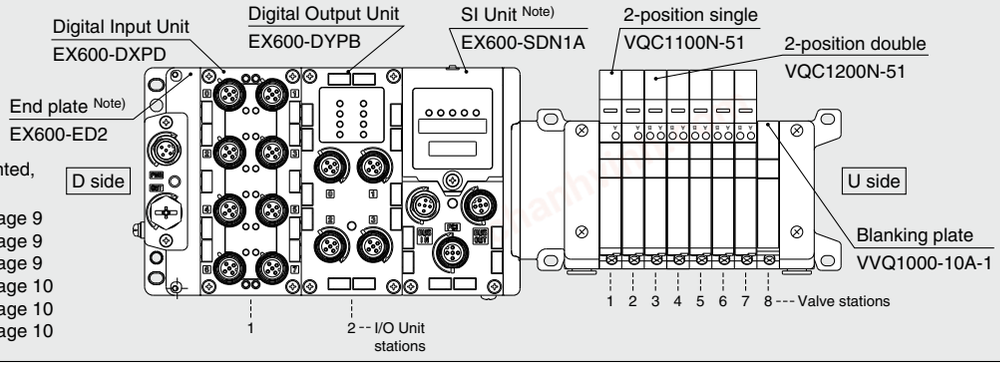
Note) Without SI Unit, the symbol is nil.

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## How to Order Manifold Assembly

### Example (VV5QC11)




For the I/O Unit part number mounted, refer to the following pages.

- Digital Input Unit ····· Page 9
- Digital Output Unit ····· Page 9
- Digital Input/Output Unit ····· Page 9
- Analog Input Unit ····· Page 10
- Analog Output Unit ····· Page 10
- Analog Input/Output Unit ····· Page 10

**VV5QC11-08C6SD6Q2N2 ···· 1 set Manifold base part number**
*** VQC1100N-51 ····· 2 sets Valve part number (Stations 1 to 2)**
*** VQC1200N-51 ····· 5 sets Valve part number (Stations 3 to 7)**
*** VVQ1000-10A-1 ····· 1 set Blanking plate part number (Station 8)**
*** EX600-DXPD ····· 1 set I/O Unit part number (Station 1)**
*** EX600-DYPB ····· 1 set I/O Unit part number (Station 2)**

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

Enter in order starting from the first station on the D side.
If the arrangement becomes complicated, specify on the manifold specification sheet.

Enter in order starting from the first station on the D side.
If the arrangement becomes complicated, specify on the manifold specification sheet.

Note) Do not enter the SI Unit part number and the end plate part number together.

## How to Order Valves

**VQC 1 1 0 0 □ – 5 □ 1**

**Series VQC1000**

**Type of actuation**

| | | | |
|---|---|---|---|
| 1 | 2-position single<br>(A)4 2(B)<br>(R1)5 1 3(R2)<br>(P) | Note) A | 4-position dual 3-port valve<br>(A) 4(A) 2(B)<br>5(R1) 1(P) 3(R2)<br>N.C. N.C. |
| 2 | 2-position double (Metal)<br>(A)4 2(B)<br>(R1)5 1 3(R2)<br>(P) | Note) B | 4-position dual 3-port valve<br>(B) 4(A) 2(B)<br>5(R1) 1(P) 3(R2)<br>N.O. N.O. |
| | 2-position double (Rubber)<br>(A)4 2(B)<br>(R1)5 1 3(R2)<br>(P) | Note) C | 4-position dual 3-port valve<br>(C) 4(A) 2(B)<br>5(R1) 1(P) 3(R2)<br>N.C. N.O. |
| 3 | 3-position closed center<br>(A)4 2(B)<br>(R1)5 1 3(R2)<br>(P) | Note) Only rubber seal type | |
| 4 | 3-position exhaust center<br>(A)4 2(B)<br>(R1)5 1 3(R2)<br>(P) | | |
| 5 | 3-position pressure center<br>(A)4 2(B)<br>(R1)5 1 3(R2)<br>(P) | | |

**Coil voltage**

| | |
|---|---|
| 5 | 24 VDC |

**Function**

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

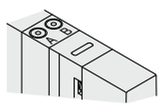
Note 1) When multiple symbols are specified, indicate them alphabetically. However, combination of "B" and "K" is not possible.
Note 2) Only metal seal type
Note 3) When negative common is specified for the SI Unit, select and mount a valve of negative common.
Note 4) Not applicable for dual 3-port valves

**Seal type**

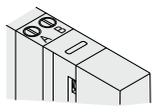
| | |
|---|---|
| 0 | Metal seal |
| 1 | Rubber seal |

**Manual override**

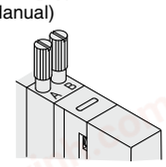
**Nil**: Non-locking push type (Tool required)



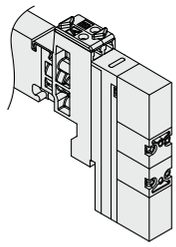
**B**: Locking type (Tool required)



**C**: Locking type (Manual)



**D**: Slide locking type (Manual)

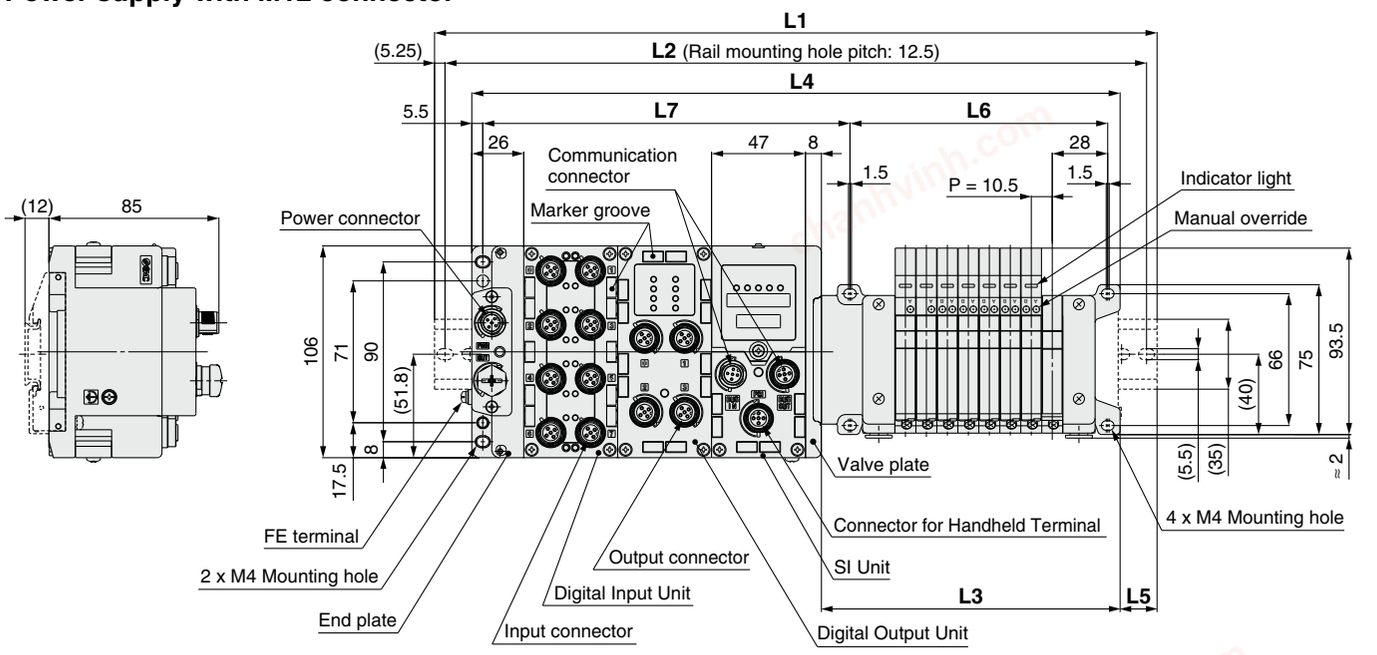


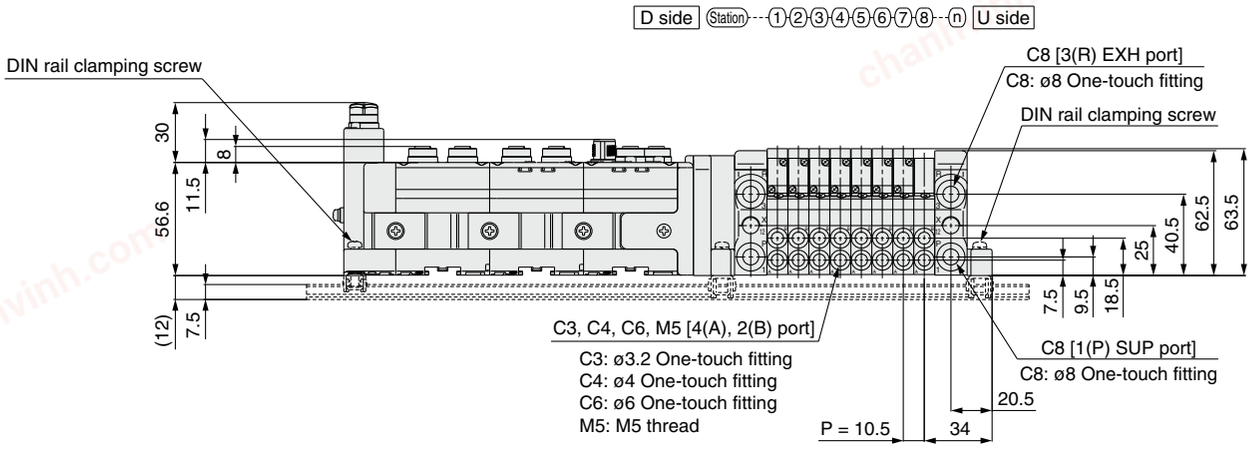
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# Series VQC1000

## Dimensions

### Power supply with M12 connector




L2 = L1 – 10.5
L3 = 10.5 x n1 + 65.5
L4 = L3 + 81 + 47 x n2
L5 = (L1 – L4)/2
L6 = 10.5 x n1 + 45
L7 = 47 x n2 + 89.8

n1: Valve stations
n2: I/O Unit stations

### L1: DIN Rail Overall Length

[mm]

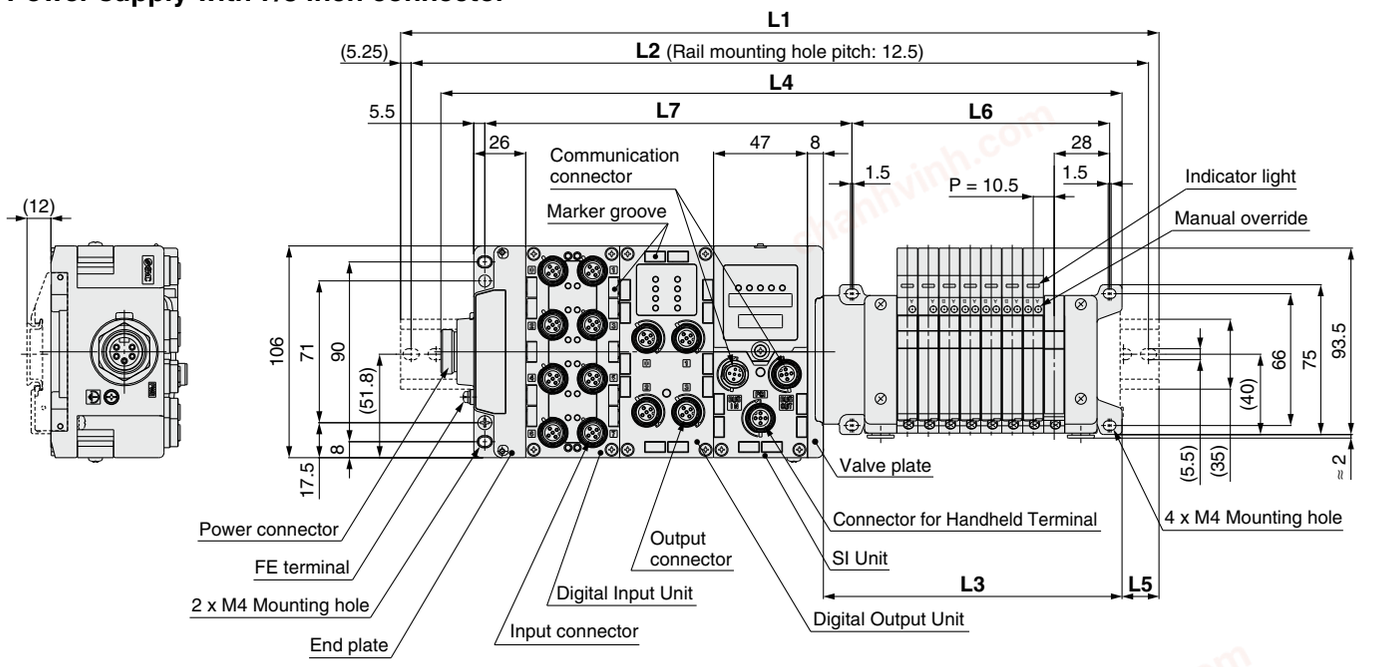
| I/O Unit stations (n2) \ Valve stations (n1) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 198 | 198 | 210.5 | 223 | 235.5 | 248 | 260.5 | 260.5 | 273 | 285.5 | 298 | 310.5 | 323 | 335.5 | 335.5 | 348 | 360.5 | 373 | 385.5 | 398 | 398 | 410.5 | 423 | 435.5 |
| **1** | 235.5 | 248 | 260.5 | 273 | 285.5 | 298 | 298 | 310.5 | 323 | 335.5 | 348 | 360.5 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 |
| **2** | 285.5 | 298 | 310.5 | 323 | 323 | 335.5 | 348 | 360.5 | 373 | 385.5 | 398 | 398 | 410.5 | 423 | 435.5 | 448 | 460.5 | 460.5 | 473 | 485.5 | 498 | 510.5 | 523 | 523 |
| **3** | 335.5 | 348 | 360.5 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 560.5 | 560.5 | 573 |
| **4** | 385.5 | 385.5 | 398 | 410.5 | 423 | 435.5 | 448 | 460.5 | 460.5 | 473 | 485.5 | 498 | 510.5 | 523 | 523 | 535.5 | 548 | 560.5 | 573 | 585.5 | 585.5 | 598 | 610.5 | 623 |
| **5** | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 548 | 560.5 | 573 | 585.5 | 598 | 610.5 | 623 | 623 | 635.5 | 648 | 660.5 | 673 |
| **6** | 473 | 485.5 | 498 | 510.5 | 523 | 523 | 535.5 | 548 | 560.5 | 573 | 585.5 | 585.5 | 598 | 610.5 | 623 | 635.5 | 648 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 710.5 |
| **7** | 523 | 535.5 | 548 | 548 | 560.5 | 573 | 585.5 | 598 | 610.5 | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 685.5 | 685.5 | 698 | 710.5 | 723 | 735.5 | 748 | 748 | 760.5 |
| **8** | 573 | 585.5 | 585.5 | 598 | 610.5 | 623 | 635.5 | 648 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 710.5 | 723 | 735.5 | 748 | 760.5 | 773 | 773 | 785.5 | 798 | 810.5 |
| **9** | 610.5 | 623 | 635.5 | 648 | 660.5 | 673 | 673 | 685.5 | 698 | 710.5 | 723 | 735.5 | 748 | 748 | 760.5 | 773 | 785.5 | 798 | 810.5 | 810.5 | 823 | 835.5 | 848 | 860.5 |

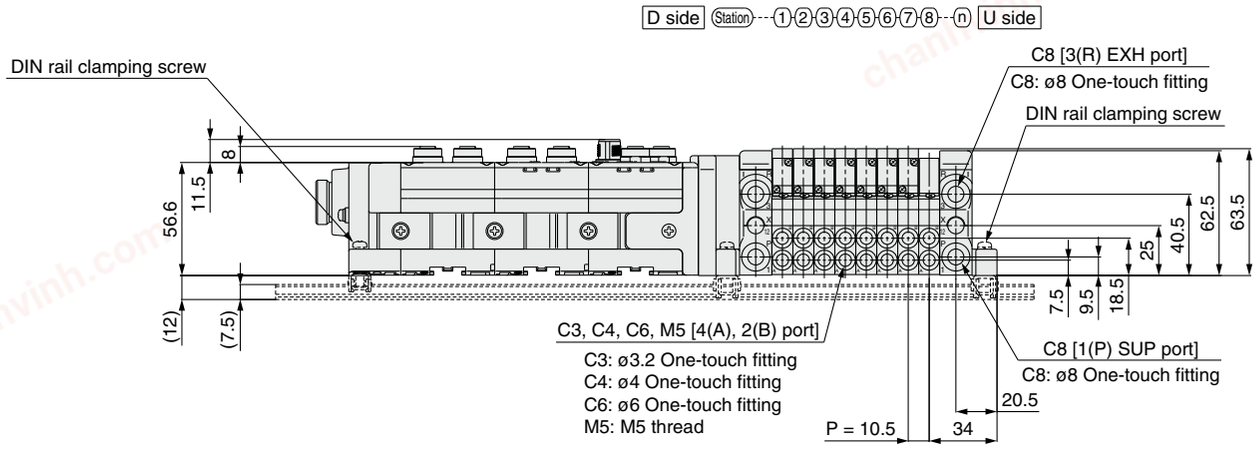
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## Dimensions

### Power supply with 7/8 inch connector




L2 = L1 – 10.5
L3 = 10.5 x n1 + 65.5
L4 = L3 + 97.5 + 47 x n2
L5 = (L1 – L4)/2
L6 = 10.5 x n1 + 45
L7 = 47 x n2 + 89.8

n1: Valve stations
n2: I/O Unit stations

### L1: DIN Rail Overall Length

[mm]

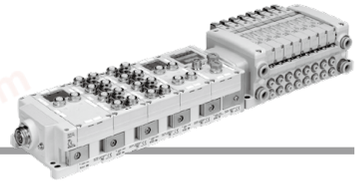
| I/O Unit stations (n2) \ Valve stations (n1) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 210.5 | 223 | 235.5 | 235.5 | 248 | 260.5 | 273 | 285.5 | 298 | 298 | 310.5 | 323 | 335.5 | 348 | 360.5 | 373 | 373 | 385.5 | 398 | 410.5 | 423 | 435.5 | 435.5 | 448 |
| **1** | 260.5 | 273 | 273 | 285.5 | 298 | 310.5 | 323 | 335.5 | 335.5 | 348 | 360.5 | 373 | 385.5 | 398 | 398 | 410.5 | 423 | 435.5 | 448 | 460.5 | 460.5 | 473 | 485.5 | 498 |
| **2** | 298 | 310.5 | 323 | 335.5 | 348 | 360.5 | 360.5 | 373 | 385.5 | 398 | 410.5 | 423 | 435.5 | 435.5 | 448 | 460.5 | 473 | 485.5 | 498 | 498 | 510.5 | 523 | 535.5 | 548 |
| **3** | 348 | 360.5 | 373 | 385.5 | 398 | 398 | 410.5 | 423 | 435.5 | 448 | 460.5 | 460.5 | 473 | 485.5 | 498 | 510.5 | 523 | 523 | 535.5 | 548 | 560.5 | 573 | 585.5 | 598 |
| **4** | 398 | 410.5 | 423 | 423 | 435.5 | 448 | 460.5 | 473 | 485.5 | 498 | 498 | 510.5 | 523 | 535.5 | 548 | 560.5 | 560.5 | 573 | 585.5 | 598 | 610.5 | 623 | 623 | 635.5 |
| **5** | 448 | 460.5 | 460.5 | 473 | 485.5 | 498 | 510.5 | 523 | 523 | 535.5 | 548 | 560.5 | 573 | 585.5 | 585.5 | 598 | 610.5 | 623 | 635.5 | 648 | 660.5 | 660.5 | 673 | 685.5 |
| **6** | 485.5 | 498 | 510.5 | 523 | 535.5 | 548 | 560.5 | 560.5 | 573 | 585.5 | 598 | 610.5 | 623 | 623 | 635.5 | 648 | 660.5 | 673 | 685.5 | 685.5 | 698 | 710.5 | 723 | 735.5 |
| **7** | 535.5 | 548 | 560.5 | 573 | 585.5 | 585.5 | 598 | 610.5 | 623 | 635.5 | 648 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 723 | 723 | 735.5 | 748 | 760.5 | 773 | 785.5 |
| **8** | 585.5 | 598 | 610.5 | 623 | 623 | 635.5 | 648 | 660.5 | 673 | 685.5 | 685.5 | 698 | 710.5 | 723 | 735.5 | 748 | 748 | 760.5 | 773 | 785.5 | 798 | 810.5 | 810.5 | 823 |
| **9** | 635.5 | 648 | 648 | 660.5 | 673 | 685.5 | 698 | 710.5 | 710.5 | 723 | 735.5 | 748 | 760.5 | 773 | 785.5 | 785.5 | 798 | 810.5 | 823 | 835.5 | 848 | 848 | 860.5 | 873 |

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EX600

# 5 Port Solenoid Valve

## Series VQC2000



## How to Order Manifold

**VV5QC 2 1 – 08 C8 SD6Q 2 N 1 – □**

**Series VQC2000**

**Base mounted plug-in**

**Stations**

| Symbol | Stations |
|---|---|
| **01** | 1 station |
| ⋮ | ⋮ |
| **24** Note) | 24 stations |

Note) The maximum number of stations depends on the wiring specifications.

**Cylinder port size**

| | |
|---|---|
| **C4** | With ø4 One-touch fitting |
| **C6** | With ø6 One-touch fitting |
| **C8** | With ø8 One-touch fitting |
| **CM** | Mixed sizes and with port plug |
| **L4** | Top ported elbow with ø4 One-touch fitting |
| **L6** | Top ported elbow with ø6 One-touch fitting |
| **L8** | Top ported elbow with ø8 One-touch fitting |
| **B4** | Bottom ported elbow with ø4 One-touch fitting |
| **B6** | Bottom ported elbow with ø6 One-touch fitting |
| **B8** | Bottom ported elbow with ø8 One-touch fitting |
| **LM** | Mixed port sizes of elbow piping |

Note 1) Indicate the sizes on the manifold specification sheet in the case of "CM" and "LM".
Note 2) Symbols for inch size are as follows.
- N3: ø5/32" • N9: ø5/16"
- N7: ø1/4" • NM: Mixed sizes

The top ported elbow is LN□ and the bottom ported elbow is BN□. For NM, specify it on the manifold specification sheet.

**SI Unit specifications**

| Symbol | Protocol | Stations | Max. number of stations for special wiring specification | Max. number of solenoids |
|---|---|---|---|---|
| **SD60** | Without SI Unit | 1 to 12 stations | 24 stations | 24 |
| **SD6Q** | DeviceNet™ | | | |
| **SD6N** | PROFIBUS DP | | | |
| **SD6V** | CC-Link | | | |
| **SD6ZE** | EtherNet/IP™ (1 port) | | | |
| **SD6EA** | EtherNet/IP™ (2 ports) | | | |
| **SD6D** | EtherCAT® | | | |
| **SD6F** | PROFINET | | | |

Note) The maximum number of stations depends on the number of solenoids. Add the option symbol "-K" when the combination of single wiring and double wiring is specified.
- When "Without SI Unit" is specified, I/O Unit cannot be mounted.
- When "Without SI Unit" is specified, a valve plate which connects the manifold and SI Unit, is not mounted. Refer to back page 65 for mounting method.

**End plate type**

| | |
|---|---|
| **Nil** | No end plate |
| **2** | Power supply with M12 connector (Max. supplied current 2 A) |
| **3** | Power supply with 7/8 inch connector (Max. supplied current 8 A) |

Note) Without SI Unit, the symbol is nil.

**Option**

| | |
|---|---|
| **Nil** | None |
| **B** Note 2) | With back pressure check valve (All stations) |
| **D** Note 3) | With DIN rail (Rail length: Standard) |
| **D0** | Without DIN rail (with bracket) |
| **D□** Note 4) | With DIN rail (Rail length specified, □: Stations) |
| **K** Note 5) | Special wiring specification (Except double wiring) |
| **N** | With name plate |
| **R** Note 6) | External pilot |
| **S** Note 7) | Built-in silencer, Direct exhaust |
| **T** Note 8) | P and R ports included on both sides of the U side |

Note 1) When multiple symbols are specified, indicate them alphabetically. Example) "-BRS"
Note 2) When a back pressure check valve is used only for specified station, specify the back pressure check valve part number, and specify the station number to which the valve is mounted, on the manifold specification sheet.
Note 3) When selecting the DIN rail mounting (with DIN rail) of the VQC2000 series with the end plate to a power supply 7/8 inch connector, 9 I/O Unit stations will result in a total of 23 valve stations. With 24 stations, the DIN rail mounting (with DIN rail) cannot be indicated, so please exercise caution. (Refer to "DIN Rail Overall Length" on page 58.)
Note 4) D□: When the length of the DIN rail is specific (□ is the number of stations). Example) "-D08"
In this case, the valves will be mounted on the DIN rail for 8 stations, regardless of the number of manifold stations. Specified station number shall be longer than manifold station number.
Note 5) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.
Note 6) When external pilot type is selected, also specify external pilot type for valves.
Note 7) Built-in silencer type does not satisfy IP67.
Note 8) 2 ports for SUP and EXH are included on both sides of U side (cylinder port and coil side) with ø12 One-touch fittings.
Note 9) When specification change from no DIN rail type to DIN rail mounting type, please consult SMC.
Note 10) When "Without SI Unit" is specified, "With DIN rail (D)" cannot be selected.
Note 11) DIN rail is not attached (but shipped together) on the manifold in the case of with DIN rail. Refer to the **WEB catalog** for mounting method.

**I/O Unit stations**

| | |
|---|---|
| **Nil** | None |
| **1** | 1 station |
| ⋮ | ⋮ |
| **9** | 9 stations |

Note 1) Without SI Unit, the symbol is nil.
Note 2) SI Unit is not included in I/O Unit stations.
Note 3) When I/O Unit is selected, it is shipped separately and assembled by users. Refer to the attached operation manual for mounting method.
Note 4) Refer to page 64 for details on enclosure.

**SI Unit output polarity**

| | |
|---|---|
| **Nil** | Positive common |
| **N** | Negative common |

Note) Without SI Unit, the symbol is nil.

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## How to Order Valves

**VQC 2 1 0 0 ☐ – 5 ☐ 1**

**Series VQC2000**

**Type of actuation**

| | | | |
|---|---|---|---|
| 1 | 2-position single | Note) A | 4-position dual 3-port valve |
| 2 | 2-position double (Metal) | Note) B | 4-position dual 3-port valve |
| | 2-position double (Rubber) | Note) C | 4-position dual 3-port valve |
| 3 | 3-position closed center | | |
| 4 | 3-position exhaust center | | |
| 5 | 3-position pressure center | | |

Note) Only rubber seal type

**Seal type**

| | |
|---|---|
| 0 | Metal seal |
| 1 | Rubber seal |

**Function**

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

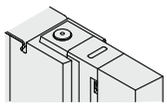
Note 1) When multiple symbols are specified, indicate them alphabetically. However, combination of "B" and "K" is not possible.
Note 2) Only metal seal type
Note 3) When negative common is specified for SI Unit, select and mount a valve of negative common.
Note 4) Not applicable for dual 3-port valves

**Coil voltage**

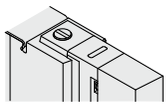
| | |
|---|---|
| 5 | 24 VDC |

**Manual override**

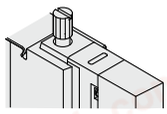
**Nil**: Non-locking push type (Tool required)



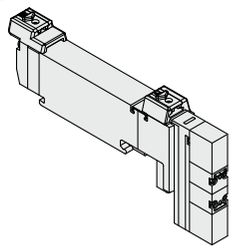
**B**: Locking type (Tool required)



**C**: Locking type (Manual)



**D**: Slide locking type (Manual)



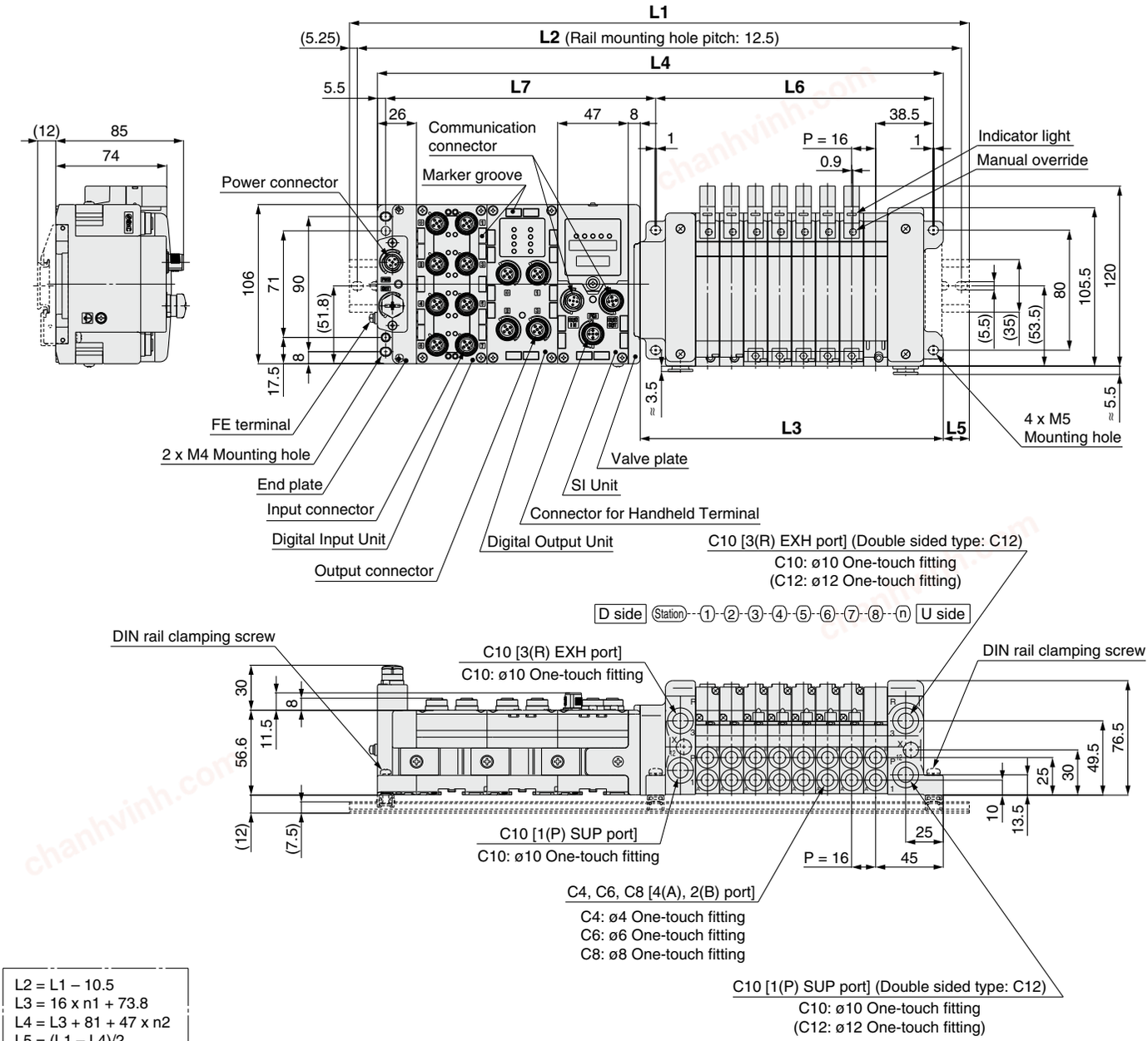
Refer to the catalog of each series for details on manifold solenoid valve specifications, Common Precautions and Specific Product Precautions.

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## Dimensions

### Power supply with M12 connector




L2 = L1 – 10.5
L3 = 16 x n1 + 73.8
L4 = L3 + 81 + 47 x n2
L5 = (L1 – L4)/2
L6 = 16 x n1 + 57
L7 = 47 x n2 + 85.8

n1: Valve stations
n2: I/O Unit stations

**L1: DIN Rail Overall Length** [mm]

| I/O Unit stations (n2) \ Valve stations (n1) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 210.5 | 223 | 235.5 | 260.5 | 273 | 285.5 | 298 | 323 | 335.5 | 348 | 373 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 473 | 498 | 510.5 | 523 | 548 | 560.5 | 573 |
| 1 | 248 | 273 | 285.5 | 298 | 323 | 335.5 | 348 | 360.5 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 473 | 498 | 510.5 | 523 | 548 | 560.5 | 573 | 585.5 | 610.5 | 623 |
| 2 | 298 | 323 | 335.5 | 348 | 360.5 | 385.5 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 498 | 510.5 | 523 | 535.5 | 560.5 | 573 | 585.5 | 610.5 | 623 | 635.5 | 648 | 673 |
| 3 | 348 | 360.5 | 385.5 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 498 | 510.5 | 523 | 535.5 | 560.5 | 573 | 585.5 | 598 | 623 | 635.5 | 648 | 673 | 685.5 | 698 | 710.5 |
| 4 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 560.5 | 573 | 585.5 | 598 | 623 | 635.5 | 648 | 673 | 685.5 | 698 | 710.5 | 735.5 | 748 | 760.5 |
| 5 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 623 | 635.5 | 648 | 660.5 | 685.5 | 698 | 710.5 | 735.5 | 748 | 760.5 | 773 | 798 | 810.5 |
| 6 | 485.5 | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 623 | 635.5 | 648 | 660.5 | 685.5 | 698 | 710.5 | 723 | 748 | 760.5 | 773 | 798 | 810.5 | 823 | 835.5 | 860.5 |
| 7 | 535.5 | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 685.5 | 698 | 710.5 | 723 | 748 | 760.5 | 773 | 798 | 810.5 | 823 | 835.5 | 860.5 | 873 | 885.5 | 898 |
| 8 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 748 | 760.5 | 773 | 785.5 | 810.5 | 823 | 835.5 | 860.5 | 873 | 885.5 | 898 | 923 | 935.5 | 948 |
| 9 | 635.5 | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 748 | 760.5 | 773 | 785.5 | 810.5 | 823 | 835.5 | 848 | 873 | 885.5 | 898 | 923 | 935.5 | 948 | 960.5 | 985.5 | 985.5 |

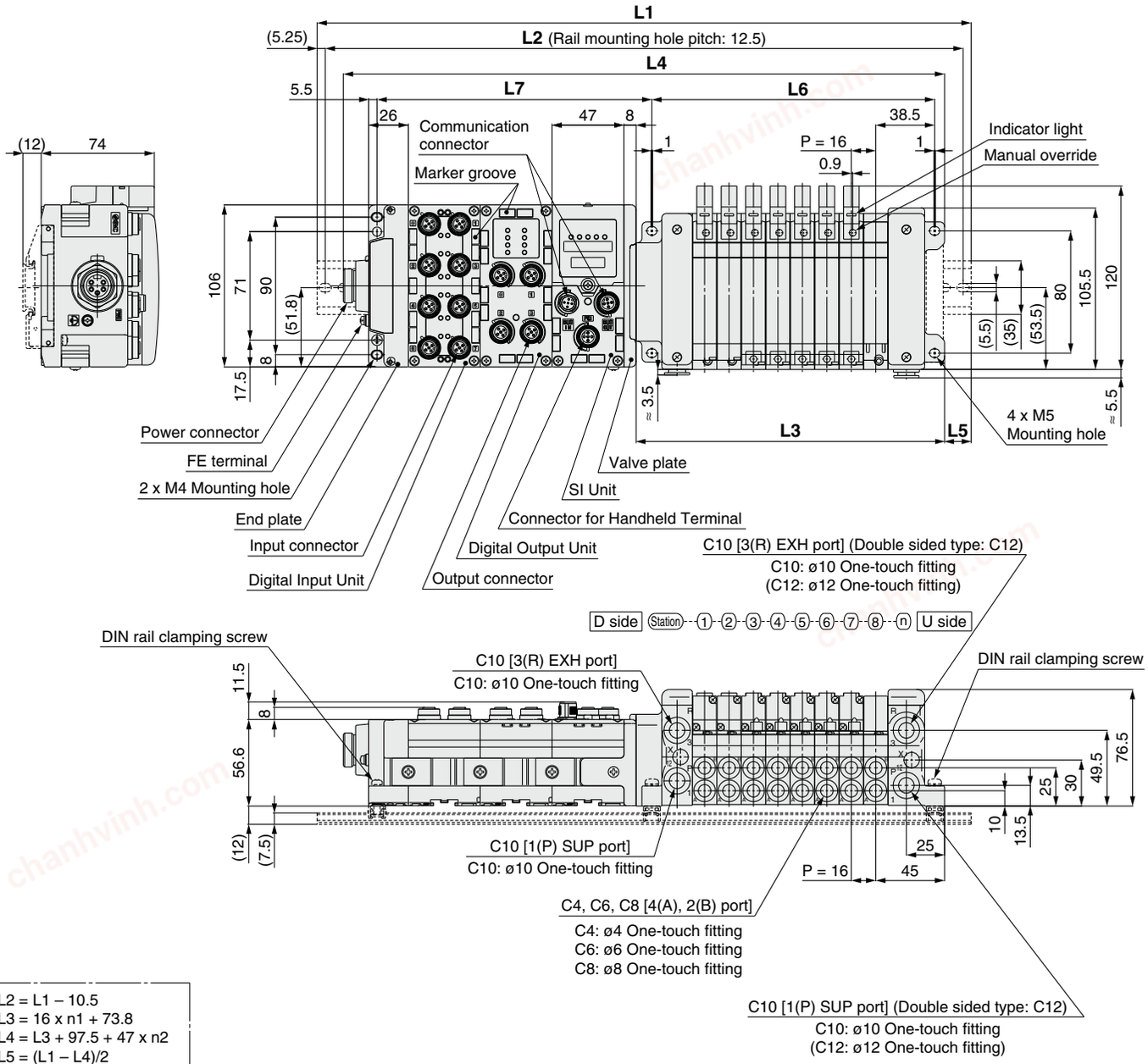
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## Dimensions

### Power supply with 7/8 inch connector




L2 = L1 – 10.5
L3 = 16 x n1 + 73.8
L4 = L3 + 97.5 + 47 x n2
L5 = (L1 – L4)/2
L6 = 16 x n1 + 57
L7 = 47 x n2 + 85.8

n1: Valve stations
n2: I/O Unit stations

### L1: DIN Rail Overall Length

[mm]

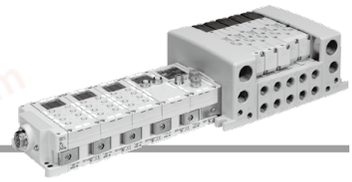
| I/O Unit stations (n2) \ Valve stations (n1) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 223 | 235.5 | 260.5 | 273 | 285.5 | 298 | 323 | 335.5 | 348 | 373 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 485.5 | 498 | 510.5 | 523 | 548 | 560.5 | 573 | 585.5 |
| **1** | 273 | 285.5 | 298 | 323 | 335.5 | 348 | 360.5 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 473 | 498 | 510.5 | 523 | 548 | 560.5 | 573 | 585.5 | 610.5 | 623 | 635.5 |
| **2** | 323 | 335.5 | 348 | 360.5 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 473 | 498 | 510.5 | 523 | 535.5 | 560.5 | 573 | 585.5 | 610.5 | 623 | 635.5 | 648 | 673 | 685.5 |
| **3** | 360.5 | 385.5 | 398 | 410.5 | 423 | 448 | 460.5 | 473 | 498 | 510.5 | 523 | 535.5 | 560.5 | 573 | 585.5 | 610.5 | 623 | 635.5 | 648 | 673 | 685.5 | 698 | 710.5 | 735.5 |
| **4** | 410.5 | 423 | 448 | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 560.5 | 573 | 585.5 | 598 | 623 | 635.5 | 648 | 673 | 685.5 | 698 | 710.5 | 735.5 | 748 | 760.5 | 785.5 |
| **5** | 460.5 | 473 | 485.5 | 510.5 | 523 | 535.5 | 560.5 | 573 | 585.5 | 598 | 623 | 635.5 | 648 | 660.5 | 685.5 | 698 | 710.5 | 735.5 | 748 | 760.5 | 773 | 798 | 810.5 | 823 |
| **6** | 510.5 | 523 | 535.5 | 548 | 573 | 585.5 | 598 | 623 | 635.5 | 648 | 660.5 | 685.5 | 698 | 710.5 | 735.5 | 748 | 760.5 | 773 | 798 | 810.5 | 823 | 835.5 | 860.5 | 873 |
| **7** | 548 | 573 | 585.5 | 598 | 610.5 | 635.5 | 648 | 660.5 | 685.5 | 698 | 710.5 | 723 | 748 | 760.5 | 773 | 798 | 810.5 | 823 | 835.5 | 860.5 | 873 | 885.5 | 910.5 | 923 |
| **8** | 598 | 610.5 | 635.5 | 648 | 660.5 | 685.5 | 698 | 710.5 | 723 | 748 | 760.5 | 773 | 785.5 | 810.5 | 823 | 835.5 | 860.5 | 873 | 885.5 | 898 | 923 | 935.5 | 948 | 973 |
| **9** | 648 | 660.5 | 673 | 698 | 710.5 | 723 | 748 | 760.5 | 773 | 785.5 | 810.5 | 823 | 835.5 | 860.5 | 873 | 885.5 | 898 | 923 | 935.5 | 948 | 960.5 | 985.5 | 985.5 | — |

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EX600

# 5 Port Solenoid Valve

## Series VQC4000



## How to Order Manifold

**VV5QC 4 1 – 16 02 [ ] SD6Q 2 N 1 – [ ]**

**Series VQC4000**

**Base mounted plug-in**

**Valve stations**

| | |
|---|---|
| 01 | 1 station |
| ⋮ | ⋮ |
| 16 Note) | 16 stations |

Note) The maximum number of stations depends on the wiring specifications.

**Cylinder port size**

| | |
|---|---|
| C6 | With ø6 One-touch fitting |
| C8 | With ø8 One-touch fitting |
| C10 | With ø10 One-touch fitting |
| C12 | With ø12 One-touch fitting |
| N7 | For ø1/4" |
| N9 | For ø5/16" |
| N11 | For ø3/8" |
| 02 | 1/4 |
| 03 | 3/8 |
| B | Bottom ported Rc1/4 |
| CM | Mixed sizes |

**Thread type**

| | |
|---|---|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPT/NPTF |

**SI Unit specifications**

| | Protocol | Stations | Max. number of stations for special wiring specification | Max. number of solenoids |
|---|---|---|---|---|
| SD60 | Without SI unit | 1 to 12 stations | 16 stations | 24 |
| SD6Q | DeviceNet™ | | | |
| SD6N | PROFIBUS DP | | | |
| SD6V | CC-Link | | | |
| SD6ZE | EtherNet/IP™ (1 port) | | | |
| SD6EA | EtherNet/IP™ (2 ports) | | | |
| SD6D | EtherCAT® | | | |
| SD6F | PROFINET | | | |

Note) The maximum number of stations depends on the number of solenoids. Add the option symbol "-K" when the combination of single wiring and double wiring is specified.

- When "Without SI Unit" is specified, I/O Unit cannot be mounted.
- When "Without SI Unit" is specified, a valve plate which connects the manifold and SI Unit, is not mounted. Refer to page 65 for mounting method.

**End plate type**

| | |
|---|---|
| Nil | No end plate |
| 2 | Power supply with M12 connector (Max. supplied current 2 A) |
| 3 | Power supply with 7/8 inch connector (Max. supplied current 8 A) |

Note) Without SI Unit, the symbol is nil.

**SI Unit output polarity**

| | |
|---|---|
| Nil | Positive common |
| N | Negative common |

Note) Without SI Unit, the symbol is nil.

**I/O Unit stations**

| | |
|---|---|
| Nil | None |
| 1 | 1 station |
| ⋮ | ⋮ |
| 9 | 9 stations |

Note 1) Without SI Unit, the symbol is nil.
Note 2) SI Unit is not included in I/O Unit stations.
Note 3) When I/O Unit is selected, it is shipped separately and assembled by users. Refer to the attached operation manual for mounting method.
Note 4) Refer to page 64 for details on enclosure.

**Option**

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

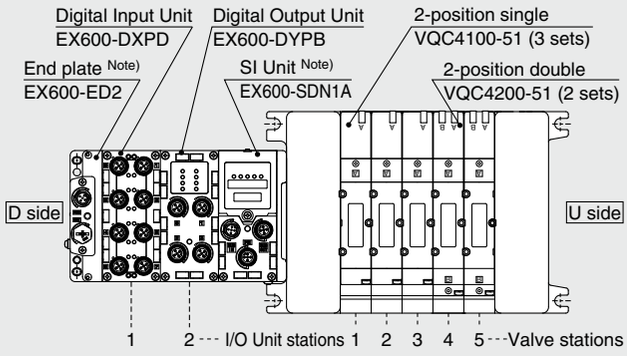
Note) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.

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## How to Order Manifold Assembly

### Example (VV5QC41-□SD6□)




**VV5QC41-0502SD6Q2N2···1 set (S kit 5-station manifold base part number)**
**∗VQC4100-51·····3 sets (2-position single part number)**
**∗VQC4200-51·····2 sets (2-position double part number)**
**∗EX600-DXPD·····1 set I/O Unit part number (Station 1)**
**∗EX600-DYPB·····1 set I/O Unit part number (Station 2)**
**∗ The asterisk denotes the symbol for assembly.**
**∗ Prefix it to the part numbers of the valve etc.**

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

Note) Do not enter the SI Unit part number and the end plate part number together.

## How to Order Valves

**VQC 4 1 0 0 □ – 5 □ □ 1**

**Series VQC4000**

**Type of actuation**

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

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

**Seal type**

| | |
|---|---|
| 0 | Metal seal |
| 1 | Rubber seal |

**Function**

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

Note 1) When the power is energized continuously, refer to "Specific Product Precautions 1" in the **WEB catalog** or the VQC4000/5000 series catalog (CAT.ES11-104).
Note 2) For details about external pilot type, refer to the **WEB catalog** or the VQ4000/5000 series catalog (CAT.ES11-104). In addition, external pilot type cannot be combined with a double check spacer.
∗ When multiple symbols are specified, indicate them alphabetically.

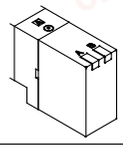
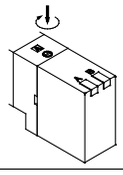
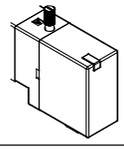
**Coil voltage**

| | |
|---|---|
| 5 | 24 VDC |

**Light/surge voltage suppressor**

| | |
|---|---|
| Nil | With |
| E | Without light, with surge voltage suppressor |

**Manual**

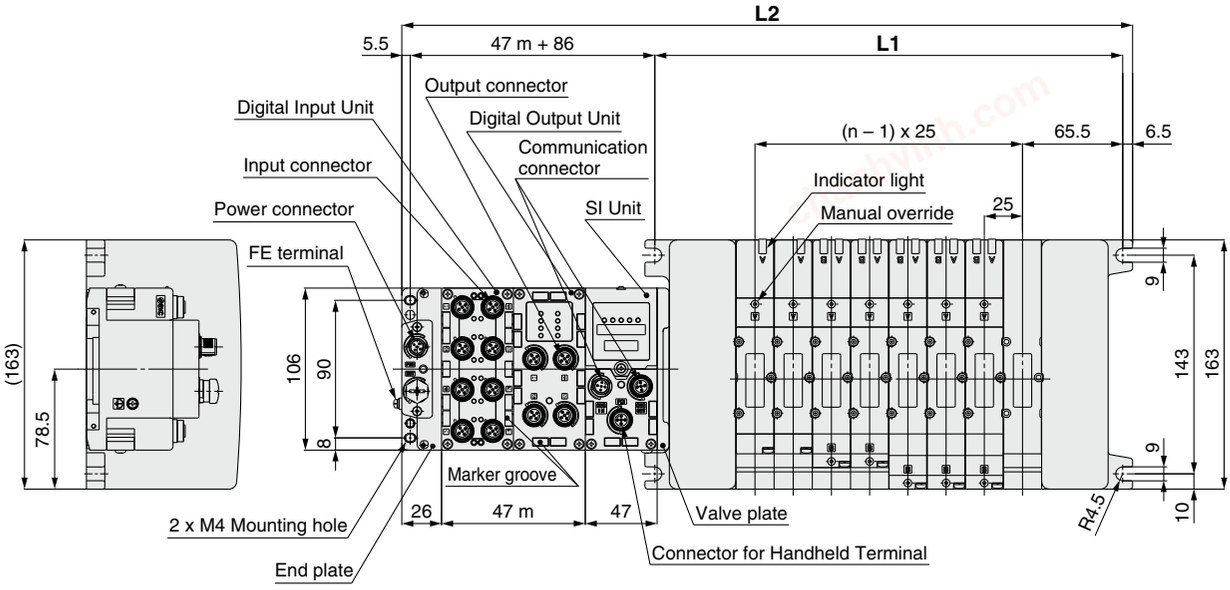
| Nil | B | C |
|---|---|---|
| Non-locking push type (Tool required) | Push-turn locking type (Tool required) | Turn locking type (Manual) |
|  |  |  |

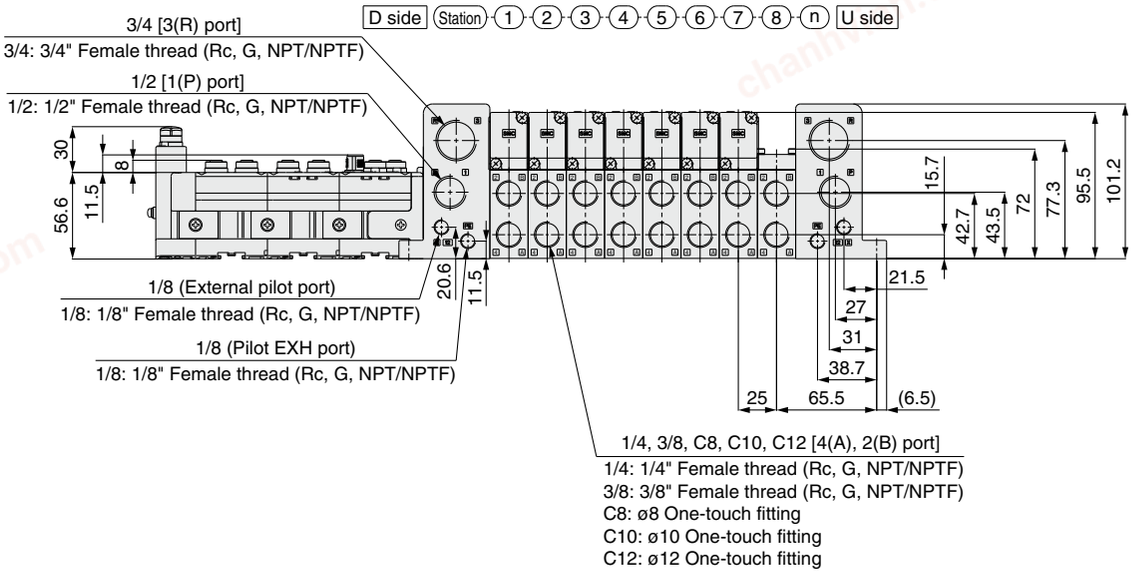
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# Series VQC4000

## Dimensions

### Power supply with M12 connector




Formulas
L1 = 25n + 106
L2 = 25n + 184
∗ L2 is the dimension without I/O Unit. Add 47 mm for each additional I/O Units.
∗ "m" is number of I/O Units.

### Dimensions

n: Stations (Maximum 16 stations)

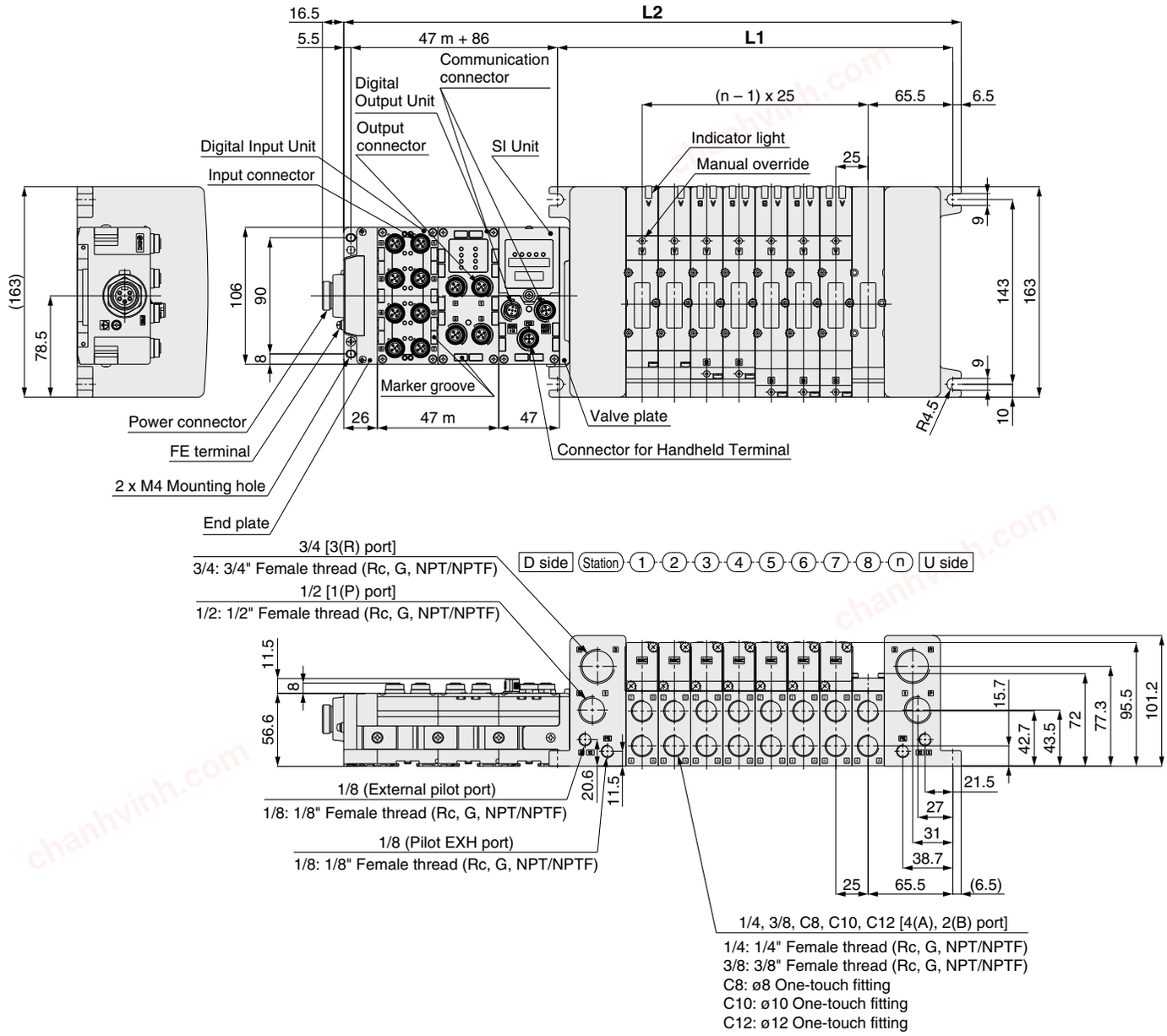
| L \ n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **L1** | 131 | 156 | 181 | 206 | 231 | 256 | 281 | 306 | 331 | 356 | 381 | 406 | 431 | 456 | 481 | 506 |
| **L2** | 209 | 234 | 259 | 284 | 309 | 334 | 359 | 384 | 409 | 434 | 459 | 484 | 509 | 534 | 559 | 584 |

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## Dimensions

### Power supply with 7/8 inch connector




Formulas
L1 = 25n + 106
L2 = 25n + 184
∗ L2 is the dimension without I/O Unit. Add 47 mm for each additional I/O Units.
∗ "m" is number of I/O Units.

### Dimensions

n: Stations (Maximum 16 stations)

| L \ n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **L1** | 131 | 156 | 181 | 206 | 231 | 256 | 281 | 306 | 331 | 356 | 381 | 406 | 431 | 456 | 481 | 506 |
| **L2** | 209 | 234 | 259 | 284 | 309 | 334 | 359 | 384 | 409 | 434 | 459 | 484 | 509 | 534 | 559 | 584 |

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EX600

# 5 Port Solenoid Valve

## Series VQC5000

CE RoHS

## How to Order Manifold

**VV5QC 5 1 – 12 03 [ ] SD6Q 2 N 1 – [ ]**

**Series VQC5000**

**Base mounted plug-in**

**Valve stations**

| | |
|---|---|
| 01 | 1 station |
| ⋮ | ⋮ |
| 12 | 12 stations |

**Cylinder port size**

| | |
|---|---|
| 03 | 3/8 |
| 04 | 1/2 |
| B | Bottom ported Rc1/4 |
| CM | Mixed sizes |

**Thread type**

| | |
|---|---|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

**SI Unit specifications**

| | Protocol | Stations | Max. number of solenoids |
|---|---|---|---|
| SD60 | Without SI unit | 1 to 12 stations | 24 |
| SD6Q | DeviceNet™ | | |
| SD6N | PROFIBUS DP | | |
| SD6V | CC-Link | | |
| SD6ZE | EtherNet/IP™ (1 port) | | |
| SD6EA | EtherNet/IP™ (2 ports) | | |
| SD6D | EtherCAT® | | |
| SD6F | PROFINET | | |

Note) Add the option symbol "-K" when the combination of single wiring and double wiring is specified.
- When "Without SI Unit" is specified, I/O Unit cannot be mounted.
- When "Without SI Unit" is specified, a valve plate which connects the manifold and SI Unit, is not mounted. Refer to page 65 for mounting method.

**End plate type**

| | |
|---|---|
| Nil | No end plate |
| 2 | Power supply with M12 connector (Max. supplied current 2 A) |
| 3 | Power supply with 7/8 inch connector (Max. supplied current 8 A) |

Note) Without SI Unit, the symbol is nil.

**SI Unit output polarity**

| | |
|---|---|
| Nil | Positive common |
| N | Negative common |

Note) Without SI Unit, the symbol is nil.

**I/O Unit stations**

| | |
|---|---|
| Nil | None |
| 1 | 1 station |
| ⋮ | ⋮ |
| 9 | 9 stations |

Note 1) Without SI Unit, the symbol is nil.
Note 2) SI Unit is not included in I/O Unit stations.
Note 3) When I/O Unit is selected, it is shipped separately and assembled by users. Refer to the attached operation manual for mounting method.
Note 4) Refer to page 64 for details on enclosure.

**Option**

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

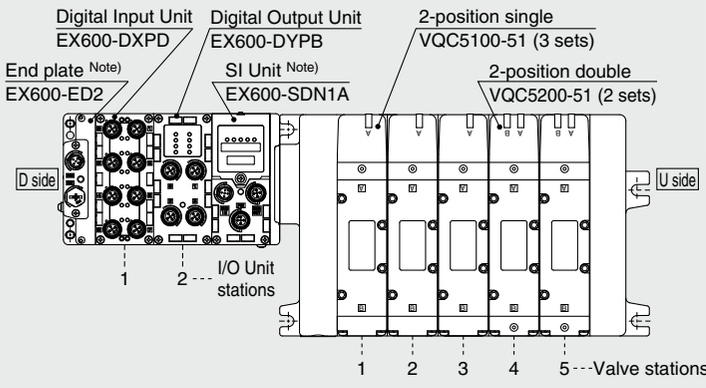
Note) When single wiring and double wiring are mixed, specify wiring type of each station on the manifold specification sheet.

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## How to Order Manifold Assembly

### Example (VV5QC51-□SD6□)




**VV5QC51-0503SD6Q2N2···1 set (S kit 5-station manifold base part number)**
**∗VQC5100-51·····3 sets (2-position single part number)**
**∗VQC5200-51·····2 sets (2-position double part number)**
**∗EX600-DXPD·····1 set I/O Unit part number (Station 1)**
**∗EX600-DYPB·····1 set I/O Unit part number (Station 2)**
**∗ The asterisk denotes the symbol for assembly.**
**∗ Prefix it to the part numbers of the valve etc.**

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

Note) Do not enter the SI Unit part number and the end plate part number together.

## How to Order Valves

**VQC 5 1 0 0 □ – 5 □ □ 1**

**Series VQC5000**

**Type of actuation**

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

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

**Seal type**

| | |
|---|---|
| 0 | Metal seal |
| 1 | Rubber seal |

**Function**

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

Note 1) When the power is energized continuously, refer to "Specific Product Precautions 1" in the **WEB catalog** or the VQC4000/5000 series catalog (CAT.ES11-104).
Note 2) For details about external pilot type, refer to the **WEB catalog** or the VQ4000/5000 series catalog (CAT.ES11-104). In addition, external pilot type cannot be combined with a double check spacer.
∗ When multiple symbols are specified, indicate them alphabetically.

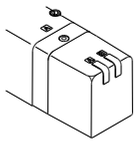
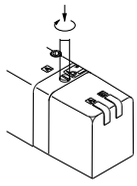
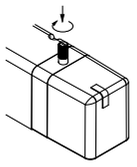
**Coil voltage**

| | |
|---|---|
| 5 | 24 VDC |

**Light/surge voltage suppressor**

| | |
|---|---|
| Nil | With |
| E | Without light, with surge voltage suppressor |

**Manual**

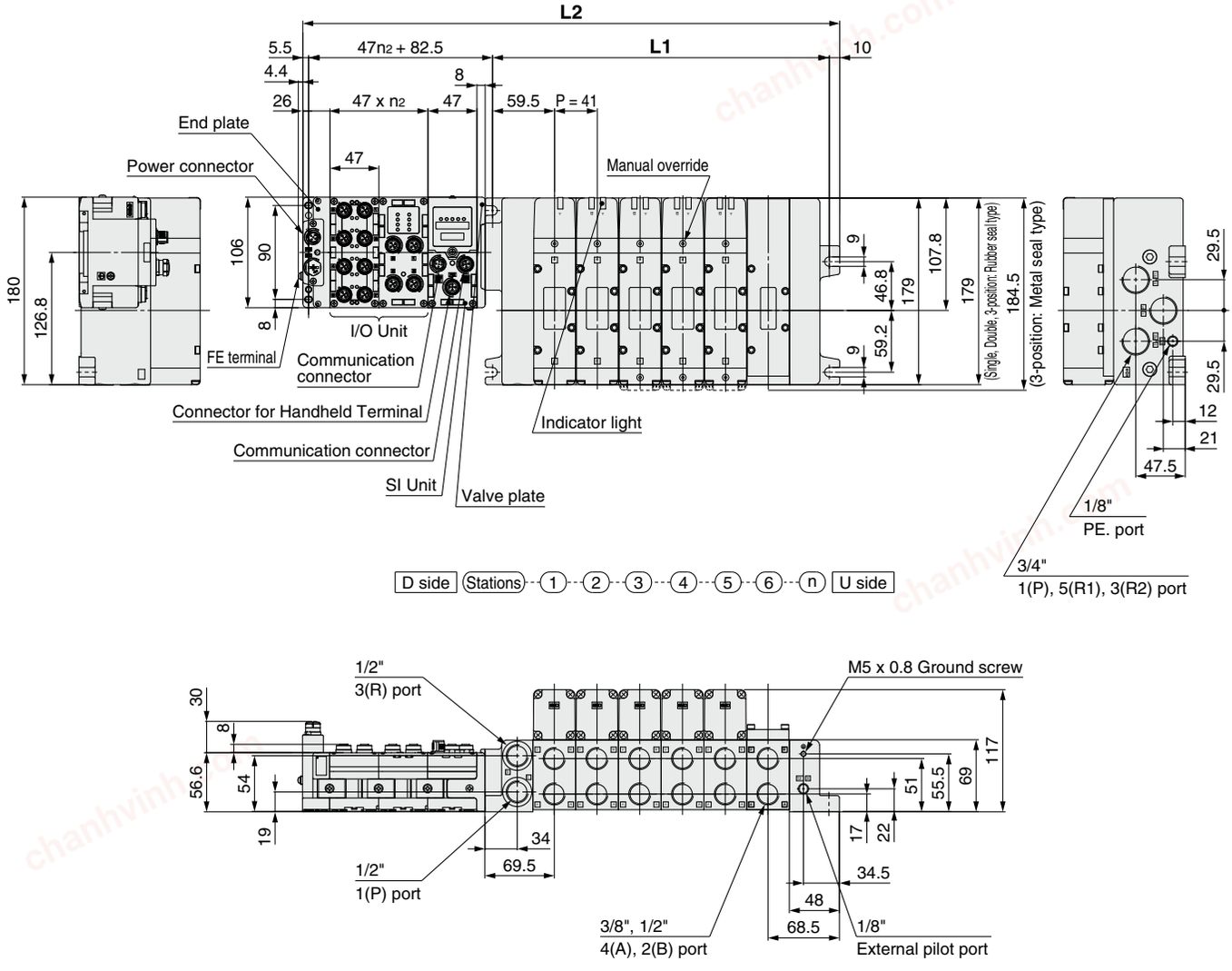
| Nil | B | C |
|---|---|---|
| Non-locking push type (Tool required) | Push-turn locking type (Tool required) | Turn locking type (Manual) |
|  |  |  |

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# Series VQC5000

## Dimensions

### Power supply with M12 connector







Formula:
L1 = 41n + 77
L2 = 41n + 175
∗ L2 dimension: Without I/O unit For additional I/O unit, add 47 mm.
∗ n2: I/O unit stations

**Dimensions**

n: Stations (Maximum 12 stations)

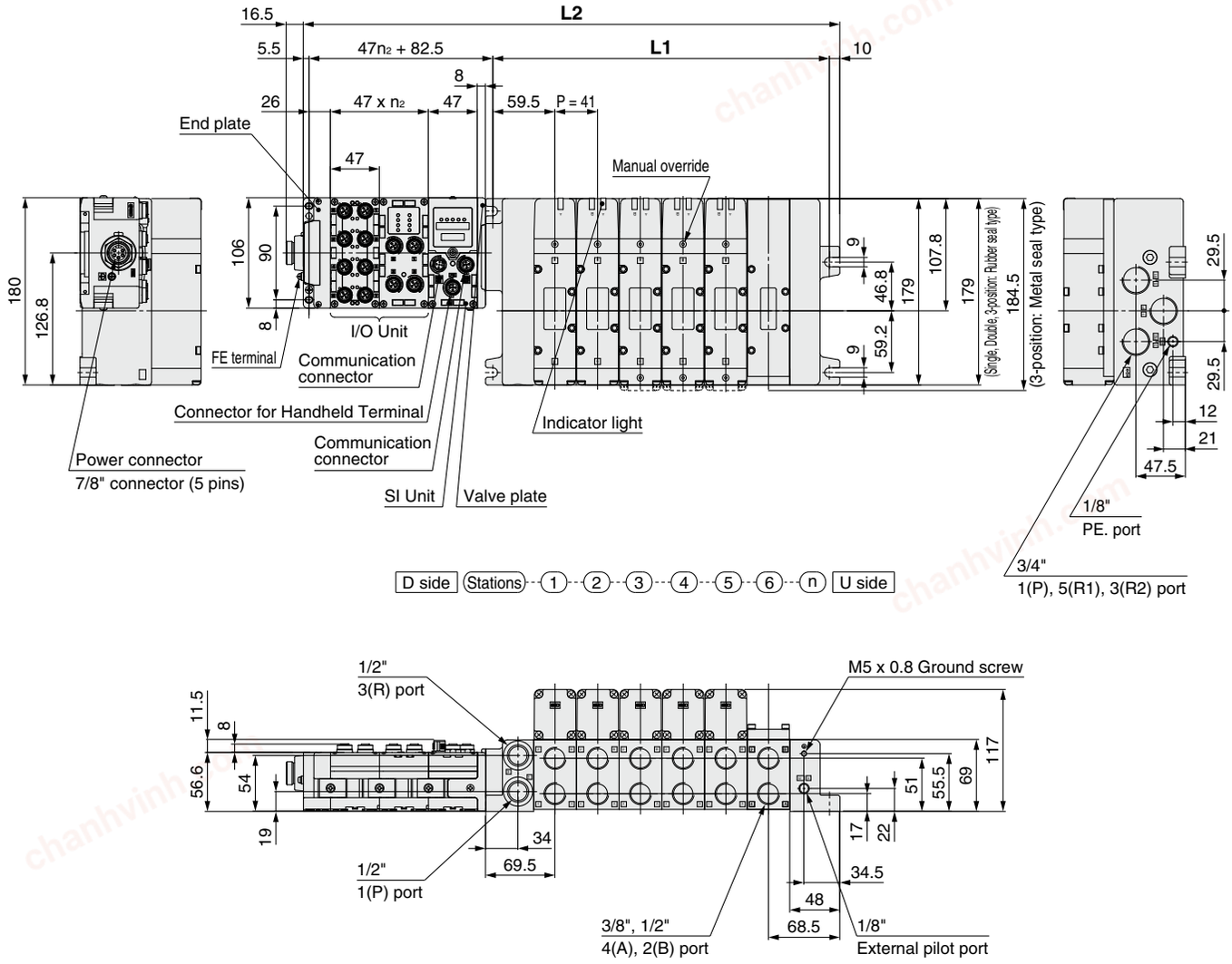
| L \ n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **L1** | 118 | 159 | 200 | 241 | 282 | 323 | 364 | 405 | 446 | 487 | 528 | 569 |
| **L2** | 216 | 257 | 298 | 339 | 380 | 421 | 462 | 503 | 544 | 585 | 626 | 667 |

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## Dimensions

### Power supply with 7/8 inch connector







Formula:
L1 = 41n + 77
L2 = 41n + 175
∗ L2 dimension: Without I/O unit For additional I/O unit, add 47 mm.
∗ $n_2$: I/O unit stations

**Dimensions**

n: Stations (Maximum 12 stations)

| L \ n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **L1** | 118 | 159 | 200 | 241 | 282 | 323 | 364 | 405 | 446 | 487 | 528 | 569 |
| **L2** | 216 | 257 | 298 | 339 | 380 | 421 | 462 | 503 | 544 | 585 | 626 | 667 |

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# Series EX600
# Specific Product Precautions 1

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

## Design/ Selection

### ⚠Warning

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

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

Otherwise, this may cause possible injuries due to malfunction.

### ⚠Caution

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

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

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

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

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

**6. Beware of inrush current when the power supply is turned on.**
Some connected loads can apply an initial charge current which will trigger the over current protection function, causing the Unit to malfunction.

## Mounting

### ⚠Caution

**1. When handling and assembling Units:**
- **Do not touch the sharp metal parts of the connector or plug.**
- **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. Do not drop, bump, or apply excessive impact.**
Otherwise, this can cause damage, equipment failure or malfunction.

## Mounting

### ⚠Caution

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

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

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

## Wiring

### ⚠Caution

**1. Provide the grounding to maintain the safety of the reduced wiring system and to improve the noise immunity.**
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 input/output device.

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

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

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# Series EX600
# Specific Product Precautions 2

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

## Wiring

### ⚠Caution

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

Noise in signal lines may cause a malfunction.

**8. When connecting wires of input/output device or Handheld Terminal, prevent water, solvent or oil from entering inside from the connecter section.**

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

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

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

## Operating Environment

### ⚠Warning

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

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

### ⚠Caution

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

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

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

2) Suitable mounting of each Unit and manifold valve.

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

If using in an environment that is exposed to water splashes, please take measures such as using a cover.
When the enclosure is IP40, do not use in an operating environment or atmosphere where it may come in contact with corrosive gas, chemical agents, seawater, water, or water vapor. When connected to the EX600-D□□E or EX600-D□□F, manifold enclosure is IP40.
Also, the Handheld Terminal conforms to IP20, so prevent foreign matter from entering inside, and water, solvent or oil from coming in direct contact with it.

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

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

1) Where noise is generated by static electricity etc.

2) Where there is a strong electric field

3) Where there is a danger of exposure to radiation

4) When in close proximity to power supply lines

## Operating Environment

### ⚠Caution

**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. Use the product type that has an integrated surge absorption element when directly driving a load which generates surge voltage by relay, solenoid valves or lamp.**

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

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

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

This may cause equipment failure or malfunction.

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

This may cause equipment failure or malfunction.

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

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

**11. Do not use in direct sunlight.**

This may cause equipment failure or malfunction.

**12. Observe the ambient temperature range.**

This may cause a malfunction.

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

Such places are likely to cause a malfunction.

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# Series EX600
# Specific Product Precautions 3

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

## Adjustment/ Operation

### ⚠Warning

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

**<Handheld Terminal>**

**2. Do not apply pressure to the LCD.**
There is a possibility of the crack of LCD and injuring.

**3. The forced input/output function is used to change the signal status forcibly. When operating this function, be sure to check the safety of the surroundings and installation.**
This may cause, injuries or equipment damage.

**4. Incorrect setting of parameters can cause a malfunction. Be sure to check the settings before use.**
This may cause injuries or equipment damage.

### ⚠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.

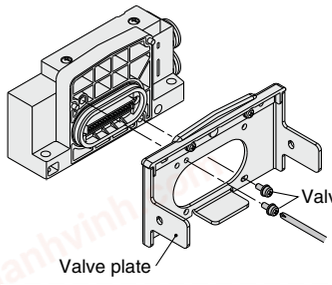
**3. For details on programming and address setting, refer to the manual from the PLC manufacturer.**
The content of programming related to protocol is designed by the manufacturer of the PLC used.

**<Handheld Terminal>**

**4. Do not press the setting buttons with a sharp pointed object.**
This may cause damage or equipment failure.

**5. Do not apply excessive load and impact to the setting buttons.**
This may cause damage, equipment failure or malfunction.

When the order does not include the SI Unit, a valve plate which connects the manifold and SI Unit, is not mounted. Use attached valve holding screws and mount the valve plate.
(Tightening torque: 0.6 to 0.7 N·m)




Screw tightened parts
Series SV: 2 places
Series S0700: 2 places
Series VQC1000: 2 places
Series VQC2000: 3 places
Series VQC4000: 4 places
Series SY: 2 places

## Maintenance

### ⚠Warning

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

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

### ⚠Caution

**1. When handling and replacing Units:**
- **Do not touch the sharp metal parts of the connector or plug.**
- **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 benzine 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.

## Other

### ⚠Caution

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

■ **Trademark**
DeviceNet™ is a trademark of ODVA.
EtherNet/IP™ is a trademark of ODVA.
EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.
QuickConnect™ is a trademark of ODVA.

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# ⚠ Safety Instructions

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

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

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

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

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

## ⚠ Warning

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

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

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

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

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

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

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

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

## ⚠ Caution

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

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

## Limited warranty and Disclaimer/ Compliance Requirements

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

### Limited warranty and Disclaimer

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

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

### Compliance Requirements

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

## ⚠ Caution

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

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

**Revision history**

Edition B
- * EtherNet/IP™ communication protocol added.
- * Analog Output Unit and Input/Output Unit added.
- * D-sub connector and Spring type terminal block added.
- * Applicable solenoid valve SY3000/5000 series added.
- * Number of pages decreased from 64 to 60. OW

Edition C
- * EtherCAT® communication protocol added. PX

Edition D
- * PROFINET communication protocol added. RS

Edition E
- * Dual port EtherNet/IP™ product added.
- * Applicable solenoid valve SY7000 series added. TS