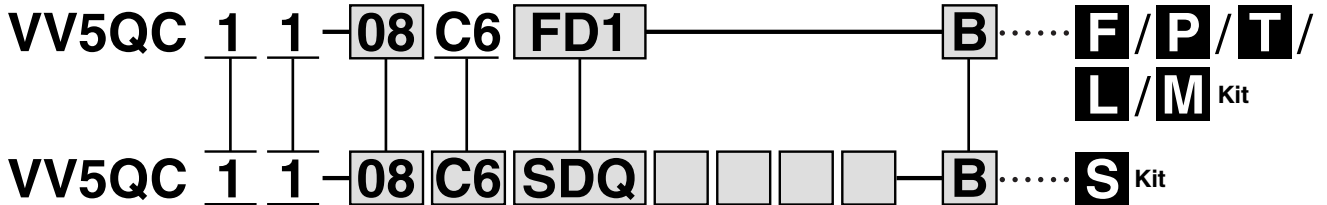


Series VQC1000

Base Mounted Plug-in Unit

How to Order Manifold



Series

1	VQC1000
---	---------

Manifold model

1	Plug-in unit
---	--------------

Stations

01	1 station
⋮	⋮

The maximum number of stations differs depending on the electrical entry.

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	Elbow port, mixed sizes

Note 1) Indicate the size in the specification sheet in the case of "CM" and "LM".

Note 2) Symbols for inch sizes areas follows:
<For One-touch fittings>

- N1: ø1/8"
- N3: ø5/32"
- N7: ø1/4"
- NM: Mixed

The top ported elbow is LN□ and the bottom ported elbow is BN□.

Kit designation/Electrical entry/Cable length
 (Refer to page 2-2-12 for detailed information on kits.)

Option

Nil	None
B	All stations with back pressure check valve ^{Note 1)}
D	With DIN rail (Rail length: Standard)
D□	With DIN rail (Rail length: Special) ^{Note 2)}
K	Special wiring specifications ^{Note 3)} (Except double wiring)
N	With name plate
R	External pilot ^{Note 4)}
S	Direct exhaust with built-in silencer ^{Note 5)}

* When specifying more than one option, enter symbols in alphabetical order.
 Example: -BRS

Note 1) When using the back pressure check valve for the necessary stations only, enter the back pressure check valve part no. and indicate the number of manifold stations on the specification sheet.

Note 2) For special DIN rail length, indicate "D□". (Enter the number of stations inside □.)

Example: -D08
 In this case, stations will be mounted on a DIN rail for 8 stations regardless of the actual number of manifold stations.

The specified number of stations must be larger than the number of stations on the manifold.

Indicate "-D0" for the option without DIN rail.

Note 3) Be sure to indicate the wiring specifications on the specification sheet.

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

Note 5) The built-in silencer type does not satisfy the IP67 standard.

Input block COM.
 (Fill out for I/O unit only)

Nil	PNP (+) or without SI unit/input block
N	NPN (-)

Input block type
 (Fill out for I/O unit only)

Nil	Without input block
1	M12, 2 inputs
2	M12, 4 inputs
3	M8, 4 inputs (3 pins)

Number of input blocks
 (Fill out for I/O unit only)

Nil	Without SI unit/input block
0	Without input block
1	With 1 input block
⋮	⋮
8	With 8 input blocks

SI unit COM

SI unit COM	EX250					EX500				EX126
	DeviceNet	PROFIBUS-DP	CC-LINK	AS-i	CANopen	DeviceNet	PROFIBUS-DP	CC-LINK	Remote I/O	CC-LINK
Nil +COM	—	—	○	—	—	○	○	○	○	○
N -COM	○	○	—	○	○	○	○	○	○	—

Note) Leave the box blank for the SI unit COM without SI unit (SD0).

- VQC
- SQ
- VQ0
- VQ4
- VQ5
- VQZ
- VQD

How to Order Valves

VQC 1 1 0 0 [] [] [] **5** [] [] []

Series
1 VQC1000

Type of actuation

1	2 position single (A)(B) 4 2 5 1 3 (R1)(P)(R2)	A Note)	4 position dual 3 port valve (A) (A) (B) 4 2 5 1 3 (R1) 1 (R2) N.C (P) N.C
2	2 position double (metal) (A)(B) 4 2 5 1 3 (R1)(P)(R2)	B Note)	4 position dual 3 port valve (B) (A) (B) 4 2 5 1 3 (R1) 1 (R2) N.O (P) N.O
	2 position double (rubber) (A)(B) 4 2 5 1 3 (R1)(P)(R2)		C Note)
3	3 position closed center (A)(B) 4 2 5 1 3 (R1)(P)(R2)	Note) For rubber seal type only.	
	3 position exhaust center (A)(B) 4 2 5 1 3 (R1)(P)(R2)		
	3 position pressure center (A)(B) 4 2 5 1 3 (R1)(P)(R2)		

Seal type

0	Metal seal
1	Rubber seal

Light/Surge voltage suppressor

Nil	With
E	Without Note)

Note) Not applicable to S kit.

Coil voltage

5	24 VDC Note)
6	12 VDC

Note) S kit is only available for 24 VDC.

Function

Nil	Standard type (1 W)
K ^{Note 1)}	High pressure type (1.0 MPa)
N	Negative COM
R ^{Note 2)}	External pilot
Y	Low wattage type (0.5 W)

* When specifying more than one option, enter symbols in alphabetical order.
Note 1) For metal seal type only.
Note 2) Not applicable for dual 3 port valve.

Manual override

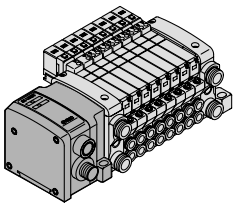
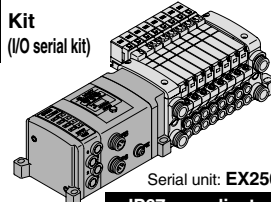
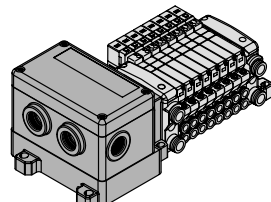
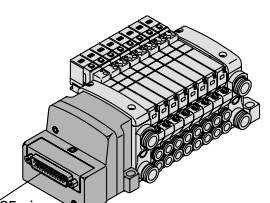
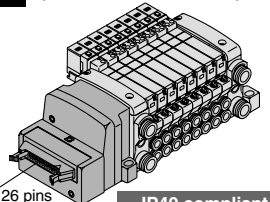
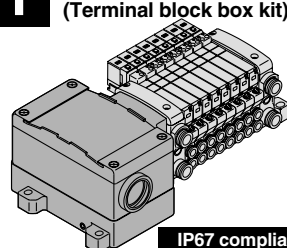
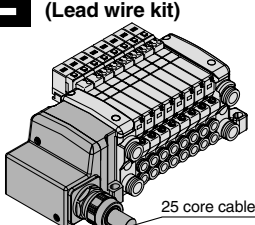
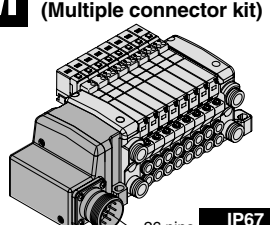
Nil: Non-locking push type (Slotted)

B: Locking type (Slotted)

C: Locking type (Manual)

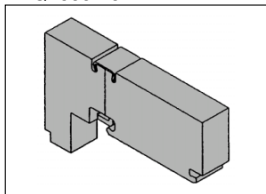
D: Slide locking type (Manual)

Kit Designation/Electrical Entry/Cable Length

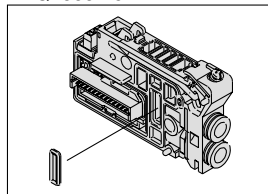
<p>S Kit (Decentralized wiring type serial kit)</p>  <p>Serial unit: EX500 IP67 compliant</p> <p>Note) A separate gateway unit and communication cable are required.</p> <table border="1"> <tr> <td>SD0 Serial kit without SI unit</td> <td></td> </tr> <tr> <td>SDA1 Serial kit for Remote I/O</td> <td>1 to 8 stations (16 stations)</td> </tr> <tr> <td>SDA2 Serial kit for DeviceNet/PROFIBUS-DP/CC-LINK</td> <td></td> </tr> </table>	SD0 Serial kit without SI unit		SDA1 Serial kit for Remote I/O	1 to 8 stations (16 stations)	SDA2 Serial kit for DeviceNet/PROFIBUS-DP/CC-LINK		<p>S Kit (I/O serial kit)</p>  <p>Serial unit: EX250 IP67 compliant</p> <table border="1"> <tr> <td>SD0 Serial kit without SI unit</td> <td></td> </tr> <tr> <td>SDY Serial kit for CANopen</td> <td></td> </tr> <tr> <td>SDQ Serial kit for DeviceNet</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>SDN Serial kit for PROFIBUS-DP</td> <td></td> </tr> <tr> <td>SDV Serial kit for CC-LINK</td> <td></td> </tr> <tr> <td>SDTA AS-; 8 in/out, 31 slave modes, 2 power supply systems</td> <td>1 to 4 stations (8 stations)</td> </tr> <tr> <td>SDTB AS-; 4 in/out, 31 slave modes, 2 power supply systems</td> <td>1 to 2 stations (4 stations)</td> </tr> <tr> <td>SDTC AS-; 8 in/out, 31 slave modes, 1 power supply systems</td> <td>1 to 4 stations (8 stations)</td> </tr> <tr> <td>SDTD AS-; 4 in/out, 31 slave modes, 1 power supply systems</td> <td>1 to 2 stations (4 stations)</td> </tr> </table>	SD0 Serial kit without SI unit		SDY Serial kit for CANopen		SDQ Serial kit for DeviceNet	1 to 12 stations (24 stations)	SDN Serial kit for PROFIBUS-DP		SDV Serial kit for CC-LINK		SDTA AS-; 8 in/out, 31 slave modes, 2 power supply systems	1 to 4 stations (8 stations)	SDTB AS-; 4 in/out, 31 slave modes, 2 power supply systems	1 to 2 stations (4 stations)	SDTC AS-; 8 in/out, 31 slave modes, 1 power supply systems	1 to 4 stations (8 stations)	SDTD AS-; 4 in/out, 31 slave modes, 1 power supply systems	1 to 2 stations (4 stations)	<p>S Kit (Serial output kit)</p>  <p>Serial unit: EX126 IP67 compliant</p> <table border="1"> <tr> <td>SDVB Serial kit for CC-LINK</td> <td>1 to 8 stations (16 stations)</td> </tr> </table>	SDVB Serial kit for CC-LINK	1 to 8 stations (16 stations)	<p>F Kit (D-sub connector kit)</p>  <p>25 pins</p> <p>IP40 compliant</p> <table border="1"> <tr> <td>FD0 D-sub connector kit (25P) without cable</td> <td></td> </tr> <tr> <td>FD1 D-sub connector kit (25P) with 1.5 m cable</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>FD2 D-sub connector kit (25P) with 3.0 m cable</td> <td></td> </tr> <tr> <td>FD3 D-sub connector kit (25P) with 5.0 m cable</td> <td></td> </tr> </table>	FD0 D-sub connector kit (25P) without cable		FD1 D-sub connector kit (25P) with 1.5 m cable	1 to 12 stations (24 stations)	FD2 D-sub connector kit (25P) with 3.0 m cable		FD3 D-sub connector kit (25P) with 5.0 m cable	
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<p>P Kit (Flat ribbon cable kit)</p>  <p>26 pins 20 pins</p> <p>IP40 compliant</p> <p>Note) For a 20P flat ribbon cable, the cable assembly must be ordered separately.</p> <table border="1"> <tr> <td>PD0 Flat ribbon cable kit (26P) without cable</td> <td></td> </tr> <tr> <td>PD1 Flat ribbon cable kit (26P) with 1.5 m cable</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>PD2 Flat ribbon cable kit (26P) with 3.0 m cable</td> <td></td> </tr> <tr> <td>PD3 Flat ribbon cable kit (26P) with 5.0 m cable</td> <td></td> </tr> <tr> <td>PDC Flat ribbon cable kit (20P) without cable</td> <td>1 to 9 stations (18 stations)</td> </tr> </table>	PD0 Flat ribbon cable kit (26P) without cable		PD1 Flat ribbon cable kit (26P) with 1.5 m cable	1 to 12 stations (24 stations)	PD2 Flat ribbon cable kit (26P) with 3.0 m cable		PD3 Flat ribbon cable kit (26P) with 5.0 m cable		PDC Flat ribbon cable kit (20P) without cable	1 to 9 stations (18 stations)	<p>T Kit (Terminal block box kit)</p>  <p>IP67 compliant</p> <table border="1"> <tr> <td>TD0 Terminal block box kit</td> <td>1 to 10 stations (20 stations)</td> </tr> </table>	TD0 Terminal block box kit	1 to 10 stations (20 stations)	<p>L Kit (Lead wire kit)</p>  <p>25 core cable</p> <p>IP67 compliant</p> <table border="1"> <tr> <td>LD0 Lead wire kit (25 core) 0.6 m lead wire</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>LD1 Lead wire kit (25 core) 1.5 m lead wire</td> <td></td> </tr> <tr> <td>LD2 Lead wire kit (25 core) 3.0 m lead wire</td> <td></td> </tr> </table>	LD0 Lead wire kit (25 core) 0.6 m lead wire	1 to 12 stations (24 stations)	LD1 Lead wire kit (25 core) 1.5 m lead wire		LD2 Lead wire kit (25 core) 3.0 m lead wire		<p>M Kit (Multiple connector kit)</p>  <p>26 pins</p> <p>IP67 compliant</p> <table border="1"> <tr> <td>MD0 Multiple connector kit (26P) without cable</td> <td></td> </tr> <tr> <td>MD1 Multiple connector kit (26P) with 1.5 m cable</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>MD2 Multiple connector kit (26P) with 3.0 m cable</td> <td></td> </tr> <tr> <td>MD3 Multiple connector kit (26P) with 5.0 m cable</td> <td></td> </tr> </table>	MD0 Multiple connector kit (26P) without cable		MD1 Multiple connector kit (26P) with 1.5 m cable	1 to 12 stations (24 stations)	MD2 Multiple connector kit (26P) with 3.0 m cable		MD3 Multiple connector kit (26P) with 5.0 m cable									
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Manifold Option

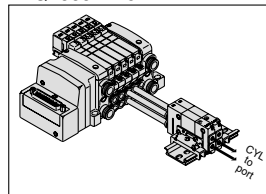
Blanking plate assembly
VVQ1000-10A-1



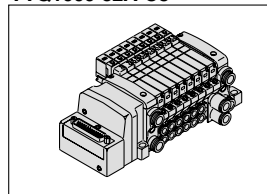
SUP block plate
VVQ1000-16A



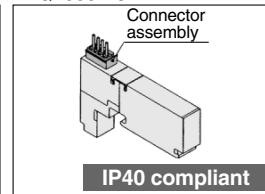
Perfect block
VVQ1000-FPG-□□



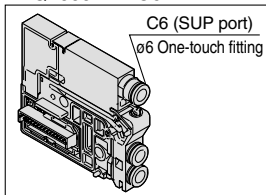
Dual flow fitting assembly
VVQ1000-52A-C8



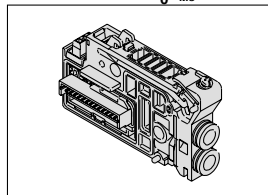
Blanking plate with connector
VVQ1000-1C□□-□



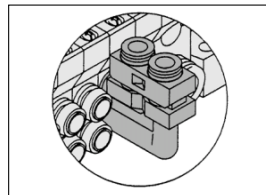
Individual SUP spacer
VVQ1000-P-1-C6



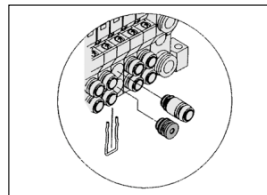
EXH block plate assembly
VVQC1000-19A-S-□□□□□□□□



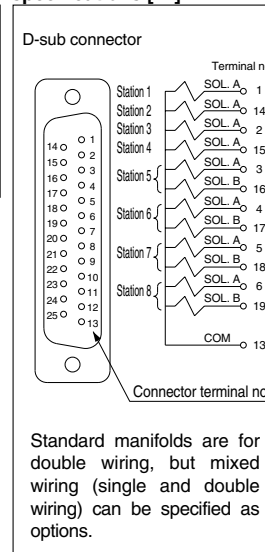
Elbow fitting assembly
VVQ1000-F-L□



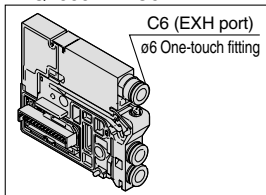
Port plug
VVQ0000-58A



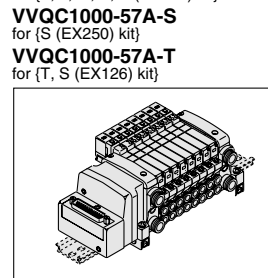
Electrical wiring specifications [-K]



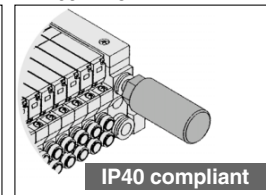
Individual EXH spacer
VVQ1000-R-1-C6



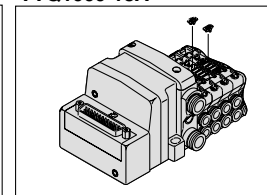
DIN rail mounting bracket [-D]
VVQ1000-57A
for (F, L, M, P, S (EX500) kit)



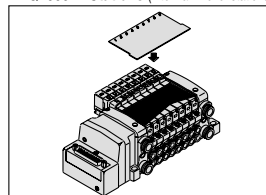
Silencer (For EXH port)
AN200-KM8
AN203-KM8



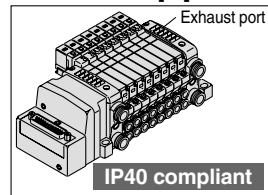
Back pressure check valve assembly [-B]
VVQ1000-18A



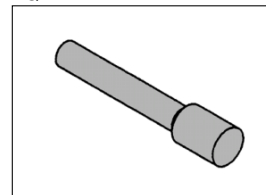
Name plate [-N]
VVQ1000-N-Stations (1 to max. no. of stations)



Direct EXH outlet with built-in silencer [-S]



Blanking plug
KQ2P-□



VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

Standard Specifications

Valve Configuration		Metal seal		Rubber seal		
		Air/Inert gas				
Valve specifications	VQC1000/2000	Max. operating pressure		0.7 MPa (High pressure type: 1.0 MPa) ^{Note 4)}		
		Min. operating pressure	Single	0.1 MPa	0.15 MPa	
			Double	0.1 MPa		
			3 position	0.1 MPa	0.2 MPa	
			4 position	—	0.15 MPa	
	VQC4000	Max. operating pressure ^{Note 3)}		1.0 MPa (0.7 MPa)		
		Min. operating pressure	Single	0.15 MPa	0.2 MPa	
			Double	0.15 MPa		
	3 position	0.15 MPa	0.2 MPa			
	Proof pressure		1.5 MPa			
Ambient and fluid temperature		-10 to 50°C ^{Note 1)}				
Lubrication		Not required				
Manual override		Push type/Locking type (tool required)/Locking type (Manual override) ^{Note 5)} /Slide locking type ^{Note 5)}				
Impact resistance/Vibration resistance		150/30 m/s ² ^{Note 2)}				
Enclosure		Dust proof (IP67 compliant)				
Electrical specifications	Rated coil voltage		24 VDC			
	Allowable voltage fluctuation		±10% of rated voltage			
	Coil insulation type		Equivalent to B type			
	Power consumption (Current)	24 VDC	1 W DC (42 mA), 0.5 W DC (21 mA)			
		12 VDC	1 W DC (83 mA), 0.5 W DC (42 mA)			

- VQC
- SQ
- VQ0
- VQ4
- VQ5
- VQZ
- VQD

Note 1) Use dry air to prevent condensation at low temperatures.
 Note 2) **Impact resistance:** No malfunction resulted from the impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature, for both energized and de-energized states.
Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000Hz. Test was performed in the axial and right angle directions of the main valve and armature for both energized and de-energized states.
 Note 3) Values in () are for the low wattage (0.5 W) specification.
 Note 4) Metal seal type only.
 Note 5) Only for VQC1000/2000.



Manifold Specifications

Series	Base model	Connection type	Piping specifications		Applicable stations ^{Note 2)}	Applicable solenoid valves	5 station weight (g)
			Port direction	Port size ^{Note 1)}			
VQC1000	VV5QC11-□□□	<ul style="list-style-type: none"> ■ F Kit: D-sub connector ■ P Kit: Flat cable ■ T Kit: Terminal block box ■ S Kit: Serial transmission ■ L Kit: Lead wire ■ M Kit: Multiple connector 	Side	C8 (For ø8) Options Direct outlet with built-in silencer C3 (For ø3.2) C4 (For ø4) C6 (For ø6) M5 (M5 threads)	(F, L, M and P kits) 1 to 12 stations T kit 1 to 10 stations S kit 1 to 8 stations: EX500 1 to 12 stations: EX250 1 to 8 stations: EX126	VQC1□00-5 VQC1□01-5	628 (Single) 759 (Double, 3P)
VQC2000	VV5QC21-□□□		Side	C10 (For ø10) Options Direct outlet with built-in silencer Branch type C12 (for ø12) C4 (For ø4) C6 (For ø6) C8 (For ø8)	1 to 8 stations: EX500 1 to 12 stations: EX250 1 to 8 stations: EX126	VQC2□00-5 VQC2□01-5	1051 (Single) 1144 (Double, 3P)
VQC4000	VV5QC41-□□□		Side Bottom	C8 (For ø8) C10 (For ø10) C12 (For ø12) Rc 1/4 Rc 3/8 Rc 1/4	(F, L, M and P kits) 1 to 12 stations T kit 1 to 10 stations S kit 1 to 12 stations: EX240, EX250 1 to 8 stations: EX500 1 to 8 stations: EX126	VQC4□00-5 VQC4□01-5	4150 • S kit (without unit) • Solenoid weight is not included.

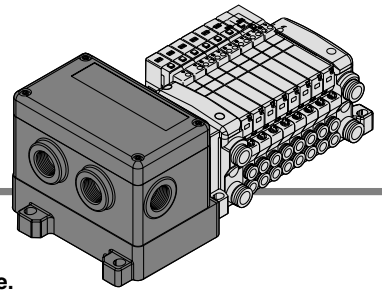
Note 1) One-touch fittings in inch sizes are also available.
 Note 2) An optional specification for special wiring is available to increase the maximum number of stations.





VQC1000/2000/4000

Kit (Serial transmission kit) for I/O IP67 compliant



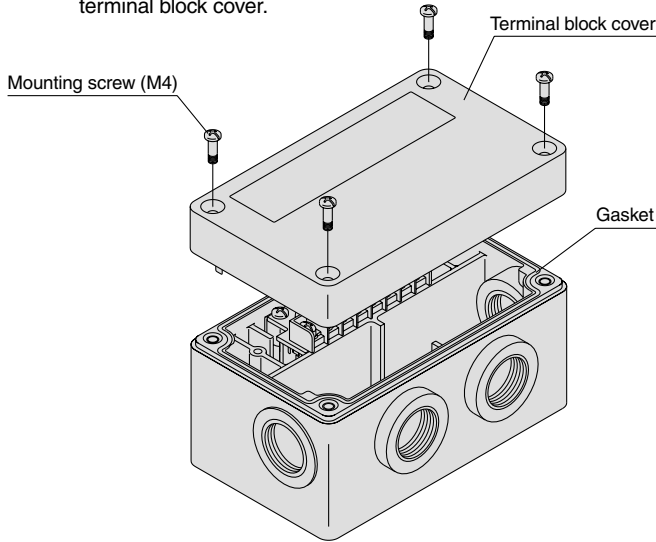
Compatible network **CC-Link**

- The serial transmission system greatly reduces connection work, minimizes wiring, and saves space.

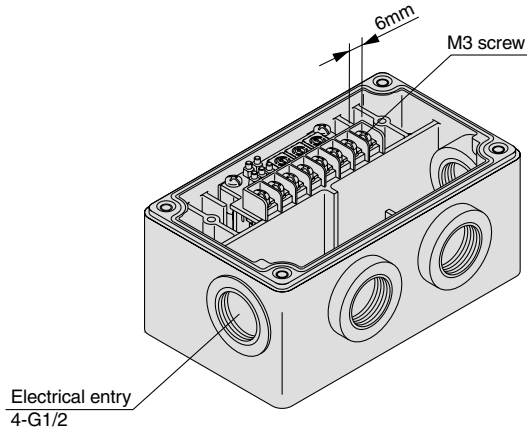
Terminal Block Connection

Step 1. How to remove terminal block cover

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



Step 2. Wire the cables according to the terminal block specifications below. Pay attention to the wire bound positions.



Step 3. How to replace the terminal block cover

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

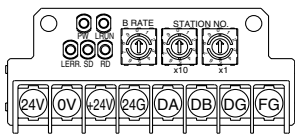
Proper tightening torque (N·m)
0.7 to 1.2

- Applicable crimp terminal (fork tongue type): 1.25-3S, 1.25Y-3, 1.25Y-3N, 1.25Y-3.5

* For detailed specifications and handling, refer to the operation manual provided by SMC.

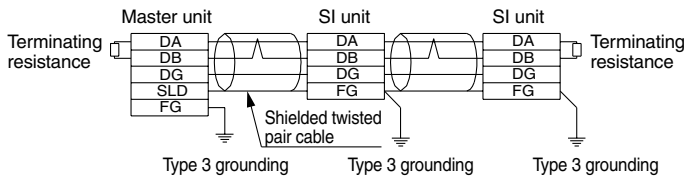
Terminal Block Details

• Terminal block LED descriptions



Description	Function
PW	ON when transmission power supply is ON. OFF when transmission power supply is OFF.
L RUN	ON when normal data is received.
SD	ON when data is sent.
RD	ON when data is received.
L ERR.	ON for transmission error and incorrect settings. BLINKING for change in station or transmission speed settings.

• Cable wiring

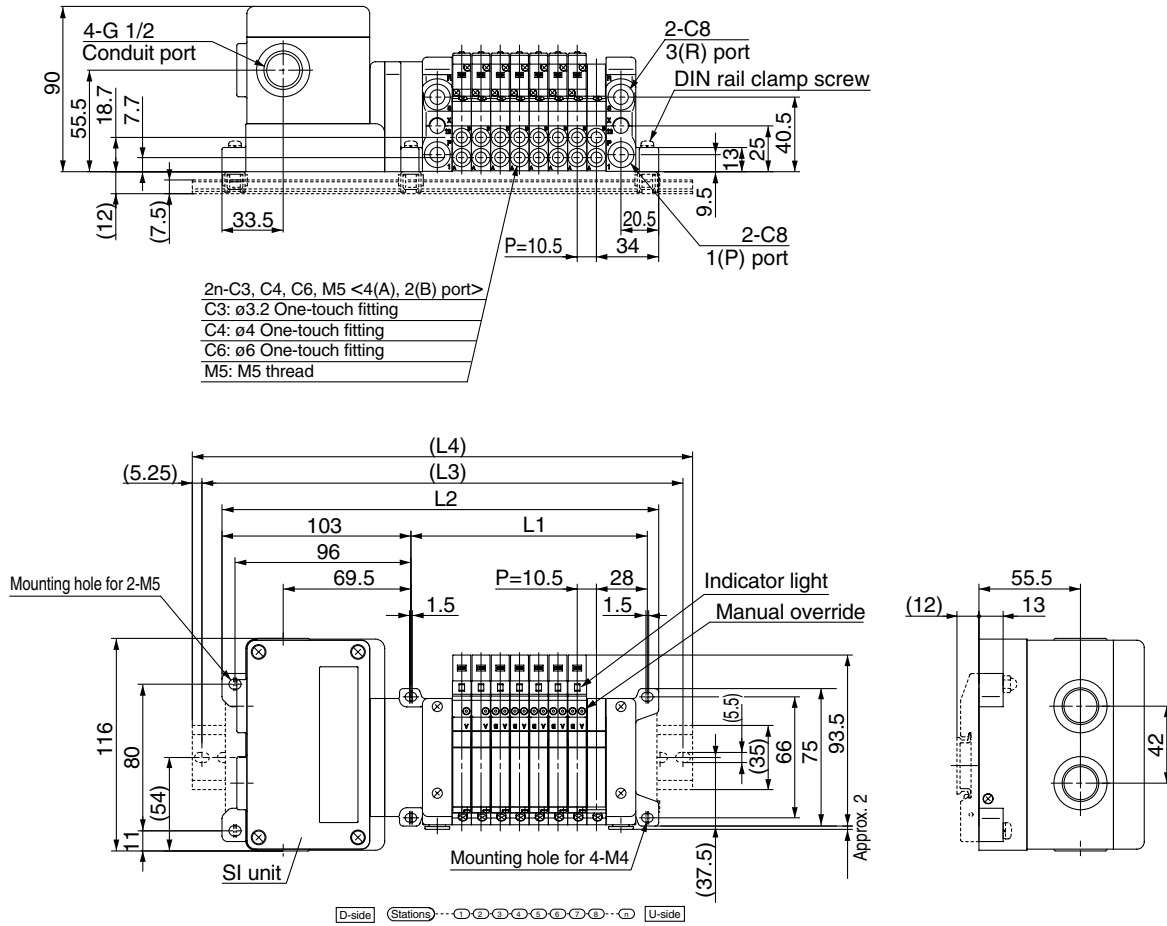


• Note

- CC-LINK System
 - Master unit: AJ61BT11
 - Master unit: A1SJ61BT11
 - Master unit: AJ61QBT11
 - Master unit: A1SJ61QBT11

- 16 outputs

VV5QC11
S Kit (Serial transmission kit: EX126)



- VQC
- SQ
- VQ0
- VQ4
- VQ5
- VQZ
- VQD

Formulas
 $L1 = 10.5n + 45$ (Maximum 16 single wiring stations)
 $L2 = 10.5n + 154.5$

n: Stations

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213
L2	165	175.5	186	196.5	207	217.5	228	238.5	249	259.5	270	280.5	291	301.5	312	322.5
L3	187.5	200	212.5	212.5	225	237.5	250	262.5	275	275	287.5	300	312.5	325	337.5	337.5
L4	198	210.5	223	223	235.5	248	260.5	273	285.5	285.5	298	310.5	323	335.5	348	348

* With signal cut block, L4 is obtained by adding approximately 30 mm to L2.