Series VQC2000
Base Mounted
Plug-in Unit

How to Order Manifold

VV5QC 2 1 — 08 C6 FD1 — B ····· F / P / T
L / M Kit

VV5QC 2 1 — 08 C6 SDQ □ □ □ □ — B ····· S Kit

Series

2	VQC2000

Manifold model

1	Plug-in unit

Stations

01	1 station
⋮	⋮

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

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	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 are as follows:
<For One-touch fittings>
N3: ø5/32"
N7: ø1/4"
N9: ø5/16"
NM: Mixed
The top ported elbow is LN□ and the bottom ported elbow is BN□.

Kit designation/Electrical entry/Cable length
(Refer to page 2-2-16 for detailed information on kits.)

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).

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

Nil	Without SI unit/input block (SD0)
0	Without input block
1	With 1 input block
⋮	⋮
8	With 8 input blocks

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)

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

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

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)
T	Branched P and R ports on U side Note 6)

* 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.
Note 6) The SUP and EXH ports on U side are branched (toward the cylinder port and coil) with ø12 one-touch fittings for connection.

How to Order Valves

VQC 2 1 0 0 — 5

Series

2	VQC2000

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) 4 (B) 2 / 5 (R1) N.C 1 (P) 3 (R2) 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) 4 (B) 2 / 5 (R1) N.O 1 (P) 3 (R2) N.O
2	2 position double (rubber) (A)(B) 4 2 / 5 1 3 (R1)(P)(R2)	C Note)	4 position dual 3 port valve (C) (A) 4 (B) 2 / 5 (R1) N.C 1 (P) 3 (R2) N.O
3	3 position closed center (A)(B) 4 2 / 5 1 3 (R1)(P)(R2)		
4	3 position exhaust center (A)(B) 4 2 / 5 1 3 (R1)(P)(R2)		
5	3 position pressure center (A)(B) 4 2 / 5 1 3 (R1)(P)(R2)		

Note) For rubber seal type only.

Seal type

0	Metal seal
1	Rubber seal

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.

Coil voltage

5	24 VDC Note)
6	12 VDC

Note) S kit is only available for 24 VDC.

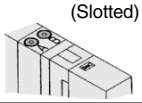
Light/Surge voltage suppressor

Nil	With
E	Without Note)

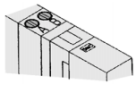
Note) Not applicable to S kit.

Manual override

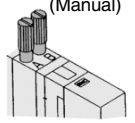
Nil: Non-locking push type (Slotted)



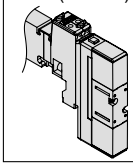
B: Locking type (Slotted)



C: Locking type (Manual)

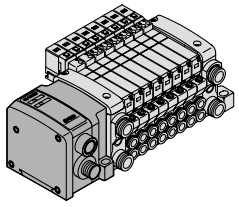


D: Slide locking type (Manual)



Kit Designation/Electrical Entry/Cable Length

S Kit (Decentralized wiring type serial kit)

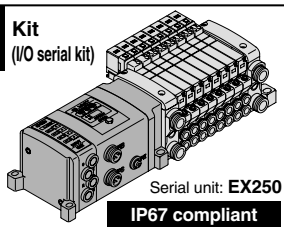


Serial unit: **EX500** **IP67 compliant**

Note) A separate gateway unit and communication cable are required.

SD0	Serial kit without SI unit	1 to 8 stations (16 stations)
SDA1	Serial kit for Remote I/O	
SDA2	Serial kit for DeviceNet/PROFIBUS-DP/CC-LINK	

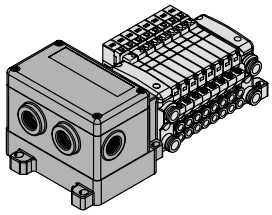
S Kit (I/O serial kit)



Serial unit: **EX250** **IP67 compliant**

SD0	Serial kit without SI unit	1 to 12 stations (24 stations)
SDY	Serial kit for CANopen	
SDQ	Serial kit for DeviceNet	
SDN	Serial kit for PROFIBUS-DP	
SDV	Serial kit for CC-LINK	
SDTA	AS-i, 8 in/out, 31 slave modes, 2 power supply systems	1 to 4 stations (8 stations)
SDTB	AS-i, 4 in/out, 31 slave modes, 2 power supply systems	1 to 2 stations (4 stations)
SDTC	AS-i, 8 in/out, 31 slave modes, 1 power supply systems	1 to 4 stations (8 stations)
SDTD	AS-i, 4 in/out, 31 slave modes, 1 power supply systems	1 to 2 stations (4 stations)

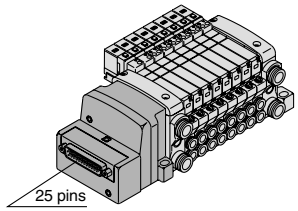
S Kit (Serial output kit)



Serial unit: **EX126** **IP67 compliant**

SDVB	Serial kit for CC-LINK	1 to 8 stations (16 stations)

F Kit (D-sub connector kit)

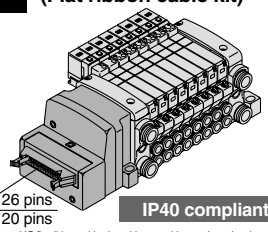


25 pins

IP40 compliant

FD0	D-sub connector kit (25P) without cable	1 to 12 stations (24 stations)
FD1	D-sub connector kit (25P) with 1.5 m cable	
FD2	D-sub connector kit (25P) with 3.0 m cable	
FD3	D-sub connector kit (25P) with 5.0 m cable	

P Kit (Flat ribbon cable kit)



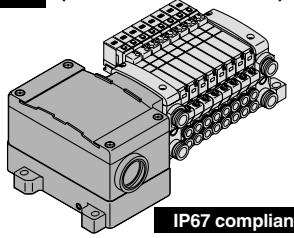
26 pins
20 pins

IP40 compliant

Note) For a 20P flat ribbon cable, the cable assembly must be ordered separately.

PD0	Flat ribbon cable kit (26P) without cable	1 to 12 stations (24 stations)
PD1	Flat ribbon cable kit (26P) with 1.5 m cable	
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)

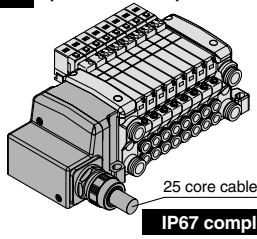
T Kit (Terminal block box kit)



IP67 compliant

TD0	Terminal block box kit	1 to 10 stations (20 stations)

L Kit (Lead wire kit)

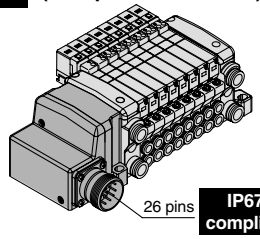


25 core cable

IP67 compliant

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	

M Kit (Multiple connector kit)



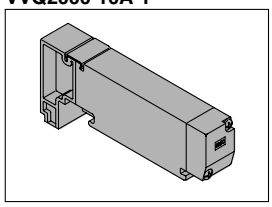
26 pins

IP67 compliant

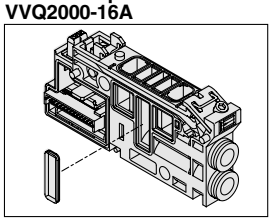
MD0	Multiple connector kit (26P) without cable	1 to 12 stations (24 stations)
MD1	Multiple connector kit (26P) with 1.5 m cable	
MD2	Multiple connector kit (26P) with 3.0 m cable	
MD3	Multiple connector kit (26P) with 5.0 m cable	

Manifold Option

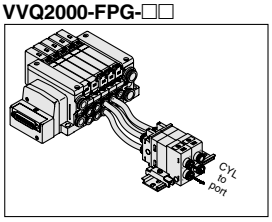
Blanking plate assembly
VVQ2000-10A-1



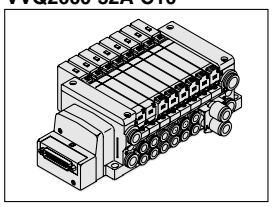
SUP block plate
VVQ2000-16A



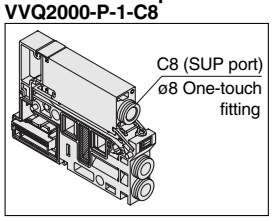
Perfect block
VVQ2000-FPG-□□



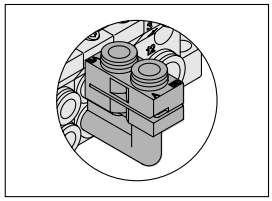
Dual flow fitting assembly
VVQ2000-52A-C10



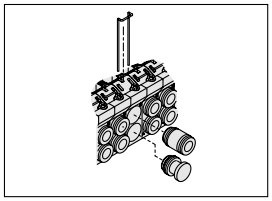
Individual SUP spacer
VVQ2000-P-1-C8



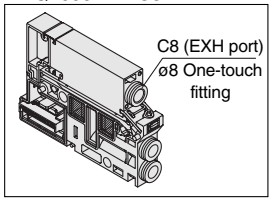
Elbow fitting assembly
VVQ2000-F-L□



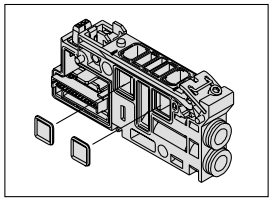
Port plug
VVQ1000-58A



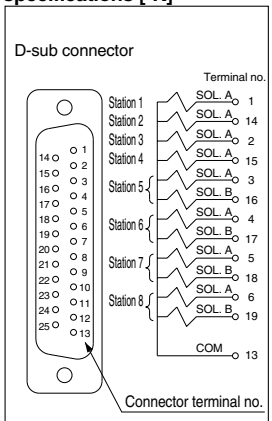
Individual EXH spacer
VVQ2000-R-1-C8



EXH block plate
VVQ2000-19A

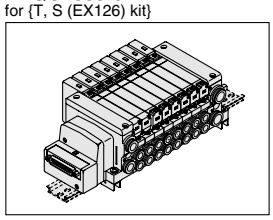


Electrical wiring specifications [-K]

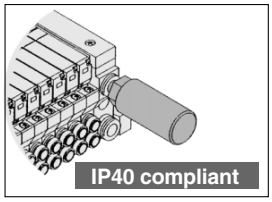


Standard manifolds are for double wiring, but mixed wiring (single and double wiring) can be specified as options.

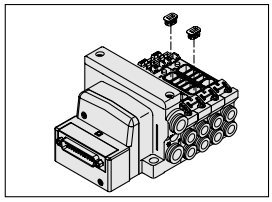
DIN rail mounting bracket [-D]
VVQC2000-57A
for {F, L, M, P, S (EX500) kit}
VVQC2000-57A-S
for {S (EX250) kit}
VVQC2000-57A-T
for {T, S (EX126) kit}



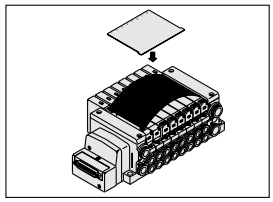
Silencer (for EXH port)
AN200-KM10



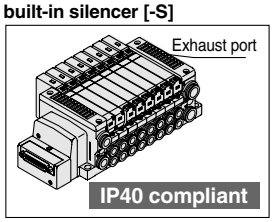
Back pressure check valve assembly [-B]
VVQ2000-18A



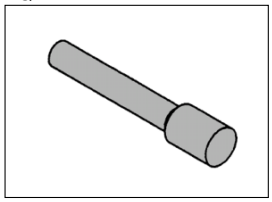
Name plate [-N]
VVQ2000-N-Stations
(1 to max. no. of stations)



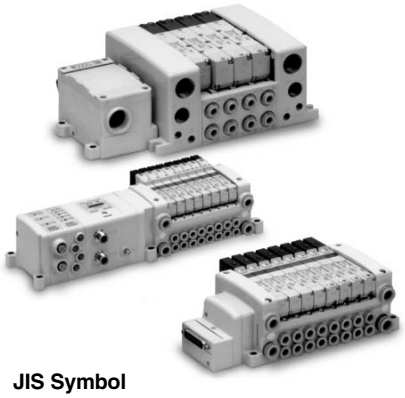
Direct EXH outlet with built-in silencer [-S]



Blanking plug
KQ2P-□

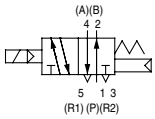


Series VQC
Base Mounted
Plug-in Unit

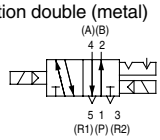


JIS Symbol

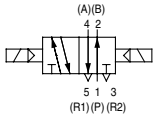
2 position single



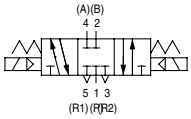
2 position double (metal)



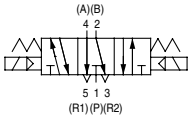
2 position double (rubber)



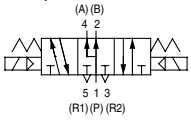
3 position closed center



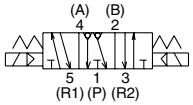
3 position exhaust center



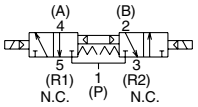
3 position pressure center



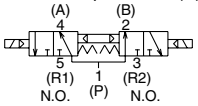
3 position exhaust center with pressure release valves



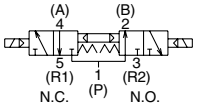
4 position dual 3 port valve (A)



4 position dual 3 port valve (B)



4 position dual 3 port valve (C)



Model

Series	No. of solenoids		Model		Flow characteristics: 1 → 4, 2 (P → A, B) C[dm³/(s•bar)]	b	Cv	Flow characteristics: 4, 2 → 5, 3 (A, B → R1, R2) C[dm³/(s•bar)]	b	Cv	Response time Note 2) (ms): Standard: 1 W	Response time Note 2) (ms): Low wattage	Weight (g)
VQC1000	2 position	Single	Metal seal	VQC1100	0.70	0.15	0.16	0.72	0.25	0.18	12 or less	15 or less	64
			Rubber seal	VQC1101	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less	
		Double	Metal seal	VQC1200	0.70	0.15	0.16	0.72	0.25	0.18	10 or less	13 or less	78
			Rubber seal	VQC1201	0.85	0.20	0.21	1.0	0.30	0.25	15 or less	20 or less	
	3 position	Closed center	Metal seal	VQC1300	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	
			Rubber seal	VQC1301	0.70	0.20	0.16	0.65	0.42	0.18	25 or less	33 or less	
		Exhaust center	Metal seal	VQC1400	0.68	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	
			Rubber seal	VQC1401	0.70	0.20	0.16	1.0	0.30	0.25	25 or less	33 or less	
		Pressure center	Metal seal	VQC1500	0.70	0.15	0.16	0.72	0.25	0.18	20 or less	26 or less	
			Rubber seal	VQC1501	0.85	0.20	0.21	0.65	0.42	0.18	25 or less	33 or less	
	4 position	Dual 3 port valve	Rubber seal	VQC1(A,B,C)01	0.70	0.20	0.16	0.70	0.20	0.16	25 or less	33 or less	
VQC2000	2 position	Single	Metal seal	VQC2100	2.0	0.15	0.46	2.6	0.15	0.60	22 or less	29 or less	90
			Rubber seal	VQC2101	2.2	0.28	0.55	3.2	0.30	0.80	24 or less	31 or less	
		Double	Metal seal	VQC2200	2.0	0.15	0.46	2.6	0.15	0.60	15 or less	20 or less	110
			Rubber seal	VQC2201	2.2	0.28	0.55	3.2	0.30	0.80	20 or less	26 or less	
	3 position	Closed center	Metal seal	VQC2300	2.0	0.15	0.46	2.0	0.18	0.46	29 or less	38 or less	
			Rubber seal	VQC2301	2.0	0.28	0.49	2.2	0.31	0.60	34 or less	44 or less	
		Exhaust center	Metal seal	VQC2400	2.0	0.15	0.46	2.6	0.15	0.60	29 or less	38 or less	
			Rubber seal	VQC2401	2.0	0.28	0.49	3.2	0.30	0.80	34 or less	44 or less	
		Pressure center	Metal seal	VQC2500	2.4	0.17	0.57	2.0	0.18	0.46	29 or less	38 or less	
			Rubber seal	VQC2501	3.2	0.28	0.80	2.2	0.31	0.60	34 or less	44 or less	
	4 position	Dual 3 port valve	Rubber seal	VQC2(A,B,C)01	1.8	0.28	0.46	1.8	0.28	0.46	34 or less	44 or less	
VQC4000	2 position	Single	Metal seal	VQC4100	6.2	0.19	1.5	6.9	0.17	1.7	20 or less	22 or less	230
			Rubber seal	VQC4101	7.2	0.43	2.1	7.3	0.38	2.0	25 or less	27 or less	
		Double	Metal seal	VQC4200	6.2	0.19	1.5	6.9	0.17	1.7	12 or less	12 or less	260
			Rubber seal	VQC4201	7.2	0.43	2.1	7.3	0.38	2.0	15 or less	15 or less	
	3 position	Closed center	Metal seal	VQC4300	5.9	0.23	1.5	6.3	0.18	1.6	45 or less	47 or less	
			Rubber seal	VQC4301	7.0	0.34	1.9	6.4	0.42	1.9	50 or less	52 or less	
		Exhaust center	Metal seal	VQC4400	6.2	0.18	1.5	6.9	0.17	1.7	45 or less	47 or less	280
			Rubber seal	VQC4401	7.0	0.38	1.9	7.3	0.38	2.0	50 or less	52 or less	
		Pressure center	Metal seal	VQC4500	6.2	0.18	1.9	6.4	0.18	1.6	45 or less	47 or less	
			Rubber seal	VQC4501	7.0	0.38	1.9	7.1	0.38	2.0	50 or less	52 or less	
		Perfect	Metal seal	VQC4600	2.7	—	—	3.7	—	—	55 or less	57 or less	500
			Rubber seal	VQC4601	2.8	—	—	3.9	—	—	62 or less	64 or less	

Note 1) Values represented in this column are in the following conditions:
VQC1000: Cylinder port size C6 without a back pressure check valve
VQC2000: Cylinder port size C8 without a back pressure check valve
VQC4000: Cylinder port size Rc 3/8

Note 2) Values represented in this column are based on JIS B 8375-1981 (operating with clean air and a supply pressure of 0.5 MPa. Equipped with light/surge voltage suppressor. Values vary depending on the pressure as well as the air quality.) Values for double types are when the switch is ON.

Standard Specifications

Valve specifications	Valve Configuration			Metal seal	Rubber seal
	Fluid			Air/Inert gas	
	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/s² 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)	

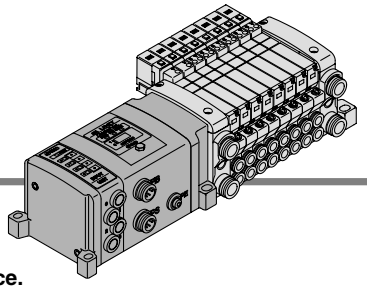
Note 1) Use dry air to prevent condensation at low temperatures.
Note 2) **Impact resistance:** No malfunction resulted from the impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature, for both energized and 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: Port direction	Piping specifications: Port size Note 1) 1, 3 (P, R)	Piping specifications: Port size Note 1) 2, 4 (A, B)	Applicable stations Note 2)	Applicable solenoid valves	5 station weight (g)
VQC1000	**VV5QC11-□□□**	■ 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	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)	(S kit) 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	P: Rc 1/2 R: Rc 3/4	C8 (For ø8) C10 (For ø10) C12 (For ø12) Rc 1/4 Rc 3/8	(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.
			Bottom		Rc 1/4			

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.

S VQC1000/2000/4000
Kit (Serial Transmission Kit) for I/O IP67 compliant



Compatible network **DeviceNet/PROFIBUS-DP/CC-Link**

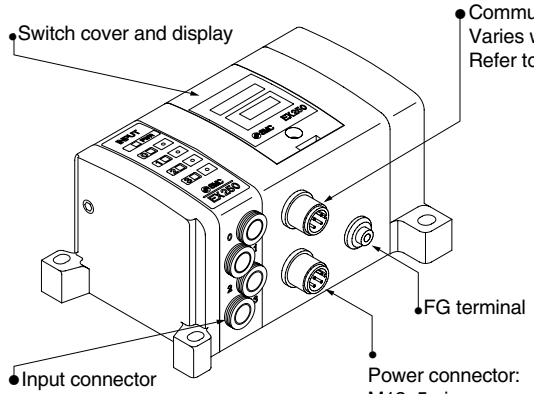
• The serial transmission system greatly reduces connection work, minimizes wiring, and saves space.

SI unit for DeviceNet/PROFIBUS-DP/CC-LINK
As a DeviceNet/PROFIBUS-DP/CC-LINK slave unit, this kit is capable of up to 32 points of solenoid valve ON and OFF control.
Furthermore, by connecting an input block, a maximum 32 sensor signal inputs are possible.

SI unit for AS-i
As a AS-i slave unit, this kit is capable of up to 4 or 8 points of solenoid valve ON and OFF control.
Furthermore, by connecting an inmput block, a maximun 4 or 8 sensor signal inputs are possible.

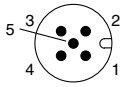
Input block
This expansion block connects to the SI unit and allows for sensor input to the auto switches.
Each input block can receive input from up to two or four sensors, and the common can be matched to the sensor by an NPN/PNP selector switch.
Input connectors are available in both M8 and M12 types.

Connector Details



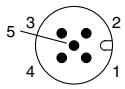
Communication connector
CANopen: Female connector cable: M12 female 5 pins cable with shield (according to ISO11898).

Pos.	Description	Function
1	CAN_SHLD	Shield
2	CAN_V+	Power supply +
3	CAN_GND	Power supply –
4	CAN_H	Bus line (dominant High)
5	CAN_L	Bus line (dominant Low)



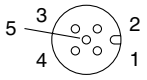
DeviceNet: M12...5 pins (Plug) Example for a cable set with plug / socket:
OMRON Corporation DCA1-5CN05F1. Karl Lumberg GmbH: 0935 253 103/...M, RSC RKC 57* ... M.
Accessories, bus branch Y: Karl Lumberg GmbH: 0906 UTP 101, Hans Turck GmbH: VB2-FKM-FSM57.
Accessories terminating socket with resistor: Hans Turck GmbH: RSE57-TR2, Karl Lumberg GmbH: 0939 CXT 101.

Pos.	Description	Function
1	Drain	Drain / shield
2	V+	Circuit power supply +
3	V–	Circuit power supply –
4	CAN_H	Signal H
5	CAN_L	Signal L

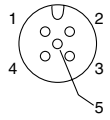


PROFIBUS-DP: M12... 5 pins reserve-keyed (Socket).Example for the corresponding cable sets with plug / socket:
Hans Turck GmbH: RSSW-RKSW456-...M; Karl Lumberg GmbH: 0975 254 101/...M
Accessories Bus branch Y: Hans Turck GmbH: VB2/FSW/FKW/FSW45
Accessories terminating resistor: Hans Turck GmbH: RSS4.5-PDP-TR; Karl Lumberg GmbH: 0979PTX101

Pos.	Description	Function
1	VP	Power supply for terminating resistor
2	A-N	Negative for data transfer/reception
3	DGND	Ground for terminating resistor
4	B-P	Positive for data transfer/reception
5	SHIELD	Shield



Circuit diagram Input module (EX250-IE*)
Input connection: M12 ... 5 pins (Socket)
Example for the cable side connection: OMRON Corporation XS2G;
Karl Lumberg GmbH: Series RST5; Franz Binder GmbH: Series 713,763

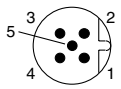


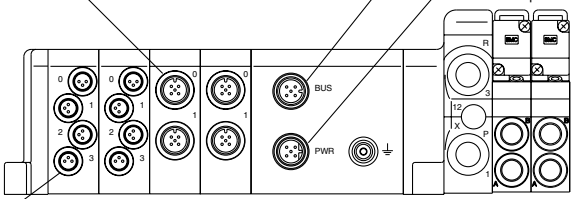
Pos.	Description	Function
1	SW+	Sensor power supply +
2	N.C (SIGNAL)	Open*
3	SW–	Sensor power supply –
4	SIGNAL	Sensor input signal
5	E	Sensor ground connection

* In the 4 input type unit (EX250-IE2), this is the input signal from the second sensor connected.

Power supply
DeviceNet:: M12 ... 5 pins reserve-keyed (Plug)
(The configuration of the connection surface area differs from that of the transmission plug)
Example of the cable set with socket: Hans Turck GmbH: WAKW4.5T-2, Franz Binder GmbH: 79-4449-..-05.

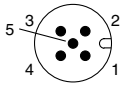
Pos.	Description	Function
1	SV24V	+24 V solenoid valve
2	SV0V	0V solenoid valve
3	SW24V	+24 V SI and input blocks
4	SW0V	0 V SI and input blocks
5	E	Ground connection





PROFIBUS-DP: M12...5 pins (Plug)
Example of the cable set with socket:
SMC: EX500-AP...S (See page 2-2-25.)

Pos.	Description	Function
1	SV24V	+24 V solenoid valve
2	SV0V	0 V solenoid valve
3	SW24V	+24 V SI and input blocks
4	SW0V	0 V SI and input blocks
5	E	Ground connection



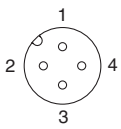
Input connection: M8 ... 3 pins (Socket)
Example for cable side connection: Franz Binder GmbH Series 718, 768
Karl Lumberg GmbH: Series RSMV3

Pos.	Description	Function
1	SW+	Sensor power supply +
3	SW-	Sensor power supply –
4	SIGNAL	Sensor input signal

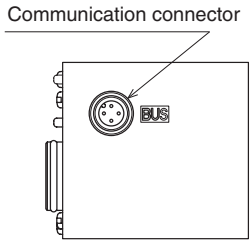
SMC

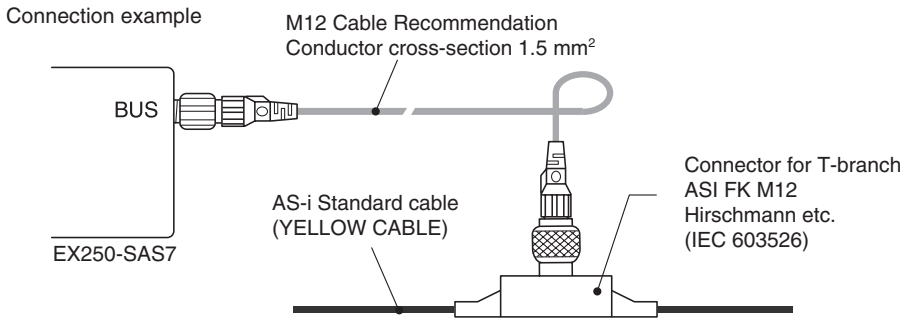
AS-i EX250-SAS7 / EX250-SAS9

Communication connector: M12 male 4 pins



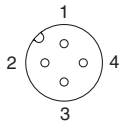
Pos.	Description	Function
1	AS-i +	Positive AS-Interface line
2	RESERVE	RESERVE
3	AS-i –	Negative AS-Interface line
4	RESERVE	RESERVE





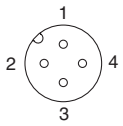
AS-i EX250-SAS3 / EX250-SAS5

Communication connector: M12 male 4 pins



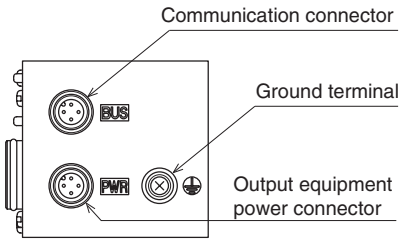
Pos.	Description	Function
1	AS-i +	Positive AS-Interface line
2	0V	Negative output equipment power line
3	AS-i –	Negative AS-Interface line
4	24V	Positive output equipment power line

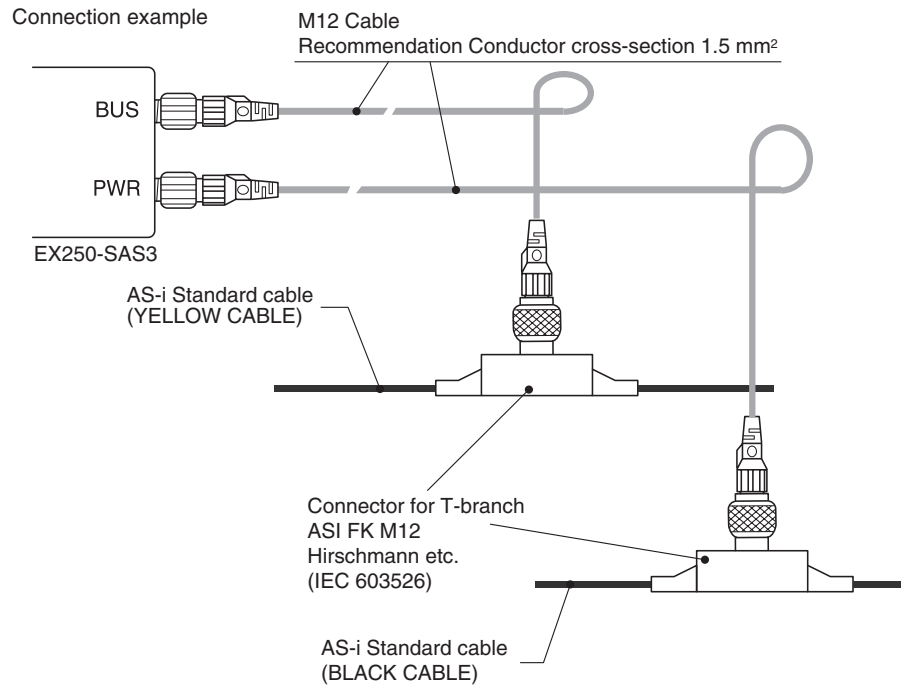
Output equipment power connector: M12 male 4 pins



Pos.	Description	Function
1	24V	Positive output equipment power line
2	NC	Not connected
3	0V	Negative output equipment power line
4	NC	Not connected

∗ Connected inside the SI unit.

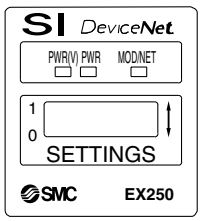




S VQC1000/2000/4000
Kit (Serial transmission kit) for I/O IP67 compliant

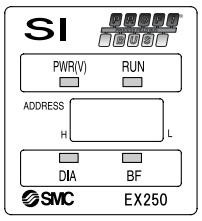
Indicator Unit (LED) Description and Its Function

■ SI unit
DeviceNet (EX250-SDN1)



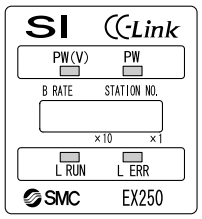
Name	Function
PWR(V)	ON when solenoid valve power supply is turned ON.
PWR	ON when DeviceNet circuit power supply input is turned ON.
MOD/NET	OFF: Power supply off, off line, or when checking duplication of MAC_ID.
	GREEN BLINKING: Waiting for connection (on line).
	GREEN ON: Connection established (on line).
	RED BLINKING: Connection time out (minor communication abnormality).
	RED ON: MAC_ID duplication error, or BUSOFF error (major communication abnormality).

■ PROFIBUS-DP (EX250-SPR1)



Name	Function
PWR(V)	GREEN ON when solenoid valve power supply is turned ON. GREEN OFF when the power supply voltage is less than 19 V.
RUN	GREEN ON when operating (SI unit power supply is ON).
DIA	RED ON when self diagnosis device detects abnormality.
BF	RED ON for BUS abnormality.

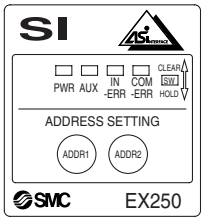
■ CC-Link (EX250-SMJ2)



Name	Function
PW	ON: Input and control unit power supply ON. OFF: Input and control unit power supply OFF.
PW(V)	ON: Solenoid valve power supply ON. OFF: Solenoid valve power supply voltage is less than 19 V.
L RUN	ON: Normal traffic OFF: Traffic disconnected (Timeover error)
L ERR	ON: Traffic error BLINKING: Station or baud rate switch is set while the power supply is ON. OFF: Normal traffic

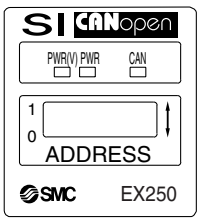
When the data link is normal, PW, PW (V) and L RUN are ON.

■ AS-i (EX250-SAS□)



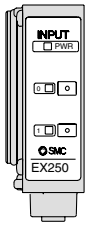
Name	LED Condition	Contents
PWR	Green Light	In time of power supply for AS-Interface line is turned on.
AUX	Green Light	In time of auxiliary power supply for output equipment is turned on.
IN-ERR	Red Light	In time of input power is detected over current. (Lights off at normal condition)
COM-ERR	Red Light	In time of communication error. (Lights off at normal condition)
	Red Blink	In time of peripheral equipment error. (Over current of input power, blowing the fuse etc.)

■ SI unit
CANopen (EX250-SCA1)

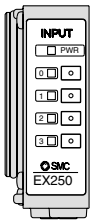


Name	LED Condition	Contents
PWR(V)	Green Light	Illuminates when power for solenoid valves is supplied
PWR	Green Light	Illuminates when power for CANopen line is supplied
CAN	Green Light	Illuminates when SI unit is in the Operational state
	Green Light (Blinking)	SI unit is in the Pre-operational state
	Green Light (Single flash)	Single flash when SI unit is in Stopped state
	Red Light (Single flash)	Single flash when CAN controller error occurs
	Red Light (Double flash)	Double flash when Error Control Event occurs
	Green/Red Light (flickering)	Flickering when SI unit is in Configuration mode (LSS services)
	Red Light	Red Light SI unit is in “Bus OFF” state

■ Input block (EX250-IE1/2/3)



2-input type (EX250-IE1)

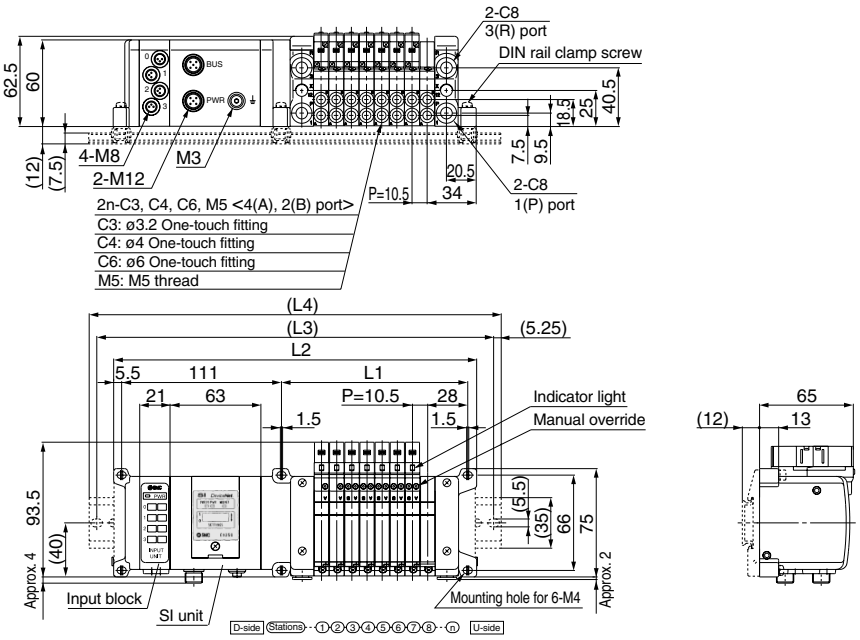


4-input type (EX250-IE2/3)

Description	Function
PWR	ON when sensor power is turned ON.
0 to 1(3)	ON when each sensor input goes ON.

∗ Please contact your SMC representative for specifications and handling precautions.

VV5QC11
S Kit
(Serial transmission kit: EX250)



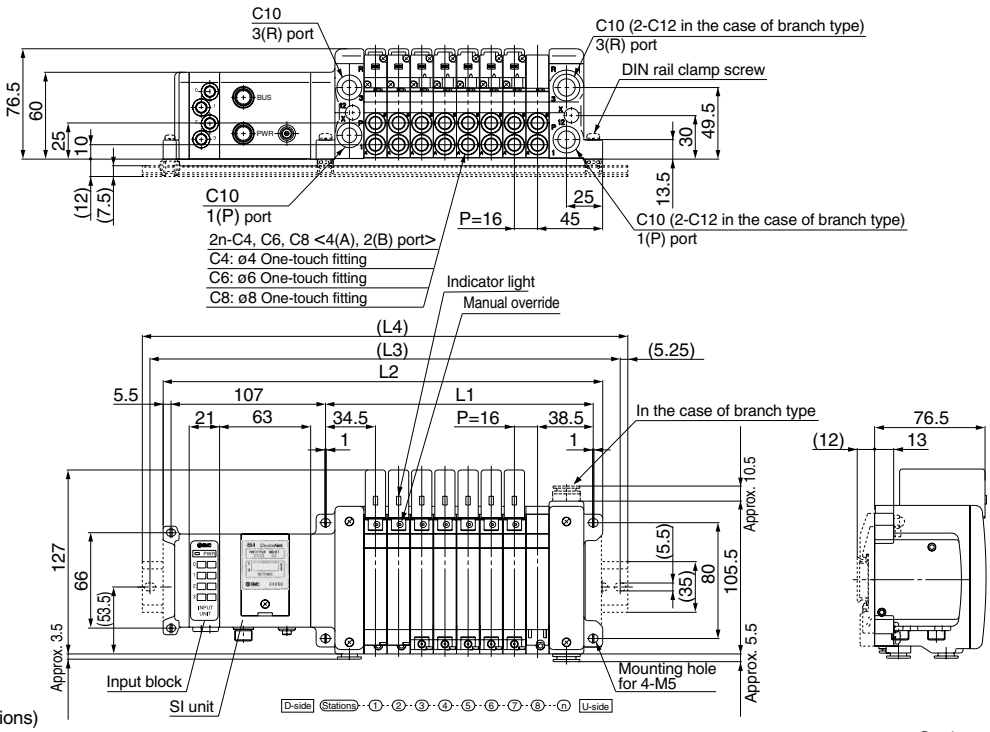
Formulas
L1 = 10.5n + 45 (Maximum 24 single wiring stations)
∗ L2: For one input block. Add 21 mm for each additional input block.

n: Stations

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	55.5	66	76.5	87	97.5	108	118.5	129	139.5	150	160.5	171	181.5	192	202.5	213	223.5	234	244.5	255	265.5	276	286.5	297
L2	178	188.5	199	209.5	220	230.5	241	251.5	262	272.5	283	293.5	304	314.5	325	335.5	346	356.5	367	377.5	388	398.5	409	419.5
L3	200	212.5	225	237.5	250	250	262.5	275	287.5	300	312.5	325	325	337.5	350	362.5	375	387.5	387.5	400	412.5	425	437.5	450
L4	210.5	223	235.5	248	260.5	260.5	273	285.5	298	310.2	323	335.5	335.5	348	360.5	373	385.5	398	398	410.5	423	435.5	448	448

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

VV5QC21
S Kit
(Serial transmission kit: EX250)



Formulas
L1 = 16n + 57 (Maximum 24 single wiring stations)
∗ L2: For one input block. Add 21 mm for each additional input block.

n: Stations

L \ n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L1	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345	361	377	393	409	425	441
L2	192	208	224	240	256	272	288	304	320	336	352	368	384	400	416	432	448	464	480	496	512	528	544	560
L3	212.5	237.5	250	262.5	275	287.5	312.5	325	337.5	362.5	375	387.5	400	425	437.5	450	462.5	487.5	500	512.5	537.5	550	562.5	587.5
L4	223	248	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	598

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