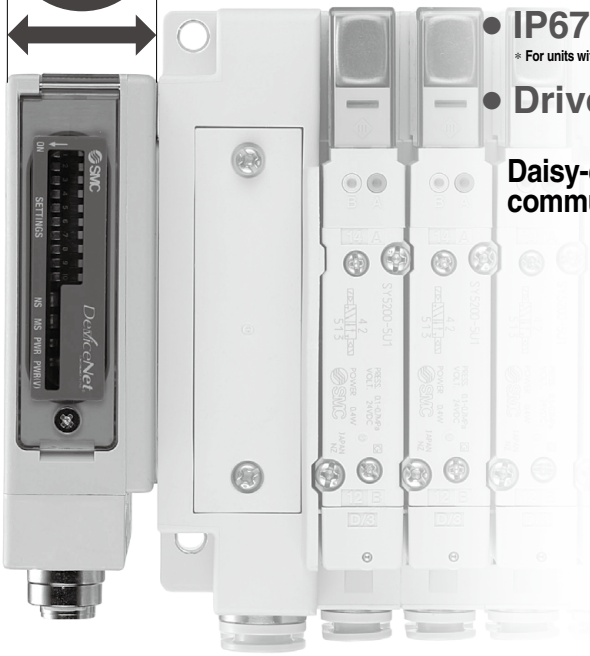
Fieldbus System

EX260 Series

(Output device for driving 5 port solenoid valves)

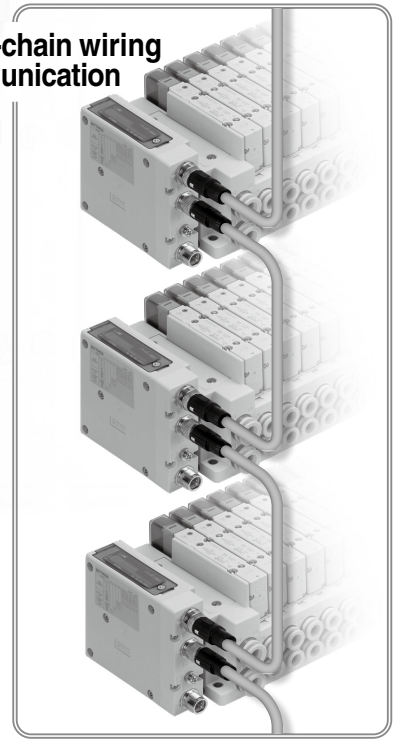
Compact 28 mm

Space-saving Installation



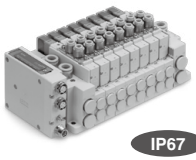
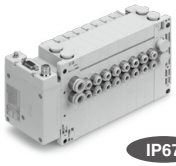
- **IP67***
  * For units with D-sub connector, and when connected to S0700 manifolds, it is IP40.
- **Drives up to 32 solenoids**

Daisy-chain wiring communication

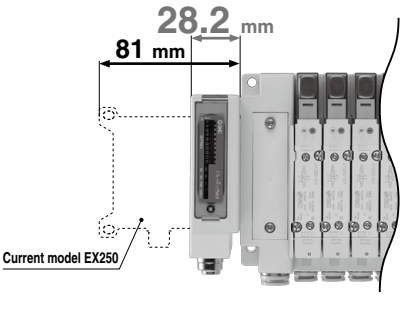


Applicable Fieldbus protocols

PROFIBUS, PROFINET, DeviceNet, CC-Link, EtherNet/IP, EtherCAT, ETHERNET POWERLINK

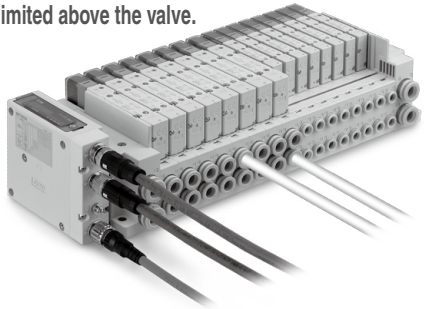
Top ported valve	Bottom ported valve	Side ported valve Mixed valve sizes manifold	7 mm width valve
			
IP67	IP67	IP67	IP40

Manifold length is shortened by the small fieldbus output module (SI unit).

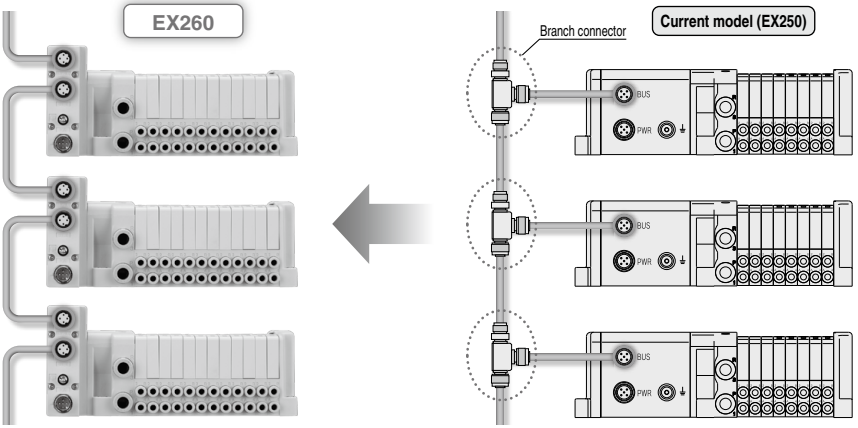


Wiring and piping from the same direction is possible. (for side ported)

Effective for installation in locations where space is limited above the valve.



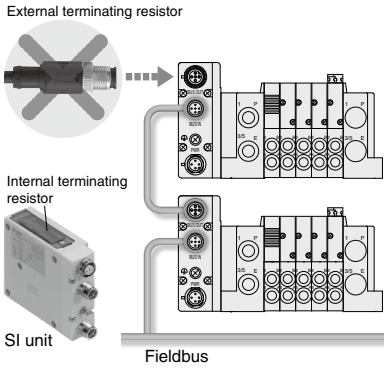
External branch connector is not necessary. Daisy-chain wiring is possible. Reduced wiring space



External terminating resistor is not necessary.

(Only available for M12 PROFIBUS DP, CC-Link communication connectors)

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



Product Specification Variations

	PROFIBUS	DeviceNet	CC-Link	PROFINET	EtherNet/IP	EtherCAT	POWERLINK
Number of outputs	16 32	16 32	16 32	16 32	16 32	16 32	16 32
Output polarity	PNP NPN	PNP NPN	PNP NPN	PNP NPN	PNP NPN	PNP NPN	PNP
Communication connector	M12 D-sub	M12	M12	M12	M12	M12	M12

■Communication connector examples



M12 communication connector
(PROFIBUS DP)

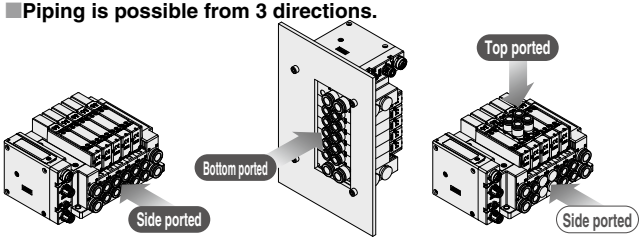


D-sub communication connector
(PROFIBUS DP)

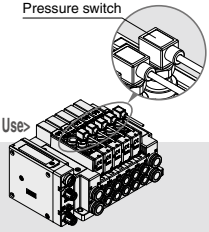
SY3000/5000/7000 Series

Valve piping direction variations

■Piping is possible from 3 directions.

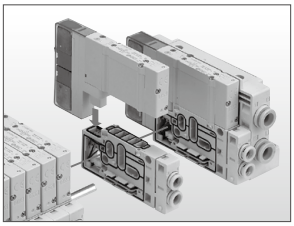


Mixed mounting of top ported and side ported is possible.



By mounting top ported valves on side ported and bottom ported type manifolds, it is possible to detect the output of the A/B port with a pressure switch.

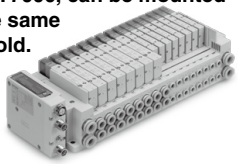
Valves can be freely connected up to 24 stations.



■It is possible to connect only the number of valves required, from 1 to 24 stations, to suit the application. (Maximum number of solenoids connected: 32)

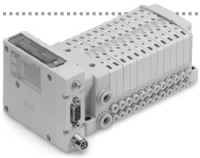
Mixed valve sizes manifold

■Valves with different sizes, SY3000 and SY5000 or SY5000 and SY7000, can be mounted on the same manifold.



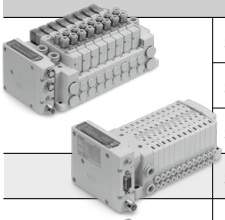
S0700 Series

7 mm width valves can be connected.



■It is possible to connect only the number of 7 mm width valves required, from 1 to 24 stations. (Maximum number of solenoids connected: 32)

●Applicable Valve Series

Series		Flow rate characteristics (4/2→5/3)		Maximum number of solenoids	Power consumption (W)	Enclosure	Standards
		C [dm³/(s·bar)]	b				
	SY3000	1.6	0.19	32	0.35 (standard) 0.1 (with power-saving circuit) [Starting 0.4, Holding 0.1]	IP67	CE
	SY5000	3.6	0.17				
	SY7000	5.9	0.20				
	S0700	0.37	0.39	32	0.35	IP40	CE
	SV1000	1.1	0.35	32	0.6	IP67	CE, UL
	SV2000	2.4	0.18				
	SV3000	4.3	0.21				
	VQC1000	1.0	0.30	24	0.4 (standard)	IP67	CE
	VQC2000	3.2	0.30				
	VQC4000	7.3	0.38		0.95 (standard) 0.4 (Low wattage type)		
	VQC5000	17	0.31				

Note) For units with D-sub communication connector, it is IP40.

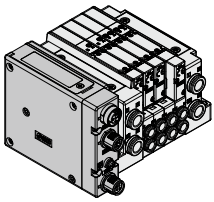
SI Unit/For Output
EX260 Series

Note)

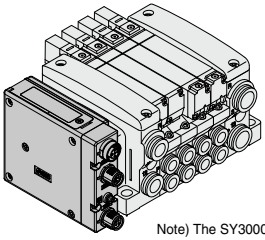
RoHS

Compact design	Compact design for space saving
Number of outputs	Each 32/16 digital output type available in the series
Output polarity	Each negative common (PNP) / positive common (NPN) type available in the series (SI Unit compatible with POWERLINK is only negative common (PNP) type.)
Enclosure	IP67 (For units with D-sub connector, and when connected with S0700 manifolds, it is IP40.)
Internal terminating resistor	ON/OFF switching is possible with an internal terminating resistor for communication. (Only for units compatible with M12 PROFIBUS DP, CC-Link communication connectors)

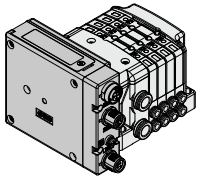
SY3000/5000/7000



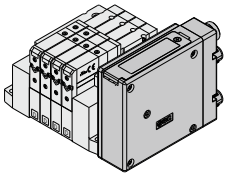
VQC1000/2000/4000/5000



S0700



SV1000/2000/3000



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

How to Order SI Units

EX260 – S PR1

Communication protocol

Symbol	Protocol	Number of outputs	SI unit output polarity	Communication connector	Manifold symbol
DN1	DeviceNet™	32	Source/PNP (Negative common)	M12	QAN
DN2			Sink/NPN (Positive common)		QA
DN3		16	Source/PNP (Negative common)		QBN
DN4			Sink/NPN (Positive common)		QB
PR1	PROFIBUS DP	32	Source/PNP (Negative common)	M12	NAN
PR2			Sink/NPN (Positive common)		NA
PR3		16	Source/PNP (Negative common)		NBN
PR4			Sink/NPN (Positive common)		NB
PR5		32	Source/PNP (Negative common)	D-sub Note)	NCN
PR6			Sink/NPN (Positive common)		NC
PR7		16	Source/PNP (Negative common)		NDN
PR8			Sink/NPN (Positive common)		ND
MJ1	CC-Link	32	Source/PNP (Negative common)	M12	VAN
MJ2			Sink/NPN (Positive common)		VA
MJ3		16	Source/PNP (Negative common)		VBN
MJ4			Sink/NPN (Positive common)		VB
EC1	EtherCAT	32	Source/PNP (Negative common)	M12	DAN
EC2			Sink/NPN (Positive common)		DA
EC3		16	Source/PNP (Negative common)		DBN
EC4			Sink/NPN (Positive common)		DB
PN1	PROFINET	32	Source/PNP (Negative common)	M12	FAN
PN2			Sink/NPN (Positive common)		FA
PN3		16	Source/PNP (Negative common)		FBN
PN4			Sink/NPN (Positive common)		FB
EN1	EtherNet/IP™	32	Source/PNP (Negative common)	M12	EAN
EN2			Sink/NPN (Positive common)		EA
EN3		16	Source/PNP (Negative common)		EBN
EN4			Sink/NPN (Positive common)		EB
PL1	POWERLINK	32	Source/PNP (Negative common)	M12	GAN
PL3		16			GBN

Note) Enclosure is IP40 when the communication connector is D-sub.

SI Unit Specifications

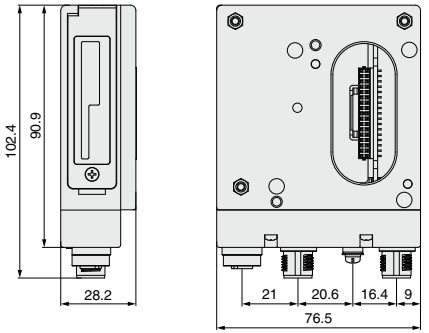
Model		EX260-SPR1/3	EX260-SPR2/4	EX260-SPR5/7	EX260-SPR6/8	EX260-SDN1/3	EX260-SDN2/4	EX260-SMJ1/3	EX260-SMJ2/4
Applicable system	Protocol	PROFIBUS DP				DeviceNet™		CC-Link	
	Version Note 1)	DP-V0				Volume 1(Edition 3.5) Volume 3(Edition 1.5)		Ver.1.10	
	Configuration file Note 3)	GSD file				EDS file		—	
I/O occupation area (Inputs/Outputs)		SPR1: 0/32 SPR3: 0/16	SPR2: 0/32 SPR4: 0/16	SPR5: 0/32 SPR7: 0/16	SPR6: 0/32 SPR8: 0/16	SDN1: 0/32 SDN3: 0/16	SDN2: 0/32 SDN4: 0/16	SMJ1: 32/32 SMJ3: 32/32 (1 station, remote I/O stations)	SMJ2: 32/32 SMJ4: 32/32 (1 station, remote I/O stations)
Communication speed		9.6 k/19.2 k/45.45 k/93.75 k/ 187.5 k/500 k/1.5 M/3 M/6 M/12 Mbps				125 k/250 k/500 kbps		156 k/625 k/ 2.5 M/5 M/10 Mbps	
Power supply for control	Power supply voltage	21.6 to 26.4 VDC				—		21.6 to 26.4 VDC	
	Internal current consumption	100 mA or less				—		100 mA or less	
Power supply for output	Power supply voltage	—		22.8 to 26.4 VDC					
Power supply for communication	Power supply voltage	—				11 to 25 VDC		—	
	Internal current consumption					100 mA or less		—	
Communication connector specification		M12		D-sub		M12			
Terminating resistor switch		Built-in		None				Built-in	
Output	Output type	Source/PNP (Negative common)	Sink/NPN (Positive common)	Source/PNP (Negative common)	Sink/NPN (Positive common)	Source/PNP (Negative common)	Sink/NPN (Positive common)	Source/PNP (Negative common)	Sink/NPN (Positive common)
	Number of outputs	SPR1: 32 points SPR3: 16 points	SPR2: 32 points SPR4: 16 points	SPR5: 32 points SPR7: 16 points	SPR6: 32 points SPR8: 16 points	SDN1: 32 points SDN3: 16 points	SDN2: 32 points SDN4: 16 points	SMJ1: 32 points SMJ3: 16 points	SMJ2: 32 points SMJ4: 16 points
	Load	Solenoid valve with protective circuit for surge voltage of 24 VDC/1.5 W or less (SMC)							
	Supplied voltage	24 VDC							
	Supplied current	SPR1: Max. 2.0 A SPR3: Max. 1.0 A	SPR2: Max. 2.0 A SPR4: Max. 1.0 A	SPR5: Max. 2.0 A SPR7: Max. 1.0 A	SPR6: Max. 2.0 A SPR8: Max. 1.0 A	SDN1: Max. 2.0 A SDN3: Max. 1.0 A	SDN2: Max. 2.0 A SDN4: Max. 1.0 A	SMJ1: Max. 2.0 A SMJ3: Max. 1.0 A	SMJ2: Max. 2.0 A SMJ4: Max. 1.0 A
Environmental resistance	Enclosure	IP67		IP40		IP67			
	Operating temperature range	–10 to 50°C							
	Operating humidity range	35 to 85%RH (No condensation)							
	Withstand voltage	500 VAC for 1 minute between terminals and housing							
	Insulation resistance	10 MΩ or more (500 VDC measured via megohmmeter) between terminals and housing							
Standards		CE marking, UL (CSA) compatible							
Weight		200 g							
Accessories	Mounting screw	2 pcs.							
	Seal cap (for M12 connector socket)	EX9-AWTS (1 pc.)		—		EX9-AWTS (1 pc.)			

Model		EX260-SEC1/3	EX260-SEC2/4	EX260-SPN1/3	EX260-SPN2/4	EX260-SEN1/3	EX260-SEN2/4	EX260-SPL1	EX260-SPL3
Applicable system	Protocol	EtherCAT Note 2)		PROFINET Note 2)		EtherNet/IP™ Note 2)		POWERLINK	
	Version Note 1)	Conformance Test Record V.1.1		PROFINET Specification Version 2.2		Volume 1(Edition 3.8) Volume 2(Edition 1.9)		EPSG DS 301 Version 1.2.0	
	Configuration file Note 3)	XML file		GSD file		EDS file		XDD file	
I/O occupation area (Inputs/Outputs)		SEC1: 0/32 SEC3: 0/16	SEC2: 0/32 SEC4: 0/16	SPN1: 0/32 SPN3: 0/16	SPN2: 0/32 SPN4: 0/16	SEN1: 16/32 SEN3: 16/16	SEN2: 16/32 SEN4: 16/16	16/32	16/16
Communication speed		100 Mbps Note 2)				10 M/100 Mbps Note 2)		100 Mbps Note 2)	
Power supply for control	Power supply voltage	21.6 to 26.4 VDC							
	Internal current consumption	100 mA or less							
Power supply for output	Power supply voltage	22.8 to 26.4 VDC							
Power supply for communication	Power supply voltage	—							
	Internal current consumption	—							
Communication connector specification		M12							
Terminating resistor switch		None (Not required)							
Output	Output type	Source/PNP (Negative common)	Sink/NPN (Positive common)	Source/PNP (Negative common)	Sink/NPN (Positive common)	Source/PNP (Negative common)	Sink/NPN (Positive common)	Source/PNP (Negative common)	
	Number of outputs	SEC1: 32 points SEC3: 16 points	SEC2: 32 points SEC4: 16 points	SPN1: 32 points SPN3: 16 points	SPN2: 32 points SPN4: 16 points	SEN1: 32 points SEN3: 16 points	SEN2: 32 points SEN4: 16 points	32	16
	Load	Solenoid valve with protective circuit for surge voltage of 24 VDC/1.5 W or less (SMC)		Solenoid valve with protective circuit for surge voltage of 24 VDC/1.0 W or less (SMC)		Solenoid valve with protective circuit for surge voltage of 24 VDC/1.5 W or less (SMC)			
	Supplied voltage	24 VDC							
	Supplied voltage	SEC1: Max. 2.0 A SEC3: Max. 1.0 A	SEC2: Max. 2.0 A SEC4: Max. 1.0 A	SPN1: Max. 2.0 A SPN3: Max. 1.0 A	SPN2: Max. 2.0 A SPN4: Max. 1.0 A	SEN1: Max. 2.0 A SEN3: Max. 1.0 A	SEN2: Max. 2.0 A SEN4: Max. 1.0 A	Max. 2 A	Max. 1 A
Environmental resistance	Enclosure	IP67							
	Operating temperature range	–10 to 50°C							
	Operating humidity range	35 to 85%RH (No condensation)							
	Withstand voltage	500 VAC for 1 minute between terminals and housing							
	Insulation resistance	10 MΩ or more (500 VDC measured via megohmmeter) between terminals and housing							
Standards		CE marking, UL (CSA) compatible							
Weight		200 g							
Accessories	Mounting screw	2 pcs.							
	Seal cap (for M12 connector socket)	EX9-AWTS (1 pc.)							

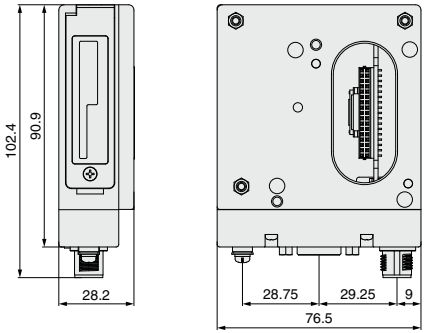
Note 1) Please note that the version is subject to change.
Note 2) Use a CAT5 or higher transmission cable for EtherCAT, PROFINET, EtherNet/IP™, POWERLINK.
Note 3) Each file can be downloaded from the SMC website, http://www.smcworld.com

SI Unit Dimensions

M12 communication connector type

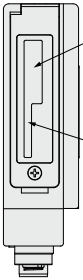


D-sub communication connector type



Functions of SI Unit Parts

<LED indication and setting switch>

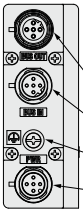


<Setting switch>
- **Address switch**
- **Communication speed switch**
- **Terminating resistor switch**
- **Others**

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

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

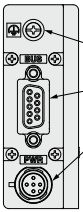
<Connector>
M12 communication connector type



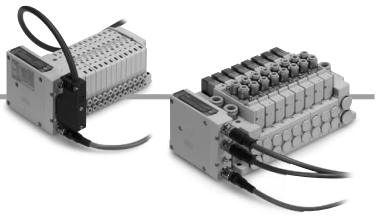
Part no.	EX260-SPR1/-SPR2 -SPR3/-SPR4	EX260-SDN□	EX260-SMJ□	EX260-SEC□ EX260-SPN□ EX260-SEN□ EX260-SPL□
Communication protocol	**PROFIBUS DP**	**DeviceNet™**	**CC-Link**	**EtherCAT PROFINET EtherNet/IP™ POWERLINK**
Communication connector (M12) BUS OUT	5 pins, socket, B code	5 pins, socket, A code	5 pins, socket, A code[Note1)]	4 pins, socket, D code
Communication connector (M12) BUS IN	5 pins, plug, B code	5 pins, plug, A code	4 pins, plug, A code	4 pins, socket, D code
Ground terminal	M3			
Power connector (M12)	5 pins, plug, A code	4 pins, plug, A code	5 pins, plug, B code	5 pins[Note2)], 4 pins[Note3)], plug, A code

Note 1) Recommended mating M12 4-pin plug, part no. PCA-1567717.
Note 2) For EtherCAT, PROFINET, POWERLINK
Note 3) For EtherNet/IP™

D-sub communication connector type



Part no.	EX260-SPR5/-SPR6/-SPR7/-SPR8
Communication protocol	**PROFIBUS DP**
Ground terminal	M3
Communication connector (D-sub) BUS IN/OUT	9 pins, socket
Power connector (M12)	5 pins, plug, A code



Accessories

① Communication cable with connector

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

Refer to page 907 for details.

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

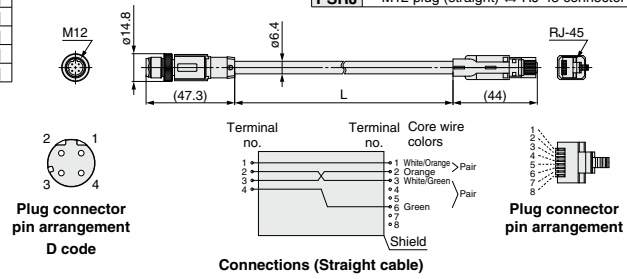
EX9−AC 020 EN − PSRJ

Cable length (L)

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

Connector specification

PSRJ	M12 plug (straight) ⇔ RJ-45 connector



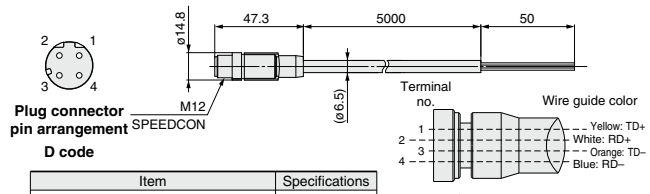
Connections (Straight cable)

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

PCA−1446566

Cable length

1446566	5000 [mm]



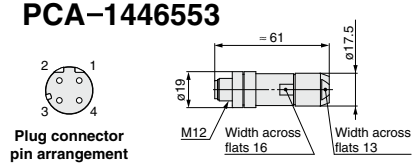
Connections

Item	Specifications
Cable O.D.	ø6.5 mm
Nominal cross section	AWG22
Wire diameter (Including insulator)	1.5 mm
Min. bending radius	45.5 mm

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

Fieldwireable connector

PCA−1446553



Applicable cable

Cable O.D.	4.0 to 8.0 mm
Cable cross section (Stranded wire)	0.14 to 0.34 mm²/AWG26 to 22

Note) The table above shows the specifications for the applicable cable. Adaptation for the connector may vary on account of the conductor construction of the electric wire.

Accessories

② Power cable with connector (for SI units)

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

EX500 − AP 050 − S

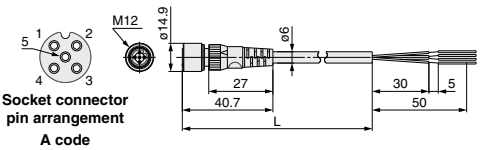
Cable length (L)

010	1000 [mm]
050	5000 [mm]

Connector specification

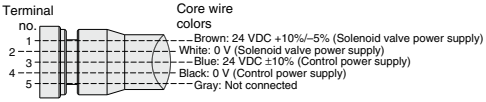
S	Straight
A	Angle

Straight connector type



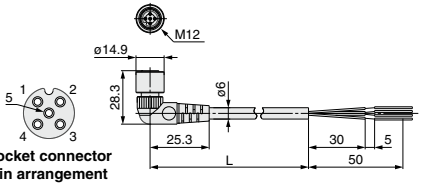
Socket connector pin arrangement
A code

Item	Specifications
Cable O.D.	ø6 mm
Nominal cross section	AWG22
Wire diameter (Including insulator)	1.5 mm
Min. bending radius	40 mm



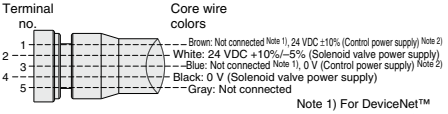
Connections (PROFIBUS DP/EtherCAT/PROFINET/POWERLINK)

Angle connector type



Socket connector pin arrangement
A code

Item	Specifications
Cable O.D.	ø6 mm
Nominal cross section	AWG22
Wire diameter (Including insulator)	1.5 mm
Min. bending radius	40 mm



Connections (DeviceNet™, EtherNet/IP™)

Note 1) For DeviceNet™
Note 2) For EtherNet/IP™

SPEEDCON

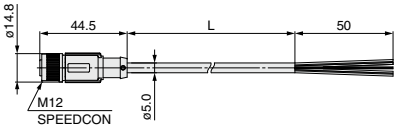
PCA− 1401804

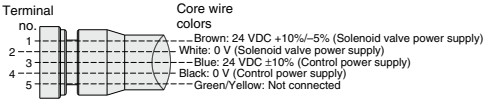
Cable length (L)

1401804	1500 [mm]
1401805	3000 [mm]
1401806	5000 [mm]

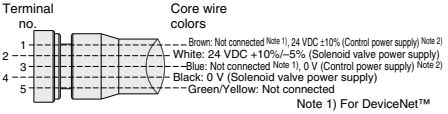


Socket connector pin arrangement
A code





Connections (PROFIBUS DP/EtherCAT/PROFINET/POWERLINK)



Connections (DeviceNet™, EtherNet/IP™)

Note 1) For DeviceNet™
Note 2) For EtherNet/IP™

Item	Specifications
Cable O.D.	ø5.0 mm
Nominal cross section	AWG22
Wire diameter (Including insulator)	1.27 mm
Min. bending radius	21.7 mm

Accessories

② Power cable with connector (for SI units)

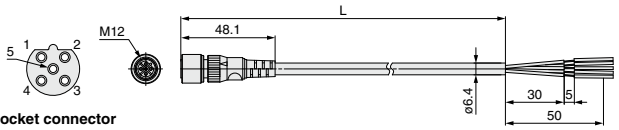
For SI units compatible with CC-Link

Straight connector type

EX9 − AC 050 − 1

Cable length (L)

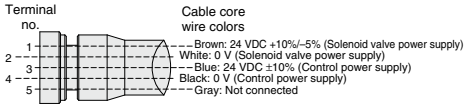
010	1000 [mm]
030	3000 [mm]
050	5000 [mm]



Socket connector pin arrangement
B code

Item	Specifications
Cable O.D.	ø6.4 mm
Nominal cross section	AWG22
Wire diameter (Including insulator)	1.65 mm
Min. bending radius	59 mm

Connections

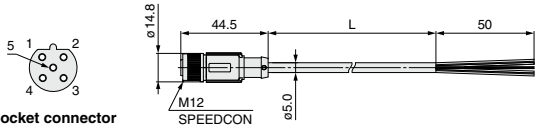


SPEEDCON

PCA− 1401807

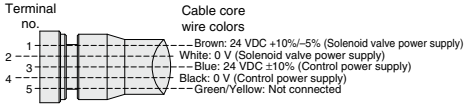
Cable length (L)

1401807	1500 [mm]
1401808	3000 [mm]
1401809	5000 [mm]



Socket connector pin arrangement
B code

Connections



Item	Specifications
Cable O.D.	ø5.0 mm
Nominal cross section	AWG22
Wire diameter (Including insulator)	1.27 mm
Min. bending radius	21.7 mm

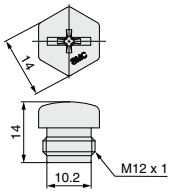
③ Seal cap: For M12 connector socket

Use this on ports that are not being used for communication connector (M12 connector socket).
Use of this seal cap maintains the integrity of the IP67 enclosure.
Note) Tighten the seal cap with the prescribed tightening torque. (For M12: 0.1 N·m)

EX9 − AW TS

Connector type

TS	For M12 connector socket (10 pcs.)



For M12 connector socket

EX260 Series
Specific Product Precautions 1

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 9 for 3/4/5 Port Solenoid Valve Precautions.

Design/Selection

⚠Warning

1. Use this product within the specification range.

Using beyond the specified specifications range can cause fire, malfunction, or damage to the system.

Check the specifications before operation.

2. When using for an interlock circuit:

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

This may cause possible injury due to malfunction.

⚠Caution

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

2. Use this product within the specified voltage range.

Using beyond the specified voltage range is likely to cause the units and connecting devices to be damaged or to malfunction.

3. Do not install a unit in a place where it can be used as a foothold.

Applying any excessive load such as stepping on the unit by mistake or placing a foot on it, will cause it to break.

4. Keep the surrounding space free for maintenance.

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

5. Do not remove the name plate.

Improper maintenance or incorrect use of operation manual can cause failure and malfunction. Also, there is a risk of losing conformity with safety standards.

Mounting

⚠Caution

1. When handling and assembling units:

- **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, the unit can become damaged, malfunction, or fail to function.

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.

Mounting

⚠Caution

4. When lifting a large size manifold solenoid valve unit, take care to avoid causing stress to the valve connection joint.

The connection parts of the unit may be damaged. Because the unit may be heavy, carrying and installation should be performed by more than one operator to avoid strain or injury.

5. When placing a manifold, mount it on a flat surface.

Torsion in the whole manifold can lead to trouble such as air leakage or defective insulation.

Wiring

⚠Caution

1. Check the grounding to maintain the safety of the reduced wiring system and for anti-noise performance.

Provide a specific grounding as close to the unit as possible to minimize the distance to grounding.

2. Avoid repeatedly bending or stretching the cable and applying a heavy object or force to it.

Wiring applying repeated bending and tensile stress to the cable can break the circuit.

3. Avoid miswiring.

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

4. Do not wire while energizing the product.

There is a danger of malfunction or damage to the reduced wiring system or output device.

5. Avoid wiring the power line and high pressure line in parallel.

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

6. Check the wiring insulation.

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

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

Noise in signal lines may cause malfunction.

EX260 Series
Specific Product Precautions 2

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 9 for 3/4/5 Port Solenoid Valve Precautions.

Wiring

⚠Caution

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

This can cause damage, equipment failure or malfunction.

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

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

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

Using large diameter connectors causes interference with the mounting surface.

The following cables with connectors are recommended.

■For EX260-SPR□/-SDN□/-SEC□/-SPN□/-SEN□/-SPL□

<Cable with connector>

- EX500-AP□□□-□
- PCA-1401804/-1401805/-1401806

■For EX260-SMJ□

<Cable with connector>

- EX9-AC□□□-1
- PCA-1401807/-1401808/-1401809

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.

IP67 is achieved when the following conditions are met.

1) Provide appropriate wiring between all 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 EX260-SPR5/6/7/8, manifold enclosure is IP40.

Operating Environment

⚠Caution

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

Failure to do so may cause damage or malfunction.

The effect of countermeasures should be checked in individual equipment and machine.

1) Where noise is generated by static electricity, etc.
2) Where there is a strong electric field
3) Where there is a danger of exposure to radiation
4) When in close proximity to power lines or high voltage lines

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

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

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

This may damage the unit and cause it to malfunction.

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

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

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

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

This may cause malfunction or damage.

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

This may cause malfunction or damage.

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

In case that the cyclic temperature is beyond normal temperature changes, the internal unit is likely to be adversely effec-ted.

10. Do not use in direct sunlight.

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

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

This may cause malfunction.

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

Such a place is likely to cause malfunction.

EX260 Series
Specific Product Precautions 3

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and pages 3 to 9 for 3/4/5 Port Solenoid Valve Precautions.

Adjustment/Operation

⚠Warning

1. Do not perform operation or setting with wet hands.

There is a risk of electrical shock.

⚠Caution

1. Use a watchmakers' screwdriver with thin blade for the setting of each switch of the SI unit.
When setting the switch, do not touch other unrelated parts.

This may cause parts damage or malfunction due to a short circuit.

2. Provide adequate setting for the operating conditions.

Failure to do so could result in malfunction.
Refer to the operation manual for setting of the switches.

3. For details on programming and address setting, refer to the manual from the PLC manufacturer.

The content of programming related to protocol is designed by the manufacturer of the PLC used.

4. For the EX260-SPN□, the side of the SI unit may become hot.

It may cause burns.

Maintenance

⚠Warning

1. Do not disassemble, modify (including circuit board replacement) or repair this product.

Such actions are likely to cause injuries or breakage.

2. When an inspection is performed,

- **Turn off the power supply.**
- **Stop the air supply, exhaust the residual pressurein piping and verify that the air is released before performing maintenance work.**

Unexpected malfunction of system components and injury can result.

⚠Caution

1. When handling and replacing the unit:

- **Do not apply excessive force to the unit when disassembling.**

  The connecting portions of the unit are firmly joined with seals.
- **When joining units, take care not to get fingers caught between units.**

  Injury can result.

2. Perform periodic inspection.

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

3. After maintenance, make sure to perform an appropriate functionality inspection.

In cases of abnormality such as faulty operation, stop operation. Unexpected malfunction in the system composition devices is likely to occur.

4. Do not use benzene and thinner for cleaning units.

Damage to the surface or erasure of the display can result.
Wipe off any stains with a soft cloth.
If the stain is persistent, wipe off with a cloth soaked in a dilute solution of neutral detergent and wrung out tightly, and then finish with a dry cloth.

Other

⚠Caution

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

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