Wireless System

＊ For more information on supported models, refer to the "Specifications" page for each series.

Wireless communication for IO control

Allows for stable wireless communication, coexistence with other wireless devices, and noise resistance

▶Eliminates problems due to cable breakage and reduces maintenance costs

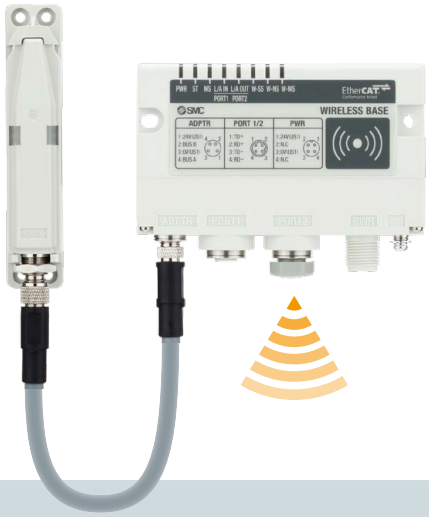
▶Reduces wiring cost, work, and space

Communication distance 100 m	Response time 2 ms	Communication speed 1 Mbps	Globally supported 64 countries/regions

＊ Varies depending on the operating conditions (Be sure to verify using the actual device.)

Wireless Base

Compatible with various protocols



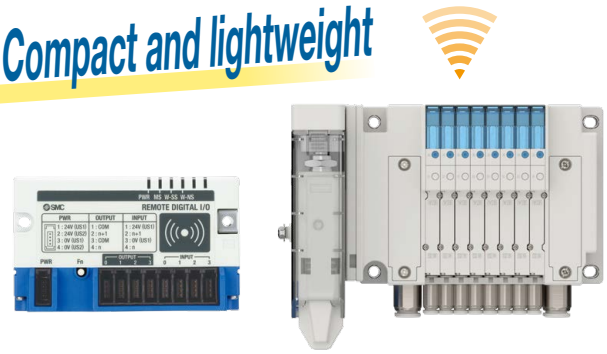
Compatible protocols

EtherNet/IP, PROFINET, EtherCAT, OPC UA, SLMP, Modbus TCP, DeviceNet, CC-Link, IO-Link

＊ IO-Link is the protocol used for connecting IO-Link devices.

Wireless Remote

Compact and lightweight



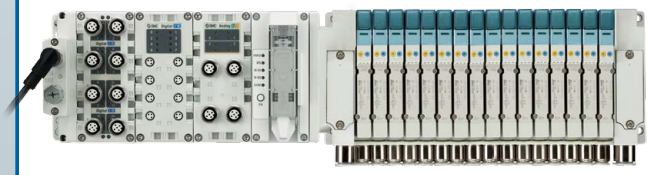
- Digital, analog, IO-Link, and valve manifold units with distributed installation
- Compared with the modular type:

Volume **88% reduction**[*1] Weight **85% reduction**[*1]

＊1 Comparison using the type with 16 digital inputs and discrete wire connections

New Wireless Remote (Modular Type)

Modular connection



- Digital, analog, IO-Link, and valve manifold units with centralized installation
- Connector type:
  M12/M8, D-sub, Spring type terminal block

For countries/regions in which wireless is supported

This product cannot be used in countries/regions where wireless is not supported. Refer to page 75 for details on countries/regions in which the product can be used.

EXW1 Series

SMC

CAT.E02-28J

Provides communication stability in FA environments

Proprietary wireless communication technology

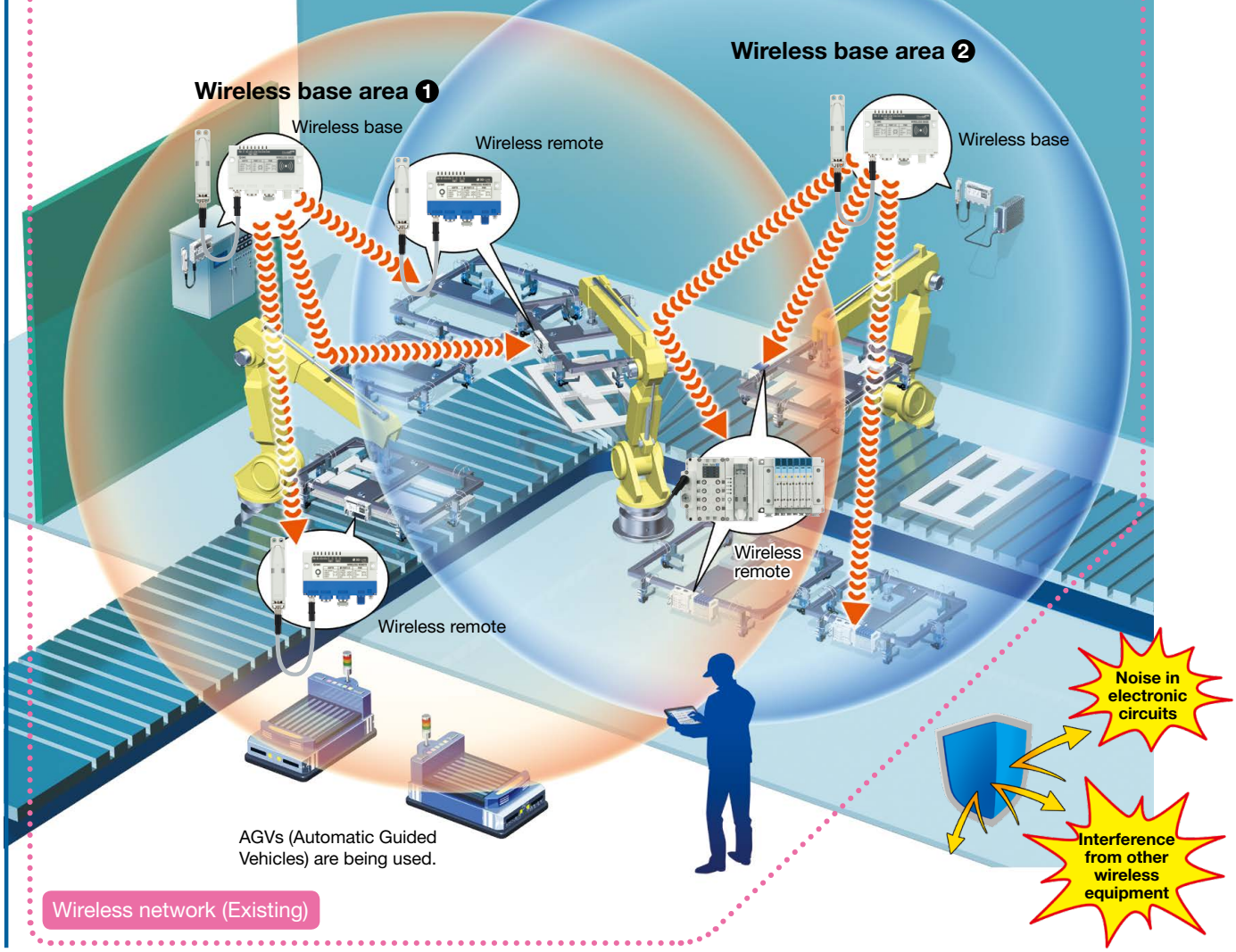
Wireless technology that reduces radio wave interference and offers noise resistance
Communication is possible within the same area as existing wireless networks such as wireless LANs and AGVs.

ID management

Each wireless base is able to identify its wireless remotes by their P.I.D.
The paired wireless base and remotes can communicate even when wireless communication areas overlap.
∗ P.I.D.: Product I.D.

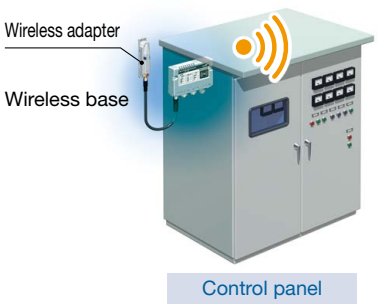
Stable communication is possible.

- Communication is possible in environments with various forms of propagation (transmission, reflection, etc.).
- Communication is also possible within the same area as existing wireless networks such as wireless LANs and AGVs.



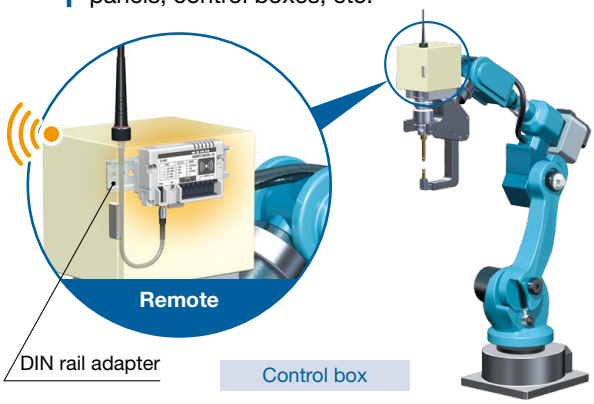
Antenna

Communication is possible with a wireless adapter or external antenna even when the wireless base/remote is installed in a metal-shielded location such as in a control panel/box.



DIN rail mounting

The DIN rail adapter allows for the DIN rail mounting of control panels, control boxes, etc.



Can coexist with other wireless devices (Reduced radio wave interference)

Frequency hopping

A stable wireless environment is established using an original protocol which is not affected by interference. Interference from other wireless equipment is reduced.

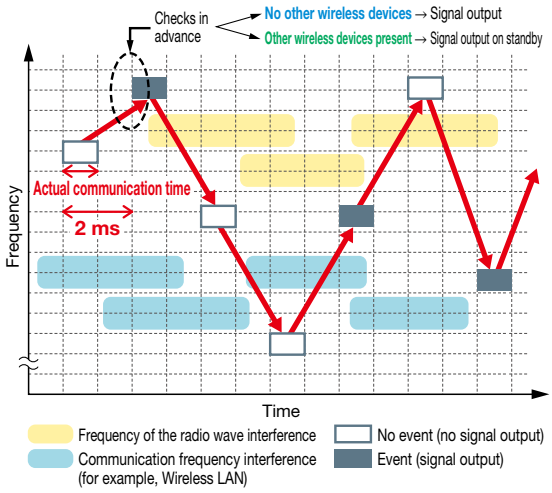
Frequency hopping cycle
2 ms

CCA technology (Clear Channel Assessment)

A technology that checks the availability of radio frequencies before transmitting wireless signals

Event communication system

Wireless communication is performed only when there is a variation in the information, thereby suppressing the frequency of radio wave output in wireless communication and reducing interference with other wireless devices.

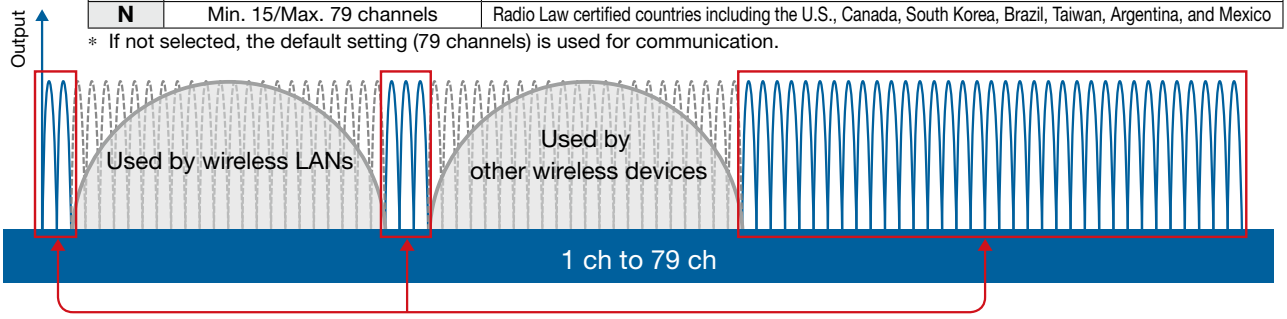


F.C.S. (Frequency channel select) function supported

This is a function that allows for the selection of the frequency channel to be hopped to via frequency hopping. When the frequency used by wireless LANs, AGVs, or other wireless devices is known, selecting a different frequency channel will allow for hopping only to the selected frequency channel, thereby reducing communication collisions with other wireless devices and stabilizing communication. ∗ The number of selectable frequency channels varies depending on the country of use.

Symbol	Number of selectable frequency channels	Applicable countries
E	Min. 5/Max. 79 channels	Radio Law certified countries other than the U.S., Canada, South Korea, Brazil, Taiwan, Argentina, and Mexico
N	Min. 15/Max. 79 channels	Radio Law certified countries including the U.S., Canada, South Korea, Brazil, Taiwan, Argentina, and Mexico

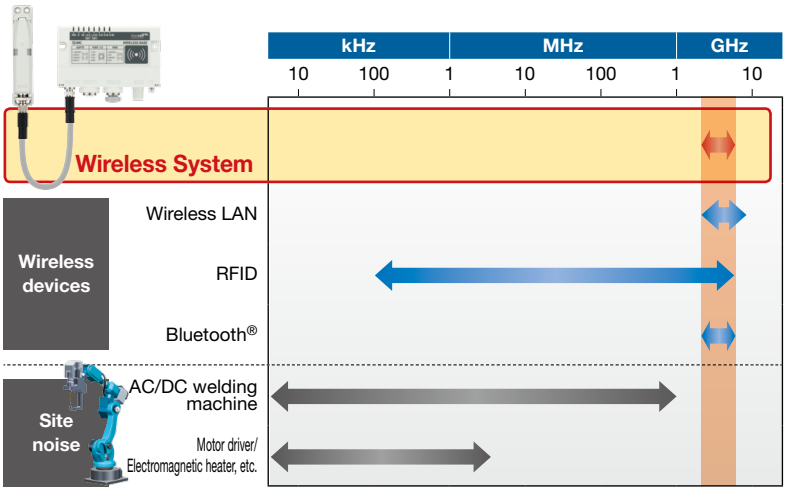
∗ If not selected, the default setting (79 channels) is used for communication.



Hopping/communicating with the frequency channel within the selected red frame

Noise resistance

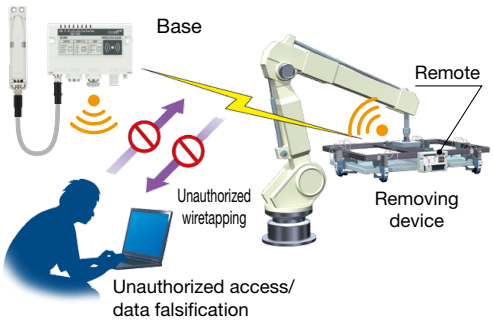
Uses the 2.4 GHz ISM frequency band, and reduces the impact of noise within worksites
Reduces interference with other wireless devices, allowing for coexistence



∗ ISM (Industrial, Scientific, and Medical) radio bands: Frequency bands allocated for industrial, scientific, and medical applications

High security

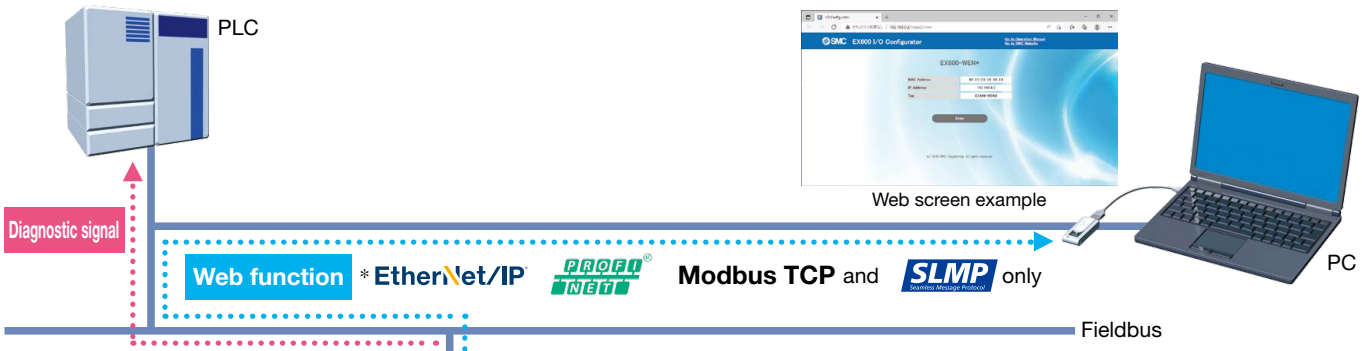
Unauthorized access from outside is prevented by using data encryption. The protocol is not disclosed due to the use of proprietary communication technology.



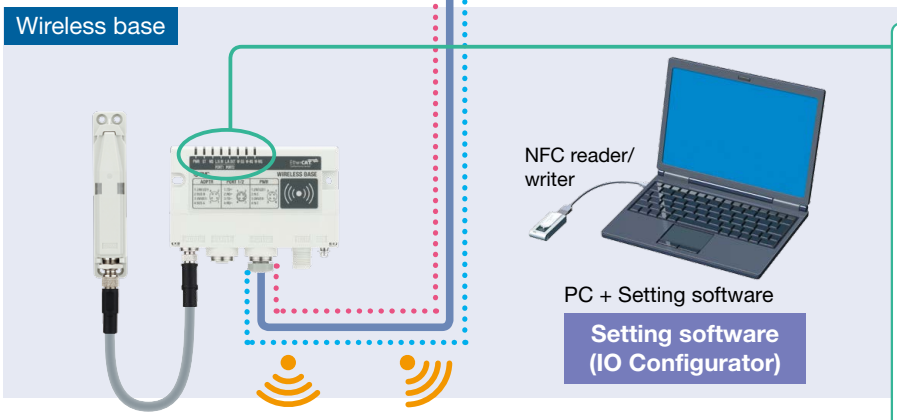
■Trademark
The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc.

Product diagnostics

Diagnostic signals, LEDs on the base/remote, Web function, and setting software (IO Configurator) can be used for product diagnostics.



Wireless base

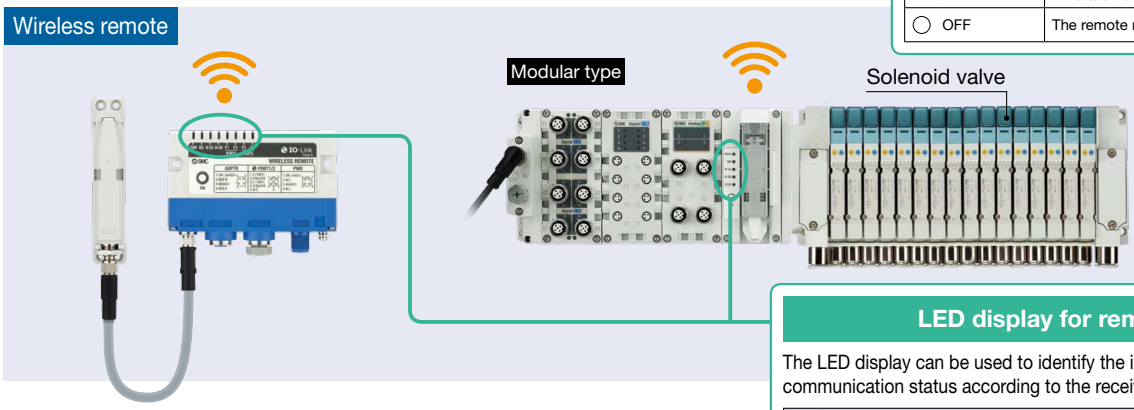


LED display for bases

The LED display can be used to identify the installation location and communication status according to the received signal strength level.

W-SS (Radio wave receiving intensity (For communication from remote to base))	
Green LED is ON.	The received power level of all remotes is 3.
Green LED flashes. (1 Hz)	There are connected remotes with a received power level of 2.
Green LED flashes. (2 Hz)	There are connected remotes with a received power level of 1.
Red LED flashes.	All the remotes that support protocol V.1.0 are not connected.
Orange LED flashes.	All the remotes that support protocol V.2.0 are not connected.
OFF	The remote module is not registered.

Wireless remote



LED display for remotes

The LED display can be used to identify the installation location and communication status according to the received signal strength level.

W-SS (Radio wave receiving intensity (For communication from base to remote))	
Green LED is ON.	The received power level is 3.
Green LED flashes. (1 Hz)	The received power level is 2.
Green LED flashes. (2 Hz)	The received power level is 1.
Red LED flashes.	The base that supports protocol V.1.0 is not connected.
Orange LED flashes.	The base that supports protocol V.2.0 is not connected.
OFF	The base module is not registered.

Diagnostic signal

The connection status of the wireless system can be judged by the PLC during operation by the diagnostic signal.

<Diagnostic signal output conditions>

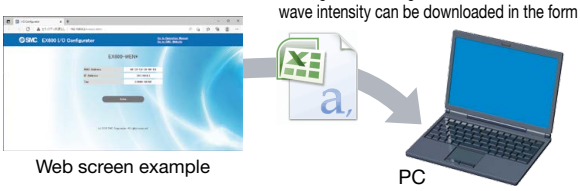
- When an error occurs in the wireless system (base or remote)
- When communication from the remote cannot be received

Web function (When the base and PC are connected)

Via the EXW1-BEN/BPN web screen, you can change the wireless communication protocol, OPC UA, and pairing settings. Wireless/diagnostic logs and wireless system configuration information can be checked, and the log data can be generated and then downloaded as a CSV file. With the EXW1-BMT, wireless/diagnostic logs and wireless system configuration information can be checked via the web screen, and log data can be generated and downloaded as CSV files.

* Refer to the logging function on page 4.

EtherNet/IP
PROFINET
Modbus TCP
SLMP
Seamless Message Protocol



The log files showing the number of retries or the received radio wave intensity can be downloaded in the form of a CSV file.

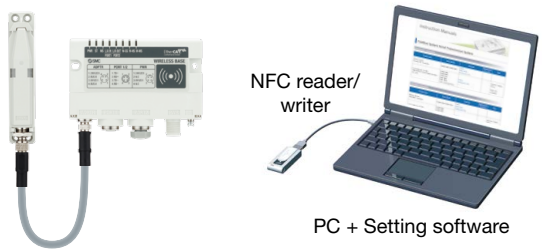
Product diagnostics

Setting software (IO Configurator)

The NFC reader/writer can be used with the setting software to perform various checks and setting without contact.
(NFC: Near Field Communication)

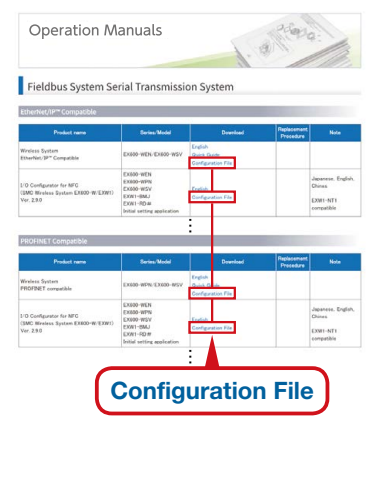
- Base communication configuration
- Setting of the I/O points for the system, base, and remote
- Pairing of the base and remote
- I/O monitoring
- Monitoring of diagnostic data

＊ Refer to the logging function.



Setting software

Download the setting software from the "configuration file."



From the SMC website

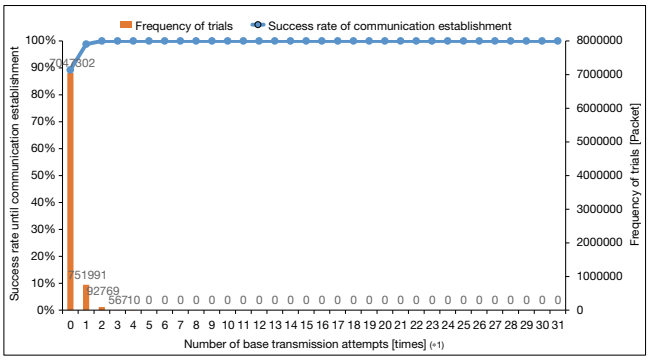
Product Information
↓
Documents/Download
↓
Operation Manuals
↓
Fieldbus System Serial Transmission System
↓
DeviceNet® Compatible
or
CC-Link Compatible
or
EtherNet/IP™ Compatible
or
EtherCAT Compatible
or
PROFINET Compatible
or
Modbus TCP Compatible
or
SLMP Compatible
↓
I/O Configurator for NFC
↓
Configuration File

Logging function

The following information is saved in the internal memory of the product. It can be downloaded and visualized from the web function or the setting software (IO Configurator).

Number of retries

The number of retries (communication attempts) can be checked.

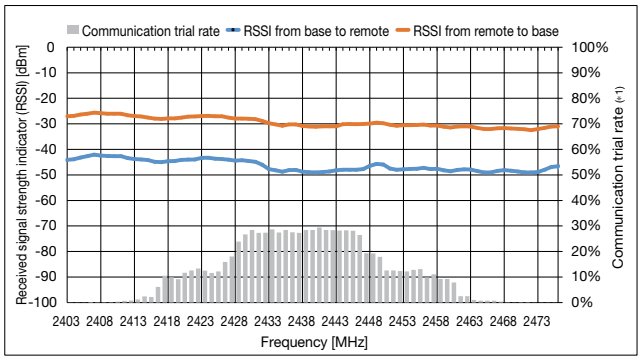


*1 Characteristics of base-to-remote transmission packets

Graph 1. Communication response characteristics

Received signal strength indicator

The communication trial rate and received signal strength indicator (RSSI) can be checked for every frequency channel.
Number of retries, Received signal strength indicator, Operation status



*1 Characteristics of base-to-remote transmission packets

Graph 2. Received signal strength indicator and communication trial rate characteristics with respect to frequency

Operation status

Error details, time information (timestamp), and remote numbers can be checked.
＊ Up to 30 pieces can be displayed.

Information | I/O monitor | Properties | Event | Wireless

ALL | CLEAR | Export | Refresh
Power on
R/W detected

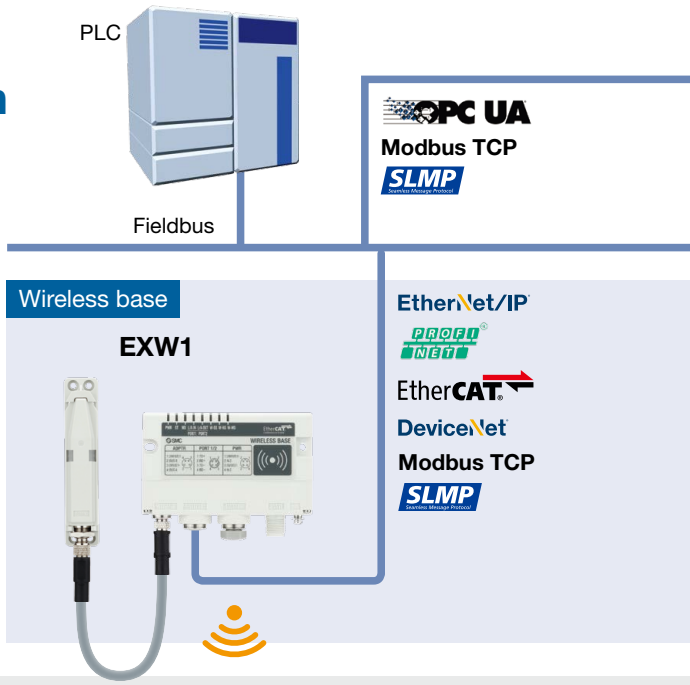
Timestamp	WCh	TAG	Unit	Channel	Status
2020/12/28 10:26:25	5	EX600-WSV1	3	5	0x00000001
2020/12/26 8:00:00	3	LINE4-S5-R-HAND	1	2	0x00000002
2020/12/24 5:33:35	2	LINE4-S5-L-HAND	1	2	0x00000002
2020/12/22 3:07:10	3	LINE4-S5-R-HAND	1	4	0x00000003
2020/12/20 0:40:45	1	LINE4-S2-R-HAND	1	4	0x00000004
2020/12/17 22:14:20	5	EX600-WSV1	3	5	0x00000005
2020/12/15 19:47:55	4	LINE4-S3-R-HAND	3	5	0x00000006

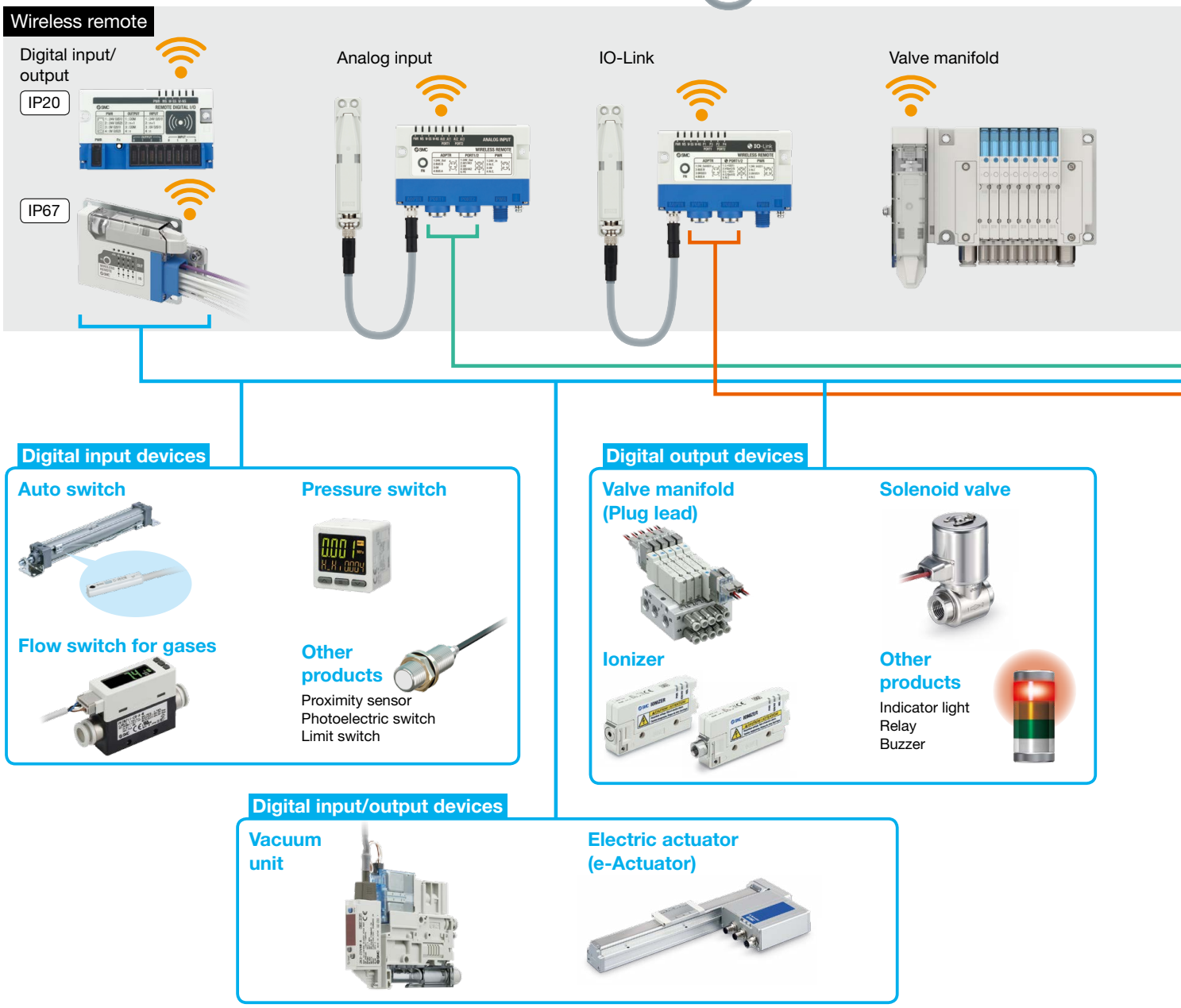
Scroll bar

System Examples

Reduce wiring of digital, analog, and IO-Link devices through combination of wireless and wired connections

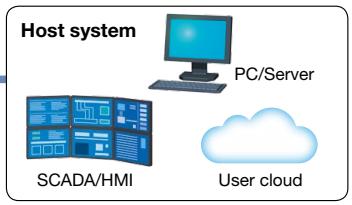
Refer to the "Functional Correspondence Table" for the functions supported by each protocol and remote.





Air management system connection by wireless*1

*1 Using the EXW1 base only



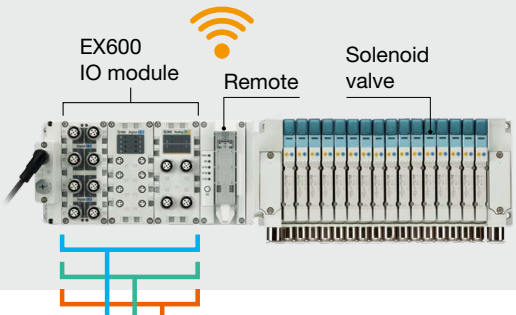
CC-Link

EtherNet/IP
PROFINET
EtherCAT
CC-Link IE Field

Can be used with the existing EX600-W
* There are limitations to the wireless communication specifications. (Refer to "System Configuration Examples" on page 10.)

Modular type

Digital/Analog input/output, IO-Link, Valve manifold



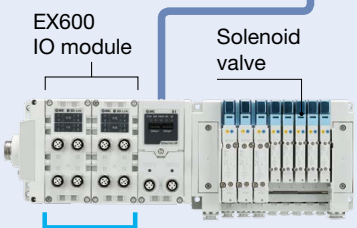
Air management system

AMS□-SA

Fieldbus system (Wired)

Integrated input-output type EX600

Digital/Analog input/output, IO-Link, Valve manifold



Analog input devices

Auto switch

Actuator position sensor

Pressure switch

Flow switch for gases

Analog input sensor

IO-Link devices

Auto switch

Actuator position sensor

Pressure switch

Gap checker

SI unit for valve

Flow switch for gases

Terminal unit

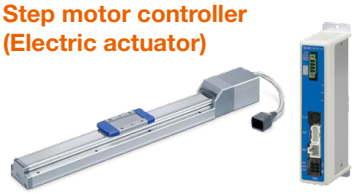
Electro-pneumatic regulator
Electronic vacuum regulator

Vacuum manifold

Ionizer

Vacuum unit

Step motor controller (Electric actuator)



New Wireless remote/Modular type

Can be connected with digital, analog, and IO-Link modules

* Up to 9 modules can be connected. (Only 1 IO-Link module can be connected. When an IO-Link module is connected, the max. number of other IO modules that can be connected is 3.)

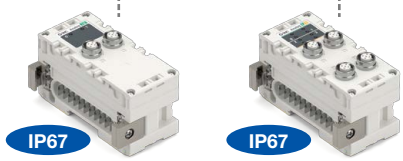
Analog Module

M12 connector (5 pins)

Input module — 2CH

Output module — 2CH

Input/Output module — 2CH/2CH



IP67 IP67

Input devices

Pressure sensor

Flow sensor

Output devices

Electro-pneumatic regulator, etc.

Wireless Remote

Connectable Solenoid Valve Series

IP67 *1

JSY1000/3000/5000

*1 The JSY1000 is IP40.

IP67

SY3000/5000/7000

IP67

VQC1000/2000/4000/5000

Modules can be differentiated by color.

Output module — OUT

Input module — IN

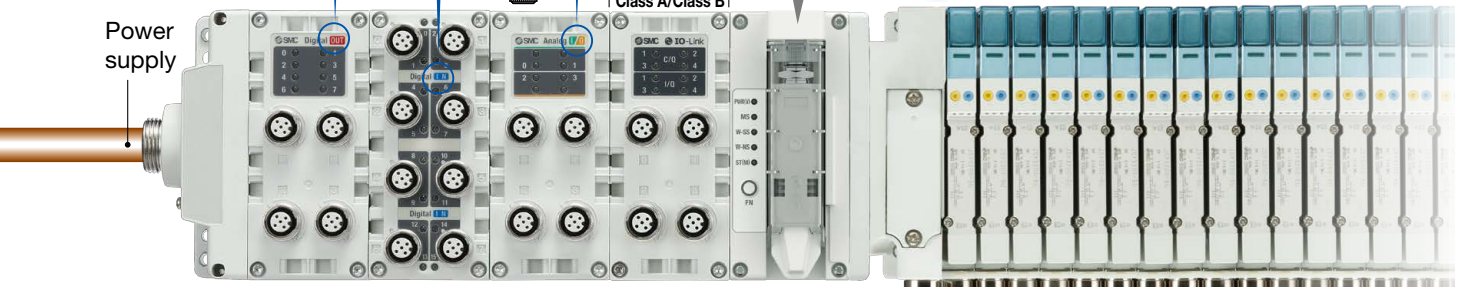
Input/Output module — I/O

IO-Link Class A/Class B

Wireless remote

IP67

Power supply



End plate | IO modules: Digital, Analog, IO-Link | Wireless remote

Digital Module

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

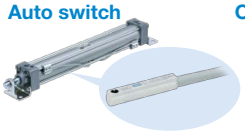
IP67 IP67 IP67 IP40 IP40

Input devices

Pressure switch

Flow switch

Auto switch



Other products
- Proximity sensor
- Photoelectric switch
- Limit switch

Output devices

Solenoid valve

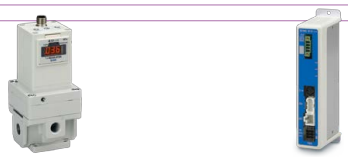
Other products
- Indicator light
- Relay
- Buzzer

IO-Link Unit / Port Class A Devices

IO-Link unit Port class A — M12 connector (5 pins) — 4 ports

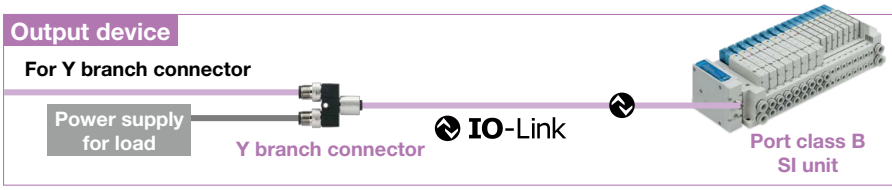
Input devices

Input/Output devices

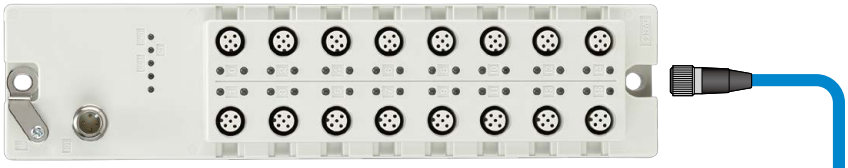


Output device

For Y branch connector



IO-Link Terminal Unit (IO-Link Device)



Number of inputs: 32 | M12 connector (4 pins)

Number of inputs: 16 | M8 connector (3 pins)

Input devices (Non-IO-Link devices)

Pressure switch

Flow switch

Auto switch

Other products
- Proximity sensor
- Photoelectric switch
- Limit switch

IO-Link Unit / Port Class B Device

IO-Link unit Port class B — M12 connector (5 pins) — 4 ports

Output device

Port class B SI unit

Wireless Remote Valve Manifold

Lightweight and compact—easy to mount on robot hands and moving parts

Installation area **60% reduction**

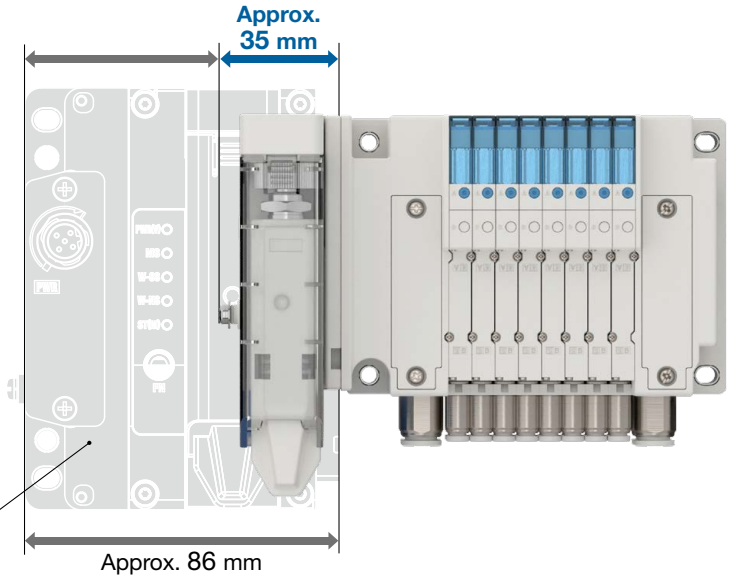
3,653 mm² Modular type: 9,094 mm²

Weight **69% reduction**

200 g Modular type: 640 g

Comparison conditions

Excludes the valve manifold
The modular type consists of a wireless remote and an end plate.



Support function for preventive maintenance and improved production efficiency

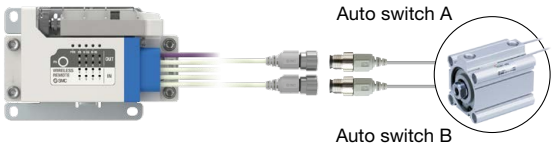
[Built-in remote]

EXW1-RD□G□C
EXW1-RMV□M5C (Modular type)

■ON/OFF time & number of operations measurement function

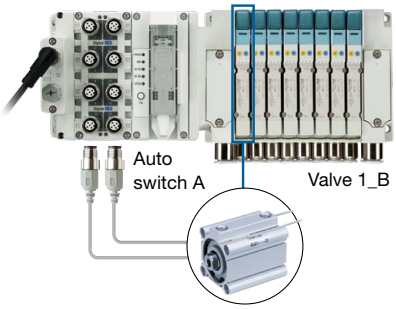
The ON/OFF time measurement function measures the ON/OFF time between input and input/output signals (latest value, average value, max. value, and min. value).
It can also measure the number of ON/OFF operations for input and output.
The measurement function allows for determining maintenance timing and locations.

Cylinder operation time based on the auto switch



[Cylinder operation monitoring example]
(Cylinder operation start)
↓
Auto switch A: OFF signal
↓
(Cylinder stroke)
↓
Auto switch B: ON signal

Cylinder operation start time based on the valve and auto switch



[Cylinder operation monitoring example]
Valve 1_B: ON signal
↓
(Cylinder operation start)
↓
Auto switch A: OFF signal

■Log function

The ON/OFF time measurement function allows for the setting of thresholds and the logging of data that falls outside these thresholds. This data can be used to support preventive maintenance and improve production efficiency. Up to 40 logs from Timer 0 to Timer 15 can be saved, and the logs include the following data:

- Timer Ch No.
- Latest value
- Total number of measurements (both inside and outside of the threshold range)
- Number of measurements outside of the threshold range
- Time stamp

∗ Logs are saved to the memory element in 60-min intervals starting when the power is turned ON. Note that logs from the last save until the power is turned OFF are not saved.

Connectable Solenoid Valve Series

IP67 ∗1

JSY1000/3000/5000

∗1 The JSY1000 is IP40.

IP67

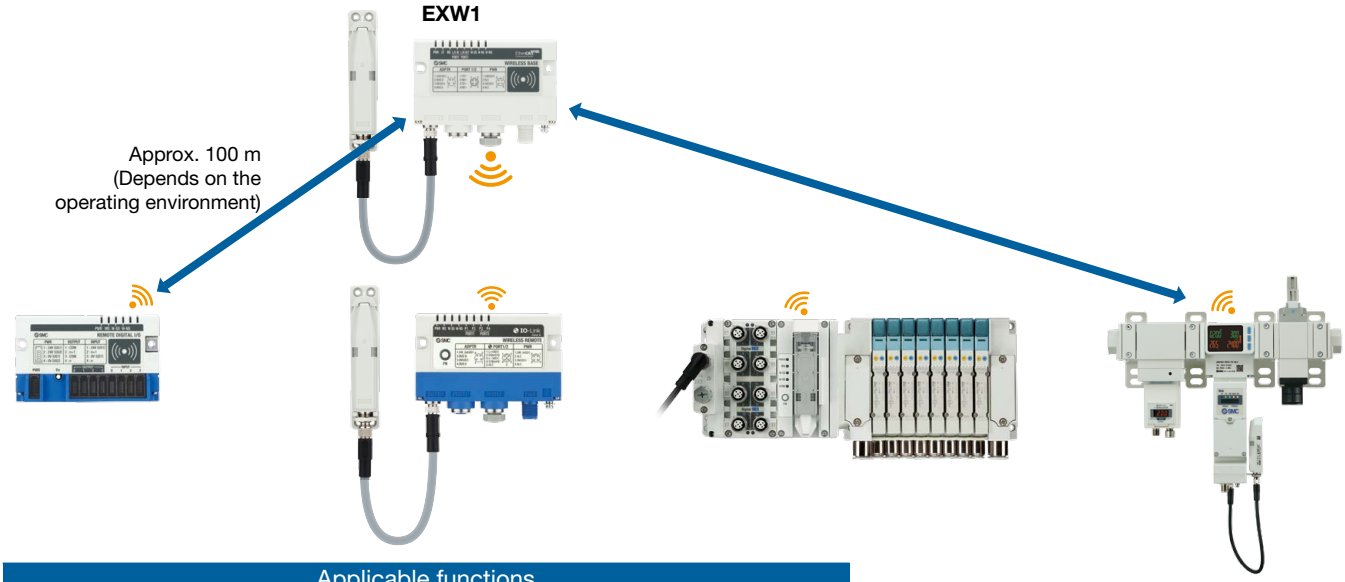
SY3000/5000/7000

IP67

VQC1000/2000/4000/5000

System Configuration Examples

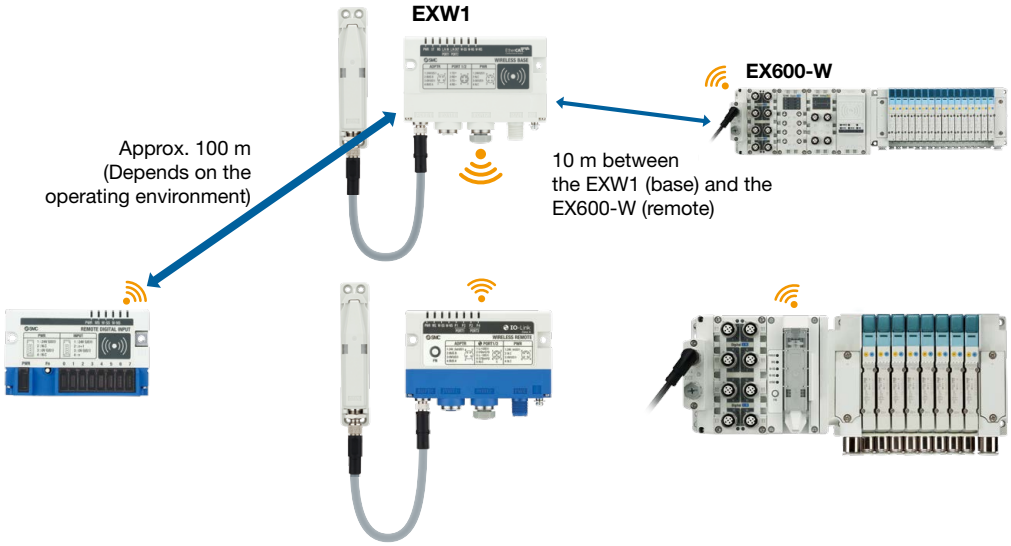
■Configuration example 1 (When the remote configuration is for the EXW1 series or air management hub only)



Applicable functions	
Frequency channel select (F.C.S.)	Applicable
Communication speed	Select from 1 Mbps or 250 kbps.*1
Response speed	Select from 2 ms or 5 ms.*1
Communication distance	Approx. 100 m (Depends on the operating environment)

*1 The communication speed and response speed cannot be selected for the Air Management Hub. They are fixed at 1 Mbps and 2 ms, respectively.

■Configuration example 2 (When the remote configuration is for the EXW1 and the EX600-W series)

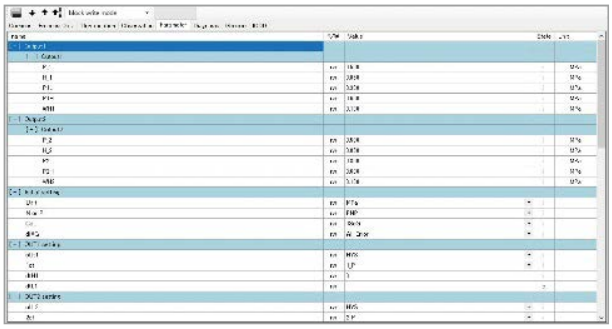


Applicable functions	
Frequency channel select (F.C.S.)	Not applicable
Communication speed	250 kbps
Response speed	5 ms
Communication distance	Approx. 100 m between the EXW1 base and remote (Depends on the operating environment) 10 m*1 between the EXW1 (base) and the EX600-W (remote)

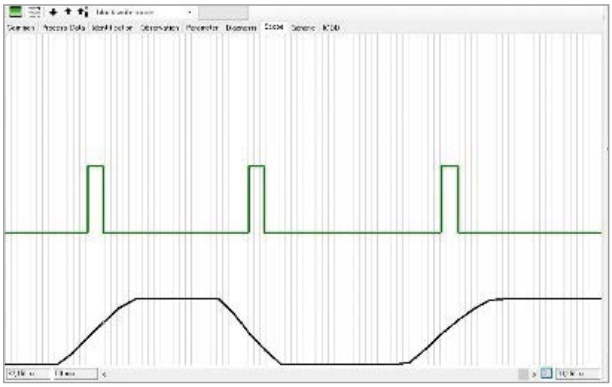
*1 The communication distance varies depending on the base/remote combination.

The data can be accessed from via PC (IO-Link setting tool).

Setting screen

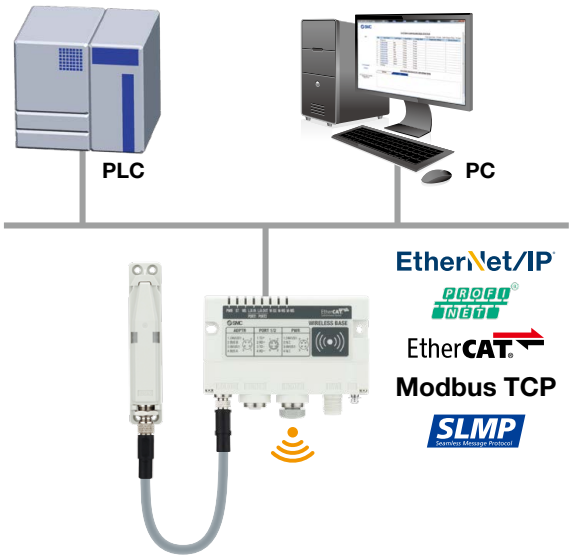


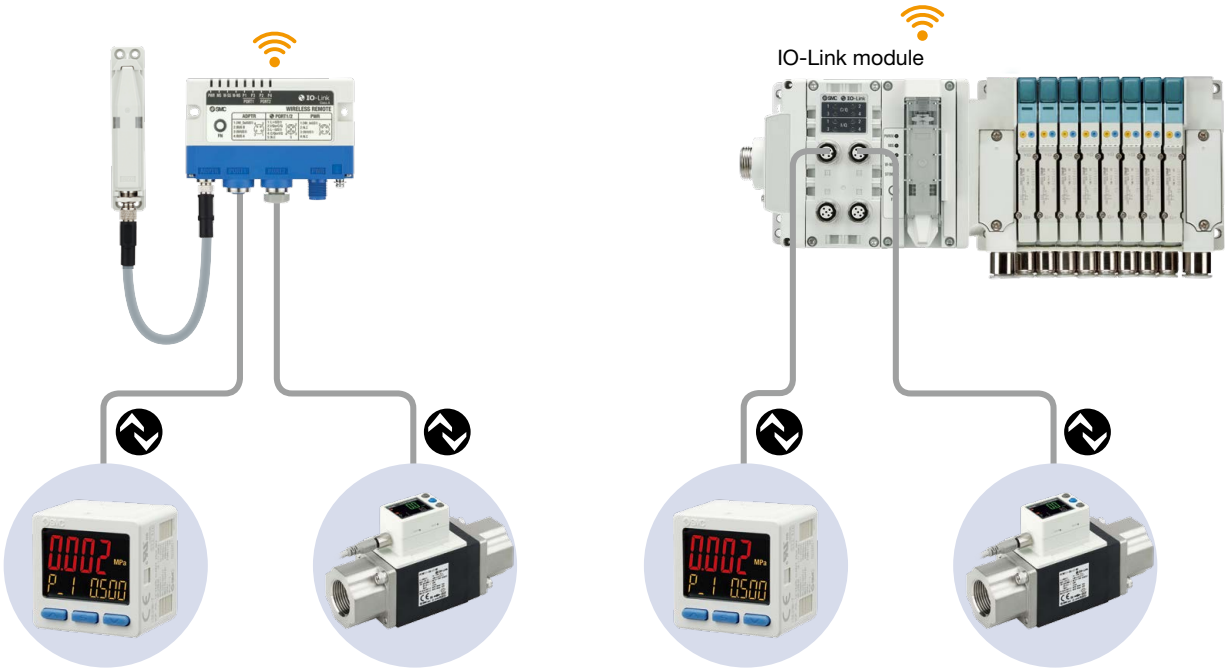
Monitoring screen



IO-Link devices can be set and monitored from a PC without going through a PLC.

- Process data
- Device information
- Device parameters
- Device diagnostics





＊ The IO-Link setting tool (IO-Link Device Tool) is a software used for the setting and monitoring of IO-Link module/device.
· A setting tool compatible with the IO-Link units of every manufacturer is used for the SMC EXW1 series and EX600 series IO-Link module. (IO-Link Device Tool V5-PE (V5 or later only) manufactured by TMG Technologie und Engineering GmbH (hereinafter referred to as TMG))
· It can be downloaded for free from TMG's website. However, to use it for more than 30 days, a license key for the IO-Link Device Tool is required. (Refer to page 65 for details.)

Update Tool

Supports the latest specifications even after installation through the addition of new features and improved performance

The firmware of the EXW1 series wireless base can be updated using the dedicated tool.
Updates allow for the addition of new features and improved performance.

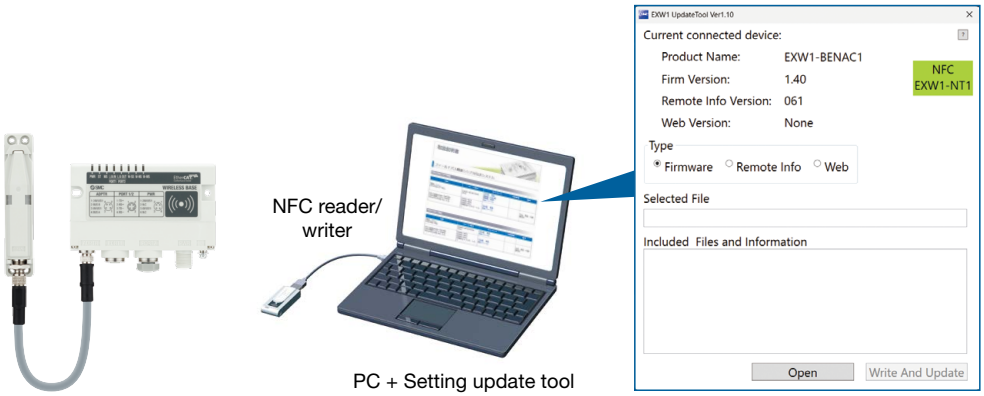
■Update contents

- Firmware update
  Addition of new features and improved performance
- Updating remote information
  When using a newly released remote with an existing base, some functions may be limited, and there may be problems connecting to the host network (PLC). Updating the remote information registered within the base to the latest version will enable the use of all functions.
- Web function update
  New additions and performance improvements

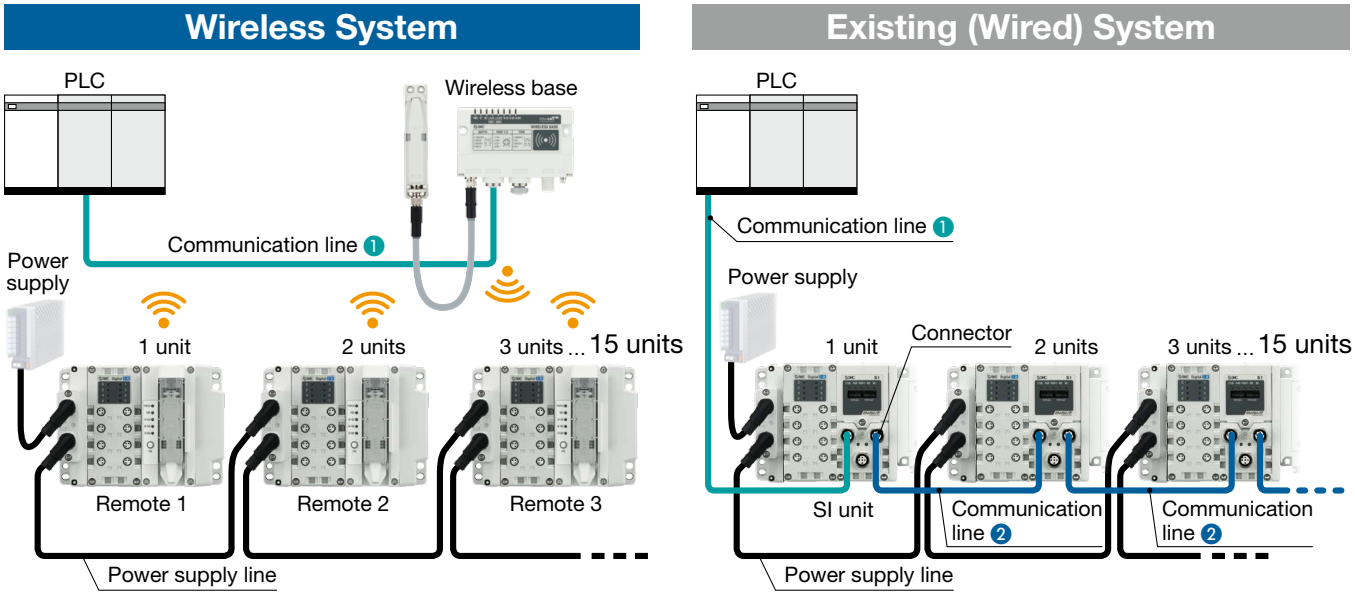
■Caution

Some specifications may change due to the update.

For details, refer to the **Web Catalog**.



Wiring material cost and installation time can be reduced.



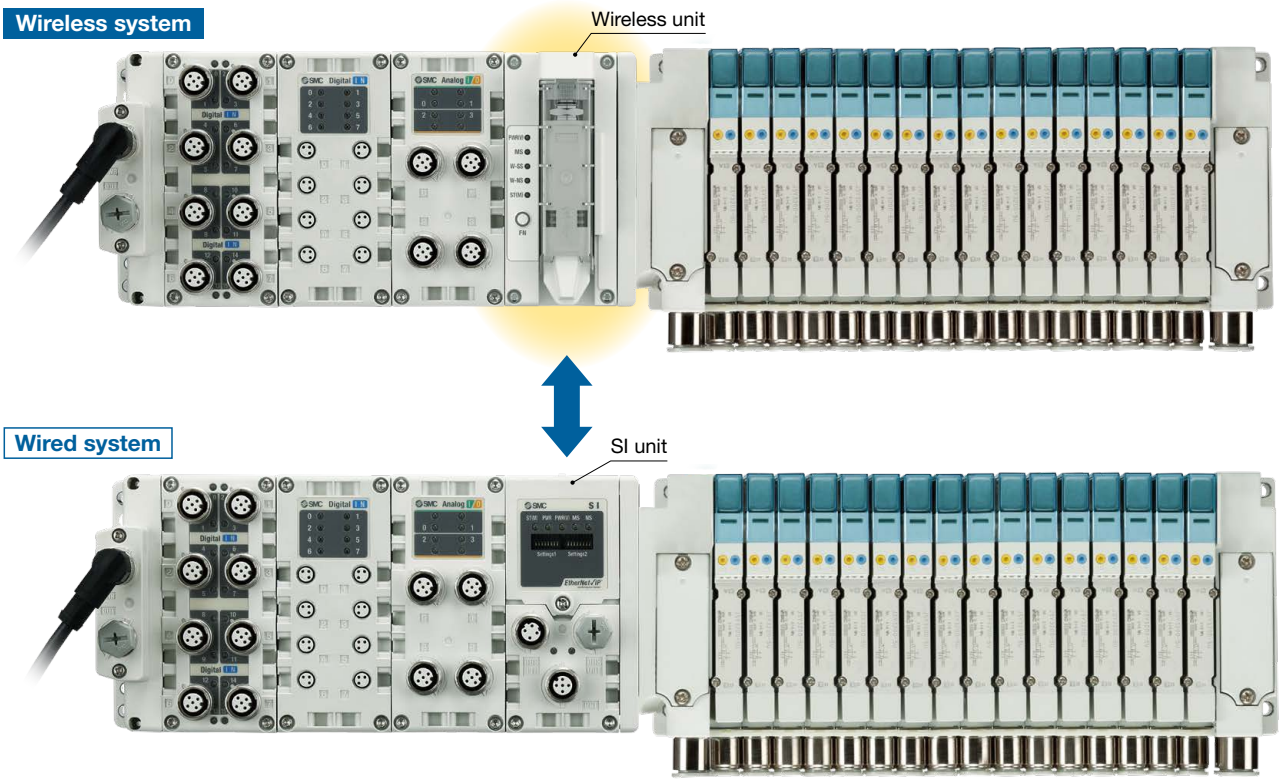
SI unit: Comparison when 15 units are connected	Number of communication devices	Communication line		Communication connectors required
		❶	❷	
Wireless system	Base: 1 unit Remote: 15 units	1 line (Connector at one end)	–	1 location
Existing (Wired) system	SI unit: 15 units	1 line (Connector at one end)	14 lines (Connector at both ends)	29 locations

Interchangeability maintained

The modular type ensures compatibility with EX600 series SI units for connection with IO modules and valve manifolds.

The replacement of wireless and wired systems is possible.

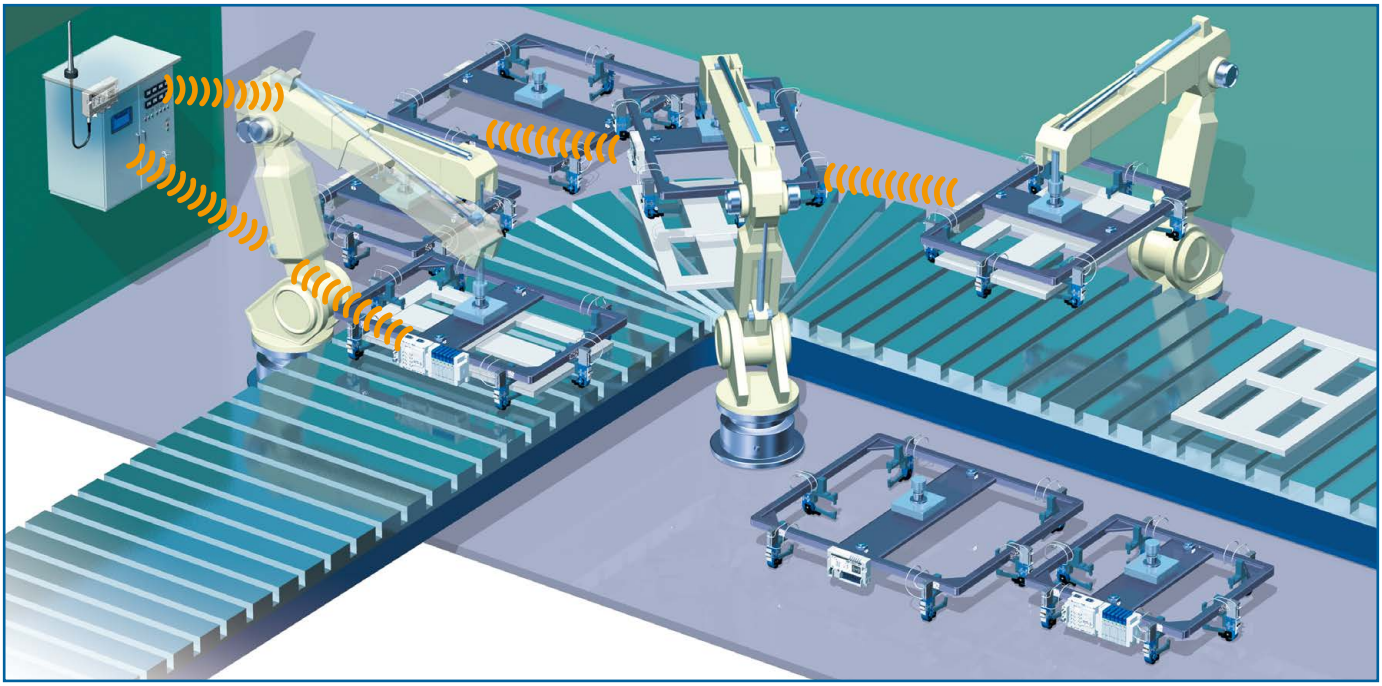
* Note that there are limitations to the number of remote input/output points.



Application Examples

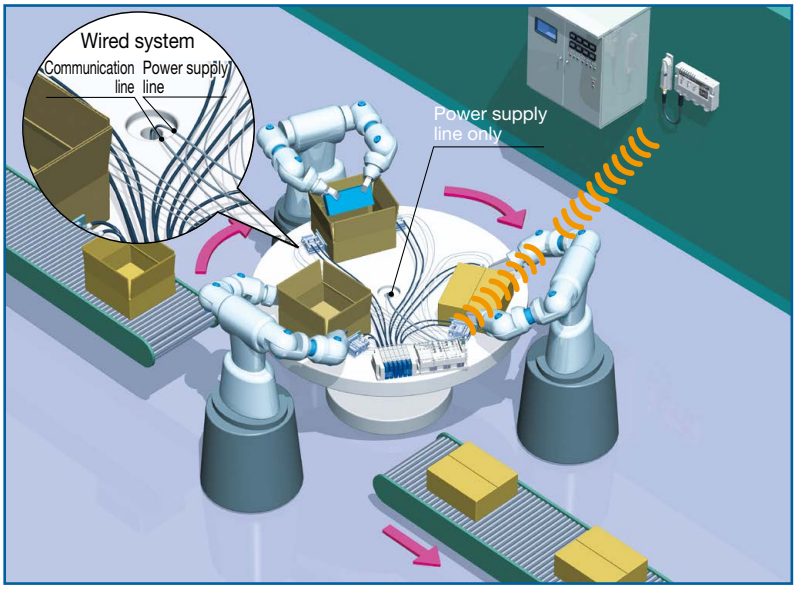
For tool changing

- A communication cable is not necessary for moving parts.
- Shorter time for establishing communication (startup time)
- Minimized disconnection risk



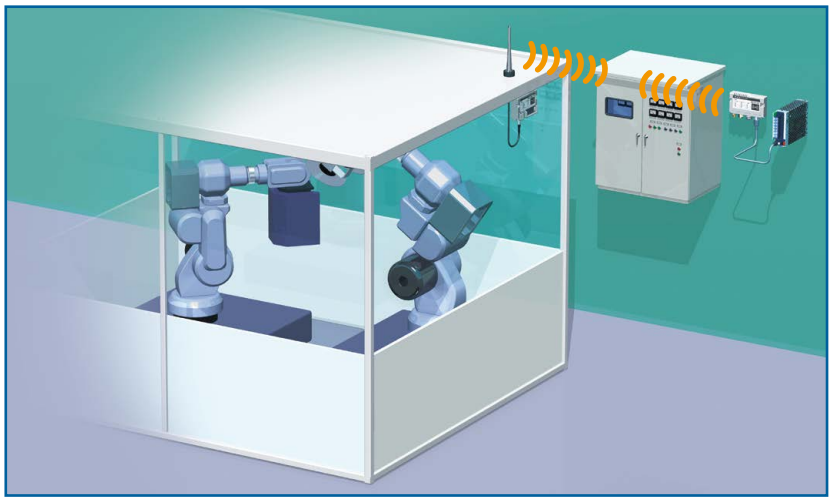
For rotary tables

- Minimized disconnection risk
- Smaller diameter communication cable/tubing



For the blocking of radio waves

Communication is possible by placing the external antenna outside the control panel when the unit is installed in a metal box, etc.



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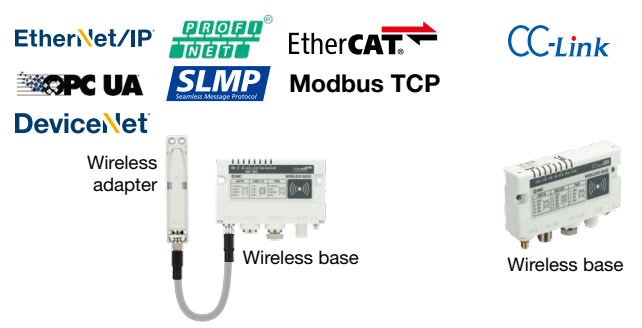
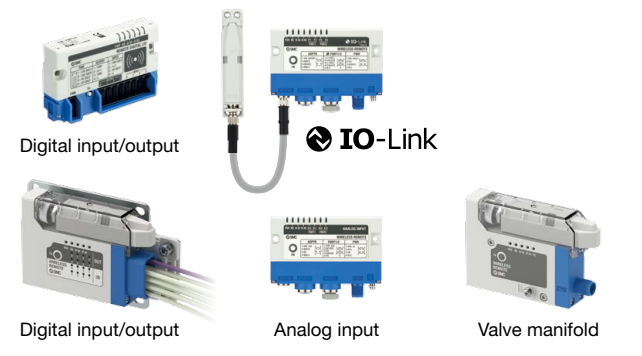


Wireless Remote



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Wireless Remote (Modular Type)

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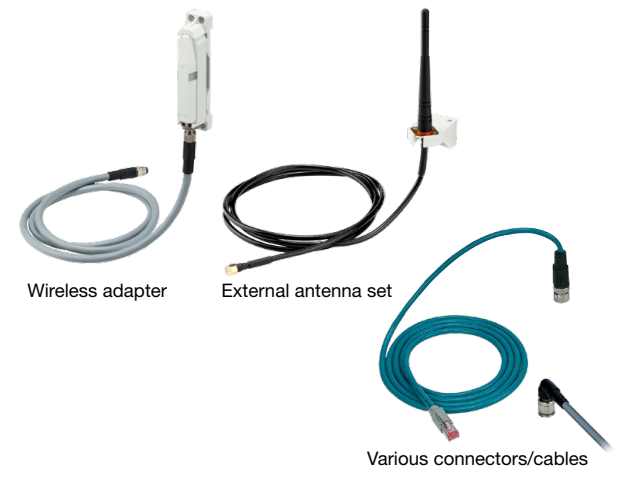
Wireless Base **Wireless Remote**



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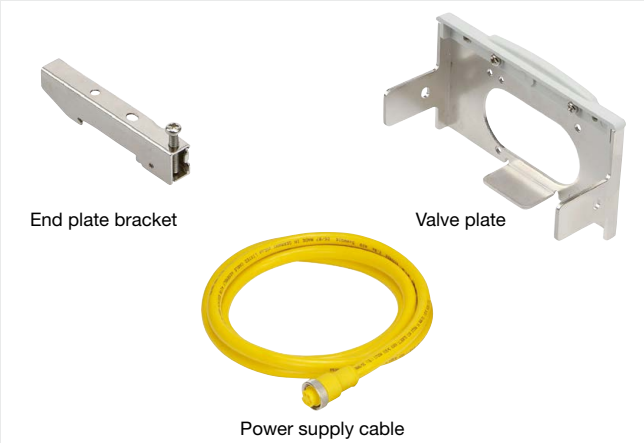
Wireless Remote (Modular Type)



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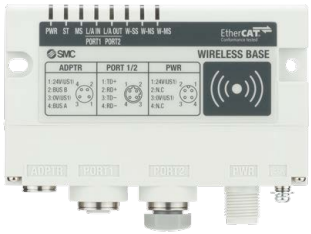
Wireless System
Base/Remote
EXW1 Series

How to Order

Wireless Base

EXW1 – B EC A C □

EtherCAT EtherNet/IP PROFINET DeviceNet Modbus TCP SLMP



Base

Communication protocol

Symbol	Protocol
EC∗1	EtherCAT
EN	EtherNet/IP™
PN	PROFINET
DN	DeviceNet®
MT	Modbus TCP, SLMP

∗1 Note that the EXW1-BECAC is not applicable for use in Taiwan.

Connector

Symbol	Connector interface
A	M12

Antenna specification for wireless communication∗1

Symbol	Antenna specification
C	Wireless adapter

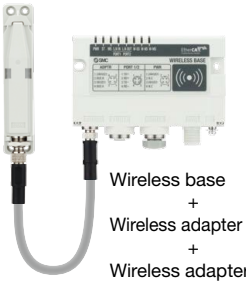
OPC UA Compliant

Symbol	OPC UA Compliant
Nil	×
1∗2	○

∗2 Select "1" for communication protocol types "EN" and "PN."

∗1 A wireless system base used in combination with a wireless adapter
When using this product, order the wireless adapter and wireless adapter cable separately.
∗ 1 seal cap (for an M12 connector) is included with the product.
∗ For DIN rail mounting, order the DIN rail adapter separately.
∗ Prepare DIN rail by user.

Components



Wireless base
+
Wireless adapter cable
+
Wireless adapter

Wireless Adapter

EXW1 – A1 1 N

Wireless adapter

Applicable model

Symbol	Applicable model
1	• Base EtherCAT: EXW1-BECAC EtherNet/IP™: EXW1-BENAC1 PROFINET: EXW1-BPNAC1 DeviceNet®: EXW1-BDNAC Modbus TCP, SLMP: EXW1-BMTAC • Remote IO-Link: EXW1-RL□ Analog input: EXW1-RAX□ Digital input/output: EXW1-RD□G□ Valve manifold: EXW1-RDY□M5□ Modular type: EXW1-RMV□M5□ • Air Management Hub (EXA1-□)

Frequency channel selection

Symbol	Number of selectable frequency channels	Applicable countries
E	Min. 5/Max. 79 channels	Radio Law certified countries other than the U.S., Canada, South Korea, Brazil, Taiwan, Argentina, and Mexico
N	Min. 15/Max. 79 channels	Radio Law certified countries including the U.S., Canada, South Korea, Brazil, Taiwan, Argentina, and Mexico

∗ Select this according to the country of use.
∗ Applicable countries differ depending on the part number. Before purchasing, refer to the "Country-specific Radio Law Compliance Table" on page 75.

∗ An installation plate (EXW1-AB4) is included as an accessory.
∗ When mounting directly to the wireless remote, the wireless adapter cover is required.
∗ When installing the wireless remote and wireless adapter separately, the wireless adapter cable and installation plate are required.

How to Order

Wireless Adapter Cable

EXW1 – AC001-SAPU

Shape & cable length

Symbol	Mounting image	Cable length	Secondary battery compatible
AC001-SAPU		100 mm	Yes
AC1-X1		300 mm	–
AC030-SSPS		2950 mm	Yes

∗ This cable is required to connect the wireless base/remote and wireless adapter.

Wireless Base (CC-Link)

EXW1 – B MJ A B E

External antenna set

Base

Communication protocol

Symbol	Protocol
MJ	CC-Link

Connector

Symbol	Connector interface
A	M12

Frequency channel selection

Symbol	Number of selectable frequency channels	Applicable countries
E	Min. 5/Max. 79 channels	Radio Law certified countries other than the U.S., Canada, South Korea, Brazil, Argentina, and Mexico
N	Min. 15/Max. 79 channels	Radio Law certified countries including the U.S., Canada, South Korea, Brazil, Argentina, and Mexico

∗ Select this according to the country of use.
∗ Applicable countries differ depending on the part number. Before purchasing, refer to the "Country-specific Radio Law Compliance Table" on page 75.

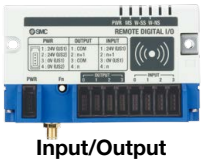
Antenna specification for wireless communication

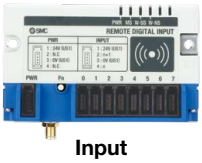
Symbol	Antenna specification∗3
A∗4	Internal antenna
B∗5, ∗6	External antenna

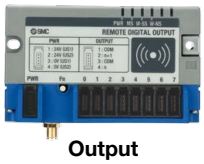
∗ 1 seal cap (for an M12 connector) is included with the product.
∗ For DIN rail mounting, order the DIN rail adapter separately.
∗ Prepare DIN rail by user.

How to Order

Wireless Remote (Digital Input/Output/e-CON)


Input/Output


Input


Output

External antenna set

EXW1 – R D M P E3 B E

Remote

Type

Symbol	Description
D	Digital

Type

Symbol	Description
X	Input
Y	Output
M	Input/Output

Polarity

Symbol	Description
P	PNP
N	NPN

Connector and number of points/ports

Symbol	Description	
	Connector	Number of points/ports
E3*1	e-CON	Input: 8 inputs/ Output: 8 outputs
E4*2	e-CON	16 points

*1 Can be selected with type "M"
*2 Can be selected with types "X" and "Y"

Frequency channel selection

Symbol	Number of selectable frequency channels	Applicable countries
E	Min. 5/Max. 79 channels	Radio Law certified countries other than the U.S., Canada, South Korea, Brazil, Argentina, and Mexico
N	Min. 15/Max. 79 channels	Radio Law certified countries including the U.S., Canada, South Korea, Brazil, Argentina, and Mexico

* Select this according to the country of use.
* Applicable countries differ depending on the part number. Before purchasing, refer to the "Country-specific Radio Law Compliance Table" on page 75.

Antenna specification for wireless communication

Symbol	Antenna specification*3
A*4	Internal antenna
B*5, *6	External antenna

*3 The antenna specification selected cannot be changed after purchase.
*4 The external antenna set cannot be used for the internal antenna specification.
*5 An external antenna set is included with the external antenna specification.
*6 It is not possible to use the external antenna set without connecting it with the external antenna specification.
* For DIN rail mounting, order the DIN rail adapter separately.
Prepare DIN rail by user.

Wireless Remote (Digital input/output/M12 Grommet)

EXW1 – R D X P G4 C 1 – E

Remote

Type

Symbol	Type
D	Digital

Type

Symbol	Type
X	Input
Y	Output
M	Input/Output

Polarity

Symbol	Polarity
P	PNP
N	NPN

Connector/Number of ports

Symbol	Connector/Number of points
G3	Grommet/8 points (For type M)
G4	Grommet/16 points (For types X and Y)

* There is no seal cap (for an M12 connector) included with the product. However, a seal cap should be mounted on any unused connectors.

Antenna specification for communication

Symbol	Connector interface
C	Wireless adapter

Bracket type

Symbol	Bracket type
1	Bracket ①
2	Bracket ② * EX600-WD□A1 interchangeable bracket

Option

Symbol	Option
Nil	Without wireless adapter
E	With wireless adapter ① (EXW1-A11E)
N	With wireless adapter ② (EXW1-A11N)

* If without wireless adapter is selected, a dedicated cable for wireless adapter and wireless adapter or wireless adapter and wireless adapter cover must be ordered separately.
* For "E" and "N," the wireless adapter and wireless adapter cover are shipped preassembled.

How to Order

Wireless Remote (Valve manifold)

EXW1 – R D Y P M5 C – E

Remote

Type

Symbol	Type
D	Digital

Type

Symbol	Type
Y	Output

Polarity

Symbol	Polarity
P	PNP
N	NPN

Connector/Number of ports

Symbol	Connector	Number of points
M5	Valve manifold	32 points

Antenna specification for wireless communication

Symbol	Connector interface
C	Wireless adapter

Option

Symbol	Option
Nil	Without wireless adapter
E	With wireless adapter ① (EXW1-A11E)
N	With wireless adapter ② (EXW1-A11N)

∗ If without wireless adapter is selected, a dedicated cable for wireless adapter and wireless adapter or wireless adapter and wireless adapter cover must be ordered separately.
∗ For "E" and "N," the wireless adapter and wireless adapter cover are shipped preassembled.

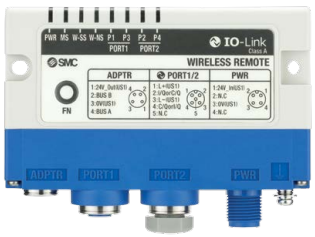
Wireless Adapter Cover

EXW1 – AB6

For direct mounting of wireless adapter, a wireless adapter cover is required.

Wireless Remote (IO-Link)

IO-Link



EXW1 – R L A P A8 C

Remote

Type

Symbol	Description
L	IO-Link

Type

Symbol	Description
A	Port class A
B	Port class B

Polarity

Symbol	Description
P	PNP

Antenna specification for wireless communication

Symbol	Connector interface
C	Wireless adapter

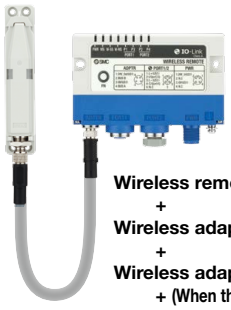
Connector and number of IO-Link ports

Symbol	Connector/Number of IO-Link ports
A8∗1	M12/4-port∗2
A7∗3	M12/2-port∗4

∗1 Can be selected with type "A"
∗2 When using the IO-Link 4-port type, 2 Y branch connectors (EXW1-ACY3) are required.
∗3 Can be selected with type "B"
∗4 The Y branch connector (EXW1-ACY3) cannot be used with this option.

∗ This wireless remote is to be used in combination with a wireless adapter. Order the wireless adapter and the cable for the wireless adapter separately. (For details ⇒ p. 17, 18)
∗ When using with an EXW1-BECAC, EXW1-BENAC1, EXW1-BPNAC1, or EXW1-BMTAC wireless base, the IO-Link device can be set using the IO-Link Device Tool V5-PE manufactured by TMG. A separate license key for the IO-Link Device Tool is required for setting. (For details ⇒ p. 65)
∗ 1 seal cap (for an M12 connector) is included with the product.
∗ For DIN rail mounting, order the DIN rail adapter separately.
∗ Prepare DIN rail by user.

Components



Wireless remote
+
Wireless adapter cable
+
Wireless adapter
+ (When the port class A, 4-port type is used)
Y branch connector (2 pcs.)

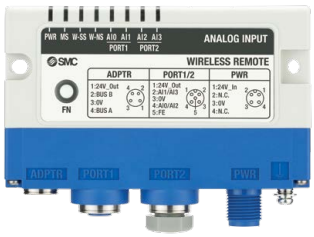
● Y branch connector (Option)

When selecting the IO-Link 4-port type for type "A," order the connectors using the part number shown below.
∗ When using the 4-port type, 2 Y branch connectors (EXW1-ACY3) are required.
∗ This cannot be used with type "B."

EXW1-ACY3

How to Order

Wireless Remote (Analog input)



EXW1 – R A X Z A2 C

Remote

Type

Symbol	Description
A	Analog

Type

Symbol	Description
X	Input

Antenna specification for wireless communication

Symbol	Connector interface
C	Wireless adapter

Connector and number of points

Symbol	Connector	Number of points
A2	M12	4 points*1

*1 When using 4 points, use 2 Y-branch connectors (EXW1-ACY2).
Or, use a terminal block, etc., to wire 2 devices to 1 analog device connector.

Polarity

Symbol	Description
Z	None

* This wireless remote is to be used in combination with a wireless adapter.
  Order the wireless adapter and the cable for the wireless adapter separately.
  (For details ⇒ p. 17, 18)
* 1 seal cap (for an M12 connector) is included with the product.
* For DIN rail mounting, order the DIN rail adapter separately.
* Prepare DIN rail by user.

● Y branch connector (Option)

When branching 1 connector to use as 2 input points, order separately using the part number below.
Note that when using the Y branch connector (EXW1-ACY2), the FE terminal of the input device connected to the remote cannot be used.

EXW1-ACY2

Components

Wireless remote
+
Wireless adapter cable
+
Wireless adapter
+ (4 points type is used)
Y branch connector (2 pcs.)

NFC Reader/Writer

EXW1 – NT1

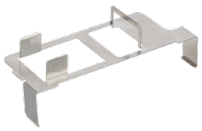
* Order a fixing bracket.
* A USB cable (3 m) is also included.

● Fixing bracket (Option)

When optional parts are required, order with the part number below.

EXW1-AB 2

Variations

Symbol	Description	Appearance	
		Single unit	Product mounting view
2	For the EXW1		

Specifications: Wireless Communication, Wireless Adapter

Wireless Communication Specifications

Item		Specifications
Protocol		SMC original protocol (SMC encryption)
	Between EXW1 remote	V.2.0 or V.1.0 (Selectable)
	Between EX600-W remote	V.1.0
Radio wave type (spread)		Frequency Hopping Spread Spectrum (FHSS)
Frequency		2.4 GHz (2403 to 2481 MHz)
Number of frequency channels		5 to 79 ch or 15 to 79 ch (Refer to page 2.)
Frequency channel selection		Applicable (Refer to page 2.)
Channel bandwidth		1.0 MHz
Communication speed	**V.2.0**	1 Mbps
	V.1.0	250 kbps
Communication distance		Approx. 100 m (Depends on the operating environment)
Countries in which Radio Law certified		Refer to page 75 for the latest information regarding in which countries the product is certified.
Number of registered wireless remotes∗1		Max. 127 units (15/31/63/127 units)

∗1 The number of registered units varies depending on the product.
The recommended number of simultaneously operating units is 1 to 15 units.

Wireless Adapter Specifications (EXW1-A11□)
Electrical Specifications

Item	Specifications
US1 (for control) power supply voltage range	12 VDC –10% to 24 VDC +10%
Internal current consumption	50 mA or less

General Specifications

Item	Specifications
Enclosure	IP67
Vibration resistance	EN 61131-2 compliant 5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s^2
Impact resistance	EN 61131-2 compliant, 147 m/s^2, 11 ms
Standards	CE/UKCA marking, UL (CSA)∗1
Weight	40 g (Body), 20 g (Installation plate)

∗1 UL (CSA) is applicable only when the product is connected to an air management hub system or an EXW1 series wireless base.
Be sure to confirm the specifications of the device to be connected in advance to see if it is UL (CSA) compliant.
∗ Air bubbles may be visible on the exterior of the product, but this does not affect the product's performance.

Specifications: Wireless Base

EtherCAT (EXW1-BECAC)
Communication Specifications

Item	Specifications
Protocol	EtherCAT (Conformance Test Record V.2.3.0)
Communication speed	100 Mbps
Occupation area (Number of inputs/outputs)	Max. 11784 inputs/11784 outputs (1473 bytes/1473 bytes)
Configuration file	ESI (XML file)*1

*1 The configuration file can be downloaded from the SMC website.

Electrical Specifications

Item	Specifications
US1 (for control) power supply voltage range	24 VDC ±10%
Internal current consumption	150 mA or less (200 mA or less when a wireless adapter is connected)

General Specifications

Item	Specifications
Enclosure	IP67
Ambient temperature	Operating: –10 to 50°C Storage/Shipping: –20 to 60°C
Ambient humidity	35 to 85%RH (No condensation)
Vibration resistance	EN 61131-2 compliant 5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s^2
Impact resistance	EN 61131-2 compliant, 147 m/s^2, 11 ms
Standards	CE/UKCA marking, UL (CSA)
Weight	150 g

EtherNet/IP (EXW1-BENAC1)
Communication Specifications

Item	Specifications
Protocol	EtherNet/IP™ (Conformance version: Composite 19.1)
Communication cable	Standard Ethernet cable (CAT5 or higher, 100BASE-TX)
Communication speed	10/100 Mbps
Communication method	Full duplex/Half duplex
Configuration file	EDS file
Occupation area (Number of inputs/outputs)	Max. 11552 inputs/11552 outputs (1444 bytes)
IP address setting range	Manual, Through DHCP server: Optional address
Device information	Vendor ID: 7 (SMC Corporation) Device type: 12 (Communication Adapter) Product code: 266
QuickConnect™ function	Supported
Web server	Supported
OPC UA	Supported

Electrical Specifications

Item	Specifications
US1 (for control) power supply voltage range	24 VDC ±10%
Internal current consumption	150 mA or less (200 mA or less when a wireless adapter is connected)

General Specifications

Item	Specifications
Enclosure	IP67
Ambient temperature	Operating: –10 to 50°C Storage/Shipping: –20 to 60°C
Ambient humidity	35 to 85%RH (No condensation)
Vibration resistance	EN 61131-2 compliant 5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s^2
Impact resistance	EN 61131-2 compliant, 147 m/s^2, 11 ms
Standards	CE/UKCA marking, UL (CSA)
Weight	160 g

Specifications: Wireless Base

PROFINET (EXW1-BPNAC1)
Communication Specifications

Item	Specifications
Protocol	PROFINET IO (Conformance Class B)
Communication speed	100 Mbps
Configuration file	GSDML file
Occupation area (Number of inputs/outputs)	Max. 10464 inputs/10464 outputs (1308 bytes)
FSU (Fast start up)	Supported
MRP (Media Redundancy Protocol)	Supported
System redundancy S.2	Supported
Web server	Supported
OPC UA	Supported

Electrical Specifications

Item	Specifications
US1 (for control) power supply voltage range	24 VDC ±10%
Internal current consumption	150 mA or less (200 mA or less when a wireless adapter is connected)

General Specifications

Item	Specifications
Enclosure	IP67
Ambient temperature	Operating: –10 to 50 °C Storage/Shipping: –20 to 60 °C
Ambient humidity	35 to 85%RH (No condensation)
Vibration resistance	EN 61131-2 compliant 5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s^2
Impact resistance	EN 61131-2 compliant, 147 m/s^2,11 ms
Standards	CE/UKCA marking, UL (CSA)
Weight	160 g

Modbus TCP, SLMP (EXW1-BMTAC)
Communication Specifications

Item	Specifications	
Communication protocol∗1	Modbus TCP Server	SLMP (QnA compatible 3E frame) Server
Transmission medium (cable)	Standard Ethernet cable (CAT5 or higher, 100BASE-TX)	
Communication speed	10 Mbps/100 Mbps	
Communication method	Full duplex/Half duplex	
IP address setting	Manual/BOOTP, DHCP	
Communication method	TCP/IP	TCP/IP UDP/IP
Data type	Binary	Binary/ASCII
Process occupation area (Number of inputs/outputs)	Max. 11520 inputs/11520 outputs (1440 bytes/1440 bytes)	
Web server function	Supported	

∗1 Either Modbus TCP or SLMP can be used.

Electrical Specifications

Item	Specifications
US1 (for control) power supply voltage range	24 VDC ±10%
Internal current consumption	100 mA or less (150 mA or less when a wireless adapter is connected)

General Specifications

Item	Specifications
Enclosure	IP67
Ambient temperature	Operating: –10 to 50°C Storage/Shipping: –20 to 60°C
Ambient humidity	35 to 85%RH (No condensation)
Vibration resistance	EN 61131-2 compliant 5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s^2
Impact resistance	EN 61131-2 compliant, 147 m/s^2, 11 ms
Standards	CE/UKCA marking
Weight	150 g

Specifications: Wireless Base

DeviceNet (EXW1-BDNAC)
Communication Specifications

Item	Specifications
Protocol	DeviceNet® Volume 1 (Edition 2.1) Volume 3 (Edition 1.1)
Device type	Communication adapter
Communication speed	125/250/500 kbps
Configuration file	EDS file
Occupation area (Number of inputs/outputs)	Max. 4096 inputs/4096 outputs (512 bytes)
Applicable messages	Duplicate MAC ID Check Message Group 2 Only Unconnected Explicit Message Explicit Message (Group 2) Poll I/O Message (Predefined M/S Connection set)

Electrical Specifications

Item	Specifications
V+ (US1) power supply voltage range	DeviceNet® specification compliant (11 to 25 VDC)
Internal current consumption	100 mA or less (150 mA or less when a wireless adapter is connected)

General Specifications

Item	Specifications
Enclosure	IP67
Ambient temperature	Operating: –10 to 50°C Storage/Shipping: –20 to 60°C
Ambient humidity	35 to 85%RH (No condensation)
Vibration resistance	EN 61131-2 compliant 5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s^2
Impact resistance	EN 61131-2 compliant, 147 m/s^2, 11 ms
Standards	CE/UKCA marking, UL (CSA)
Weight	150 g

CC-Link (EXW1-BMJA□)
Communication Specifications

Item	Specifications
Protocol	CC-Link (Ver. 1.10, Ver. 2.00)
Station type	Remote device station
Device type	Wireless equipment (Code 0x4B)
Station number	1 to 64
Communication speed	156/625 kbps 2.5/5/10 Mbps
Configuration file	CSP+ file*1
Occupation area (Number of inputs/outputs)	Max. (896 inputs/896 outputs)
Max. number of occupied stations	4 stations
Supported functions	Cyclic transmission Extended cyclic transmission (Only when Ver. 2.00 is specified) Longer cable between stations

*1 The configuration file can be downloaded from the SMC website.

Electrical Specifications

Item	Specifications
US1 (for control) power supply voltage range	24 VDC ±10%
Internal current consumption	100 mA or less

General Specifications

Item	Specifications
Enclosure	IP67
Ambient temperature	Operating: –10 to 50°C Storage/Shipping: –20 to 60°C
Ambient humidity	35 to 85%RH (No condensation)
Vibration resistance	EN 61131-2 compliant 5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s^2
Impact resistance	EN 61131-2 compliant, 147 m/s^2, 11 ms
Standards	CE/UKCA marking
Weight	150 g (Body), 100 g (External antenna set)

Specifications: Wireless Remote (EXW1-RD□□E□) Digital Input/Output/e-CON

Communication Specifications (Common)

Item		Specifications
Protocol		SMC original protocol (SMC encryption)
	Between EXW1 bases	V.2.0 or V.1.0 (Selectable)
	Between EX600-W bases	V.1.0
Radio wave type (spread)		Frequency Hopping Spread Spectrum (FHSS)
Frequency		2.4 GHz (2403 to 2481 MHz)
Number of frequency channels		5 to 79 ch or 15 to 79 ch (Refer to page 2.)
Frequency channel selection		Applicable (Refer to page 2.)
Channel bandwidth		1.0 MHz
Communication speed	**V.2.0**	1 Mbps
	V.1.0	250 kbps
Communication distance		Approx. 100 m (Depends on the operating environment)
Countries in which Radio Law certified		Refer to page 75 for the latest information regarding in which countries the product is certified.

Electrical Specifications (Input/Output Type)

Item		Specifications	
		EXW1-RDMPE3□□	**EXW1-RDMNE3□□**
US1 (for control/input) power supply voltage range		24 VDC ±10%	
US2 (for output) power supply voltage range		24 VDC ±10%	
Internal current consumption		100 mA or less	
Isolation		Yes (between US1 and US2)	
Input	**Number of points**	8 points (2 points/connector)	
	Type	PNP (-COM)	NPN (+COM)
	Max. sensor supply current	0.3 A/connector, 1 A/unit	
	ON current	Typ. 5 mA	
	OFF current	2 mA or less	
	ON voltage	11 V or more	
	OFF voltage	5 V or less	
	Over current protection/detection function	Applicable	
Output	**Number of points**	8 points (2 points/connector)	
	Type	PNP (-COM)	NPN (+COM)
	Max. output current	0.3 A/point, 2 A/unit	
	Over current protection/detection function	Applicable	

Electrical Specifications (Input Type)

Item		Specifications	
		EXW1-RDXPE4□□	**EXW1-RDXNE4□□**
US1 (for control/input) power supply voltage range		24 VDC ±10%	
Internal current consumption		100 mA or less	
Input	**Number of points**	16 points (2 points/connector)	
	Type	PNP (-COM)	NPN (+COM)
	Max. sensor supply current	0.3 A/connector, 2 A/unit	
	ON current	Typ. 5 mA	
	OFF current	2 mA or less	
	ON voltage	11 V or more	
	OFF voltage	5 V or less	
	Over current protection/detection function	Applicable	

Electrical Specifications (Output Type)

Item		Specifications	
		EXW1-RDYPE4□□	**EXW1-RDYNE4□□**
US1 (for control/input) power supply voltage range		24 VDC ±10%	
US2 (for output) power supply voltage range		24 VDC ±10%	
Internal current consumption		100 mA or less	
Isolation		Yes (between US1 and US2)	
Output	**Number of points**	16 points (2 points/connector)	
	Type	PNP (-COM)	NPN (+COM)
	Max. output current	0.3 A/point, 2 A/unit	
	Over current protection/detection function	Applicable	

General Specifications (Common)

Item	Specifications
Connector type	e-CON (4-pin, Socket)
Enclosure	IP20
Ambient temperature	Operating: –10 to 50°C Storage/Shipping: –20 to 60°C
Ambient humidity	35 to 85%RH (No condensation)
Standards	CE/UKCA marking
Vibration resistance	EN 61131-2 compliant 5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s^2
Impact resistance	EN 61131-2 compliant, 147 m/s^2, 11 ms
Weight	130 g (Body), 100 g (External antenna set)

Specifications: Wireless Remote (EXW1-RD□□G□) Digital Input/Output/M12 Grommet

Communication Specifications (Common)

Item		Specifications
Protocol		SMC original protocol (SMC encryption)
	Between EXW1 bases	V.2.0 or V.1.0 (Selectable)
	Between EX600-W bases	V.1.0
Radio wave type (spread)		Frequency Hopping Spread Spectrum (FHSS)
Frequency		2.4 GHz (2403 to 2481 MHz)
Number of frequency channels		5 to 79 ch or 15 to 79 ch (Refer to page 2.)
Frequency channel selection		Applicable (Refer to page 2.)
Channel bandwidth		1.0 MHz
Communication speed	**V.2.0**	1 Mbps
	V.1.0	250 kbps
Communication distance		Approx. 100 m (Depends on the operating environment)
Countries in which Radio Law certified		Refer to page 75 for the latest information regarding in which countries the product is certified.

Electrical Specifications (Input/Output Type)

Item		Specifications	
Model		**EXW1-RDMPG3C□**	**EXW1-RDMNG3C□**
US1 power supply voltage range (for control/input)		24 VDC ±10%	
US2 power supply voltage range (for driving)		24 VDC ±10%	
Internal current consumption		50 mA or less (100 mA or less when a wireless adapter is connected)	
Isolation		Yes (between US1 and US2)	
Input	**Number of points**	2 points/connector, 8 points/unit	
	Type	PNP	NPN
	Max. sensor supply current @25°C	0.5 A/connector, 2 A/unit*1	
	ON current	Typ.3 mA	
	ON voltage	11 V or more	
	OFF voltage	5 V or less	
	Protection	Short-circuit protection	
Output	**Number of points**	2 points/connector, 8 points/unit	
	Type	PNP	NPN
	Max. output current	0.5 A/point, 2 A/unit*1	
	Protection	Short-circuit protection	

Electrical Specifications (Input Type)

Item		Specifications	
Model		**EXW1-RDXPG4C□**	**EXW1-RDXNG4C□**
US1 power supply voltage range (for control/input)		24 VDC ±10%	
Internal current consumption		50 mA or less (100 mA or less when a wireless adapter is connected)	
Input	**Number of points**	2 points/connector, 16 points/unit	
	Type	PNP	NPN
	Max. sensor supply current @25°C	0.5 A/connector*2, 2 A/unit*3	
	ON current	Typ.3 mA	
	ON voltage	11 V or more	
	OFF voltage	5 V or less	
	Protection	Short-circuit protection	

Electrical Specifications (Output Type)

Item		Specifications	
Model		**EXW1-RDYPG4C□**	**EXW1-RDMNG4C□**
US1 power supply voltage range (for control/input)		24 VDC ±10%	
US2 power supply voltage range (for driving)		24 VDC ±10%	
Internal current consumption		50 mA or less (100 mA or less when a wireless adapter is connected)	
Isolation		Yes (between US1 and US2)	
Output	**Number of points**	2 points/connector, 16 points/unit	
	Type	PNP	NPN
	Max. output current @25°C	0.5 A/point, 2 A/unit*1	
	Protection	Short-circuit protection	

General Specifications (Common)

Item	Specifications
Enclosure	IP67*4
Ambient temperature	Operating: –10 to 55°C Storage/Shipping: –20 to 60°C
Ambient humidity	35 to 85%RH (No condensation)
Standards	CE/UKCA marking
Vibration resistance	EN 61131-2 compliant 5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s^2
Impact resistance	EN 61131-2 compliant, 147 m/s^2, 11 ms
Weight	Min. 350 g (Bracket 1, Without wireless adapter) Max. 550 g (Bracket 2, With wireless adapter)

*1 At an ambient operating temperature of 55°C, the maximum current is 0.5 A/Unit.
*2 At an ambient operating temperature of 55°C, the maximum current is 0.3 A/Connector.
*3 At an ambient operating temperature of 55°C, the maximum current is 0.3 A/Unit.
*4 Be sure to fit a seal cap on any unused connectors. (For details ⇒ p. 65)

Specifications: Wireless Remote (EXW1-RD□□M□) Valve Manifold

Electrical Specifications

Item	Specifications
US1 (for control) power supply voltage range	24 VDC ±10%
US2 (for output) power supply voltage range	24 VDC ±10%
US1 (for control) current consumption	50 mA or less (100 mA or less when a wireless adapter is connected)
US2 (for output) max. supply current	2 A
Valve output connected load	Solenoid valve with surge voltage suppressor of 24 VDC and 1.5 W or less (manufactured by SMC)

General Specifications

Item	Specifications
Enclosure	IP67
Ambient temperature	Operating: –10 to 55°C
	Storage/Shipping: –20 to 60°C
Ambient humidity	35 to 85%RH (No condensation)
Standards	CE/UKCA marking
Vibration resistance	EN 61131-2 compliant 5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8m/s^2 (Excludes the valve)
Impact resistance	EN 61131-2 compliant, 147 m/s^2, 11 ms (Excludes the valve)
Weight	200 g (With wireless adapter), 140 g (Without wireless adapter)
Accessory (Mounting screw)	2 pcs.

Specifications: Wireless Remote (EXW1-RL□) IO-Link

Communication Specifications (Common)

Item		Specifications
Protocol		SMC original protocol (SMC encryption)
	Between EXW1 bases	V.2.0 or V.1.0 (Selectable)
	Between EX600-W bases	V.1.0
Radio wave type (spread)		Frequency Hopping Spread Spectrum (FHSS)
Frequency		2.4 GHz (2403 to 2481 MHz)
Number of frequency channels		5 to 79 ch or 15 to 79 ch (Refer to page 2.)
Frequency channel selection		Applicable (Refer to page 2.)
Channel bandwidth		1.0 MHz
Communication speed	**V.2.0**	1 Mbps
	V.1.0	250 kbps
Communication distance		Approx. 100 m (Depends on the operating environment)
Countries in which Radio Law certified		Refer to page 75 for the latest information regarding in which countries the product is certified.

IO-Link Specifications

Item	Specifications	
Model	**EXW1-RLAPA8C**	**EXW1-RLBPA7C**
IO-Link port class	Class A	Class B
Communication speed	COM1 (4.8 kbps) COM2 (38.4 kbps) COM3 (230.4 kbps) Changes automatically according to the connected device	
IO-Link version	Ver.1.1	
Number of IO-Link ports	Max. 4 (32 bytes/IO-Link port)	Max. 2 (32 bytes/IO-Link port)

Electrical Specifications

Item	Specifications		
Model	**EXW1-RLAPA8C**		**EXW1-RLBPA7C**
US1 power supply voltage range (for control)	24 VDC ±10%		
US2 power supply voltage range (for driving)	—		24 VDC ±10%
Current consumption	100 mA or less (150 mA or less when a wireless adapter is connected)		
Device power supply (L+)	0.5 A/Connector (1 A/Unit)		0.3 A/Connector (0.6 A/Unit)
External power supply (P24)	—		1.6 A/Connector (2 A/Unit) (Supplied from the power supply for US2)
Input			
Pin no.	2	4	4
Input type	PNP		
Protection	Short-circuit protection		
Rated input current	Typ. 2.5 mA	Typ. 5.8 mA	Typ. 5.8 mA
ON voltage	13 V or more		
OFF voltage	8 V or less		
Output			
Pin no.	2, 4		4
Output type	PNP		
Max. load current (C/Q line)	0.25 A/1 output (Supplied from the power supply for US1)		
Protection	Short-circuit protection		

General Specifications

Item	Specifications
Enclosure	IP67
Ambient temperature	Operating: −10°C to +50°C Storage/Shipping: −20°C to +60°C
Vibration resistance (Conforming to EN 61131-2)	$5 \leq f < 8.4$ Hz 3.5 mm $8.4 \leq f \leq 150$ Hz 9.8 m/s^2
Impact resistance (Conforming to EN 61131-2)	147 m/s^2, 11 ms
Mounting	M4, 2 locations
Ambient humidity	35% to 85%RH (No condensation)
Standards	CE/UKCA marking, UL (CSA)
Weight	150 g

Specifications: Wireless Remote (EXW1-RAX□) Analog Input

Electrical Specifications

Item	Specifications	
Input type	Voltage input	Current input
Power supply voltage range	24 VDC±10%	
Current consumption	50 mA or less (100 mA or less when a wireless adapter is connected)	
Input connector	M12 connector (5-pin) socket*1	
Number of inputs	4 inputs (2 inputs/Connector)	
Max. sensor supply current	0.5 A/Connector (1 A/Unit)	
Protection	Short-circuit protection	
Input signal range	0 to 10 V, 1 to 5 V, 0 to 5 V	0 to 20 mA, 4 to 20 mA
Resolution	16 bits	
Max. rated input signal	+15 V	+40 mA
Input impedance	220 kΩ	240 Ω
Linearity (25°C)	±0.05% F.S. or less	
Repeatability (25°C)	±0.15% F.S. or less	
Accuracy (25°C)	±0.5% F.S. or less	±0.6% F.S. or less

*1 An M12 connector (4-pin) can be used as well.

General Specifications

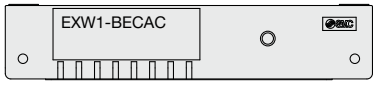
Item	Specifications
Enclosure	IP67*2
Ambient temperature (Operating temperature)	–10 to +55°C
Ambient temperature (Storage temperature)	–20 to +60°C
Ambient humidity	35 to 85%RH (No condensation)
Withstand voltage	1000 VAC 1.0 min. External terminals (including the FE terminal) and enclosure screws
Insulation resistance	10 MΩ or more 500 VDC External terminals (including the FE terminal) and enclosure screws
Vibration resistance	Conforms to EN 61131-2 5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s^2
Impact resistance	Conforms to EN 61131-2, 147 m/s^2, 11 ms
Mounting	Through hole for M4 screw (2 pcs.)
Standards	CE/UKCA marking, UL/(CSA)
Weight	150 g (Body)

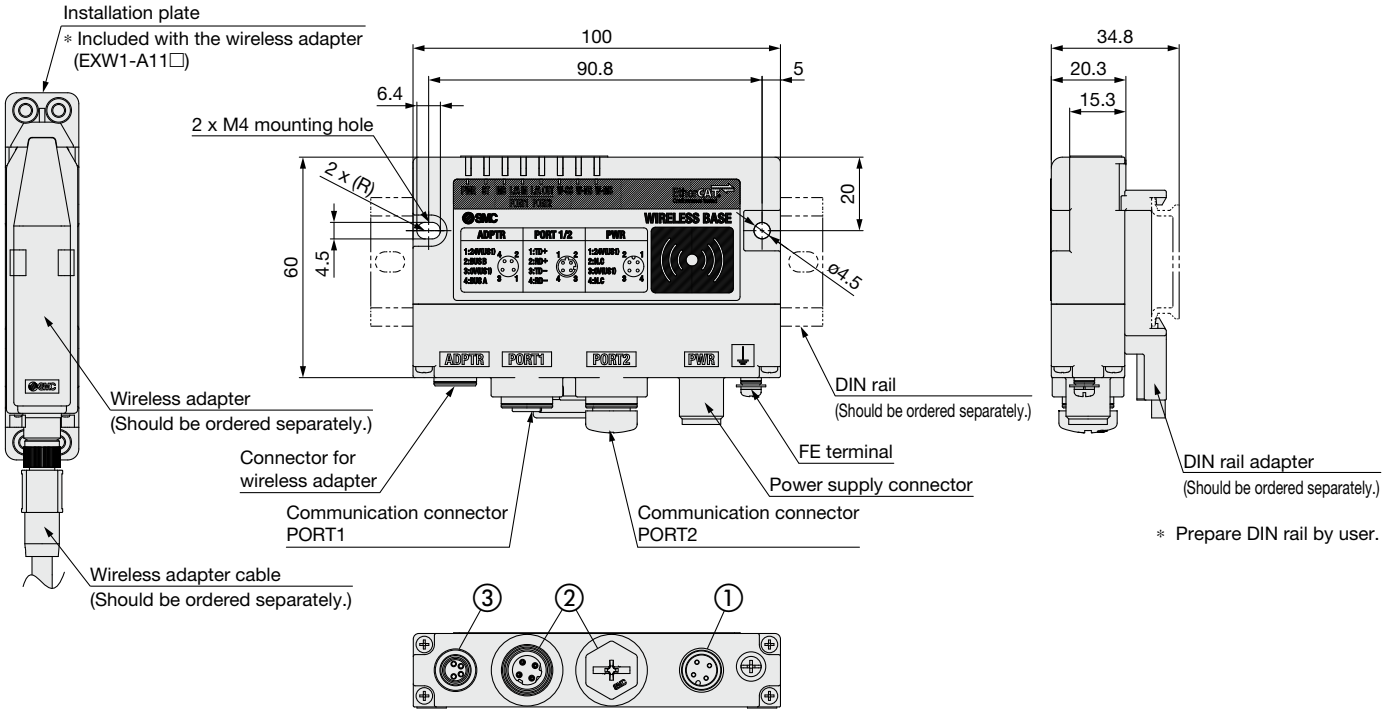
*2 Be sure to fit a seal cap on any unused connectors. (For details ⇒ p. 65)

Dimensions/Parts Description

Wireless Base
(EtherCAT, EtherNet/IP™, PROFINET, Modbus TCP, SLMP)

EXW1-BECAC
EXW1-BENAC1
EXW1-BPNAC1
EXW1-BMTAC





① Power supply connector

No.	Signal	M12, 4-pin, plug A-coded
1	24 V	2 1 / 3 4
2	N.C.	
3	0 V	
4	N.C.	

② EtherCAT, PROFINET communication connector

No.	Signal	M12, 4-pin, D-coded, socket
1	TD+	1 2 / 4 3
2	RD–	
3	TD+	
4	RD–	

② EtherNet/IP, Modbus TCP, SLMP communication connector

No.	Signal	M12, 4-pin, D-coded, socket
1	TX+	1 2 / 4 3
2	RX–	
3	TX+	
4	RX–	

③ Connector for wireless adapter

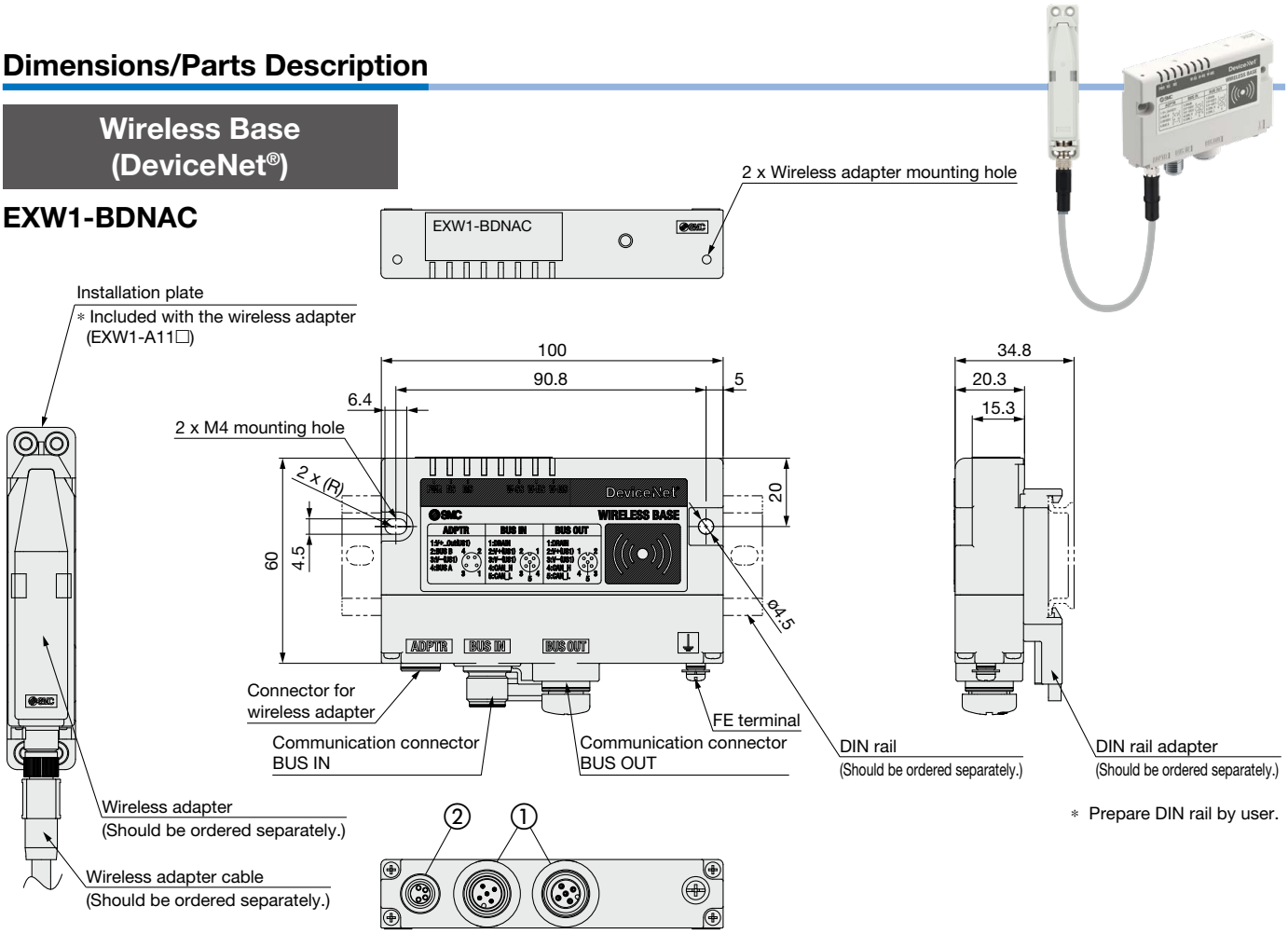
No.	Signal	M8, 4-pin, socket
1	24 V (US1)	4 2 / 3 1
2	Internal BUS B	
3	0 V (US1)	
4	Internal BUS A	

∗ The wireless base (EtherCAT®, EtherNet/IP™, PROFINET, DeviceNet®, Modbus TCP, SLMP) is a wireless system base used in combination with a wireless adapter that has wireless communication capabilities.
When using this product, it is necessary to order the wireless adapter and wireless adapter cable separately. (For details ⇒ p. 17, 18)
∗ Use the EXW1-NT1 for pairing with the wireless remote.

Dimensions/Parts Description

Wireless Base (DeviceNet®)

EXW1-BDNAC



① DeviceNet communication connector

No.	BUS IN			BUS OUT		
	Signal	Description	M12, 5-pin, plug A-coded	Signal	Description	M12, 5-pin, socket A-coded
1	DRAIN	Drain		DRAIN	Drain	
2	V+ (US1)	DeviceNet power supply +		V+ (US1)	DeviceNet power supply +	
3	V– (US1)	DeviceNet power supply –		V– (US1)	DeviceNet power supply –	
4	CAN_H	Signal wire H		CAN_H	Signal wire H	
5	CAN_L	Signal wire L		CAN_L	Signal wire L	

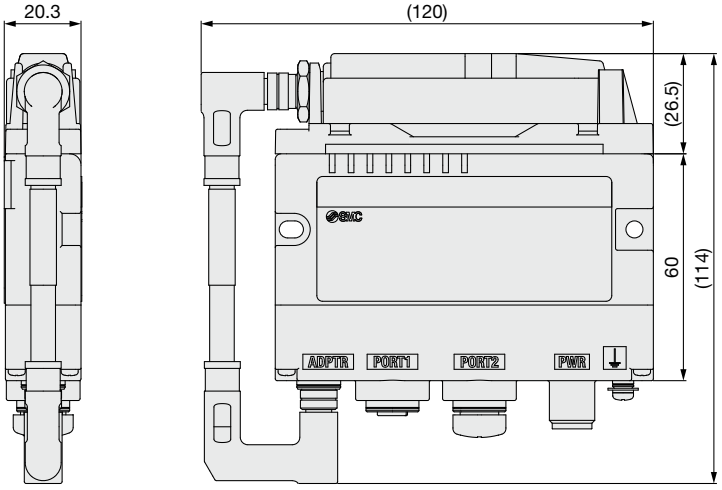
② Connector for wireless adapter

No.	Signal	M8, 4-pin, socket
1	V+_Out (US1)	
2	Internal BUS B	
3	V– (US1)	
4	Internal BUS A	

∗ The wireless base (EtherCAT, EtherNet/IP™, PROFINET, DeviceNet®) is a wireless system base used in combination with a wireless adapter that has wireless communication capabilities.
When using this product, it is necessary to order the wireless adapter and wireless adapter cable separately. (For details ⇒ p. 17, 18)
∗ Use the EXW1-NT1 for pairing with the wireless remote.

■ Dimensions when the wireless adapter, cable for the wireless adapter (EXW1-AC001-SAPU), and installation plate are combined

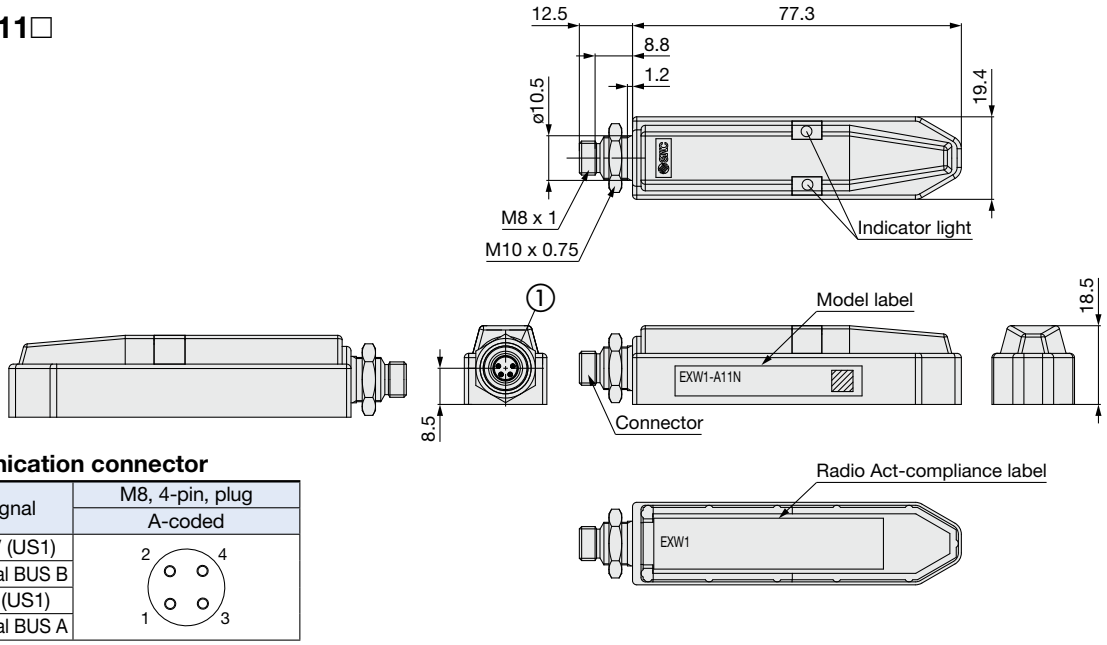
Combination image



Dimensions/Parts Description

Wireless Adapter

EXW1-A11□



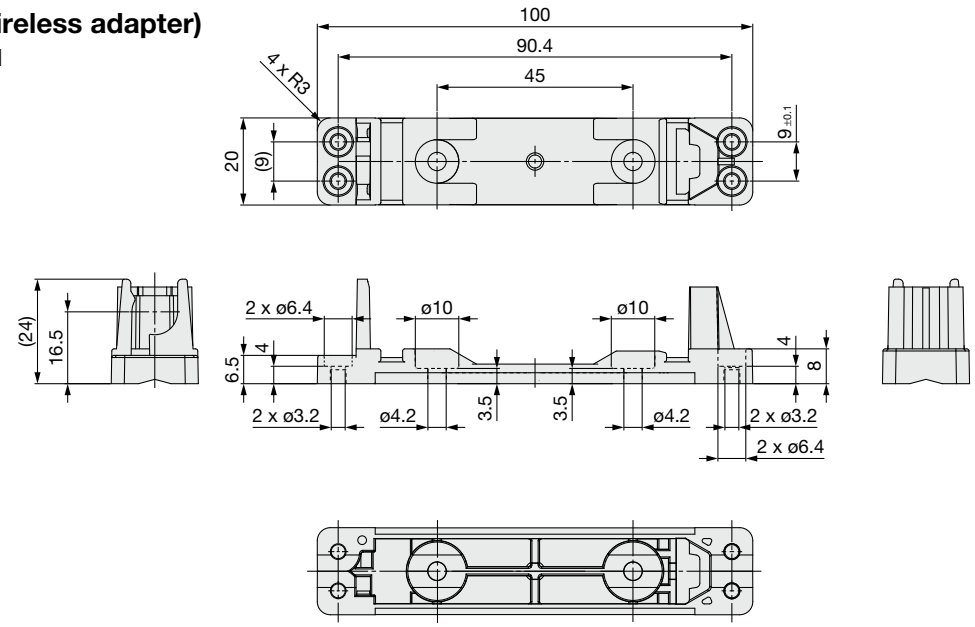
① Communication connector

No.	Signal	M8, 4-pin, plug A-coded
1	24 V (US1)	2 4 / 1 3
2	Internal BUS B	
3	0 V (US1)	
4	Internal BUS A	

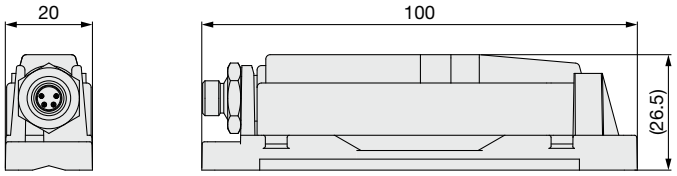
Installation Plate

EXW1-AB4 (Option for wireless adapter)

∗ Included with the EXW1-A11□



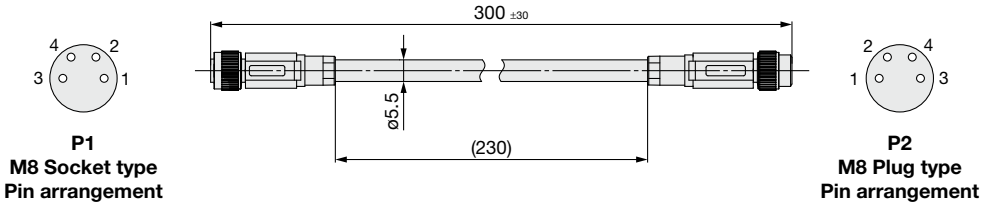
■ **Dimensions when the wireless adapter and installation plate are combined**



Dimensions/Parts Description

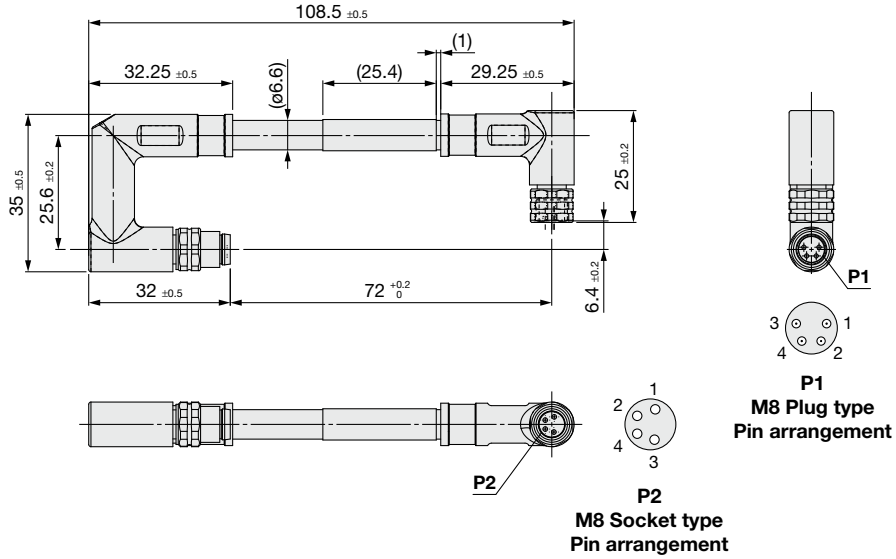
Wireless Adapter Cable

EXW1-AC1-X1

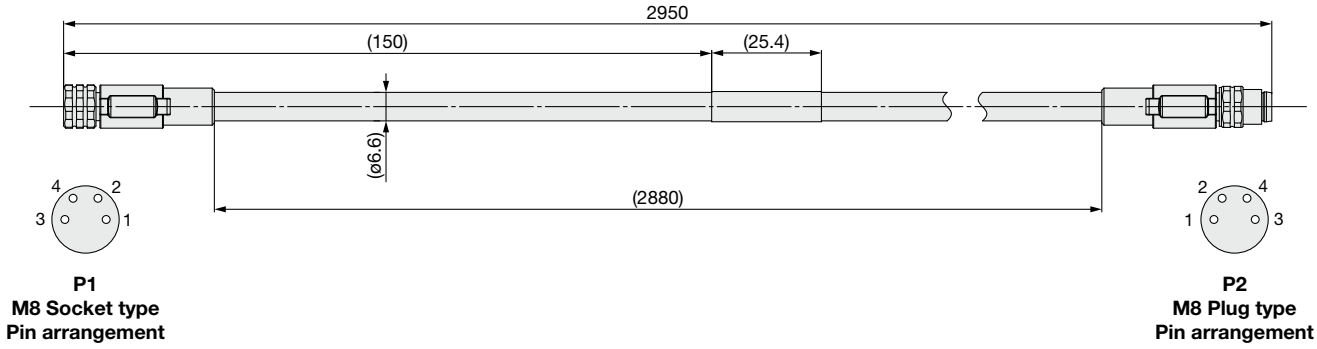


EXW1-AC001-SAPU

Mounting diagram



EXW1-AC030-SSPS

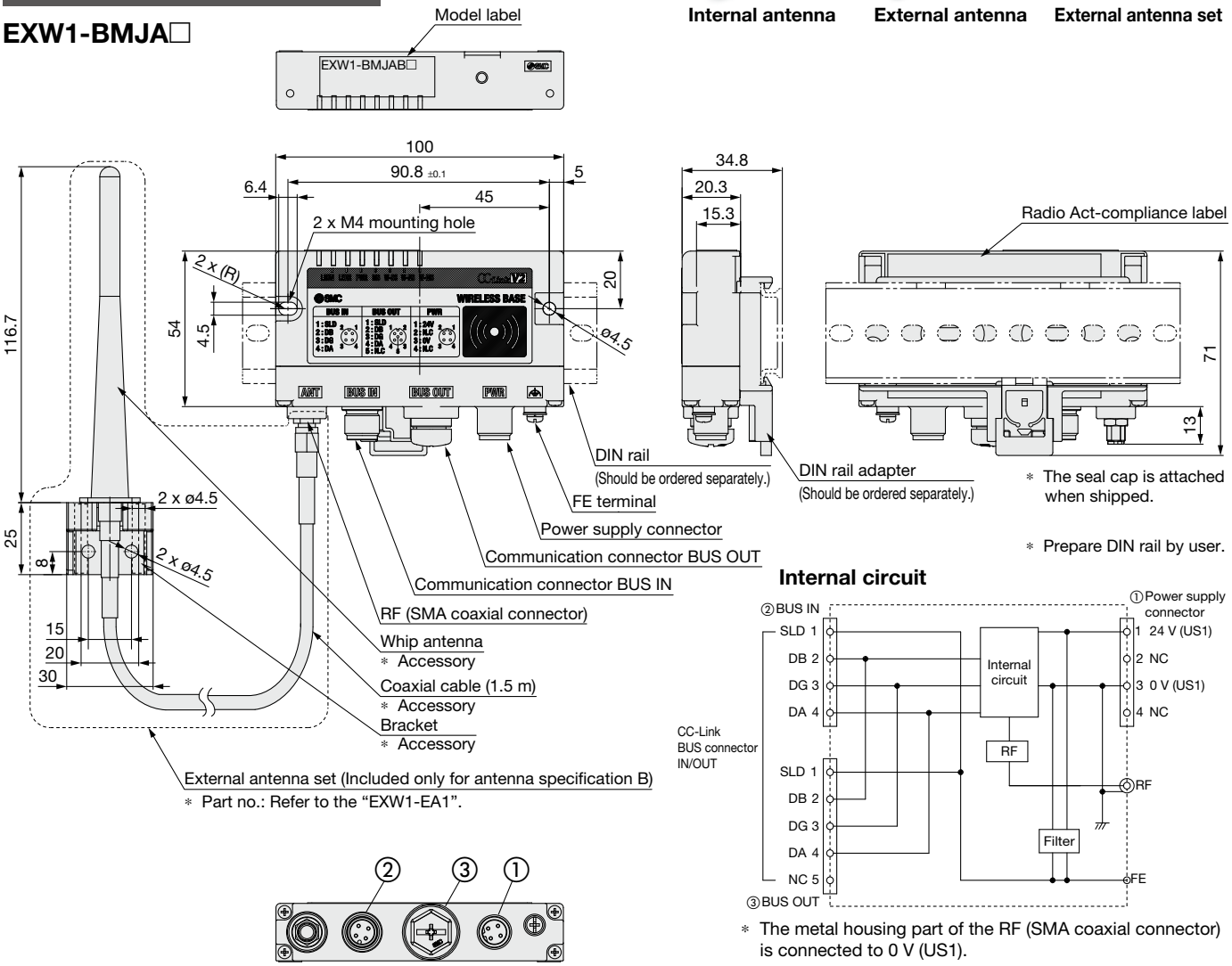


Dimensions/Parts Description

Internal antenna | External antenna | External antenna set

Wireless Base (CC-Link)

EXW1-BMJA□



Internal circuit

∗ The metal housing part of the RF (SMA coaxial connector) is connected to 0 V (US1).

①Power supply connector

No.	Signal	M12, 4-pin, plug B-coded
1	24 V (US1)	
2	N.C.	
3	0 V (US1)	
4	N.C.	

②③CC-Link BUS connector

No.	②BUS IN Signal	M12, 4-pin, plug A-coded
1	SLD	
2	DB	
3	DG	
4	DA	

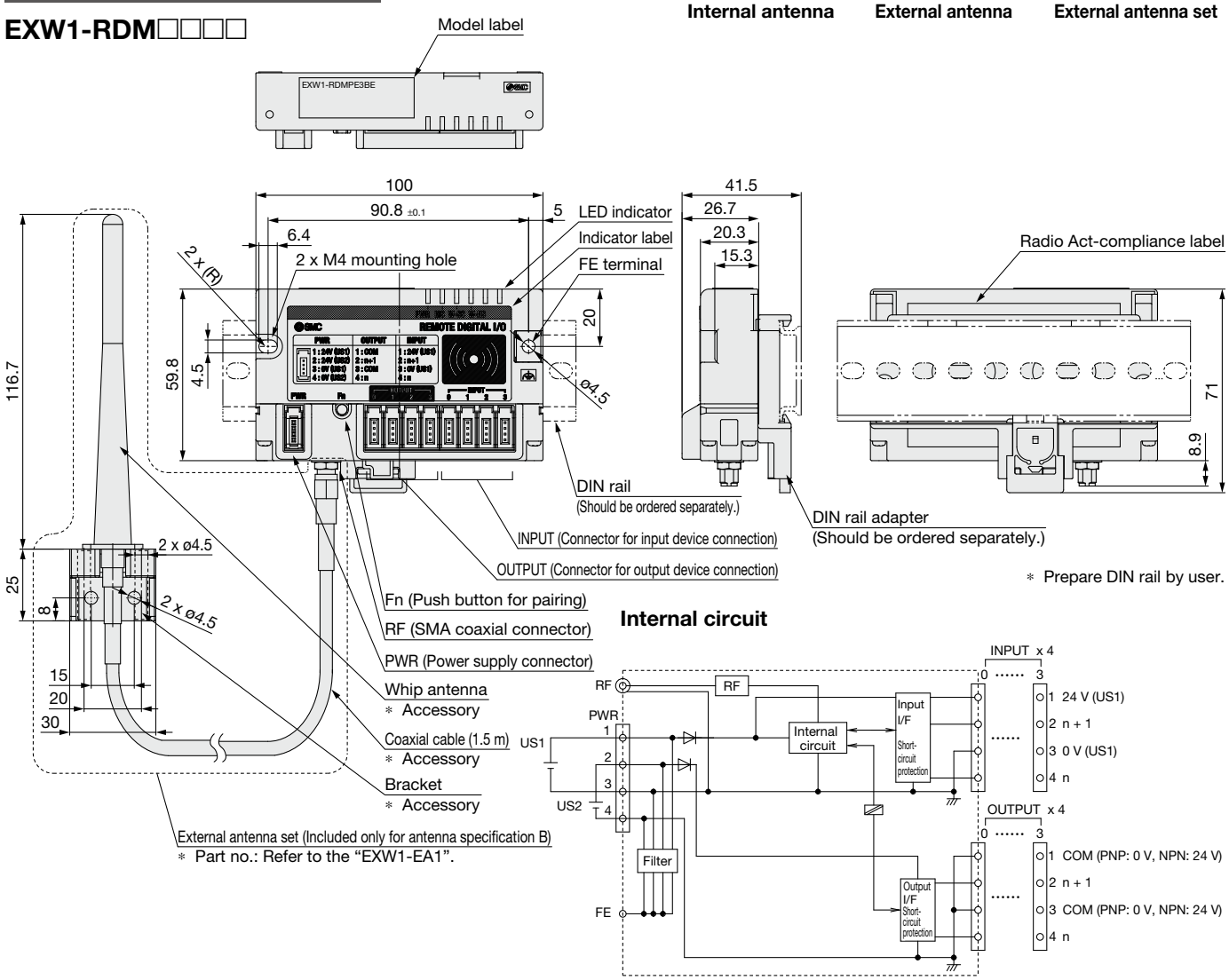
No.	③BUS OUT Signal	M12, 5-pin, socket A-coded
1	SLD	
2	DB	
3	DG	
4	DA	
5	N.C.	

Dimensions/Parts Description

Internal antenna | External antenna | External antenna set

Wireless Remote (Digital Input/Output/e-CON)

EXW1-RDM□□□□



∗ Prepare DIN rail by user.

Internal circuit

∗ The metal housing part of the RF (SMA coaxial connector) is connected to 0 V (US1).

PWR (Power supply connector)

Pin no.	Description
1	24 V (US1)
2	24 V (US2)
3	0 V (US1)
4	0 V (US2)

INPUT (Connector for input device connection)

Pin no.	Description
1	24 V (US1)
2	n + 1
3	0 V (US1)
4	n

OUTPUT (Connector for output device connection, EXW1-RDMPE3□□)∗1

Pin no.	Description
1	-COM (US2_0 V)
2	n + 1
3	-COM (US2_0 V)
4	n

OUTPUT (Connector for output device connection, EXW1-RDMNE3□□)∗1

Pin no.	Description
1	+COM (US2_24 V)
2	n + 1
3	+COM (US2_24 V)
4	n

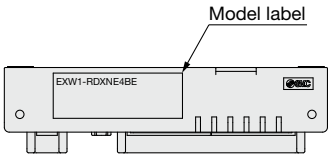
∗1 The specifications of pin numbers ① and ③ differ depending on the part number system.

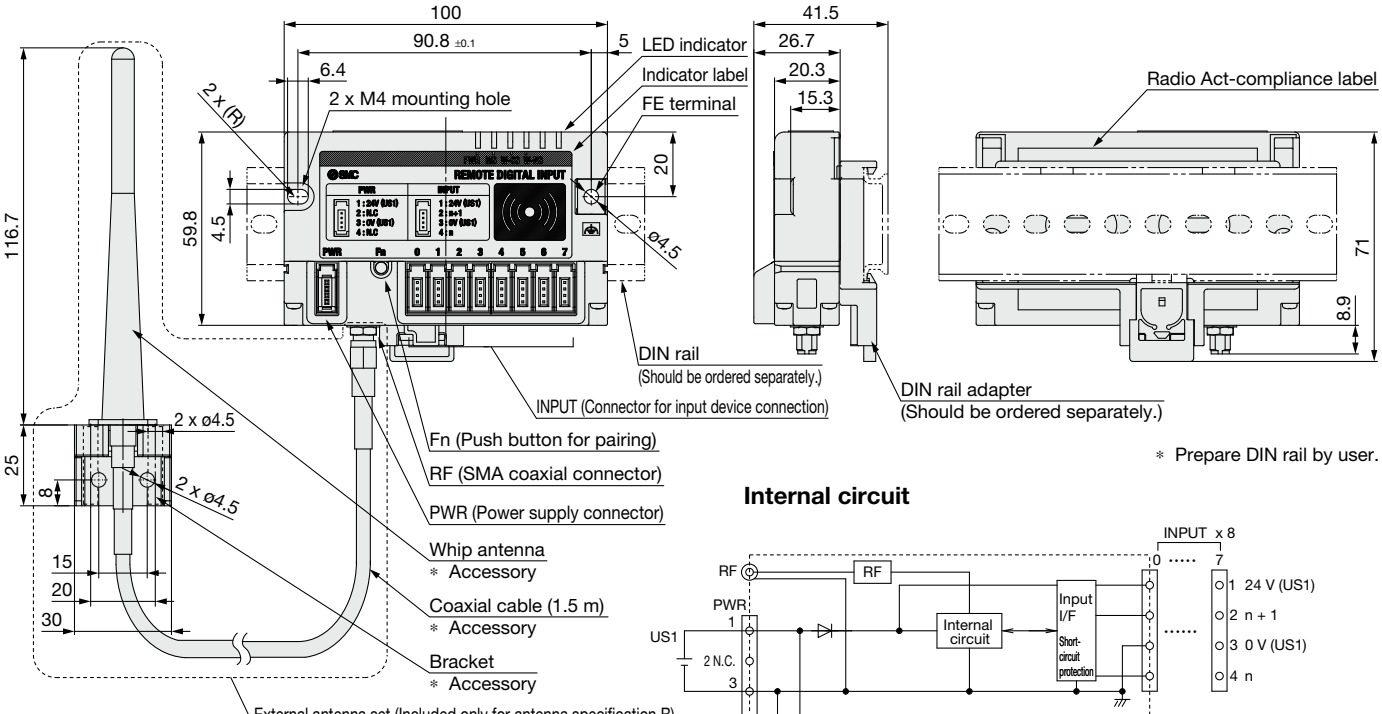
Dimensions/Parts Description

Internal antenna | External antenna | External antenna set

Wireless Remote (Digital Input/e-CON)

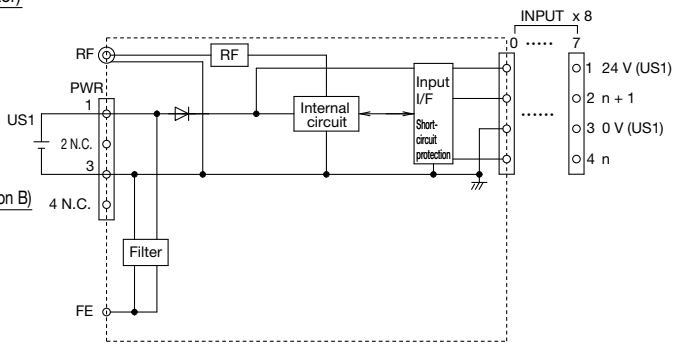
EXW1-RDX□□□□





∗ Prepare DIN rail by user.

Internal circuit



∗ The metal housing part of the RF (SMA coaxial connector) is connected to 0 V (US1).

PWR (Power supply connector)

Pin no.	Description
1	24 V (US1)
2	N.C.
3	0 V (US1)
4	N.C.

INPUT (Connector for input device connection)

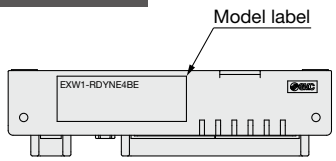
Pin no.	Description
1	24 V (US1)
2	n + 1
3	0 V (US1)
4	n

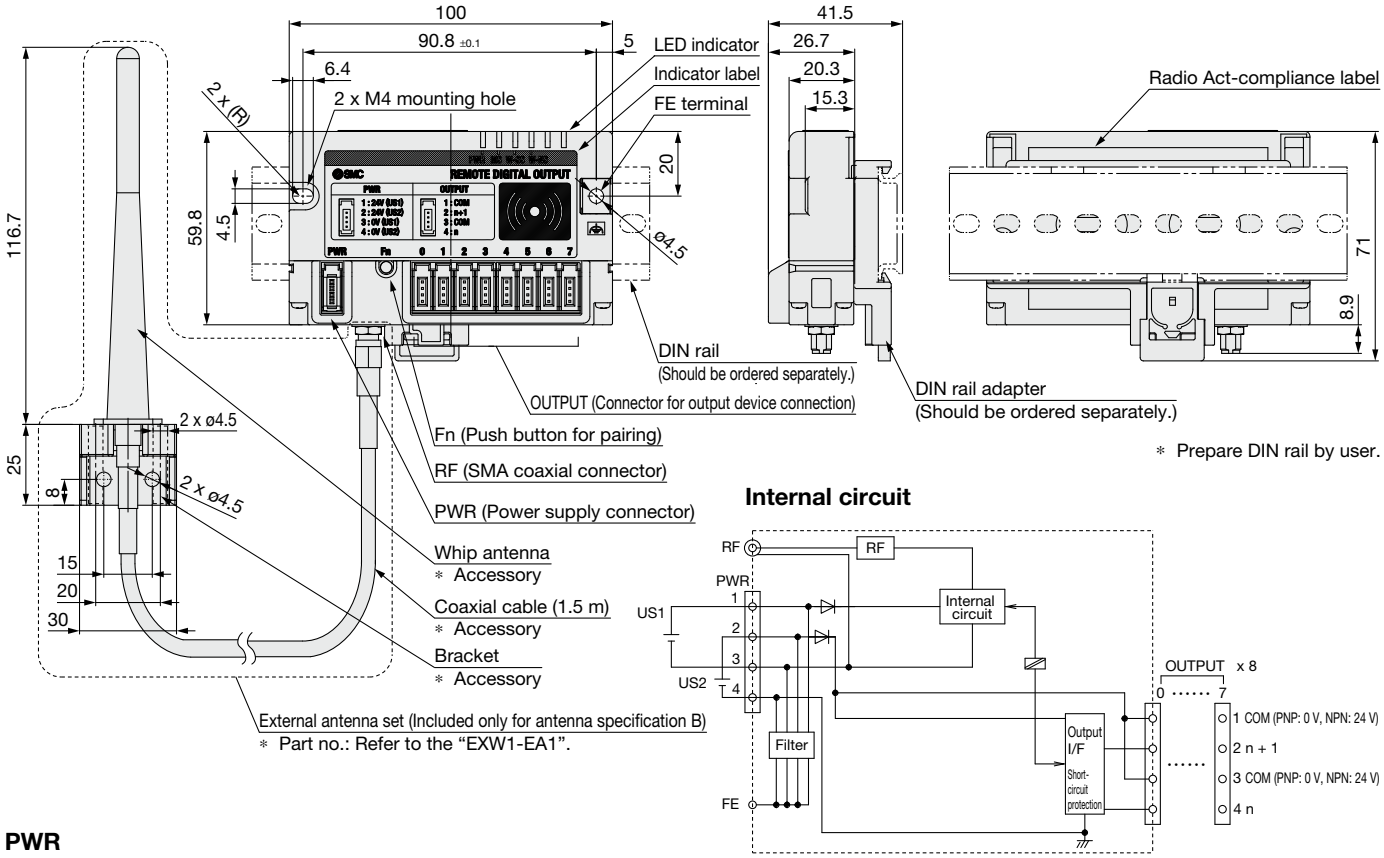
Dimensions/Parts Description

Internal antenna | External antenna | External antenna set

Wireless Remote (Digital Output/e-CON)

EXW1-RDY□□□□





∗ Prepare DIN rail by user.

Internal circuit

∗ The metal housing part of the RF (SMA coaxial connector) is connected to 0 V (US1).

PWR (Power supply connector)

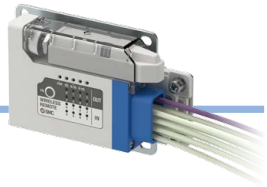
Pin no.	Description
1	24 V (US1)
2	24 V (US2)
3	0 V (US1)
4	0 V (US2)

OUTPUT (Connector for output device connection, EXW1-RDYPE4□□)

Pin no.	Description
1	-COM (US2_0 V)
2	n + 1
3	-COM (US2_0 V)
4	n

OUTPUT (Connector for output device connection, EXW1-RDYNE4□□)

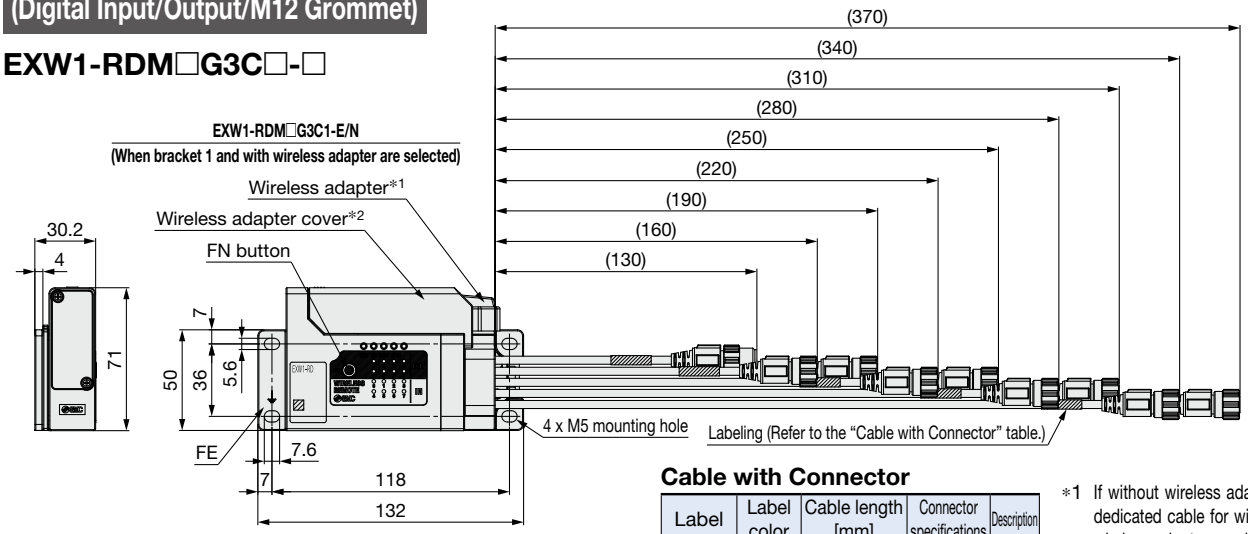
Pin no.	Description
1	+COM (US2_24 V)
2	n + 1
3	+COM (US2_24 V)
4	n

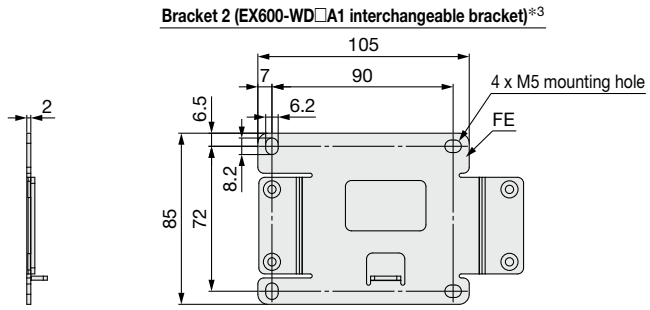


Dimensions/Parts Description

Wireless Remote (Digital Input/Output/M12 Grommet)

EXW1-RDM□G3C□-□





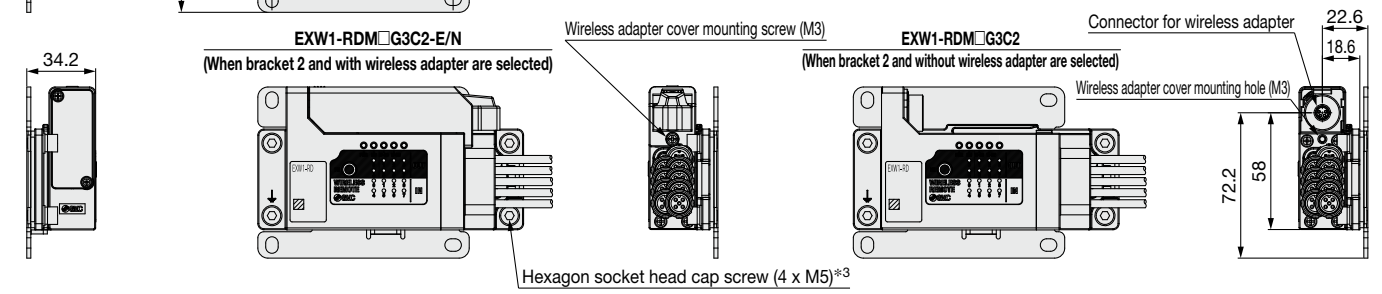
Cable with Connector

Label	Label color	Cable length [mm]	Connector specifications	Description
POWER	White	130	M12, 4-pin, plug	Power supply
6/7	Black	160	M12, 5-pin, socket	Output
4/5		190		
2/3		220		
0/1		250		
6/7	White	280		Input
4/5		310		
2/3		340		
0/1		370		

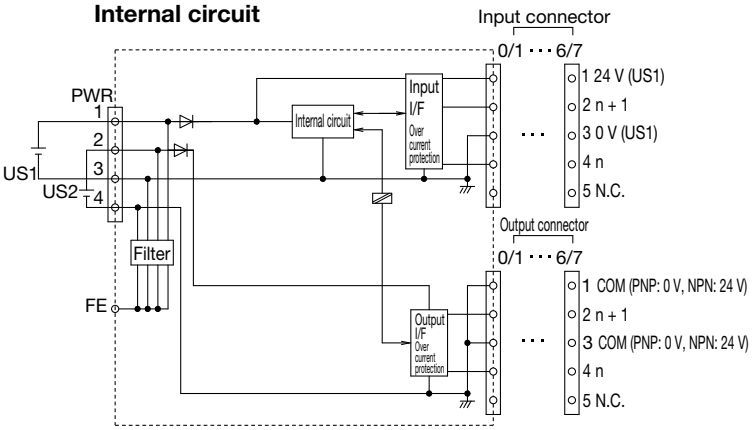
*1 If without wireless adapter is selected, a dedicated cable for wireless adapter and wireless adapter or wireless adapter and wireless adapter cover must be ordered separately. When the type with a wireless adapter is selected, the wireless adapter and wireless adapter cover are assembled before shipping. (For details ⇒ p. 17, 19)

*2 For direct mounting of wireless adapter, a wireless adapter cover is required.

*3 When bracket 2 is selected, bracket 2 and 4 hexagon socket head cap screws (M5 x 10) with captive washers are included. However, they do not come assembled.

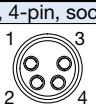


Internal circuit



* Bracket 1 and 2 are FE.

Connector for Wireless Adapter

Pin no.	Signal	Description	M8, 4-pin, socket
1	24 V (US1)	24 VDC (US1): Output*1	
2	Internal BUS B	For wireless adapter communication	
3	0 V (US1)	0 VDC (US1)	
4	Internal BUS A	For wireless adapter communication	

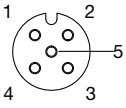
*1 Do not input power.

Power Supply Connector (POWER)

Pin no.	Signal	Description	M12, 4-pin, plug A-coded
1	24 V (US1)	24 VDC (US1): Input*1	
2	24 V (US2)	24 VDC (US2): Input*1	
3	0 V (US1)	0 VDC (US1)	
4	0 V (US2)	0 VDC (US2)	

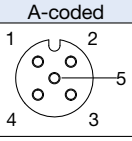
*1 Input 24 VDC ±20%.

Input Connector (0/1 to 6/7)

Pin no.	Signal	Description	M12, 5-pin, socket A-coded
1	24 V (US1)	24 VDC (US1): Output*1	
2	n + 1	Digital input: n + 1	
3	0 V (US1)	0 VDC (US1)	
4	n	Digital input: n	
5	N.C.	N.C.	

*1 Do not input power.

Output Connector (0/1 to 6/7)

Pin no.	Signal	Description	M12, 5-pin, socket A-coded
1	COM	Common*2	
2	n + 1	Digital output: n + 1*3	
3	COM	Common*2	
4	n	Digital output: n*3	
5	N.C.	N.C.	

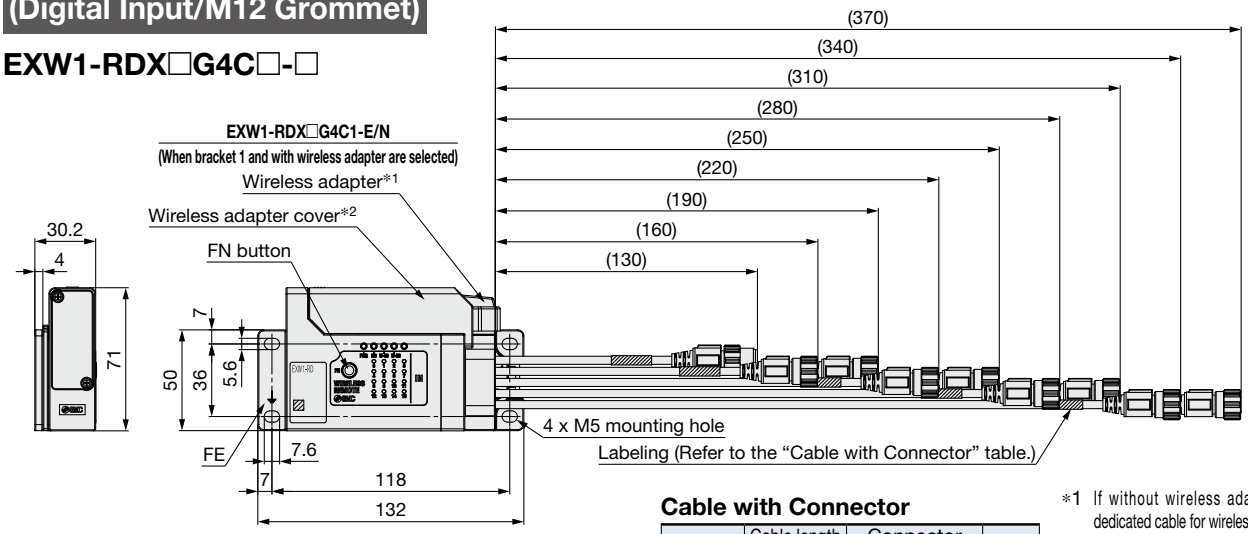
*2 0 VDC (US2) for PNP type and 24 VDC (US2) for NPN type.

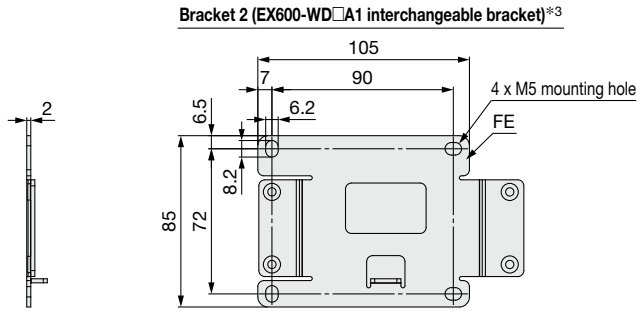
*3 24 VDC (US2) for PNP type and 0 VDC (US2) for NPN type are output.

Dimensions/Parts Description

Wireless Remote (Digital Input/M12 Grommet)

EXW1-RDX□G4C□-□

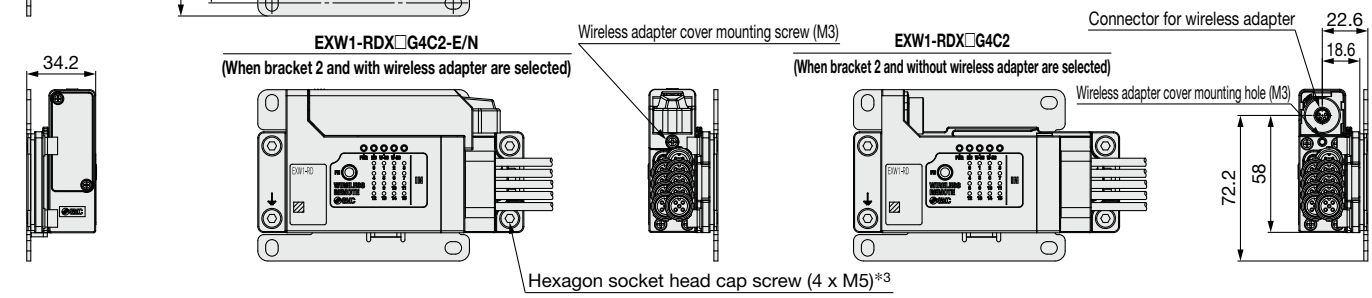




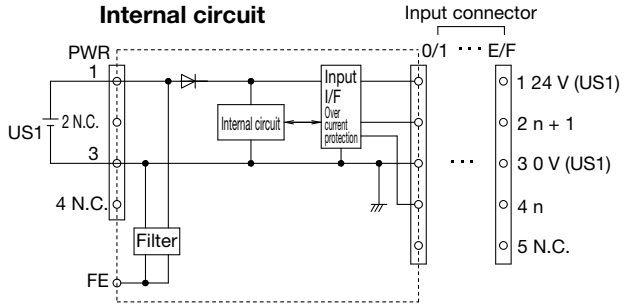
Cable with Connector

Label	Cable length [mm]	Connector specifications	Description
POWER	130	M12, 4-pin, plug	Power supply
E/F	160	M12, 5-pin, socket	Input
C/D	190		
A/B	220		
8/9	250		
6/7	280		
4/5	310		
2/3	340		
0/1	370		

*1 If without wireless adapter is selected, a dedicated cable for wireless adapter and wireless adapter or wireless adapter and wireless adapter cover must be ordered separately. When the type with a wireless adapter is selected, the wireless adapter and wireless adapter cover are assembled before shipping.
(For details ⇒ p. 17, 19)
*2 For direct mounting of wireless adapter, a wireless adapter cover is required.
*3 When bracket 2 is selected, bracket 2 and 4 hexagon socket head cap screws (M5 x 10) with captive washers are included. However, they do not come assembled.



Internal circuit



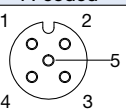
* Bracket 1 and 2 are FE.

Power Supply Connector (POWER)

Pin no.	Signal	Description	M12, 4-pin, plug A-coded
1	24 V (US1)	24V DC (US1): Input*1	
2	N.C.	N.C.	
3	0 V (US1)	0 VDC (US1)	
4	N.C.	N.C.	

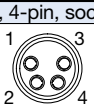
*1 Input 24 VDC ±10%.

Input Connector (0/1 to E/F)

Pin no.	Signal	Description	M12, 5-pin, socket A-coded
1	24V (US1)	24 VDC (US1): Output*2	
2	n + 1	Digital input: n + 1	
3	0 V (US1)	0 VDC (US1)	
4	n	Digital input: n	
5	N.C.	N.C.	

*2 Do not input power.

Connector for Wireless Adapter

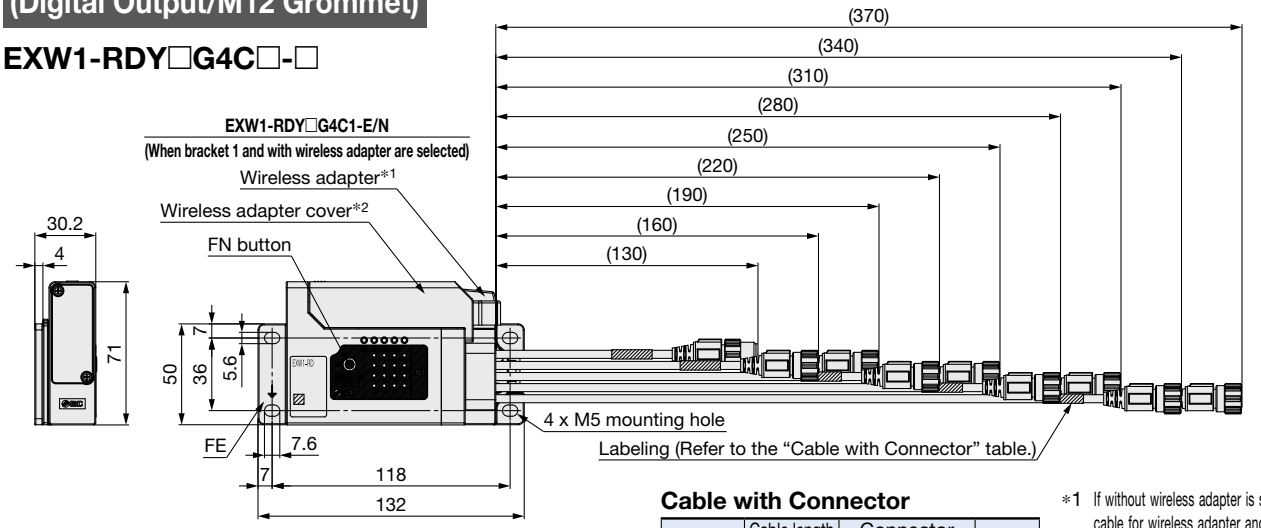
Pin no.	Signal	Description	M8, 4-pin, socket
1	24 V (US1)	24 VDC (US1): Output*1	
2	Internal BUS B	For wireless adapter communication	
3	0 V (US1)	0 VDC (US1)	
4	Internal BUS A	For wireless adapter communication	

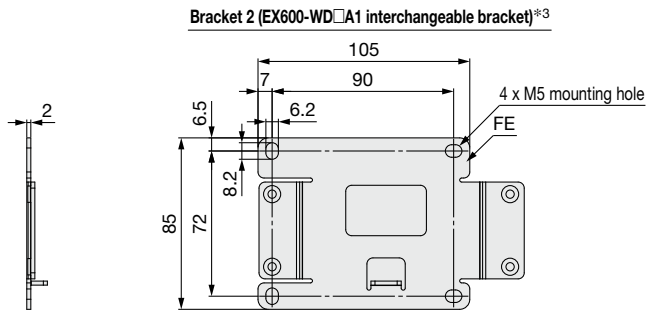
*1 Do not input power.

Dimensions/Parts Description

Wireless Remote (Digital Output/M12 Grommet)

EXW1-RDY□G4C□-□





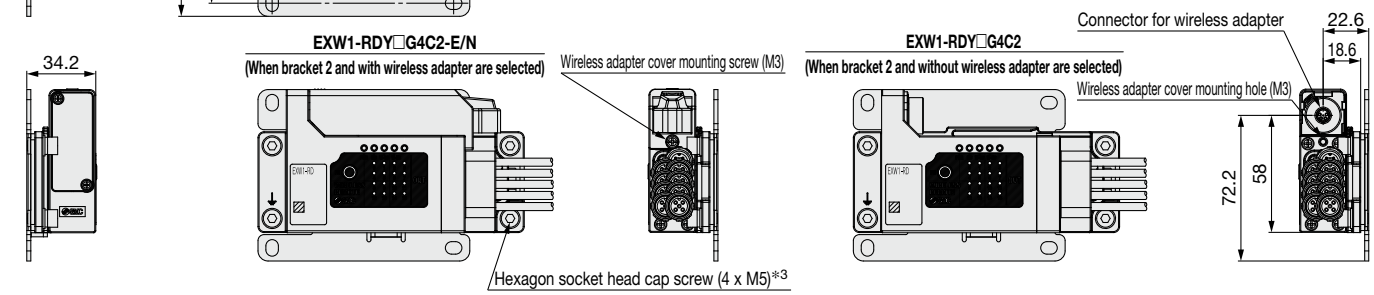
Cable with Connector

Label	Cable length [mm]	Connector specifications	Description
POWER	130	M12, 4-pin, plug	Power supply
E/F	160	M12, 5-pin, socket	Input
C/D	190		
A/B	220		
8/9	250		
6/7	280		
4/5	310		
2/3	340		
0/1	370		

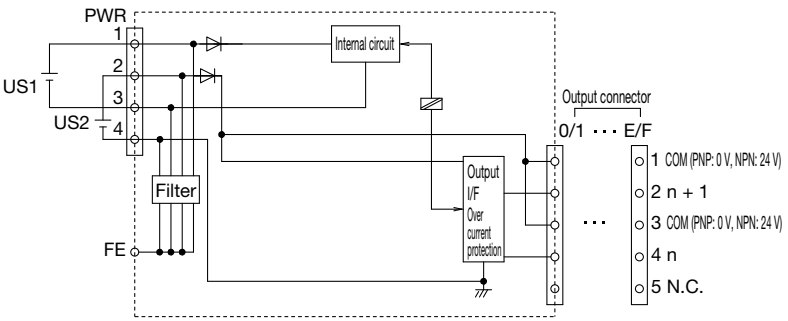
*1 If without wireless adapter is selected, a dedicated cable for wireless adapter and wireless adapter or wireless adapter and wireless adapter cover must be ordered separately. When the type with a wireless adapter is selected, the wireless adapter and wireless adapter cover are assembled before shipping. (For details ⇒ p. 17, 19)

*2 For direct mounting of wireless adapter, a wireless adapter cover is required.

*3 When bracket 2 is selected, bracket 2 and 4 hexagon socket head cap screws (M5 x 10) with captive washers are included. However, they do not come assembled.



Internal circuit



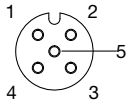
* Bracket 1 and 2 are FE.

Power Supply Connector (POWER)

Pin no.	Signal	Description	M12, 4-pin, plug A-coded
1	24 V (US1)	24 VDC (US1): Input*1	
2	24 V (US2)	24 VDC (US2): Input*1	
3	0 V (US1)	0 VDC (US1)	
4	0 V (US2)	0 VDC (US2)	

*1 Input 24 VDC ±10%.

Output Connector (0/1 to E/F)

Pin no.	Signal	Description	M12, 5-pin, socket A-coded
1	COM	Common*2	
2	n + 1	Digital output: n + 1*3	
3	COM	Common*2	
4	n	Digital output: n*3	
5	N.C.	N.C.	

*2 0 VDC (US2) for PNP type and 24 VDC (US2) for NPN type.

*3 24 VDC (US2) for PNP type and 0 VDC (US2) for NPN type are output.

Connector for Wireless Adapter

Pin no.	Signal	Description	M8, 4-pin, socket
1	24 V (US1)	24 VDC (US1): Output*1	
2	Internal BUS B	For wireless adapter communication	
3	0 V (US1)	0 VDC (US1)	
4	Internal BUS A	For wireless adapter communication	

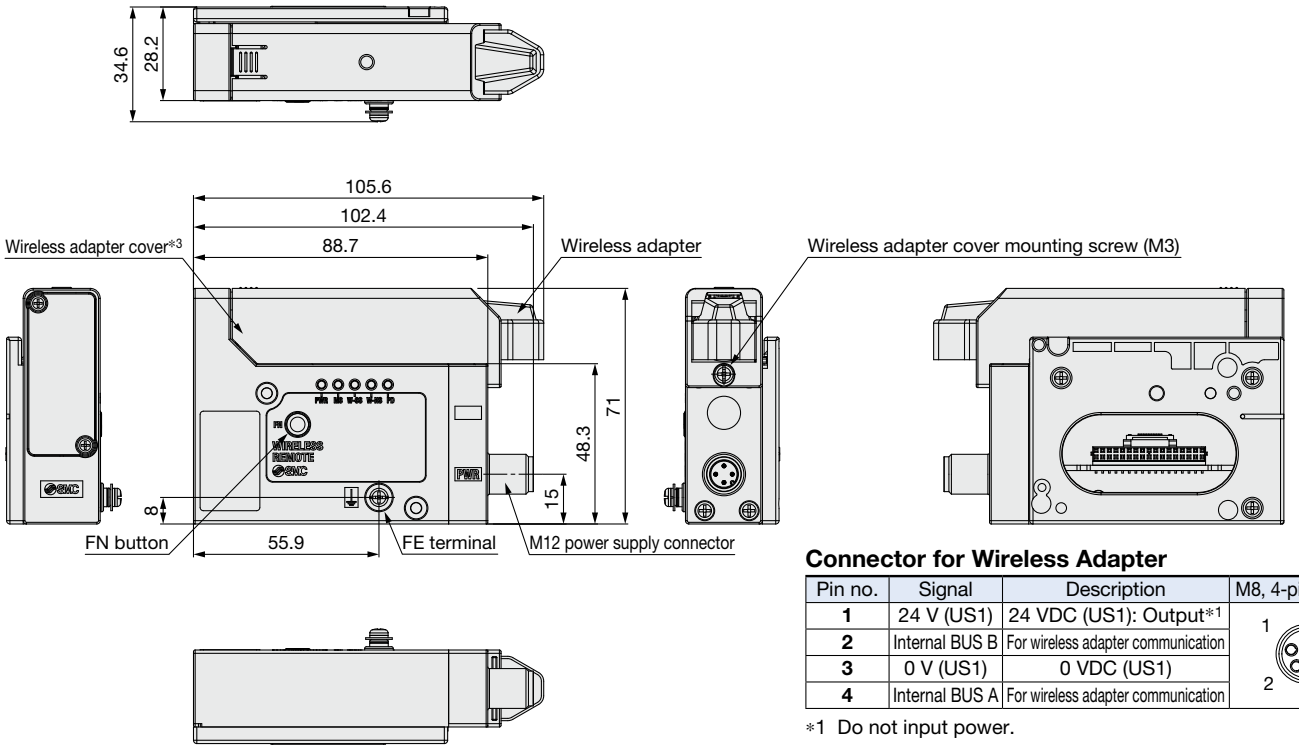
*1 Do not input power.

Dimensions/Parts Description

Wireless Remote (Valve Manifold)

EXW1-RDY□M5C-□

With wireless adapter cover



Connector for Wireless Adapter

Pin no.	Signal	Description	M8, 4-pin, socket
1	24 V (US1)	24 VDC (US1): Output*1	1 3 2 4
2	Internal BUS B	For wireless adapter communication	
3	0 V (US1)	0 VDC (US1)	
4	Internal BUS A	For wireless adapter communication	

*1 Do not input power.

Power Supply Connector

Pin no.	Signal	Description	M12, 4-pin, A-coded, plug
1	24 V (US1)	24 VDC (US1): Input*2	3 4 2 1
2	24 V (US2)	24 VDC (US2): Input*2	
3	0 V (US1)	0 VDC (US1)	
4	0 V (US2)	0 VDC (US2)	

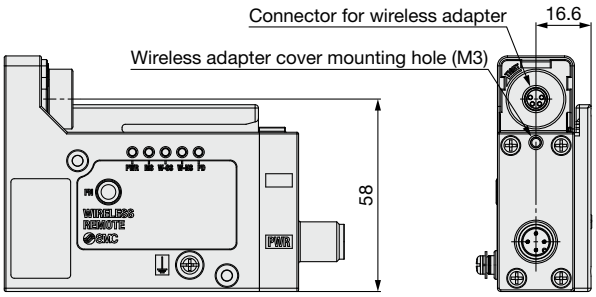
*2 Input 24 VDC ±10%.

*3 For direct mounting of wireless adapter, a wireless adapter cover is required. (For details ⇒ p. 19)

* If without wireless adapter is selected, a dedicated cable for wireless adapter and wireless adapter or wireless adapter and wireless adapter cover must be ordered separately. (For details ⇒ p. 17, 19)
When the type with a wireless adapter is selected, the wireless adapter and wireless adapter cover are assembled before shipping.

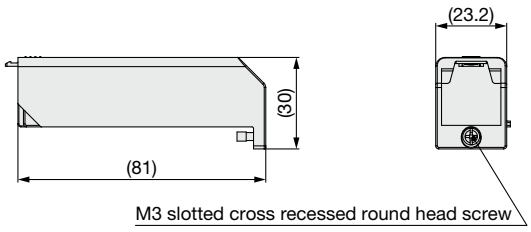
EXW1-RDY□M5C

Without wireless adapter and cover



Wireless Adapter Cover

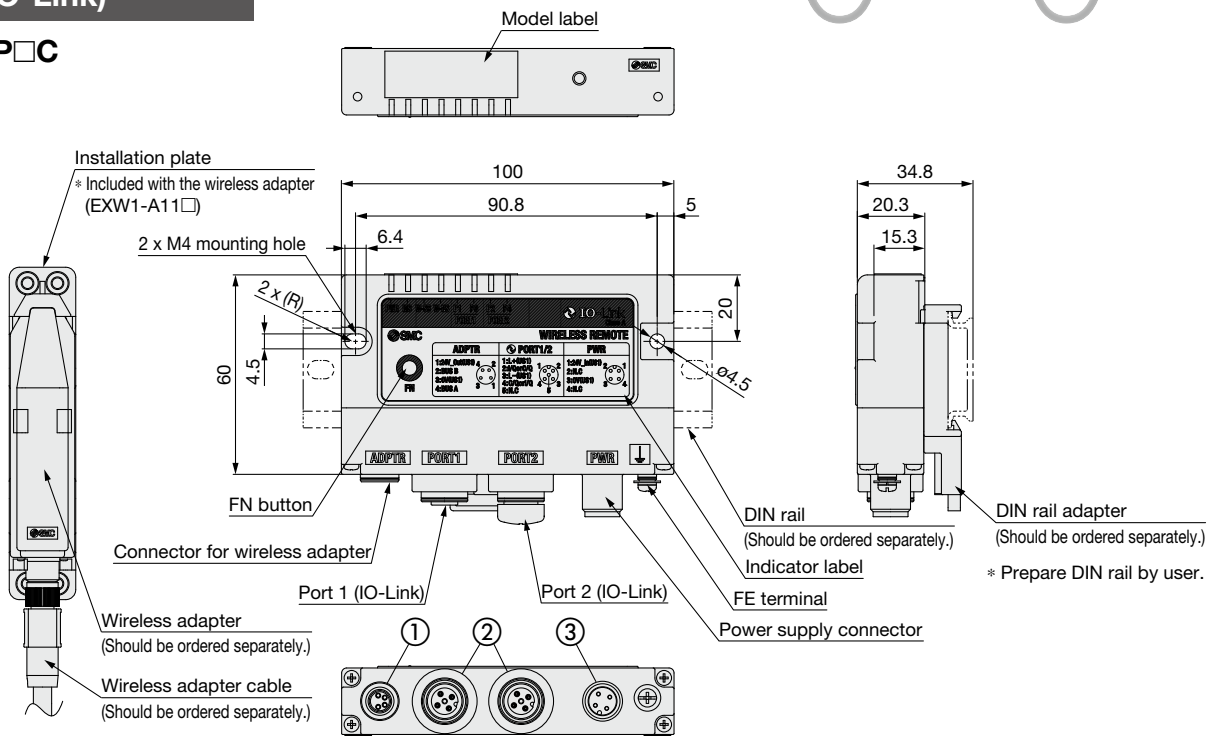
EXW1-AB6



Dimensions/Parts Description

Wireless Remote (IO-Link)

EXW1-RL□P□C



① Connector for Wireless Adapter

Pin no.	Description	M8, 4-pin, socket
1	24 V (US1)	
2	Internal BUS B	
3	0 V (US1)	
4	Internal BUS A	

② Port 1/2: EXW1-RLAPA8C (Class A)

Pin no.	Description	M12, 5-pin, A coding, socket
1	L+ (US1)*1	
2	I/Q or C/Q*2,*3	
3	L– (US1)	
4	C/Q or I/Q*2,*3	
5	Unused	

*1 Do not input power.
*2 The functions of pins can be changed in the settings.
*3 Uses a Y-branch connector to distribute and extract each signal

② Port 1/2: EXW1-RLBPA7C (Class B)

Pin no.	Description	M12, 5-pin, A coding, socket
1	L+ (US1)*1	
2	P24 (US2)*1	
3	L– (US1)	
4	C/Q or I/Q*2	
5	N24 (US2)	

*1 Do not input power.
*2 The functions of pins can be changed in the settings.

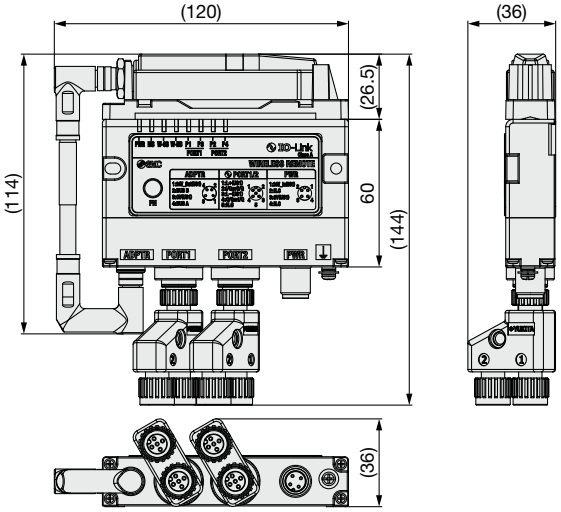
③ Power supply connector

Pin no.	Description	M12, 4-pin, A coding, plug
1	24 V_In (US1)	
2	24 V_In (US2)*1	
3	0 V (US1)	
4	0 V (US2)*1	

*1 EXW1-RLBPA7C (Class B) only

■ Dimensions when the wireless adapter, cable for the wireless adapter (EXW1-AC001-SAPU), installation plate, and Y-branch connector (EXW1-ACY3) are combined

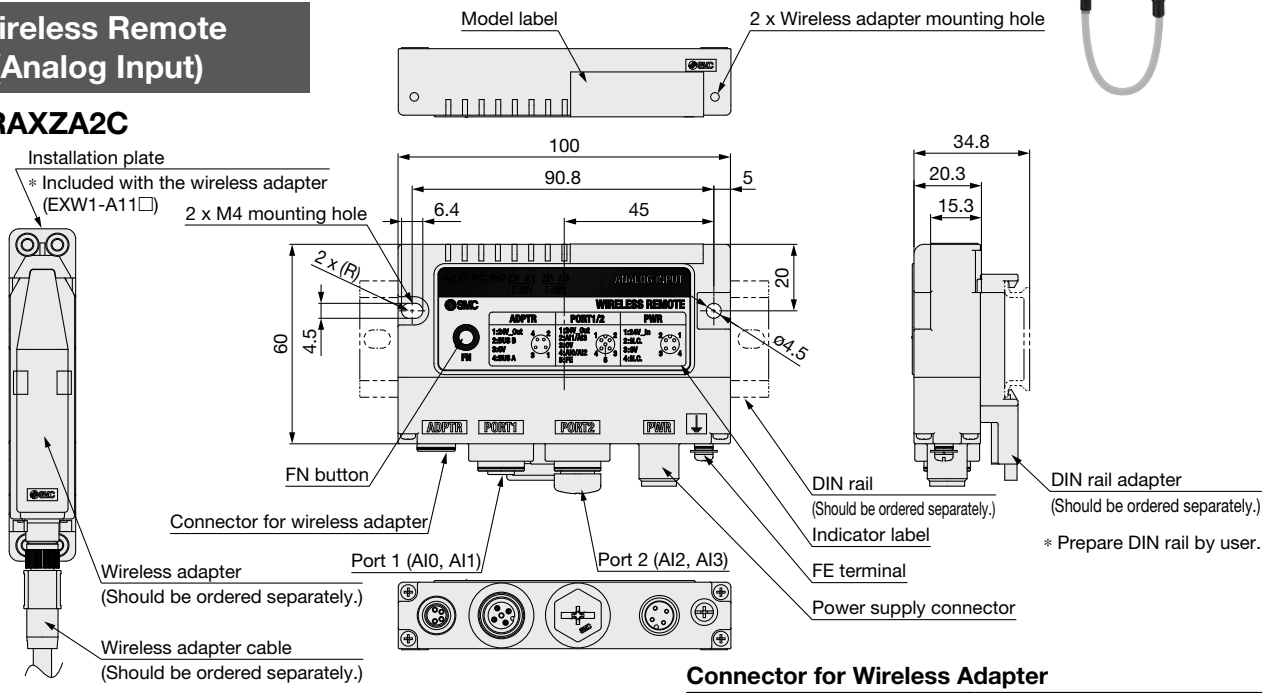
Combination image



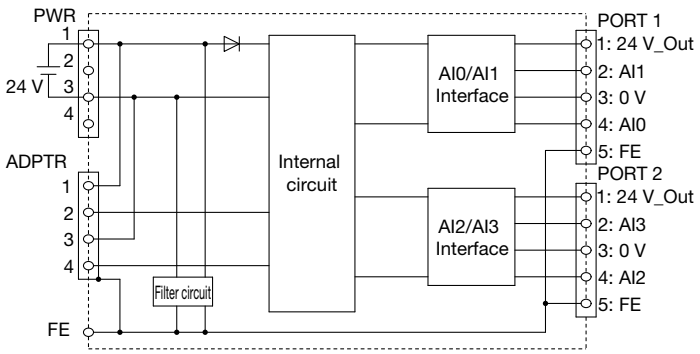
Dimensions/Parts Description

Wireless Remote (Analog Input)

EXW1-RAXZA2C



Internal circuit



Connector for Wireless Adapter

Pin no.	Description	M8, 4-pin, socket
1	24 V	
2	Internal BUS B	
3	0 V	
4	Internal BUS A	

Power supply connector

No.	Signal	Description	M12, 4-pin, plug A-coded
1	24 V	24 VDC: Input*1	
2	N.C.	N.C.	
3	0 V	0 VDC	
4	N.C.	N.C.	

*1 Input 24 V ±10%.

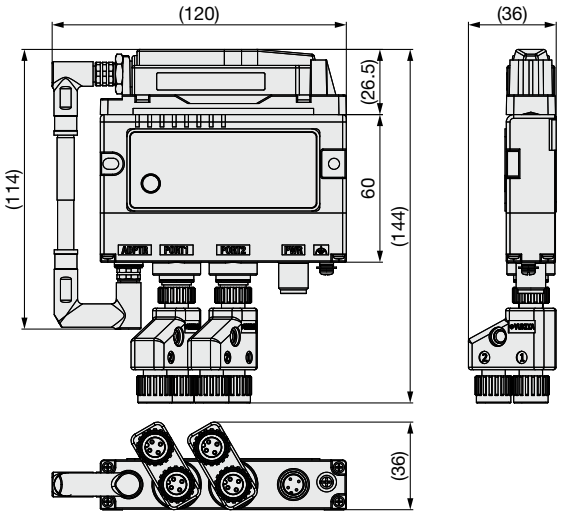
Analog device connector PORT 1/PORT 2

No.	Signal	Description	M12, 5-pin, socket A-coded
1	24 V	24 V: Output*2	
2	AI1/AI3	Analog input*3	
3	0 V	0 V	
4	AI0/AI2	Analog input*3	
5	FE	FE	

*2 Do not input power.
*3 Uses a Y-branch connector to distribute and extract each signal

■ Dimensions when the wireless adapter, cable for the wireless adapter (EXW1-AC001-SAPU), installation plate, and Y-branch connector (EXW1-ACY2) are combined

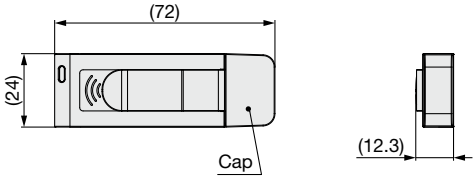
Combination image



Dimensions/Parts Description

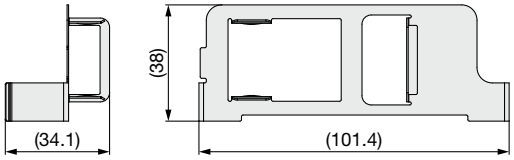
NFC Reader/Writer

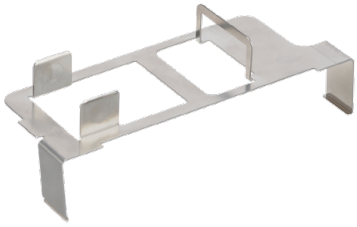
EXW1-NT1



Fixing Bracket

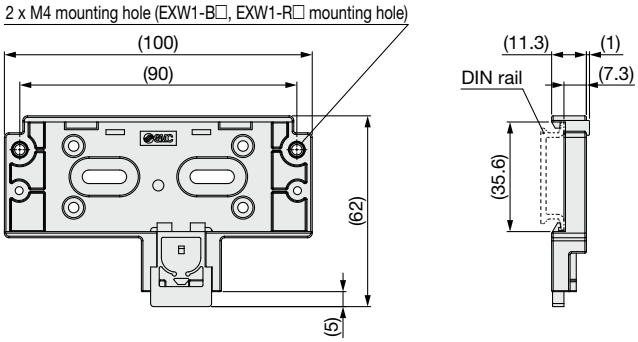
EXW1-AB2 (Option, For EXW1)





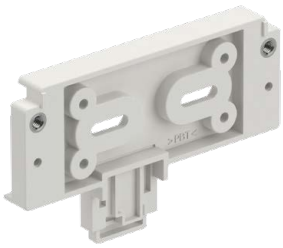
DIN Rail Adapter

EXW1-AB5



* Mount it to the body using the included cross recessed round head screws (M4 x 20: 2 pcs.).
* Prepare DIN rail by user.

Compatible part numbers
EXW1-B Series
EXW1-RD□□E□ Series
EXW1-RL Series
EXW1-RA Series



Remote (Modular Type)

EXW1 Series

Remote

How to Order

Wireless Remote

EXW1 – R M V P M5 C – E

Remote

Type

Symbol	Type
M	Modular type

Type

Symbol	Type
V	Valve output

Polarity

Symbol	Polarity
P	PNP
N	NPN

Connector/Number of ports

Symbol	Connector	Number of points
M5	Valve manifold	32 points

Antenna specification for wireless communication

Symbol	Connector interface
C	Wireless adapter

Option

Symbol	Option
Nil	Without wireless adapter
E	With wireless adapter ① (EXW1-A11E)
N	With wireless adapter ② (EXW1-A11N)

∗ If without wireless adapter is selected, a dedicated cable for wireless adapter and wireless adapter or wireless adapter and wireless adapter cover must be ordered separately.
∗ For "E" and "N," the wireless adapter and wireless adapter cover are shipped preassembled.

Wireless Adapter

EXW1 – A1 1 N

Wireless adapter

Applicable model

Symbol	Applicable model
1	• Base EtherCAT: EXW1-BECAC EtherNet/IP™: EXW1-BENAC1 PROFINET: EXW1-BPNAC1 DeviceNet®: EXW1-BDNAC Modbus TCP, SLMP: EXW1-BMTAC • Remote IO-Link: EXW1-RL□ Analog input: EXW1-RAX□ Digital input/output: EXW1-RD□G□ Valve manifold: EXW1-RDY□M5□ Modular type: EXW1-RMV□M5□ • Air Management Hub (EXA1-□)

Frequency channel selection

Symbol	Number of selectable frequency channels	Applicable countries
E	Min. 5/Max. 79 channels	Radio Law certified countries other than the U.S., Canada, South Korea, Brazil, Taiwan, Argentina, and Mexico
N	Min. 15/Max. 79 channels	Radio Law certified countries including the U.S., Canada, South Korea, Brazil, Taiwan, Argentina, and Mexico

∗ Select this according to the country of use.
∗ Applicable countries differ depending on the part number. Before purchasing, refer to the "Country-specific Radio Law Compliance Table" on page 75.

∗ An installation plate (EXW1-AB4) is included as an accessory.
∗ When mounting directly to the wireless remote, the wireless adapter cover is required.
∗ When installing the wireless remote and wireless adapter separately, the wireless adapter cable and installation plate are required.

Wireless Adapter Cover

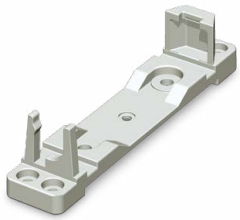
EXW1-AB6

For direct mounting of wireless adapter, a wireless adapter cover is required.

Installation Plate

EXW1-AB4

For use when installing the wireless adapter separately
It is included as an accessory when ordering the wireless adapter (EXW1-A11□).



How to Order

Wireless Adapter Cable

EXW1 – AC030-SSPS

Shape & cable length

Symbol	Mounting image	Cable length	Secondary battery compatible
AC1-X1		300 mm	–
AC030-SSPS		2950 mm	Yes

∗ When installing the wireless remote and wireless adapter separately, this cable and the installation plate are required.

Digital Input Module∗1

EX600 – DX P D

Digital input

Input type

Symbol	Description
P	PNP
N	NPN

Number of inputs and connector

Symbol	Number of inputs	Connector
B	8 inputs	M12 connector (5 pins) 4 pcs.
C	8 inputs	M8 connector (3 pins) 8 pcs.
C1	8 inputs	M8 connector (3 pins) 8 pcs., With open-circuit detection
D	16 inputs	M12 connector (5 pins) 8 pcs.
E	16 inputs	D-sub connector (25 pins)
F	16 inputs	Spring type terminal block (32 pins)

Digital Output Module∗1

EX600 – DY P B

Digital output

Output type

Symbol	Description
P	PNP
N	NPN

Number of outputs and connector

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

Digital Input/Output Module∗1

EX600 – DM P F

Digital input/output

Input/Output type

Symbol	Description
P	PNP
N	NPN

Number of inputs/outputs and connector

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

Analog Input Module∗1

EX600 – AX A

Analog input

Number of input channels and connector

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

∗1 For specifications, refer to the Fieldbus system EX600 series in the **Web Catalog**.

How to Order

Analog Output Module*1

EX600 – AY A

Analog output

Number of output channels and connector

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

Analog Input/Output Module*1

EX600 – AM B

Analog input/output

Number of input/output channels and connector

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

IO-Link Module

EX600 – L A B 1

Port specification

Symbol	Description
A	Port class A
B	Port class B

Number of ports and connector

Symbol	Number of ports	Connector
B	4 ports	M12 connector (5 pins) 4 pcs.

Terminal Unit (IO-Link device)

EX600 – T DX 1

Terminal unit (IO-Link device)

Digital input

Individual specifications (Number of inputs, connectors, etc.)

Symbol	Number of inputs	Connector
1	32 inputs	M12 connector (4 pins) 16 pcs.
2	16 inputs	M8 connector (3 pins) 16 pcs.

*1 For specifications, refer to the Fieldbus system EX600 series in the **Web Catalog**.

How to Order

End Plate (D side)

EX600 – E D 2 – 2

For M12

For 7/8 inch

End plate

End plate mounting position: D side

Power supply connector

Symbol	Power supply connector	Specifications
2	M12 (5 pins) B-coded	IN
3	7/8 inch (5 pins)	IN
4	M12 (4/5 pins) A-coded*1	IN/OUT
5	M12 (4/5 pins) A-coded*1	IN/OUT

*1 The pin layout for "4" and "5" pin connector is different.
Refer to the dimensions on page 52.

Mounting method

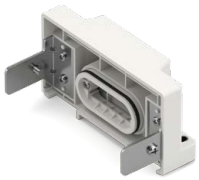
Symbol	Description	Note
Nil	Without DIN rail mounting bracket	—
2	With DIN rail mounting bracket	For SV, S0700, VQC series
3	With DIN rail mounting bracket	For JSY and SY series

* When the end plate (U side) is used, the symbol for the mounting method must be the same as the D side.

EX600-ED4/5 are not yet UL-compliant.

End Plate (U side)

EX600 – E U 1 – 2



End plate

End plate mounting position: U side

Specifications

Symbol	Specifications
1	Waterproof cover

Mounting method

Symbol	Description	Note
Nil	Without DIN rail mounting bracket	—
2	With DIN rail mounting bracket	For EX600-ED□-2
3	With DIN rail mounting bracket	For EX600-ED□-3

* When the end plate (D side) is used, the symbol for the mounting method must be the same as the U side.

Specifications: Wireless Remote (EXW1-RMV□M5C)

Wireless Communication Specifications

Item		Specifications
Wireless protocol		SMC original protocol (SMC encryption)
	Between EXW1 bases	V.2.0 or V.1.0 (Selectable)
	Between EX600-W bases	V.1.0
Radio wave type (spread)		Frequency Hopping Spread Spectrum (FHSS)
Frequency		2.4 GHz (2403 to 2481 MHz)
Number of frequency channels		5 to 79 ch or 15 to 79 ch (Refer to page 2.)
Frequency channel selection		Applicable (Refer to page 2.)
Channel bandwidth		1.0 MHz
Communication speed	**Wireless protocol V.2.0**	1 Mbps
	Wireless protocol V.1.0	250 kbps
Communication distance		Approx. 100 m (Depends on the operating environment)
Countries in which Radio Law certified		Refer to page 75 for the latest information regarding in which countries the product is certified.

Electrical Specifications

Item		Specifications	
Wireless protocol		V.1.0*1	V.2.0
For control/input (US1)	**Power supply voltage range**	24 VDC ±10%	
	Internal current consumption	50 mA or less (100 mA or less when a wireless adapter is connected)	
For driving (US2)	**Power supply voltage range**	24 VDC ±10%	
Occupied points for the module input		Max. 128 points/16 bytes (Increase or decrease by 16 points/2 bytes)	Max. 1280 points/160 bytes (Increase or decrease by 16 points/2 bytes)
Occupied points for the module output		Max. 128 points/16 bytes (Increase or decrease by 16 points/2 bytes)	Max. 1280 points/160 bytes (Increase or decrease by 16 points/2 bytes)
Valve output	**Output type**	Source/PNP (Negative common): EXW1-RMVPM5C Sink/NPN (Positive common) : EXW1-RMVNM5C	
	Number of outputs	32 outputs (0/8/16/24/32 outputs selectable)	
	Connected load	Solenoid valve with surge voltage suppressor 24 VDC, 1.0 W or less (SMC)	
	Supply voltage	24 VDC, 2 A	
	Protection	Short-circuit protection	
Number of connected EX600 IO modules		Up to 9 EX600 series IO modules (An IO-Link module cannot be connected.)	Up to 9 EX600 series IO modules (Up to 8 modules when the configuration memory function is enabled)

*1 Wireless protocol V.1.0 is recommended for use as a replacement for EX600-WSV1/2.

General Specifications

Item		Specifications
Enclosure		IP67 (with manifold assembled)
Ambient temperature		Operating: –10 to +55°C Stored: –20 to 60°C
Ambient humidity		35% to 85%RH (No condensation)
Vibration resistance (EN 61131-2 compliant)		$5 \leq f < 8.4$ Hz 3.5 mm $8.4 \leq f \leq 150$ Hz 9.8 m/s²
Impact resistance (EN 61131-2 compliant)		147 m/s², 11 ms
Standards		CE/UKCA marking
Weight	**Body only**	280 g
	Body + option (Wireless adapter + cover)	330 g

End Plate (D side)

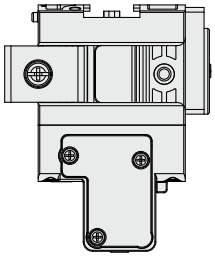
Model			EX600-ED2-□	EX600-ED3-□	EX600-ED4/5-□
Electrical	**Power supply connector**	**PWR IN**	M12 (5-pin) plug	7/8 inch (5-pin) plug	M12 (4-pin) plug
		PWR OUT	—	—	M12 (5-pin) socket
	Rated voltage	**Power supply for control/input**	24 VDC ±10%		
		Power supply for output	24 VDC +10/–5%		
	Rated current	**Power supply for control/input**	Max. 2 A	Max. 8 A	Max. 4 A
		Power supply for output			
Enclosure			IP67 (with manifold assembled)		
Standards*1			CE/UKCA marking, UL (CSA)		
Weight			170 g	175 g	170 g

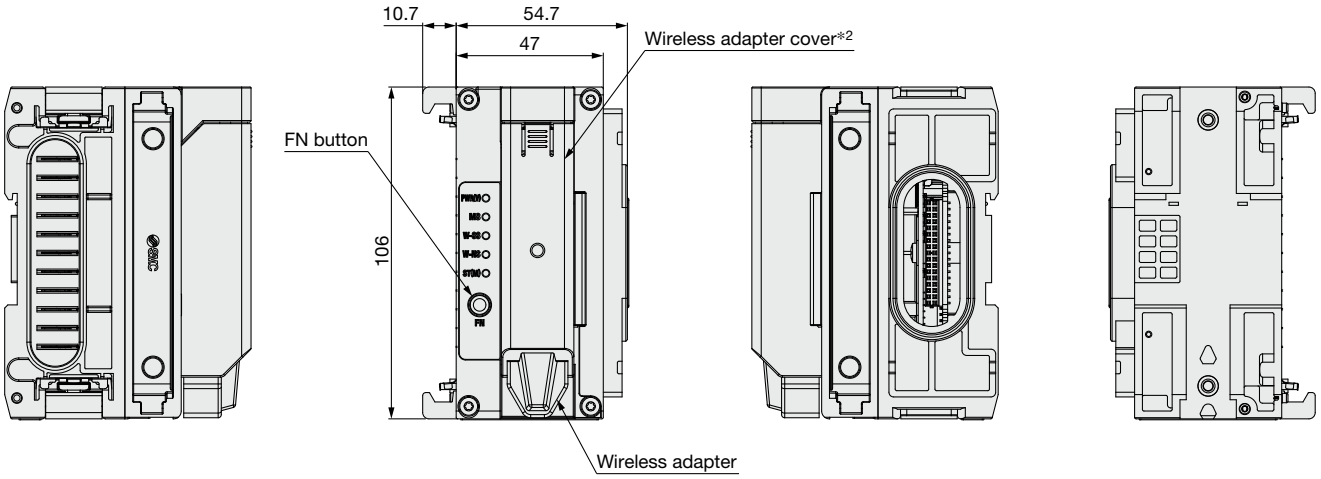
*1 The EX600-ED4/5-□ is not compliant with UL (CSA) standards.

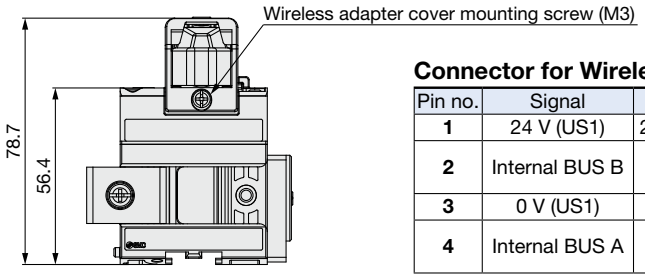
Dimensions/Parts Description

Wireless Remote

With wireless adapter cover







Connector for Wireless Adapter

Pin no.	Signal	Description	M8, 4-pin, socket
1	24 V (US1)	24 VDC (US1): Output*1	
2	Internal BUS B	For wireless adapter communication	
3	0 V (US1)	0 VDC (US1)	
4	Internal BUS A	For wireless adapter communication	

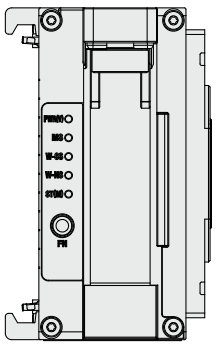
*1 Do not input power.

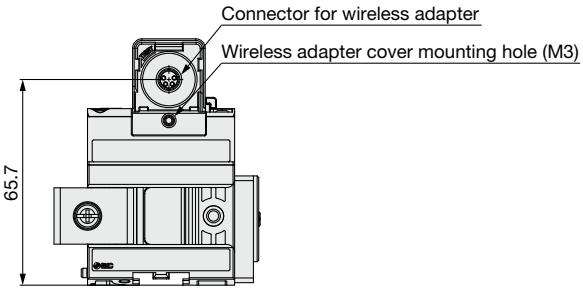
*2 For direct mounting of wireless adapter, a wireless adapter cover is required. (For details ⇒ p. 46)

* If without wireless adapter is selected, a dedicated cable for wireless adapter and wireless adapter or wireless adapter and wireless adapter cover must be ordered separately. (For details ⇒ p. 46, 47) When the type with a wireless adapter is selected, the wireless adapter and wireless adapter cover are assembled before shipping.

EXW1-RMV□M5C

Without wireless adapter and cover

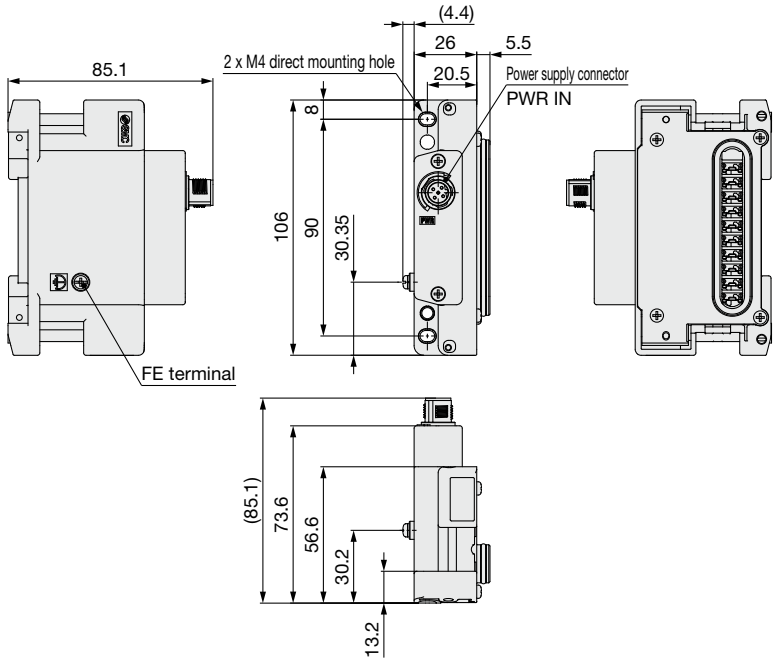




Dimensions/Parts Description

End Plate (D side)

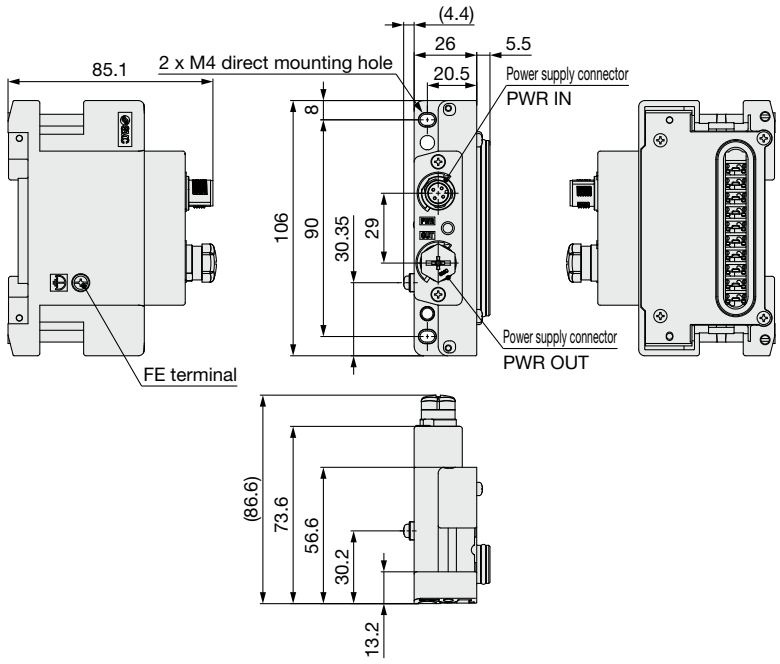
EX600-ED2



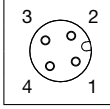
Power supply connector PWR IN: M12 5-pin plug, B-coded

Configuration	Pin no.	Description
	1	24 V (for output)
	2	0 V (for output)
	3	24 V (for control/input)
	4	0 V (for control/input)
	5	FE

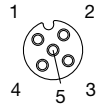
EX600-ED4/ED5



Power supply connector PWR IN: M12 4-pin plug, A-coded

Configuration	EX600-ED4 (Pin arrangement 1)		EX600-ED5 (Pin arrangement 2)	
	Pin no.	Description	Pin no.	Description
	**1**	24 V (for control/input)	**1**	24 V (for output)
	2	24 V (for output)	**2**	0 V (for output)
	3	0 V (for control/input)	**3**	24 V (for control/input)
	4	0 V (for output)	**4**	0 V (for control/input)

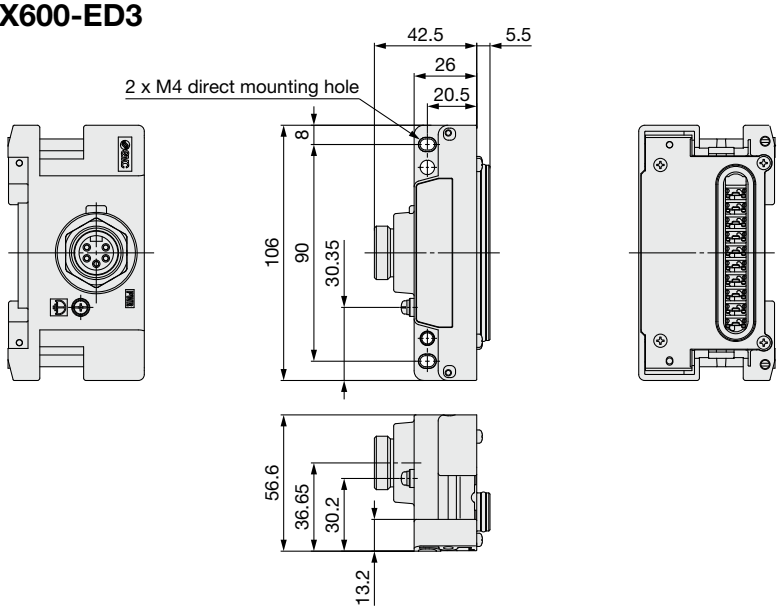
Power supply connector PWR OUT: M12 5-pin socket, A-coded

Configuration	EX600-ED4 (Pin arrangement 1)		EX600-ED5 (Pin arrangement 2)	
	Pin no.	Description	Pin no.	Description
	**1**	24 V (for control/input)	**1**	24 V (for output)
	2	24 V (for output)	**2**	0 V (for output)
	3	0 V (for control/input)	**3**	24 V (for control/input)
	4	0 V (for output)	**4**	0 V (for control/input)
	5	Unused	**5**	Unused

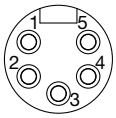
Dimensions/Parts Description

End Plate (D side)

EX600-ED3

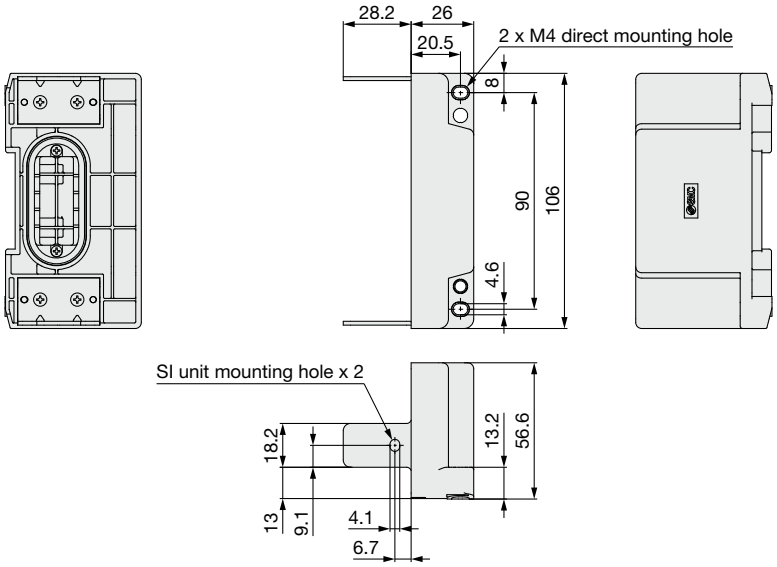


Power supply connector PWR: 7/8 inch 5-pin plug

Configuration	Pin no.	Description
	**1**	0 V (for output)
	2	0 V (for control/input)
	3	FE
	4	24 V (for control/input)
	5	24 V (for output)

End Plate (U side)

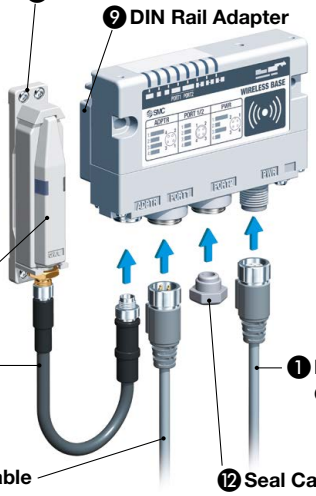
EX600-EU1



Accessories (Optional Parts)

Wireless Base

EtherCAT
EtherNet/IP
PROFINET
DeviceNet
Modbus TCP
SLMP Seamless Message Protocol

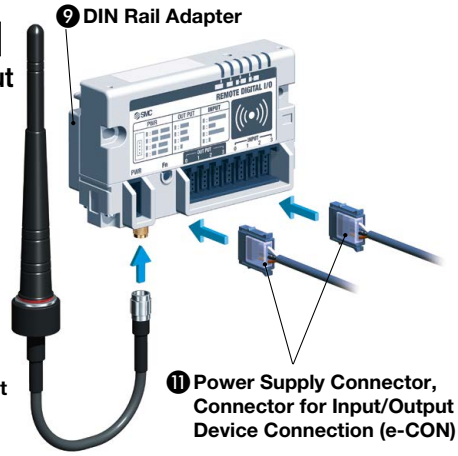


Wireless Base

CC-Link

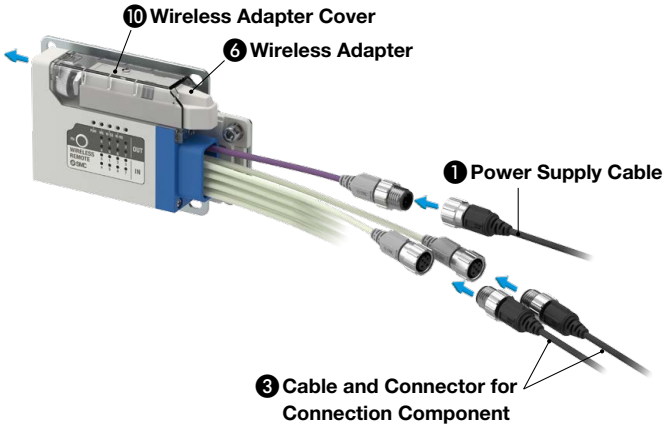
Wireless Remote

Digital Input/Output (e-CON)



Wireless Remote

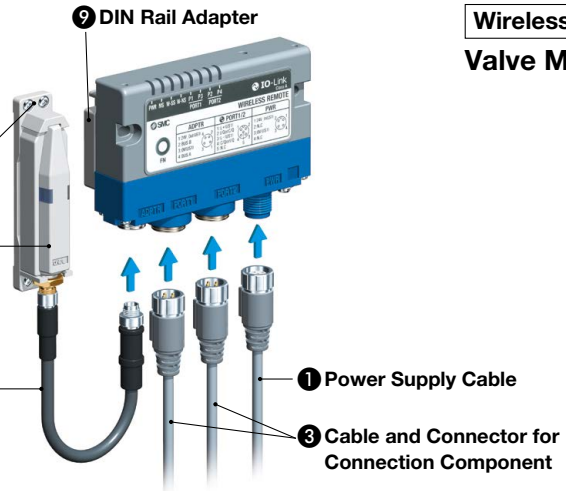
Digital Input/Output (M12 grommet)



Wireless Remote

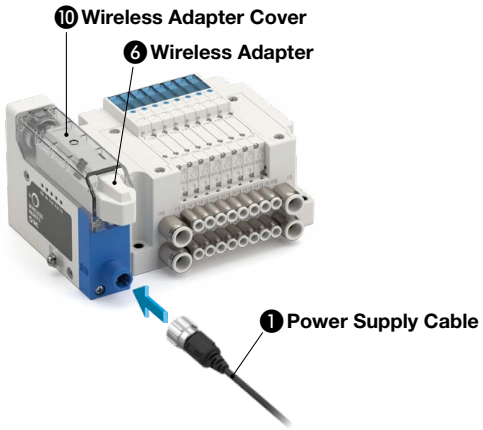
IO-Link

Analog Input



Wireless Remote

Valve Manifold



❶ Power Supply Cable (For DeviceNet, power is supplied via the communication cable.)

For EtherCAT | **For PROFINET** | **For EtherNet/IP™** | **For Modbus TCP, For SLMP**

For Digital Input/Output (M12 grommet) | **For IO-Link** | **For Analog Input** | **For Valve Manifold**

EX500-AP 050 - S

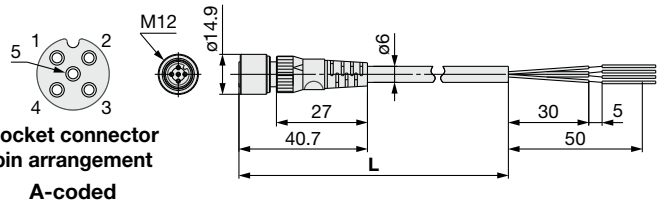
Cable length (L)

010	1000 mm
050	5000 mm

Connector specification

S	Straight
A	Angled

Straight connector type

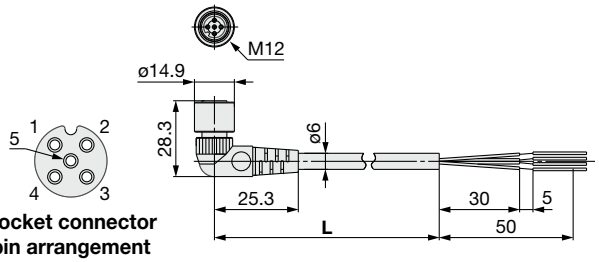


Socket connector pin arrangement

A-coded (Normal key)

Item	Specifications
Cable O.D.	ø6 mm
Conductor nominal cross section	0.3 mm²/AWG22
Wire O.D. (Including insulator)	1.5 mm
Min. bending radius (Fixed)	40 mm

Angled connector type

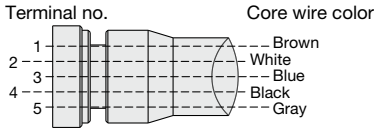


Socket connector pin arrangement

A-coded (Normal key)

Item	Specifications
Cable O.D.	ø6 mm
Conductor nominal cross section	0.3 mm²/AWG22
Wire O.D. (Including insulator)	1.5 mm
Min. bending radius (Fixed)	40 mm

Connections



❶ Power Supply Cable

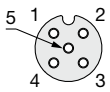
For EtherCAT | **For PROFINET** | **For EtherNet/IP™** | **For Modbus TCP, For SLMP**

For Digital Input/Output (M12 grommet) | **For IO-Link** | **For Analog Input** | **For Valve Manifold**

PCA- 1401804

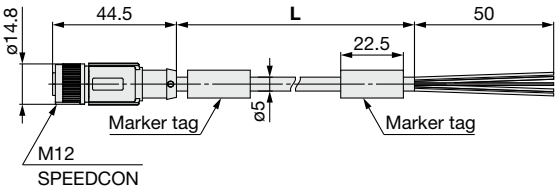
Cable length (L)

1401804	1500 mm
1401805	3000 mm
1401806	5000 mm



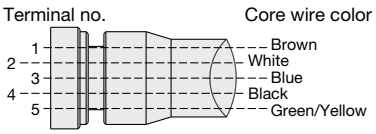
Socket connector pin arrangement

A-coded (Normal key)



Item	Specifications
Cable O.D.	ø5 mm
Conductor nominal cross section	0.34 mm²/AWG22
Wire O.D. (Including insulator)	1.27 mm
Min. bending radius (Fixed)	21.7 mm

Connections



❶ Power Supply Cable

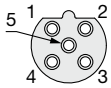
For CC-Link

Straight connector type

EX9-AC 050 - 1

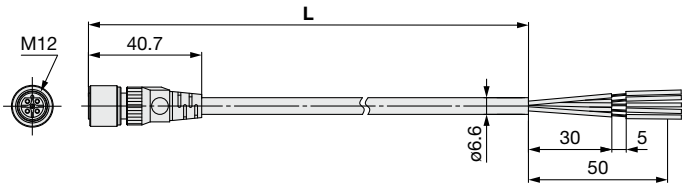
● Cable length (L)

010	1000 mm
030	3000 mm
050	5000 mm



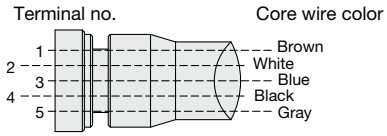
Socket connector pin arrangement

B-coded (Reverse key)



Item	Specifications
Cable O.D.	ø6.6 mm
Conductor nominal cross section	0.3 mm²/AWG22
Wire O.D. (Including insulator)	1.65 mm
Min. bending radius (Fixed)	40 mm

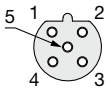
Connections



PCA- 1401807

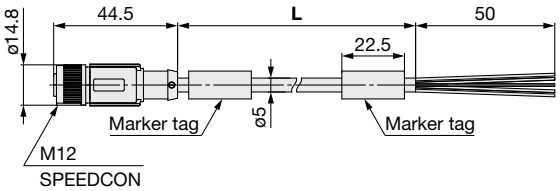
● Cable length (L)

1401807	1500 mm
1401808	3000 mm
1401809	5000 mm



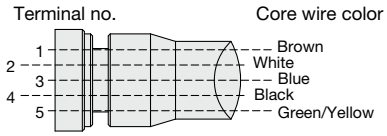
Socket connector pin arrangement

B-coded (Reverse key)



Item	Specifications
Cable O.D.	ø5 mm
Conductor nominal cross section	0.34 mm²/AWG22
Wire O.D. (Including insulator)	1.27 mm
Min. bending radius (Fixed)	21.7 mm

Connections



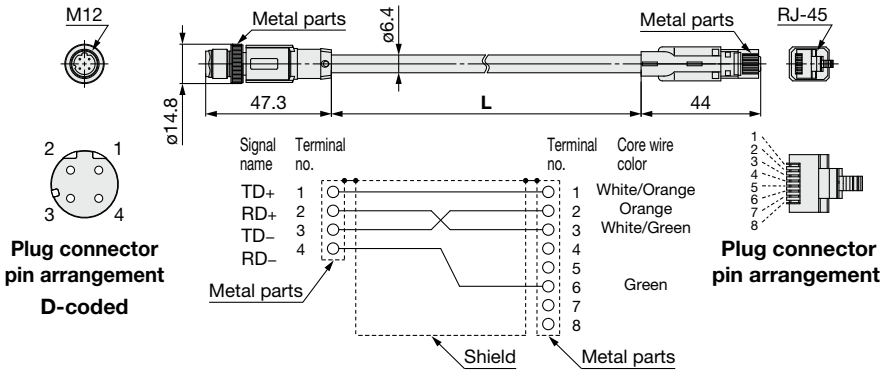
❷ Communication Cable

For EtherCAT | **For PROFINET** | **For EtherNet/IP™** | **For Modbus TCP, For SLMP**

EX9-AC 020 EN-PSRJ (Plug/RJ-45 connector)

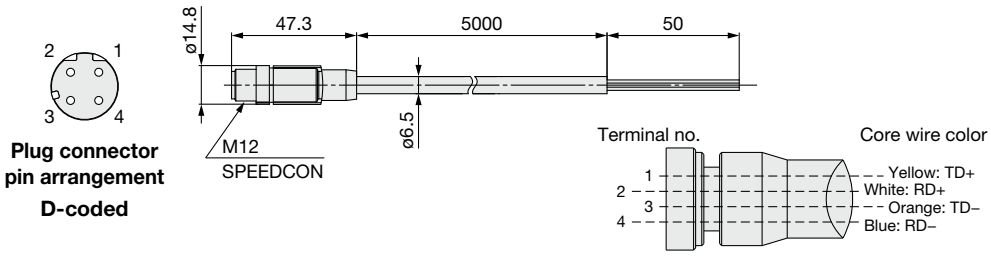
Cable length (L)

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



Connections (Straight cable)

PCA-1446566 (Plug)



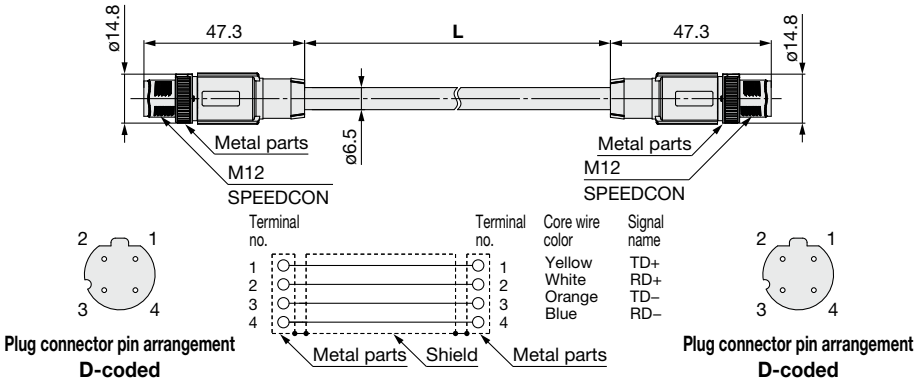
Connections

Straight connector type

EX9-AC 005 EN-PSPS (With connector on both sides (Plug/Plug))

Cable length (L)

005	500 mm
010	1000 mm
020	2000 mm
030	3000 mm
050	5000 mm
100	10000 mm



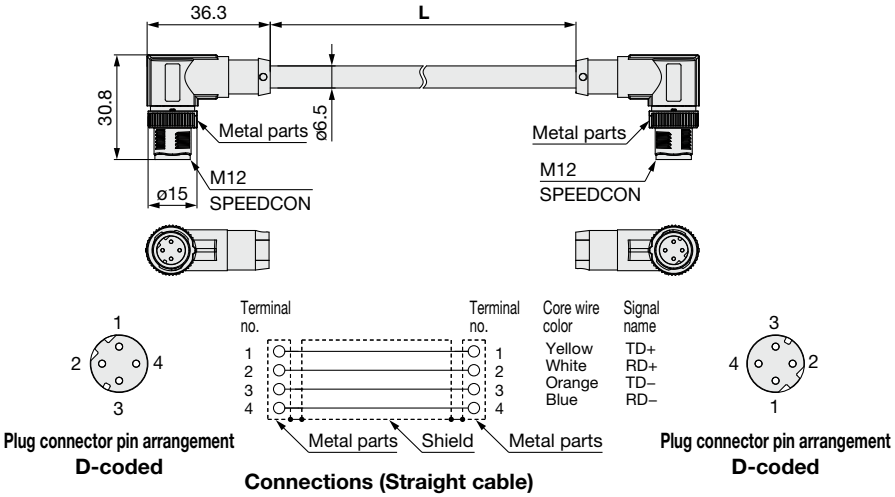
Connections (Straight cable)

Angled connector type

EX9-AC 005 EN-PAPA (With angled connector on both sides (Plug/Plug))

Cable length (L)

005	500 mm
010	1000 mm
020	2000 mm
030	3000 mm
050	5000 mm
100	10000 mm

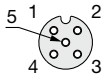


Connections (Straight cable)

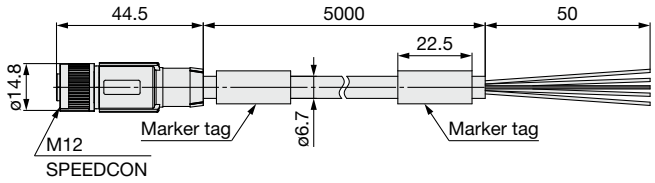
❷ Communication Cable

For DeviceNet®

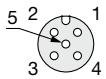
PCA-1557633
(Socket)



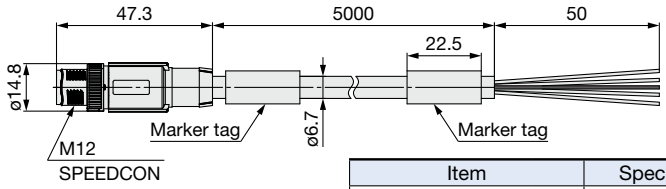
Socket connector pin arrangement A-coded (Normal key)

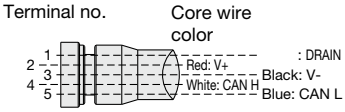


PCA-1557646
(Plug)



Plug connector pin arrangement A-coded (Normal key)





Connections

Item		Specifications
Cable O.D.		ø6.7 mm
Conductor nominal cross section	Power pair	0.34 mm²/AWG22
	Data pair	0.25 mm²/AWG24
Wire O.D. (Including insulator)	Power pair	1.4 mm
	Data pair	2.05 mm
Min. bending radius (Fixed)		67 mm

Made to Order

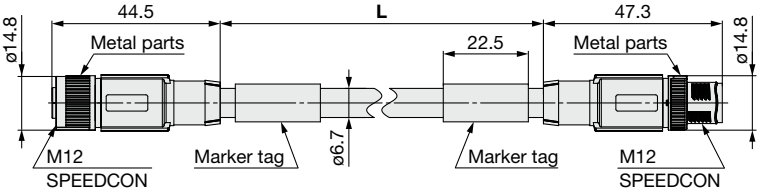
Cable length	10000 mm	Refer to page 66.

Straight connector type

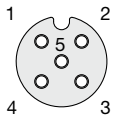
EX9-AC 005 DN-SSPS (With connector on both sides (Socket/Plug))

Cable length (L)

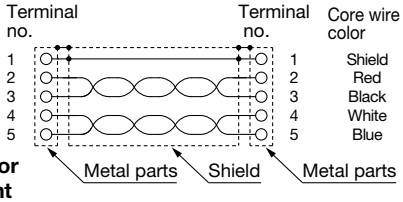
005	500 mm
010	1000 mm
020	2000 mm
030	3000 mm
050	5000 mm
100	10000 mm



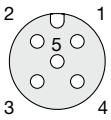
Item		Specifications
Cable O.D.		ø6.7 mm
Conductor nominal cross section	Power pair	0.34 mm²/AWG22
	Data pair	0.25 mm²/AWG24
Wire O.D. (Including insulator)	Power pair	1.4 mm
	Data pair	2.05 mm
Min. bending radius (Fixed)		67 mm



Socket connector pin arrangement A-coded (Normal key)



Connections



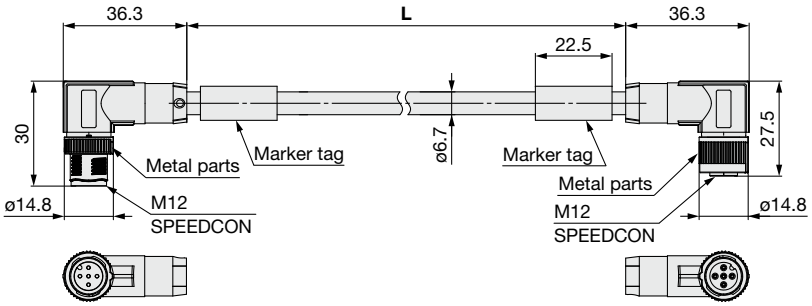
Plug connector pin arrangement A-coded (Normal key)

Angled connector type

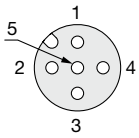
EX9-AC 005 DN-SAPA (With angled connector on both sides (Socket/Plug))

Cable length (L)

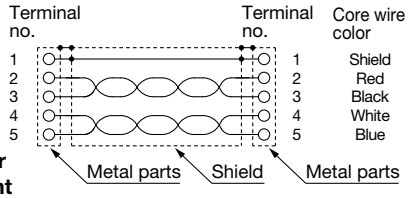
005	500 mm
010	1000 mm
020	2000 mm
030	3000 mm
050	5000 mm
100	10000 mm



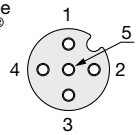
Item		Specifications
Cable O.D.		ø6.7 mm
Conductor nominal cross section	Power pair	0.34 mm²/AWG22
	Data pair	0.25 mm²/AWG24
Wire O.D. (Including insulator)	Power pair	1.4 mm
	Data pair	2.05 mm
Min. bending radius (Fixed)		67 mm



Plug connector pin arrangement A-coded (Normal key)



Connections

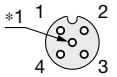


Socket connector pin arrangement A-coded (Normal key)

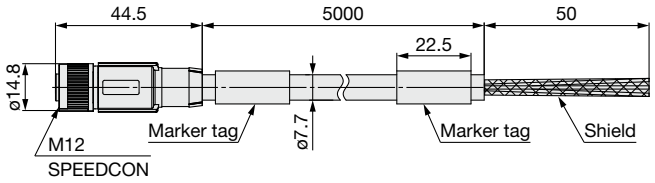
❷ Communication Cable

For CC-Link

PCA-1567720
(Socket)

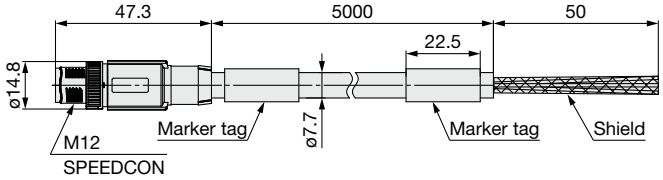


Socket connector pin arrangement
A-coded (Normal key)
*1 Number of holes: 5,
Total number of pins: 4



PCA-1567717
(Plug)

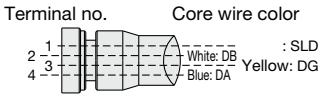
Plug connector
pin arrangement
A-coded (Normal key)



Made to Order

Made to Order

Cable length	10000 mm	Refer to page 66.



Connections

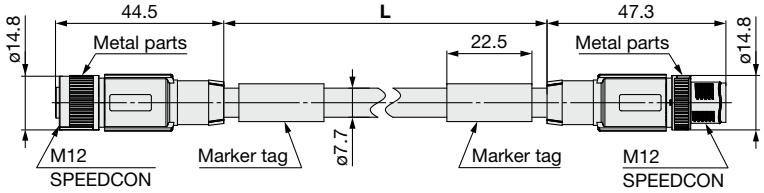
Item		Specifications
Cable O.D.		ø7.7 mm
Conductor nominal cross section	**Data pair**	0.5 mm²/AWG20
	Drain	0.34 mm²/AWG22
Wire O.D. (Including insulator)		2.55 mm
Min. bending radius (Fixed)		77 mm

Straight connector type

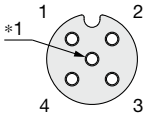
EX9-AC 005 MJ-SSPS (With connector on both sides (Socket/Plug))

Cable length (L)

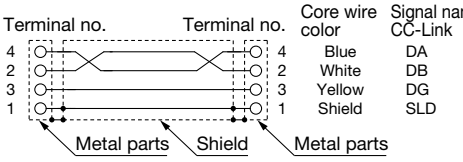
005	500 mm
010	1000 mm
020	2000 mm
030	3000 mm
050	5000 mm
100	10000 mm



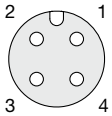
Item		Specifications
Cable O.D.		ø7.7 mm
Conductor nominal cross section	**Data pair**	0.5 mm²/AWG20
	Drain	0.34 mm²/AWG22
Wire O.D. (Including insulator)		2.55 mm
Min. bending radius (Fixed)		77 mm



Socket connector
pin arrangement
A-coded (Normal key)
*1 Number of holes: 5,
Total number of pins: 4



Connections



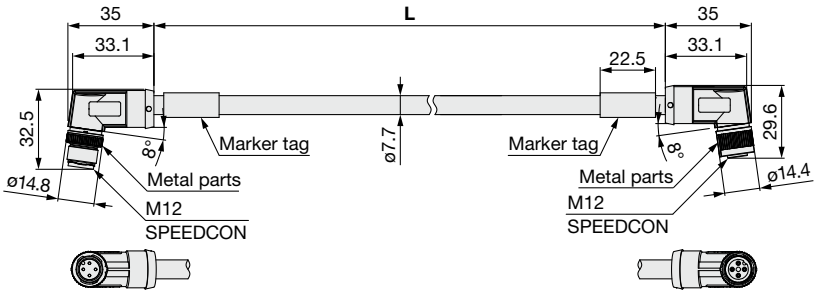
Plug connector
pin arrangement
A-coded (Normal key)

Angled connector type

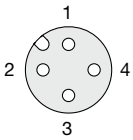
EX9-AC 005 MJ-SAPA (With angled connector on both sides (Socket/Plug))

Cable length (L)

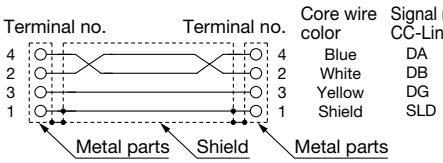
005	500 mm
010	1000 mm
020	2000 mm
030	3000 mm
050	5000 mm
100	10000 mm



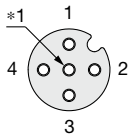
Item		Specifications
Cable O.D.		ø7.7 mm
Conductor nominal cross section	**Data pair**	0.5 mm²/AWG20
	Drain	0.34 mm²/AWG22
Wire O.D. (Including insulator)		2.55 mm
Min. bending radius (Fixed)		77 mm



Plug connector
pin arrangement
A-coded (Normal key)



Connections



Socket connector
pin arrangement
A-coded (Normal key)
*1 Number of holes: 5,
Total number of pins: 4

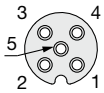
❸ Cable and Connector for Connection Component

For IO-Link | **For Analog Input** | **For Digital Input/Output (M12 grommet)**

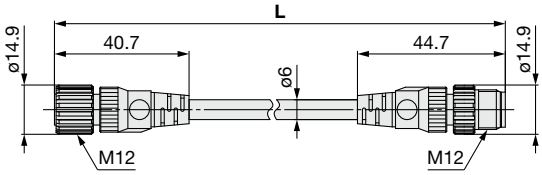
EX9-AC 005 -SSPS (With connector on both sides (Socket/Plug))

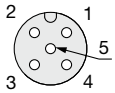
Cable length (L)

005	500 mm
010	1000 mm
020	2000 mm
030	3000 mm
050	5000 mm
100	10000 mm

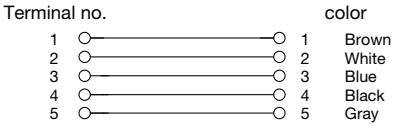


Socket connector pin arrangement
A-coded (Normal key)





Plug connector pin arrangement
A-coded (Normal key)



Connections

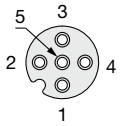
Item	Specifications
Cable O.D.	ø6 mm
Conductor nominal cross section	0.3 mm²/AWG22
Wire O.D. (Including conductor)	1.5 mm
Min. bending radius (Fixed)	40 mm

Angled connector type

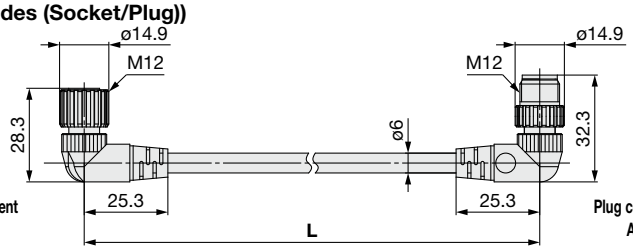
EX9-AC 005 -SAPA (With connector on both sides (Socket/Plug))

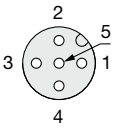
Cable length (L)

005	500 mm
010	1000 mm
020	2000 mm
030	3000 mm
050	5000 mm
100	10000 mm

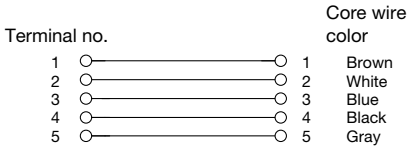


Socket connector pin arrangement
A-coded (Normal key)





Plug connector pin arrangement
A-coded (Normal key)



Connections

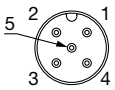
Item	Specifications
Cable O.D.	ø6 mm
Conductor nominal cross section	0.3 mm²/AWG22
Wire O.D. (Including conductor)	1.5 mm
Min. bending radius (Fixed)	40 mm

Straight connector type

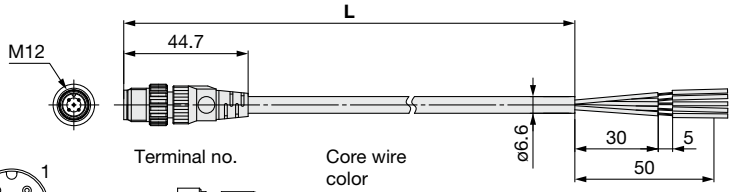
EX9-AC 030 -7

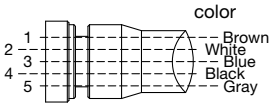
Cable length (L)

010	1000 mm
030	3000 mm



Plug connector pin arrangement





Connections

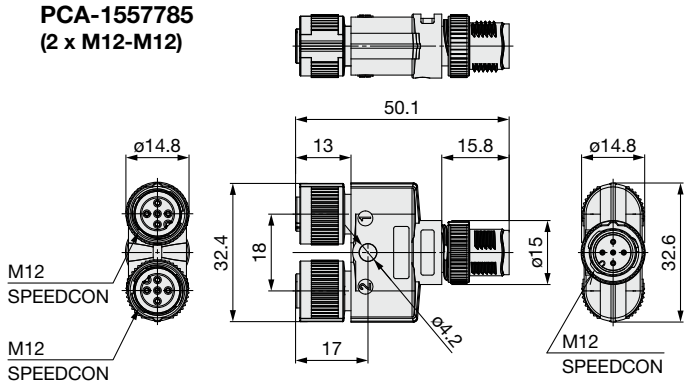
Item	Specifications
Cable O.D.	ø6.6 mm
Conductor nominal cross section	0.3 mm²/AWG22
Wire O.D. (Including insulator)	1.65 mm
Min. bending radius (Fixed)	40 mm

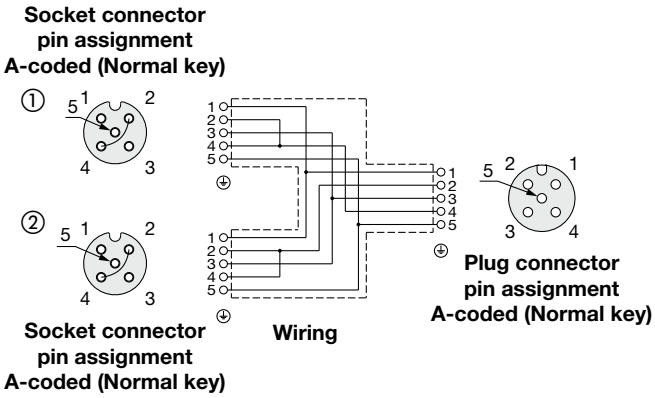
❸ Cable and Connector for Connection Component

For Digital Input/Output (M12 grommet)

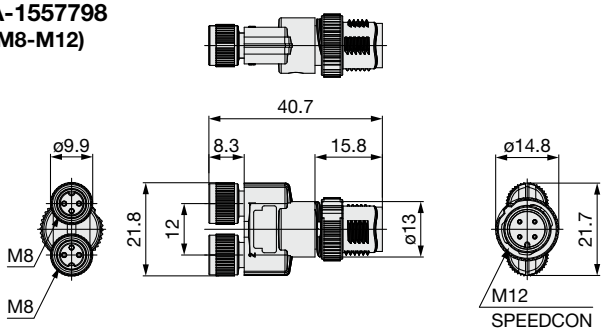
Y-branch Connector

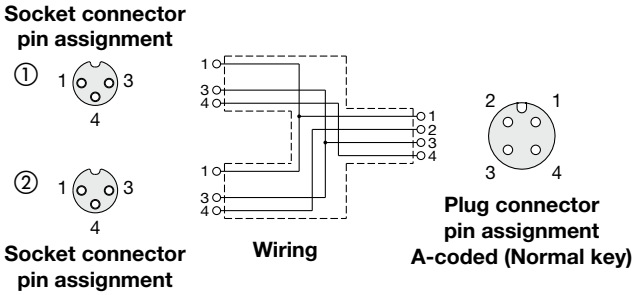
PCA-1557785
(2 x M12-M12)





PCA-1557798
(2 x M8-M12)

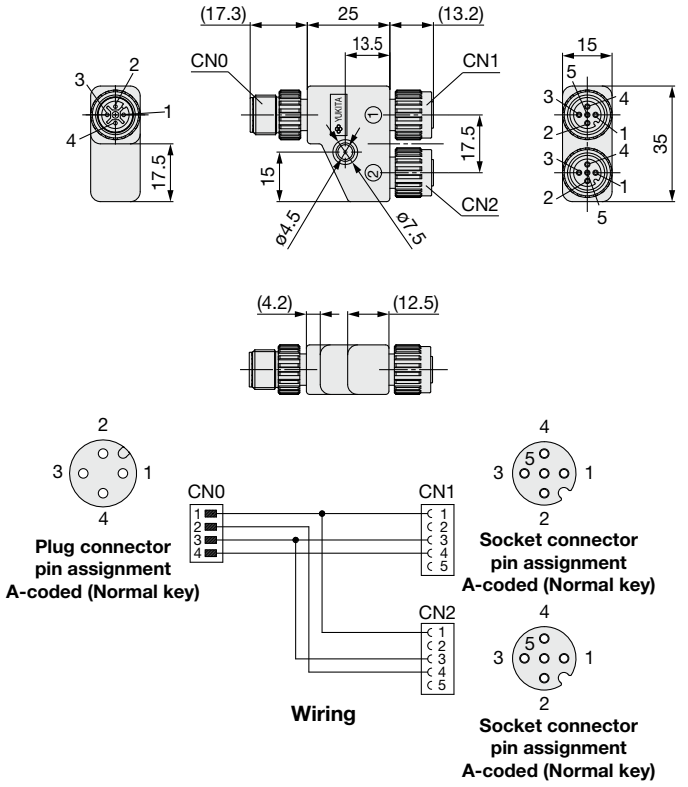




For IO-Link | For Analog Input

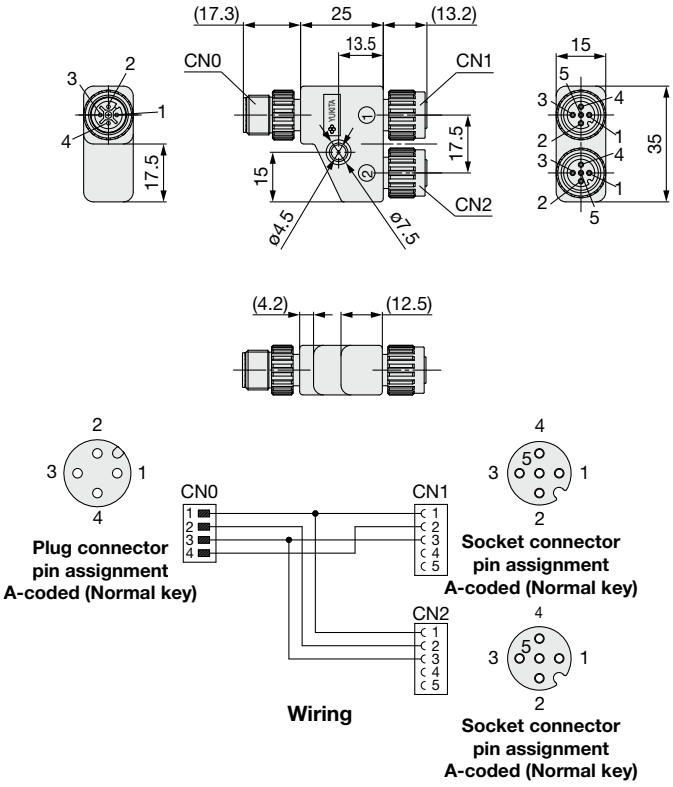
EXW1-ACY3 (For IO-Link)

Y-branch Connector for Port Class A



EXW1-ACY2 (For analog input)

Y-branch Connector



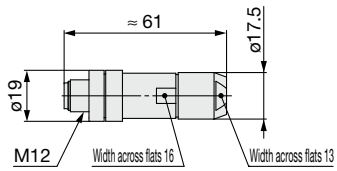
❹ Field-wireable Communication Connector

Plug

For EtherCAT | **For PROFINET** | **For EtherNet/IP™** | **For Modbus TCP, For SLMP**

PCA-1446553

D-coded



Applicable Cable

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

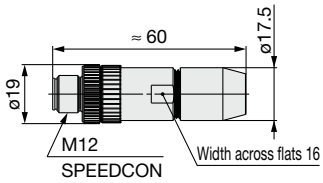
* The table above shows the specifications for the applicable cable. Adaptation for the connector may vary on account of the conductor construction of the electric wire.

Plug

For DeviceNet®

PCA-1075528

A-coded
(Normal key)



Applicable Cable

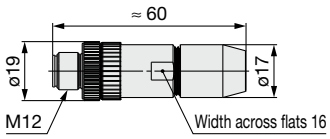
Item	Specifications
Cable O.D.	4.0 to 8.0 mm
Wire gauge (Stranded wire cross section)	0.14 to 0.75 mm²/ AWG26 to 18 (Solid cable/Flexible cable)

Plug

For CC-Link

PCA-1075526

A-coded
(Normal key)



Applicable Cable

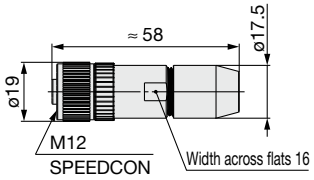
Item	Specifications
Cable O.D.	4.0 to 8.0 mm
Wire gauge (Stranded wire cross section)	0.14 to 0.5 mm²/AWG26 to 20

Socket

For DeviceNet®

PCA-1075529

A-coded
(Normal key)



Applicable Cable

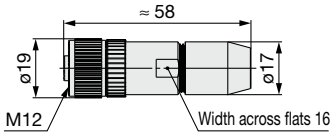
Item	Specifications
Cable O.D.	4.0 to 8.0 mm
Wire gauge (Stranded wire cross section)	0.14 to 0.75 mm²/ AWG26 to 18 (Solid cable/Flexible cable)

Socket

For CC-Link

PCA-1075527

A-coded
(Normal key)



Applicable Cable

Item	Specifications
Cable O.D.	4.0 to 8.0 mm
Wire gauge (Stranded wire cross section)	0.14 to 0.5 mm²/AWG26 to 20

❺ Wireless Adapter Cable

EXW1-AC1-X1

●Secondary battery compatible

EXW1-AC001-SAPU
EXW1-AC030-SSPS

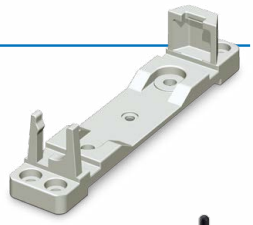
∗ Refer to page 34 for the dimensions and parts description.
∗ This cable is required to connect the wireless base and wireless adapter.

❻ Wireless Adapter

EXW1-A11□

A wireless adapter cable is required to connect the wireless base and wireless adapter.
An installation plate (EXW1-AB4) is included as an accessory.
∗ Refer to page 33 for the dimensions and parts description.

❼ Installation Plate



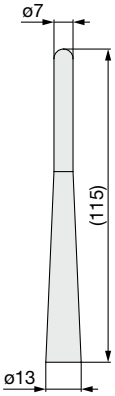
EXW1-AB4

Included as an accessory with the wireless adapter (EXW1-A11□)
∗ Refer to page 33 for the dimensions.

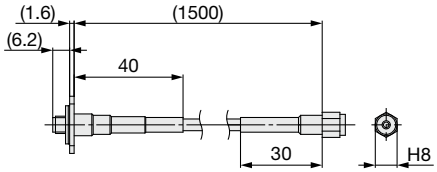
❽ External Antenna Set

EXW1-EA1

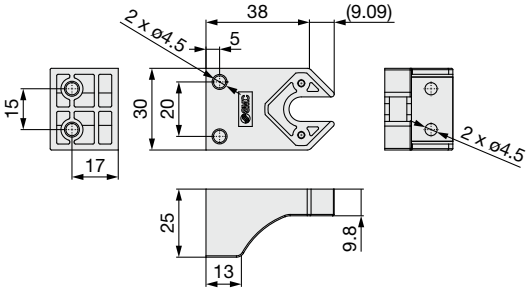
(A set containing a whip antenna, coaxial cable, and bracket)
∗1 The set is included with the external antenna specification. Only the included whip antenna and coaxial cable can be used with the product. Be sure to use them as a set.
∗2 The external antenna set cannot be used for the internal antenna specification.
∗3 It is not possible to use the external antenna set without connecting it with the external antenna specification.



① **Whip antenna**

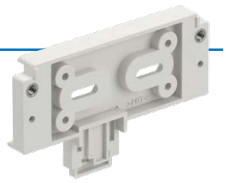


② **Coaxial cable**



③ **Bracket**

❾ DIN Rail Adapter



EXW1-AB5

∗ Refer to page 45 for the dimensions.

❿ Wireless Adapter Cover

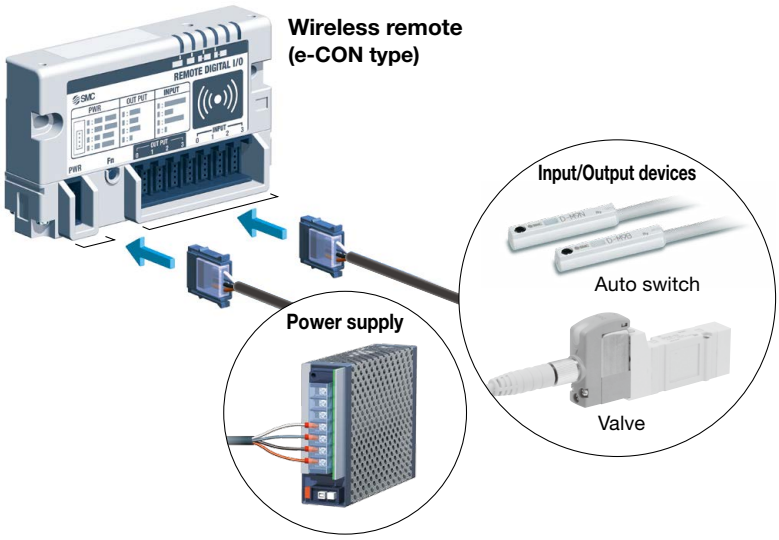
EXW1-AB6

For direct mounting of wireless adapter, a wireless adapter cover is required.
∗ Refer to page 42 for the dimensions.

⓫ Power Supply Connector, Connector for Input/Output Device Connection (e-CON)

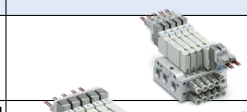
Select the applicable e-CON connectors based on the lead wire specifications of the components to be connected.
Both the power supply and I/O connectors have the same shape as the e-CON (4-pin, socket).
The lead wire specifications of each of our I/O devices are shown below for reference.

Connecting the remote and I/O devices



e-CON Part Nos. List

Part no.	AWG No.	Conductor cross section [mm SQ]	Finished outside diameter [mm]	Cover color
ZS-28-C-1	24 to 26	0.14 to 0.2	ø1.0 to ø1.2	Yellow
ZS-28-C-2			ø1.2 to ø1.6	Orange
ZS-28-C-3	22 to 20	0.3 to 0.5	ø1.0 to ø1.2	Green
ZS-28-C-4			ø1.2 to ø1.6	Blue
ZS-28-C-5			ø1.6 to ø2.0	Gray
ZS-28-CA-1	—	0.1 to 0.5	ø0.6 to ø0.9	Orange
ZS-28-CA-2			ø0.9 to ø1.0	Red
ZS-28-CA-3			ø1.0 to ø1.15	Yellow
ZS-28-CA-4			ø1.15 to ø1.35	Blue
ZS-28-CA-5			ø1.35 to ø1.6	Green

Input/ Output	Product	Series	Appearance	Conductor cross section [mm²]	Insulator O.D. [mm]	Applicable e-CON part no.
Output	Valve	**JSY1000 Plug lead (V050-30-4A-□)**		0.3	ø1.55	ZS-28-C-4 ZS-28-CA-5
		JSY3000, 5000/SY/SYJ/SJ Plug lead (SY100-30-4A-□)		0.3	ø1.55	ZS-28-C-4 ZS-28-CA-5
		SY/SYJ M8 connector (V100-49-1-□)		0.16 (AWG25)	ø1.2	ZS-28-C-1 ZS-28-CA-4
	Ejector	**ZB (AXT661-13A/14A-□)**		AWG24	ø1.4	ZS-28-C-2 ZS-28-CA-5
		ZL/ZM (SY100-30-4A-□)		0.3	ø1.55	ZS-28-C-4 ZS-28-CA-5
		ZK2 (ZK2-LV□□-A)		0.2 (AWG24)	ø1.4	ZS-28-C-2 ZS-28-CA-5
Input	Pressure	**Z/ISE10, 20**		0.15 (AWG26)	ø1.0	ZS-28-C-1 ZS-28-CA-2
		PS1000		0.18	ø0.96	ZS-28-CA-2
	Auto switch	**D-M9**		0.15	ø0.88	ZS-28-CA-1
	Flow	**PF2M**		AWG26 (0.13)	ø1	ZS-28-CA-2

⓬ Seal Cap (10 pcs.)

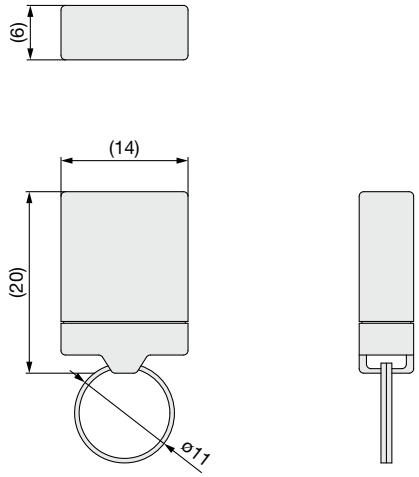
Be sure to mount a seal cap on any unused communication connectors and I/O connectors.
Otherwise, the specified enclosure cannot be maintained.
∗ 1 cap is included with the wireless base (EXW1-B□) and the wireless remote (EXW1-RL□).

EX9-AWTS
For M12

⓭ IO-Link Device Tool License Key

For EtherCAT | **For PROFINET** | **For EtherNet/IP™** | **For Modbus TCP, For SLMP**

USB dongle
EX9-ZSW-LDT1



∗ The IO-Link Device Tool V5-PE (V5 or later only) manufactured by TMG is required for setting IO-Link devices.
The IO-Link Device Tool can be downloaded for free from TMG's website. However, to use it for more than 30 days, a license key for the IO-Link Device Tool is required.

Made to Order

Please contact SMC for detailed specifications and lead times.

Made to Order

❶ Communication Cable

With connector on one side (Socket)
Cable length: 10000 mm

For CC-Link

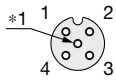
For DeviceNet®

EX9-AC100 MJ -X12

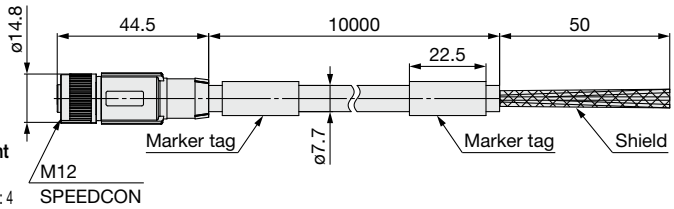
● **Applicable protocol**

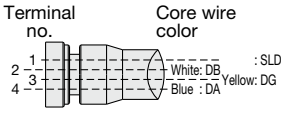
MJ	CC-Link
DN	DeviceNet®

For CC-Link



Socket connector pin arrangement
A-coded (Normal key)
*1 Number of holes: 5, Total number of pins: 4

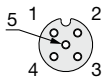




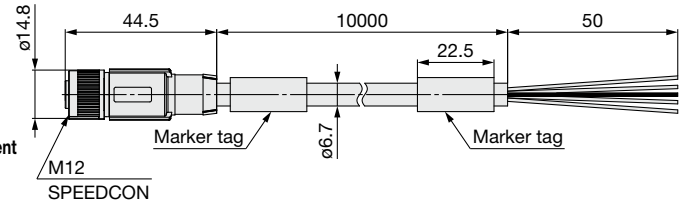
Connections

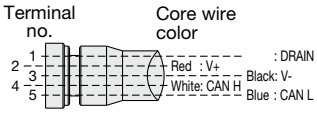
Item		Specifications
Cable O.D.		ø7.7 mm
Conductor nominal cross section	**Data pair**	0.5 mm²/AWG20
	Drain	0.34 mm²/AWG22
Wire O.D. (Including insulator)		2.55 mm
Min. bending radius (Fixed)		77 mm

For DeviceNet®



Socket connector pin arrangement
A-coded (Normal key)

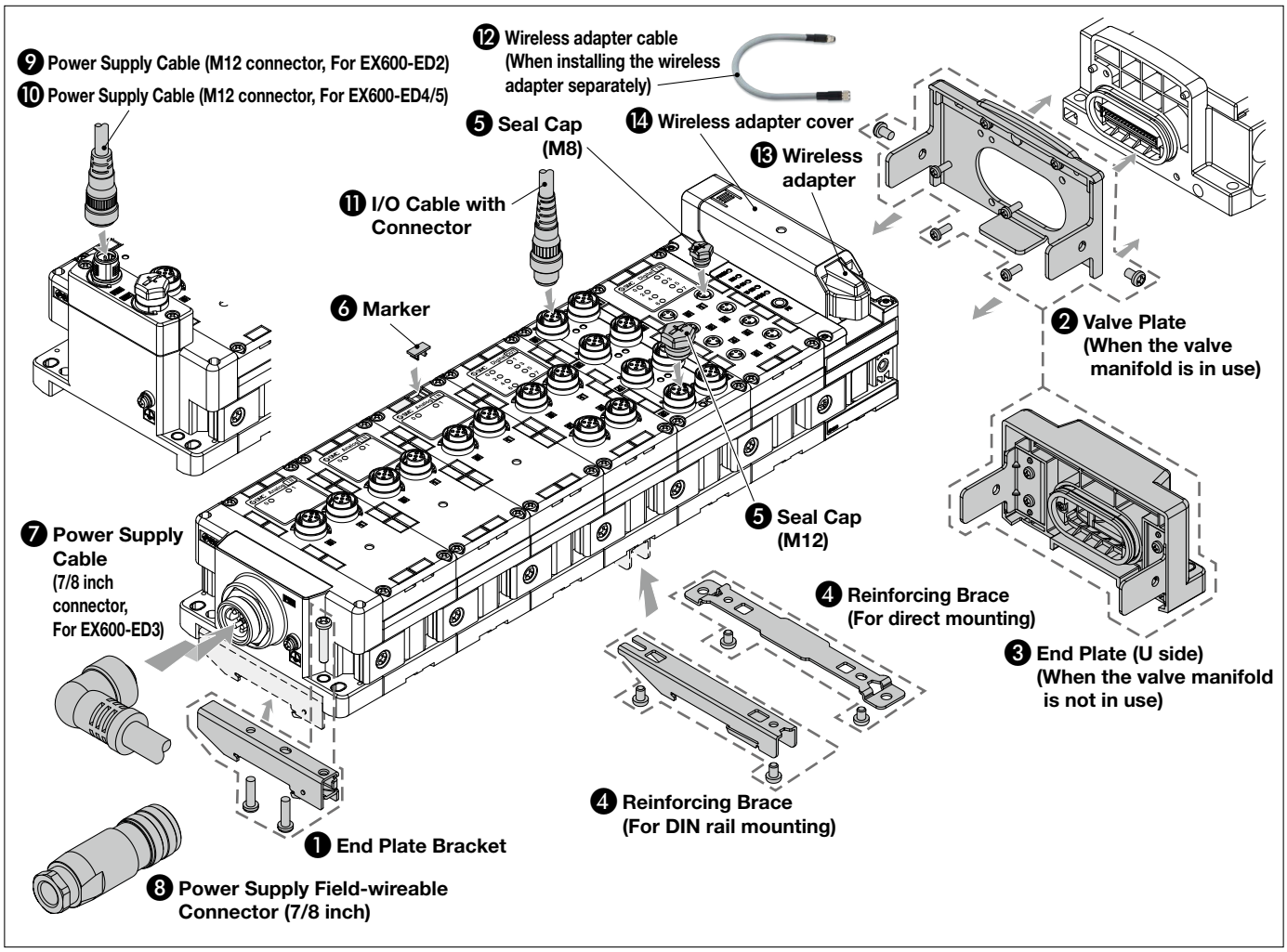




Connections

Item		Specifications
Cable O.D.		ø6.7 mm
Conductor nominal cross section	**Power pair**	0.34 mm²/AWG22
	Data pair	0.25 mm²/AWG24
Wire O.D. (Including insulator)	**Power pair**	1.4 mm
	Data pair	2.05 mm
Min. bending radius (Fixed)		67 mm

Accessories (Optional Parts)



❶ End Plate Bracket

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

EX600-ZMA2
(For the SV, S0700, and VQC series)

Enclosed parts

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

EX600-ZMA3
(For the SY and JSY series)

Enclosed parts

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

❷ Valve Plate

EX600-ZMV1
(For the SV, S0700, and VQC series)

Enclosed parts

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

EX600-ZMV2
(For the SY and JSY series)

Enclosed parts

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

❸ End Plate (U side)

The end plate is for use when the manifold valve is not connected.

EX600- E U 1 - 2

- **Mounting method**

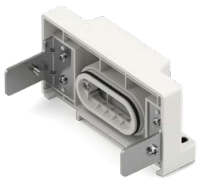
Symbol	Description	Note
Nil	Without DIN rail mounting bracket	—
2	With DIN rail mounting bracket	For EX600-ED□-2
3	With DIN rail mounting bracket	For EX600-ED□-3

∗ Select in accordance with the symbol for the end plate (D side) mounting method.

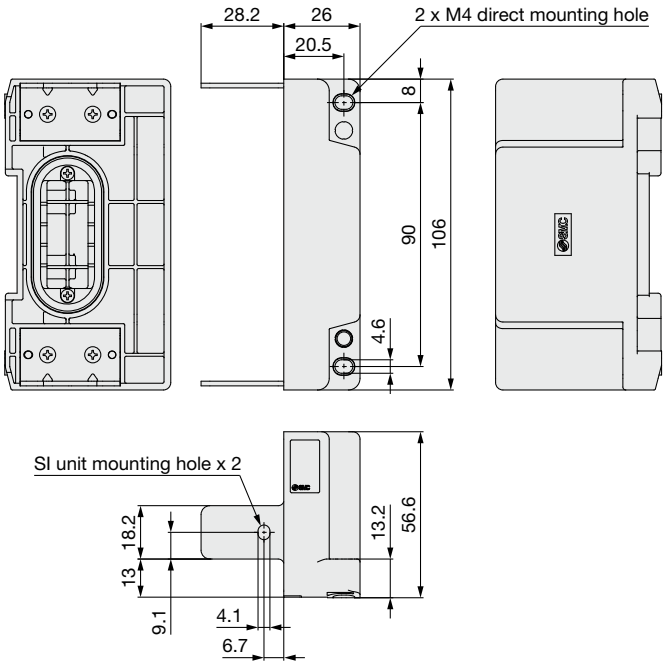
- **Specification**

Symbol	Specification
1	Waterproof cover

- **End plate mounting position: U side**
- **End plate**



EX600-EU1



Enclosed parts

Round head screw (M4 x 6) 2 pcs.

❹ Reinforcing Brace

This bracket is used on the bottom of the unit at the intermediate position for connecting 6 units or more.

∗ Be sure to attach this bracket to prevent connection failure between the units caused by deflection.

For direct mounting

EX600-ZMB1

Enclosed parts

Round head screw (M4 x 5) 2 pcs.

For DIN rail mounting

EX600-ZMB2

Enclosed parts

Round head screw (M4 x 6) 2 pcs.

❺ Seal Cap (10 pcs.)

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

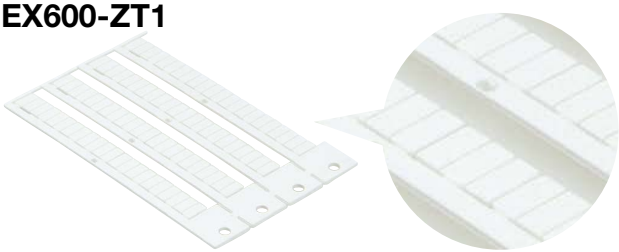
EX9-AWES
For M8

EX9-AWTS
For M12

❻ Marker (1 sheet, 88 pcs.)

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

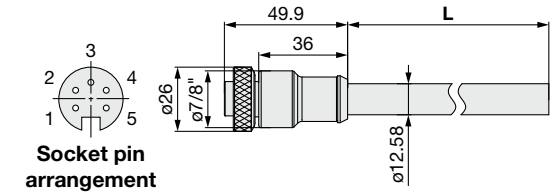
EX600-ZT1



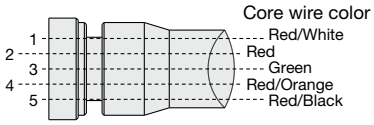
❼ Power Supply Cable (7/8 inch connector, For EX600-ED3)

PCA-1558810	Straight 2 m
PCA-1558823	Straight 6 m
PCA-1558836	Right angled 2 m
PCA-1558849	Right angled 6 m

Straight connector type

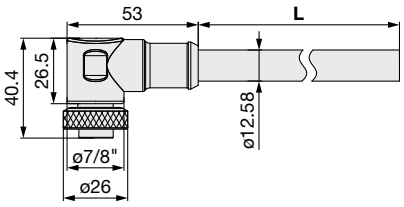


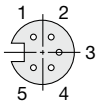
Socket pin arrangement



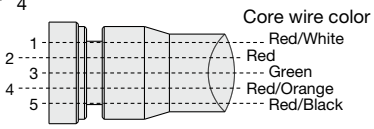
Connections

Angled connector type





Socket pin arrangement



Connections

Item	Specifications
Cable O.D.	ø12.58 mm
Conductor nominal cross section	1.5 mm²/AWG16
Wire O.D. (Including insulator)	2.35 mm
Min. bending radius (Fixed)	110 mm

❽ Power Supply Field-wireable Connector (7/8 inch)

PCA-1578081 Socket [compatible with AWG22-16]

Applicable Cable

Item	Specifications
Cable O.D.	ø12.0 to 14.0 mm
Wire gauge (Stranded wire cross section)	0.34 to 1.5 mm² AWG22 to 16

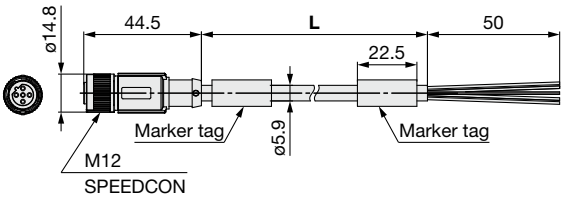
❾ Power Supply Cable (M12 connector, For EX600-ED2)

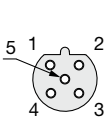
∗ The shape of the M12 connector is B-coded (Reverse key).

PCA-1564927	Straight 2 m
PCA-1564930	Straight 6 m
PCA-1564943	Right angled 2 m
PCA-1564969	Right angled 6 m

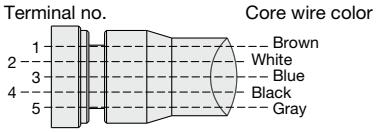
SPEEDCON

Straight connector type



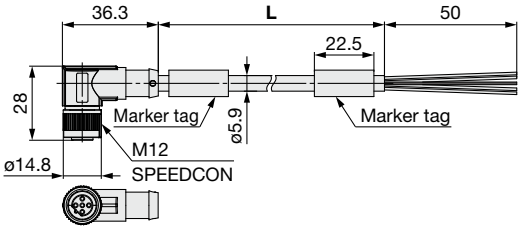


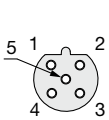
Socket connector pin arrangement
B-coded (Reverse key)



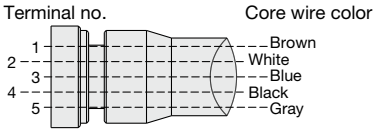
Connections

Angled connector type





Socket connector pin arrangement
B-coded (Reverse key)



Connections

Item	Specifications
Cable O.D.	ø5.9 mm
Conductor nominal cross section	0.34 mm²/AWG22
Wire O.D. (Including insulator)	1.27 mm
Min. bending radius (Fixed)	59 mm

⑩ Power Supply Cable (M12 connector, For EX600-ED4/5)

∗ The shape of the M12 connector is A-coded (Normal key).

EX500-AP 050 - S

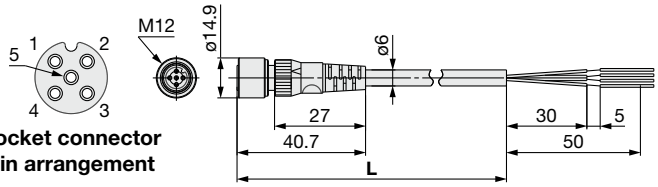
Cable length (L)

010	1000 mm
050	5000 mm

Connector specification

S	Straight
A	Angled

Straight connector type

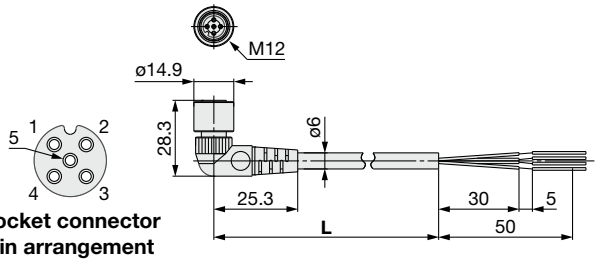


Socket connector pin arrangement

A-coded (Normal key)

Item	Specifications
Cable O.D.	ø6 mm
Nominal cross section	0.3 mm²/AWG22
Wire diameter (Including insulator)	1.5 mm
Min. bending radius	40 mm (Fixed)

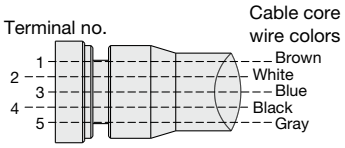
Angled connector type



Socket connector pin arrangement

A-coded (Normal key)

Item	Specifications
Cable O.D.	ø6 mm
Nominal cross section	0.3 mm²/AWG22
Wire diameter (Including insulator)	1.5 mm
Min. bending radius	40 mm (Fixed)



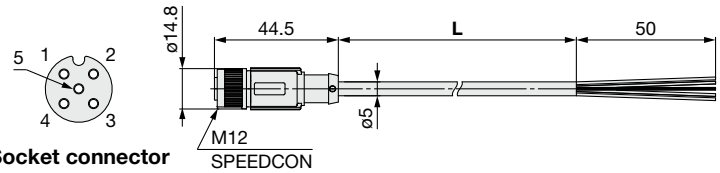
Connections

SPEEDCON

PCA- 1401804

Cable length (L)

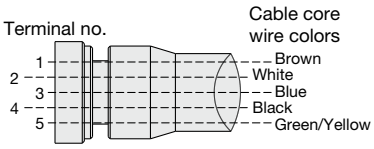
1401804	1500 mm
1401805	3000 mm
1401806	5000 mm



Socket connector pin arrangement

A-coded (Normal key)

Item	Specifications
Cable O.D.	ø5 mm
Nominal cross section	0.3 mm²/AWG22
Wire diameter (Including insulator)	1.27 mm
Min. bending radius	21.7 mm (Fixed)

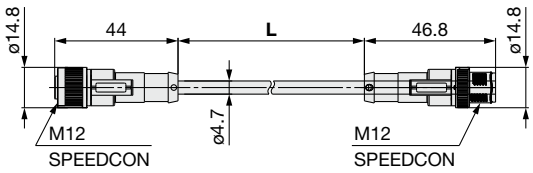


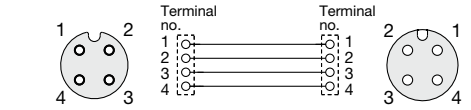
Connections

PCA- 1557769

Cable length (L)

1557769	3000 mm





Socket connector pin arrangement

A-coded (Normal key)

Connections

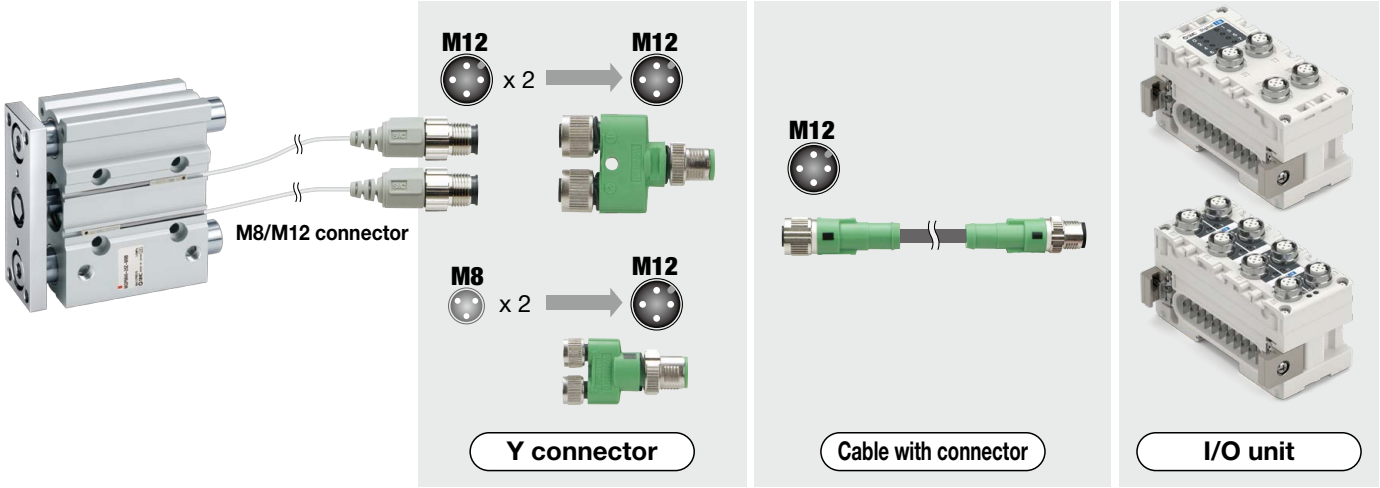
Plug connector pin arrangement

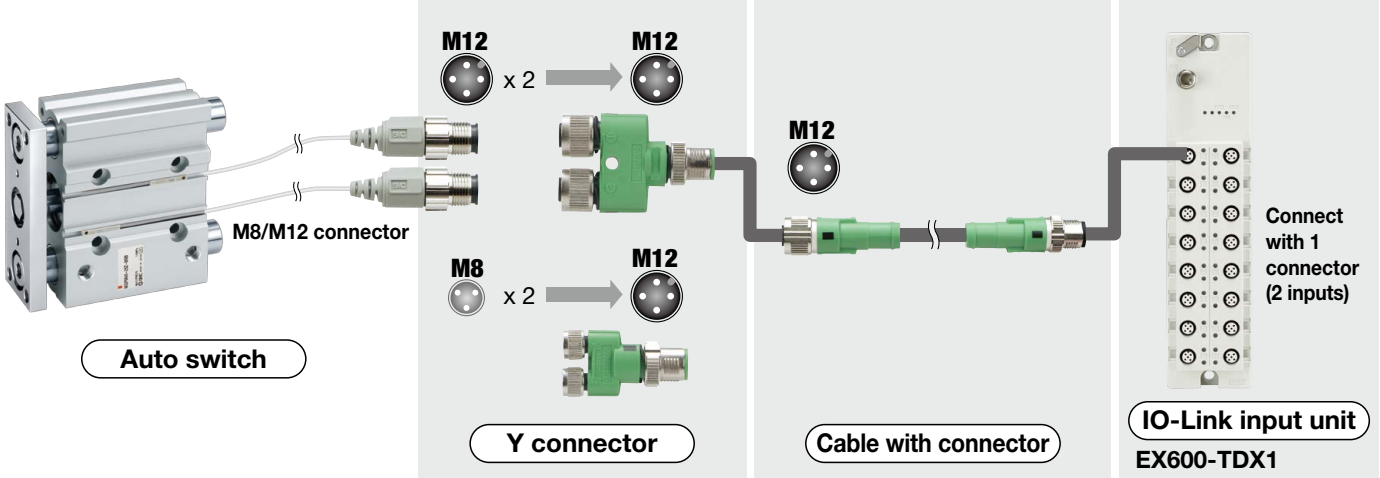
A-coded (Normal key)

⓫ I/O Cable with Connector, I/O Connector

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

∗ For further information, refer to the M8/M12 connector PCA series in the **Web Catalog**.
∗ When using the Y connector, connect it to the connector on the I/O unit through the sensor cable (PCA-1557769) with the M12 connector.





Ex.: Set the auto switch on the cylinder rod side to IN2 on the IO-Link input unit, and set the auto switch on the cylinder head side to IN3 on the IO-Link input unit.
⇒ An abnormality is detected when both auto switches turn ON simultaneously.

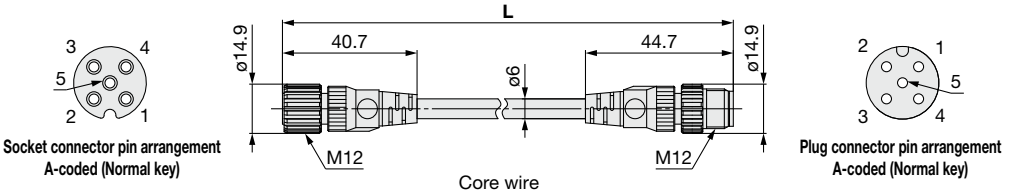
⓫ I/O Cable with Connector, I/O Connector

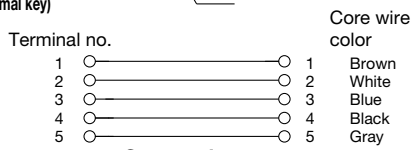
Cable for IO-Link

EX9-AC 005 -SSPS (With connector on both sides (Socket/Plug))

Cable length (L)

005	500 mm
010	1000 mm
020	2000 mm
030	3000 mm
050	5000 mm
100	10000 mm





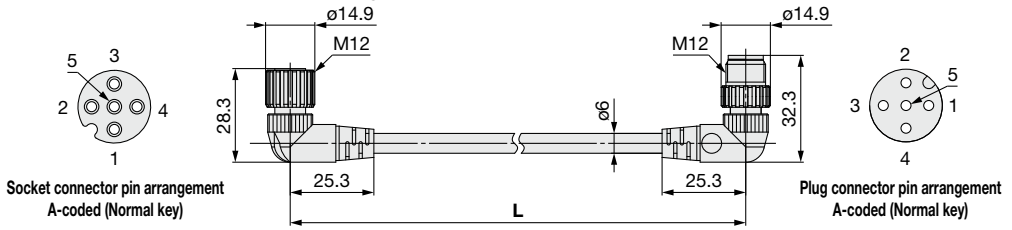
Connections

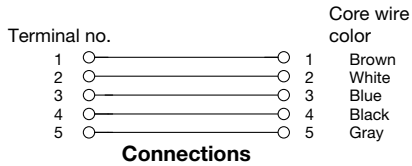
Item	Specifications
Cable O.D.	ø6 mm
Conductor nominal cross section	0.3 mm²/AWG22
Wire O.D. (Including conductor)	1.5 mm
Min. bending radius (Fixed)	40 mm

EX9-AC 005 -SAPA (With connector on both sides (Socket/Plug))

Cable length (L)

005	500 mm
010	1000 mm
020	2000 mm
030	3000 mm
050	5000 mm
100	10000 mm

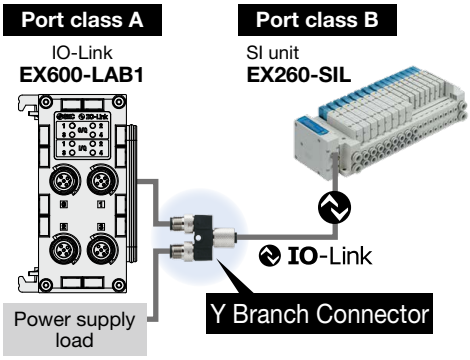




Connections

Item	Specifications
Cable O.D.	ø6 mm
Conductor nominal cross section	0.3 mm²/AWG22
Wire O.D. (Including conductor)	1.5 mm
Min. bending radius (Fixed)	40 mm

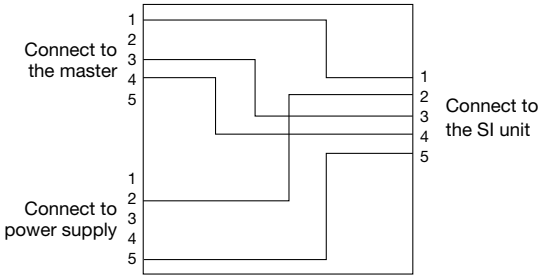
Port Class B EX260-SIL SI Unit and Port Class A IO-Link Master Connection Example



Port class A compliant

A special wiring Y branch connector is available.

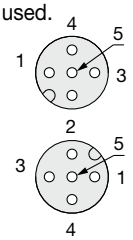
Used when connecting to a port class A type IO-Link master, which is often used when connecting to an IO-Link sensor



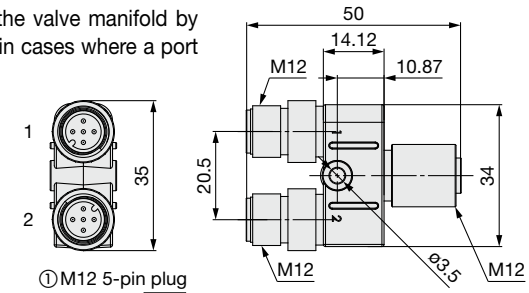
Y Branch Connector for IO-Link

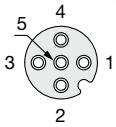
This connector is used to supply power to the valve manifold by branching the IO-Link communication cable in cases where a port class A IO-Link master is used.

EX9-ACY02-S

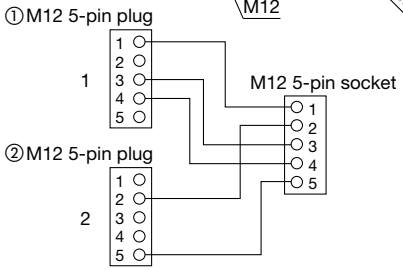


Plug connector pin arrangement
A-coded (Normal key)





Socket connector pin arrangement
A-coded (Normal key)



Solenoid valve power supply cable side pin arrangement when using a branch connector

1	—	Unused
2	SV24V	+24 V for solenoid valve
3	—	Unused
4	—	Unused
5	SV0V	0 V for solenoid valve

⓬Wireless Adapter Cable

EXW1-AC1-X1

●Secondary battery compatible

EXW1-AC030-SSPS

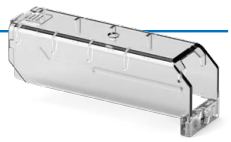
∗ Refer to page 34 for the dimensions and parts description.
∗ When installing the wireless adapter separately, be sure to use the wireless adapter cable and installation plate.

⓭Wireless Adapter

EXW1-A11□

∗ An installation plate (EXW1-AB4) is included as an accessory.
∗ When mounting directly to the wireless remote, the wireless adapter cover is required.
∗ When installing the wireless adapter separately, be sure to use the wireless adapter cable and installation plate.
∗ Refer to page 33 for the dimensions and parts description.

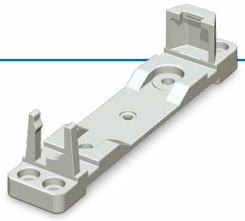
⓮Wireless Adapter Cover



EXW1-AB6

For direct mounting of wireless adapter, a wireless adapter cover is required.
∗ Refer to page 42 for the dimensions.

Installation Plate



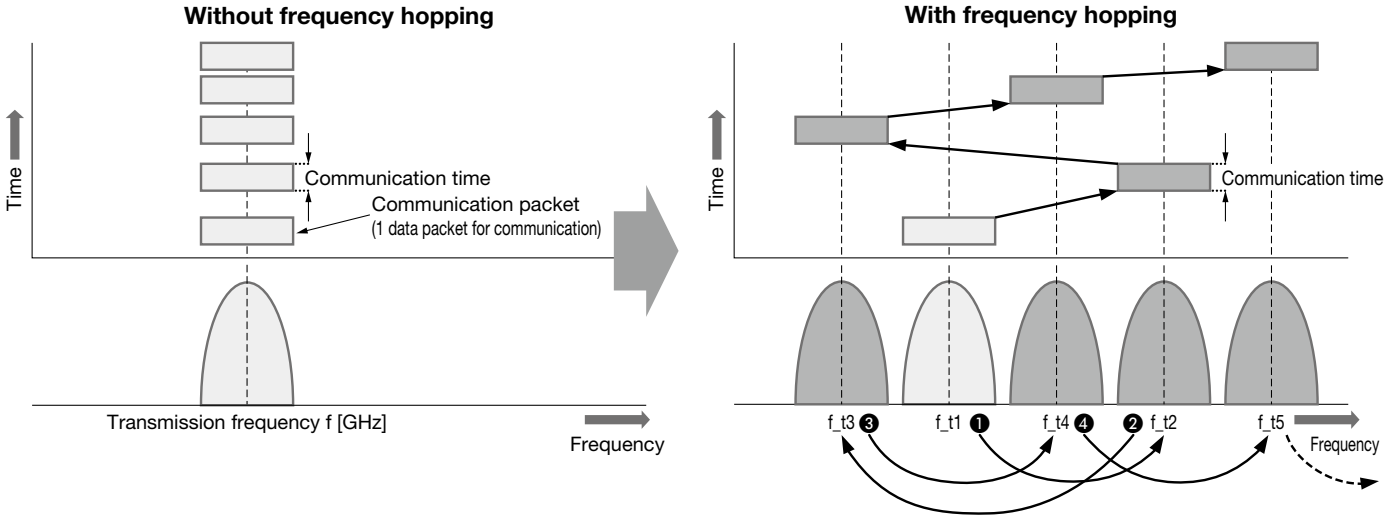
EXW1-AB4

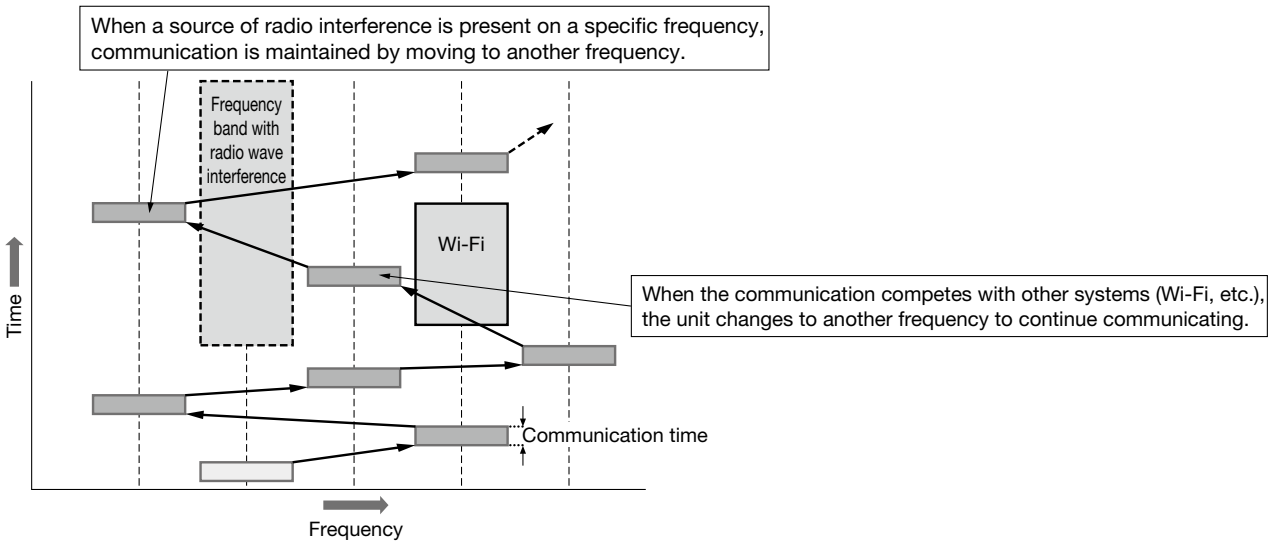
Included as an accessory with the wireless adapter (EXW1-A11□)
∗ Refer to page 33 for the dimensions.

Technical Data

Frequency Hopping (FHSS: Frequency Hopping Spread Spectrum)

This communication technology uses spread spectrum transmission with frequency hopping to rapidly switch between frequencies. Because the frequency is constantly changing, this communication method is resistant to radio wave interference due to reflections or noise from other wireless equipment. It also allows for a high level of data security. Multiple systems can be installed in the same area, and it is a suitable technology for point-to-multipoint communication.



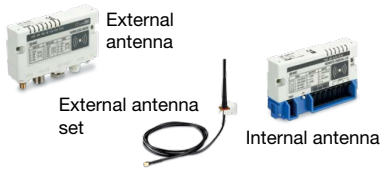


⚠Warning <Important>

- This product is already certified in accordance with the Radio Act and the Japanese Radio Law, so customers do not need to apply for a license to use this product.
  However, be sure to comply with the following.
  · Do not disassemble or modify the product. Disassembly and modification are prohibited by law.
  · Customers in countries that comply with the Radio Law should refer to the "Country-specific Radio Law Compliance Table."
- As this product communicates by radio waves, communication may stop temporarily due to the ambient environment and/or operating method. SMC will not be held responsible for any secondary failure which may cause personal injury or damage to other devices or equipment.
- When several units are installed in close proximity to each other, slight interference may occur due to the characteristics of the wireless product.
- The electromagnetic waves emitted from this product may interfere with implantable medical devices such as cardiac pacemakers and cardioverter defibrillators, resulting in the malfunction of the medical device or other adverse effects.
  Please use extreme caution when operating equipment which may have an adverse effect on your implantable medical device. Be sure to thoroughly read the precautions stated in the catalog, operation manual, etc., of your implantable medical device, or contact the manufacturer directly for further details on what types of equipment need to be avoided.
- The communication performance is affected by the ambient environment, so be sure to perform communication testing before use.

EXW1 Series
Country-specific Radio Law Compliance Table

As of December 2025

		Wireless system				
		Wireless adapter **EXW1-A1□** Applicable model		CC-Link/e-CON		NFC reader/writer
						
Area	Country/Region	Part number suffix: **E** type	Part number suffix: **N** type	Part number suffix: **E** type	Part number suffix: **N** type	**EXW1-NT1**
Europe CE	**Ireland**	○	○	○	○	○
	Italy	○	○	○	○	○
	Estonia	○	○	○	○	○
	Austria	○	○	○	○	○
	Netherlands	○	○	○	○	○
	Cyprus	○	○	○	○	○
	Greece	○	○	○	○	○
	Croatia	○	○	○	○	○
	Sweden	○	○	○	○	○
	Spain	○	○	○	○	○
	Slovakia	○	○	○	○	○
	Slovenia	○	○	○	○	○
	Czech Republic	○	○	○	○	○
	Denmark	○	○	○	○	○
	Germany	○	○	○	○	○
	Hungary	○	○	○	○	○
	Finland	○	○	○	○	○
	France	○	○	○	○	○
	Bulgaria	○	○	○	○	○
	Belgium	○	○	○	○	○
	Poland	○	○	○	○	○
	Portugal	○	○	○	○	○
	Malta	○	○	○	○	○
	Latvia	○	○	○	○	○
	Lithuania	○	○	○	○	○
	Romania	○	○	○	○	○
	Luxembourg	○	○	○	○	○
Other Europe	**Iceland**	○	○	○	○	○
	Liechtenstein	○	○	○	○	○
	Switzerland	○	○	○	○	○
	Norway	○	○	○	○	○
	Turkey	○	○	○	○	○
	U.K.	○	○	○	○	○
	Ukraine	—	—	—	—	○
	Israel	○	○	—	—	○
	Saudi Arabia	○	○	—	—	○
	United Arab Emirates	○	○	—	—	○
	Serbia	○	○	—	—	○
Africa	**South Africa**	○	○	—	—	○
	Egypt	○	○	—	—	○
	Morocco	—	—	—	—	○
North, Central, and South America	**U.S.**	—	○	—	○	○
	Argentina	—	○	—	○	○
	Canada	—	○	—	○	○
	Chile	○	○	—	—	○
	Colombia	○	○	○	○	○
	Peru	○	○	—	—	○
	Brazil	—	○	—	○	○
	Mexico	—	○	—	○	○
Asia	**India**	○	○	○	○	○
	Pakistan	○	○	—	—	○
	Indonesia	○	○	—	—	○
	Australia	○	○	○	○	○
	South Korea	—	○	—	○	○
	Singapore	○	○	—	—	○
	Thailand	○	○	○	○	○
	China	○	○	○	○	○
	Japan	○	○	○	○	○
	New Zealand	○	○	○	○	○
	Philippines	○	○	—	—	○
	Myanmar	○	○	—	—	○
	Vietnam	○	○	○	○	○
	Bangladesh	○	○	—	—	○
	Hong Kong	○	○	○	○	○
	Malaysia∗1	○	○	○	○	○
	Taiwan	—	○∗2	—	—	○

∗1 If this product is to be imported into Malaysia (including if the product is integrated into other equipment), an SMC Wireless System Certificate of Compliance and a test report may be required in some cases. Please contact SMC for further details.
∗2 Excludes the EtherCAT wireless base (EXW1-BECAC)

EXW1 Series
Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For 3/4/5 port solenoid valve and fieldbus system precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website.

Notice

⚠ Caution

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Handling Precautions

⚠ Caution

1. **This equipment complies with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.**
   This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the operation manual, may cause harmful interference to radio communications.
   Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

2. **This device complies with Industry Canada's license-exempt RSSs.**
   Operation is subject to the following two conditions:
   (1) This device may not cause interference; and
   (2) This device must accept any interference, including interference that may cause undesired operation of the device.

3. **When operating the product, please be sure to maintain a separation distance of at least 20 cm between your body (excluding fingers, hands, wrists, ankles, and feet) and the product to meet RF exposure safety requirements as determined by FCC and Innovation, Science and Economic Development Canada.**
   Installation of this device must ensure that at 20 cm separation distance is maintained between the device and end users.

■ **Trademark**
DeviceNet® is a registered trademark of ODVA, Inc.
EtherNet/IP® is a registered trademark of ODVA, Inc.
EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.
QuickConnect™ is a trademark of ODVA.
Modbus is registered trademark of Schneider Electric USA Inc.
SLMP is registered trademark of Mitsubishi Electric Corporation.

⚠ Safety Instructions

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

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

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

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

*1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components
ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components
IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1:Robots
etc.

⚠ Warning

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

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

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

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

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

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

4. SMC products cannot be used beyond their specifications. They are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not allowed.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, combustion equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogs and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

⚠ Caution

SMC develops, designs, and manufactures products to be used for automatic control equipment, and provides them for peaceful use in manufacturing industries.
Use in non-manufacturing industries is not allowed.
Products SMC manufactures and sells cannot be used for the purpose of transactions or certification specified in the Measurement Act of each country. The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer/ Compliance Requirements

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

Limited warranty and Disclaimer

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

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

Compliance Requirements

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

Revision History

Edition B * A U-side end plate (for the SY) has been added.
Edition C * The EXW1 series compact wireless system has been added.
Edition D * UKCA compliance has been added.
* Countries in which the product is Radio Law certified have been added.
Edition E * EtherCAT (protocol) has been added to the EXW1 series (compact type).
* The number of pages has been increased from 48 to 52.
Edition F * IO-Link has been added as a protocol for the compact type EXW1 series wireless remote.
* The number of pages has been increased from 52 to 60.
Edition G * DeviceNet has been added to the EXW1 series (compact type).
* The number of pages has been increased from 60 to 67.
Edition H * Analog input, digital input/output, and valve manifold have been added to the compact type EXW1 series.
* The number of pages has been increased from 67 to 72.
Edition I * A DIN rail adapter has been added to the compact type EXW1 series.
* Modbus TCP and SLMP protocols have been added to the compact type EXW1 series.
Edition J * Changed from the EX600-W series modular type to the EXW1 series modular type
* The number of pages has been increased from 72 to 80.

⚠ Safety Instructions	Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.

SMC Corporation

Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.
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