Wireless System



Usable even in welding environments

High-speed connection

Noise resistance

From power supply ON to start of

Communication response

Uses the 2.4 GHz ISM frequency band Frequency hopping: Every 5 ms

From power supply ON to start of communication:

Wireless communication signal

Response time: 5 ms

Min. 250 ms*1

*1 For remote

Communication cables not required

Reduced wiring work, space, and cost Minimized disconnection risk

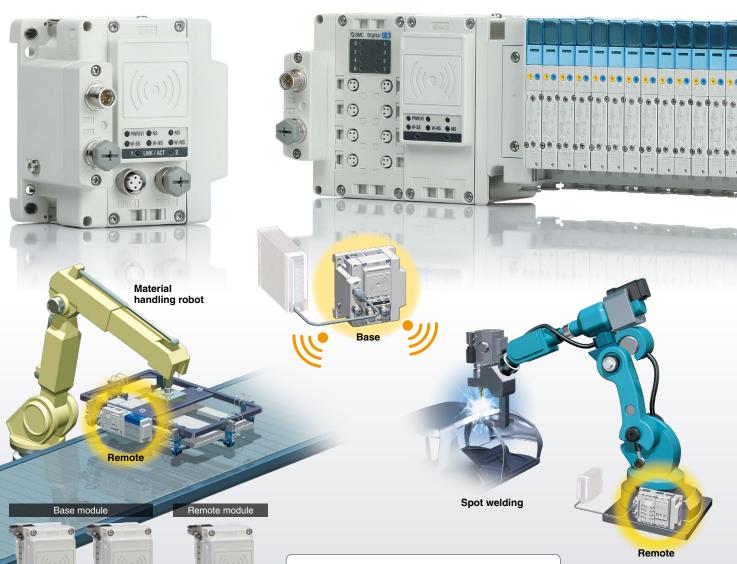
Number of I/O points

Max. 1280 inputs/1280 outputs (Max. 128 inputs/128 outputs per module)

Compatible protocol

EtheriNet/IP*





EX600-W Series

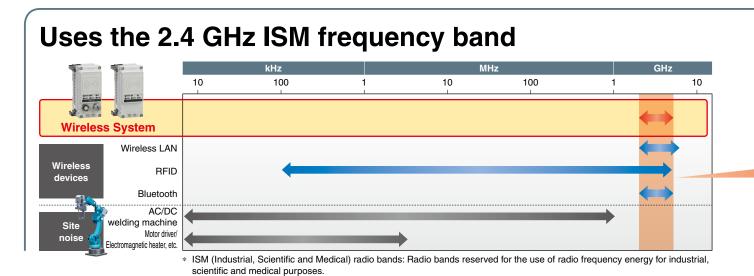
EtherNet/IP

Countries/Regions in which wireless is supported This product cannot be used in countries where wireless is not supported. Refer to page 23 for details on countries in which the product can be used.

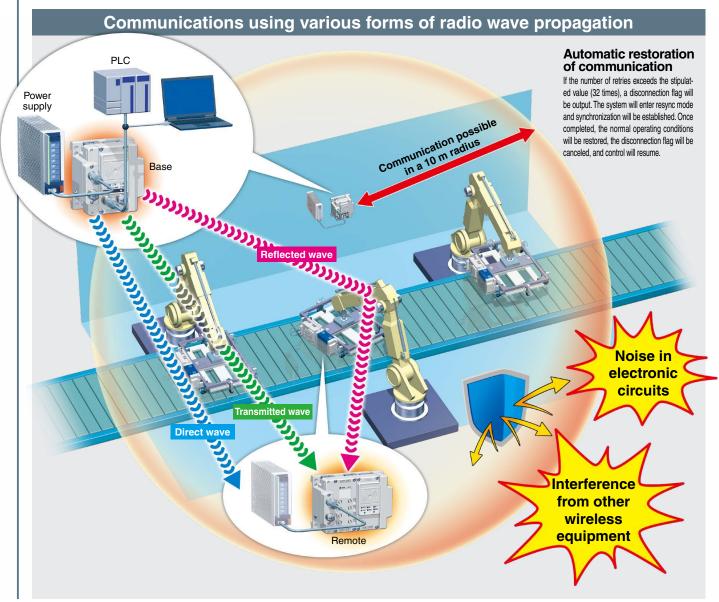
Country/Region	Standards	
Japan	(Japanese radio law)	
EU	(CE marking/RE Directive)	
USA	FC (FCC)	

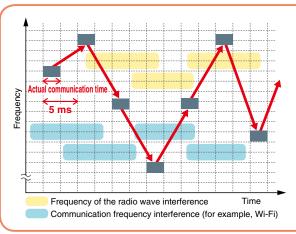


Provide safe and reliable communication



Provide stable communication





Frequency hopping: Every 5 ms

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

Frequency Hopping

The communication technology rapidly changes frequency (hopping), to prevent interference from other wireless equipment. When the frequency of Wi-Fi and other wireless communications compete, or radio wave interference is present, then other frequencies are used for communication. For details, refer to technical data on page 23.

High security using encryption

Unauthorized access from outside is prevented by using data encryption.



Point-to-Multipoint communication

Registration and communication of up to 127 remote modules is possible.



- st 1 to 15 units are recommended for simultaneous operation.
- It is possible to install multiple bases in the same area.

Wireless communication status can be monitored. <Monitoring the remote communication status>

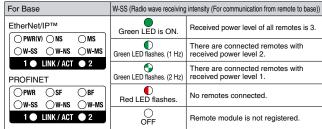
The wireless system connection can be monitored during operation according to the diagnostic data.

The installation location can be ascertained according to the intensity level of the radio wave received by the unit display.

[Diagnostic data]

- * When communication from the remote cannot be received
- * When communication retry has exceeded the upper limit (32 times)

[Unit display]



For remote	W-SS (Radio wave receiving intensity (For communication from base to remote))		
	Green LED is ON.	Received power level is 3.	
PWR(V)	Green LED flashes. (1 Hz)	Received power level is 2.	
○W-SS ○W-NS ○MS	Green LED flashes. (2 Hz)	Received power level is 1.	
•	Red LED flashes.	Wireless communication is not connected.	
	OFF	Base module is not registered.	

* A received radio wave intensity level of 1 means the intensity is weak. Add a base so that the wave intensity becomes level 3 or 2. Alternatively remove the obstacle between the base and remote, or reduce the distance between the base and remote.

<Communication status can be downloaded by a PC>

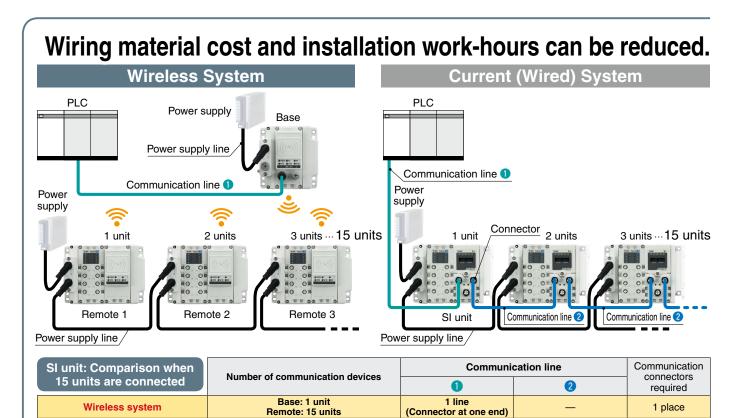
By connecting the base to a PC, it is possible to view log files which show the number of retries or the received radio wave intensity. Log files are accessed by using a web browser to connect to the built-in web server. The wireless environment and installation location can be optimized by checking the number of retries and received radio wave intensity.



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



Web screen example



Interchangeability maintained

Current (Wired)

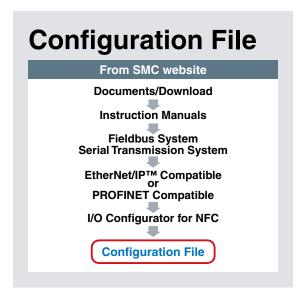
Connection interchangeability between EX600 series SI units is maintained.

Replacement of wireless and wired systems is possible.

SI unit: 15 units



NFC contactless communication (NFC: Near Field Communication) Settings are possible using an NFC reader/writer and setting software. (Some items can be set even when there is no power supplied.) Write IP address to the base Set the I/O points for the system and unit Pairing of the base and remote I/O monitoring NFC reader/ writer PC + Setting software



14 lines

(Connector at one end) (Connector at both ends)

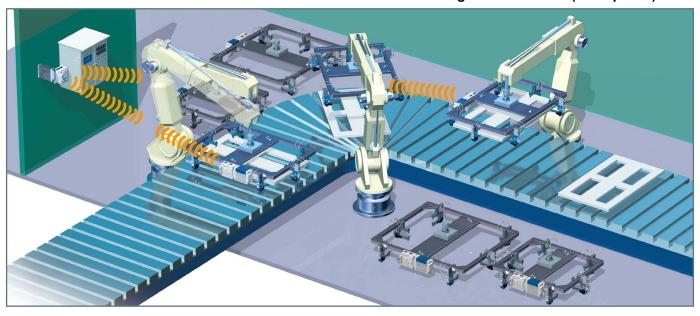
29 places

 Maximum I/O of base/remote module is limited to 128 points.

Application Examples

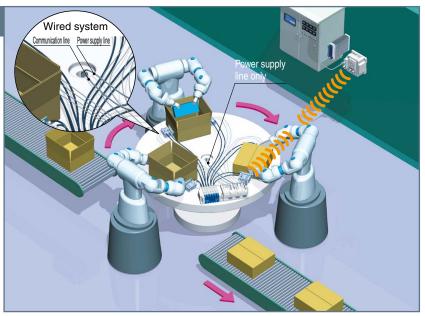
Tool change

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



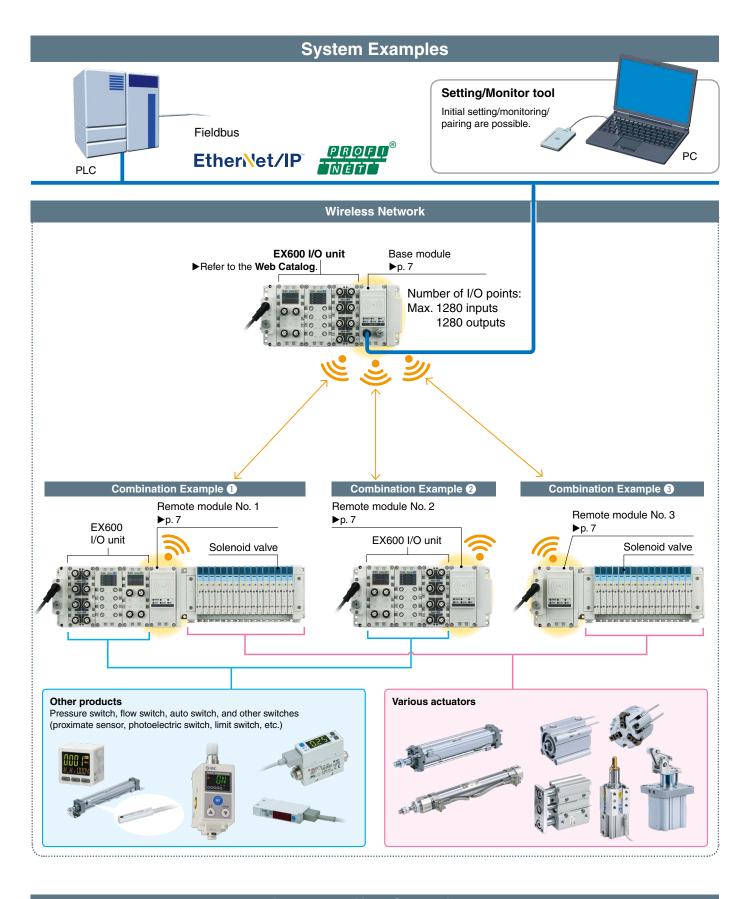
Rotary table

- Minimized disconnection risk
- Smaller diameter communication cable/tubing



Blocking of radio waves

* The radio waves must not be blocked by nearby conductive objects such as metal enclosures or covers.



Applicable Manifold Solenoid Valves

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Wireless System **EX600-W** Series







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Remote module



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Wireless System

EX600-W Series ROHS



How to Order

Wireless Unit

EX600-WEN

Wireless compatible

Protocol •

Symbol	Specifications	Note
EN	Base module	For EtherNet/IP™
PN	Base module	For PROFINET
sv	Remote module	_









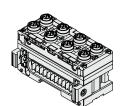


Base module

Remote module

Digital Input Unit





Symbol	Description
P	PNP
N	NPN

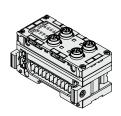
* For specifications, refer to the Fieldbus system EX600 series in the Web Catalog.

Number of inputs and Connector

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

Digital Output Unit

EX600-DYPB



- Output type	
Symbol	Description
Р	PNP
N	NPN

Number of outputs and Connector

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

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

Digital Input/Output Unit **EX600-DMP**



Symbol	Description
Р	PNP
N	NPN

Number of inputs/outputs and Connector

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

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



How to Order

Analog Input Unit

EX600-AXA

Number of input channels and Connector

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

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

Analog Output Unit

EX600-AY A

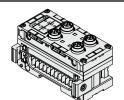
Analog output

Number of output channels and Connector



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

Analog Input/Output Unit EX600 – AM B



Analog input/output

Number of input/output channels and Connector

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

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

End Plate (D side)

EX600-ED 2

End plate

For M12

For 7/8 inch

Power supply connector

Symbol	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

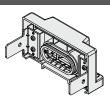
Refer to the dimensions on page 14.

Mounting method

	<u> </u>		
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 SY series	

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

End Plate (U side)



End plate

End plate mounting position: U side

Specifications				
Symbol	Specifications			
1	Waterproof cover			

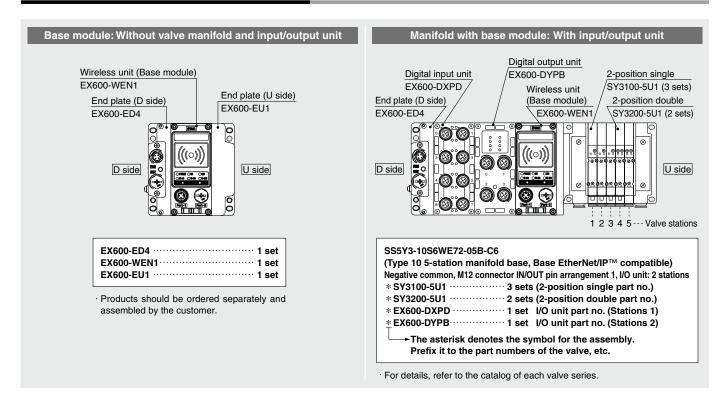
Mounting method

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

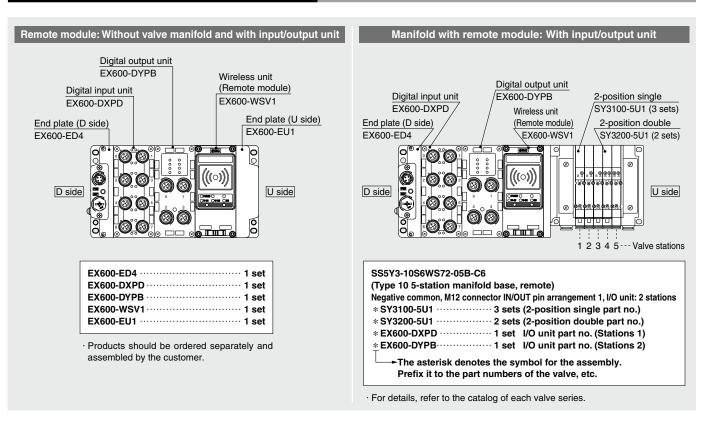
* When the end plate (D side) is used, the symbol for the mounting method must be the same as the U side.



Ordering Example of the Base Module



Ordering Example of the Remote Module



Specifications

Base Module: EX600-WEN□

1	Item		Specifications
	Communication	protocol	EtherNet/IP™ (Conformance test version: Composit 12)
	Transmission medium (cable)		Standard Ethernet cable (CAT5 or higher, 100BASE-TX)
	Communication	speed	10 Mbps/100 Mbps
	Communication method		Full duplex/Half duplex
	Configuration file		EDS file*1
	IP address setting		Manual/BOOTP, DHCP
EtherNet/IP™		-3	Vendor ID: 7 (SMC Corp.)
communication	Device informati	ion	Device type: 12 (Communication Adaptor)
			Product code: 186
	Topology		Star, Bus, Ring (DLR), Line, Tree
	QuickConnect™	function	Applicable
ļ	DLR function		Applicable
	Web server fund	tion	Applicable
	Protocol		SMC original protocol (SMC encryption)
	Radio wave type	(spread)	Frequency Hopping Spread Spectrum (FHSS)
	Frequency		2.4 GHz (2403 to 2481 MHz)
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Number of frequ	ency channels	79 ch (Bandwidth: 1.0 MHz)
Wireless communication	Communication		250 kbps
Communication	Communication	distance	10 m (Depending on the operating environment)
			Japanese radio law (Japan), RE (EU*2), FCC (USA), ANATEL (Brazil), ETA (India)
	Radio Law certif	icate	NOM (Mexico), IC (Canada), SRRC (China), NBTC (Thailand), ACMA (Australia),
			ACMA (New Zealand), IMDA (Singapore), NCC (Taiwan), KC (South Korea)
	For control/input	Power supply voltage	24 VDC ±10%
Electrical	(US1)	Current consumption	150 mA or less
Liectificai	For output	Power supply voltage	24 VDC ±10%
	(US2)	Max. supply current	4 A
	Number of	System input size	Max. 1280 points together with the registered remote modules
	inputs	Input size	Max. 128 points (increase or decrease by 16 points)
	Number of	System output size	Max. 1280 points together with the registered remote modules
	outputs	Output size	Max. 128 points (increase or decrease by 16 points)
	Analog input/output		10 ms or less (the input connected to the base module)
		AD refresh time	0.1/0.2/0.5/1/2/5/10/30/60 s
			(the input connected to the remote module)*3
Input/Output		DA series de timos	10 ms or less (the output connected to the base module)
		DA refresh time	0.1/0.2/0.5/1/2/5/10/30/60 s (the output connected to the remote module)*3
-			EX600-WEN1: Source/PNP (-COM)
		Output type	EX600-WEN2: Sink/NPN (+COM)
	Valve output	Number of outputs	Max. 32 points (0/8/16/24/32 points)
		Connected load	Solenoid valve with surge voltage suppressor of 24 VDC and 1.5 W or less (manufactured by SMC
	Number of remo	te modules connected	Max. 127 units (0/15/31/63/127 units)
		ected EX600 I/O units	Max. 9 EX600 series I/O units (I/O = 128. I/O above 128 cannot be recognized.)
	Enclosure		Conforms to IP67 (with manifold assembled)
		ture (Operating temperature)	-10 to +50°C
	Ambient temperature (Operating temperature) Ambient temperature (Storage temperature)		−20 to +60°C
	Ambient tempera	iture (Storage temperature)	-20 to +00 C
	Ambient tempera		35 to 85% RH (No condensation)
	.	ty	
	Ambient humidi	ty ge	35 to 85% RH (No condensation)
	Ambient humidi Withstand volta	ty ge	35 to 85% RH (No condensation) 500 VAC for 1 minute between external terminals and metallic parts
General	Ambient humidi Withstand volta Insulation resist	ty ge ance	35 to 85% RH (No condensation) 500 VAC for 1 minute between external terminals and metallic parts 10 MΩ or more (500 VDC between external terminals and metallic parts)
General	Ambient humidi Withstand volta	ty ge ance	$35 \text{ to } 85\% \text{ RH (No condensation)} \\ 500 \text{ VAC for 1 minute between external terminals and metallic parts} \\ 10 \text{ M}\Omega \text{ or more } (500 \text{ VDC between external terminals and metallic parts)} \\ \text{Conforms to EN61131-2} \\ 5 \leq \text{f} < 8.4 \text{ Hz } 3.5 \text{ mm} \\ 8.4 \leq \text{f} < 150 \text{ Hz } 9.8 \text{ m/s}^2 \\ \end{cases}$
General	Ambient humidi Withstand volta Insulation resist	ty ge ance	$35 \text{ to } 85\% \text{ RH (No condensation)} \\ 500 \text{ VAC for 1 minute between external terminals and metallic parts} \\ 10 \text{ M}\Omega \text{ or more } (500 \text{ VDC between external terminals and metallic parts)} \\ \text{Conforms to EN61131-2} \\ 5 \leq \text{f} < 8.4 \text{ Hz } 3.5 \text{ mm} \\ 8.4 \leq \text{f} < 150 \text{ Hz } 9.8 \text{ m/s}^2 \\ \text{(Excludes valve manifold)} \\$
General	Ambient humidi Withstand volta Insulation resist Vibration resista	ty ge ance	$35 \text{ to } 85\% \text{ RH (No condensation)} \\ 500 \text{ VAC for 1 minute between external terminals and metallic parts} \\ 10 \text{ M}\Omega \text{ or more } (500 \text{ VDC between external terminals and metallic parts)} \\ \text{Conforms to EN61131-2} \\ 5 \leq \text{f} < 8.4 \text{ Hz } 3.5 \text{ mm} \\ 8.4 \leq \text{f} < 150 \text{ Hz } 9.8 \text{ m/s}^2 \\ \text{(Excludes valve manifold)} \\ \text{Conforms to EN61131-2} \\$
General	Ambient humidi Withstand volta Insulation resist	ty ge ance	$35 \text{ to } 85\% \text{ RH (No condensation)} \\ 500 \text{ VAC for 1 minute between external terminals and metallic parts} \\ 10 \text{ M}\Omega \text{ or more (500 VDC between external terminals and metallic parts)} \\ \text{Conforms to EN61131-2} \\ 5 \leq \text{f} < 8.4 \text{ Hz } 3.5 \text{ mm} \\ 8.4 \leq \text{f} < 150 \text{ Hz } 9.8 \text{ m/s}^2 \\ \text{(Excludes valve manifold)} \\ \text{Conforms to EN61131-2} \\ 147 \text{ m/s}^2, 11 \text{ ms} \\ \end{cases}$
General	Ambient humidi Withstand volta Insulation resist Vibration resista Impact resistand	ty ge ance ance	$35 \text{ to } 85\% \text{ RH (No condensation)} \\ 500 \text{ VAC for 1 minute between external terminals and metallic parts} \\ 10 \text{ M}\Omega \text{ or more (500 VDC between external terminals and metallic parts)} \\ \text{Conforms to EN61131-2} \\ 5 \leq \text{f} < 8.4 \text{ Hz } 3.5 \text{ mm} \\ 8.4 \leq \text{f} < 150 \text{ Hz } 9.8 \text{ m/s}^2 \\ \text{(Excludes valve manifold)} \\ \text{Conforms to EN61131-2} \\ 147 \text{ m/s}^2, 11 \text{ ms} \\ \text{(Excludes valve manifold)} \\ \text{(Excludes valve manifold)} \\$
General	Ambient humidi Withstand volta Insulation resist Vibration resista Impact resistand	ty ge ance ance	$35 \text{ to } 85\% \text{ RH (No condensation)} \\ 500 \text{ VAC for 1 minute between external terminals and metallic parts} \\ 10 \text{ M}\Omega \text{ or more } (500 \text{ VDC between external terminals and metallic parts)} \\ & \text{Conforms to EN61131-2} \\ & 5 \leq f < 8.4 \text{ Hz } 3.5 \text{ mm} \\ & 8.4 \leq f < 150 \text{ Hz } 9.8 \text{ m/s}^2 \\ & \text{(Excludes valve manifold)} \\ & \text{Conforms to EN61131-2} \\ & 147 \text{ m/s}^2, 11 \text{ ms} \\ & \text{(Excludes valve manifold)} \\ & \text{CE marking (EMC directive/RoHS directive)} \\ \\$
General	Ambient humidi Withstand volta Insulation resist Vibration resista Impact resistand Standards Weight	ty ge ance ance	$35 \text{ to } 85\% \text{ RH (No condensation)} \\ 500 \text{ VAC for 1 minute between external terminals and metallic parts} \\ 10 \text{ M}\Omega \text{ or more } (500 \text{ VDC between external terminals and metallic parts)} \\ & \text{Conforms to EN61131-2} \\ & 5 \leq f < 8.4 \text{ Hz } 3.5 \text{ mm} \\ & 8.4 \leq f < 150 \text{ Hz } 9.8 \text{ m/s}^2 \\ & \text{(Excludes valve manifold)} \\ & \text{Conforms to EN61131-2} \\ & 147 \text{ m/s}^2, 11 \text{ ms} \\ & \text{(Excludes valve manifold)} \\ & \text{CE marking (EMC directive/RoHS directive)} \\ & 300 \text{ g} \\ \\ \end{cases}$
	Ambient humidi Withstand volta Insulation resist Vibration resista Impact resistand Standards Weight Communication	ty ge ance ance	$35 \text{ to } 85\% \text{ RH (No condensation)} \\ 500 \text{ VAC for 1 minute between external terminals and metallic parts} \\ 10 \text{ M}\Omega \text{ or more } (500 \text{ VDC between external terminals and metallic parts)} \\ \\ Conforms \text{ to EN61131-2} \\ 5 \leq \text{ f} < 8.4 \text{ Hz } 3.5 \text{ mm} \\ 8.4 \leq \text{ f} < 150 \text{ Hz } 9.8 \text{ m/s}^2 \\ \text{(Excludes valve manifold)} \\ \\ Conforms \text{ to EN61131-2} \\ 147 \text{ m/s}^2, 11 \text{ ms} \\ \text{(Excludes valve manifold)} \\ \\ CE \text{ marking (EMC directive/RoHS directive)} \\ 300 \text{ g} \\ \text{ISO/IEC 14443B (Type-B)} \\ \\$
NFC	Ambient humidi Withstand voltage Insulation resist Vibration resistant Impact resistant Standards Weight Communication Frequency	ty ge ance ance standard	$35 \text{ to } 85\% \text{ RH (No condensation)} \\ 500 \text{ VAC for 1 minute between external terminals and metallic parts} \\ 10 \text{ M}\Omega \text{ or more } (500 \text{ VDC between external terminals and metallic parts)} \\ \\ Conforms \text{ to EN61131-2} \\ 5 \leq \text{f} < 8.4 \text{ Hz } 3.5 \text{ mm} \\ 8.4 \leq \text{f} < 150 \text{ Hz } 9.8 \text{ m/s}^2 \\ \text{(Excludes valve manifold)} \\ \\ Conforms \text{ to EN61131-2} \\ 147 \text{ m/s}^2, 11 \text{ ms} \\ \text{(Excludes valve manifold)} \\ \\ CE \text{ marking (EMC directive/RoHS directive)} \\ 300 \text{ g} \\ \\ \text{ISO/IEC 14443B (Type-B)} \\ \\ 13.56 \text{ MHz} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$
	Ambient humidi Withstand volta Insulation resist Vibration resista Impact resistand Standards Weight Communication	ty ge ance ance standard speed	$35 \text{ to } 85\% \text{ RH (No condensation)} \\ 500 \text{ VAC for 1 minute between external terminals and metallic parts} \\ 10 \text{ M}\Omega \text{ or more } (500 \text{ VDC between external terminals and metallic parts)} \\ \\ Conforms \text{ to EN61131-2} \\ 5 \leq \text{f} < 8.4 \text{ Hz } 3.5 \text{ mm} \\ 8.4 \leq \text{f} < 150 \text{ Hz } 9.8 \text{ m/s}^2 \\ \text{(Excludes valve manifold)} \\ \\ Conforms \text{ to EN61131-2} \\ 147 \text{ m/s}^2, 11 \text{ ms} \\ \text{(Excludes valve manifold)} \\ \\ \text{CE marking (EMC directive/RoHS directive)} \\ 300 \text{ g} \\ \text{ISO/IEC 14443B (Type-B)} \\ \\$

 $^{*1 \ \} The \ configuration \ file \ can \ be \ downloaded \ from \ the \ SMC \ website: https://www.smcworld.com$

■ Trademark

EtherNet/IP $^{\text{TM}}$ is a trademark of ODVA.



^{*2} Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, U.K., Turkey

^{*3} Varies depending on the wireless communication status and the surrounding environment

^{*4} The NFC communication RFID tag of the 13.56 MHz passive type

Specifications

Base Module: EX600-WPN□

EX600-WPN	_	Charitisations
		Specifications
-		PROFINET IO
		Class C (Only for IRT switch function)
Transmission medium (cable)		Standard Ethernet cable (CAT5 or higher, 100BASE-TX)
Transmission speed		100 Mbps
Configuration file	•	GSDML file*1
FSU (Fast Start Up)		Applicable
MRP (Media Redundancy Protocol)		Applicable
Web server function		Applicable
Protocol		SMC original protocol (SMC encryption)
Radio wave type (spread)		Frequency Hopping Spread Spectrum (FHSS)
Frequency		2.4 GHz (2403 to 2481 MHz)
Number of freque	ency channels	79 ch (Bandwidth: 1.0 MHz)
Communication	speed	250 kbps
	•	10 m (Depending on the operating environment)
Radio Law certifi	cate	Japanese radio law (Japan), RE (EU*2), FCC (USA), ANATEL (Brazil), ETA (India), NOM (Mexico), IC (Canada), SRRC (China), NBTC (Thailand), ACMA (Australia), ACMA (New Zealand), IMDA (Singapore), NCC (Taiwan), KC (South Korea)
For control/input	Power supply voltage	24 VDC ±10%
(US1)	Current consumption	150 mA or less
For output	Power supply voltage	24 VDC ±10%
(US2)	Max. supply current	4 A
Number of		Max. 1280 points together with the registered remote modules
	•	Max. 128 points (increase or decrease by 16 points)
· ·	<u> </u>	Max. 1280 points together with the registered remote modules
	<u> </u>	Max. 128 points (increase or decrease by 16 points)
Analog input/output	AD refresh time	10 ms or less (the input connected to the base module) 0.1/0.2/0.5/1/2/5/10/30/60 s (the input connected to the remote module)*3
	DA refresh time	10 ms or less (the output connected to the base module) 0.1/0.2/0.5/1/2/5/10/30/60 s (the output connected to the remote module)*3
Valva autnut	Output type	EX600-WPN1: Source/PNP (-COM) EX600-WPN2: Sink/NPN (+COM)
vaive output	Number of outputs	Max. 32 points (0/8/16/24/32 points)
	Connected load	Solenoid valve with surge voltage suppressor of 24 VDC and 1.5 W or less (manufactured by SMC)
Number of remot	e modules connected	Max. 31 units (0/15/31 units)
Number of conne	ected EX600 I/O units	Max. 9 EX600 series I/O units (I/O = 128. I/O above 128 cannot be recognized.)
Enclosure		Conforms to IP67 (with manifold assembled)
Ambient temperat	ture (Operating temperature)	-10 to +50°C
		−20 to +60°C
	· • · ·	35 to 85% RH (No condensation)
	·	500 VAC for 1 minute between external terminals and metallic parts
		10 MΩ or more (500 VDC between external terminals and metallic parts)
Vibration resistance		Conforms to EN61131-2
Vibration resista	nce	5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s ² (Excludes valve manifold)
Vibration resistan		$5 \le f < 8.4 \text{ Hz } 3.5 \text{ mm}$ $8.4 \le f < 150 \text{ Hz } 9.8 \text{ m/s}^2$ (Excludes valve manifold) $\text{Conforms to EN61131-2}$ $147 \text{ m/s}^2, 11 \text{ ms}$ (Excludes valve manifold)
		5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s² (Excludes valve manifold) Conforms to EN61131-2 147 m/s², 11 ms
Impact resistanc		$5 \le f < 8.4 \text{ Hz } 3.5 \text{ mm}$ $8.4 \le f < 150 \text{ Hz } 9.8 \text{ m/s}^2$ (Excludes valve manifold) $\text{Conforms to EN61131-2}$ $147 \text{ m/s}^2, 11 \text{ ms}$ (Excludes valve manifold)
Impact resistanc	е	5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s² (Excludes valve manifold) Conforms to EN61131-2 147 m/s², 11 ms (Excludes valve manifold) CE marking (EMC directive/RoHS directive)
Impact resistance Standards Weight	е	5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s² (Excludes valve manifold) Conforms to EN61131-2 147 m/s², 11 ms (Excludes valve manifold) CE marking (EMC directive/RoHS directive) 300 g
Impact resistance Standards Weight Communication	e standard	5 ≤ f < 8.4 Hz 3.5 mm 8.4 ≤ f < 150 Hz 9.8 m/s² (Excludes valve manifold) Conforms to EN61131-2 147 m/s², 11 ms (Excludes valve manifold) CE marking (EMC directive/RoHS directive) 300 g ISO/IEC 14443B (Type-B)
	Transmission me Transmission me Transmission sp Configuration file FSU (Fast Start L MRP (Media Redi Web server funct Protocol Radio wave type Frequency Number of freque Communication of Communication of Radio Law certifi For control/input (US1) For output (US2) Number of inputs Number of outputs Analog input/output Valve output Valve output Number of remot Number of connect Enclosure Ambient temperat Ambient temperat Ambient temperat Ambient humidit Withstand voltag	Communication protocol Conformance class Transmission medium (cable) Transmission speed Configuration file FSU (Fast Start Up) MRP (Media Redundancy Protocol) Web server function Protocol Radio wave type (spread) Frequency Number of frequency channels Communication speed Communication distance Radio Law certificate For control/input (US1) Current consumption For output (US2) Max. supply voltage (US2) Max. supply current Number of inputs Input size Number of outputs Output size AD refresh time Analog input/output DA refresh time Valve output Valve output Number of remote modules connected Number of connected EX600 I/O units

 $^{*1 \ \ \}text{The configuration file can be downloaded from the SMC website: http://www.smcworld.com}$

^{*4} The NFC communication RFID tag of the 13.56 MHz passive type



^{*2} Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, U.K., Turkey

^{*3} Varies depending on the wireless communication status and the surrounding environment

Specifications

Remote Module: EX600-WSV□

	Item		Specifications	
	For control/input	Power supply voltage	24 VDC ±10%	
Electrical	(US1)	Current consumption	70 mA or less	
Electrical	For output	Power supply voltage	24 VDC ±10%	
	(US2)	Max. supply current	4 A	
	Number of inputs	Input size	Max. 128 points (increase or decrease by 16 points)	
	Number of outputs	Output size	Max. 128 points (increase or decrease by 16 points)	
	AD/DA refresh time		0.1/0.2/0.5/1/2/5/10/30/60 s*1	
Input/Output	Number of connected EX600 I/O units		Max. 9 EX600 I/O units (I/O = 128. I/O above 128 cannot be recognized.)	
input/Output	Valve output	Output type	EX600-WSV1: Source/PNP (-COM) EX600-WSV2: Sink/NPN (+COM)	
	vaive output	Number of outputs	Max. 32 points (0/8/16/24/32 points)	
		Connected load	Solenoid valve with surge voltage suppressor of 24 VDC and 1.5 W or less (manufactured by SMC)	
	Protocol		SMC original protocol (SMC encryption)	
	Radio wave type	(spread)	Frequency Hopping Spread Spectrum (FHSS)	
	Frequency		2.4 GHz (2403 to 2481 MHz)	
Wireless	Number of frequ	ency channels	79 ch (Bandwidth: 1.0 MHz)	
communication	Communication speed		250 kbps	
Communication	Communication distance		10 m (Depending on the operating environment)	
	Radio Law certificate		Japanese radio law (Japan), RE (EU*2), FCC (USA), ANATEL (Brazil), ETA (India), NOM (Mexico), IC (Canada), SRRC (China), NBTC (Thailand), ACMA (Australia), ACMA (New Zealand), IMDA (Singapore), NCC (Taiwan), KC (South Korea)	
Enclosure			Conforms to IP67 (with manifold assembled)	
	Ambient tempera	ture (Operating temperature)	−10 to +50°C	
	Ambient tempera	ture (Storage temperature)	−20 to +60°C	
	Ambient humidit	у	35 to 85% RH (No condensation)	
	Withstand voltag	je	500 VAC for 1 minute between external terminals and metallic parts	
	Insulation resista	ance	10 $M\Omega$ or more (500 VDC between external terminals and metallic parts)	
General	Vibration resistance		Conforms to EN61131-2 $5 \le f < 8.4 \text{ Hz } 3.5 \text{ mm} \\ 8.4 \le f < 150 \text{ Hz } 9.8 \text{ m/s}^2 \\ \text{(Excludes valve manifold)}$	
	Impact resistance		Conforms to EN61131-2 147 m/s², 11 ms (Excludes valve manifold)	
	Standards		CE marking (EMC directive/RoHS directive)	
	Weight		280 g	
	Communication	standard	ISO/IEC 14443B (Type-B)	
NFC	Frequency		13.56 MHz	
communication*3	Communication	speed	20 to 100 kHz (I2C)	
	Communication	distance	Up to 1 cm	
1 \/aviaa danamdin				

- *1 Varies depending on the wireless communication status and the surrounding environment
- *2 Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, U.K., Turkey
- *3 The NFC communication RFID tag of the 13.56 MHz passive type

End Plate (D side): EX600-ED4/5-□

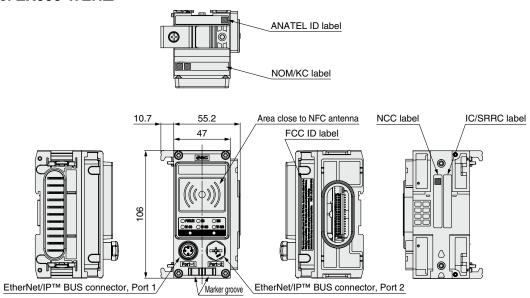
Item			Specifications	
Electrical	Connector type	PWR IN	M12 plug, 4-pin	
	Connector type	PWR OUT	M12 socket, 5-pin	
	Date d walters	Power supply for output	24 VDC +10%/-5%	
	Rated voltage	Power supply for control/input	24 VDC ±10%	
	Rated current	Power supply for output	Max. 4 A	
		Power supply for control/input	Max. 4 A	
	Enclosure		Conforms to IP67 (with manifold assembled)	
	Withstand voltage		500 VAC for 1 minute (between FE and external terminals)	
	Insulation resistance		10 $\text{M}\Omega$ or more (500 VDC between FE and external terminals)	
General	Ambient temperature	Operating	−10 to +50°C	
		Stored/Transported	−20 to +60°C	
	Ambient humidity		35% to 85% RH (No condensation)	
	Standards		CE marking (EMC directive/RoHS directive)	

^{*} For the EX600-ED2/3-\(\sigma\), refer to the Fieldbus system EX600 series in the **Web Catalog**.



Dimensions

Base module: EX600-WEN□

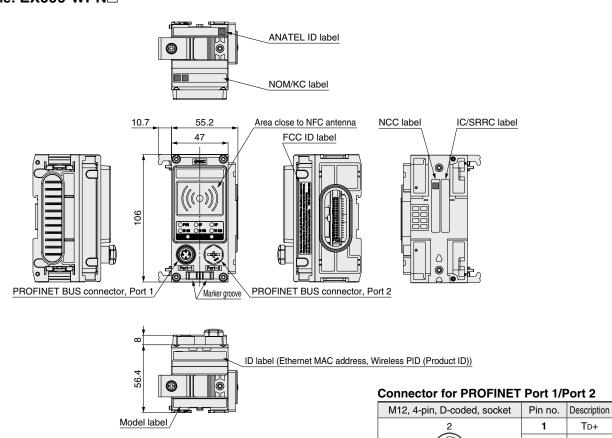




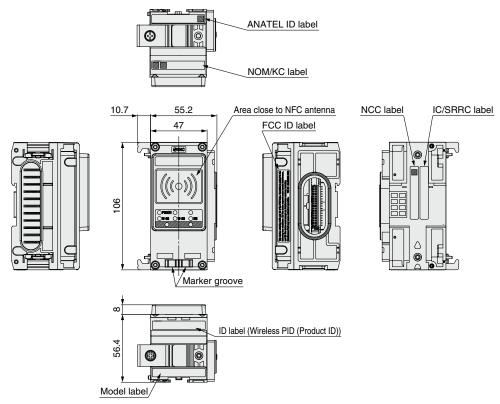
Connector for EtherNet/IP™ Port 1/Port 2			
M12, 4-pin, D-coded, socket	Pin no.	Description	
2	1	Tx+	
1 6003	2	Rx+	
	3	Tx-	
4	4	Bx-	

Dimensions

Base module: EX600-WPN□



Remote module: EX600-WSV□



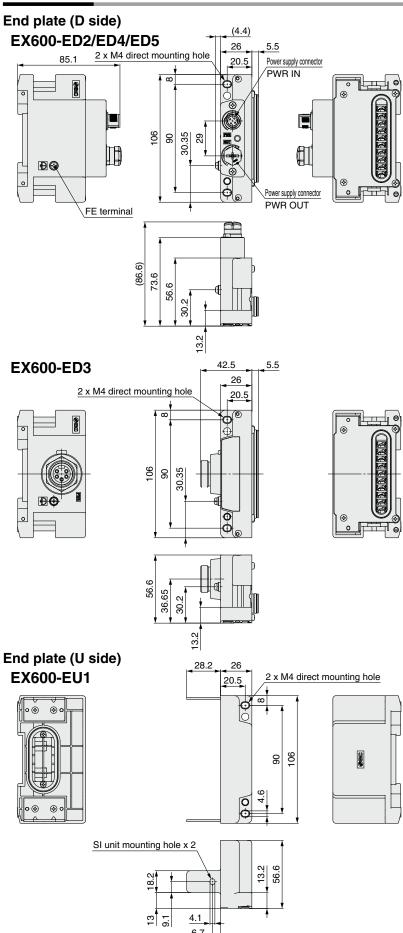
T_D+ R_D+

T_D-RD-

3

Wireless System **EX600-W** Series

Dimensions



EX600-ED2

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

Configuration	Pin no.	Description
	1	24 V (for output)
2 1	2	0 V (for output)
5(00)	3	24 V (for control/input)
3 4	4	0 V (for control/input)
	5	FE

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

Configuration	EX600-E	D4 (Pin arrangement 1)	EX600-ED5 (Pin arrangement 2)		
Corniguration	Pin no.	Description	Pin no.	Description	
3 _ 2	1	24 V (for control/input)	1	24 V (for output)	
600	2	24 V (for output)	2	0 V (for output)	
(0 %)	3	0 V (for control/input)	3	24 V (for control/input)	
4 1	4	0 V (for output)	4	0 V (for control/input)	

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

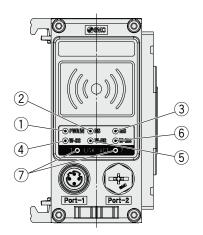
Configuration	EX600-E	D4 (Pin arrangement 1)	EX600-ED5 (Pin arrangement 2)		
Corniguration	Pin no.	n no. Description		Description	
1 2 1 24 V (for control/input)		1	24 V (for output)		
66	2	24 V (for output)	2	0 V (for output)	
(%)	3	0 V (for control/input)	3	24 V (for control/input)	
4 5 3	4	0 V (for output)	4	0 V (for control/input)	
. 5	5	Unused	5	Unused	

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

Configuration	Pin no.	Description
	1	0 V (for output)
1 5	2	0 V (for control/input)
2004	3	FE
	4	24 V (for control/input)
	5	24 V (for output)

LED Display

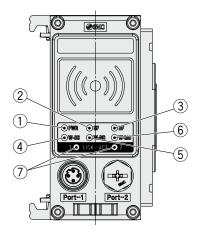
Base module EtherNet/IP™ communication specifications



No.	LED name	Function	Color of LED	Operation
110.	LLD Hamo	1 dilottori	Green LED is ON.	Power supply voltage for output (US2) is normal.
1	PWR (V)	Power supply voltage for output (US2)	Red LED flashes.	Power supply voltage for output (US2) is abnormal. (Indication only. The product can be operated. Applicable when the output power supply voltage monitoring setting is enabled)
			OFF	Power supply for control and input (US1) is not supplied.
			Green LED is ON.	EtherNet/IP™ communication is established.
		EtherNet/IP™	Green LED flashes.	EtherNet/IP™ communication is not established.
2	NS	connection	Red LED flashes.	EtherNet/IP™ communication time out
		status	Red LED is ON.	Duplicated IP addresses are detected.
			OFF	IP address not set
			Green LED is ON.	Base module is normal.
			Green LED flashes.	EtherNet/IP™ communication is not connected.
3	MS	Base module system status	Red LED flashes.	Restorable error is detected. (LED flashes when one diagnostic information item or more is detected.) · Abnormal power supply voltage level for control and input (US1) (Applicable when the control and input power supply voltage monitoring setting is enabled) · Excessive I/O setting inputs/outputs · Analog I/O upper set limit exceeded · Analog input range upper and lower limit exceeded · Abnormal number of remote connections · Error in communication between units · EX600 I/O unit detects diagnostic information · Valve diagnostic information detected
			Red LED is ON.	Non-restorable error is detected. (e.g. Hardware failure)
			OFF	Power supply for control and input (US1) is not supplied.
		Radio wave	Green LED is ON.	Received power level of all remotes is 3.
			Green LED flashes. (1 Hz)	There are connected remotes with received power level 2.
4	W-SS	receiving intensity (For communication	Green LED flashes. (2 Hz)	There are connected remotes with received power level 1.
		from remote to base)	Red LED flashes.	No remotes connected.
		·	OFF	Remote module is not registered.
			Green LED is ON.	All remote modules are connected correctly.
			Green LED flashes.	There are unconnected remote modules.
		Wireless	Red LED flashes.	All remote modules are unconnected.
5	W-NS	communication connection status	Red LED is ON.	All remote modules are unconnected. (Non-restorable error in wireless communication)
			Red/Green	Wireless communication connection is under construction. (Pairing)
			Orange LED is ON.	Forced output mode
			OFF	Remote module is not registered.
			Green LED is ON.	Remote module is normal.
				Restorable error is detected. (LED flashes when one diagnostic information item or more is detected.) · Abnormal power supply voltage level for control and input (US1)
6	W-MS	Remote module connection system status	Red LED flashes.	Abnormal power supply voltage level for output (US2) Excessive I/O setting inputs/outputs Analog I/O upper set limit exceeded Analog input range upper and lower limit exceeded Error in communication between units EX600 I/O unit detects diagnostic information Valve diagnostic information detected
6	W-MS	connection		 Excessive I/O setting inputs/outputs Analog I/O upper set limit exceeded Analog input range upper and lower limit exceeded Error in communication between units EX600 I/O unit detects diagnostic information
6	W-MS	connection	flashes.	Excessive I/O setting inputs/outputs Analog I/O upper set limit exceeded Analog input range upper and lower limit exceeded Error in communication between units EX600 I/O unit detects diagnostic information Valve diagnostic information detected
6	W-MS	connection system status Communication	flashes. Red LED is ON.	Excessive I/O setting inputs/outputs Analog I/O upper set limit exceeded Analog input range upper and lower limit exceeded Error in communication between units EX600 I/O unit detects diagnostic information Valve diagnostic information detected Non-restorable error is detected. (e.g. Hardware failure) No remote module connected. Link, No Activity (100 Mbps)
6	W-MS	connection system status Communication status of	Red LED is ON. OFF Green LED is ON. Green LED flashes.	Excessive I/O setting inputs/outputs Analog I/O upper set limit exceeded Analog input range upper and lower limit exceeded Error in communication between units EX600 I/O unit detects diagnostic information Valve diagnostic information detected Non-restorable error is detected. (e.g. Hardware failure) No remote module connected. Link, No Activity (100 Mbps) Link, Activity (100 Mbps)
7	LINK/ACT1	connection system status Communication status of EtherNet/IP™	Red LED is ON. OFF Green LED is ON. Green LED flashes. Orange LED is ON.	Excessive I/O setting inputs/outputs Analog I/O upper set limit exceeded Analog input range upper and lower limit exceeded Error in communication between units EX600 I/O unit detects diagnostic information Valve diagnostic information detected Non-restorable error is detected. (e.g. Hardware failure) No remote module connected. Link, No Activity (100 Mbps) Link, Activity (100 Mbps)
		connection system status Communication status of	Red LED is ON. OFF Green LED is ON. Green LED flashes. Orange LED flashes. Orange LED flashes.	Excessive I/O setting inputs/outputs Analog I/O upper set limit exceeded Analog input range upper and lower limit exceeded Error in communication between units EX600 I/O unit detects diagnostic information Valve diagnostic information detected Non-restorable error is detected. (e.g. Hardware failure) No remote module connected. Link, No Activity (100 Mbps) Link, Activity (100 Mbps) Link, Activity (10 Mbps)
	LINK/ACT1	connection system status Communication status of EtherNet/IP™	Red LED is ON. OFF Green LED is ON. Green LED flashes. Orange LED is ON.	Excessive I/O setting inputs/outputs Analog I/O upper set limit exceeded Analog input range upper and lower limit exceeded Error in communication between units EX600 I/O unit detects diagnostic information Valve diagnostic information detected Non-restorable error is detected. (e.g. Hardware failure) No remote module connected. Link, No Activity (100 Mbps) Link, Activity (100 Mbps)

LED Display

Base module PROFINET communication specifications

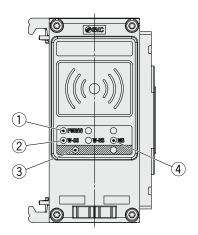


No.	LED name	Function	Color of LED	Operation
	PWR	Power supply voltage (US1/US2)	Green LED is ON.	Power supply voltage for control and input (US1) is normal, and power supply voltage for output (US2) is normal.
1			Green LED flashes.	Power supply voltage for control and input (US1) is normal, and power supply voltage for output (US2) is abnormal. (Applicable when the output power supply voltage monitoring setting is enabled)
		,	Red LED flashes.	Abnormal power supply voltage level for control and input (US1) (Applicable when the control and input power supply voltage monitoring setting is enabled)
			OFF	Power supply for control and input (US1) is not supplied.
			OFF	Normal operation
			Green LED flashes.	Node flashing test command has been received.
2	SF	Base module system status	Red LED flashes.	Restorable error is detected. (LED flashes when one diagnostic information item or more is detected.) Abnormal power supply voltage level for control and input (US1) (Applicable when the control and input power supply voltage monitoring setting is enabled) Abnormal power supply voltage level for output (US2) (Applicable when the output power supply voltage monitoring setting is enabled) Excessive I/O setting inputs/outputs Analog I/O upper set limit exceeded Analog input range upper and lower limit exceeded Abnormal number of remote connections Error in communication between units EX600 I/O unit detects diagnostic information Valve diagnostic information detected
			Red LED is ON.	Non-restorable error is detected. (e.g. Hardware failure)
			OFF	PROFINET communication is established.
			Red LED flashes.	The PROFINET controller setting and the EX600 configuration data are mismatched.
3	BF	PROFINET connection status	Red LED is ON.	PROFINET communication is not established. The power supply of the PROFINET controller is OFF. There is a defective connection in the communication cable between the PROFINET controller and the base module. The PROFINET controller or the base module has broken down. The PROFINET controller setting and the device name of the base module are mismatched.
			Green LED is ON.	Received power level of all remotes is 3.
	W-SS	Radio wave receiving intensity	Green LED flashes. (1 Hz)	There are connected remotes with received power level 2.
4		(For communication from remote to base)	Green LED flashes. (2 Hz) Red LED flashes.	There are connected remotes with received power level 1. No remotes connected.
			OFF	Remote module is not registered.
			Green LED is ON.	All remote modules are connected correctly.
			Green LED flashes.	There are unconnected remote modules.
		Wireless	Red LED flashes.	All remote modules are unconnected.
5	W-NS	communication	Red LED is ON.	All remote modules are unconnected. (Non-restorable error in wireless communication)
			Red/Green	Wireless communication connection is under construction. (Pairing)
			Orange LED is ON.	Forced output mode
			OFF Green LED is ON.	Remote module is not registered. Remote module is normal.
6	W-MS	Remote module connection system status	Red LED flashes.	Restorable error is detected. (LED flashes when one diagnostic information item or more is detected.) Abnormal power supply voltage level for control and input (US1) Abnormal power supply voltage level for output (US2) Excessive I/O setting inputs/outputs Analog I/O upper set limit exceeded Analog input range upper and lower limit exceeded Error in communication between units EX600 I/O unit detects diagnostic information Valve diagnostic information detected
			Red LED is ON.	<u> </u>
			OFF	Non-restorable error is detected. (e.g. Hardware failure) No remote module connected.
			Green LED is ON.	Link, No Activity
7	LINK/ACT1	Communication status of	Green LED flashes.	Link, Activity
	LINK/ACT2	/ACT2 PROFINET ports 1 and 2	OFF	No Link, No Activity
			-	



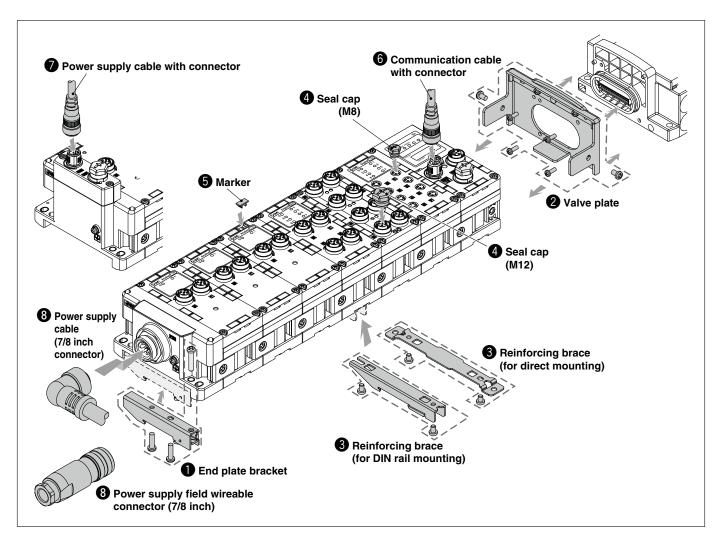
LED Display

Remote module



No.	LED name	Function	Color of LED	Operation
			Green LED is ON.	Power supply voltage for output (US2) is normal.
1	PWR (V)	Power supply voltage for output (US2)	Red LED flashes.	Power supply voltage for output (US2) is abnormal. (Indication only. The product can be operated. Applicable when the output power supply voltage monitoring setting is enabled)
			OFF	Power supply for control and input (US1) is not supplied.
		Radio wave	Green LED is ON.	Received power level is 3.
		receiving intensity	Green LED flashes. (1 Hz)	Received power level is 2.
2	W-SS	(For communication	Green LED flashes. (2 Hz)	Received power level is 1.
		from base to	Red LED flashes.	Wireless communication is not connected.
		remote)	OFF	Base module is not registered.
			Green LED is ON	Remote is connected correctly.
		Wireless communication connection status	Red LED flashes.	No remotes connected.
3	W-NS		Red LED is ON.	No remotes connected (Non-restorable error in wireless communication)
١			Red/Green	Wireless communication connection is under construction. (Pairing)
			Orange LED is ON.	Forced output mode
		OFF	Base module is not registered.	
			Green LED is ON.	Remote module is normal.
4	MS	Remote module system status	Red LED flashes.	Restorable error is detected. (LED flashes when one diagnostic information item or more is detected.) Abnormal power supply voltage level for control and input (Applicable when the control and input power supply voltage monitoring setting is enabled) Excessive I/O setting inputs/outputs Analog I/O upper set limit exceeded Analog input range upper and lower limit exceeded Error in communication between units EX600 I/O unit detects diagnostic information Valve diagnostic information detected
			Red LED is ON.	Non-restorable error is detected. (e.g. Hardware failure)
			OFF	Power supply for control and input (US1) is not supplied.

Accessories (Optional Parts)



End Plate Bracket

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

EX600-ZMA2

Enclosed parts

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



EX600-ZMA3

(Specialized for the SY series)

Enclosed parts

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

Valve Plate

EX600-ZMV1

Enclosed parts

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



EX600-ZMV2

(Specialized for the SY series)

Enclosed parts

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



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.





4 Seal Cap (10 pcs.)

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

For M8

EX9-AWES



EX9-AWTS

For M12





6 Marker (1 sheet, 88 pcs.)

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

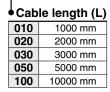


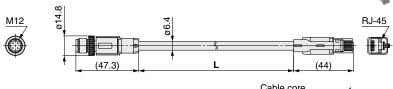


6 Communication Cable with Connector/Communication Connector

Cable with M12 ↔ RJ-45 connector

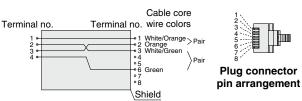
EX9-AC 020 EN-PSRJ (Plug/RJ-45 connector)







Plug connector pin arrangement D-coded

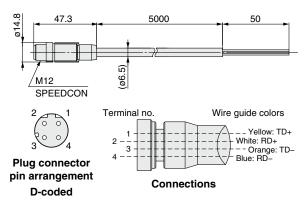


Connections (Straight cable)

Item	Specifications
Cable O.D.	ø6.4 mm
Nominal cross section	0.14 mm ² /AWG26
Wire diameter	0.98 mm
Min. bending radius	26 mm (Fixed)

Cable with connector

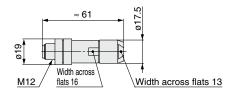
PCA-1446566 (Plug)



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

Field wireable connector

PCA-1446553



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Plug	pin
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Plug pin arrangement D-coded

Terminal no.	Wire guide colors
1	Orange/White
2	Green/White
3	Orange
4	Green

Applicable Cable

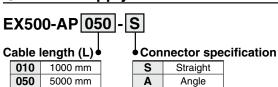
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Cable O.D.	4.0 to 8.0 mm
Wire gauge (Stranded wire cross section)	0.14 to 0.34 mm ² /AWG26 to 22

^{*} 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.

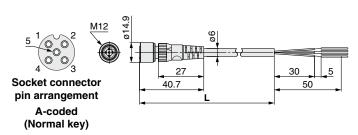


Accessories **EX600-W** Series

Power Supply Cable with M12 Connector (A-coded)

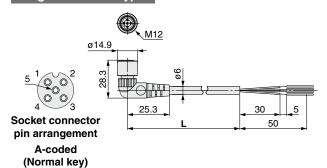


Straight connector type

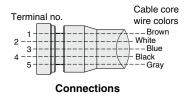


Item	Specifications
Cable O.D.	ø6 mm
Nominal cross section	0.3 mm ² /AWG22
Wire diameter (Including insulator)	1.5 mm
Min. bending radius	40 mm (Fixed)

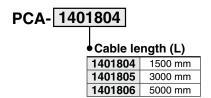
Angle connector type

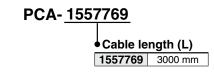


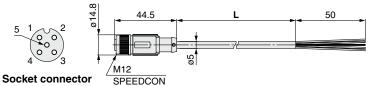
Item	Specifications
Cable O.D.	ø6 mm
Nominal cross section	0.3 mm ² /AWG22
Wire diameter (Including insulator)	1.5 mm
Min. bending radius	40 mm (Fixed)



SPEEDCON

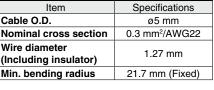


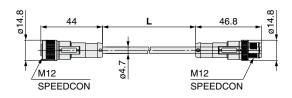




pin arrangement A-coded (Normal key)

Item	Specifications
Cable O.D.	ø5 mm
Nominal cross section	0.3 mm ² /AWG22
Wire diameter (Including insulator)	1.27 mm
Min. bending radius	21.7 mm (Fixed)







Socket connector Connections pin arrangement A-coded A-coded (Normal key) (Normal key)

Plug connector pin arrangement

Cable core Terminal no. wire colors __Brown White - Blue Black Green/Yellow

Connections



Power Supply Cable with M12 Connector (B-coded)

PCA- 1564927 Socket specification, Cable length (L) 1564927 Straight 2 m 1564930 Straight 6 m

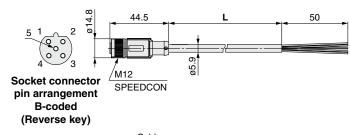
Angle 2 m

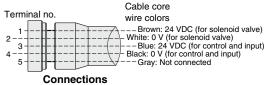
Angle 6 m

Straight connector type

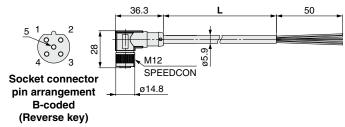
1564943

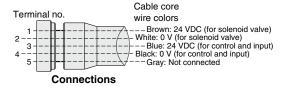
1564969





Angle connector type





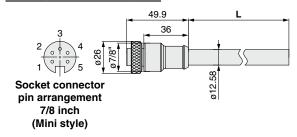
3 Power Supply Cable with 7/8 Inch Connector/Power Supply Connector

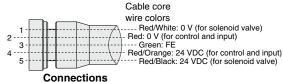
PCA- 1558810

Specifications

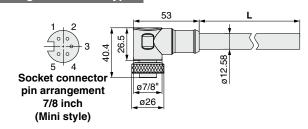
Symbol	Cable length (L)	Connector specification
1558810	2000	Straight
1558823	6000	Straight
1558836	2000	Right angle
1558849	6000	Right angle

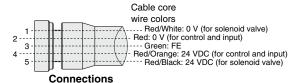
Straight connector type





Angle connector type



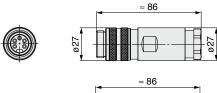


Field wireable connector

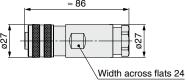
PCA- 1578078

Specifications

Symbol	Connector specification	
1578078	Plug	
1578081	Socket	









Plug connector pin arrangement 7/8 inch (Mini style)



Socket connector pin arrangement 7/8 inch (Mini style)

Terminal no.	Wire guide colors
1	Red/White
2	Red
3	Green
4	Red/Orange
5	Red/Black

Applicable Cable

Cable O.D.	12.0 to 14.0 mm
Wire gauge (Stranded wire cross section)	0.34 to 1.5 mm ² /AWG22 to 16

^{*} 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.

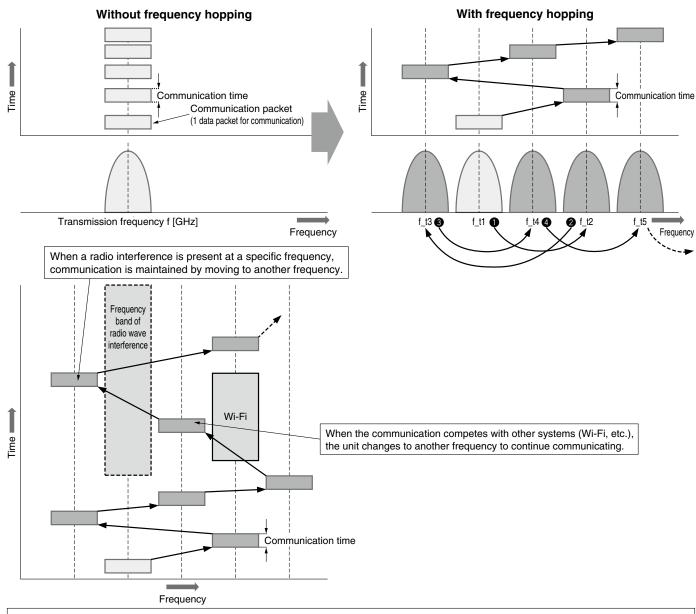
For further information on cables and connectors, refer to the M8/M12 connector PCA series in the Web Catalog.



EX600-W Series Technical Data

Frequency Hopping (FHSS: Frequency Hopping Spread Spectrum)

A communication technology that uses spread spectrum transmission with frequency hopping to rapidly switch the frequency. Because the frequency rapidly changes all the time, this communication method is resistant to radio wave interference due to reflections or noise from other wireless equipment, while ensuring 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>

- The product is certified as a wireless equipment in accordance with the Radio Act and the Japanese radio law has been obtained. Customers do not need to apply for a license to use this equipment.
 Be sure to comply with the following precautions.
 - Do not disassemble or modify the product. Disassembly and modification are prohibited by law.
 - This product is for use in Japan, European countries (Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, U.K., Turkey), the U.S., Mexico, Brazil, India, Canada, China, Thailand, Australia, New Zealand, Singapore, Taiwan and South Korea. For use in other countries, please contact SMC.
- This product communicates by radio waves, and the communication may stop instantaneously due to ambient environments and operating methods. SMC will not be responsible for any secondary failure which may cause personal injury, or damage to other devices or equipment.
- When several units are installed closely 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 please perform the communication testing before use.

* As of end of December, 2018



⚠ Safety Instructions

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

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

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

⚠ Danger: Danger if not avoided, will result in death or serious injury. **Danger** indicates a hazard with a high level of risk which, *1) ISO 4414: Pneumatic fluid power - General rules relating to systems.

ISO 4413: Hydraulic fluid power – General rules relating to systems.

IEC 60204-1: Safety of machinery - Electrical equipment of machines. (Part 1: General requirements)

ISO 10218-1: Manipulating industrial robots - Safety.

⚠Warning

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

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

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

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

- 3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.
 - 1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
 - 2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
 - 3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.
- 4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.
 - 1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
 - 2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
 - 3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
 - 4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

⚠ Caution

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

The product herein described is basically provided for peaceful use in manufacturing industries.

If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary. If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/

Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".

Read and accept them before using the product.

Limited warranty and Disclaimer

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

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.

Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

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

⚠ Caution

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

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

- Edition B * PROFINET has been added to protocols.
 - * Number of pages has been increased from 24 to 28.

WT

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