

Wireless System Compact Remote



Compact

Lightweight

Area Approx. **61 % reduction**^{*1}

155 cm² → 59.8 cm²

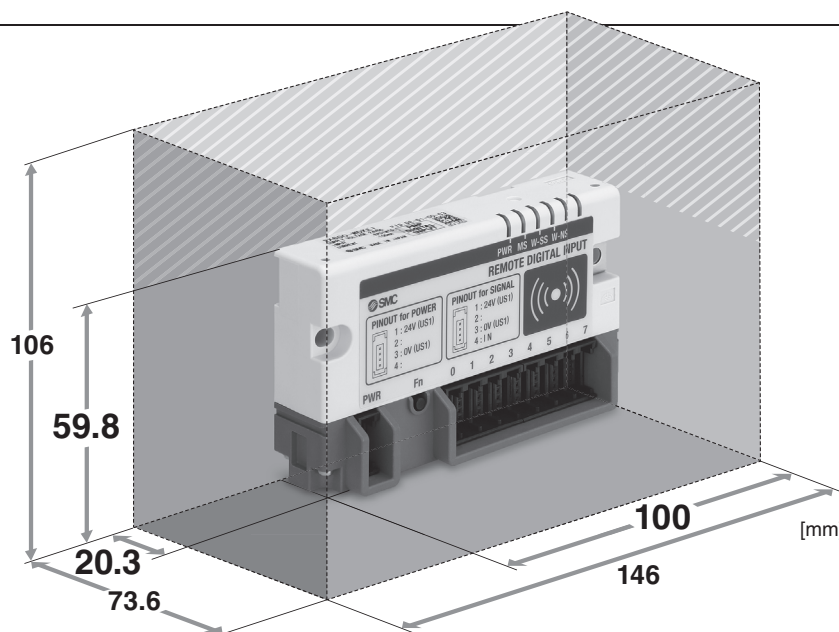
Volume Approx. **86 % reduction**^{*1}

1,139 cm³ → 159 cm³

Weight Approx. **87 % reduction**^{*1}

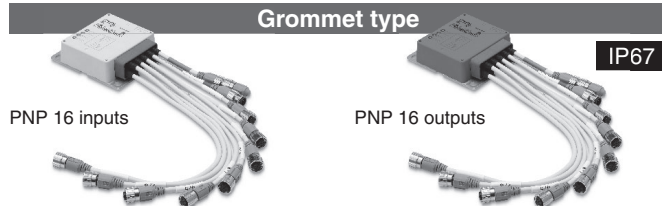
965 g → 130 g

^{*1} For the e-CON type
Compared with the existing remote, M8 connector/
digital 8 inputs specification



Variations

Grommet type



IO-Link device compatible

Input type

- SIO mode^{*1}
- PNP 8 inputs
- IO-Link mode 4 port

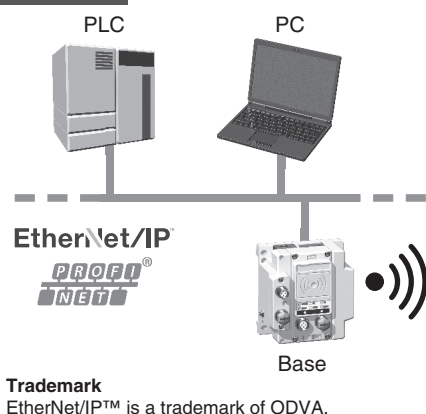
Output type

- SIO mode^{*2}
- PNP 4 inputs
- PNP 4 outputs
- IO-Link mode 4 port

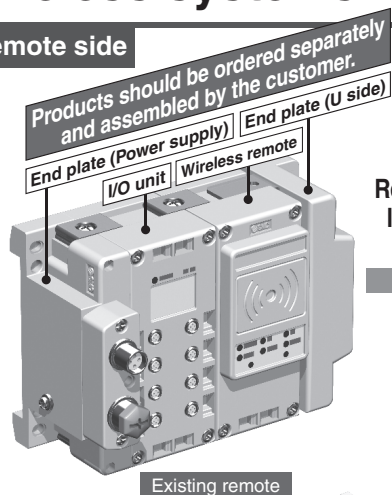
^{*1} When pin #2 is set to PNP input and pin #4 is set to PNP input (M12 connector)
^{*2} When pin #2 is set to PNP output and pin #4 is set to PNP input (M12 connector)

Applicable to existing wireless systems

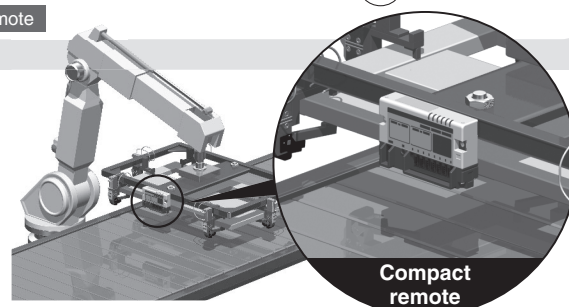
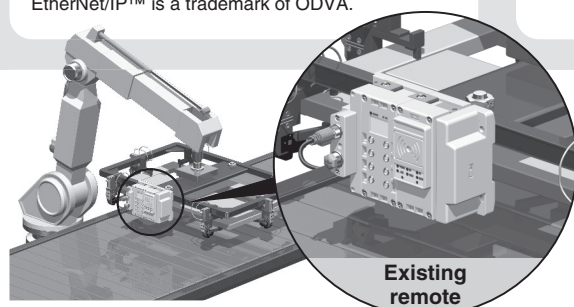
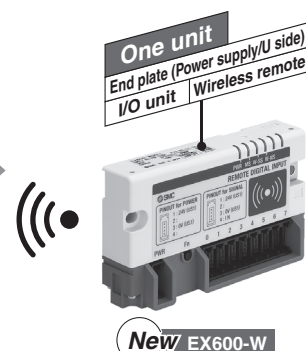
Base side



Remote side



Reduces
labour
time



EX600-W Series

Countries/Regions in which wireless is supported

This product cannot be used in countries where wireless is not supported. Refer to the back cover for details on countries in which the product can be used.



20-EU750-UK

EX600-W Series

Specifications

Wireless Communication Specifications

Protocol	SMC original protocol
Radio wave type	Frequency Hopping Spread Spectrum (FHSS)
Frequency	2.4 GHz (2403 to 2481 MHz)
Number of frequency channels	79 ch (Bandwidth: 1.0 MHz)
Communication speed	250 kbps
Communication distance	10 m (Depending on the operating environment)
Radio Law certificate	Refer to page 8

IO-Link Communication Specifications^{*1}

Communication speed	COM1 (4.8 kBaud) COM2 (38.4 kBaud) COM3 (230.4 kBaud) Automatically switched according to the device to be connected
Ports for IO-Link devices	4 ^{*2}

^{*1} Parameter setting for IO-Link devices is not supported. Set using the dedicated tool before connecting the product.

^{*2} Only process data can be sent and received.

General Specifications

Type		e-CON type		Grommet type		IO-Link device compatible	
		PNP input EX600-WDXE1	PNP output EX600-WDYE1	PNP input EX600-WDXA1	PNP output EX600-WDYA1	PNP input EX600-WLXB1	PNP output EX600-WLYB1
Power supply for control and input (US1)	Power supply voltage	24 VDC ±10 %					
	Current consumption* ¹	100 mA or less	50 mA or less	100 mA or less	50 mA or less	100 mA or less	100 mA or less
Power supply for output (US2)	Power supply voltage	—	24 VDC ±10 %	—	24 VDC ±10 %	—	24 VDC ±10 %
	Max. load current (per unit)		800 mA		2 A* ²		
	Max. load current (per output)		100 mA (per output)		100 mA (per output)		
Electrical specifications (Common)	Number of points	8 inputs (1 input/connector)	8 outputs (1 output/connector)	16 inputs (2 inputs/connector)	16 outputs (2 outputs/connector)	8 inputs (2 inputs/connector)* ³	4 outputs (1 output/connector)* ³
	Type	PNP (-COM)					
	Connector type	e-CON (4-pin)		M12 5-pin socket (Female)			
	Max. sensor supply current	2 A/unit, 0.3 A/connector		2 A/unit, 0.3 A/connector		1 A/unit, 0.3 A/connector	
Input	Input resistance	1.5 kΩ	—	1.5 kΩ	—	—	—
	Rated input current	5 mA or less		5 mA or less		2.5 mA or less (Pin #2) 5.5 mA or less (Pin #4)	5.5 mA or less (Pin #4)
	Signal OFF-judgement	5 VDC/2 mA or less		5 VDC/2 mA or less		5 VDC/2 mA or less	—
	Signal ON-judgement	15 VDC/5 mA or more		15 VDC/5 mA or more		15 VDC/5 mA or more	—
	Protection	Short-circuit protection		Short-circuit protection		Short-circuit protection	
Output	Max. load current	—	100 mA (per output)	—	100 mA (per output)	—	100 mA (per output)
	Protection	—	Short-circuit protection	—	Short-circuit protection	—	Short-circuit protection
Cable tensile strength		10 N		100 N			
Operating ambient temperature		0 to +50°C					
Storage ambient temperature		-10 to +60°C					
Ambient humidity		35 to 85 %RH					
Withstand voltage		10 MΩ or more (500 VDC between external terminals and metallic parts)					
Insulation resistance		500 VAC for 1 minute between external terminals and metallic parts					
Vibration resistance		Compliant with EN61131-2, 5 ≤ f < 8.4 Hz 3.5 mm, 8.4 ≤ f < 150 Hz 9.8 m/s ²					
Impact resistance		Compliant with EN61131-2, 147 m/s ² , 11 ms					
Enclosure		IP20		IP67			
Mounting		M4 screw through hole 2 locations		M5 screw through hole 4 locations		M4 screw through hole 2 locations	
Weight		130 g		480 g		230 g	

^{*1} When an external device is not connected (Body only)

^{*2} (Per unit) See the output specifications for the load current for each signal.

^{*3} Max. number of points when set to SIO-mode

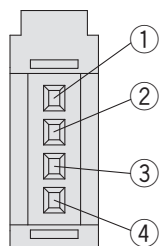
* Number of connections when the setting enabling IO-Link devices is selected

EX600-W Series

e-CON Type/Connector Specifications (Input/Output)

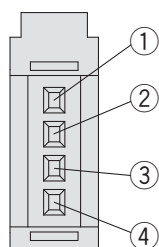
Input

Power supply socket connector wiring specifications



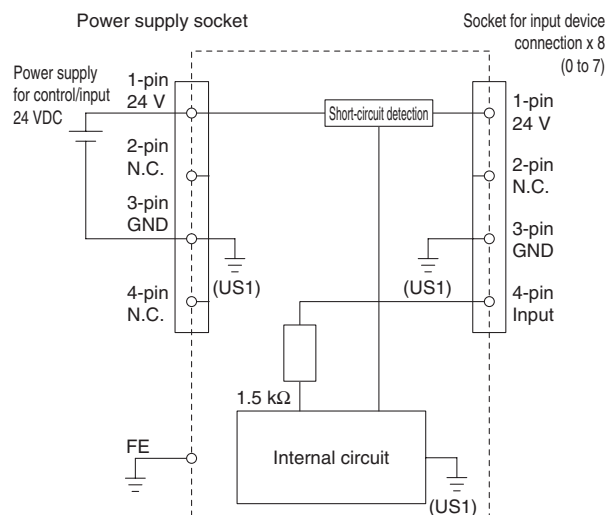
Pin no.	Terminal name
1	24 V (For control/input)
2	N.C.
3	0 V (For control/input)
4	N.C.

Socket connector for input device connection wiring specifications



Pin no.	Terminal name
1	24 V (For control/input)
2	N.C.
3	0 V (For control/input)
4	IN

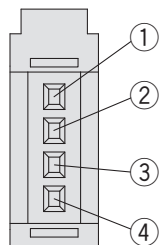
Socket for input device connection x 8 (0 to 7)



Wireless remote/Input

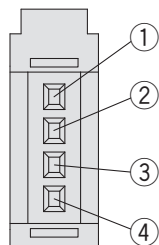
Output

Power supply socket connector wiring specifications



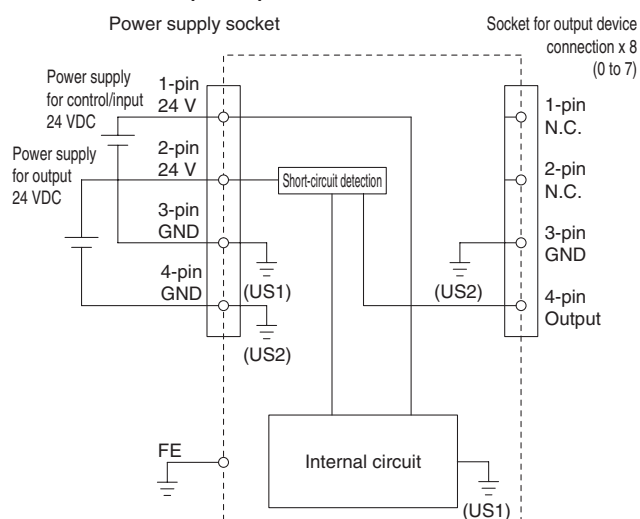
Pin no.	Terminal name
1	24 V (For control/input)
2	24 V (For output)
3	0 V (For control/input)
4	0 V (For output)

Socket connector for output device connection wiring specifications



Pin no.	Terminal name
1	N.C.
2	N.C.
3	0 V (For output)
4	OUT

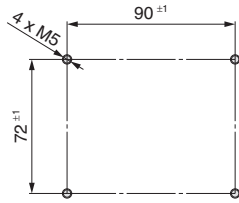
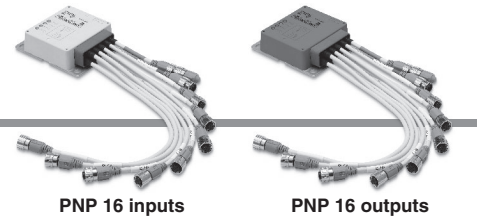
Socket for output device connection x 8 (0 to 7)



Wireless remote/Output

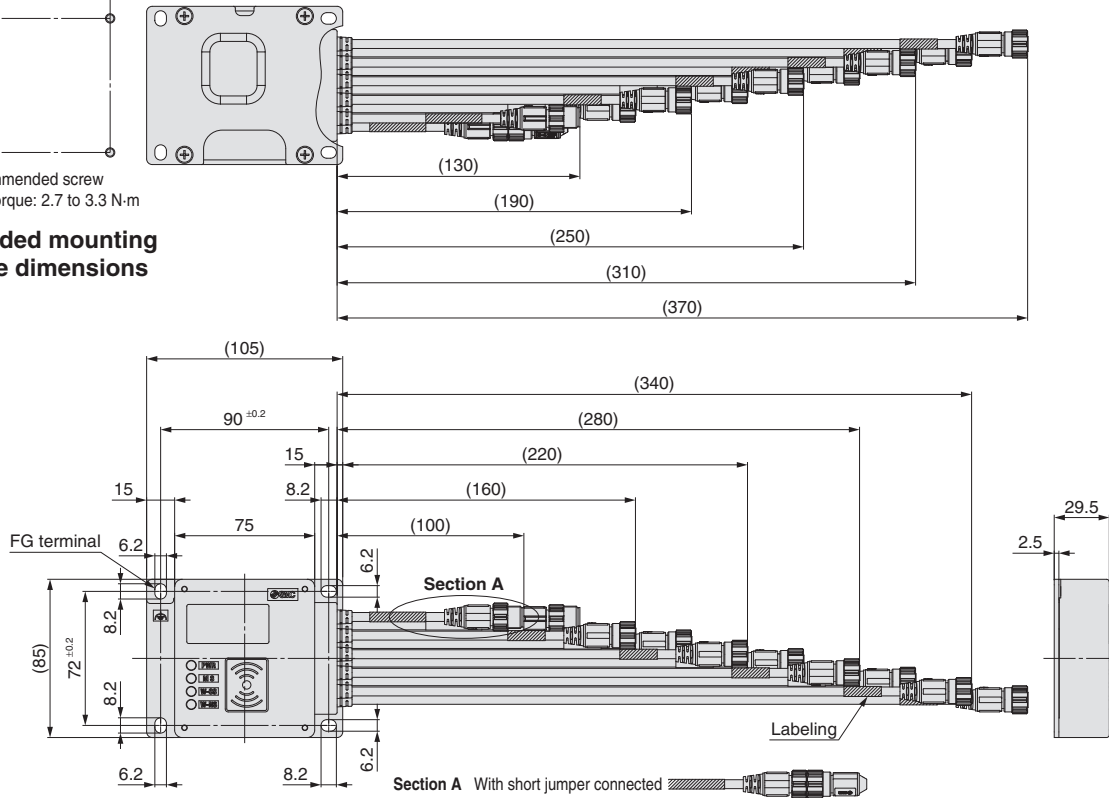
Dimensions

Grommet Type



Recommended screw
tightening torque: 2.7 to 3.3 N·m

Recommended mounting thread hole dimensions



EX600-W Series

Grommet Type/Connector Specifications (Input/Output)

Input

PNP 16 inputs

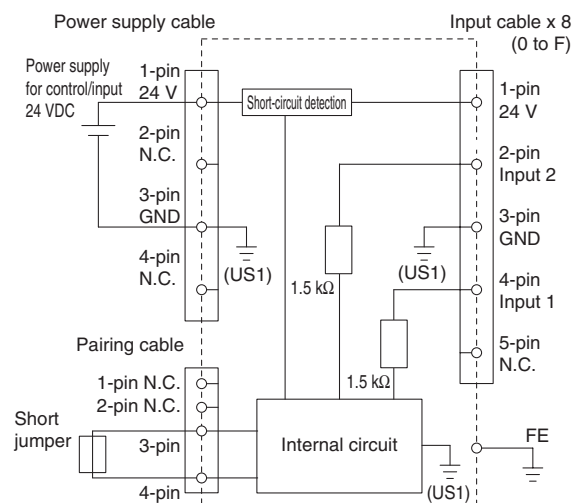
Connector Arrangement Specifications

No.	Description	Cable length [mm]	Labelling	Cable with M12 connector	
0	Pairing line	100	PAIRING	M12, 4-pin, plug (Male)	
1	Power supply line	130	POWER		
2	Input E/F	160	E/F		
3	Input C/D	190	C/D		
4	Input A/B	220	A/B		
5	Input 8/9	250	8/9		
6	Input 6/7	280	6/7		
7	Input 4/5	310	4/5		
8	Input 2/3	340	2/3		
9	Input 0/1	370	0/1		

Connector Specifications

Labelling	PAIRING	POWER	0/1 to E/F	M12, 4-pin plug	M12, 5-pin socket
Pin no.	Description				
1	Short jumper Connected: Normal mode (3-pin to 4-pin short)	Power supply for control: + (COM)	Power supply for control: + (COM)		
2		N.C.	Input n + 1		
3	Not connected: Pairing mode	Power supply for control: - (COM)	Power supply for control: - (COM)		
4		N.C.	Input n		
5	—	—	N.C.		

Input cable x 8 (0 to F)



PNP 16 outputs

Output

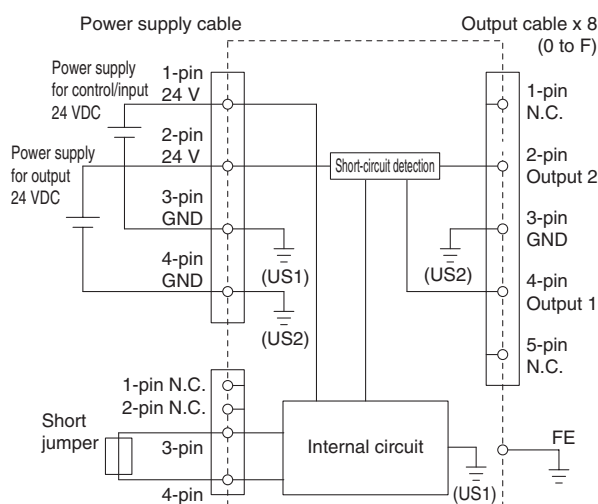
Connector Arrangement Specifications

No.	Description	Cable length [mm]	Labelling	Cable with M12 connector	
0	Pairing line	100	PAIRING	M12, 4-pin, plug (Male)	
1	Power supply line	130	POWER		
2	Output E/F	160	E/F		
3	Output C/D	190	C/D		
4	Output A/B	220	A/B		
5	Output 8/9	250	8/9		
6	Output 6/7	280	6/7		
7	Output 4/5	310	4/5		
8	Output 2/3	340	2/3		
9	Output 0/1	370	0/1		

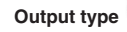
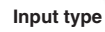
Connector Specifications

Labelling	PAIRING	POWER	0/1 to E/F	M12, 4-pin plug	M12, 5-pin socket
Pin no.	Description				
1	Short jumper Connected: Normal mode (3-pin to 4-pin short)	Power supply for control: + (COM)	N.C.		
2		Power supply for output: + (COM)	Output n + 1		
3	Not connected: Pairing mode	Power supply for control: - (COM)	Power supply for output: - (COM)		
4		Power supply for output: - (COM)	Output n		
5	—	—	N.C.		

Output cable x 8 (0 to F)



Grommet Type for IO-Link Device

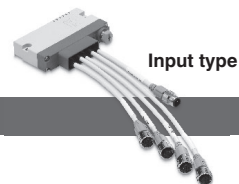


1.35 to 1.65 N·m

Recommended mounting thread hole dimensions

EX600-W Series

Grommet Type for IO-Link Device/Connector Specifications



Input

Connector Arrangement Specifications

No.	Description	Cable length [mm]	Labelling	Type
1	PORT1	255	—	M12, 5-pin, socket, A-coded
2	PORT2	225	—	
3	PORT3	195	—	
4	PORT4	165	—	
5	Power supply IN connector	135	POWER	M12, 4-pin, plug, A-coded
6	Power supply OUT connector	—	—	M12, 5-pin, socket, A-coded



IO Connector

Pin no.	Description	M12, 5-pin, socket, A-coded
1	L+ (US1)	
2	DI (Digital input)	
3	L- (US1)	
4	CQ (IO-Link)*1	
5	Not used	

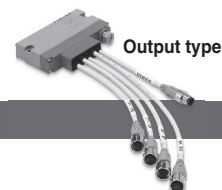
*1 Switchable to IO-Link/digital input (PNP input)

Power Supply IN Connector

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

Power Supply OUT Connector

Pin no.	Description	M12, 5-pin, socket, A-coded
1	24 V (US1)	
2	24 V (US2)	
3	0 V (US1)	
4	0 V (US2)	
5	Not used	



Output

Connector Arrangement Specifications

No.	Description	Cable length [mm]	Labelling	Type
1	PORT1	255	—	M12, 5-pin, socket, A-coded
2	PORT2	225	—	
3	PORT3	195	—	
4	PORT4	165	—	
5	Power supply IN connector	135	POWER	M12, 4-pin, plug, A-coded
6	Power supply OUT connector	—	—	M12, 5-pin, socket, A-coded



IO Connector

Pin no.	Description	M12, 5-pin, socket, A-coded
1	L+ (US1)	
2	DO (Digital output)	
3	L- (US1)	
4	CQ (IO-Link)*1	
5	0 V (US2)	

*1 Switchable to IO-Link/digital input (PNP input)

Power Supply IN Connector

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

Power Supply OUT Connector

Pin no.	Description	M12, 5-pin, socket, A-coded
1	24 V (US1)	
2	24 V (US2)	
3	0 V (US1)	
4	0 V (US2)	
5	Not used	

EX600-W Series

Important

Warning

- 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. and Canada. 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 catalogue, 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 September, 2020



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