PRODUCT NEWS

OMRON

NO: **RF-054** **PRODUCT:** **V600**
DATE: **November 2021** **TYPE:** **Discontinuation Notice**

Discontinuation Notice of V600 Series RFID Products

OMRON AUTOMATION AMERICAS is announcing the end of life (EOL) of various V600 series RFID products. These are being replaced with V680 series RFID products but, due to their different radio frequencies, V680 products may not be intermixed with V600 products – the whole RFID solution must be converted to V680 products. Please refer to the product manuals during the conversion process as there are many differences including programming, physical dimensions, etc.. The last order date for the affected V600 products is September 2024; the last shipments will be in December 2024.

The V680 RFID products can be found on the Omron website.

https://automation.omron.com/en/us/products/family/V680

Additional information for each specific V600 product is on the following pages.

Discontinuation Notice of RFID System ID Sensor Units CJ1W-V600 series, CS1W-V600 series.

Product Discontinuation	Recommended Replacement
ID Sensor Unit **Model CJ1W-V600C11** **Model CJ1W-V600C12** **Model CS1W-V600C11** **Model CS1W-V600C12**	ID Sensor Unit **Model CJ1W-V680C11** **Model CJ1W-V680C12** **Model CS1W-V680C11** **Model CS1W-V680C12**

[Difference from discontinued product]

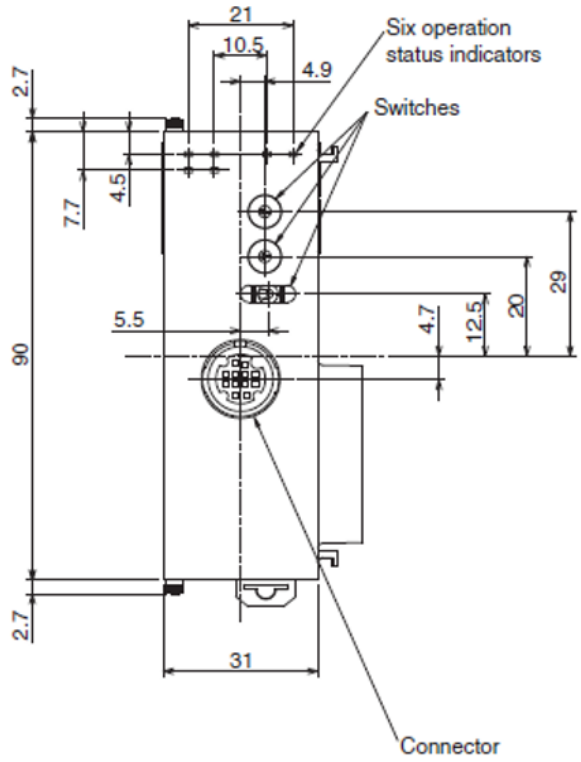
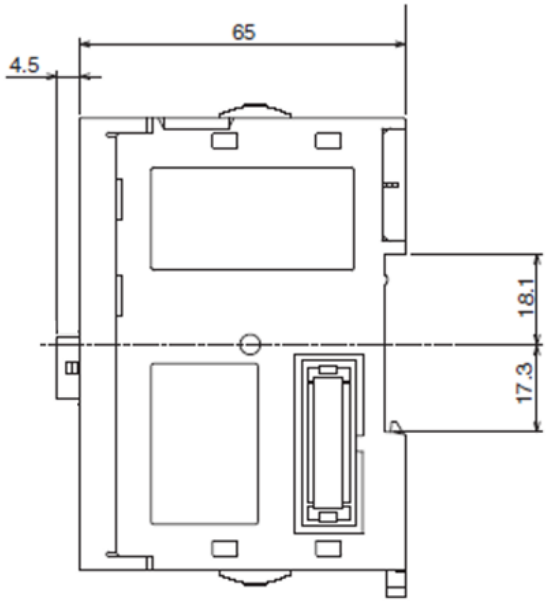
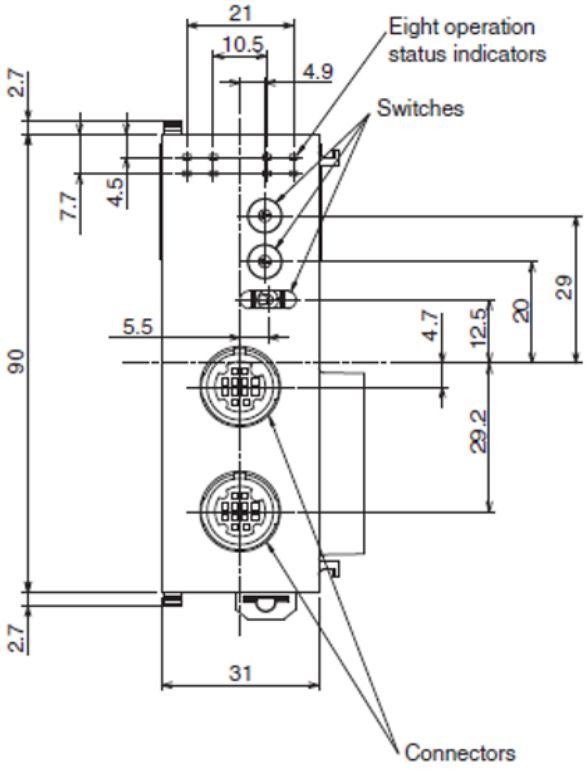
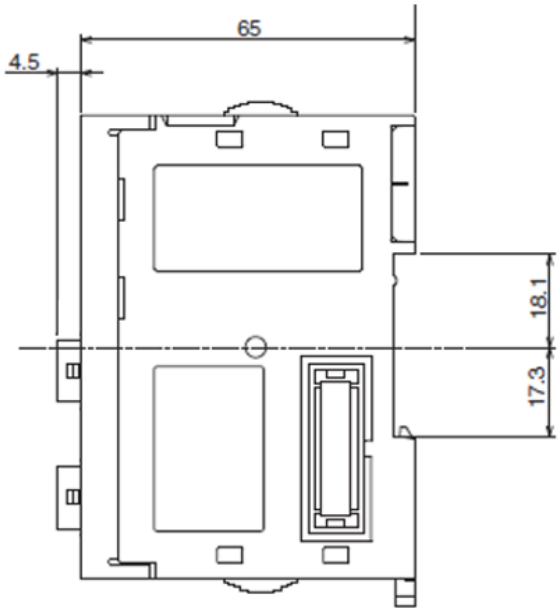
Recommended replacement Model	Body Color	Dimen-sions	Wire connection	Mounting Dimensions	Charac-teristics	Operation ratings	Operation methods
CJ/CS1W-V6801☐	**	**	*	**	*	*	*

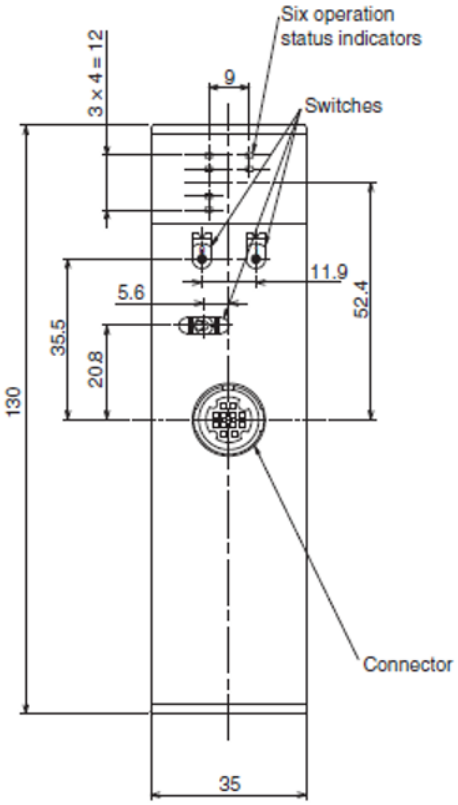
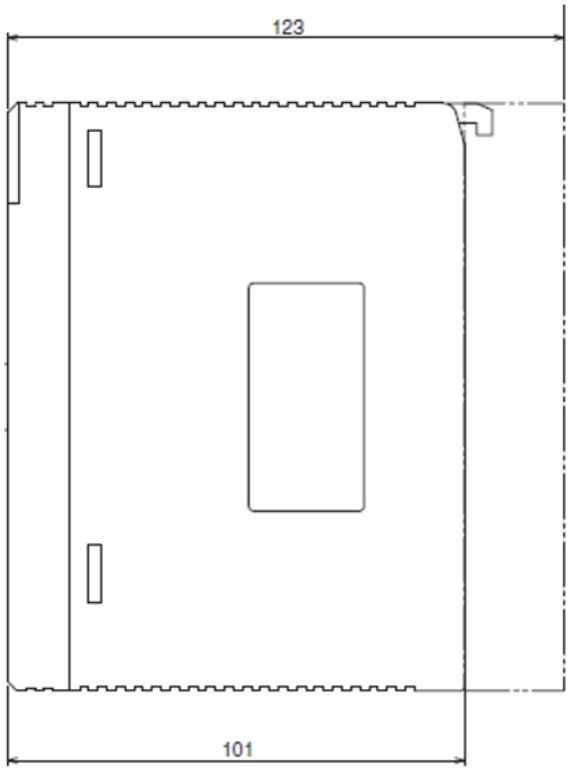
** : Compatible
* : The change is a little/Almost compatible
-- : Not compatible
- : No corresponding specification

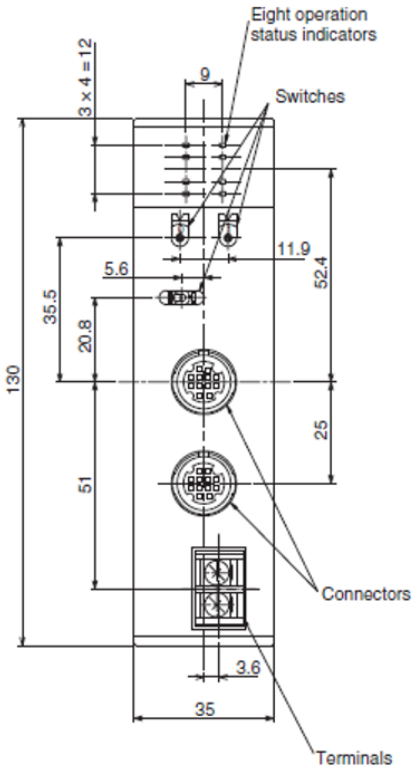
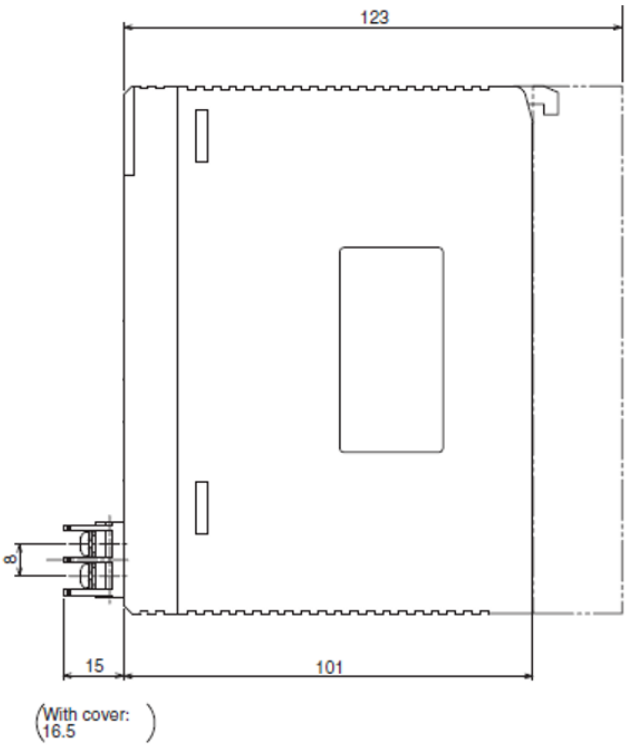
[Product Discontinuation and recommended replacement]

Product discontinuation	Recommended replacement
CJ1W-V600C11	**CJ1W-V680C11**
CJ1W-V600C12	**CJ1W-V680C12**
CS1W-V600C11	**CS1W-V680C11**
CS1W-V600C12	**CS1W-V680C12**

[Dimensions]

Product discontinuation Model CJ1W-V600C11	Recommendable replacement Model CJ1W-V680C11
	
Product discontinuation Model CJ1W-V600C12	**Recommendable replacement Model CJ1W-V680C12**
	

Model CJ1W-V600C11	Recommendable replacement Model CJ1W-V680C11
	

Model CS1W-V600C12	Recommendable replacement Model CS1W-V680C12
	

[Characteristics] (CJ series)

Item	Product discontinuation		Recommendable replacement	
	Model CJ1W-V600C11	**Model CJ1W-V600C12**	**Model CJ1W-V680C11**	**Model CJ1W-V680C12**
Influence on CPU Unit's cycle time	0.15 ms	0.3 ms	0.15 ms	0.3 ms
Internal current consumption	5V DC, 260mA max. 24 VDC, 120 mA max.	5 VDC, 320 mA max. 24 VDC, 240 mA max.	V680-HA63☐ Amplifier connected: 5 VDC, 260 mA 24 VDC, 130 mA V680-H01 Antenna connected: 5 VDC, 260 mA 24 VDC, 280 mA	5 VDC, 320 mA 24 VDC, 260 mA
Weight	120 g max.	130 g max.	120 g max.	130 g max.
Mounting location	CJ-series Rack or CJ-series Expansion Rack (Cannot be mounted to C200H Expansion I/O Racks or SYSMAC BUS Slave Racks.)			
No. of Units per Rack	4 Units maximum per Rack	2 Units maximum per Rack	CJ1W-PA205R:V680-HA63☐Amplifier connected: 4 per Rack V680-H01 Antenna connected: 2 per Rack CJ1W-PA202: V680-HA63☐ Amplifier connected: 2 per Rack V680-H01 Antenna connected: 1 per Rack (See note 1.)	CJ1W-PA205R:2 CJ1W-PA202:1 (See note 1.)
Connectable Antennas	V600-series R/W Heads (V600-H☐☐) 1 Head	V600-series R/W Heads (V600-H☐☐) 1or 2 Heads	V680-series Amplifiers (V680-HA63☐) V680-series Antennas (V680-H☐☐) One channel (See note 2.)	V680-series Amplifiers (V680-HA63☐) V680-series Antennas (V680-H☐☐) One or two channels (See note 2.)
Applicable RF Tags	V600-series Data Carriers(V600-D☐☐)		V680-series RF Tags(V680-D☐☐)	
No. of allocated unit numbers	1	2	1	2
No. of allocated words	10 words	20 words	10 words	20 words
Control protocol	Special protocol			
Data transfer quantity	2,048 bytes max. (160 bytes/scan)	2,048 bytes max. /Head	2,048 bytes max. (160	2,048 bytes max. /channel (160 bytes/scan)

Item	Product discontinuation		Recommendable replacement	
	Model CJ1W-V600C11	Model CJ1W-V600C12	Model CJ1W-V680C11	Model CJ1W-V680C12
		(160 bytes/scan)	bytes/scan) (See note 3.)	(See note 3.)
Diagnostic functions	(1) ID Sensor Unit error (2) Communications error detection with Data Carriers (3) Head 24-V power supply error		(1) CPU watchdog timer (2) Communications error detection with RF Tag (3) Antenna power supply error	
Ambient operating temperature	0 to 55 ℃ (with no icing)			
Ambient operating humidity	10% to 95% (with no condensation)			
Ambient storage temperature	-20 to 75 ℃ (with no icing)			
Ambient storage humidity	10% to 95% (with no condensation)			
Vibration resistance	10 to 57Hz with 0.075 mm double amplitude and 50 to 150Hz 9.8-m/s^2 maximum acceleration, 10 sweeps of 8 minutes each in three directions			
Shock resistance	147 m/s^2			
Degree of protection	IEC60529, IP20			

Note

1. “Rack” indicates either the CPU ack or an Expansion Rack.
2. The V680-H01 Antenna can be connected only to the CJ1W-V680C11 ID Sensor Unit. It cannot be used with the CJ1W-V680C12 ID Sensor Unit.
3. If using intelligent I/O instructions is specified as the data transfer method, up to 2,048 bytes can be transferred in one scan.

[Communications Specifications](CJ series)

Item	Product discontinuation		Recommendable replacement	
	Model CJ1W-V600C11	Model CJ1W-V600C12	Model CJ1W-V680C11	Model CJ1W-V680C12
Communications frequency	530kHz		13.56MHz	
Communications controls	(1) Changing EEPROM (battery-free) Data Carrier communications mode (distance priority or time priority) (2) Write verification (3) Auto Wait Time Setting		(1) RF Tag Communications Speed (Normal Mode or High-speed Mode) (2) Write Verification (3) Auto Wait Time Setting (4) UID Addition Setting (5) Write Protection Disable Setting (6) Antenna Connection Setting (One-channel ID Sensor Unit (CJ1W-V680C11)) (7) Results Monitor Output Setting	
Commands	Read Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Fill Data Check Number of Writes Control	Read Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Fill Data Check Number of Writes Control	Read Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Check Number of Writes Control Read with Error Correction	Read Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Check Number of Writes Control Read with Error Correction

Item	Product discontinuation		Recommendable replacement	
	Model CJ1W-V600C11	Model CJ1W-V600C12	Model CJ1W-V680C11	Model CJ1W-V680C12
		Copy	Write with Error Correction UID Read Noise Measurement	Write with Error Correction UID Read Noise Measurement Copy
Communications specification	trigger Single auto Repeat auto		Single trigger Single auto Repeat auto FIFO trigger (See note) FIFO repeat (See note) Multi-access trigger (See note) Multi-access repeat (See note)	

Note: FIFO trigger, FIFO repeat, Multi-access trigger, and Multi-access repeat specification cannot be used for communicating with V680-D1KP□□ RF Tag.

[Characteristics] (CS series)

Item	Product discontinuation		Recommendable replacement	
	Model CS1W-V600C11	Model CS1W-V600C12	Model CS1W-V680C11	Model CS1W-V680C12
Influence on CPU Unit's cycle time	0.15 ms	0.3 ms	0.15 ms	0.3 ms
External power supply	-	24 VDC +10%/-15%, 360 mA	-	24 VDC +10%/-15%, 360 mA
Internal current consumption	5V DC, 260mA max. 26 VDC, 120 mA max.	5 VDC, 320 mA max. 24 VDC, 0 mA max.	V680-HA63☐ Amplifier connected: 5 VDC, 260 mA 24 VDC, 125 mA V680-H01 Antenna connected: 5 VDC, 260 mA 24 VDC, 280 mA	5 VDC, 320 mA 24 VDC, 0 mA
Weight	180 g max.	300 g max.	180 g max.	300 g max.
Mounting location	CS-series CPU Rack or CS-series Expansion Rack (Cannot be mounted to C200H Expansion I/O Racks or SYSMAC BUS Slave Racks.)			
No. of Units per Rack	5 per Rack (CPU Rack or Expansion Rack)	10 per Rack (CPU Rack or Expansion Rack)	V680-HA63☐ Amplifier connected: 5 per Rack V680-H01 Antenna connected: 2 per Rack (See note 1.)	10 per Rack (See note 1.)
Connectable Antennas	V600-series R/W Heads(V600-H☐☐) 1 Head	V600-series R/W Heads(V600-H☐☐) 1or 2 Heads	V680-series Amplifiers(V680-HA63☐) V680-series Antennas(V680-H☐☐) One channel (See note 2.)	V680-series Amplifiers(V680-HA63☐) V680-series Antennas(V680-H☐☐) One or two channels (See note 2.)

Item	Product discontinuation		Recommendable replacement	
	Model CS1W-V600C11	Model CS1W-V600C12	Model CS1W-V680C11	Model CS1W-V680C12
Applicable RF Tags	V600-series Data Carriers(V600-D□□)		V680-series RF Tags(V680-D□□)	
No. of allocated unit numbers	1	2	1	2
No. of allocated words	10 words	20 words	10 words	20 words
Control protocol	Special protocol			
Data transfer quantity	2,048 bytes max. (160 bytes/scan)	2,048 bytes max. /Head (160 bytes/scan)	2,048 bytes max. (160 bytes/scan) (See note 3.)	2,048 bytes max. /channel (160 bytes/scan) (See note 3.)
Diagnostic functions	(1) ID Sensor Unit error (2) Communications error detection with Data Carriers (3) Head 24-V power supply error		(1) CPU watchdog timer (2) Communications error detection with RF Tag (3)Antenna power supply error	
Ambient operating temperature	0 to 55 ℃ (with no icing)			
Ambient operating humidity	10% to 95% (with no condensation)			
Ambient storage temperature	-20 to 75 ℃ (with no icing)			
Ambient storage humidity	10% to 95% (with no condensation)			
Vibration resistance	10 to 57Hz with 0.075 mm double amplitude and 50 to 150Hz 9.8-m/s^2 maximum acceleration, 10 sweeps of 8 minutes each in three directions			
Shock resistance	147 m/s^2			
Degree of protection	IEC60529, IP20			

Note

1. “Rack” indicates either the CPU ack or an Expansion Rack.
2. The V680-H01 Antenna can be connected only to the CS1W-V680C11 ID Sensor Unit. It cannot be used with the CS1W-V680C12 ID Sensor Unit.
3. If using intelligent I/O instructions is specified as the data transfer method, up to 2,048 bytes can be transferred in one scan.

[Communications Specifications](CS series)

Item	Product discontinuation		Recommendable replacement	
	Model CS1W-V600C11	Model CS1W-V600C12	Model CS1W-V680C11	Model CS1W-V680C12
Communications frequency	530kHz		13.56MHz	
Communications controls	(1) Changing EEPROM (battery-free) Data Carrier communications mode (distance priority or time priority) (2) Write verification (3) Auto Wait Time Setting		(1) RF Tag Communications Speed (Normal Mode or High-speed Mode) (2) Write Verification (3) Auto Wait Time Setting (4) UID Addition Setting (5) Write Protection Disable Setting (6) Antenna Connection Setting (One-channel ID Sensor Unit (CS1W-V680C11)) (7) Results Monitor Output Setting	
Commands	Read	Read	Read	Read

Item	Product discontinuation		Recommendable replacement	
	Model CS1W-V600C11	**Model CS1W-V600C12**	**Model CS1W-V680C11**	**Model CS1W-V680C12**
	Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Fill Data Check Number of Writes Control	Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Fill Data Check Number of Writes Control Copy	Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Check Number of Writes Control Read with Error Correction Write with Error Correction UID Read Noise Measurement	Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Check Number of Writes Control Read with Error Correction Write with Error Correction UID Read Noise Measurement Copy
Communications specification	trigger Single auto Repeat auto		Single trigger Single auto Repeat auto FIFO trigger (See note) FIFO repeat (See note) Multi-access trigger (See note) Multi-access repeat (See note)	

Note: FIFO trigger, FIFO repeat, Multi-access trigger, and Multi-access repeat specification cannot be used for communicating with V680-D1KP□□ RF Tag.

Discontinuation Notice of RFID System ID Controller V600-CA5D series.

Product Discontinuation		Recommended Replacement
ID Controller **Model V600-CA5D01** **Model V600-CA5D02**	→	ID Controller **Model V680-CA5D01-V2** **Model V680-CA5D02-V2**

[Difference from discontinued product]

Recommended replacement Model	Body Color	Dimen-sions	Wire connection	Mounting Dimensions	Charac-teristics	Operation ratings	Operation methods
V680-CA5D□-V2	**	**	*	**	*	--	*

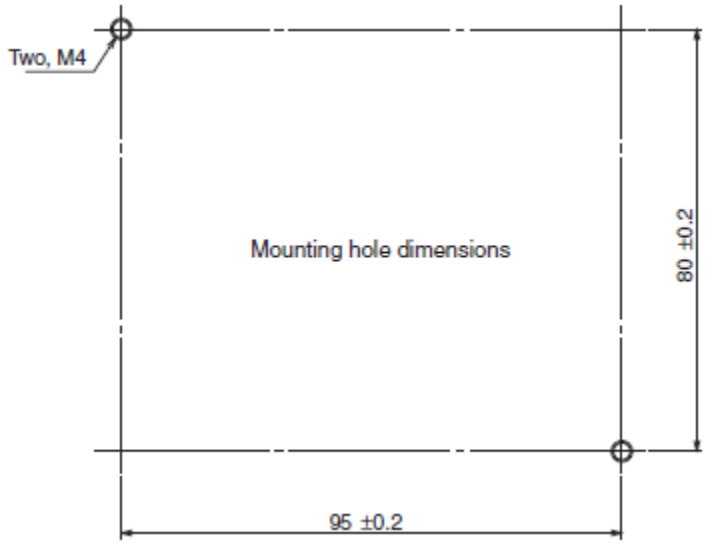
** : Compatible
* : The change is a little/Almost compatible
-- : Not compatible
- : No corresponding specification

[Product Discontinuation and recommended replacement]

Product discontinuation	Recommended replacement
V600-CA5D01	V680-CA5D01-V2
V600-CA5D02	V680-CA5D02-V2

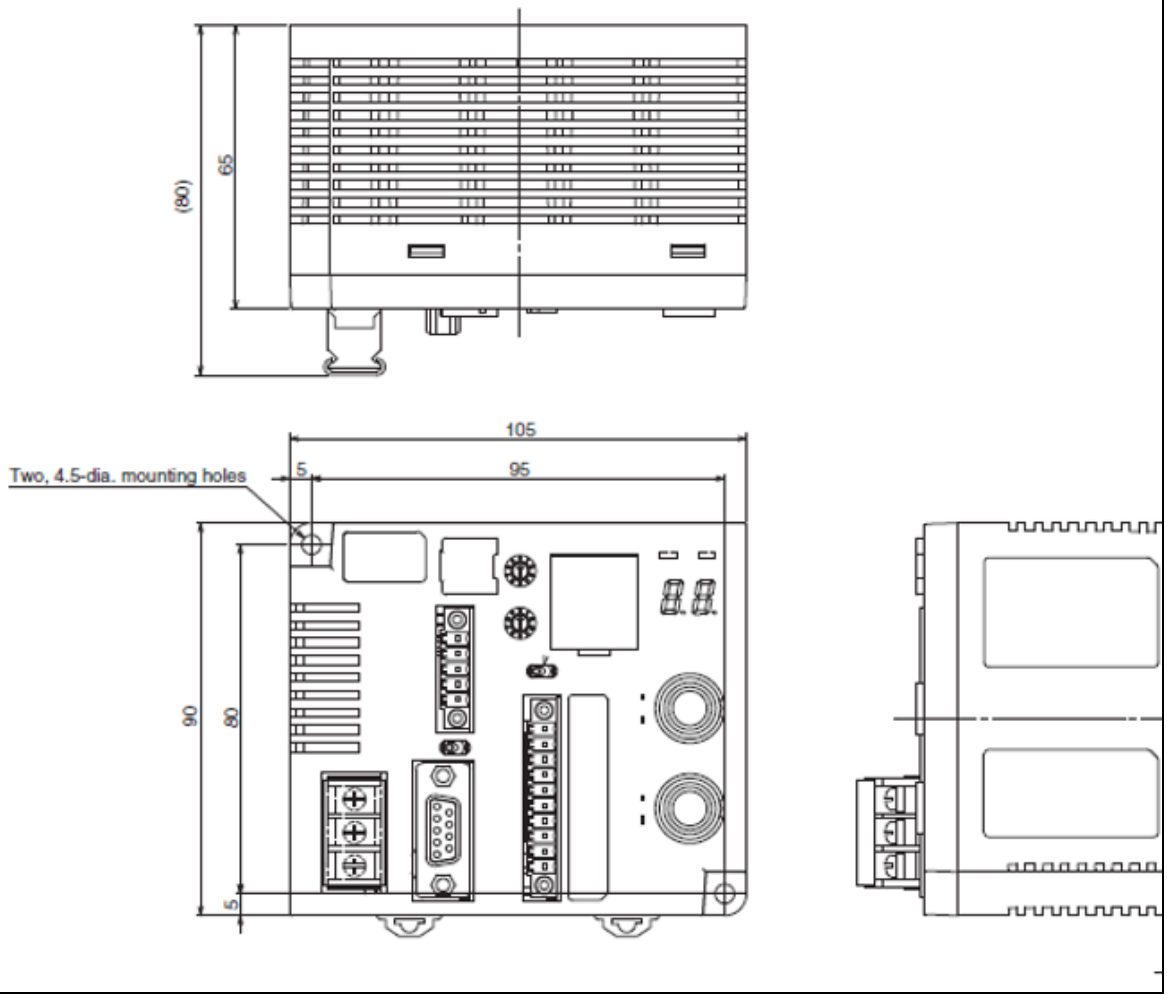
[Mounting dimensions]

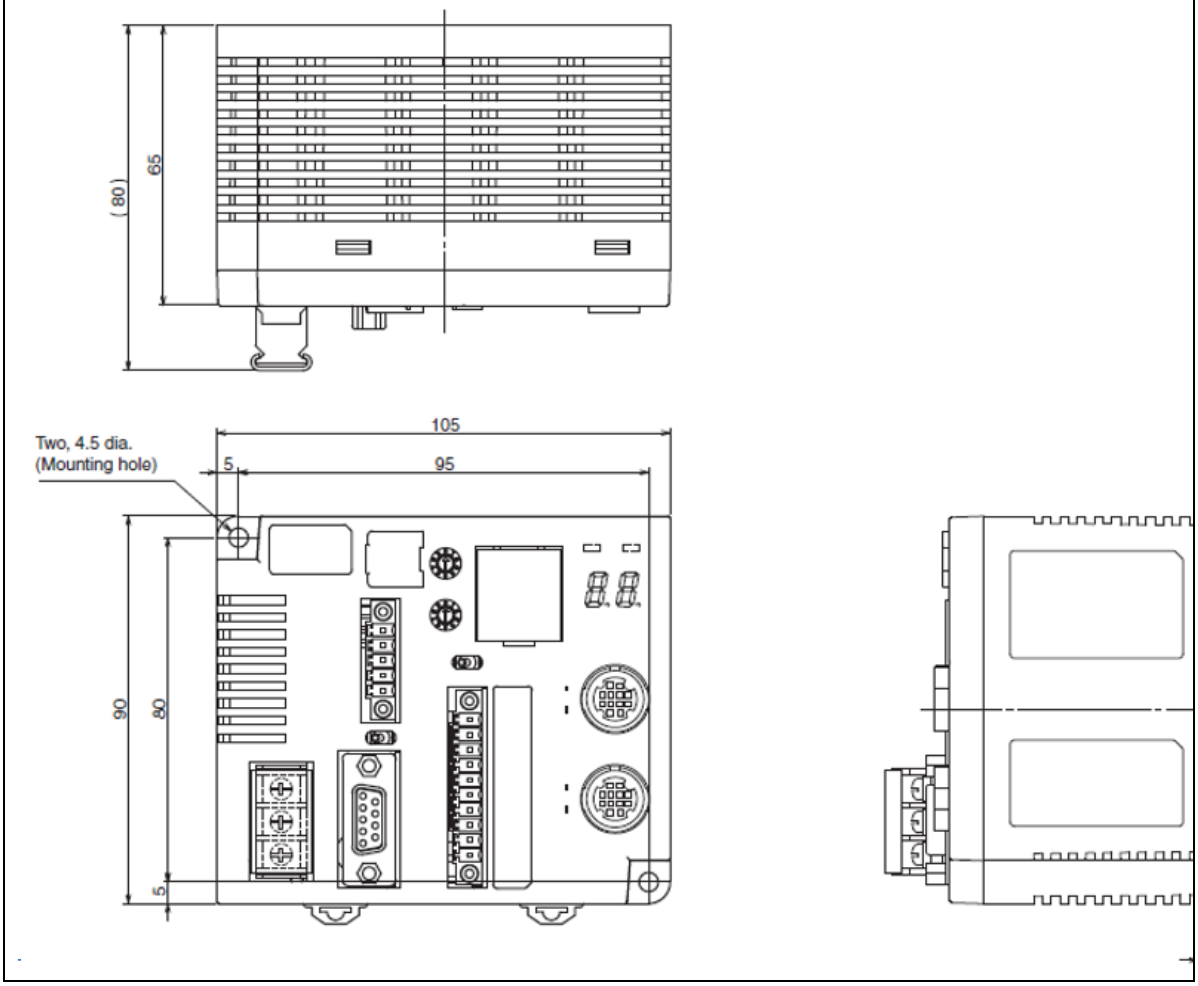
Product discontinuation Model V600-CA5D☐	Recommendable replacement Model V680-CA5D☐



[Dimensions]

Product discontinuation Model V600-CA5D02



Recommendable replacement Model V680-CA5D02-V2


[Characteristics]

Item	Product discontinuation		Recommendable replacement	
	Model V600-CA5D01	Model V600-CA5D02	Model V680-CA5D01-V2	Model V680-CA5D02-V2
Power supply voltage	24 VDC (-15% to 10%)			
Power consumption	15W			
Ambient operating temperature	-10 to 55 ℃ (with no icing)			
Ambient operating humidity	25% to 85% (with no condensation)			
Ambient storage temperature	-25 to 65 ℃ (with no icing)			
Ambient storage humidity	25% to 85% (with no condensation)			
Insulation resistance	Between power supply terminals and GR/case, Between GR and terminals 20 MΩ min. (at 500 VDC)			
Dielectric strength	Between power supply terminals and GR/case, Between GR and terminals 1,000 VAC 50/60 Hz for 1 minute, leakage current: 10 mA max.			
Vibration resistance	10 to 150Hz with 0.2 mm double amplitude and 15-m/s^2 maximum acceleration, 10 sweeps of 8 minutes each in three directions			
Shock resistance	150 m/s^2			

Item	Product discontinuation		Recommendable replacement	
	Model V600-CA5D01	Model V600-CA5D02	Model V680-CA5D01-V2	Model V680-CA5D02-V2
Degree of protection	In-panel (equivalent to IP20)			
Materials	PC+ABS			
Weight	Approx. 300g			
Installation method	DIN Rail or M4 screws			
Read/Write Head Connections	1 channel	2 channels	1 channel	2 channels
Communication frequency	530 kHz		13.56MHz	
Available Amp / Antenna / RF Tag	V600 series		V680 series	

[Communications Specifications]

Item	Product discontinuation		Recommendable replacement	
	Model V600-CA5D□		Model V680-CA5D□-V2	
Specifications	RS-232C	RS-422/RS-485	RS-232C	RS-422/RS-485
Connector specifications	9-pin D-sub connector socket; M2.6 lock screws	5-pin connector manufactured by Phoenix Contact; MC1.5/5GF-3.5	9-pin D-sub connector socket; M2.6 lock screws	5-pin connector manufactured by Phoenix Contact; MC1.5/5GF-3.5
Communications method	Half-duplex serial	4-/2-wire half duplex serial	Half-duplex serial	4-/2-wire half duplex serial
Baud rate	38,400 bps, 19,200 bps, 9,600 bps, 4,800 bps, 2,400 bps, or 1,200 bps		115,200 bps, 38,400 bps, 19,200 bps, or 9,600 bps	
Data length	7 / 8 bits			
Stop bit length	1 /2 bits			
Error detection	Parity (even / odd / none)			
Cable length	15m max.	Total length: 500m max.	15m max.	Total length: 500m max.

Discontinuation Notice of RFID System Handheld Reader Writer V600-CH series.

Product Discontinuation	Recommended Replacement
Hand-held Reader Writer **Model V600-CHUD 0.8M** **Model V600-CHUD 1.9M** **Model V600-CH1D-V2** **Model V600-CH1D-PSI**	Hand-held Reader Writer **Model V680-CHUD 0.8M** **Model V680-CHUD 1.9M** **Model V680-CH1D** **Model V680-CH1D-PSI**

[Difference from discontinued product]

Recommended replacement Model	Body Color	Dimen-sions	Wire connection	Mounting Dimensions	Charac-teristics	Operation ratings	Operation methods
V680-CH☐	**	*	**	-	*	*	*

** : Compatible
* : The change is a little/Almost compatible
-- : Not compatible
- : No corresponding specification

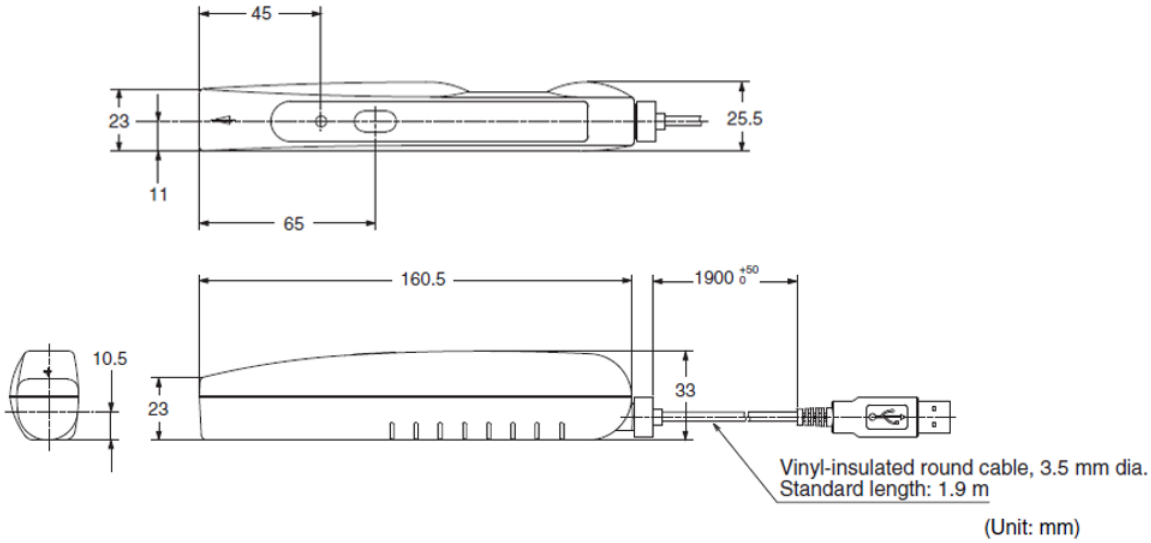
[Product Discontinuation and recommended replacement]

Product discontinuation	Recommended replacement
V600-CHUD 0.8M	**V680-CHUD 0.8M**
V600-CHUD 1.9M	**V680-CHUD 1.9M**
V600-CH1D-V2	**V680-CH1D**
V600-CH1D-PSI	**V680-CH1D-PSI**

[Dimensions]

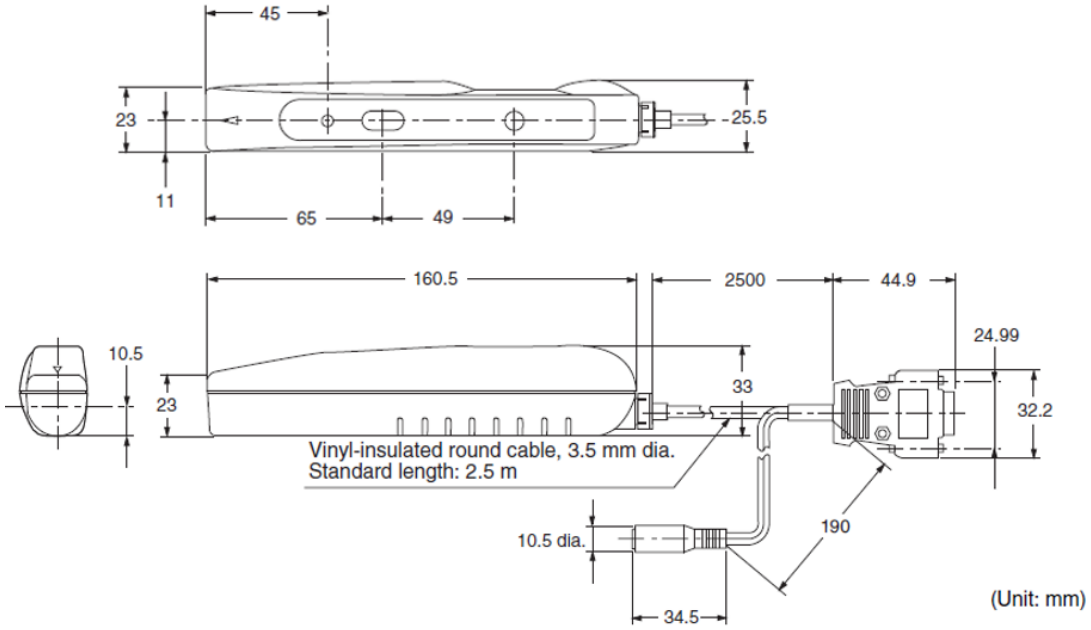
Product discontinuation
Model V600-CH☐

V600-CHUD



(Unit: mm)

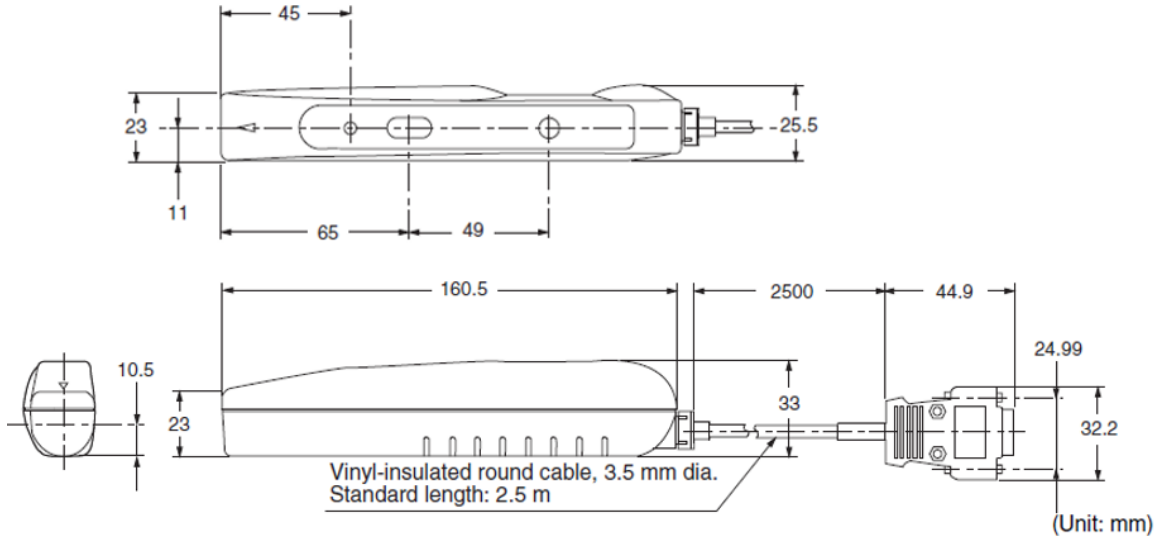
V600-CH1D-V2



(Unit: mm)

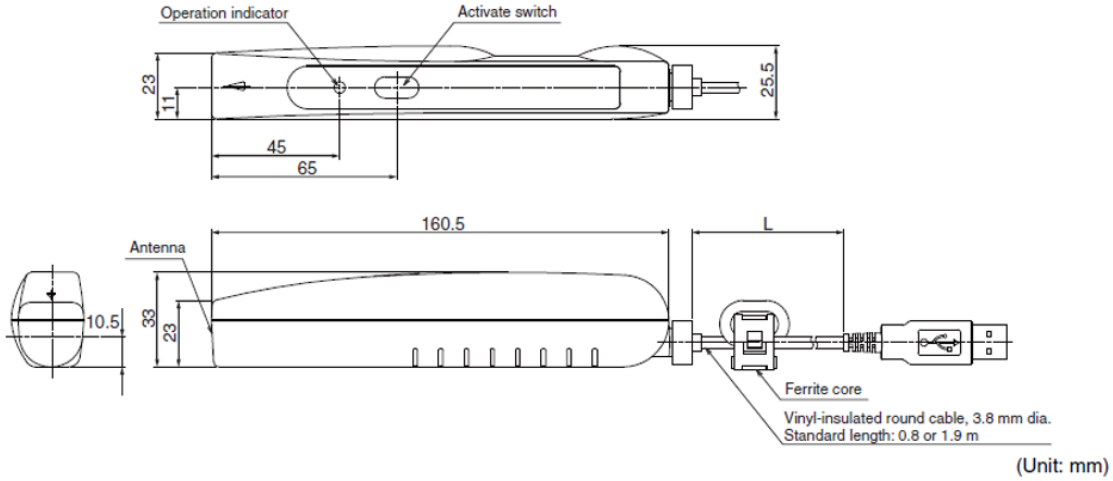
Product discontinuation
Model V600-CH☐

V600-CH1D-PSI



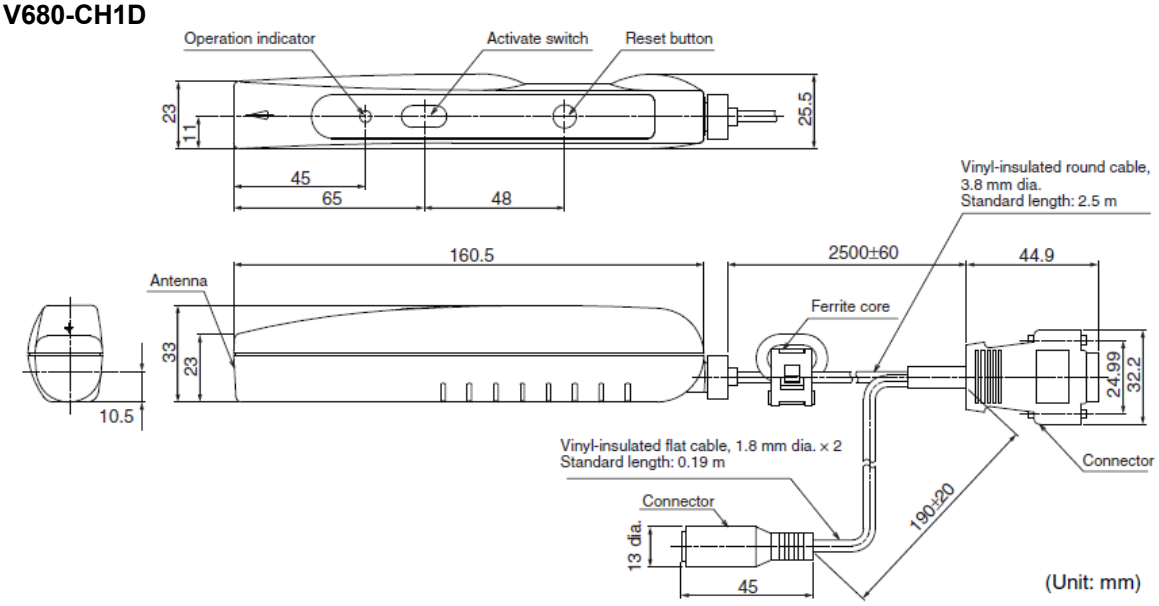
Recommendable replacement
Model V680-CH☐

V680-CHUD

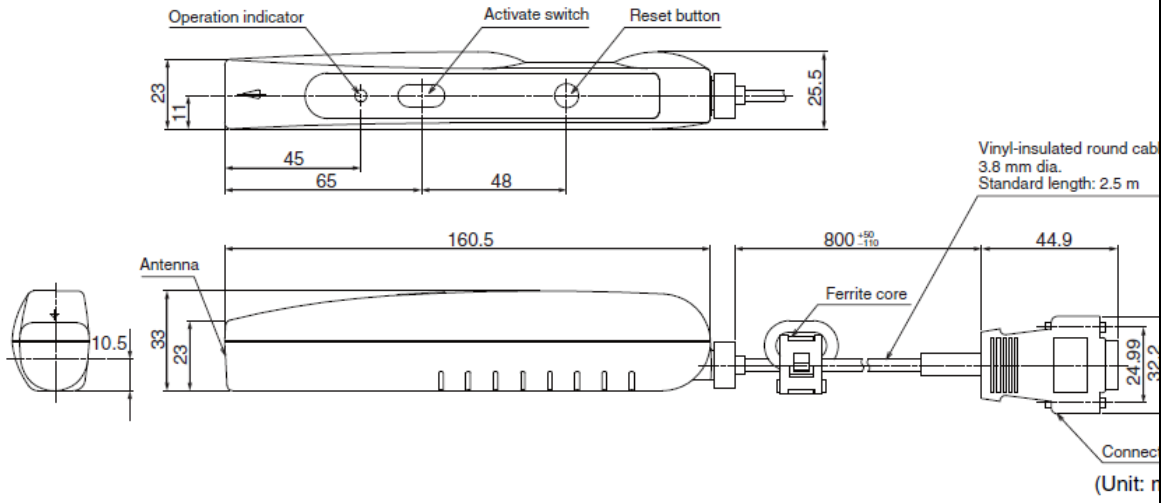


Recommendable replacement
Model V680-CH□

V680-CH1D



V680-CH1D-PSI



[Characteristics]

Item	Product discontinuation			Recommendable replacement		
	Model V600-CHUD	Model V600-CH1D-V2	Model V600-CH1D-PSI	Model V680-CHUD	Model V680-CH1D	Model V680-CH1D-PSI
Supply voltage	5.0 VDC ±5%			5.0 VDC ±5% (at Reader/Writer connector)		
Current consumption	250mA max. (supply voltage:5.0V)			500mA max. (supply voltage:5.0V)		
Ambient operating temperature	-10 to 55 ℃			0 to 40 ℃		
Ambient storage temperature	35 % to 85 % (with no condensation)					

Item	Product discontinuation			Recommendable replacement		
	Model V600-CHUD	**Model V600-CH1D-V2**	**Model V600-CH1D-PSI**	**Model V680-CHUD**	**Model V680-CH1D**	**Model V680-CH1D-PSI**
Ambient operating humidity	-25 to 65 ℃					
Ambient storage temperature	35 % to 85 % (with no condensation)					
Degree of protection	IEC60529, IP63 (See note.)					
Insulation resistance	50 MΩ min. (at 500 VDC) between connector terminals and case					
Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between connector terminals and case (leakage current: 1 mA max.)					
Vibration resistance	10 to 150 Hz, 0.2-mm double amplitude at 15 m/s^2 acceleration in 6 directions 10 times for 8 minutes each					
Shock resistance	150 m/s^2 (approx. 15G), 3 times each in6 directions (up, down, right, left, forward, reverse)					
Material	Case: ABS resin; Nameplate: PET resin					
Weight	Approx. 120g (with cables and connectors)	Approx. 160g (with cables and connectors)	Approx. 110g (with cables and connectors)	Approx. 110g (0.8m) 140g (1.9m) (with cables and connectors)	Approx. 170g (with cables and connectors)	Approx. 120g (with cables and connectors)
Cable length	0.8m, 1.9m	2.5m	0.8m	0.8m, 1.9m	2.5m	0.8m
Diagnostic function	Checks for CPU errors, memory errors, and communications errors					
Frequency band	530 kHz			13.56 MHz		
ID tag	V600 series			V680, V680S series		

Note: This does not include the connector section. The main unit is not resistant to chemicals or oils.

Discontinuation Notice of RFID System Read/Write Heads V600-H☐series,
Data Carriers V600-D23P☐,V600-D8K☐,Cable V600-A4☐,V600-A4☐-W,V600-A5☐, Holder V600-A84.

Product Discontinuation		Recommended Replacement
	Read/write Heads	Amplifier / Antennas
	Model V600-H☐	**Model V680-H☐**
	Data Carriers	RF Tag
	Model V600-D23P☐	**Model V680-D1KP☐**
	Model V600-D8K☐	**Model V680S-D8KF☐**
	Cable	Cable
	Model V600-A4☐	**Model V700-A4☐**
	Model V600-A4☐-W	**No recommended replacement**
	Model V600-A5☐	**No recommended replacement**
	Holder	
	Model V600-A84	**No recommended replacement**

[Difference from discontinued product]

Recommended replacement Model	Body Color	Dimen-sions	Wire connection	Mounting Dimensions	Charac-teristics	Operation ratings	Operation methods
V680-H☐	*	*	--	*	*	--	-
V680-D☐	--	--	-	--	--	-	-
V700-A	--	-	--	-	-	-	-

** : Compatible
* : The change is a little/Almost compatible
-- : Not compatible
- : No corresponding specification

[Product Discontinuation and recommended replacement]

Product discontinuation	Recommended replacement
V600-H07 0.5M	V680-HS65-W 2M
V600-H07 2M	V680-HS65-W 2M
V600-H07 5M	V680-HS65-W 2M
V600-H07 10M	V680-HS65-W 12.5M
V600-H07-R 0.5M	V680-HS65-R 2M
V600-H07-R 3M	V680-HS65-R 2M
V600-H07-R 5M	V680-HS65-R 2M
V600-H07-R 10M	V680-HS65-R 12.5M
V600-H11 0.5M	V680-HS63-W 2M
V600-H11 2M	V680-HS63-W 2M
V600-H11 5M	V680-HS63-W 2M
V600-H11 10M	V680-HS63-W 12.5M
V600-H11-5 0.5M	No recommended replacement
V600-H11-5 10M	No recommended replacement
V600-H11-5 2M	No recommended replacement
V600-H11-5 5M	No recommended replacement
V600-H11-R 0.5M	V680-HS63-R 2M
V600-H11-R 2M	V680-HS63-R 2M
V600-H11-R 5M	V680-HS63-R 2M
V600-H11-R 10M	V680-HS63-R 12.5M
V600-H11-W 1M	V680-HS63-W 2M
V600-H11-W 3M	V680-HS63-W 2M
V600-H51 0.5M	V680-HS52-W 2M
V600-H51 2M	V680-HS52-W 2M
V600-H51 5M	V680-HS52-W 2M
V600-H51 10M	V680-HS52-W 12.5M
V600-H52 0.5M	V680-HS52-W 2M
V600-H52 2M	V680-HS52-W 2M
V600-H52 5M	V680-HS52-W 2M
V600-H52 10M	V680-HS52-W 12.5M
V600-H52-R 0.5M	V680-HS52-R 2M
V600-H52-R 2M	V680-HS52-R 2M
V600-H52-W 1M	V680-HS52-W 2M
V600-H52-W 3M	V680-HS52-W 2M
V600-HS51 2M	V680-HS51 2M
V600-HS51-R 2M	V680-HS51 2M
V600-HS61 2M	V680-HS61 2M (*)
V600-HS61-R 2M	V680-HS61 2M (*)
V600-HS61-R 3M	V680-HS61 2M (*)
V600-HS63 2M	V680-HS63-W 2M
V600-HS63 3M	V680-HS63-W 2M
V600-HS63-2 8M	V680-HS63-SP
V600-HS63-R 2M	V680-HS63-R 2M
V600-HS63-R 3M	V680-HS63-R 2M
V600-HS67 2M	V680-HS65-W 2M
V600-HA51 0.5M	V680-HA63A 0.5M
V600-HA51 0.5M	V680-HA63B 0.5M

V600-HA51 1M	**V680-HA63A 5M**
V600-HA51 1M	**V680-HA63B 5M**
V600-HA51 2M	**V680-HA63A 5M**
V600-HA51 2M	**V680-HA63B 5M**
V600-HA51 5M	**V680-HA63A 5M**
V600-HA51 5M	**V680-HA63B 5M**
V600-HA51 10M	**V680-HA63A 10M**
V600-HA51 10M	**V680-HA63B 10M**
V600-D23P53	**V680-D1KP52MT**
V600-D23P54	**V680-D1KP52MT**
V600-D23P55	**V680-D1KP52MT**
V600-D23P61	**V680-D1KP66MT**
V600-D23P66N	**V680-D1KP66T**
V600-D23P66SP	**V680-D1KP66T-SP**
V600-D23P71	**V680-D1KP66T**
V600-D23P72	**V680-D1KP66T**
V600-D8KF04	**V680S-D8KF68**
	V680S-D8KF68M
V600-D8KR04	**V680S-D8KF68**
	V680S-D8KF68M
V600-D8KR11	**No recommended replacement**
V600-D8KR12D	**V680S-D8KF67**
	V680S-D8KF67M
V600-D8KR13	**V680S-D8KF68**
	V680S-D8KF68M
V600-A40 10M	**V700-A43 10M.**
V600-A41 20M	**V700-A44 20M.**
V600-A42 30M	**V700-A45 30M.**
V600-A43 7M	**V700-A43 10M.**
V600-A44 5M	**V700-A42 5M.**
V600-A45 3M	**V700-A41 3M.**
V600-A46 1M	**V700-A40 2M.**
V600-A48 15M	**V700-A44 20M.**
V600-A40-W 10M	**No recommended replacement**
V600-A40-W 20M	**No recommended replacement**
V600-A40-W 30M	**No recommended replacement**
V600-A40-W 40M	**No recommended replacement**
V600-A40-W 50M	**No recommended replacement**
V600-A40-W 5M	**No recommended replacement**
V600-A40-WW 50M	**No recommended replacement**
V600-A50 10M	**No recommended replacement**
V600-A51 20M	**No recommended replacement**
V600-A52 30M	**No recommended replacement**
V600-A54 2M	**No recommended replacement**
V600-A55 5M	**No recommended replacement**
V600-A56 3M	**No recommended replacement**
V600-A84	**No recommended replacement**

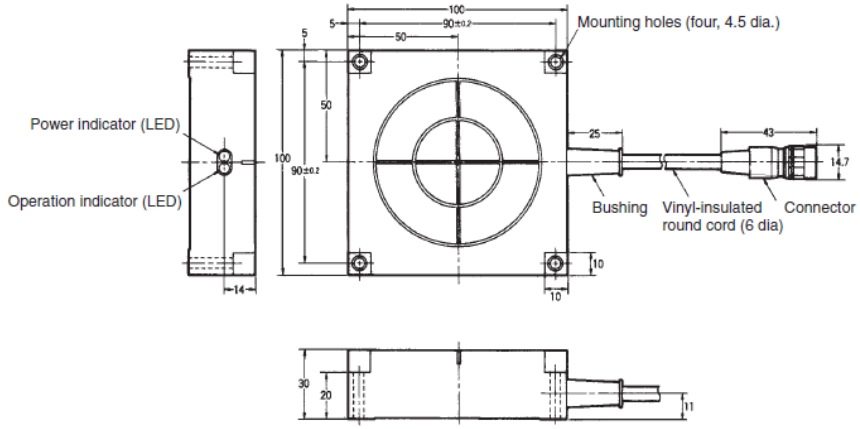
(*) Please contact our sales.

[Body color](Listed only for items with different colors)

Product discontinuation Model V600-D☐	Recommendable replacement Model V680-D☐/V680S-D☐
V600-D23P53/54：Light gray  	V680-D1KP52MT：Black 
V600-D23P61/71/72：Light gray  	V680-D1KP66T：Black 
V600-D8K☐：Light gray （例：V600-D8KR12D） 	V680S-D8KF67/68：Black 

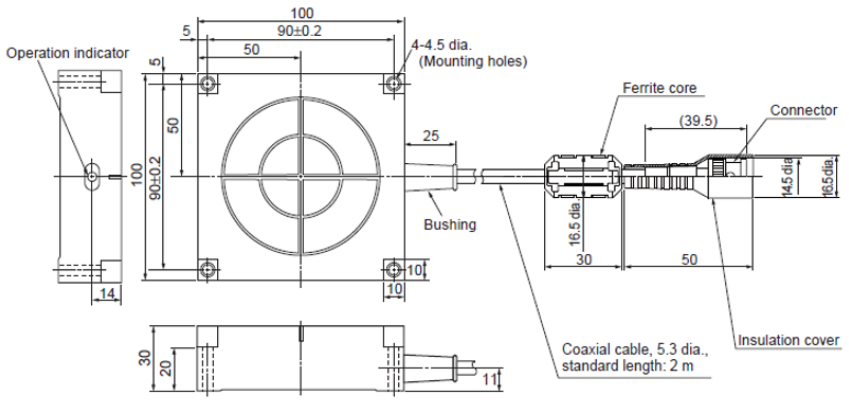
[Dimensions]

Product discontinuation
Model V600-H07(-R)

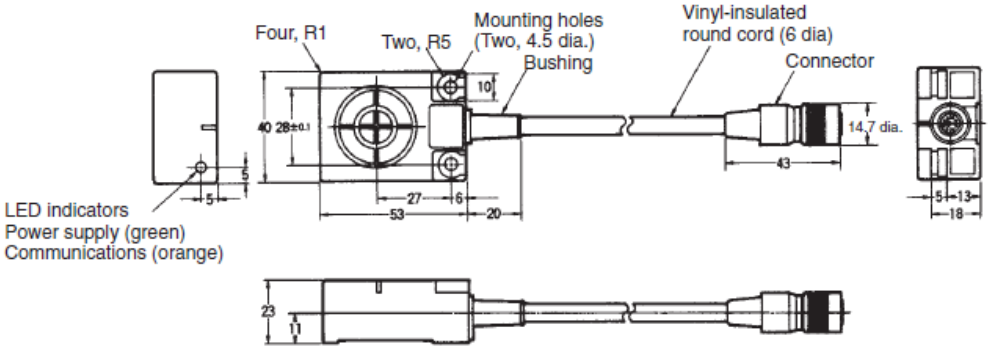


Recommendable replacement
Model V680-HS65-W/-R

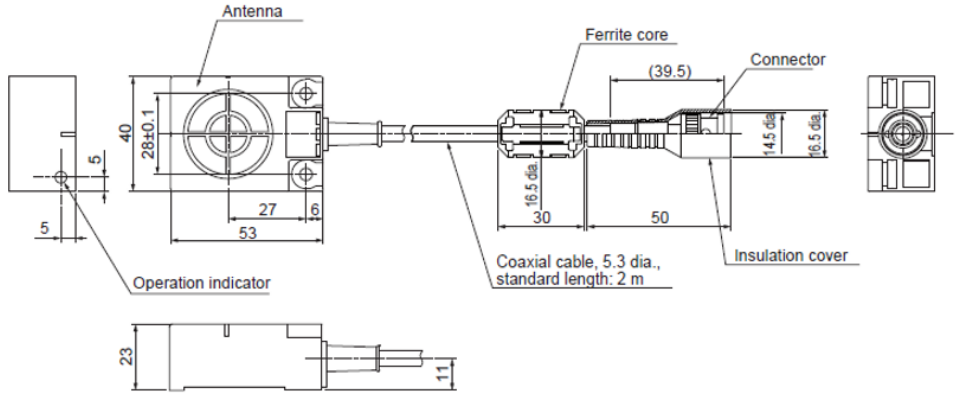
Model V600-H07(-R)



Product discontinuation
Model V600-H11(-R/-W)



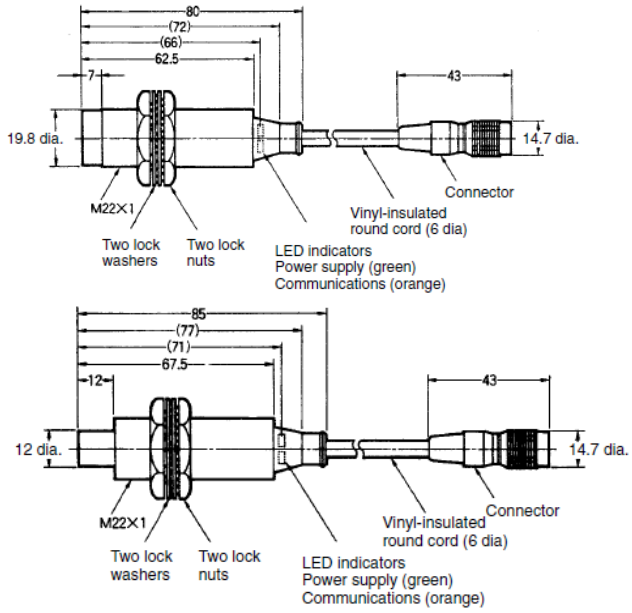
Recommendable replacement
Model V680-HS63-W/-R



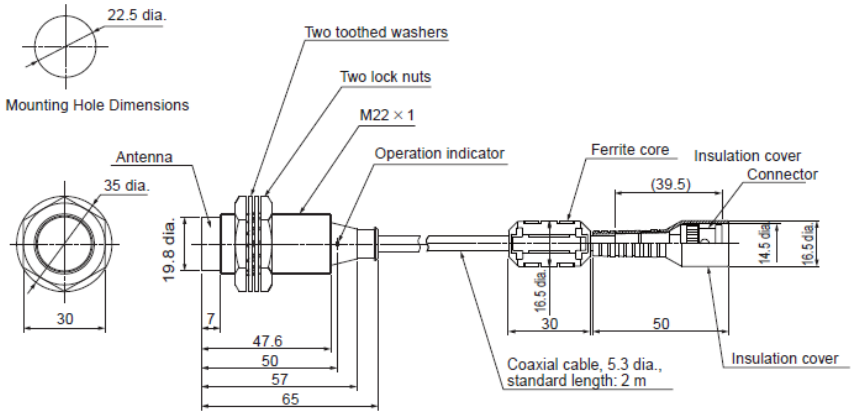
Product discontinuation
Model V600-H51/V600-H52(-R/-W)

V600-H51	V600-H52

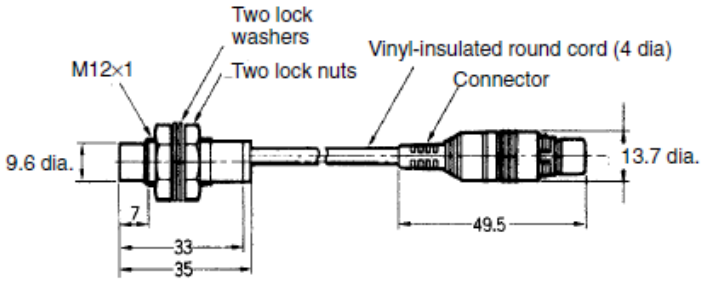
Product discontinuation
Model V600-H51/V600-H52(-R/-W)



Model V680-HS52-W/-R

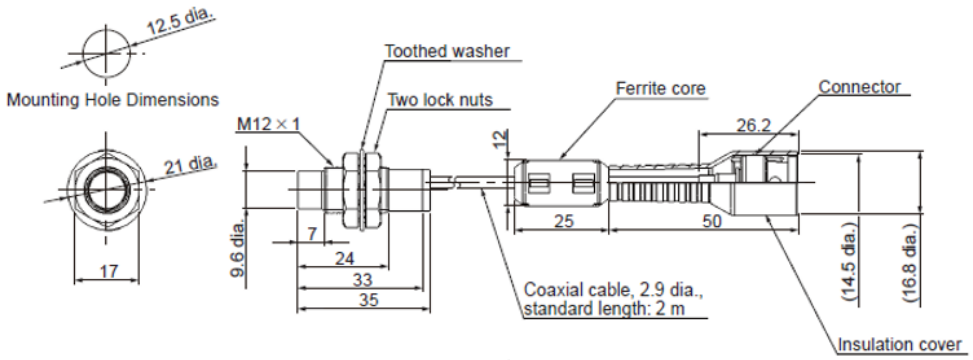


Product discontinuation
Model V600-HS51

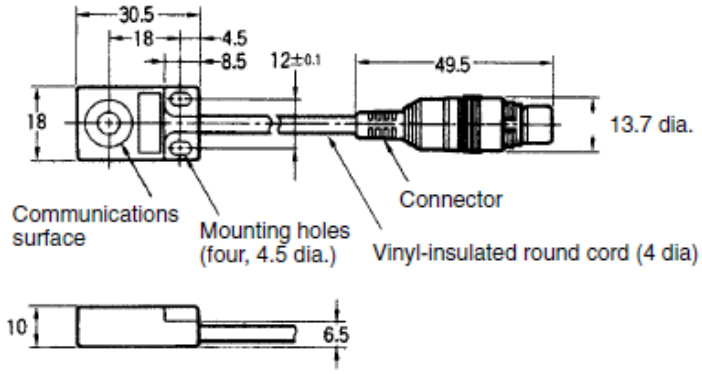


Recommendable replacement
Model V680-HS51

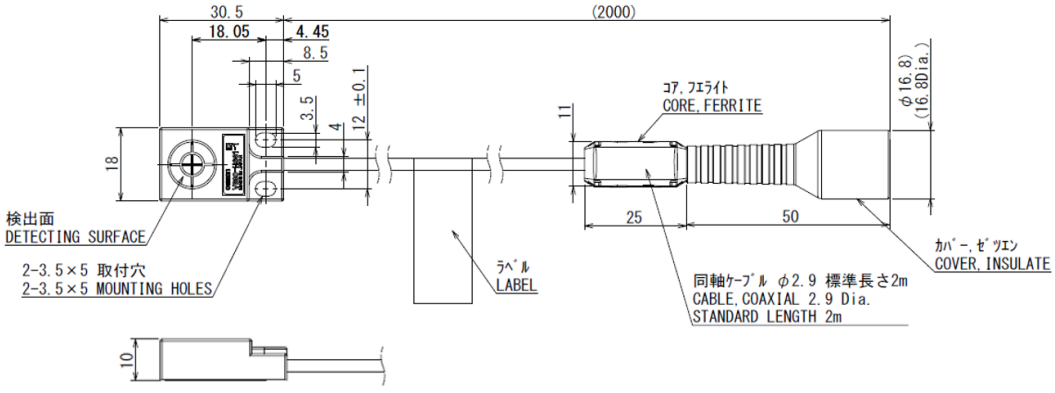
Model V600-HS51



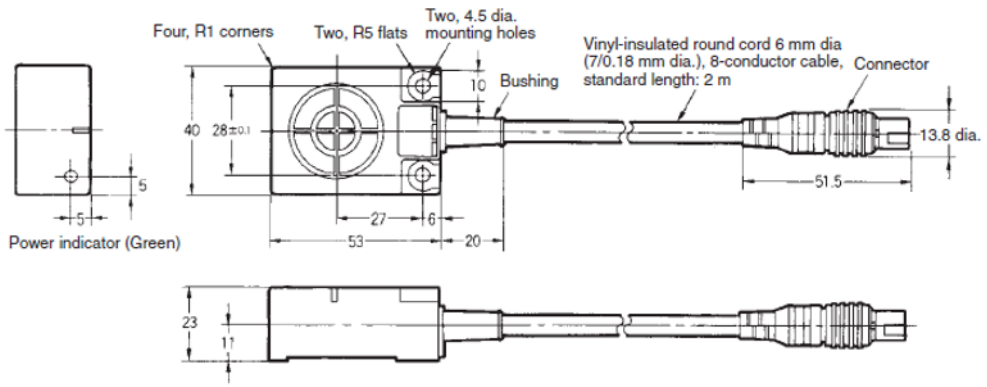
Product discontinuation
Model V600-HS61



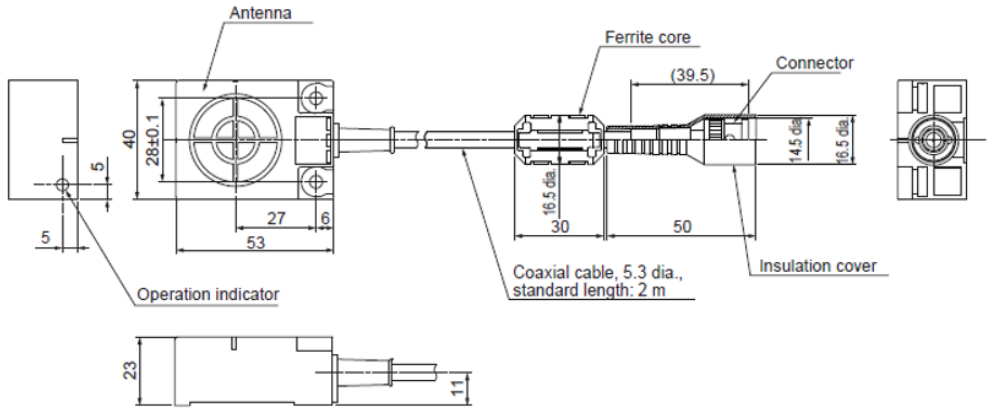
Recommendable replacement
Model V680-HS61



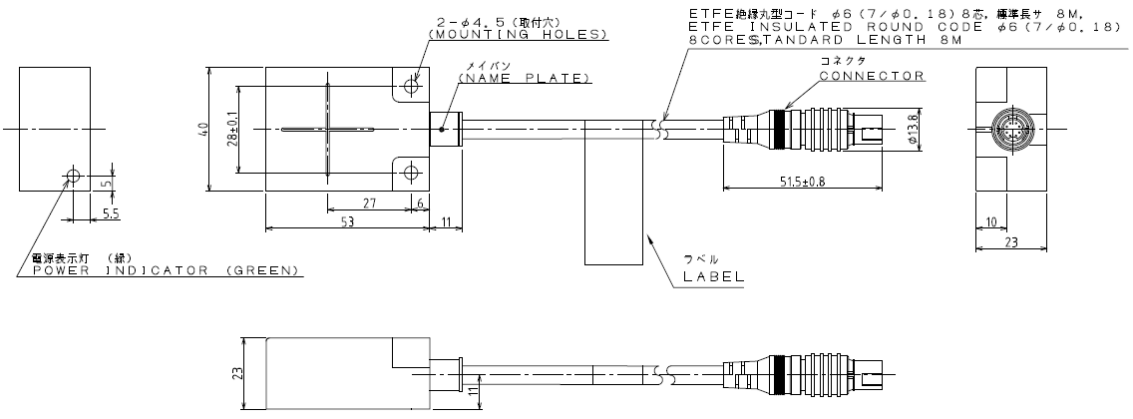
Product discontinuation
Model V600-HS63(-R)



Recommendable replacement
Model V680-HS63-W/-R

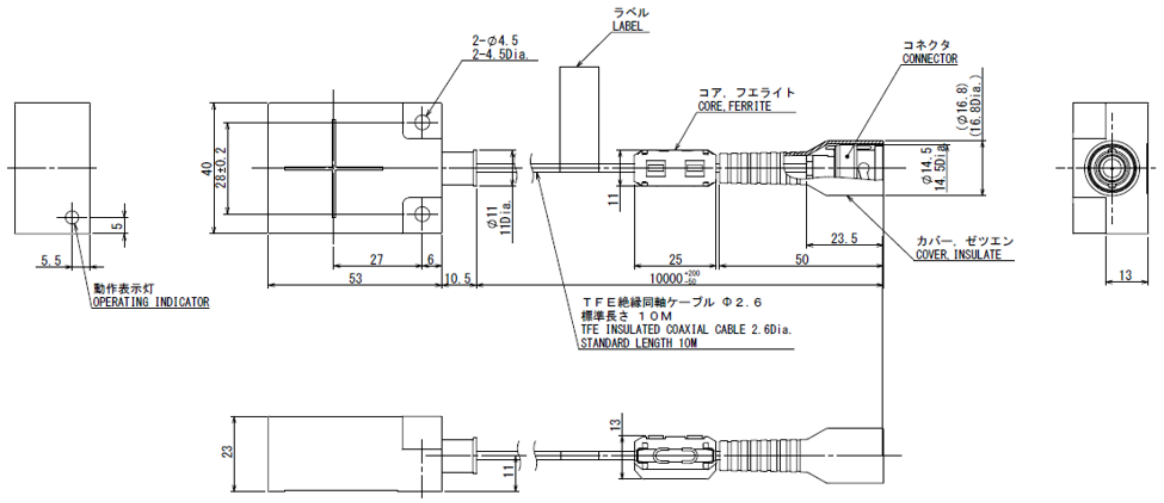


Product discontinuation
Model V600-HS63-2

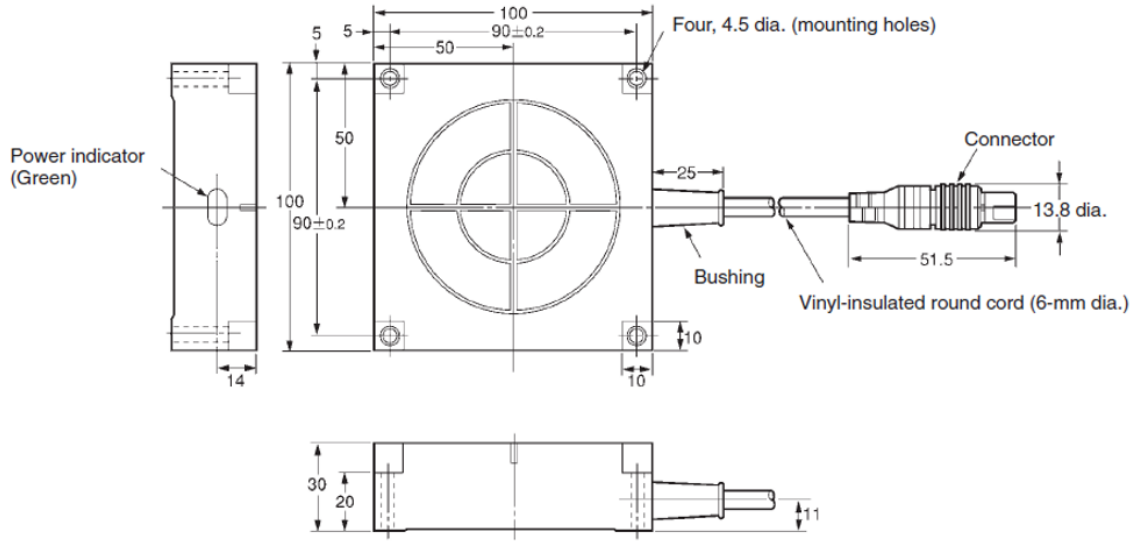


Recommendable replacement
Model V680-HS63-SP

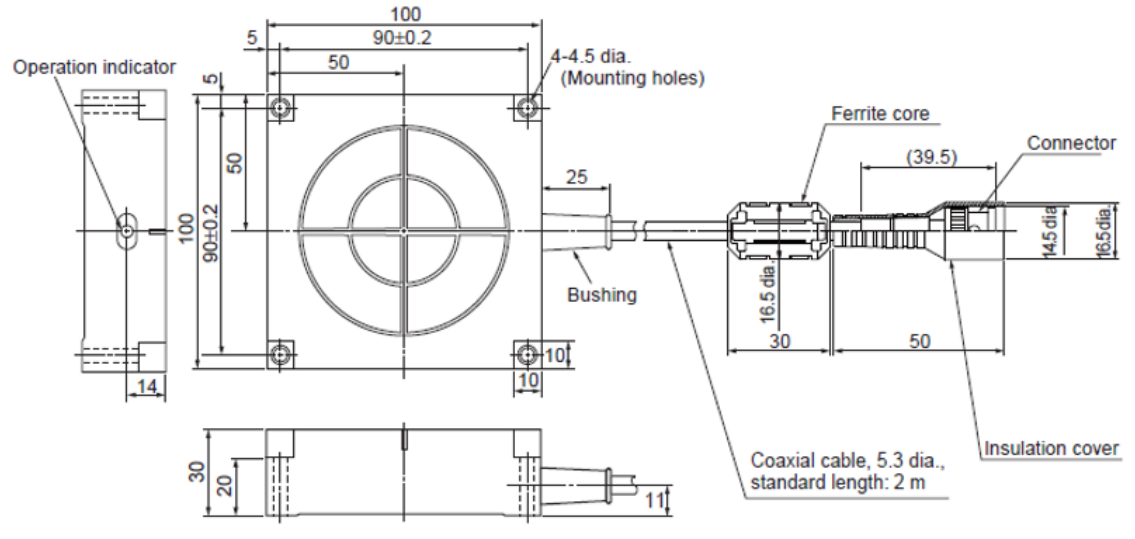
Model V600-HS63-2



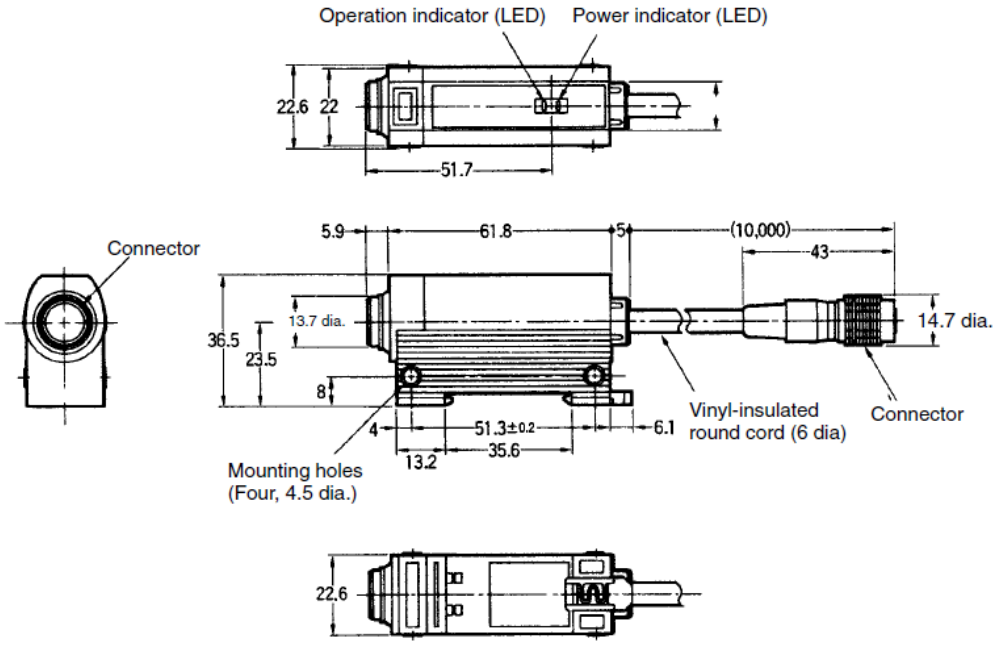
Product discontinuation
Model V600-HS67



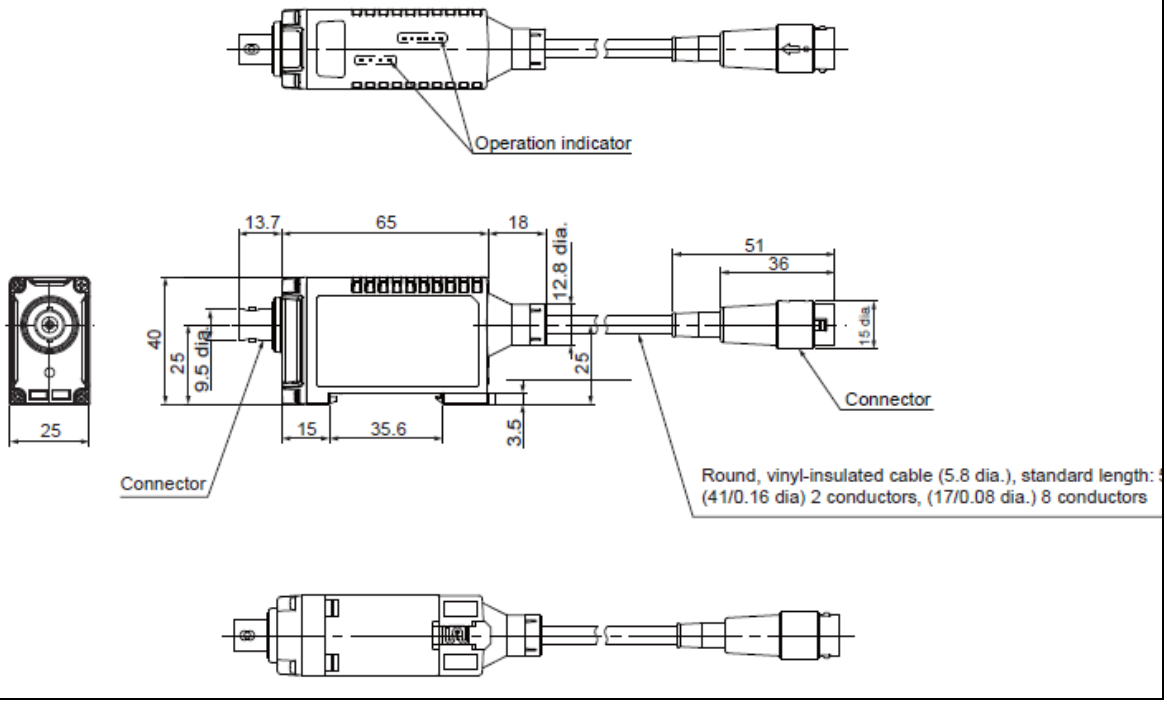
Recommendable replacement
Model V680-HS65-W



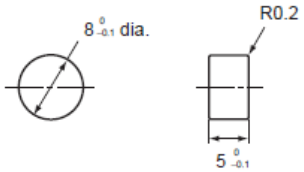
Product discontinuation
Model V600-HA51

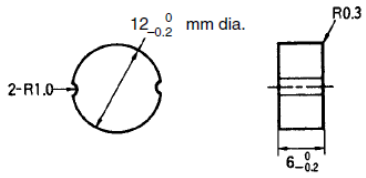
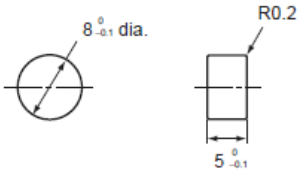


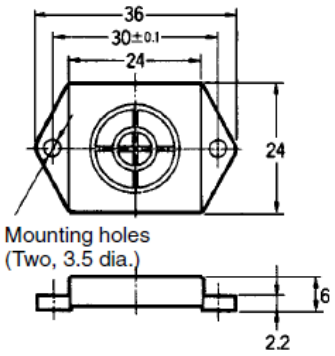
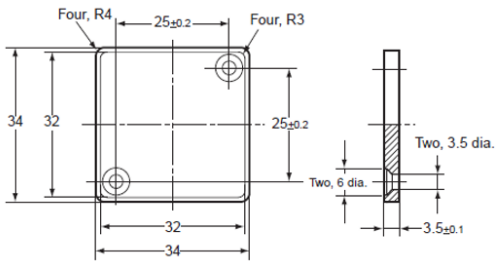
Recommendable replacement
Model V680-HA63A/B

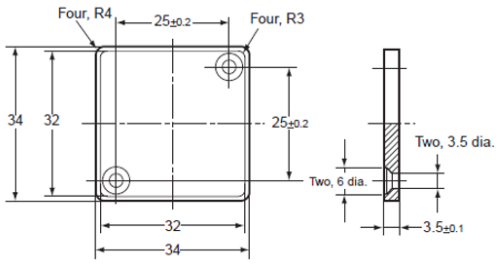


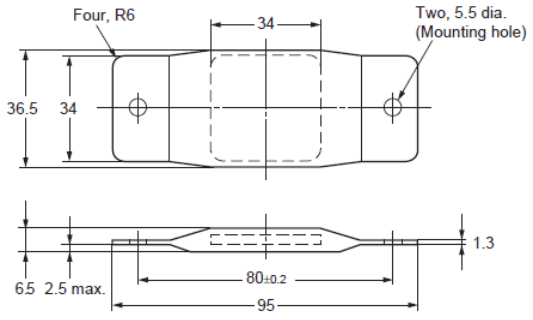
Product discontinuation **Model V600-D23P53/55**	**Recommendable replacement** **Model V680-D1KP52MT**

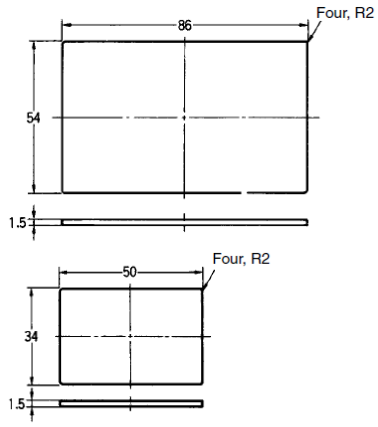
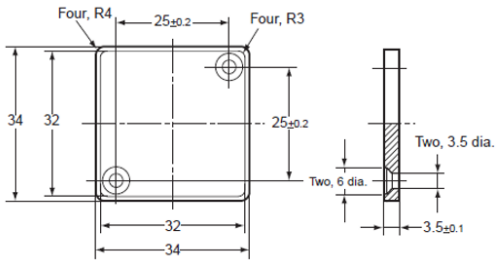


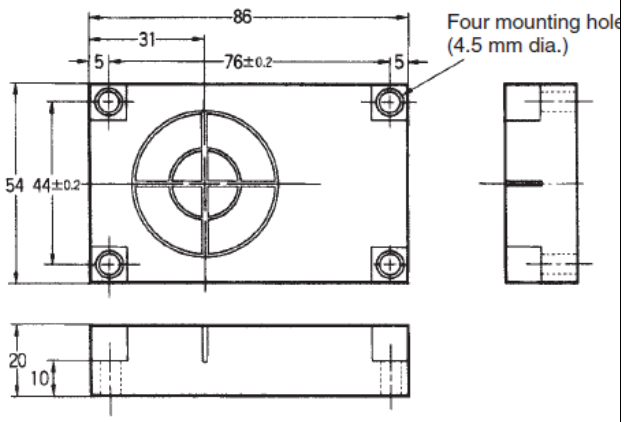
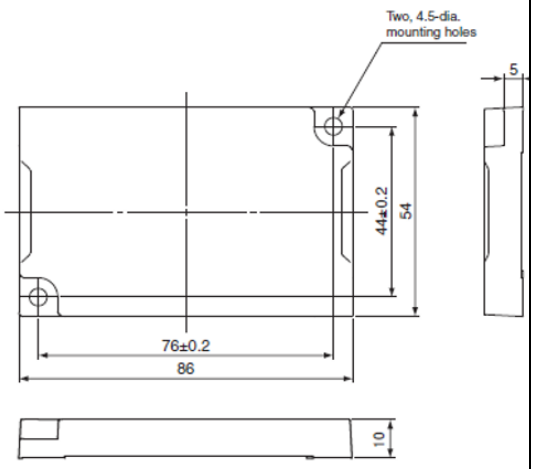
Product discontinuation Model V600-D23P54	Recommendable replacement Model V680-D1KP52MT
	

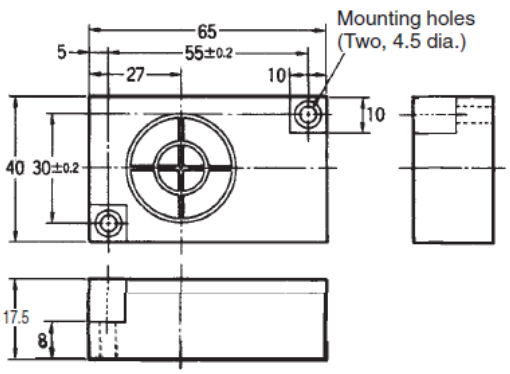
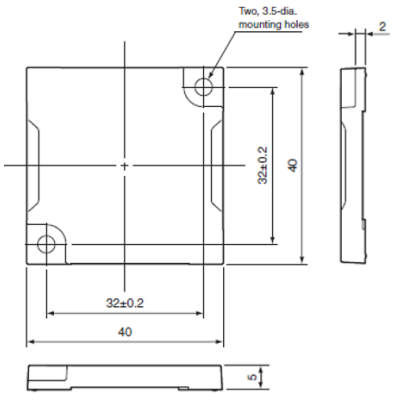
Product discontinuation Model V600-D23P61	Recommendable replacement Model V680-D1KP66T
	

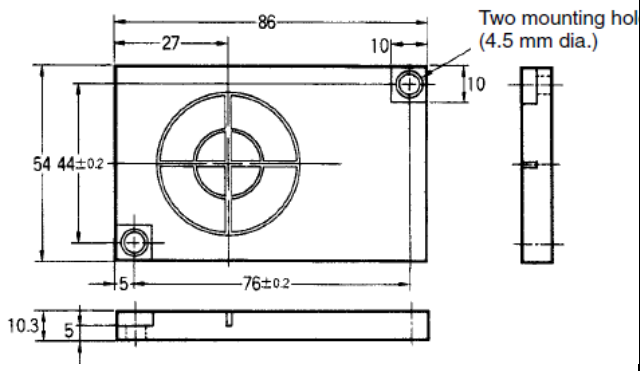
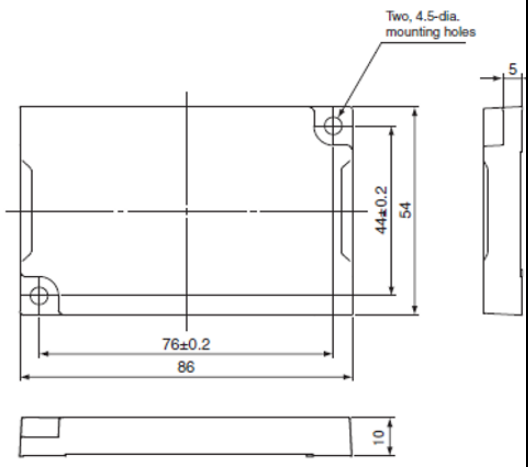
Product discontinuation Model V600-D23P66N	Recommendable replacement Model V680-D1KP66T
	

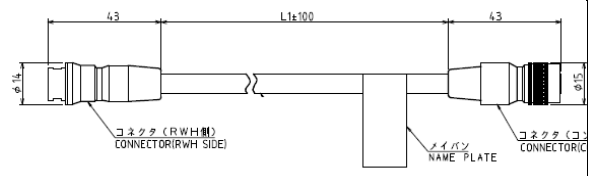
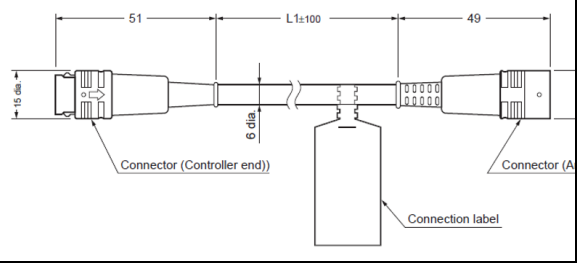
Product discontinuation Model V600-D23P66SP	Recommendable replacement Model V680-D1KP66T-SP
	

Product discontinuation Model V600-D23P71/72	Recommendable replacement Model V680-D1KP66T
V600-D23P71 **V600-D23P72** 	

Product discontinuation Model V600-D8KF04/-D8KR04	Recommendable replacement Model V680S-D8KF68(M)
	

Product discontinuation Model V600-D8KR12D	Recommendable replacement Model V680S-D8KF67(M)
	

Product discontinuation Model V600-D8KR13	Recommendable replacement Model V680S-D8KF68(M)
	

Product discontinuation Model V600-A4☐	Recommendable replacement Model V700-A4☐
	

[Characteristics](Amplifier and Antennas)

Item	Product discontinuation Model V600-H07(-R)	Recommendable replacement Model V680-HS65-W/-R
Operating frequency	530 kHz	13.56MHz
Ambient operating temperature	-25 to 70 ℃ (with no icing)	
Ambient storage temperature	-40 to 85 ℃ (with no icing)	
Ambient operating humidity	35% to 95% (with no condensation)	
Insulation resistance	Between connector terminal and case 50 MΩ min. (at 500 VDC)	Between connector terminal and case 20 MΩ min. (at 500 VDC)
Dielectric strength	Between connector terminals and case 1,000 VAC 50/60 Hz for 1 minute	
Vibration resistance	10 to 500Hz with 1.0 mm double amplitude and 150m/s^2 maximum acceleration, 3 sweeps of 11 minutes each in three directions	10 to 500Hz with 1.5 mm double amplitude and 100m/s^2 maximum acceleration, 10 sweeps of 11 minutes each in three directions
Shock resistance	500 m/s^2 , 3 times each in 6 directions (Total: 18 times)	

Item	Product discontinuation Model V600-H07(-R)	Recommendable replacement Model V680-HS65-W/-R
Degree of protection note.1	IP67(IEC60529),IP67G(JEM)	IP67(IEC60529)
LED indicators	Power supply: green, communications: orange	Operation: yellow
Materials	CASE:ABS	
Weight	Approx. 1,000g(at 10m)	Approx. 1,100g(at 12.5m)

Note.1 The connectors are not waterproof.(V600-H07 and V680-HS65-R)
The degree of protection for the Connector is IP67/IP65.(V680-HS65-W)
Oil resistance has been tested using a specific oil as defined in the OMRON test method.

Item	Product discontinuation Model V600-H11(-R/-W)	Recommendable replacement Model V680-HS63-W/-R
Operating frequency	530 kHz	13.56MHz
Ambient operating temperature	-10 to 60 ℃ (with no icing)	
Ambient storage temperature	-25 to 75 ℃ (with no icing)	
Ambient operating humidity	35% to 95% (with no condensation)	
Insulation resistance	Between connector terminal and case 50 MΩ min. (at 500 VDC)	Between connector terminal and case 20 MΩ min. (at 500 VDC)
Dielectric strength	Between connector terminals and case 1,000 VAC 50/60 Hz for 1 minute	
Vibration resistance	10 to 500Hz with 2.0 mm double amplitude and 150m/s^2 maximum acceleration, 3 sweeps of 11 minutes each in three directions	10 to 500Hz with 1.5 mm double amplitude and 100m/s^2 maximum acceleration, 10 sweeps of 11 minutes each in three directions
Shock resistance	500 m/s^2 , 3 times each in 6 directions (Total: 18 times)	
Degree of protection note.1	IP67(IEC60529),IP67G(JEM)	IP67(IEC60529)
LED indicators	Power supply: green, communications: orange	Operation: yellow
Materials	CASE:ABS	
Weight	Approx. 650g(at 10m)	Approx. 850g(at 12.5m)

Note.1 The connectors are not waterproof.(V600-H11 and V680-HS63-R)
The degree of protection for the Connector is IP67/IP65.(V680-HS63-W)
Oil resistance has been tested using a specific oil as defined in the OMRON test method.

Item	Product discontinuation Model V600-H51/V600-H52(-R/-W)	Recommendable replacement Model V680-HS52-W/-R
Operating frequency	530 kHz	13.56MHz
Ambient operating temperature	-10 to 60 ℃ (with no icing)	
Ambient storage temperature	-25 to 75 ℃ (with no icing)	
Ambient operating humidity	35% to 95% (with no condensation)	
Insulation resistance	Between connector terminal and case 50 MΩ min. (at 500 VDC)	Between connector terminal and case 20 MΩ min. (at 500 VDC)
Dielectric strength	Between connector terminals and case 1,000 VAC 50/60 Hz for 1 minute	

Item	Product discontinuation Model V600-H51/V600-H52(-R/-W)	Recommendable replacement Model V680-HS52-W/-R
Vibration resistance	10 to 500Hz with 2.0 mm double amplitude and 150m/s^2 maximum acceleration, 3 sweeps of 11 minutes each in three directions	10 to 500Hz with 1.5 mm double amplitude and 100m/s^2 maximum acceleration, 10 sweeps of 8 minutes each in three directions
Shock resistance	500 m/s^2 , 3 times each in 6 directions (Total: 18 times)	
Degree of protection note.1	IP67(IEC60529),IP67G(JEM)	IP67(IEC60529)
LED indicators	Power supply: green, communications: orange	Operation: yellow
Materials	CASE: Brass, Communications surface: ABS	
Weight	Approx. 650g(at 10m)	Approx. 850g(at 12.5m)

Note.1 The connectors are not waterproof.(V600-H51/52 and V680-HS52-R)
The degree of protection for the Connector is IP67/IP65.(V680-HS52-W)
Oil resistance has been tested using a specific oil as defined in the OMRON test method.

Item	Product discontinuation Model V600-HS51	Recommendable replacement Model V680-HS51
Operating frequency	530 kHz	13.56MHz
Ambient operating temperature	-10 to 60 ℃ (with no icing)	
Ambient storage temperature	-25 to 75 ℃ (with no icing)	
Ambient operating humidity	35% to 95% (with no condensation)	
Insulation resistance	Between connector terminal and case 50 MΩ min. (at 500 VDC)	Between connector terminal and case 20 MΩ min. (at 500 VDC)
Dielectric strength	Between connector terminals and case 1,000 VAC 50/60 Hz for 1 minute	
Vibration resistance	10 to 2,000Hz with 3.0 mm double amplitude and 300m/s^2 maximum acceleration, 2 sweeps of 15 minutes each in three directions	10 to 2,000Hz with 1.5 mm double amplitude and 150m/s^2 maximum acceleration, 10 sweeps of 15 minutes each in three directions
Shock resistance	1000 m/s^2 , 3 times each in 6 directions (Total: 18 times)	
Degree of protection note.1	IP67(IEC60529),IP67G(JEM)	IP67(IEC60529)
Materials	CASE: Brass, Communications surface: ABS	
Weight	Approx. 70g	Approx. 55g(at 2m)

Note.1 The connectors are not waterproof.
Oil resistance has been tested using a specific oil as defined in the OMRON test method.

Item	Product discontinuation Model V600-HS61	Recommendable replacement Model V680-HS61
Operating frequency	530 kHz	13.56MHz
Ambient operating temperature	-10 to 60 ℃ (with no icing)	
Ambient storage temperature	-25 to 75 ℃ (with no icing)	
Ambient operating humidity	35% to 95% (with no condensation)	

Item	Product discontinuation Model V600-HS61	Recommendable replacement Model V680-HS61
Insulation resistance	Between connector terminal and case 50 MΩ min. (at 500 VDC)	Between connector terminal and case 20 MΩ min. (at 500 VDC)
Dielectric strength	Between connector terminals and case 1,000 VAC 50/60 Hz for 1 minute	
Vibration resistance	10 to 2,000Hz with 3.0 mm double amplitude and 300m/s^2 maximum acceleration, 2 sweeps of 15 minutes each in three directions	10 to 500Hz with 1.5 mm double amplitude and 150m/s^2 maximum acceleration, 10 sweeps of 8 minutes each in three directions
Shock resistance	981 m/s^2 , 3 times each in 6 directions (Total: 18 times)	500 m/s^2 , 3 times each in 6 directions (Total: 18 times)
Degree of protection	IP67(IEC60529),IP67G(JEM)	IP67(IEC60529)
Materials	CASE: ABS	
Weight	Approx. 70g	

Item	Product discontinuation		Recommendable replacement	
	Model V600-HS63	**Model V600-HS63-2**	**Model V680-HS63-W/-R**	**Model V680-HS63-SP**
Operating frequency	530 kHz		13.56MHz	
Ambient operating temperature	-10 to 70 ℃ (with no icing)		-10 to 60 ℃ (with no icing)	
Ambient storage temperature	-25 to 75 ℃ (with no icing)			
Ambient operating humidity	35% to 95% (with no condensation)			
Insulation resistance	Between connector terminal and case 50 MΩ min. (at 500 VDC)		Between connector terminal and case 20 MΩ min. (at 500 VDC)	
Dielectric strength	Between connector terminals and case 1,000 VAC 50/60 Hz for 1 minute			
Vibration resistance	10 to 500Hz with 2.0 mm double amplitude and 147m/s^2 maximum acceleration, 3 sweeps of 15 minutes each in three directions		10 to 500Hz with 1.5 mm double amplitude and 100m/s^2 maximum acceleration, 10 sweeps of 11 minutes each in three directions	
Shock resistance	490 m/s^2 , 3 times each in 6 directions (Total: 18 times)		500 m/s^2 , 3 times each in 6 directions (Total: 18 times)	
Degree of protection note.1	IP67(IEC60529),IP67G(JEM)		IP67(IEC60529)	
LED indicators	Power supply: green		Operation: orange	
Materials	CASE:ABS	CASE, Cable: PFA resin	CASE:ABS	CASE, Cable: PFA resin
Weight	Approx. 190g	Approx. 400g	Approx. 850g (at 12.5m)	Approx. 400g

Note.1 The connectors are not waterproof.(V680-HS63-R)
The degree of protection for the Connector is IP67/IP65.(V680-HS63-W)
Oil resistance has been tested using a specific oil as defined in the OMRON test method.

Item	Product discontinuation Model V600-HS67	Recommendable replacement Model V680-HS65-W
Operating frequency	530 kHz	13.56MHz
Ambient operating temperature	-10 to 70 ℃ (with no icing)	-25 to 70 ℃ (with no icing)
Ambient storage temperature	-25 to 75 ℃ (with no icing)	-40 to 85 ℃ (with no icing)
Ambient operating humidity	35% to 95% (with no condensation)	
Insulation resistance	Between connector terminal and case 50 MΩ min. (at 500 VDC)	Between connector terminal and case 20 MΩ min. (at 500 VDC)
Dielectric strength	Between connector terminals and case 1,000 VAC 50/60 Hz for 1 minute	
Vibration resistance	10 to 500Hz with 2.0 mm double amplitude and 150m/s^2 maximum acceleration, 3 sweeps of 11 minutes each in three directions	10 to 500Hz with 1.5 mm double amplitude and 100m/s^2 maximum acceleration, 10 sweeps of 11 minutes each in three directions
Shock resistance	490 m/s^2 , 3 times each in 6 directions (Total: 18 times)	500 m/s^2 , 3 times each in 6 directions (Total: 18 times)
Degree of protection note.1	IP67(IEC60529),IP67G(JEM)	IP67(IEC60529)
LED indicators	Power supply: green	Operation: orange
Materials	CASE:ABS	
Weight	Approx. 540g	Approx. 1,100g (at 12.5m)

Note.1 The degree of protection for the Connector is IP67/IP65.(V680-HS65-W)
Oil resistance has been tested using a specific oil as defined in the OMRON test method.

Item	Product discontinuation Model V600-HA51	Recommendable replacement Model V680-HA63A/B
Ambient operating temperature	-10 to 60 ℃ (with no icing)	-10 to 55 ℃ (with no icing)
Ambient storage temperature	-25 to 75 ℃ (with no icing)	-25 to 65 ℃ (with no icing)
Ambient operating humidity	35% to 95% (with no condensation)	35% to 85% (with no condensation)
Insulation resistance	Between connector terminal and case 50 MΩ min. (at 500 VDC)	Between connector terminal and case 20 MΩ min. (at 500 VDC)
Dielectric strength	Between connector terminals and case 1,000 VAC 50/60 Hz for 1 minute	
Vibration resistance	10 to 500Hz with 2.0 mm double amplitude and 150m/s^2 maximum acceleration, 3 sweeps of 11 minutes each in three directions	10 to 500Hz with 1.5 mm double amplitude and 100m/s^2 maximum acceleration, 10 sweeps of 11 minutes each in three directions
Shock resistance	500 m/s^2 , 3 times each in 6 directions (Total: 18 times)	
Degree of protection	IP66(IEC60529)	IP67,IP65(IEC60529) Note: Not including connector at Controller end.

Item	Product discontinuation Model V600-HA51	Recommendable replacement Model V680-HA63A/B
		(When V680-HS52-W,V680-HS63-W, and V680-HS65-W is connected) IP40(IEC60529) (When V680-HS52-R,V680-HS63-R, and V680-HS65-R is connected)
Materials	CASE:ABS	CASE:PC
Weight	Approx. 650g (at 10m)	Approx. 650g (at 10m)
Available Tag	V600 series	V680/V680s series V680-HA63A: 1k bytes memory V680-HA63B: 2k/8k bytes memory

Note.1 The maximum total cable extension is 50m (including the Amplifier cable). A maximum of two extension cables can be connected.

[Characteristics](Tag)

Item	Product discontinuation			Recommendable replacement
	Model V600-D23P53	**Model V600-D23P54**	**Model V600-D23P55**	**Model V680-D1KP52MT**
Memory capacity	254 bytes			1,000 bytes (user area)
Memory type	EEPROM			
Data Retention	10 years (Data will be maintained for 10 years after it is written.)		10 years (-40 to 110℃) 1 years (-40 to 150℃)	10 years after writing (85℃ or less), 0.5 years after writing (85℃ to 125℃) Total data retention at high temperatures exceeding 125℃ is 10 hours (See note2.)
Write Endurance	-20 to 85℃: 100,000 times per address -20 to 60℃ 300,000 times per address -20 to 25℃ 400,000 times per address -20 to 0℃ 800,000 times per address			100,000 times per block (25℃)
Ambient operating temperature when communicating	-20 to 70℃		-25 to 85℃	
Ambient storage temperature (with data retention)	-40 to 85℃		-40 to 150℃ (see note1.)	-40 to 125℃
Ambient operating humidity	35% to 95%			
Degree of protection	IP67(IEC60529)/ IP67G(JEM)			IP67(IEC60529) Oil resistance equivalent to IP67g according to the former JEM standard.

Item	Product discontinuation			Recommendable replacement
	Model V600-D23P53	Model V600-D23P54	Model V600-D23P55	Model V680-D1KP52MT
Vibration resistance	10 to 2,000 Hz, 3.0mm double amplitude, acceleration: 300 m/s^2, 1 sweeps each in X, Y, and Z directions for 30 minutes each		10 to 2,000 Hz, 1.5mm double amplitude, acceleration: 150 m/s^2, 10 sweeps each in X, Y, and Z directions for 15 minutes each	
Shock resistance	1,000 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)		500 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)	
Materials	Case: ABS		Case: LCP	PPS resin
Weight	Approx. 0.4g	Approx. 1.0g	Approx. 0.6g	Approx. 2.0g
Metal countermeasures	Yes		None	Yes

Note1: For heat resistance at 150℃, Data Carriers were left standing at 150℃ for 1,000hours and also subjected to thermal shock for 1,000 cycles of30 minutes each at -10℃ and 150℃. (There were no failures in 22 samples.)

Note2: After string data at high temperatures, rewrite the data even if changes are not required, high temperatures are those exceeding 125℃ up to 180℃.

Item	Product discontinuation Model V600-D23P61	Recommendable replacement Model V680-D1KP66MT
Memory capacity	254 bytes	1,000 bytes (user area)
Memory type	EEPROM	
Data Retention	10 years (Data will be maintained for 10 years after it is written.)	10 years after writing (85℃ or less), 0.5 years after writing (85℃ to 125℃) Total data retention at high temperatures exceeding 125℃ is 10 hours (See note1.)
Write Endurance	-20 to 85℃: 100,000 times per address -20 to 60℃ 300,000 times per address -20 to 25℃ 400,000 times per address -20 to 0℃ 800,000 times per address	100,000 times per block (25℃)
Ambient operating temperature when communicating	-20 to 70℃	-25 to 85℃
Ambient storage temperature (with data retention)	-40 to 85℃	-40 to 125℃
Ambient operating humidity	35% to 95%	
Degree of protection	IP67(IEC60529)/ IP67G(JEM)	IP68(IEC60529) Oil resistance equivalent to IP67g according to the former JEM standard.
Vibration resistance	10 to 2,000 Hz, 3.0mm double amplitude, acceleration: 300 m/s^2,	10 to 2,000 Hz, 1.5mm double amplitude, acceleration: 150 m/s^2, 10

Item	Product discontinuation Model V600-D23P61	Recommendable replacement Model V680-D1KP66MT
	1 sweeps each in X, Y, and Z directions for 30 minutes each	sweeps each in X, Y, and Z directions for 15 minutes each
Shock resistance	1,000 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)	500 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)
Materials	Case: ABS	PPS resin
Weight	Approx. 5.8g	Approx. 7.5g
Metal countermeasures	Yes	

Note1: After string data at high temperatures, rewrite the data even if changes are not required, high temperatures are those exceeding 125℃ up to 180℃.

Item	Product discontinuation Model V600-D23P66N	Recommendable replacement Model V680-D1KP66T
Memory capacity	254 bytes	1,000 bytes (user area)
Memory type	EEPROM	
Data Retention	10 years (-40 to 110℃) 1 years (-40 to 150℃)	10 years after writing (85℃ or less), 0.5 years after writing (85℃ to 125℃) Total data retention at high temperatures exceeding 125℃ is 10 hours (See note2.)
Write Endurance	-20 to 85℃: 100,000 times per address -20 to 60℃ 300,000 times per address -20 to 25℃ 400,000 times per address -20 to 0℃ 800,000 times per address	100,000 times per block (25℃)
Ambient operating temperature when communicating	-20 to 85℃	-25 to 85℃
Ambient storage temperature (with data retention)	-40 to 150℃ (see note1.)	-40 to 125℃
Ambient operating humidity	35% to 95%	
Degree of protection	IP68(IEC60529)	IP68(IEC60529) Oil resistance equivalent to IP67g according to the former JEM standard.
Vibration resistance	10 to 2,000 Hz, 1.5mm double amplitude, acceleration: 150 m/s^2, 10 sweeps each in X, Y, and Z directions for 15 minutes each	
Shock resistance	500 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)	
Materials	PPS resin	
Weight	Approx. 6.5g	Approx. 6.0g
Metal countermeasures	None	

Note1: For heat resistance at 150℃, Data Carriers were left standing at 150℃ for 1,000hours and also subjected to thermal shock for 1,000 cycles of30 minutes each at -10℃ and 150℃. (There were no failures in 22 samples.)

Note2: After string data at high temperatures, rewrite the data even if changes are not required, high temperatures are those exceeding 125℃ up to 180℃.

Item	Product discontinuation Model V600-D23P66SP	Recommendable replacement Model V680-D1KP66T-SP
Memory capacity	254 bytes	1,000 bytes (user area)
Memory type	EEPROM	
Data Retention	10 years (Data will be maintained for 10 years after it is written.)	10 years after writing (85℃ or less)
Write Endurance	-20 to 85℃: 100,000 times per address -20 to 60℃ 300,000 times per address -20 to 25℃ 400,000 times per address -20 to 0℃ 800,000 times per address	100,000 times per block (25℃)
Ambient operating temperature when communicating	-20 to 70℃	-25 to 70℃
Ambient storage temperature	-40 to 110℃	
Ambient operating humidity	35% to 95%	
Degree of protection	IP67(IEC60529)/ IP67G(JEM)	IP67
Vibration resistance	10 to 2,000 Hz, 3.0mm double amplitude, acceleration: 300 m/s^2, 1 sweeps each in X, Y, and Z directions for 30 minutes each	10 to 2,000 Hz, 1.5mm double amplitude, acceleration: 150 m/s^2, 10 sweeps each in X, Y, and Z directions for 15 minutes each
Shock resistance	1,000 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)	500 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)
Materials	External coating: PFA RF Tag body: PPS resin	
Weight	Approx. 19g	Approx. 20g
Metal countermeasures	None	

Item	Product discontinuation Model V600-D23P71/72		Recommendable replacement
	Model V600-D23P71	**Model V600-D23P72**	**Model V680-D1KP66T**
Memory capacity	254 bytes		1,000 bytes (user area)
Memory type	EEPROM		
Data Retention	10 years (Data will be maintained for 10 years after it is written.)		10 years after writing (85℃ or less), 0.5 years after writing (85℃ to 125℃) Total data retention at high temperatures exceeding 125℃ is 10 hours (See note1.)
Write Endurance	-10 to 40℃: 300,000 times per address -10 to 70℃: 100,000 times per address		100,000 times per block (25℃)
Ambient operating temperature when communicating	-10 to 70℃		-25 to 85℃

Item	Product discontinuation Model V600-D23P71/72		Recommendable replacement
	Model V600-D23P71	Model V600-D23P72	Model V680-D1KP66T
Ambient storage temperature (with data retention)	-20 to 110℃		-40 to 125℃
Ambient operating humidity	35% to 95%		
Degree of protection	IP66(IEC60529)		IP68(IEC60529) Oil resistance equivalent to IP67g according to the former JEM standard.
Vibration resistance	10 to 2,000 Hz, 3.0mm double amplitude, acceleration: 300 m/s^2, 1 sweeps each in X, Y, and Z directions for 30 minutes each		10 to 2,000 Hz, 1.5mm double amplitude, acceleration: 150 m/s^2, 10 sweeps each in X, Y, and Z directions for 15 minutes each
Shock resistance	1,000 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)		500 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)
Materials	Glass epoxy resin		PPS resin
Weight	Approx. 15g	Approx. 5.0g	Approx. 6.0g
Metal countermeasures	None		

Note1: For heat resistance at 150℃, Data Carriers were left standing at 150℃ for 1,000hours and also subjected to thermal shock for 1,000 cycles of30 minutes each at -10℃ and 150℃. (There were no failures in 22 samples.)

Item	Product discontinuation	Recommendable replacement	
	Model V600-D8KR12D	Model V680S-D8KF67	Model V680S-D8KF67M
Memory capacity	8K bytes	8,192 bytes (user area)	
Memory type	SRAM	FRAM	
Data Retention	-	10 years after writing (85℃ or less)	
Battery service life	Approx. 5 years	-	
Number pf data read/write conversions	No limit (up to the extent of the battery service life)	One trillion writes for each block(85℃ or less), Access frequency (see not1)	
Ambient operating temperature when communicating	-25 to 70℃	-20 to 85℃	
Ambient storage temperature (with data retention)	-40 to 70℃	-40 to 125℃	
Ambient operating humidity	35% to 95%	35% to 85%	
Degree of protection	IP67(IEC60529)/ IP67G(JEM)	IP68(IEC60529) Oil resistance equivalent to IP67g (see note2) IPX9K(DIN 40 050)	
Vibration resistance	10 to 500 Hz, 2.0mm double amplitude, acceleration: 150 m/s^2, 1 sweeps each in X, Y, and Z directions for 11 minutes each	10 to 2,000 Hz, 1.5mm double amplitude, acceleration: 150 m/s^2, 10 sweeps each in X, Y, and Z directions for 15 minutes each	
Shock resistance	1,000 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)	500 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)	

Item	Product discontinuation	Recommendable replacement	
	Model V600-D8KR12D	Model V680S-D8KF67	Model V680S-D8KF67M
Materials	ABS resin	PPS resin	
Weight	Approx. 70g	Approx. 11.5g	Approx. 12g
Metal countermeasures	Yes	None	Yes

Note1: The number of accesses is the total number of reads and writes.
Note2: Oil resistance has been testes using a specific oil as defined in the OMRON test method.

Item	Product discontinuation			Recommendable replacement	
	Model V600-D8KF04	Model V600-D8KR04	Model V600-D8KR13	Model V680S-D8KF68	Model V680S-D8KF68M
Memory capacity	8K bytes			8,192 bytes (user area)	
Memory type	FeRAM	SRAM		FRAM	
Data Retention	10 years	-		10 years after writing (85℃ or less)	
Battery service life	-	Approx. 5 years		-	
Number pf data read/write conversions	1,000 million times	No limit (up to the extent of the battery service life)		One trillion writes for each block(85℃ or less), Access frequency (see not1)	
Ambient operating temperature when communicating	-25 to 70℃			-20 to 85℃	
Ambient storage temperature (with data retention)	-40 to 70℃			-40 to 125℃	
Ambient operating humidity	35% to 95%			35% to 85%	
Degree of protection	IP67(IEC60529)/ IP67G(JEM)			IP68(IEC60529) Oil resistance equivalent to IP67g (see note2) IPX9K(DIN 40 050)	
Vibration resistance	10 to 500 Hz, 2.0mm double amplitude, acceleration: 150 m/s^2, 1 sweeps each in X, Y, and Z directions for 11 minutes each			10 to 2,000 Hz, 1.5mm double amplitude, acceleration: 150 m/s^2, 10 sweeps each in X, Y, and Z directions for 15 minutes each	
Shock resistance	500 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)	1,000 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)		500 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)	
Materials	ABS resin			PPS resin	
Weight	Approx. 150g	Approx. 160g	Approx. 70g	Approx. 44g	Approx. 46g
Metal countermeasures	None	Yes		None	Yes

Note1: The number of accesses is the total number of reads and writes.
Note2: Oil resistance has been testes using a specific oil as defined in the OMRON test method.

[Communications distance]

Product discontinuation Model V600						Recommendable replacement Model V680					
Amplifier	Antennas	Tag	Mount	Communication distance(mm) R:Read W:Write		Amplifier	Antennas	Tag	Mount	Communication distance(mm) R:Read W:Write	
	V600-H07	V600-D8KR12D	Metal	R	10-60	V680-HA63B	V680-HS65	V680S-D8KF68M	Metal	R	0-55
				W	10-60					W	0-55
		V600-D8KR13	Metal	R	10-35						
				W	10-35						
		V600-D8KR04	Metal	R	10-100						
				W	10-100						
		V600-D8KF04	Non-Metal	R	10-50			V680S-D8KF68	Non-Metal	R	0-75
				W	10-50					W	0-75
		V600-D23P71	Non-Metal	R	10-70	V680-HA63A		V680-D1KP66T	Non-Metal	R	0-47
				W	10-70						
		V600-D23P72	Non-Metal	R	10-50					W	0-42
				W	10-50						
		V600-D23P66N	Non-Metal	R	5-45						
				W	5-35						
		V600-D23P66SP	Non-Metal	R	5-40			V680-D1KP66T-SP	Non-Metal	R	0-42
				W	5-30					W	0-37
	V600-H11	V600-D8KR12D	Metal	R	5-45	V680-HA63B	V680-HS63	V680S-D8KF68M	Metal	R	0-35
				W	5-45					R	
		V600-D8KR13	Metal	R	10-30					W	0-35
				W	10-30						
		V600-D8KR04	Metal	R	10-65						
				W	10-65						
		V600-D8KF04	Non-Metal	R	10-32			V680S-D8KF68	Non-Metal	R	0-45
				W	10-32					W	0-45
		V600-D23P71	Non-Metal	R	5-40	V680-HA63A		V680-D1KP66T	Non-Metal	R	0-30
				W	5-40						
		V600-D23P72	Non-Metal	R	5-30					W	0-25
				W	5-30						
		V600-D23P66N	Non-Metal	R	5-30						
				W	5-25						
		V600-D23P66SP	Non-Metal	R	5-25			V680-D1KP66T-SP	Non-Metal	R	0-25
				W	5-20					W	0-20
		V600-D23P61	Metal	R	2-19			V680-D1KP66MT	Metal	R	0-25
				W	2-16					W	0-20
		V600-D23P55	Non-Metal	R	0.5-10			V680-D1KP52MT	Non-Metal	R	0-12
				W	0.5-10					W	0-9.5
	V600-H51	V600-D23P61	Metal	R	1-16		V680-HS52	V680-D1KP66MT	Metal	R	0-16
				W	1-14					W	0-14

		V600-D23P55	Non-Metal	R	0.5–9.0			V680-D1KP52MT	Non-Metal	R	0–9.0
				W	0.5–8.5					W	0–8.5
	V600-H52	V600-D23P53	Metal	R	0.5–4.5			V680-D1KP52MT	Metal	R	0–4.5
				W	0.5–3.5					W	0–4.0
		V600-D23P54	Metal	R	0.5–7.0			V680-D1KP53M	Metal	R	0–4.5
				W	0.5–6.0					W	0–4.0
		V600-D23P55	Non-Metal	R	0.5–9.0			V680-D1KP52MT	Non-Metal	R	0–9.0
				W	0.5–8.5					W	0–8.5
V600-HA51	V600-HS51	V600-D23P53	Metal	R	0.5–4.5		V680-HS51	V680-D1KP52MT	Metal	R	0.5–3.5
				W	0.5–3.5					W	0.5–3.0
		V600-D23P54	Metal	R	0.5–7.0			V680-D1KP53M	Metal	R	0.5–3.5
				W	0.5–6.0					W	0.5–3.0
		V600-D23P55	Non-Metal	R	0.5–7.0			V680-D1KP52MT	Non-Metal	R	0.5–6.5
				W	0.5–7.0					W	0.5–6.0
	V600-HS61	V600-D23P53	Metal	R	0.5–4.5		V680-HS61	V680-D1KP52MT	Metal	R	0.5–4.0
				W	0.5–3.5					W	0.5–3.0
	V600-HS63	V600-D23P55	Non-Metal	R	0.5–9.5		V680-HS63	V680-D1KP52MT	Non-Metal	R	0–12
				W	0.5–9.5					W	0–9.5

Discontinuation Notice of RFID System DeviceNet ID Slave V600-HAM42-DRT(-2), Amplifier V600-HA series ,Interface Cable V600-A6☐ series.

Product Discontinuation		Recommended Replacement
DeviceNet ID Slave		DeviceNet ID Slave
Model V600-HAM42-DRT		**Model V680-HAM42-DRT**
Model V600-HAM42-DRT-2		**No recommended replacement**
Amplifier		ID Flag Sensor
Model V600-HAM81 0.5M		**Model V680-HAM81**
Model V600-HAM91 0.5M		**Model V680-HAM91**
Model V600-HAR81 0.5M		**Model V680-HAM81**
Model V600-HAR91 0.5M		**Model V680-HAM91**
Model V600-HAR92 0.5M		**Model V680-HAM91**
Interface Cable		Interface Cable
Model V600-A6☐M		**Model V680-A60**
Model V600-A6☐R		**No recommended replacement**

[Difference from discontinued product]

Recommended replacement Model	Body Color	Dimen-sions	Wire connection	Mounting Dimensions	Charac-teristics	Operation ratings	Operation methods
V680-HAM42-DRT2	**	--	*	--	*	--	--
V680-HAM81/91	--	--	--	--	*	--	--
V680-A60	-	-	--	-	-	-	-

** : Compatible
* : The change is a little/Almost compatible
-- : Not compatible
- : No corresponding specification

[Product Discontinuation and recommended replacement]

Product discontinuation	Recommended replacement
V600-HAM42-DRT	**V680-HAM42-DRT**
V600-HAM42-DRT-2	**No recommended replacement**
V600-HAM81 0.5M	**V680-HAM81**
V600-HAM91 0.5M	**V680-HAM91**
V600-HAR81 0.5M	**V680-HAM81**
V600-HAR91 0.5M	**V680-HAM91**
V600-HAR92 0.5M	**V680-HAM91**
V600-A60M 2M	**V680-A60 2M**
V600-A61M 5M	**V680-A60 5M**
V600-A62M 10M	**V680-A60 10M**
V600-A60R 2M	**No recommended replacement**
V600-A61R 5M	**No recommended replacement**
V600-A62R 10M	**No recommended replacement**

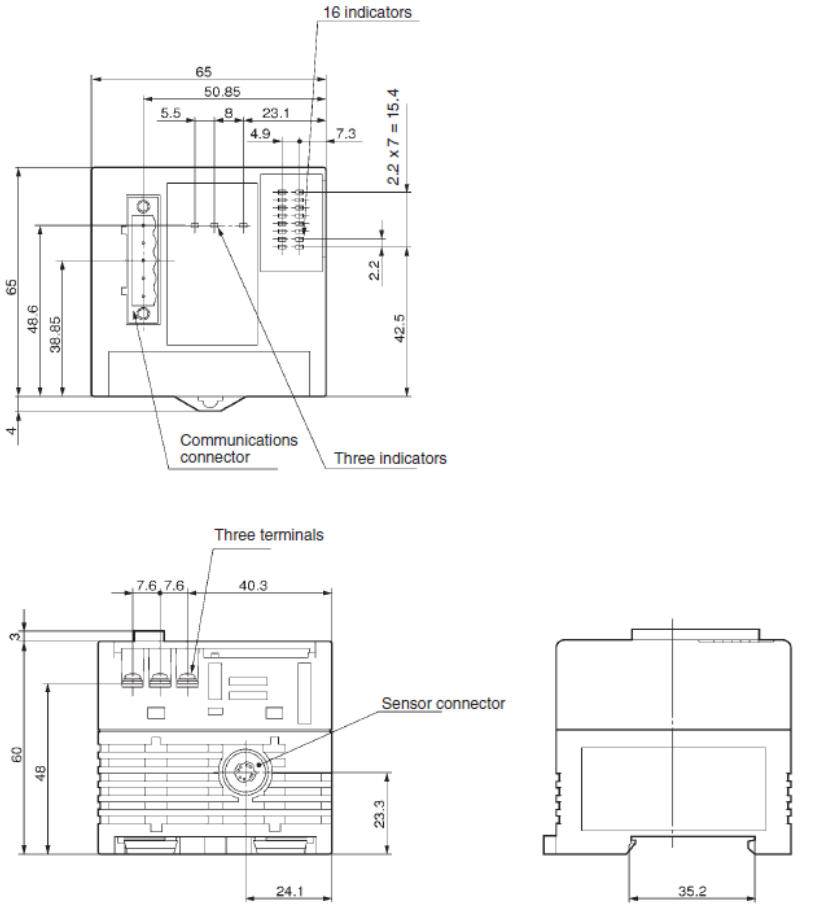
[Body color]

Product discontinuation Model V600-HAM42-DRT	Recommendable replacement Model V680-HAM42-DRT
Light gray 	Black 

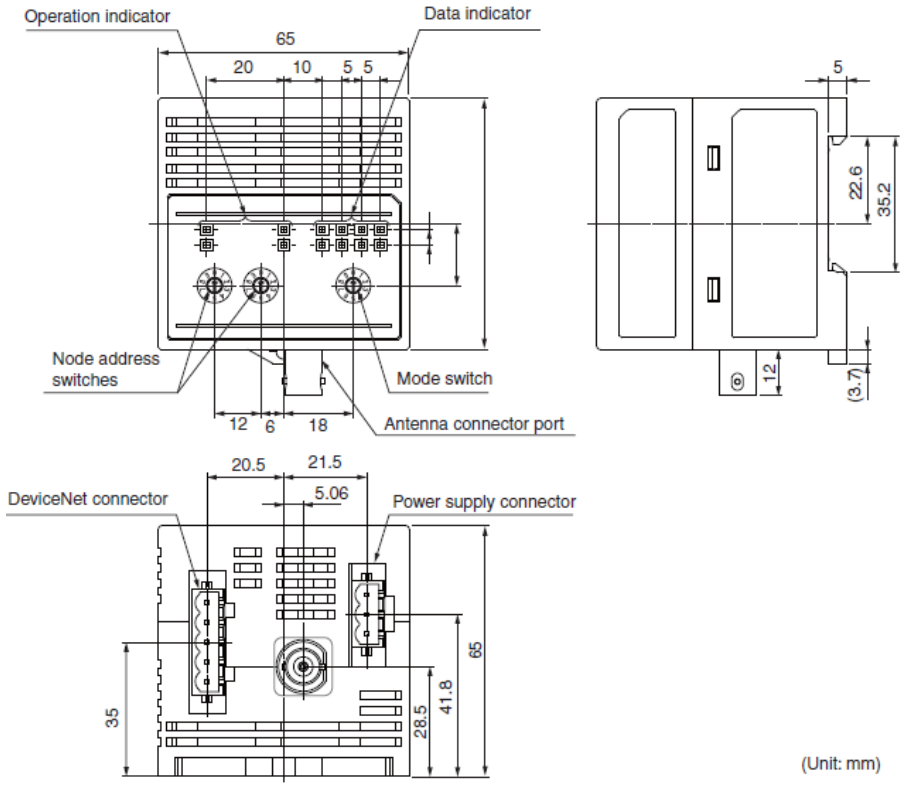
Product discontinuation Model V600-HA□81/9□	Recommendable replacement Model V680-HAM81/91
Light gray 	Black 

[Dimensions]

Product discontinuation
Model V600-HAM42-DRT

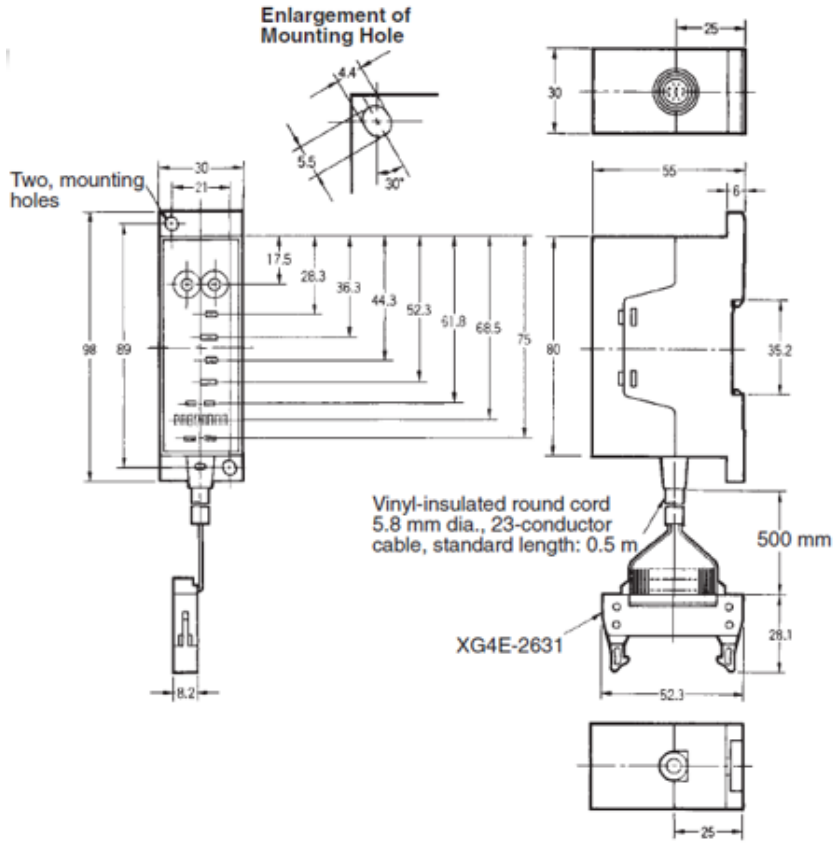


Recommendable replacement
Model V680-HAM42-DRT



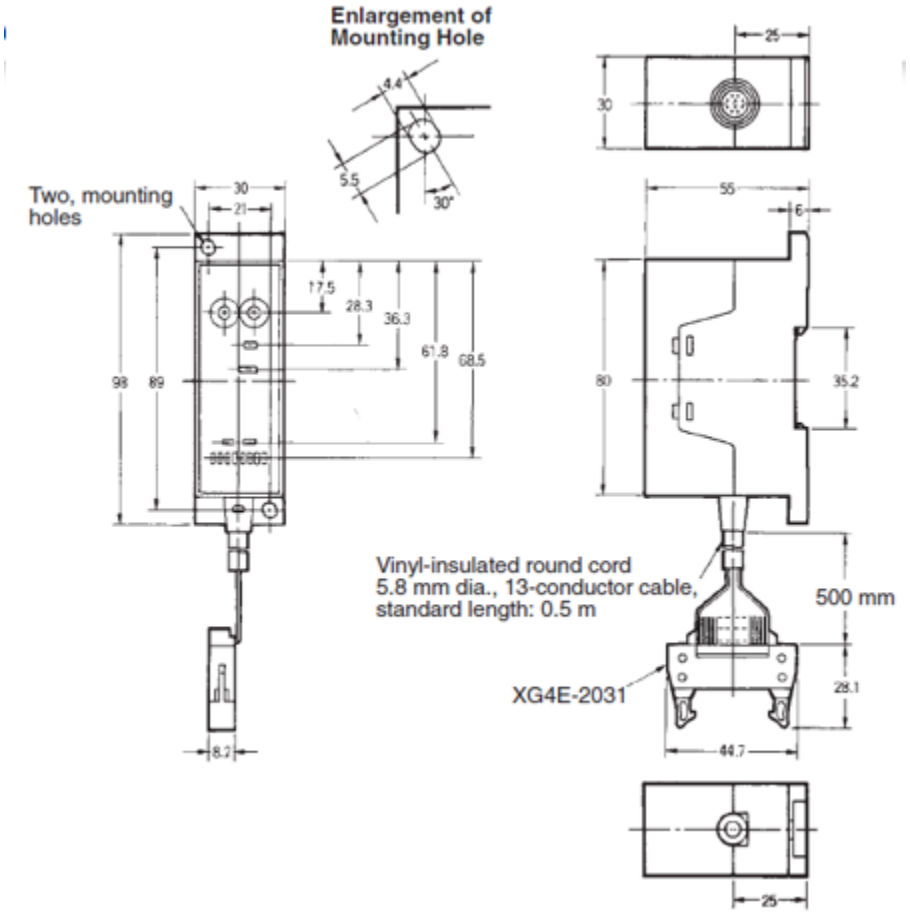
Product discontinuation
Model V600-HAM81/91,-HAR81/91/92

V600-HAM81/91



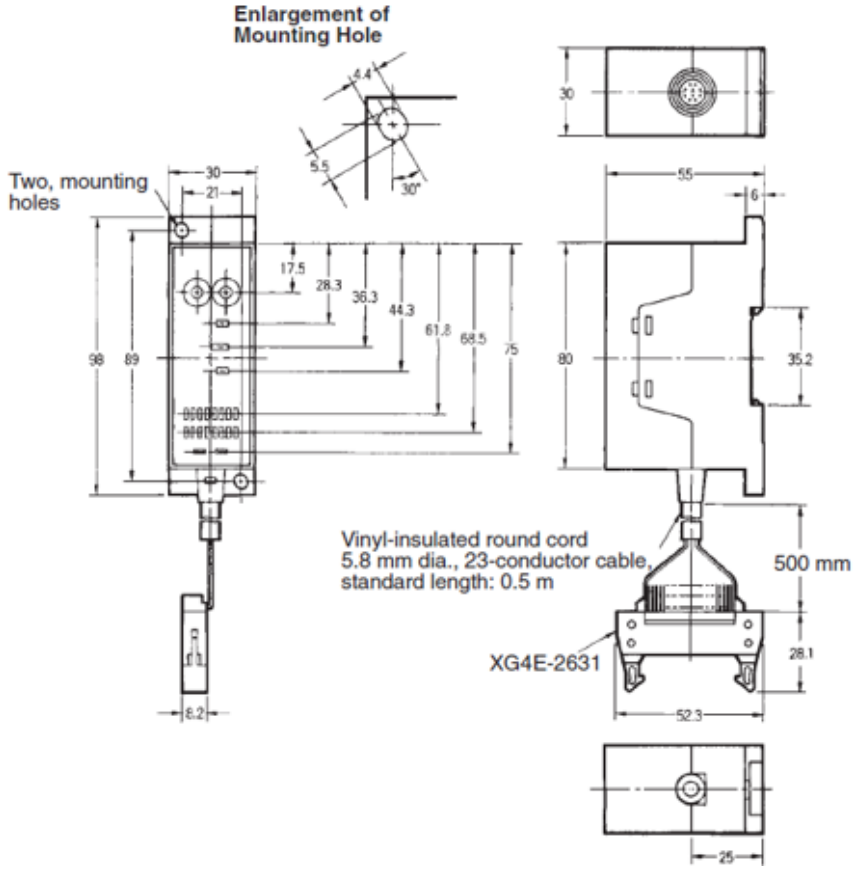
V600-HAR81/91

Product discontinuation
Model V600-HAM81/91,-HAR81/91/92

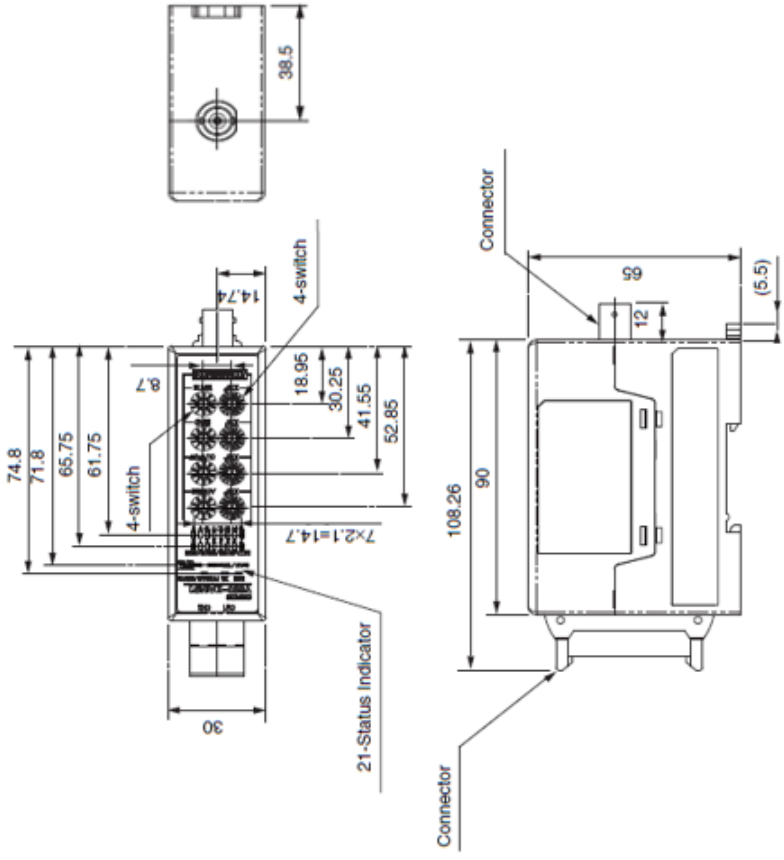


V600-HAR92

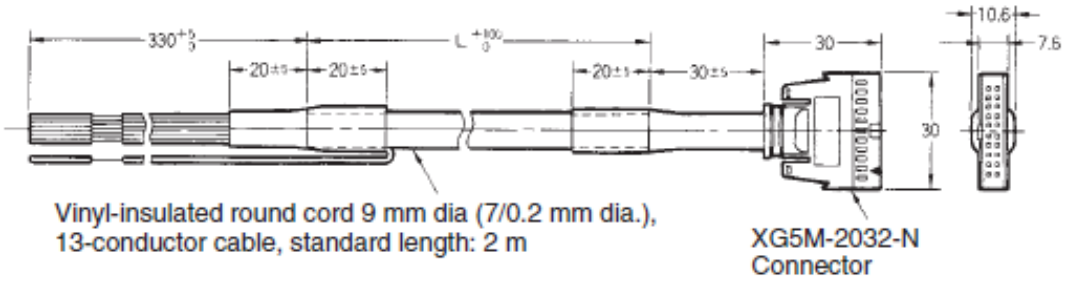
Product discontinuation
Model V600-HAM81/91,-HAR81/91/92



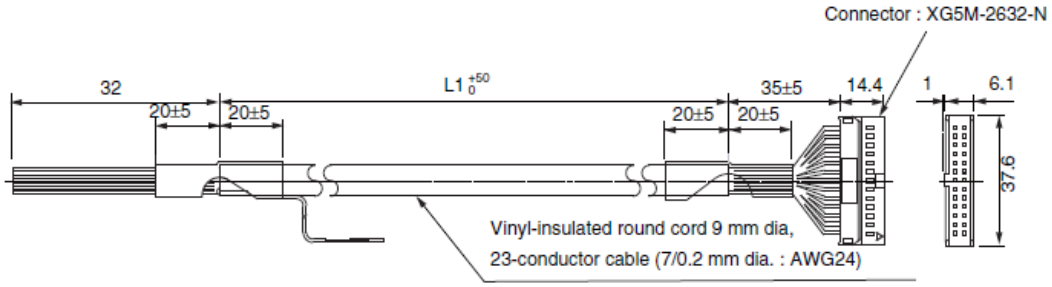
Recommendable replacement
Model V680-HAM81/91



Product discontinuation
Model V600-A6☐M



Recommendable replacement
Model V680-A60



[Characteristics]

Item	Product discontinuation Model V600-HAM42-DRT	Recommendable replacement Model V680-HAM42-DRT
Power supply voltage	18 to 26.4 VDC	24 VDC +10%/-15%, Ripple (p-p): 10% max.
Current consumption	150 mA max.	200 mA max.
Insulation resistance	Between protective terminal and other charging unit terminal 50 MΩ min. (at 500 VDC)	Between I/O terminals and grand, between I/O terminals and case 20 MΩ min. (at 500 VDC)
Dielectric strength	Between protective terminal and other charging unit terminal 500 VAC 50/60 Hz for 1 minute	Between I/O terminals and grand, between I/O terminals and case 1,000 VAC 50/60 Hz for 1 minute
Vibration resistance	10 to 50Hz with 1.5 mm double amplitude, 4 sweeps of 8 minutes each in three directions	10 to 150Hz with 0.2 mm double amplitude and 15-m/s^2 maximum acceleration, 10 sweeps of 8 minutes each in three directions
Shock resistance	294 m/s^2 (approx.. 30G), 3 times each in 6 directions	150 m/s^2 , 3 times each in 6 directions (Total: 18 times)
Ambient operating temperature	0 to 55 ℃ (with no icing)	-10 to 55 ℃ (with no icing)
Ambient operating humidity	35% to 85% (with no condensation)	25% to 85% (with no condensation)
Ambient storage temperature	-25 to 65 ℃ (with no icing)	
Ambient storage humidity	35% to 85% (with no condensation)	25% to 85% (with no condensation)

Item	Product discontinuation Model V600-HAM42-DRT	Recommendable replacement Model V680-HAM42-DRT
Degree of protection	In-panel (equivalent to IP20)	
Installation method	DIN Rail or direct mounting using accessory fittings(M4 screws)	DIN Rail
Weight	Approx. 150g	
Materials	CASE:PC	CASE:PC+ABS
Communication frequency	530 kHz	13.56MHz
Available Antenna	V600-HS series	V680-HS series

Item	Product discontinuation		Recommendable replacement	
	Model V600-HAM81/-HAR81	**Model V600-HAM91/-HAR91**	**Model V680-HAM81**	**Model V680-HAM91**
Supply voltage	24 VDC ±10%, Ripple (p-p): 10%		24 VDC +10%/-15%, Ripple (p-p): 10% max.	
Current consumption	130 mA max.		150 mA max.	
Input	Transistor output or contact output Shot-circuit current: 3 mA (typical)(IN terminal and 0v short-circuit) Off voltage: 15 to 30 VDC ON voltage: 0 to 5 VDC Input impedance: 8.2kΩ Applied voltage: 30 VDC max.			
Output	PNP open collector	NPN open collector	PNP open collector	NPN open collector
	20 mA max. at 30 VDC, residual voltage: 2V max.			
Ambient operating temperature	-10 to 55 ℃ (with no icing)			
Ambient storage temperature	-25 to 65 ℃ (with no icing)			
Ambient operating humidity	35% to 85% (with no condensation)		25% to 85% (with no condensation)	
Insulation resistance	Between cable terminals and case 50 MΩ min. (at 500 VDC)		Between terminals(except for FG) and casing 20 MΩ min. (at 500 VDC)	
Dielectric strength	Between cable terminals and case 500 VAC 50/60 Hz for 1 minute		Between terminals(except for FG) and casing 1,000 VAC, 50/60 Hz for 1 minute	
Vibration resistance	10 to 150Hz, 1.5 mm double amplitude, with 4 sweeps of 8 minutes each in 3 directions		10 to 150Hz with 0.2 mm double amplitude, acceleration: 15-m/s^2 , 10 sweeps in each 3 directions (up/down, left/right, and forward/backward) for 8 minutes each	
Shock resistance	294 m/s^2 (approx.. 30G), 3 times each in 6 directions		150 m/s^2 , 3 times each in 6 directions (Total: 18 times)	
Degree of protection	IP40(IEC60529)			
Materials	CASE:ABS		CASE:PC+ABS	
Weight	Approx. 170g		Approx. 130g	

Item	Product discontinuation		Recommendable replacement	
	Model V600-HAM81/-HAR81	Model V600-HAM91/-HAR91	Model V680-HAM81	Model V680-HAM91
Installation method	DIN Rail or M4 screws		DIN Rail	
Cable length	0.5m with a special connector (see note)		Connector type	
Interface Cable	V600-A6□M		V680-A60	
Maximum cable	10.5m (Maximum extendable length 10m)		10m	
Communication frequency	530 kHz		13.56MHz	
Available Antenna	V600-HS series		V680-HS series	

Note: The connector is not waterproof. If necessary, place the connector inside the control box to prevent exposed to water.

Item	Product discontinuation	Recommendable replacement
	Model V600-HAR92	Model V680-HAM91
Supply voltage	24 VDC ±10%, Ripple (p-p): 10%	24 VDC +10%/-15%, Ripple (p-p): 10% max.
Current consumption	130 mA max.	150 mA max.
Input		Transistor output or contact output Shot-circuit current: 3 mA (typical)(IN terminal and 0v short-circuit) Off voltage: 15 to 30 VDC ON voltage: 0 to 5 VDC Input impedance: 8.2kΩ Applied voltage: 30 VDC max.
Output	NPN open collector 20 mA max. at 30 VDC, residual voltage: 2V max.	
Ambient operating temperature	-10 to 55 ℃ (with no icing)	
Ambient storage temperature	-25 to 65 ℃ (with no icing)	
Ambient operating humidity	35% to 85% (with no condensation)	25% to 85% (with no condensation)
Insulation resistance	Between cable terminals and case 50 MΩ min. (at 500 VDC)	Between terminals(except for FG) and casing 20 MΩ min. (at 500 VDC)
Dielectric strength	Between cable terminals and case 500 VAC 50/60 Hz for 1 minute	Between terminals(except for FG) and casing 1,000 VAC, 50/60 Hz for 1 minute
Vibration resistance	10 to 150Hz, 1.5 mm double amplitude, with 4 sweeps of 8 minutes each in 3 directions	10 to 150Hz with 0.2 mm double amplitude, acceleration: 15-m/s^2 , 10 sweeps in each 3 directions (up/down, left/right, and forward/backward) for 8 minutes each

Item	Product discontinuation	Recommendable replacement
	Model V600-HAR92	**Model V680-HAM91**
Shock resistance	294 m/s^2 (approx.. 30G), 3 times each in 6 directions	150 m/s^2 , 3 times each in 6 directions (Total: 18 times)
Degree of protection	IP40(IEC60529)	
Materials	CASE:ABS	CASE:PC+ABS
Weight	Approx. 180g	Approx. 130g
Installation method	DIN Rail or M4 screws	DIN Rail
Cable length	0.5m with a special connector (see note)	Connector type
Interface Cable	V600-A6□M	V680-A60
Maximum cable	10.5m (Maximum extendable length 10m)	10m
Communication frequency	530 kHz	13.56MHz
Available Antenna	V600-HS series	V680-HS series

Note: The connector is not waterproof. If necessary, place the connector inside the control box to prevent exposed to water.