







Heat-resistant RFID System V680

Compact Tag with 80-mm Diameter, Long-life RFID System, Heat-resistant up to 200°C

- Supporting production line indicators and traceability management in high-temperature processes.
- Small tag providing superior heat-resistance (200°C).
- Large-capacity memory of 1 Kbyte.
- Long transmission distance of 150 mm. (Actual transmission distance is 200 mm).
- Complies with FCC Standards and R&TTE Directive.




Ordering Information

Product	Model		Appearance/Specification	
ID Tag	V680-D1KP58HT		80 dia. x t10 mm	1 Kbyte
Read/Write Antenna	V680-H01		250 x 200 x 35 mm	0.5-m cable (See note.)
Controller	V680-CA1D		90 x 65 x 75 mm	RS-232C interface operating at 24 VDC with a single antenna connector
	V680-CA2D			RS-485 interface operating at 24 VDC with a single antenna connector. Up to 10 Controllers can be connected.
Read/Write Antenna Cables	V700-A40-W 2M		2 m	Material: Polyvinyl chloride
	V700-A40-W 5M		5 m	
	V700-A40-W 10M		10 m	
	V700-A40-W 20M		20 m	
	V700-A40-W 30M		30 m	
Attachment	V680-A80		20 dia. x 110 mm	To mount the V680-D1KP58HT

Note: Be sure to use the Read/Write Antenna Cables to connect the Controller. The maximum cable length is 30.5 m.

Specifications

■ ID Tags

Item	Model	
		V680-D1KP58HT 
Memory capacity		1 Kbyte (user area)
Memory type		EEPROM
Data storage time		10 years (after the data is written)
Memory life		Number of accesses: 100,000 times per address
Ambient operating temperature (during transmission)		-10 to +85°C (with no icing)
Ambient operating temperature (not during transmission)		-40 to +110°C (with no icing)
Ambient storage temperature		-40 to +110°C (with no icing)
Ambient storage humidity		No limit
Degree of protection		IEC 60529 IP67
Vibration resistance		10 to 2,000 Hz, 1.5-mm single amplitude at 150 m/s ² acceleration with 10 sweeps in X, Y, and Z directions for 15 minutes each
Shock resistance		500 m/s ² in X, Y, and Z directions 3 times each (18 times in total)
Weight		Approx. 90g

Note: Data can be stored at high temperatures (110 to 200°C) for up to a total of 10 hours. Rewrite data before the total of 10 hours is exceeded.



■ Heat Resistance

The heat resistance has been thoroughly checked through testing 2,000 thermal cycles each of 30 minutes at room temperature 200°C. (Criteria: LTPD10%)


Storage under high temperatures will affect the product's internal parts and their service life.

For details on heat-resistance and service life, refer to the *User's Manual* (Cat. No. Z221).

■ Controllers

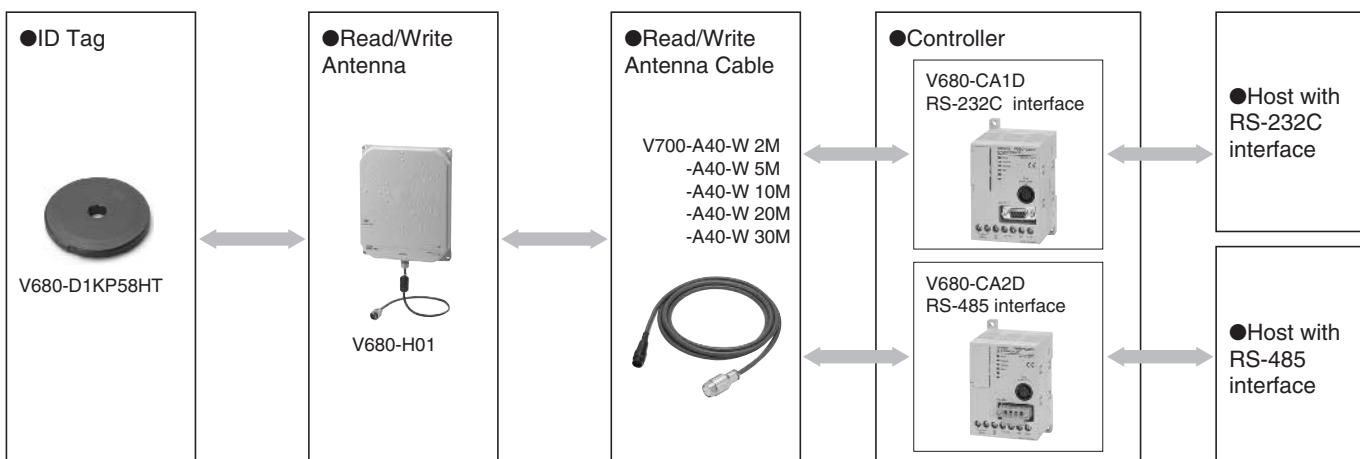
Item	Model	
		V680-CA1D  V680-CA2D 
Host interface		RS-232C RS-485 (up to 10 Controllers can be connected)
Number of connectable antennas		1
Power supply voltage		24 VDC +10% -15%
Power consumption		20 W max.
Insulation resistance		20 MΩ min. (at 100 VDC), applied as follows: (1) Between the power supply terminals and the ground terminal (2) Between the power supply terminals and I/O terminals (3) Between the power supply terminals and the case (4) Between the I/O terminals and the ground terminal (5) Between the I/O terminals and the case (6) Between the ground terminal and the case
Dielectric strength		500 VAC (50/60 Hz) for 1 minute in the above combinations with a maximum leakage current of 10 mA
Vibration resistance		10 to 150 Hz, 0.2-mm double amplitude with 10 sweeps in the X, Y, and Z directions for 8 minutes each
Shock resistance		150 m/s ² 3 times each (18 times in total)
Ambient operating temperature		-10 to +55°C (with no icing)
Ambient operating humidity		35% to 85% (with no condensation)
Ambient storage temperature		-25 to +65°C (with no icing)
Ambient storage humidity		35% to 95% (with no condensation)
Degree of protection		Panel mounted
Ground		Ground at a resistance of less than 100 Ω
Weight		Approx. 290 g

Read/Write Antennas

Item	Model	
		V680-H01 
Oscillation frequency	13.56 MHz	
Insulation resistance	20 MΩ min. at 100 VDC between the rear plate and case	
Dielectric strength	1,000 VAC (50/60 Hz) for 1 minute between the rear plate and case with a current leakage of 1 mA max.	
Vibration resistance	10 to 150 Hz, 0.7-mm double amplitude with 4 sweeps in X, Y, and Z directions for 8 minutes each	
Shock resistance	150 m/s ² in X, Y, and Z directions 3 times each	
Ambient operating temperature	-10 to +55°C (with no icing)	
Ambient storage temperature	-35 to +65°C (with no icing)	
Ambient operating humidity	35% to 85% (with no condensation)	
Ambient storage humidity	35% to 95% (with no condensation)	
Degree of protection	IEC 60529 IP63 Mounting direction: Communicating surface facing upwards	
Cable length	0.5 m (See note.)	
Weight	Approx. 900 g	

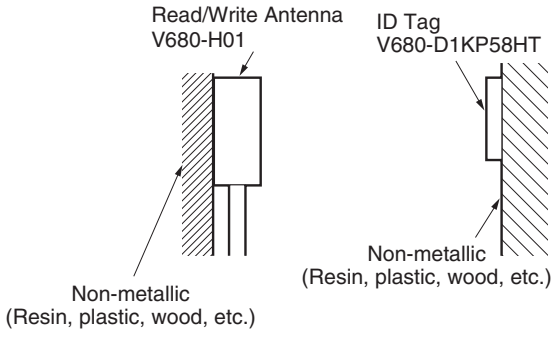
Note: Be sure to use the Read/Write Antenna Cables to connect the Controller. The maximum cable length is 30.5 m.

System Configuration



Note: For details, refer to the *User's Manual* (Cat. No. Z221).

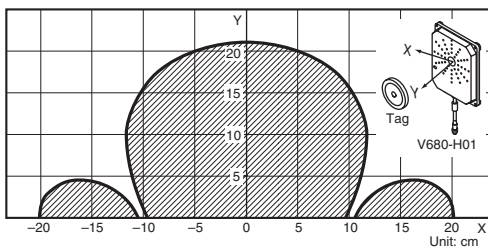
Performance Specifications

ID Tag	Read/Write Antenna	Transmission distance	ID Tag and Read/Write Antenna mounting conditions
V680-D1KP58HT	V680-H01	0 to 150 mm	 <p>When the background object is metal, the transmission range may be reduced. For details, refer to the <i>User's Manual</i> (Cat. No. Z221).</p>

Characteristic Data (Typical)

■ Transmission Range

Combination of V680-H01 and V680-D1KP58HT

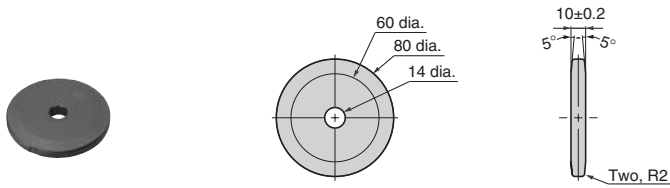


Dimensions

Note: All units are in millimeters unless otherwise indicated.

ID Tag

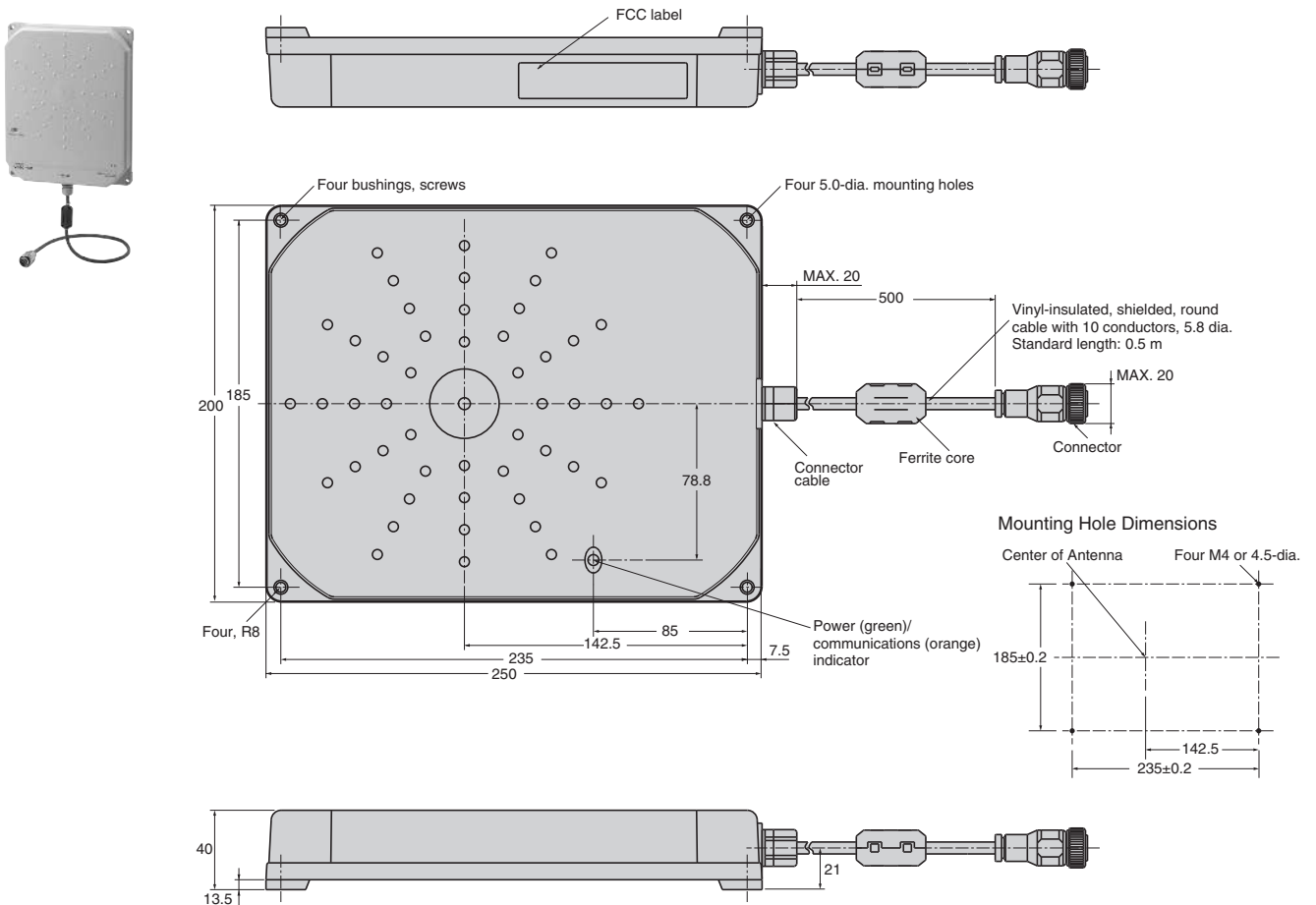
V680-D1KP58HT



Exterior: PPS resin

Read/Write Antenna

V680-H01

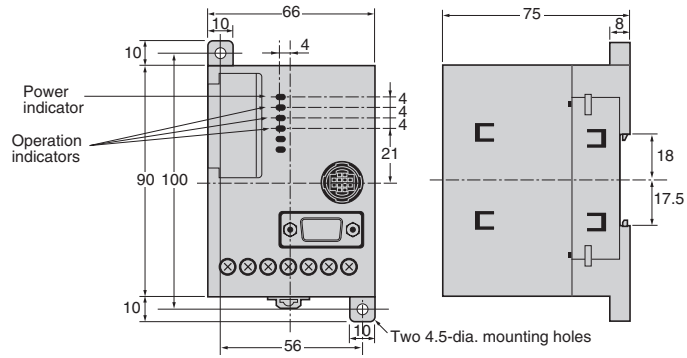


Case material	PC/ASA resin
Rear panel	Aluminum
Cable	PVC

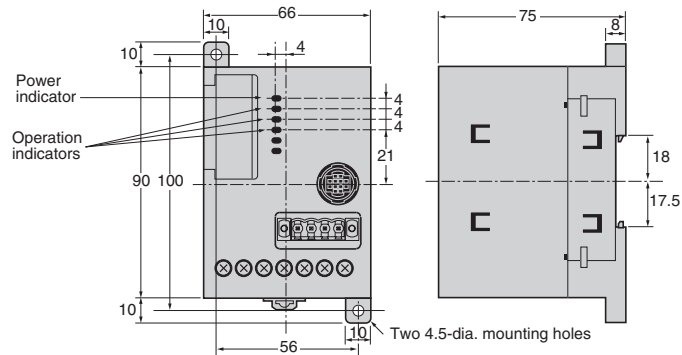
Controller
V680-CA1D



Case material:
PC/ASA resin

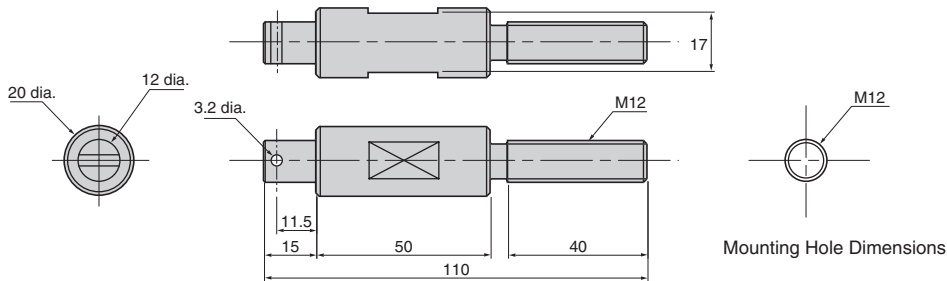


V680-CA2D



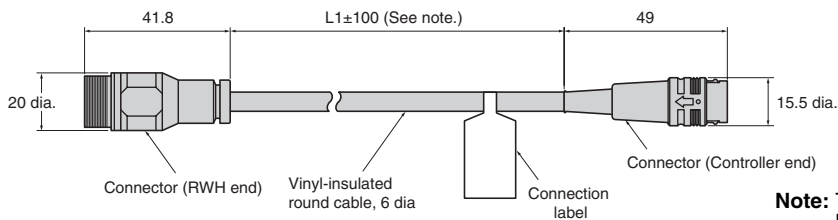
Attachment (for V680-D1KP58HT)

V680-A80



Read/Write Antenna Cable

- V700-A40-W 2M
- V700-A40-W 5M
- V700-A40-W 10M
- V700-A40-W 20M
- V700-A40-W 30M



Note: The models according to length of L1 are as follows:

Model	L1 length
V700-A40-W 2M	2,000
V700-A40-W 5M	5,000
V700-A40-W 10M	10,000
V700-A40-W 20M	20,000
V700-A40-W 30M	30,000

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In the interest of product improvement, specifications are subject to change without notice.

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