RFID System
V680 Series

RFID Systems with ISO/IEC 18000-3 (15693) Compliance

- High-speed communications and highly reliable communications provided with an electromagnetic induction system and unique technology.
- Antennas and RF Tags with excellent environmental resistance.
- Wide line-up of ultra-compact, long-life RF Tags, with capacities from 1 to 8 kbytes.
- Visualizes the communications status for simple analysis of the operating environment.
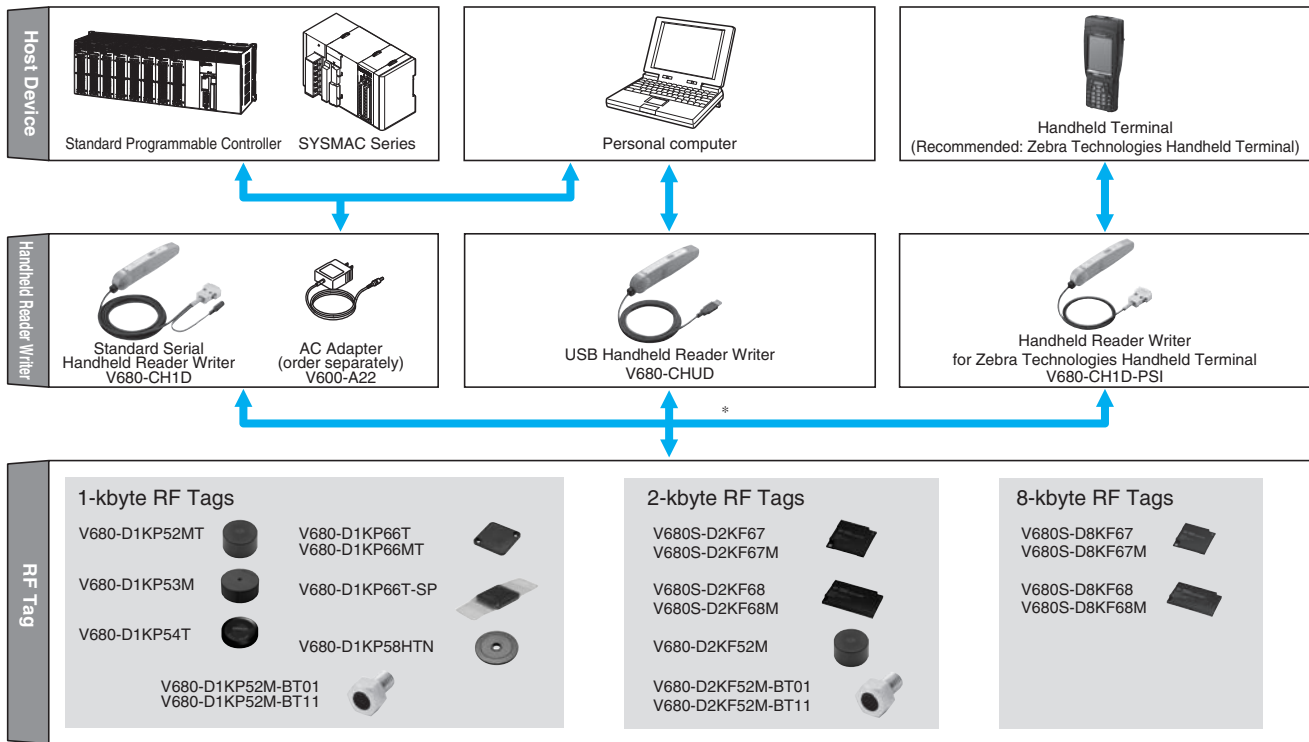- Complies with FCC Rules and R&TTE Directive.

CE

System Configuration

Connect V680 Antennas and Amplifier Units to a V680-series Controller, and read or write data from or to RF Tags.

Host Device
Machine Automation Controllers NJ/NX/NY Series
OMRON Programmable Controller CJ/CS Series
Standard Programmable Controller

I/O Connection
PROFIBUS
DeviceNet

ID Controller
Standard Controller (1/2CH) V680-CA5D01-V2/CA5D02-V2
NX Series RFID Units (1/2CH) NX-V680C1/C2
CS/CJ-series PLC ID Sensor Units (1 or 2 channels) CJ1W-V680C11/C12 CS1W-V680C11/C12

The V680-H01-V2 can be used only with 1-channel Controllers or ID Sensor Units.

Interface Cable
V680-A60 Cable length (2/5/10) m

Extension Cable
V700-A40/41/42/43/44/45 Cable length (2/3/5/10/20/30) m

The maximum extendable cable length is 40 m. (Not including the Amplifier.) Do not connect more than two Extension Cables to each other.

V700-A40-W Cable length (2/5/10/20/30) m

The maximum extendable cable length is 30 m. (not including the Amplifier) Two Extension Cables cannot be connected to each other.

Amplifier-integrated Controller
ID Flag Sensor V680-HAM91/-HAM81 (NPN output/PNP output)
DeviceNet ID Slave V680-HAM42-DRT
PROFIBUS ID Slave V680-HAM42-PRT

Amplifier Unit
For 1-Kbyte RF Tags V680-HA63A
For 2- or 8-Kbyte RF Tags V680-HA63B
Cable length (0.5/5/10) m

Max. extended length: 62.5 m
Max. extended length: 30.5 m

Antenna
V680-HS51 Cable length 2 m
V680-HS52 Cable length (2/12.5) m
V680-HS63 Cable length (2/12.5) m
V680-HS65 Cable length (2/12.5) m

V680-H01-V2 Cable length 0.5 m

An Amplifier is not required. It is built in.

RF Tag

1-kbyte RF Tags
V680-D1KP52MT
V680-D1KP66T
V680-D1KP66MT
V680-D1KP53M
V680-D1KP66T-SP
V680-D1KP54T
V680-D1KP58HTN
V680-D1KP52M-BT01
V680-D1KP52M-BT11

2-kbyte RF Tags
V680S-D2KF67
V680S-D2KF67M
V680S-D2KF68
V680S-D2KF68M
V680-D2KF52M
V680-D2KF52M-BT01
V680-D2KF52M-BT11

8-kbyte RF Tags
V680S-D8KF67
V680S-D8KF67M
V680S-D8KF68
V680S-D8KF68M

V680 Series

Handheld Type

Host Device

Standard Programmable Controller SYSMAC Series

Personal computer

Handheld Terminal
(Recommended: Zebra Technologies Handheld Terminal)

Handheld Reader Writer

Standard Serial
Handheld Reader Writer
V680-CH1D

AC Adapter
(order separately)
V600-A22

USB Handheld Reader Writer
V680-CHUD

Handheld Reader Writer
for Zebra Technologies Handheld Terminal
V680-CH1D-PSI

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RF Tag

1-kbyte RF Tags

V680-D1KP52MT

V680-D1KP53M

V680-D1KP54T

V680-D1KP52M-BT01
V680-D1KP52M-BT11

V680-D1KP66T
V680-D1KP66MT

V680-D1KP66T-SP

V680-D1KP58HTN

2-kbyte RF Tags

V680S-D2KF67
V680S-D2KF67M

V680S-D2KF68
V680S-D2KF68M

V680-D2KF52M

V680-D2KF52M-BT01
V680-D2KF52M-BT11

8-kbyte RF Tags

V680S-D8KF67
V680S-D8KF67M

V680S-D8KF68
V680S-D8KF68M

Note: Certificated as type approval of radio in 51 countries including Japan, European countries and the USA . However, some models cannot be used. Contact your OMRON sales representative for details on whether application is supported in other countries.
The latest information on the status of certification for radio wave regulations in various countries can be confirmed on the OMRON website.

✽ For information on the combinations that can be used, refer to *Combinations of Amplifier Units, Antennas, and RF Tags* on page 3.

OMRON

Combinations of Amplifier Units, Antennas, and RF Tags

1-kbyte RF Tags

| Amplifier Unit | Antenna | EEP-ROM | | | | | | | |
| | | 1-kbyte | | | | | | | |
		V680-D1KP52MT	V680-D1KP53M	V680-D1KP54T	V680-D1KP66T	V680-D1KP66MT	V680-D1KP66T-SP	V680-D1KP58HTN	V680-D1KP52M-BT□1
V680-HA63A V680-HAM42-DRT V680-HAM□1	V680-HS51	Yes	Yes						Yes
	V680-HS52-□	Yes	Yes	Yes	Yes	Yes	Yes		Yes
	V680-HS63-□	Yes∗		Yes	Yes	Yes	Yes		
	V680-HS65-□			Yes	Yes	Yes	Yes	Yes	
V680-HAM42-PRT	V680-HS63-W	Yes∗			Yes	Yes	Yes		
	V680-HS65-W				Yes	Yes	Yes		
V680-H01-V2 (Antenna with Built-in Amplifier)					Yes			Yes	
V680-CH□D (Handheld Reader Writer)		Yes	Yes		Yes	Yes	Yes	Yes	

2-kbyte RF Tags

| Amplifier Unit | Antenna | FRAM | | | | | |
| | | 2-kbyte | | | | | |
		V680-D2KF52M	V680-D2KF52M-BT□1	V680S-D2KF67	V680S-D2KF67M	V680S-D2KF68	V680S-D2KF68M
V680-HA63B V680-HAM42-DRT V680-HAM□1	V680-HS51	Yes	Yes				
	V680-HS52-□	Yes	Yes	Yes	Yes		
	V680-HS63-□	Yes∗		Yes	Yes	Yes	Yes
	V680-HS65-□			Yes	Yes	Yes	Yes
V680-HAM42-PRT	V680-HS63-W			Yes	Yes	Yes	Yes
	V680-HS65-W			Yes	Yes	Yes	Yes
V680-H01-V2 (Antenna with Built-in Amplifier)				Yes		Yes	
V680-CH□D (Handheld Reader Writer)		Yes		Yes	Yes	Yes	Yes

8-kbyte RF Tags

| Amplifier Unit | Antenna | FRAM | | | |
| | | 8-kbyte | | | |
		V680S-D8KF67	V680S-D8KF67M	V680S-D8KF68	V680S-D8KF68M
V680-HA63B V680-HAM42-DRT V680-HAM□1	V680-HS51				
	V680-HS52-□	Yes	Yes		
	V680-HS63-□	Yes	Yes	Yes	Yes
	V680-HS65-□	Yes	Yes	Yes	Yes
V680-HAM42-PRT	V680-HS63-W	Yes	Yes	Yes	Yes
	V680-HS65-W	Yes	Yes	Yes	Yes
V680-H01-V2 (Antenna with Built-in Amplifier)		Yes		Yes	
V680-CH□D (Handheld Reader Writer)		Yes	Yes	Yes	Yes

Note: For details, refer to the relevant user's manual (Z248, Z249, Z262, Z271, Z272, Z278, Z279, and Z339).

∗ When using the V680-D1KP52MT or V680-D2KF52M embedded in metal, use the V680-HS51/-HS52 Antenna.
Communications will not be possible if the V680-HS63 Antenna is used.
Communications will not be possible if the V680-HS65 Antenna is used with the V680-D1KP52MT, V680-D1KP53M, or V680-D2KF52M.

Communication is also possible with RF Tags other than those of the V680 Series as long as they comply with ISO/IEC 18000-3 (ISO/IEC 15693). However, communication with RF Tags other than those of the V680 Series cannot be assured. The user must confirm communication capabilities carefully prior to use.