

RFID System V680S Series

RFID Conforming to ISO/IEC 18000-3 (15693)



- Easy operation using web browser
- Easy connection via Ethernet

Your trusted partner in RFID solutions

Over 25 years of history and experience

High performance grounded in experience

With our experience in all sectors of transportation manufacturing, we can bring exceptional quality to your manufacturing process.

Take advantage of industry-leading service from an automation partner with over 25 years of RFID experience



What makes our RFID system so reliable?

Scan this code using the barcode reader function of your mobile device to watch a quick video about our long-lasting technology.

Radio Regulations Compliance

For over 50 countries worldwide



Radio waves for mobile phone, TV, and industrial components are national public goods. An RFID system must comply with radio regulations.

Our commitment to continued compliance keeps our products in line with global RFID standards and radio regulations in many countries.

Japan

Europe

Americas

(United States, Canada, Mexico, Brazil)

Asia

(China, South Korea, Taiwan, Philippines, Vietnam, Thailand, Singapore, Indonesia, Malaysia, India)

Oceania

(Australia, New Zealand)

Contact your Omron sales representative for details on whether an application is supported in other countries. The latest information on the status of certification for radio regulations in various countries can be confirmed on the Omron website.

Our 3 in 1 solution
is easy in three ways

3-in-1 **Plus+** Ethernet
RFID



CONTROLLER

ANTENNA

AMPLIFIER

RFID system
V680 S Series



Easy Connection ▶ P.6

EtherNet/IP™, PROFINET or Ethernet (Modbus TCP) is provided as a standard feature. PLC direct connection.



Read the 2D code on the left with your smartphone or tablet to see "Easy Connection" in the video.



Easy Installation ▶ P.7

Stable communications are possible just by installing within a specified range.



Read the 2D code on the left with your smartphone or tablet to see "Easy Installation" in the video.



Easy Operation ▶ P.8

The browser-based interface enables setting for reading/writing data without special software.



Read the 2D code on the left with your smartphone or tablet to see "Easy Operation" in the video.

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Easy Connection

Simple system configuration

Connect with just one cable via built-in Ethernet

One Connection

Embedded Ethernet I/F realizes just one connection to the system without any network converter. Wiring work can be reduced.

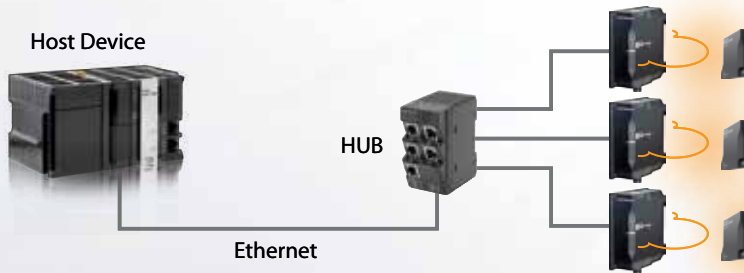
Easy Programming

3 types of industrial Ethernet protocols enable to connect any type of PLC with easy programming.

EtherNet/IP[®] PROFINET[®] Modbus

Easy System Expansion

Multiple Reader/Writers can be easily connected by using a Switching HUB. System design and system expansion can be configured easily.



Plus+

The Connection Procedure Manual for OMRON NJ Series and CJ Series is available.

Note : Contact your Omron sales representative for the Connection Procedure Manual.



Easy Installation

Finding the best installation location is simple

Communication diagnostic via LED status indicators

Visualized Communications Status

On-site operators can easily check the communications status with the indicators of the Reader/Writer. The indicators using easy-to-see high-brightness LED can be easily seen from a distance.

■ Good

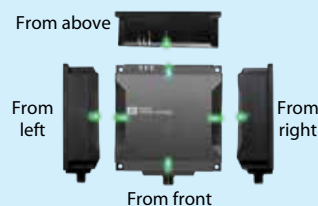


■ Error



Plus+

Communications status can be checked from **four directions**.



Diagnosis of Communications

The Reader/Writer measures the communications signal and ambient noise levels to diagnose its stability, then indicates in LED and report to Host System. Easily and quickly checks the proper installation of the system, and helps to reduce startup time. This can be used for preventing errors during operation.

■ Warning



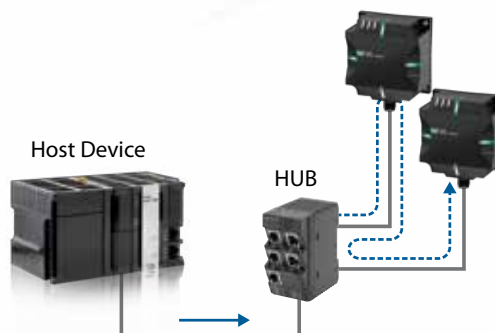
Indicates "Warning" states communication in yellow.



Note: 1. Communication Diagnostic is disabled in the default settings.
2. The communication time is longer when enabling Communication Diagnostic.
For details, refer to the User's Manual (Cat. No. Z339 or Z353).

Interrogation zone extended mode

Can control multiple Reader/Writers by sending just one command. The Reader/Writers installed on both sides of the conveyor can access the RF Tags on the pallets even if the pallets are not placed with the same orientation.



Easy Operation

No special software or expert RFID knowledge required

WEB Browser I/F

Enable all parameter settings, execute RF Tag communications, and check the operation log anywhere by just connecting the computer.



Easy Troubleshooting

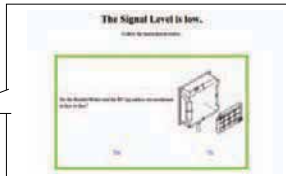
Up to 2000 communication results are stored and guidance for the "Warning" results is provided.
Can be quickly recovered from trouble without expert knowledge.

■ List

Latest 2,048 communication results are logged and checked.



Guidance window



Troubleshooting is also available in the "Warning" results.

■ Graph

View diagnostic results in the graph. Check the time-series signal and noise levels to reduce analysis time required to identify the cause of unstable communication. Results can be output to CSV files.



Plus+

Four Language Support

Select from four languages: English, Chinese, Korean and Japanese.

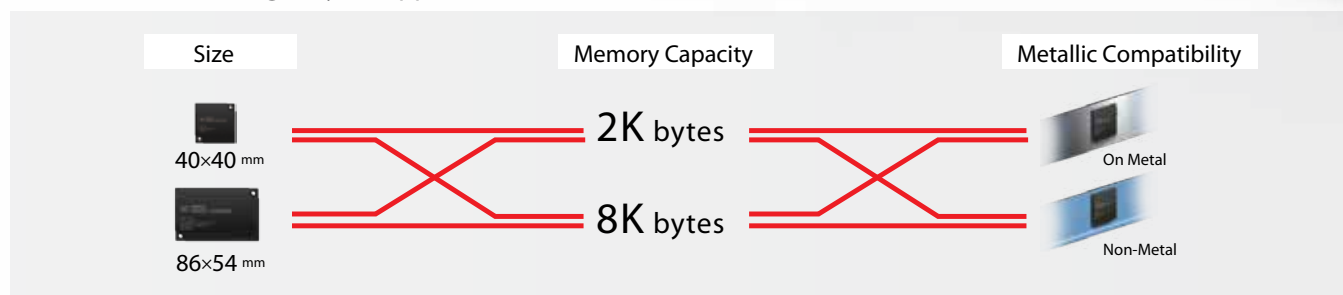
V680S Series RF Tag

Shortens setup time and ensures more stable operation

Versatile selection with IPx9K support and longer communication range

Easy to select suitable RF tag for your application

V680S RF Tag series offers 8 kinds of full combinations based on Communication Range, Mounting Materials, Memory Sizes. Making it Easy to find the suitable RF Tag for your application.



Withstands high-temperature washdowns with IP68 + IPx9K* support

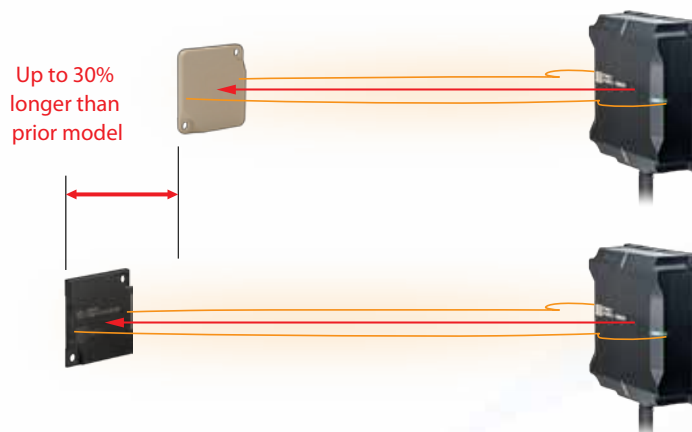
RF Tag is molded by PPS resin which has superior oil and chemical resistance specification. It can be washed-down by a steam cleaner without removing from the pallet.

*1. IPx9K is a protection standard regarding high temperature and high-pressure water.



Longer communication range*2

V680S series RF Tags are optimally designed to be used with V680S series Reader/Writers. Communication Range are up to 30% longer than those of prior models. This enables more flexible system design.



Combination Examples

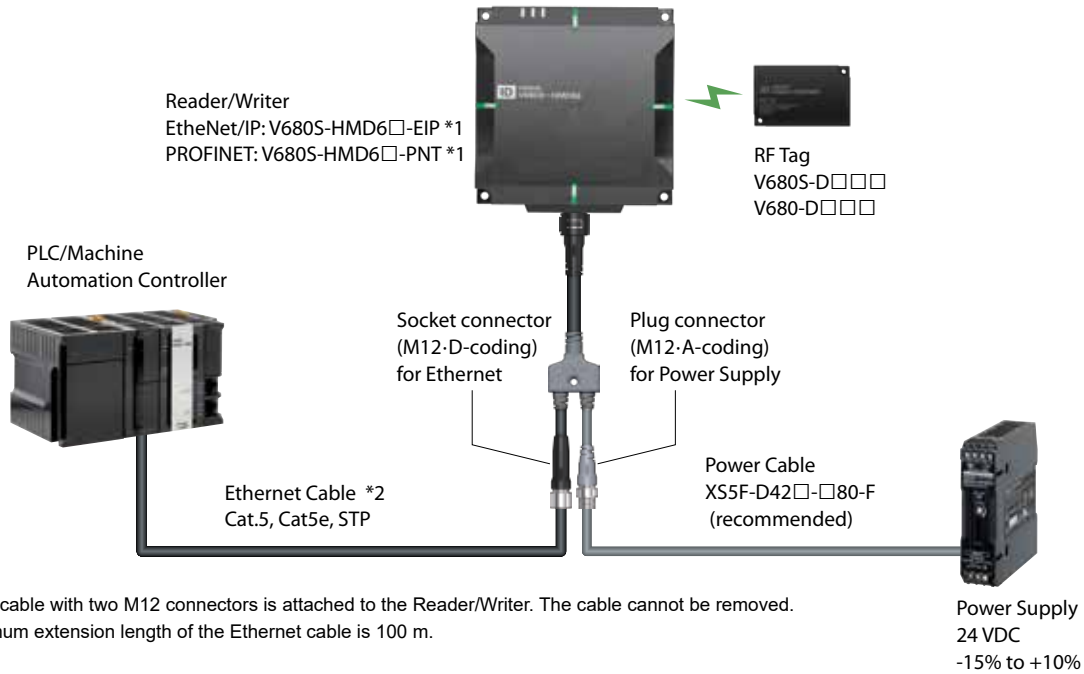
Size	Memory Capacity	Reader/Writer	Communication Range	
			Prior Model	V680S series
40×40 mm (40 mm×40 mm×5 mm)	8K bytes	V680S-HMD64-ETN	V680-D8KF67 5.0 to 50.0 mm	V680S-D8KF67 5.0 to 65.0 mm
86×54 mm (86 mm×54 mm×10 mm)	8K bytes	V680S-HMD66-ETN	V680-D8KF68A 10.0 to 100.0 mm	V680S-D8KF68 10.0 to 115.0 mm

*2. When using some combinations of V680S series RF Tag and V680S series Reader/Writer.

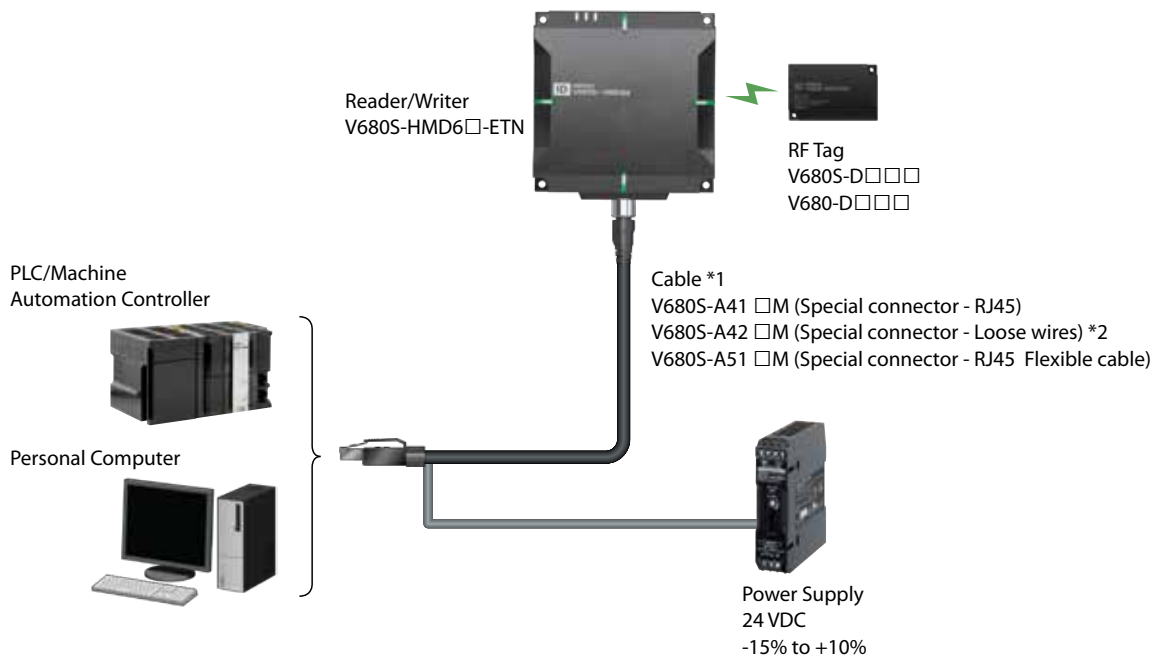
System Configuration

The below shows the configuration for 1 to 1 connection. Multiple Reader/Writers can be connected by using a Switching HUB.

EtherNet/IP, PROFINET








Modbus TCP



Reader/Writer – RF Tag Communication Range Table

V680S series RF Tag (2K bytes/8K bytes)

(Unit: mm)






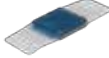

RF Tag			Reader/Writer		
Model		Installation	V680S-HMD63-□□□  50×50×30	V680S-HMD64-□□□  75×75×40	V680S-HMD66-□□□  120×120×40
 40×40×5	V680S-D□KF67	nonmetallic surface	7.0 to 40.0	5.0 to 65.0	7.0 to 85.0
	V680S-D□KF67M	metallic surface	6.0 to 30.0	3.0 to 40.0	4.0 to 45.0
 86×54×10	V680S-D□KF68	nonmetallic surface	*	7.5 to 75.0	10.0 to 115.0
	V680S-D□KF68M	metallic surface	*	5.5 to 55.0	7.5 to 75.0

Note: The data above table shows the communication ranges for both Read and Write operation.

* This combination is not guaranteed due to the size mismatch between the Reader/Writer and RF Tag.

V680 series RF Tag (1K bytes)

(Unit: mm)

RF Tag			Reader/Writer		
Model		Installation	V680S-HMD63-□□□  50×50×30	V680S-HMD64-□□□  75×75×40	V680S-HMD66-□□□  120×120×40
 φ20×t2.7	V680-D1KP54T	nonmetallic surface	0.0 to 24.0 (0.0 to 20.0)	0.0 to 33.0 (0.0 to 28.0)	0.0 to 45.0 (0.0 to 38.0)
 34×34×3.5	V680-D1KP66T	nonmetallic surface	0.0 to 30.0 (0.0 to 25.0)	0.0 to 47.0 (0.0 to 42.0)	0.0 to 64.0 (0.0 to 57.0)
	V680-D1KP66MT	metallic surface	0.0 to 25.0 (0.0 to 20.0)	0.0 to 35.0 (0.0 to 30.0)	0.0 to 37.0 (0.0 to 30.0)
 95×36.5×6.5	V680-D1KP66T-SP	nonmetallic surface	0.0 to 25.0 (0.0 to 20.0)	0.0 to 42.0 (0.0 to 37.0)	0.0 to 59.0 (0.0 to 52.0)
 φ80×t10	V680-D1KP58HTN	nonmetallic surface	*	7.5 to 75.0 (7.5 to 75.0)	10.0 to 90.0 (10.0 to 80.0)

Note: The data above table shows the communication ranges for both Read and Write operation.

* This combination is not guaranteed due to the size mismatch between the Reader/Writer and RF Tag.

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