OMRON

Model V680S-HMD63-ETN

RFID System Reader/Writer

INSTRUCTION SHEET

Thank you for selecting OMRON product. This sheet primarily describes precautions required in installing and operating the product.
Before operating the product, read the sheet thoroughly to acquire sufficient knowledge of the product. For your convenience, keep the sheet at your disposal.

TRACEABILITY INFORMATION:
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CE

The mating cable/connector assembly, manufactured by Omron Corp., M12 to M12 connector, series V680S, is to be provided.

SAFETY PRECAUTIONS

●Meaning of Signal Words

⚠ WARNING	InIndicates a potentially hazardous situation which, if not avoided, will result in minor or moderateinjury, or may result in serious injury or death. Additionally, there may be significant property damage.

●Meaning of Alert Symbols

⃠	Indicates general prohibitions for which there is no specific symbol.

●Warning

⚠ WARNING

These Products are not designed to be used either directly or indirectly in applications that detect human presence for the purpose of maintaining safety. Do not use these Products as a sensing means for protecting human lives. ⃠

PRECAUTIONS FOR SAFE USE

Observe the following precautions to ensure safe usage of the product.

1. Installation and Storage Environment
   ·Do not install the Products near any equipment that generates a large amount of heat (such as heaters,transformers, and large-capacity resistors).
   ·If many Reader/Writer are mounted near each other, communications performance may decrease due to mutual interference. Refer to Reference Data in Section 8 Appendices of User's Manual and check to make sure there is no mutual interference.
2. Installation and Removing
   ·Do not use the AC power supply.
   ·Do not perform wiring incorrectly. Doing so may result in rupture or damage from burning.
   ·Please use a device supporting STP cables for the host device (such as an Ethernet switch or PLC) which is connected the specified Cables (V680S-A41 □M/-A42 □M). Ground the host device to a ground resistance of 100 Ω or less.
   ·Use an exclusive cable as model V680S-A40 □M, V680S-A41 □M, or V680S-A42 □M.
3. Using
   ·Do not bend the cable past a bending radius of 40 mm. The cable may be disconnected.
   ·If you find an abnormal operation of the product, immediately stop its operation and turn OFF the power supply. Consult with an OMRON representative.
4. Cleaning
   ·Do not clean the Products with paint thinner, benzene, acetone, or kerosene.
5. Disposing
   ·Dispose of the Products as industrial waste.

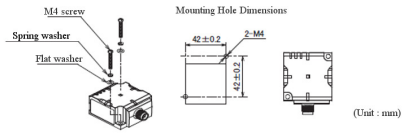
PRECAUTIONS FOR CORRECT USE

1. Installation and Storage Environment
   Do not use or store the Product in the following locations.
   · Locations subject to corrosive gases, dust, dirt, metal powder, or salt
   · Locations where ambient temperature or ambient humidity range is over the specified.
   · Locations subject to extreme temperature changes that may result in dew condensation.
   · Locations where the product would be directly subjected to vibration or shock exceeding specifications.
2. Installation
   · The Products communicate with RF Tags using the 13.56-MHz frequency. Any transceivers, motors, inverters, or switching power supplies generate noise that can affect communications with the Tags and cause errors. If such devices are located near the Tags, always test operation in advance to confirm whether the system may be affected.
   ·When you use the Reader/Writer in RUN mode, the control signal should be connected to the +24 V of the power supply. The Reader/Writer will operate in safe mode when the control signal is connected to 0 V of the power supply.
   ·Do not exceed the rated voltage range. Doing so may result in Product destruction or burning.
   ·Securely tighten the screws to a torque of 1.2N·m when mounting the Reader/Writer.
   ·Use a tightening torque of 0.3 to 0.49N·m when mounting the cable connector.
3. Prohibitions
   ·Do not drop the Products.
   ·Do not pull on the cables with excessive strength.
   ·Do not attempt to disassemble, repair, or modify the Procuct.
4. Maintenance
   ·The Reader/Writer must be inspected on a daily or regular basis.

1. Rating performance

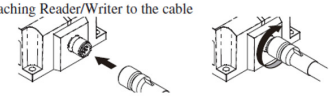
Item	Specifications
Dimensions	50×50×30 mm (excluding protruding parts)
Supply voltage	24 VDC (-15% to +10%) Class2
Consumption surrent	0.2A max.
Ambient operating temperature	-10 to 55℃ (No freezing.)
Ambient operating humidity	25 to 85%RH(No dew condensation)
Ambient storage temperature	-25 to 70℃ (No freezing.)
Ambient storage humidity	25 to 85%RH(No dew condensation)
Insulation resistance	20MΩ min. (with 500 VDC megohmmeter) Between cable terminals and casing
Dielectric strengh	1000VAC,50/60Hz,1min Between cable terminals and casing
Vibration resistanse	10 to 500 Hz, double amplitude: 1.5 mm, Max. Acceleration: 100m/s², with 10 sweeps for 11 min. each in 3 directions
Shock resistance	Mechanical durability: 500m/s², 3times each in 6 directions
Degree of protection	IP67 (IEC 60529:2001) Oil resistance equivalent to IP67F (JIS C 0920:2003, Appendix 1)
Type rating	Type 4X, indoor use only
Material	Case: PBT resin, Filled resin: Urethane resin
Mass	Approx. 120 g
Mounting method	Two M4 screws (Use a screw of 12 mm or more in length.)
Host communication interface	EtherNet 10BASE-T/100BASE-TX
Host communication protocol	MODBUS TCP
Accessory	Instruction Seet: 1 sheet Description of Regulations and Standard: 1 sheet IP Address label: 1 sheet

2. Installation



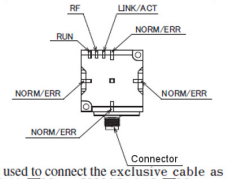
Mount the Reader/Writer with four M4 screws with spring washers and flat washers as shown above. Recommended tightening torque: 1.2 N·m

■ Attaching Reader/Writer to the cable



1. Hold the cable connector, and insert the cable connector into the Reader/Writer connector.
2. Turn the threaded portion of the cable connector clockwise to lock it in place. Recommended tightening torque: 0.39 to 0.49 N·m

3. Part Names and functions



(1)Connector

The connector is used to connect the exclusive cable as model V680S-A40 □M, V680S-A41 □M, or V680S-A42 □M.

PIN No.	Name	Function	The color of the wiring of the V680S-A41.	The color of the wiring of the V680S-A42.
1	24P	+24V	Brown	Brown
2	FG	Frame ground	-	(Drain wire)
3	CONT	Control signal	Purple	Purple
4	TD-	Ethernet send data -	-	Orange
5	RD+	Ethernet receive data +	-	Green/White (stripe)
6	TD+	Ethernet send data +	-	Orange/White (stripe)
7	24N	0V	Blue	Blue
8	RD-	Ethernet receive data -	-	Green

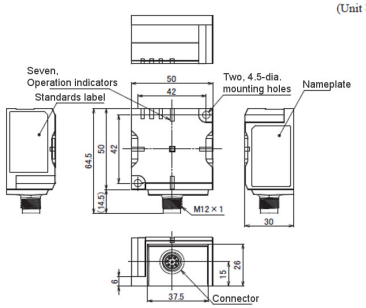
(2)Status indicators

Name	Color	Description
RUN	green	Lighting while the Reader/Writer is operating normally.
	Flashing green slowly	Flash while the Reader/Writer is operating in Safe mode. (1sec cycles)
	Flashing green quickly	Flash quickly while the Reader/Writer in the boot process. (200msec cycles)
	yellow	Lighting while the Reader/Writer is operating as Slave mode.
	Flashing yellow quickly	Flash quickly while the Reader/Writer that operates as Slave mode is in the boot process. (200msec cycles)
	Not lit	Turn off when power is not supplied.
RF	yellow	Lighting during communication for RF Tag.
	Not lit	Turn off when not in communication with the RF tags.
NORM/ERR	green	Lighting when the communications finish with no error. When communications diagnosis[See Note] is enabled, this indicator will flash once each time a stable communication is detected.
	yellow[See Note]	When communications diagnosis is enabled, this indicator will flash once each time an unstable communication is detected.
	red	Lighting once when an error occurs during communications with the host device, or during communications with an RF Tag. Lighting when unrecoverable error occurs.
NORM/ERR	Flashing red	Flash when recoverable error occurs. (Configuration memory error, or Control signal wiring mistake, etc.)
	Flashing red irregularly	Flash irregularly when the Reader/Writer detects a device of duplicate IP address in the same network. (2 Flashes for 100msec in 1sec cycles)
	Not lit	Turn off when the standby state.
LINK/ACT	green	Lighting during linking normally.
	Flashing green	Flash during detects a carrier.
	Not lit	Turn off when the ethernet cable is not connected.

Note. You can use communications leeway diagnosis with Reader/Writers with firmware version 2.00 or higher.

4. Dimensions

(Unit : mm)



Suitability for Use

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
See also Product catalog for Warranty and Limitation of Liability.

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Dⓡ Sep, 2013

法規と規格/Regulations and Standards

以下の海外法規、規格に対応しています。
The Products conform to the following regulations and standards.

1. 米国/The United States

FCC ID	形式/Model
E4EV680S63	V680S-HMD63-ETN
	V680S-HMD63-EIP
	V680S-HMD63-PNT

FCC NOTICE
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

FCC CAUTION
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2. カナダ/Canada

IC ID	形式/Model
850J-V680S63	V680S-HMD63-ETN
	V680S-HMD63-EIP
	V680S-HMD63-PNT

This device complies with Industry Canada licence-exempt RSS standards.
Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.
L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.