RFID System

V680 Series

User's Manual

PRELIMINARY

Hand-held Reader/Writer

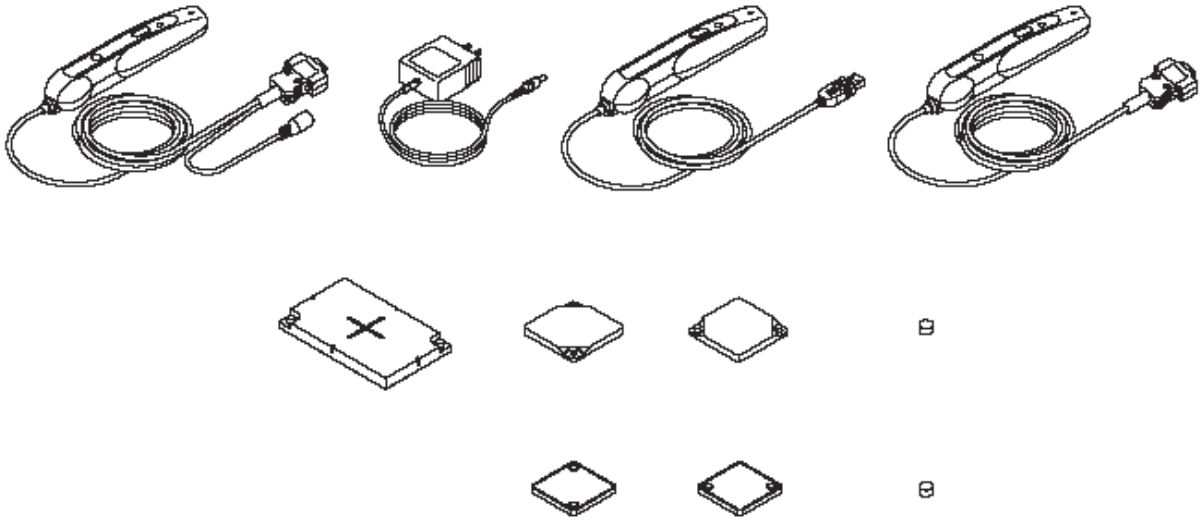
V680-CHUD

V680-CH1D

V680-CH1D-PSI

ID Tags

V680 Series



RFID System

V680-CHUD Hand-held Reader Writer
V680-CH1D Hand-held Reader Writer
V680-CH1D-PSI Hand-held Reader Writer

User's Manual

READ AND UNDERSTAND THIS DOCUMENT

Please read and understand this document before using the products. Please consult your OMRON representative if you have any questions or comments.

WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

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THE PRODUCTS CONTAINED IN THIS DOCUMENT ARE NOT SAFETY RATED. THEY ARE NOT DESIGNED OR RATED FOR ENSURING SAFETY OF PERSONS, AND SHOULD NOT BE RELIED UPON AS A SAFETY COMPONENT OR PROTECTIVE DEVICE FOR SUCH PURPOSES. Please refer to separate catalogs for OMRON's safety rated products.

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The following are some examples of applications for which particular attention must be given. This is not intended to be an exhaustive list of all possible uses of the products, nor is it intended to imply that the uses listed may be suitable for the products:

- Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.
- Nuclear energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
- Systems, machines, and equipment that could present a risk to life or property.

Please know and observe all prohibitions of use applicable to the products.

NEVER USE THE PRODUCTS 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 IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

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Performance data given in this document is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons.

It is our practice to change model numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the product may be changed without any notice. When in doubt, special model numbers may be assigned to fix or establish key specifications for your application on your request. Please consult with your OMRON representative at any time to confirm actual specifications of purchased products.

DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

ERRORS AND OMISSIONS

The information in this document has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical, or proofreading errors, or omissions.

PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

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Meanings of Signal Words

The following signal words are used in this manual.

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

Meanings of Alert Symbols

The following alert symbols are used in this manual.

	Indicates the possibility of explosion under specific conditions.
	Indicates general prohibitions for which there is no spacific symbol.

Alert statements in this Manual

The following alert statements apply to the products in this manual. Each alert statement also appears at the locations needed in this manual to attract your attention.

⚠ WARNING	
	This product is not designed to be used either directly or indirectly in applications that detect human presence for the purpose of maintaining safety. Do not use this product as a sensing device for protecting human lives.
	A lithium battery is built into SRAM Data Carriers and may occasionally combust, explode, or burn if not treated properly. Dispose of SRAM Data Carriers as industrial waste and never disassemble, apply pressure that would deform, heat to higher than 100°C, or incinerate SRAM Data Carriers.

Regulations and Standards

The V680-CHUD, V680-CH1D, and V680-CH1D-PSI conform to the following overseas regulations and standards.

1. Japan Radio Law
   Equipment using high frequencies: Inductive Reading/Writing Communications Equipment
   Conforming standards: Inductive Reading/Writing Communications Equipment; Standard: ARIB STD-T82

2. FCC and IC Rules
   This device complies with Part 15 Subpart C of FCC Rules and RSS-Gen of IC Rules.
   FCC ID : OZGV680-CHXD
   IC : 850L-V680CHXD

FCC NOTICE

This device complies with Part 15 of the FCC Rules and RSS-Gen of IC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
Do not remove the ferrite core (TKK Type TFT-081610N) installed on the cables to suppress RF interference.

Precautions for Safe Use

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

1. Do not use the product in environments with flammable, explosive, or corrosive gasses.
2. Do not attempt to disassemble, repair, or modify the product.
3. The USB driver must be installed in the personal computer before connecting the V600-CHUD to a personal computer.
4. Do not subject cables to excessive loads.
5. Observe all warnings and precautions given in the body of this manual.
6. Discontinue usage and turn OFF the power supply immediately if you notice any unusual odors, if the product is abnormally hot, or if the product starts smoking.
7. When disposing of the product, treat it as industrial waste.

Precautions for Correct Use

Always observe the following precautions to prevent operation failures, malfunctions, and adverse effects on performance and equipment.

1. Installation Environment

Install the product in the following locations:

- Locations not subject to corrosive gas, dust, metallic powder, or salt.
- Locations within the specified operating temperature range.
- Locations not subject to rapid changes in temperature (with no condensation).
- Locations within the specified humidity range.
- Locations not subject to direct vibration or shock outside the specified ranges.
- Locations not subject to water, oil, or chemicals.

2. Installation

- The product communicates with Data Carriers using the 530-kHz frequency band. Some motors, inverters, switching power supplies, and other devices generate noise that can affect communications with the Data Carriers. If such devices are located near the Data Carriers, communications with the Data Carriers may be adversely affected or the Data Carriers may be destroyed. Whenever using the product near devices of this nature, always test operation in advance to confirm if the system will be affected.
- Observe the following precautions to minimize the effects of normal noise.
  (1) Ground all metal objects in the vicinity to 100 Ω or less.
  (2) Do not use the system near high-voltage or high-current lines.
- Connectors are not waterproof. Do not use the product where mists are present.
- Do not use chemicals that would affect the materials used in the product.
- Always be sure the USB connector is properly inserted when using the USB port.

3. Cleaning

- Do not clean the product with thinners, benzene, or other organic solvents. These will dissolve the resin parts and coating on the case.

How to Read this Manual

Meanings of Symbols

Indicates particularly important points related to a function, including precautions and application advice.

Indicates page numbers containing relevant information.

Indicates reference to helpful information and explanations for difficult terminology.

Table of Contents

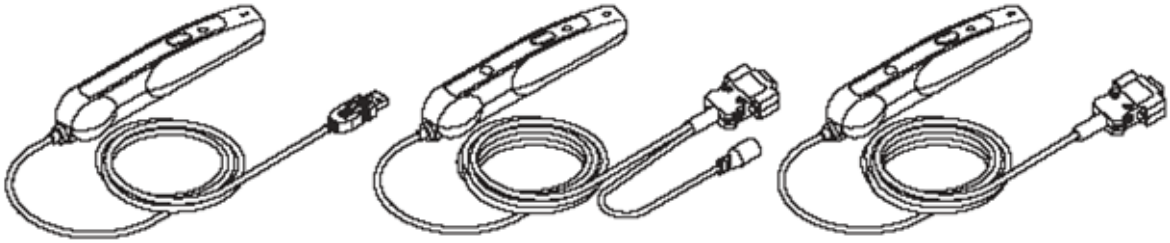
Section 1
Product Overview

Features

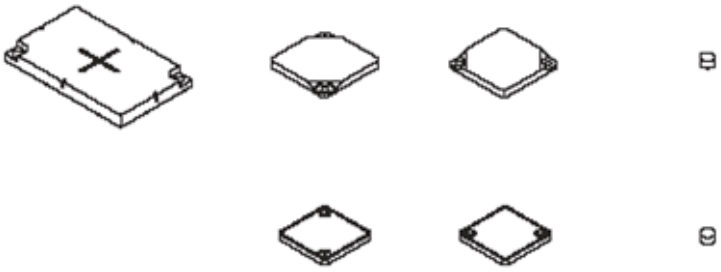
The V680-CHUD, V680-CH1D, and V680-CH1D-PSI Hand-held Reader Writer incorporates a V680-series Antenna and Controller into a compact device. Tag can be read from or written to the Tag simply by approaching or touching the Tag with the Hand-held Reader Writer.

Personal computer

Psion Teklogix
7525S-series
For V680-CH1D-PSI
Recommended hand-held
portable data terminal
Model V600-A7525S-XX



Hand-held Reader Writer



Tags

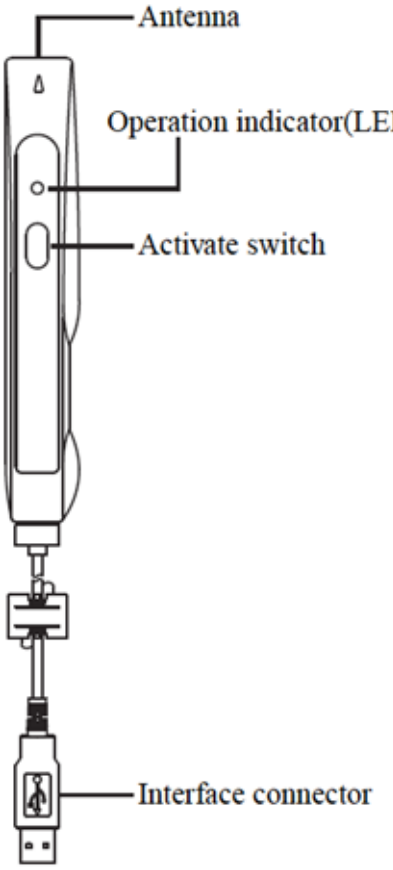
■V680-CHUD
The Hand-held Reader Writer in accordance with USB 1.1. It is possible to use it by connecting it with the personal computer and the hand-held portable data terminal as excellent Reader Writer in the portability and operativeness.

■V680-CH1D
The RS-232C interface is built into, and the personal computer and PLC, etc. can be connected.

■V680-CH1D-PSI
The RS-232C interface is built into, and it is possible to use it by connecting it with the hand-held portable data terminal as excellent Reader Writer in the portability and operativeness.

Names and Functions of Components

V600-CHUD



•Operation Indicator (LED)

Display	Meaning
Lit green	A command has been received from the host device.
	Communications with the Data Carrier have completed normally.
	The execution result of the noise detection command (NS) is "A" (low noise).
	The result of the error noise detection command (EN) is "0" (normal).
Flashing green	When the power is turned ON, after initialization of the Hand-held Reader Writer is completed
	Communications with the Data Carrier are in progress.
Lit red	A communications error with the Data Carrier has occurred.
	A CPU error has occurred.
Flashing red	A Data Carrier non-existent error has occurred.
	A communications error with the host device has occurred.
	The execution result of the noise detection command (NS) is "B" (high noise).
	The result of the error noise detection command (EN) is "1" (error).

CHECK! After the operation indicator is lit or flashing for a certain time, it will turn OFF.

•Activate Switch

When button commands (button commands, button auto commands) are used and the activate switch is pressed, communications with the Data Carrier will commence. (For details on button commands, refer to Section 3 Commands.)

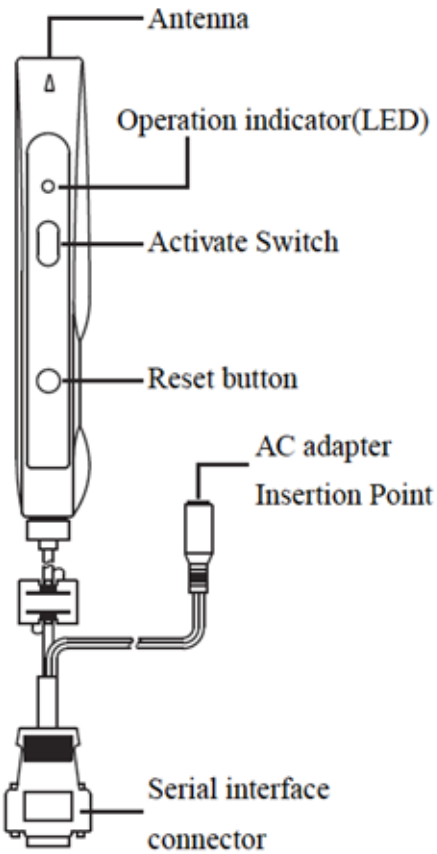
•Interface Connector

This is a USB interface with an A-series plug based on USB 1.1.

•Antenna

To communicate with the Data Carrier, move the antenna head closer to it.

V680-CH1D



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•Reset button

If the reset button is held for 2 seconds or more during startup, the Hand-held Reader Writer will go into stand-by state to initialize the setting.

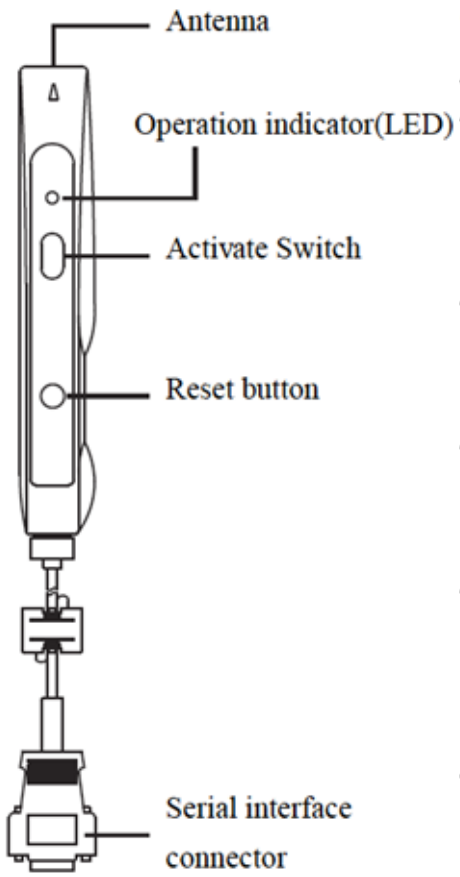
•AC adapter Insertion Point

This is a dedicated AC adapter connection jack.

•Interface Connector

This is a 9-pin D-sub connector serial interface based on RS-232C.

V680-CH1D-PSI



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MEMO