

User Manual

Product Name ALVH Desktop Card Reader

Model DWMS-VDCR01

Ver 3.1 Sep.18.2008

Ver 4.8 Nov.15.2018

< Revision History >

| Ver. | Date | Application | Approved by | Reviewed by | Prepared by |
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| 4.7 | 11/1/2018 | Correction of mistake in the number of page. P.2 supplay→supply | Iwata | Imaeda | Endou |
| 4.8 | 11/15/2018 | P.8 Change note on FCC. P.9 Change note on ISED | Iwata | Imaeda | Endou |
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1. Introduction

The present document describe the supply specifications for the ALVH Desktop Card Recorder (here under refer by VDCR).

The VDCR is a desktop MIFARE reader/writer that connects to a PC server via RS-232C communication.

This unit is installed in the hotel, and communication with PC server is available via serial interface.

By installation of KB between PC server and VDCR, it is also possible to issue the card by operation of the KB (KB→PC server→DCR).

- One-to-one connection is possible with upper computer via IOIO port.
- Issuing and reading of the card is possible.

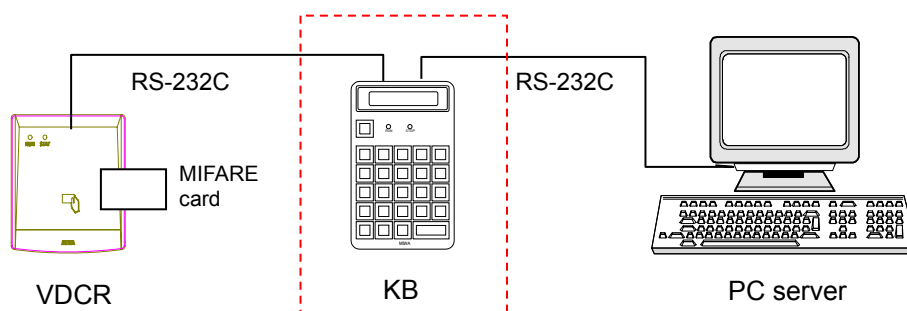
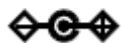


Fig. 1.1 Host connection

2. Precautions on use

- (1) Please avoid installing this equipment in places having excessive dust, and high temperature and humidity, and near the objects that generate magnetic field or inductance noise. Also use of under direct sunlight may cause abnormal function and trouble.
- (2) Do not use other than the accessory AC power adapter. It may cause abnormal condition(firing/fuming) and trouble.
For connection with external devices, refer to 5.Connection with external devices.
- (3) Do not drop the unit or give a shock or hard vibration to the unit, or it may cause a trouble.
- (4) Connection and disconnection of the connectors should be performed after turned this unit off. If not, it may cause a trouble.
- (5) Symbols displayed on the device

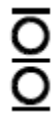
DC 5.0V




: Power source plug polarity



: Functional ground (earth)



: Serial communication port

5V  **2.6A** : Power supply specification. DC 5V/2.6A

3. Hardware specifications

Table 2.1 Hardware specifications

| Items | Content | |
|------------------------|--|--|
| General specifications | External shape | See Appendix 1 |
| | Weight | 225g(Only main unit) *AC power adapter 170g |
| | Power consumption | 13W |
| | Temperature | Running temperature: 0~40°C / 25~85%(without condensation) Storage temperature: -15~50°C / 25~85% |
| | Environment | Room (without excessive dust) |
| Power source | AC power adapter | Type : ATSO18T-W050V(ADAPTER TECHNOLOGY) Input : 100Vac-240Vac Output : 5Vdc,3.0A Safety standard : UL,PSE Electrical standard : CE |
| Mounted board | Control board (including antenna board) | Perform MIFARE reading/writing MPU: R8C/36C series R5F2136CCNFP : (Renesas Technology) Running frequency : 20MHz Built-in FROM : 128Kbyte and 2Kbyte Built-in RAM : 10Kbyte Communication with card: by exclusive chip : PN532 (NXP) Used voltage: 3Vdc |
| | Communication board | Performs conversion of signal between Control board and external serial interface. Signal level conversion : RS232C⇔TTL Voltage conversion : 5Vdc⇒3Vdc |
| | LED board | LED for power source ("RUN" indication) Color : Green Used voltage : 5Vdc |
| | Front panel LED board | LED for plane illumination of the front panel (three colors) and LED for card detection status indication. Plane illumination: 6pcs. (3pcs. for top side and 3pcs. for bottom side) Color: Red/Green/Orange (controlled by software) Status indication: 1pc. ("STS" indication) Color: Red/Green/Orange (controlled by software) Used voltage: 5Vdc |

Table 2.2 Interface specifications

| Items | Content | |
|-------------------------|---------|--|
| Communication with card | MIFARE | Modulation type : ASK Codification : Modified Miller Antenna power : 1W, deviation -80 to +20% (Output power to antenna at no-modulation carrier transmission) Strength of radiated disturbance: less than 500uV/m by 3m measurement. (13.56MHz ±7kHz band) Basic frequency : 13.56MHz, deviation less than 50ppm Communication distance: 0 to 20mm |
| External interface | RS-232C | Communication rate : 19200bps Data length : 8bit Parity bit : EVEN Stop bit : 1bit Flow control : Nil |

4. Composition outline

4.1. Outline of system composition

The VDCR is composed of following blocks.

- ① VDCR main unit
- ② AC power adapter

Fig. 4.1 shows the top view of the VDCR main unit, and Fig. 3.2 shows the arrangement of external interface of the main unit.

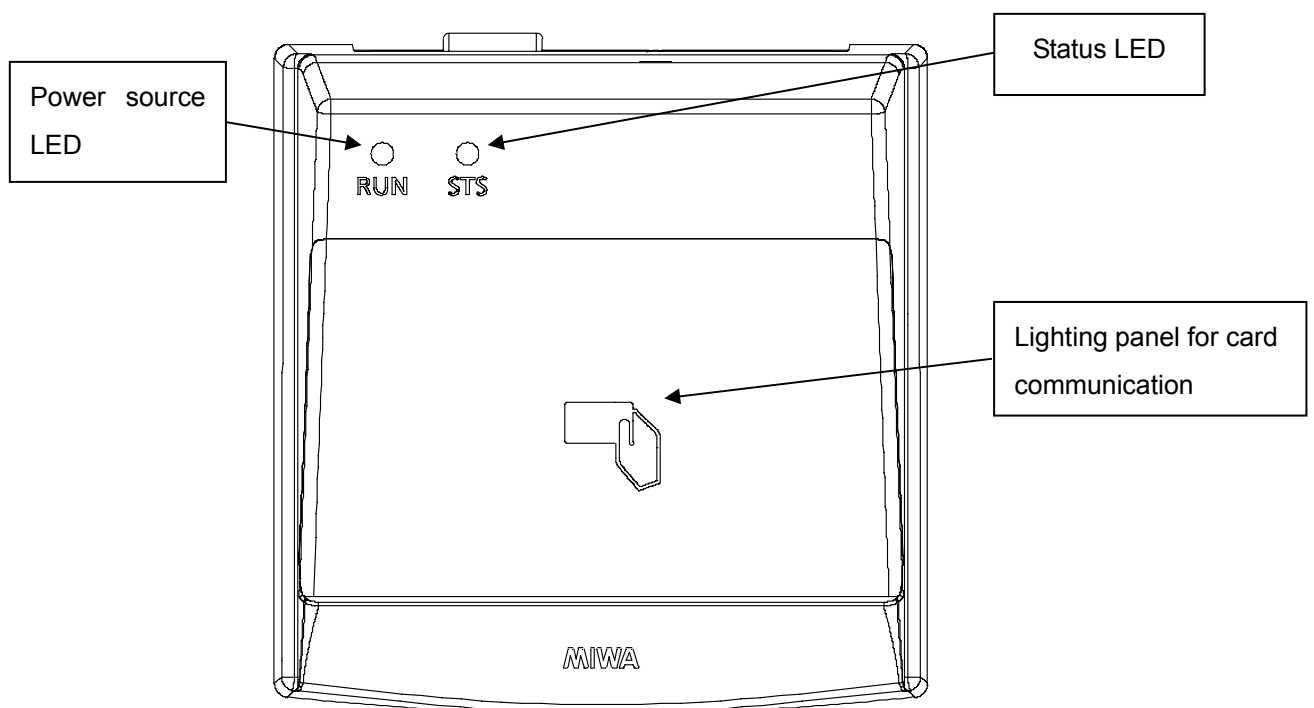


Fig. 4.1 Top view of VDCR main unit

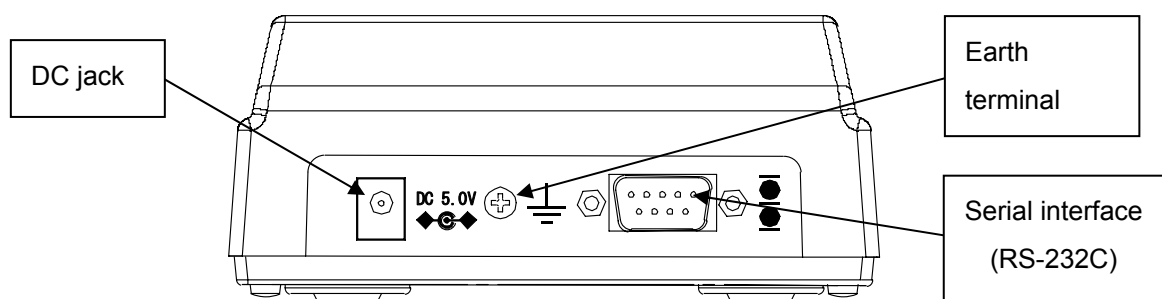


Fig. 4.2 Arrangement of interface panel of VDCR main unit

5. Connection with external devices

5.1. VDCR main unit

External devices are connected by cables to the connectors placed posterior panel of the unit.

- ① RS-232C : Upper host (PC server)
- ② 5Vdc : AC power adapter

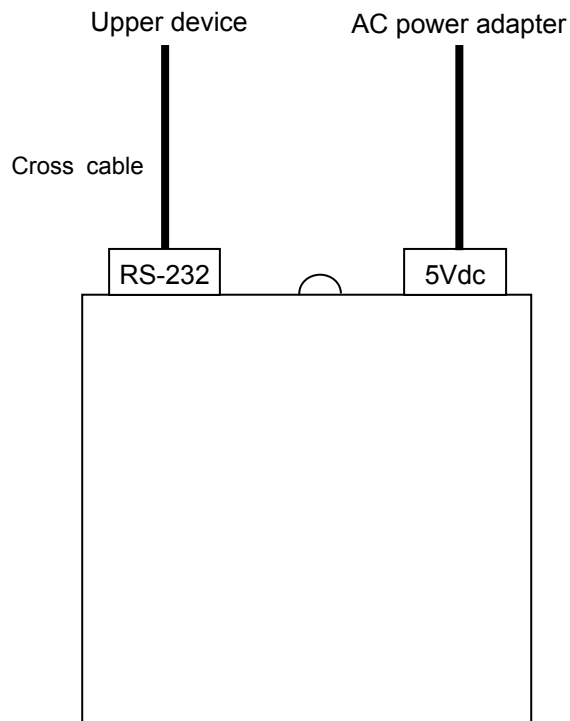
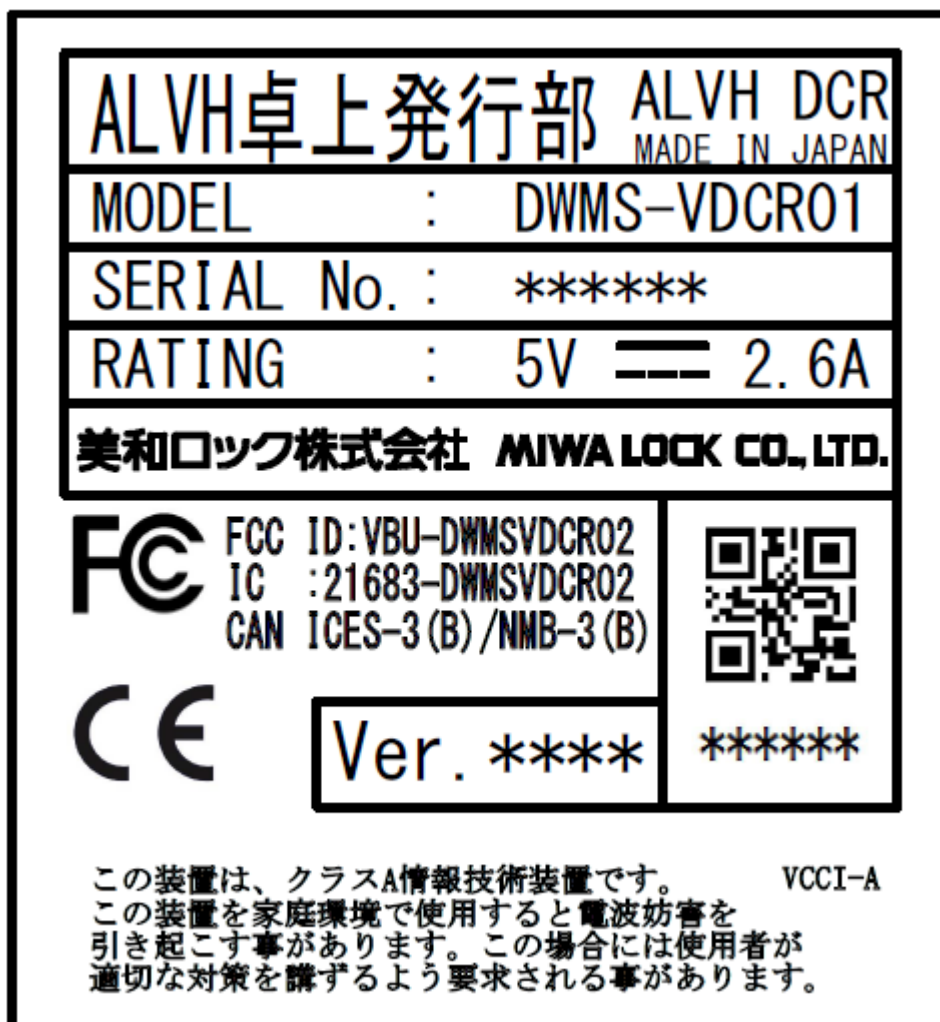


Fig. 5.1 Connection with external devices for the VDCR main unit

6. Label

A tablet with following items will be affixed to a bottom side of the VDCR.

- ① Model
- ② Serial number (with six digits)
- ③ Power source specifications
- ④ Manufacturer
- ⑤ FCC & ISED ID



7. Regulations

This product meets the following regulations.

(1) VCCI Class A

Voluntary Control Council for Interference by Information Technology Equipment

(2) FCC Class B

USA-Federal Communications Commission

FCC ID : VBU-DWMSVDCR02

This unit complies with Part15 of the FCC Rules. Operation is subject to the following two conditions.

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

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from the one which the receiver is connected to.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

(3) ISED

Innovation Science Economic Development Canada
IC:21683-DWMSVDCR02

(en) This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

(fr) L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique 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;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

(4) CE

Directive : 2014/53/EU (RE)

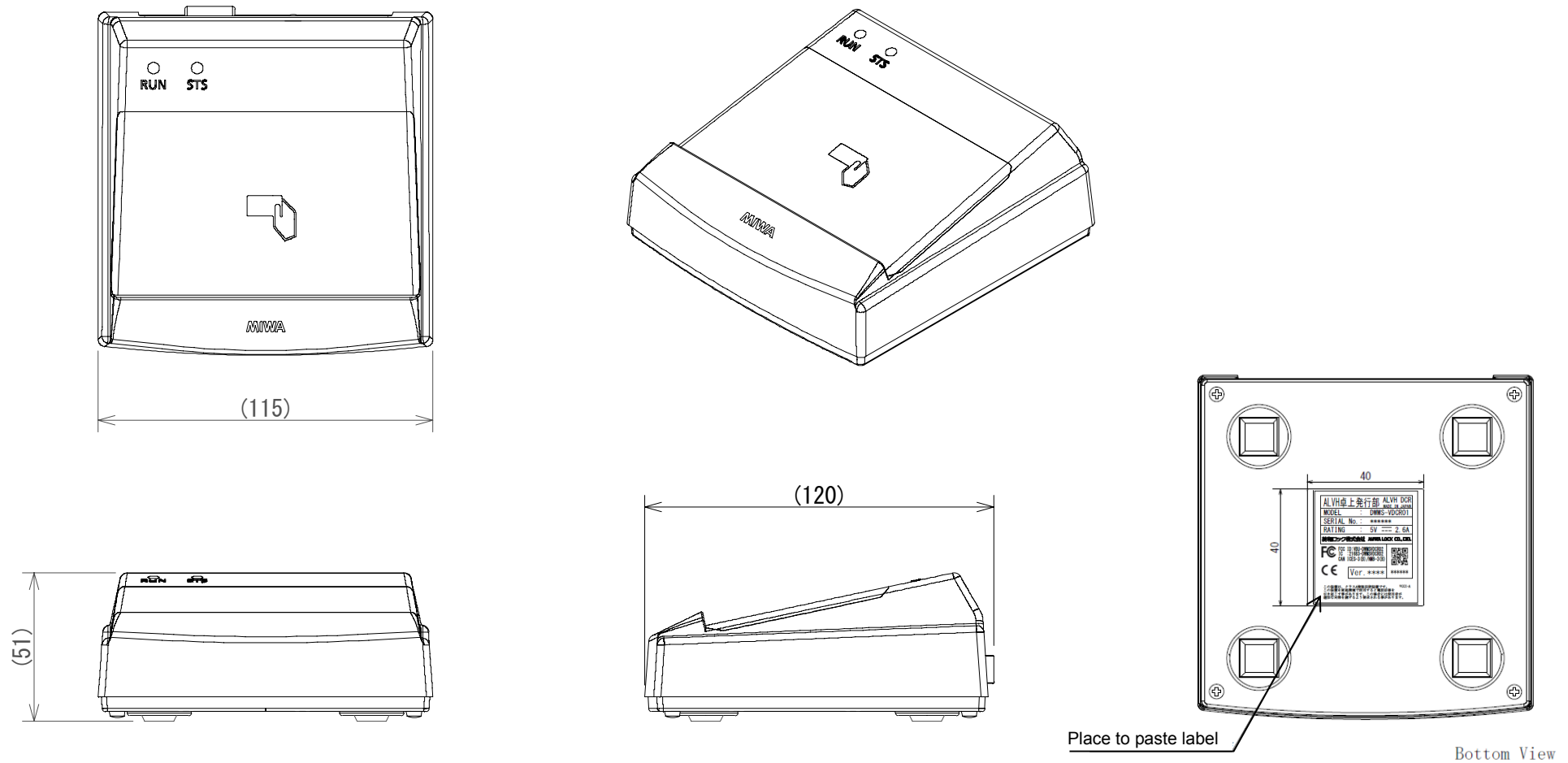
8. Warranty

This warranty is valid for one year from the date of purchase. In the event that the product is not in good working order within its warranty period, repair service will be provided free of charge by Cowbell Engineering Co., Ltd. This warranty covers the defect except where such defects are caused by or result from;

- improper handling or usage,
- dismantlement, repairs, or modifications carried out anyone who is not authorized by Cowbell Engineering Co., Ltd.,
- trouble or damage caused by transportation or dropping after delivery,
- external scratches which is caused after product is delivered,
- trouble, damage or destruction caused by inevitable phenomenon such as fire, earthquake, flood, lightning, riot, war and other disasters,
- troubles that is not considered to be responsibility of our company.

In case other than above shall be discussed it separately.

Appendix 1. Outside view of VDCR main unit



Appendix 2. Outside view of AC power adapter

