Overview

As a long-range stationary radio frequency identification (RFID) reader, the AR-661UG(V2) is around 920MHz-925MHz (Precise UHF band is able to adjust and comply with different countries' standard by order) UHF RFID reader operable at various operating bands specified by individual countries. It also complies with all standard protocols defined in ISO18000-6C.

Points for attention

The reader should be positioned so that personnel in the area for prolonged periods may safely remain at least 20 cm (8 in) in an uncontrolled environment from the reader's surface.

Federal Communications Commission (FCC) Statement

15.21
You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)
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 that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

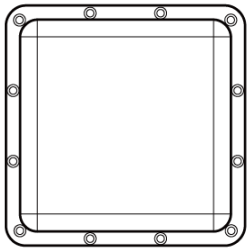
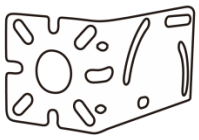
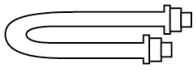
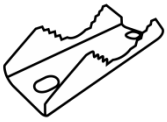
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
1) this device may not cause harmful interference and
2) this device must accept any interference received, including interference that may cause undesired operation of the device.

RF exposure:
To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

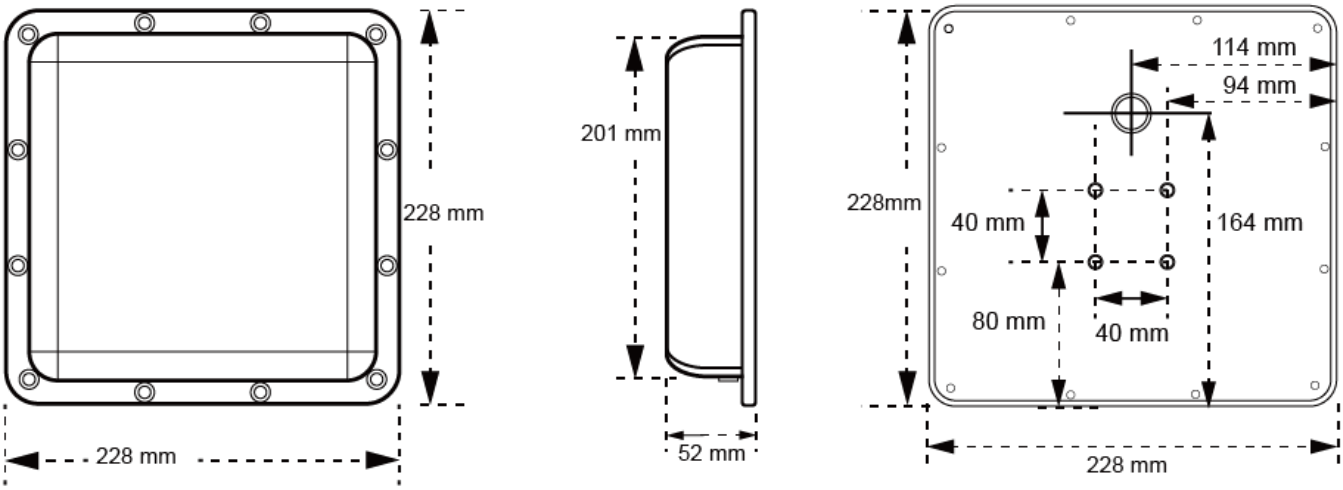
FCC RF Radiation Exposure Statement:
1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

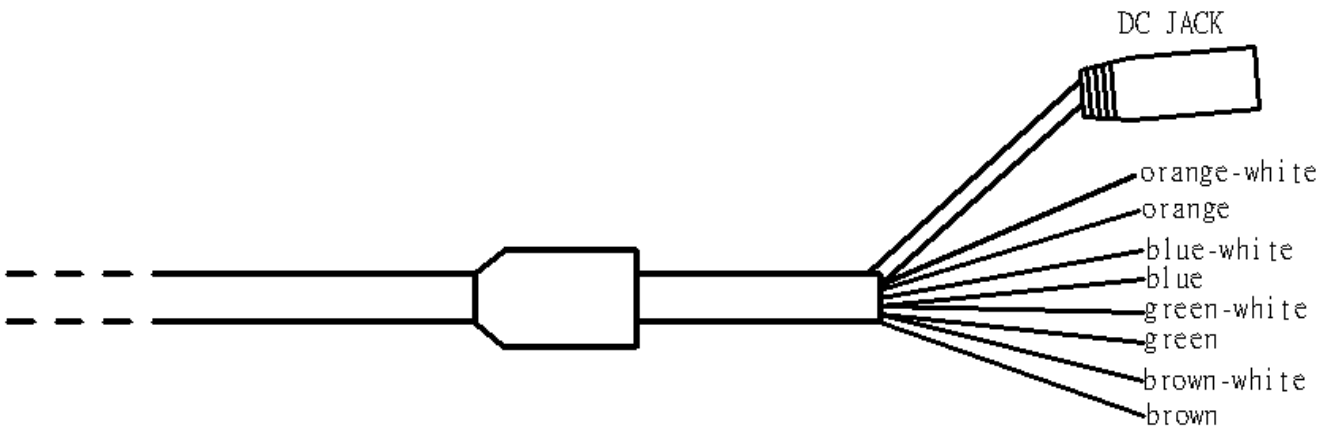
Contents

1	2	3	4	5
UHF Reader*1	L-Bracket*1	U-Bracket*1	Fixed Bracket*1	M6 screw*4
		 (Pore size: 2 Inches)		

Dimensions



Output Cable Descriptions



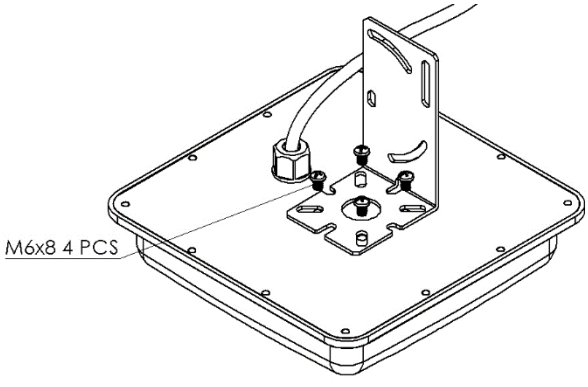
Wire Application	Wire	Color	Description
Power	0	Black	DC Power Jack Apply for the size in OD55mm*ID20mm*11mm(L) DC12V / 1.5A
RS-485	1	Orange-White	RS-485 (A+)
	2	Orange	RS-485
GND (RS-485)	3	Blue-White	GND for RS-485 Connection
GND (WG)	4	Blue	GND for Wiegand Connection
Wiegand	5	Green-White	Wiegand Data: 1 output
	6	Green	Wiegand Data: 0 output
DI	7	Brown-White	External control signal input H:3.3V / L:0V ***The DI is usually connected with induction loop detector to trigger RF function of UHF reader; ; if this DI is not used , please connect it with Blue or Blue/White to GND.**
DO	8	Brown	Reader control signal output (For RS-485 Connection Only)

Notice of Installation

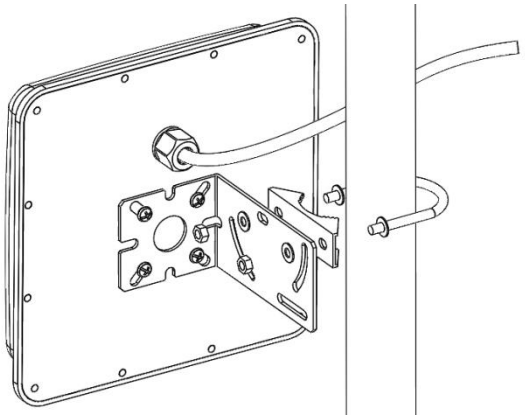
1. Secure the AR-661UG(V2) RFID reader on a column, pedestal, wall, or beam at least 150cm above ground and leave space for adjusting the up and down and left and right angles of the reader.
2. Check the antenna pattern and adjust the support angle for the reader to face the position the tag will pass through.
3. Although the ideal sensing range of AR-661UG(V2) is over 10m, the actual sensing range varies due to weather (raining, fog, sunny) and installation method (horizontal, inclining).

Installation

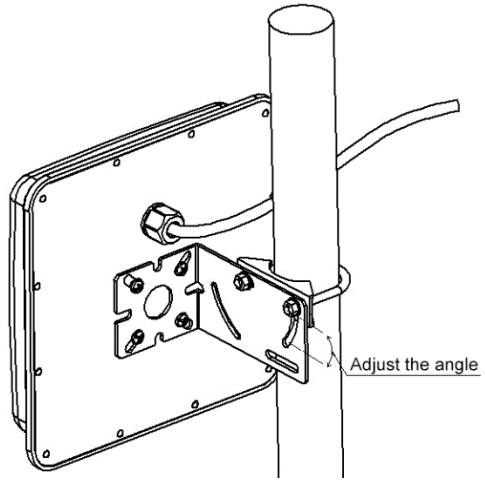
Step 1: Use a screwdriver to screw the L-Bracket on the backside of UHF reader



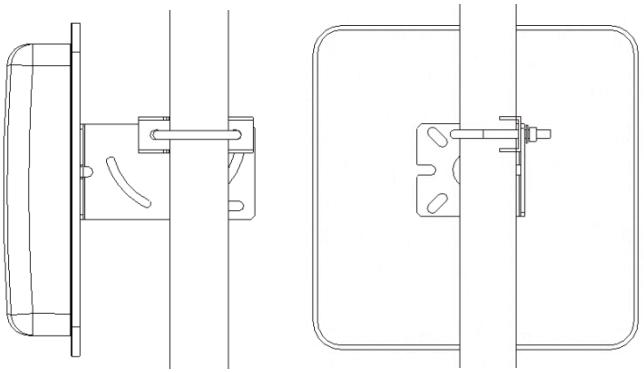
Step 2: Take off the nuts and gaskets from U-bracket. Set the U-bracket into any cylinder at the site. Gradually attach the Fixed Bracket and Step 1 to U-Bracket and fixed by the nuts and gasket.



Step 3: Adjust the of UHF Reader

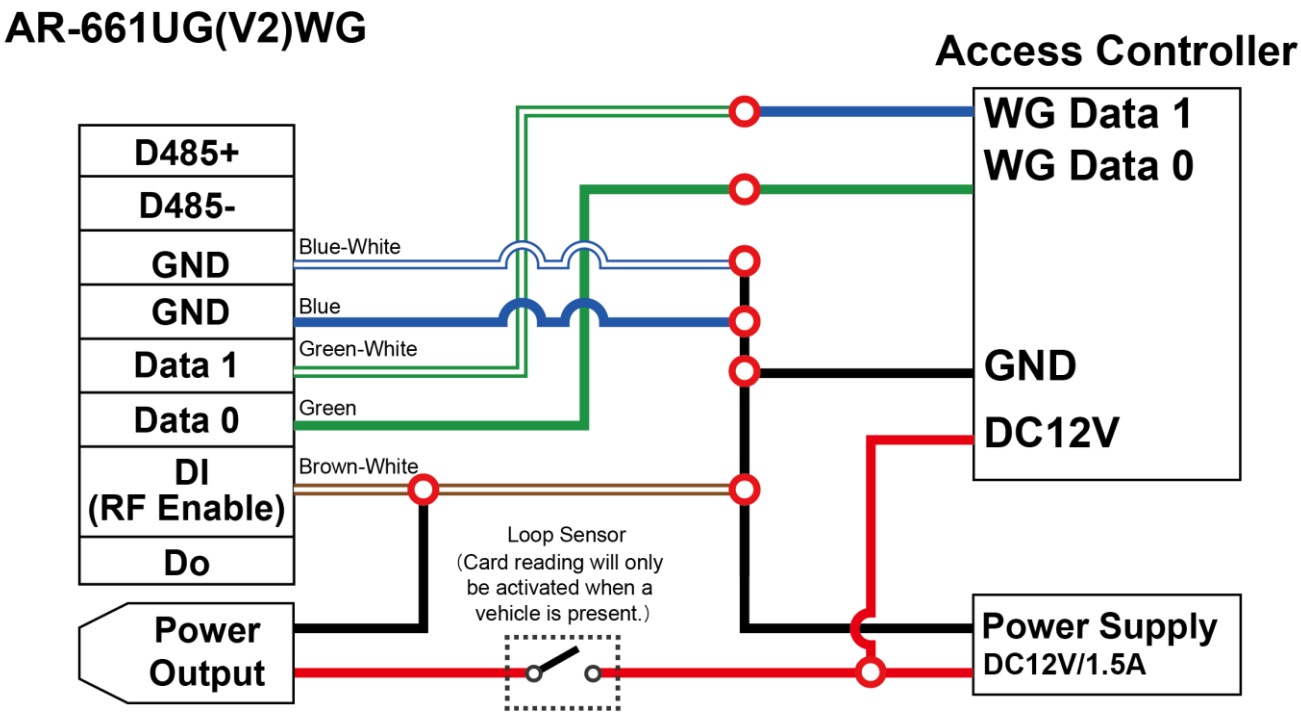


Front and back sides of finished Installation



Wiring Diagram

Connect the AR-661UG(V2) to a Wiegand signal source based on the communication interface of the access controller.



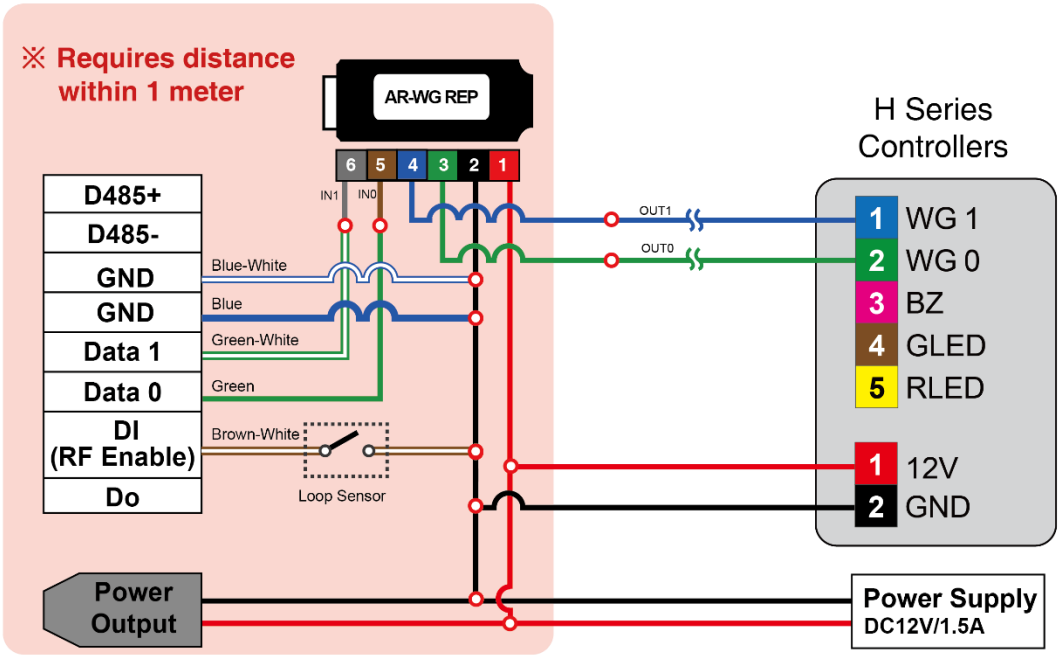
Basic connection with Wiegand interface

- **Basic connection with AR-WG-REP**

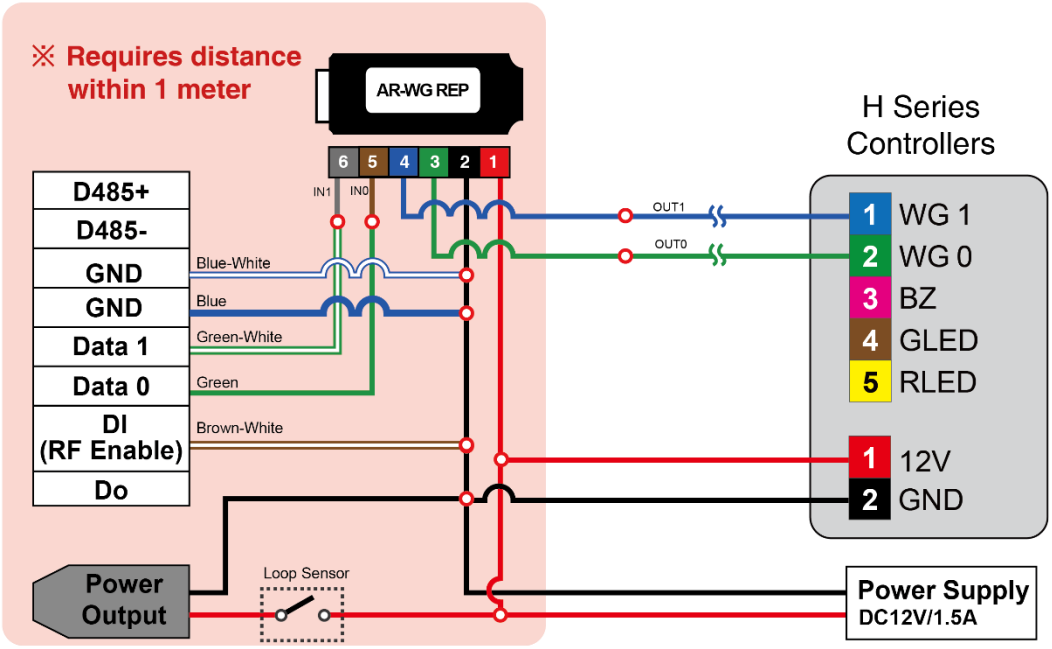
AR-WG REP is mainly to enhance WG signal transmission and also to extend the signal range.

H-Series Controllers

Wiring Method 1: Continuous Power Mode — 24/7 Vehicle Detection (loop detector connected to DI input)

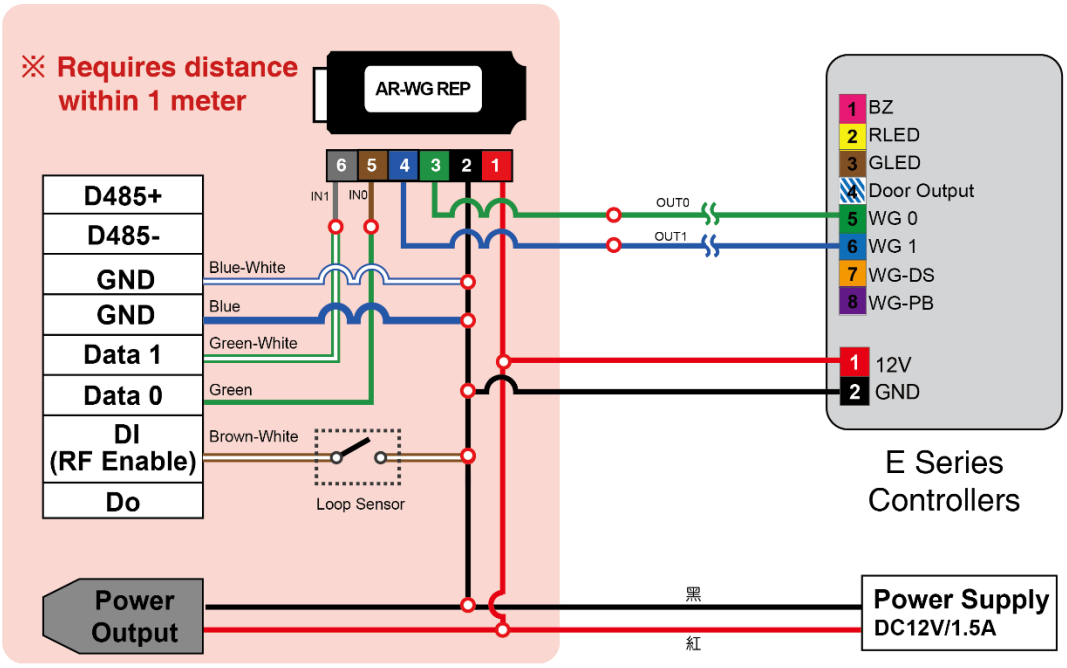


Wiring Method 2: Vehicle-Triggered Power Mode — Detection activates only when a vehicle is present (loop detector connected to Power V+)

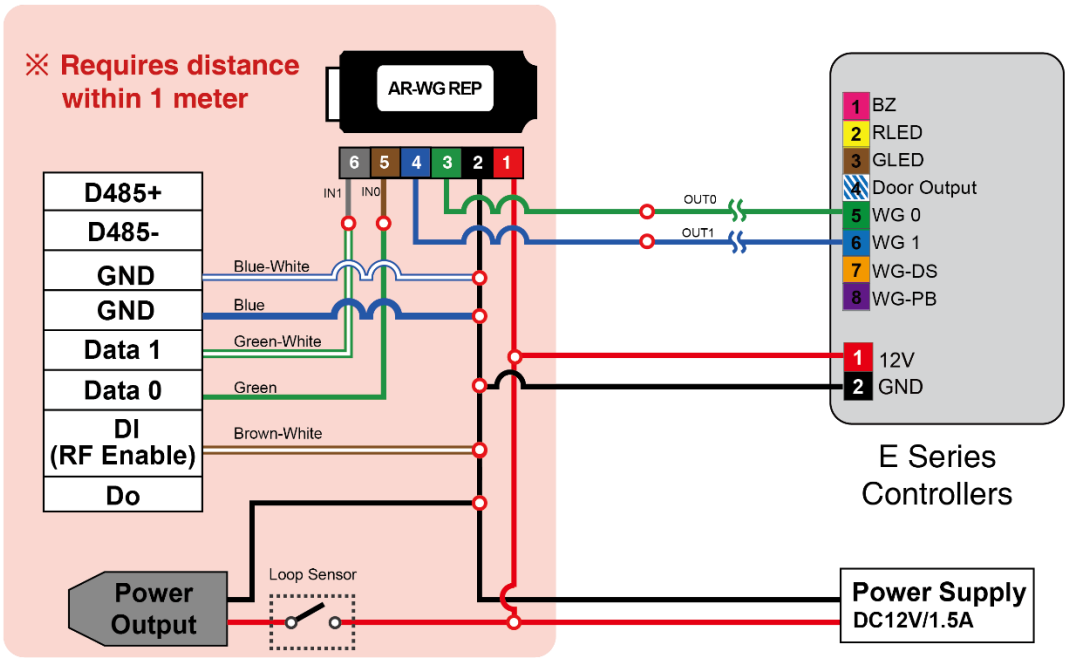


E-Series Controllers

Wiring Method 1: Continuous Power Mode — 24/7 Vehicle Detection (loop detector connected to DI input)



Wiring Method 2: Vehicle-Triggered Power Mode — Detection activates only when a vehicle is present (loop detector connected to Power V+)



AR-WG REP Cables Description

	Color	Function	Description
1	Red	VIN	9-16VDC
2	Black	GND	GND
3	Green	OUTPUT0	Output 0
4	Blue	OUTPUT1	Output 1
5	Brown	INPUT0	Input 0
6	Grey	INPUT1	Input 1

Common Issues:

1. Card swiping includes an additional card swipe record.
2. If no card is swiped for a period of time, a reboot is required to restore normal operation.

Solution: The 661UG head will only be activated when the ground coil is energized. Normally, it remains in a powered-off state.

Warranty

1. This product is covered by a one-year warranty from the date of purchase.
2. Warranty covers free inspections and repair of the product to good condition if there are problems or poor product condition.
3. Warranty does not cover product damage due to an act of God (e.g. flood, fire, earthquake, typhoon, thunder strike, etc.).
4. Warranty does not cover willful damage (e.g. scratch, fall, impact, etc.) or damage due to negligence (loss, loosened screws, etc.).

Warrant will void if labels on the case are removed or damaged.

Solution for Duplicate Card Numbers:

Firmware: APS725Ev2__V0405_23xxxx UID_AUTO64.STM (Please update to the latest version at soyal.com)
This firmware is designed to address the issue of duplicate card numbers that occur in older systems using UID32. It provides a transitional firmware solution for upgrading the system's card numbers to UID64.
The firmware features an automatic learning capability for valid users' UID64, allowing for future uploading of card numbers to the system before updating to the standard firmware (an effective method for resolving EPC/TID duplication issues).'
Additionally, the card reader and the associated devices will require adjustment to support UID64.