

LONG-RANGE CARD READER KIT

DoorKing Part Number
1815-350

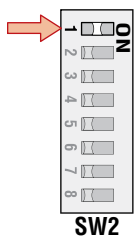
The DoorKing UHF card reader is designed as a long range RFID card reader using passive card technology. Passive card technology does not contain a battery in the cards so they never wear out. The long range card reader emits an RF signal which powers the card when the card enters the scanning area of the card reader antenna. The card relays its Wiegand number back to the card reader which reports the card's number to the connected access control system. There is an interface module supplied with the card reader that eliminates the need to set up the system using a computer. All necessary settings and adjustments can be made using the DIP and rotary switch on the card reader control board. It is an effortless way to open the gate for authorized vehicles. Mount an authorized card in the car that the antenna is able to scan and the gate will open as the car approaches.

The system will work with 26-Bit wiegand controllers. It uses frequency-hopping technology in the 902-928 MHz band (standard).

Accessories sold separately: ISO Card UHF P/N 1508-190
UHF/DK Prox Dual Technology Card P/N 1508-198
Card Windshield Holder P/N 1815-318
Rear View Mirror Holder P/N 1815-319

Modes of Operation

The UHF long range reader can operate in two different modes: **Timing** and **Trigger** mode which are selectable using SW2, DIP-switch 1 on the control board.

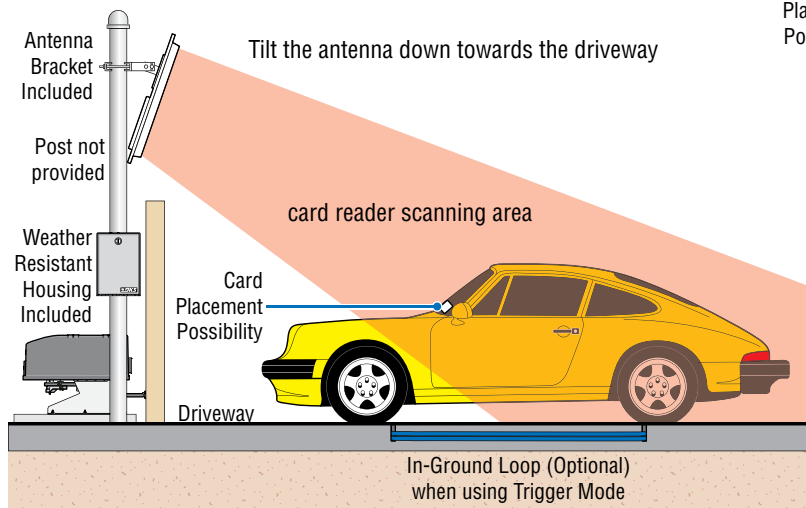


Timing Mode: If DIP-switch SW2, **switch 1** is set to the "OFF" position (left), the card reader will work in **Timing** mode. It **WILL** attempt to read cards that are within reading range at a rate determined by DIP-switch SW2, switches 2, 3 and 4. See other side for **Timing** mode wiring and DIP-switch settings.

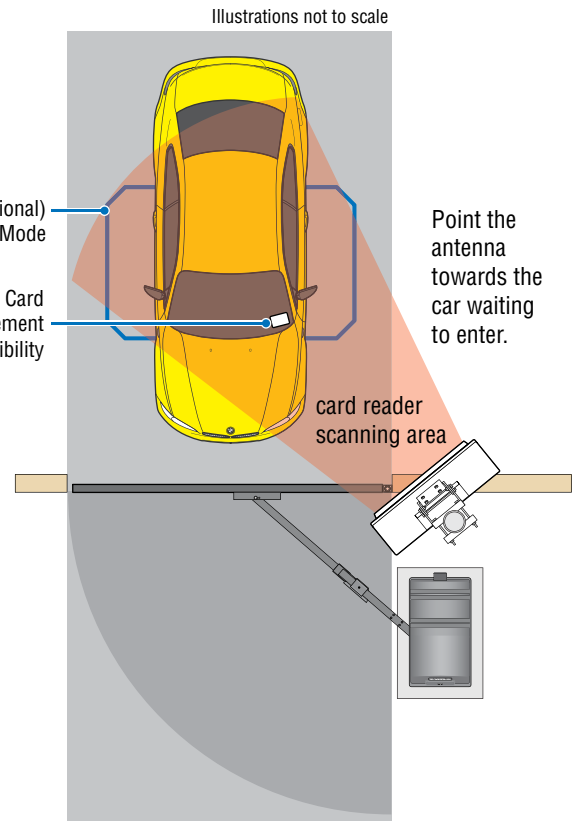
Trigger Mode: If DIP-switch SW2, **switch 1** is set to the "ON" position (right), the card reader will work in **Trigger** mode. It **WILL NOT** attempt to read cards **UNLESS** the two trigger signal wires are shorted together (car on loop). Connect the dry contact relay wires of a vehicle loop detector to the loose red and black trigger wires on the long range antenna. See other side for "Optional" **Trigger** mode wiring and DIP-switch settings.

Installation

Mount the Antenna up high on a post (post not provided). Point it at the car wishing to enter the property. See "Test Mode" section to properly adjust antenna on other side. Make sure cars that have already passed through the gate will not be in the scanning area of the card reader.



Side View



Top View

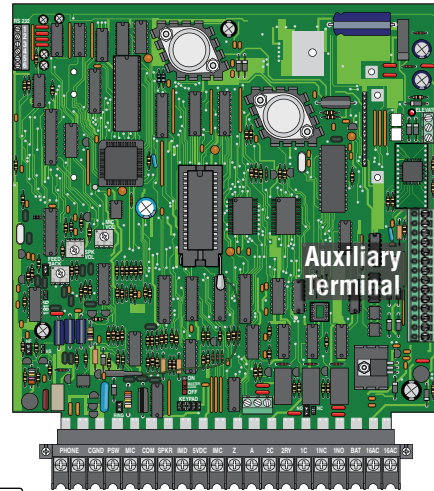
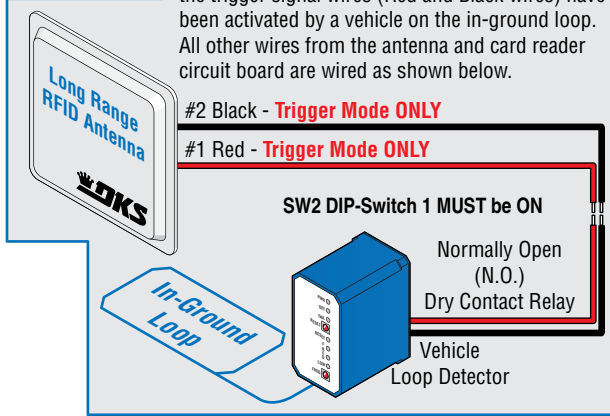
Card Placement on Cars: The card should be placed on the side of the car closest to where the reader is positioned on the driveway. Usually inside the car in the lower or upper corner of the windshield or hanging from the rear view mirror. The card needs to be placed in **visual sight** of the antenna or the antenna will **NOT** be able to read the card. **Never** place the card in a position that will block the drivers vision.

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Wiring

Optional Trigger Mode Wiring:

The long range card reader will ONLY operate after the trigger signal wires (Red and Black wires) have been activated by a vehicle on the in-ground loop. All other wires from the antenna and card reader circuit board are wired as shown below.



DoorKing 1830 Telephone Entry System Circuit Board

500 ft MAX length. **DO NOT** use twisted wire.



- #6 White - RXD (Receive Data)
- #5 Purple - TXD (Transmit Data)
- #4 Gray - D1 (Data 1)
- #3 Yellow - D0 (Data 0)
- #2 Black - Ground
- #2 Black - Ground
- #1 Red - Power 12VDC
- Orange - Not Used
- Brown - Not Used

Note: Antenna wires should be in conduit for vandal protection.

2-Conductor Power Cable

- #1 Green - D0 (Data 0) to #11 Aux
- #2 White - D1 (Data 1) to #12 Aux
- #3 Black - Ground to #13 Aux

12VDC 3 Amp
12VDC Power
Min 18 AWG wire
100 ft MAX

SW2 DIP-Switch 1 Setting

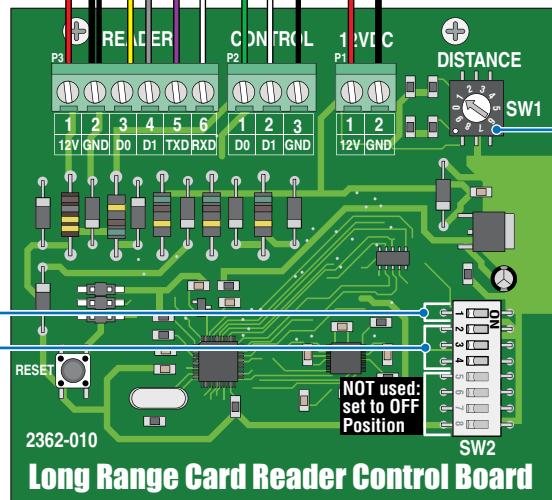
- Switch 1 OFF - Timing Mode
- Switch 1 ON - Trigger Mode

Set for timing or trigger mode. See other side.

SW2 DIP-Switches 2-4 Settings

Switch 2	Switch 3	Switch 4	Time Interval
ON	ON	ON	0 sec (Test Mode)
OFF	ON	ON	1 sec
ON	OFF	ON	5 sec
OFF	OFF	ON	10 sec
ON	ON	OFF	15 sec
OFF	ON	OFF	20 sec
ON	OFF	OFF	25 sec
OFF	OFF	OFF	30 sec

Set the card reader to eliminate redundant readings of the same card at certain time intervals by using SW2 DIP-switches 2, 3 and 4 (**Note:** Switches 5-8 are NOT used). **Example:** If the switches are set to: switch 2-**ON**, switch 3-**OFF**, switch 4-**ON** the card reader will read a card, beep and report it to the access controller. For the next five (5) seconds, if it reads the same card again, it will ignore it. It will not beep or report it to the access controller.



SW1	Approximate Antenna Card Reading Range
0	8 ft
1	9.5 ft
2	11 ft
3	12 ft
4	13 ft
5	14 ft
6	17 ft
7	19 ft
8	21 ft
9	25 ft

The antenna reading range needs to be adjusted using the rotary switch (SW1). The reader will beep once after each change of range. It is also a good practice to put the system into "test mode" to benefit from the continuous beeping feature while adjusting the range.

Test Mode

SW2 DIP-switches 2, 3 and 4 **MUST** be set to the **ON** position (right). This will put the system in **test mode**. By choosing Timing/Trigger mode on DIP-switch 1, you can test in either operating mode. Test mode is used to calibrate and adjust the maximum reading range or maximum distance reader can read a card. In timing test mode, reader sends out read signals at a default rate of 10Hz. After each successful card read, you will hear a beep. As long as a card is within range and in sight of the antenna, you will hear ten beeps per second. This feature helps when adjusting the reader's reading range, using the rotary switch SW1. In "trigger" test mode, the same is achieved in the presence of a valid trigger signal (car on loop).