

## Automated Ticketing Kiosk (ATK)

# HID Reader/Interface Board Installation

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HID® reader/interface board kits (PN 176452 and 214915) replace RFID readers on kiosks with HID® Signo™ readers. HID® Signo™ readers offer a secure and flexible platform that stores and retrieves data using a special card/badge.

Kits PN 176452 and 214915 are similar and only vary in card reader parts (see [page 2](#)). What differentiates installation, is wiring and power supply requirements (see [page 5](#)). Kit 176452 requires a 10-16 VDC power supply (sold separately) while 214915 uses power from the indicator.



Manuals and additional resources are available from Rice Lake Weighing Systems at [www.ricelake.com/manuals](http://www.ricelake.com/manuals)

Warranty information can be found at [www.ricelake.com/warranties](http://www.ricelake.com/warranties)



**WARNING:** To avoid shock or serious injury, consult a licensed electrician for electrical installation procedures.

## FCC Compliance

### United States

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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### Canada

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

## Parts Breakdown

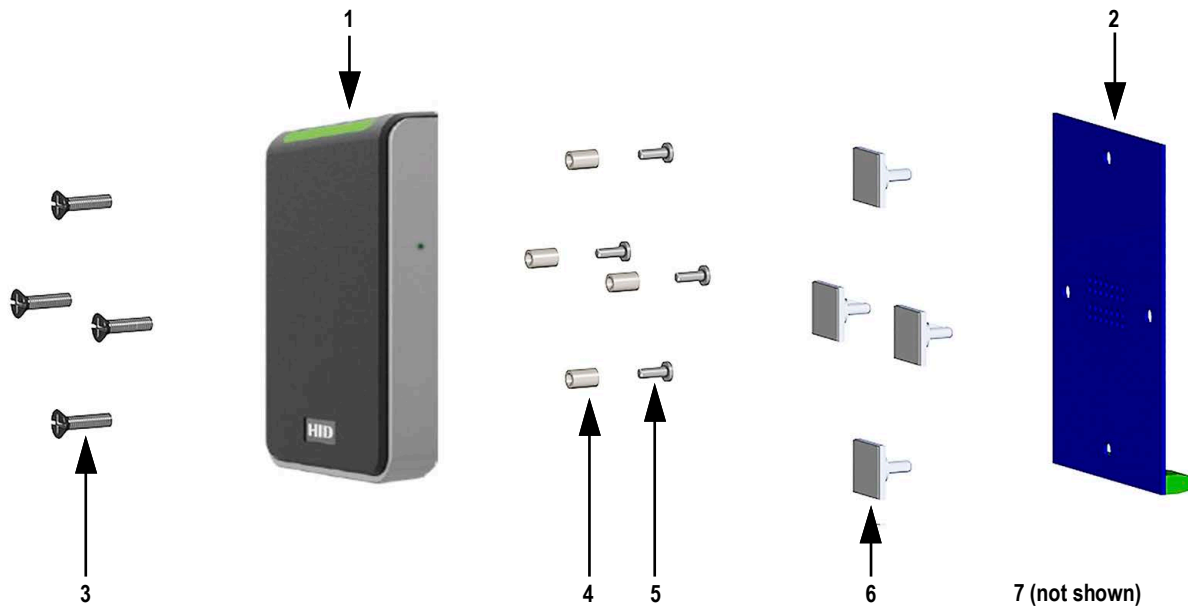


Figure 1. HID Reader/Interface Board Kits (PN 176451 and 214915)

Item	Part No.	Description	QTY
1	176451 (for kit 176452)	HID® Card Reader, Signo™ 40 HID®, 13.56MHz, Output: Wiegand. UL BP6568 <b>NOTE: Requires 10-16 VDC power Supply, sold separately.</b>	1
	93934 (for kit 214915)	HID Card Reader, R40 HID® 13.65Mhz Output Wiegand RS232, UL BP6568	1
2	N/A	Board, HID Card Reader Interface Board, Wiegand to RS232.	1
3	54282	Screw, Machine 6-32NC x 1/2 in Phillips Flat Countersunk Head SST	4
4	58061	Standoff, Female-Female 6-32NC x 7/8 in Long 1/4 in Hex Aluminum	4
5	14845	Screw, Machine 6-32NC x 3/8 in Phillips Pan Head 18-8 SST	4
6	15399	Spacer, Adhesive 1/4 in Snap In	4
7	46199	Cable, Communications 24 AWG 4 Conductor with Foil Shield, Gray PVC Jacket	1

Table 1. HID Reader/Interface Board Parts List

## Remove Old HID Reader (if needed)

1. Remove the existing reader from the kiosk panel.
2. Remove the screw from the bottom of the HID Reader.
3. Pull the back plate from the HID Reader.

## Mount the New Mounting Plate

1. Align the new back plate with the existing holes. If necessary, adjust or create new holes for mounting.
2. Attach the back plate to the kiosk panel, using the four countersunk screws included in the kit.



**CAUTION:** *If mounting on or near metal, use spacers for optimal read performance.*

*Use supplied screws to ensure the correct fitting and to avoid damaging the reader or mounting plate.*

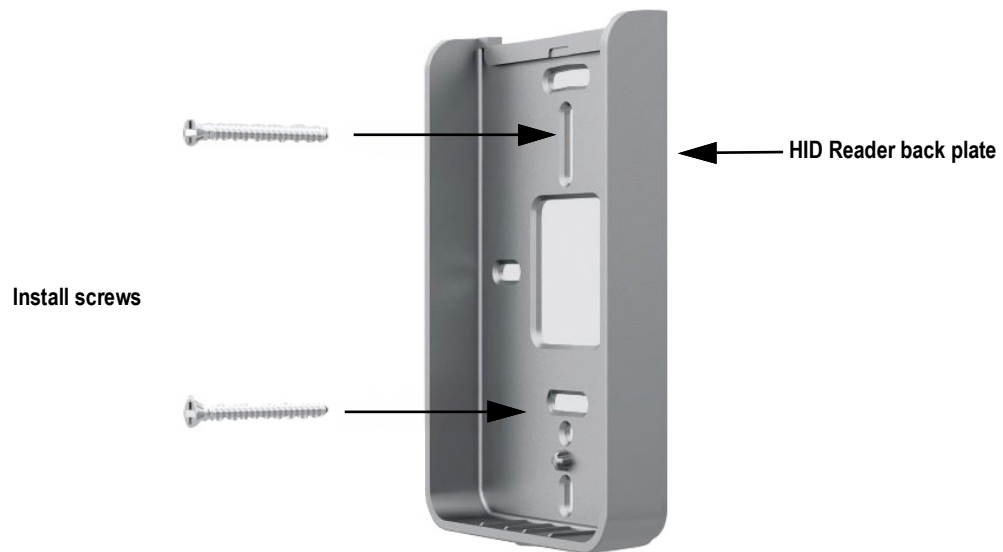


Figure 2. Mount Back Plate

## Secure the Reader to the Mounting Plate

1. Attach the top of the reader on the top of the mounting plate.
2. Align the bottom of the reader with the bottom of the mounting plate.
3. Secure the reader to the mounting plate using the supplied 0.138-32 x 0.375 in screw.



Figure 3. Secure Reader to Mounting Plate

4. Determine a location inside the Kiosk for the HID Reader Interface Card. Perform one of the following:
  - A. If hole patterns match, install the interface card on the inside of the kiosk panel using existing hardware. Secure with the standoffs and pan head screws included in the kit.
  - B. If locating the interface card elsewhere on the panel, securely mount adhesive spacers to the panel and then attach the Card to the adhesive spacers.

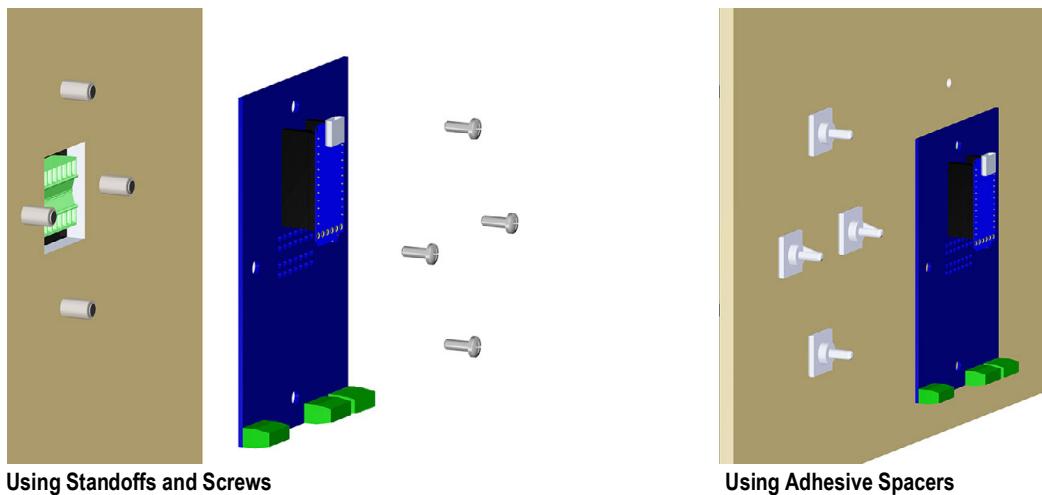


Figure 4. Install Interface Card

# Wiring

## Kit 176452 Wiring

1. Wire connections per [Table 5](#).



**IMPORTANT:** Kit 176452 requires a 10-16 VDC power supply, sold separately. Ensure the power supply is reverse voltage protected.

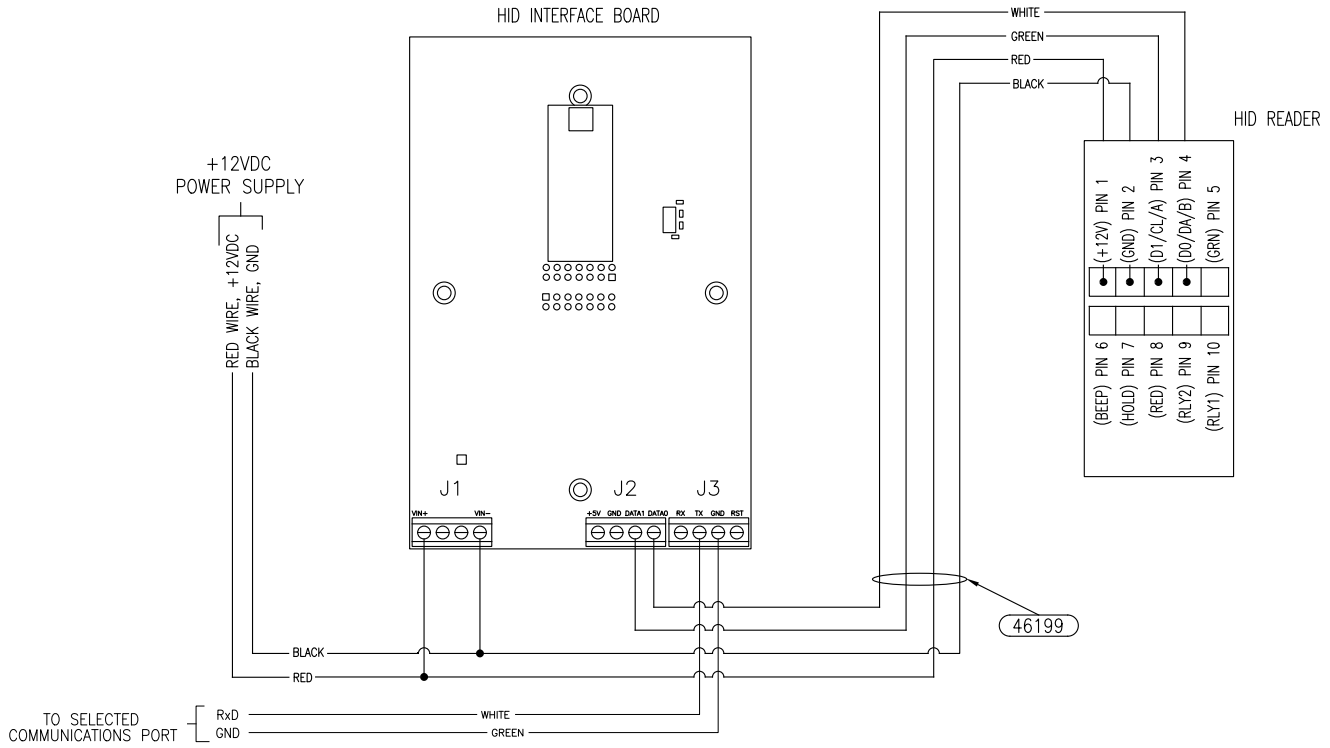


Figure 5. Interface Board Wiring Diagram



**NOTE:** Use cable (46199) for wire pairs. Cut cable to length. Apply heatshrink to wire casing ends.

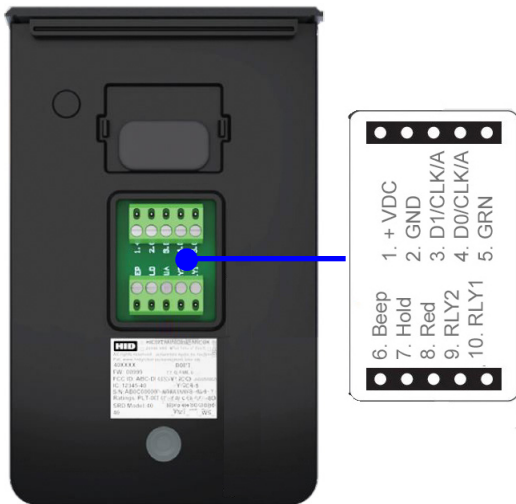


Figure 6. HID Reader Terminal Block Pinout

Terminal No.	Description
1	+12 VDC
2	Ground
3	Data 1/ Clock / RS-485-A
4	Data 0/ Clock / RS-485-A
5	LED Input (GRN)
6	Beeper Input
7	Hold Input/LED Input (Blue)
8	LED Input (Red)
9	Tamper 2 (RLY2)
10	Tamper 1 (RLY1)



**CAUTION:** Wiring the reader incorrectly may cause permanent damage.

## Kit 214915 Wiring

1. Wire connections per [Table 5](#).

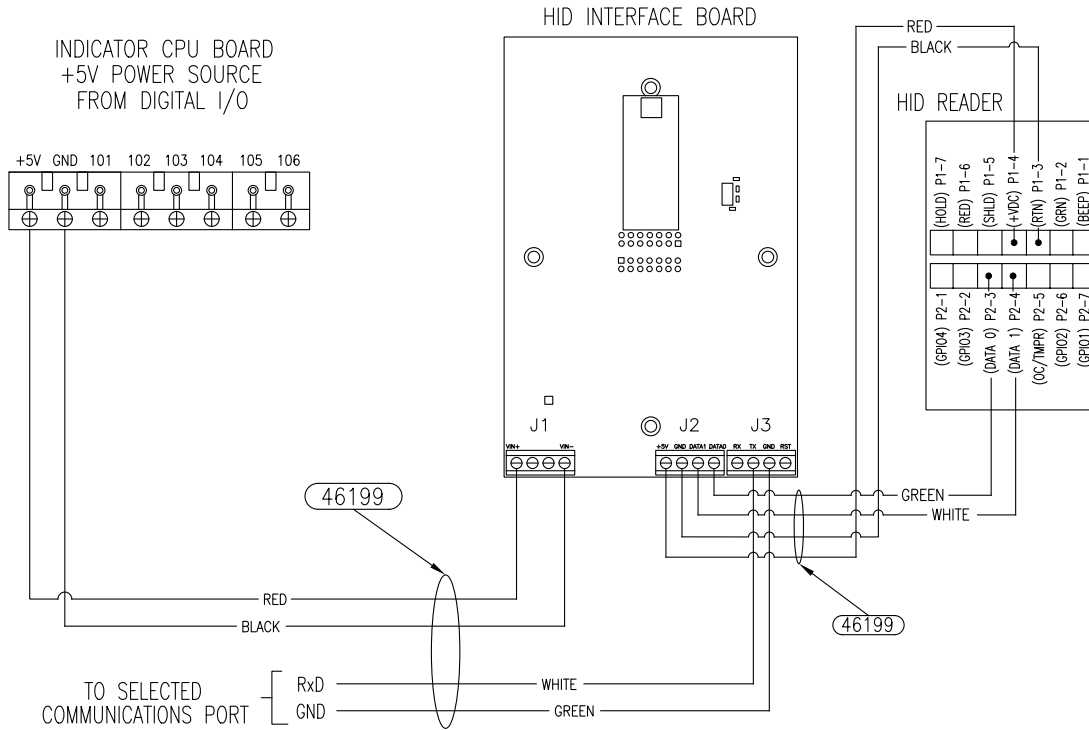
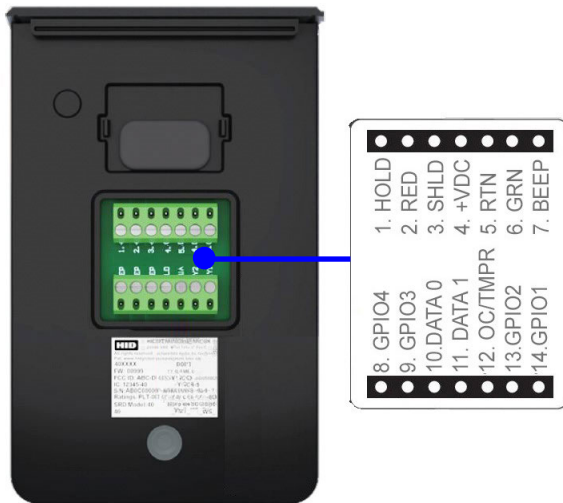


Figure 7. Interface Board Wiring Diagram



**NOTE:** Use cable (46199) for wire pairs. Cut cable to length. Apply heatshrink to wire casing ends.



Terminal No.	Description
1	Hold Input
2	LED Input (Red)
3	Shield (SHLD)
4	+5 VDC
5	Ground (RTN)
6	LED Input (GRN)
7	Beeper Input
8	GPIO4
9	GPIO3
10	Data 0/ Clock / RS-485-A
11	Data 1/ Clock / RS-485-A
12	OC/Tamper
13	GPIO2
14	GPIO1

Figure 8. HID Reader Terminal Block Pinout



**CAUTION:** Wiring the reader incorrectly may cause permanent damage.

## Test Reader

1. Power on the reader. The reader beeps and the LED flashes.
2. Test the reader with a credential card. The reader beeps and the LED flashes.



Figure 9. Power up and Test the Reader

## Specifications

### Typical Maximum Read Range\*:

- 2.5 to 4.5 in (6.3 to 11.4 cm) with HID iCLASS® card
- 1.0 in (2.5 cm) with HID iCLASS key
- 1.0 in (2.5 cm) with HID iCLASS tag
- 1.5 to 2.0 in (3.8 to 5.0 cm) with HID iCLASS prox
- 1 to 2 in (2.5 to 5.0 cm) with MIFARE® card (serial number only)

\*Using ISO 15693 mode (except MIFARE®). Dependent upon installation conditions. Please note that all iCLASS credentials are available in either a 2K bits (256 Bytes) or 16Kbits (2 KBytes) configuration.

### Dimensions:

- (L × W × H)
- 3.30 × 0.85 × 4.80 in (84 × 22 × 122 mm)

### Material:

UL94 polycarbonate

### Power Supply:

- 10 to 16VDC reverse voltage protected
- Linear supply recommended

### Current Requirements (Avg/Peak):

80/260mA at 12VDC

### Operating Temperature:

-31°F to 150°F (-35°C to 65°C)

### Operating Humidity:

5 to 95% relative humidity non-condensing

### Weight:

8.8 oz (249.5 g)

### Transmit Frequency:

13.56 MHz

### Cable Distance:

- Wiegand interface: 500 ft (150 m)
- Recommended cable is ALPHA 1295 (22AWG)
- Five-conductor stranded with overall shield or equivalent. Additional conductors may be required to connect all outputs.

### Pending Certifications:

Taiwan, Singapore, Germany VdS

### Approvals:

- UL 294/cUL
- FCC Certification
- Canada Certification
- CE Mark (Europe)
- New Zealand
- Australia c-Tick



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