❑ 3110-2305 Prox/Magstripe Reader, Black
❑ 3110-2405 Prox/Magstripe Reader, w/ kypd, Black

1-Instructions 2280-4587

General

The Wall Mount Combination Proximity & Magnetic Stripe Card Reader reads the following format cards:

Magnetic Stripe: ABA/ANSI/ISO and EMPI
Proximity: HID 26-37 bit, EMPI and Proxi 10

The readers are normally wall mounted and designed for indoor or outdoor use.

Proximity cards are placed in front of the reader and normally read at a distance of six inches (at +5 VDC) and seven inches (at 12.0 VDC). Mounting the readers on metal will typically reduce the distance. The data is transmitted to any host controller that can supply +5 to +24 VDC operating voltage to the reader, and that can accept the standard Wiegand 26-bit or 34-bit format.

Before Installing

1 The host controller must supply +5 to +24 VDC operating voltage to the reader. The voltage drop as measured across the reader must be within 5 to 24.0 VDC.

2 The maximum recommended reader distance from the host is:

200 feet with #22 AWG 5 or 6-wire cable
500 feet with #18 AWG 5 or 6-wire cable

Unshielded wire is acceptable. Some host controllers may require tighter standards.

Mounting

1 The reader is designed to be mounted with the slot facing the floor. The user inserts the card upward into the card insertion slot.

2 The reader can be mounted on a standard single-gang handy box, (the preferred method) or on any firm flat surface. The mounting screws should be firmly tightened, but not excessively. Note that the read head assembly screws are purposely loose to allow the head to "float"; no adjustments are necessary. See figure 1.

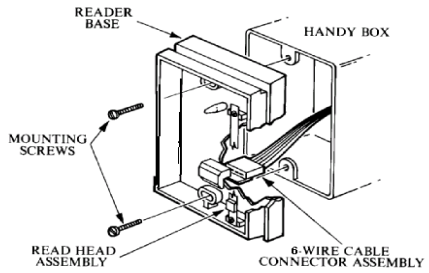
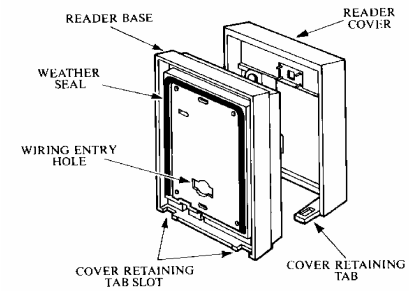


Figure 1

Reade

3 For outdoor applications, use a suitable weather-proof back box, or handy box, and install the weather seal (provided) on the back of the readers' base by pushing it securely and evenly into the "U" shaped recess. See figure 2.



Grasp the lower edge of the reader cover. While applying ***gentle pressure*** pull the cover away from the base.

4 Recommended reader mounting height from the floor is "shoulder height" or about 60 inches. A lower height causes significant user inconvenience. Reader height may be lowered to accommodate ADA requirements.

PN: 2280-4587
REV 4

Card Reader kit consists of:

1-Reader assembly
1-Installation Kit 2270-0580

Installation Steps

W A R N I N G

To prevent damage to equipment, make all connections with power off.

1 If the reader is to be mounted on a mullion or firm flat surface, pull an appropriate length and gauge of cable between the host and mullion.

2 If the reader is to be mounted on a flat surface rather than a handy box, use the reader base both as a template to establish drill locations for suitable molly fasteners, etc. (not provided), and as a guide to remove sufficient material for wire clearance. Then pull the appropriate wire between the host and reader location.

3. Connect the wires of the pigtail assembly to the cable end at the reader location. Connections can be crimped or made with twist on wire nuts.

FUNCTION	WIRE COLOR
+5 to 24 VDC	RED
Green LED	BROWN
Data "1" /Data Output	WHITE
Data "0" /Clock Output	GREEN
COMMON	BLACK
Buzzer	YELLOW

Format Selection Switch (16 position rotary)

1 ABA mag stripe & HID prox to All Bits Wiegand
2 ABA mag stripe & HID prox to Wiegand 26 bit
3 ABA mag stripe & HID prox to Wiegand 34 bit
4 EMPI mag stripe & EMPI prox to Wiegand 26 bit
5 EMPI mag stripe & EMPI prox to Wiegand 34 bit
6 EMPI mag stripe & HID prox to Wiegand 26 bit
7 EMPI mag stripe & HID prox to Wiegand 34 bit

Following ABA only ANSI 10 or 12 (5/5 or 6/6)

8 ABA mag stripe & Proxi 10 prox to Wiegand 26 bit
9 ABA mag stripe & Proxi 10 prox to Wiegand 34 bit

4 Connect the other end of the cable to the host controller being sure to follow the appropriate color code and wire lead functions.

5 Verify that the cards to be read are encoded with the selected data format.

6. Observe the reader LED; it should flash green four times as a self-test when first powered on. If this is not the case, or it continues with short double flashes, a problem exists, refer to the Diagnostic Tests section.

Keypad Data

The model 240 keypad sends data keystroke-by-keystroke to the host controller in an 8-bit (per keystroke). data format. See Dorado by HID Application Note 20 for details.

Diagnostic Tests

The Model 230 Proximity Card Readers are factory calibrated and is not field serviceable.

1 A card with the expected card format will cause the reader LED to "wink" dark and the buzzer to sound for 0.1 second while outputting data to the host.

2 Direct substitution with a known good reader is the best way to isolate the problem.

3 If the reader is exchanged and the problem still exists, measure the voltage drop at the reader between the RED (Positive) and the BLACK (Common) wire with the reader connected to the host. It should measure between 5 and 24.0 VDC. Low voltage is a common source of problems.

4 Verify that the card used to test is a known good card, and is authorized in host memory. Verify the reader options are set correctly for that particular host, and the proper "Comparison Number" or site code has been recorded in host memory.

5 Verify the wiring, continuity, and connections between reader and host. If possible, switch the reader input wiring at the host to another known good input terminal group.

6 If the problem still cannot be resolved, contact Dorado by HID Technical Support, (949) 598-2000.

Specifications

INPUT:
Magnetic Stripe: ABA/ANSI/ISO & EMPI
Proximity: HID 26 – 37 bit, EMPI & PROXI 10.

READING DISTANCE:
Seven inches typical at 12 VDC (six if mounted on metal) six inches typical at 5 VDC (five if mounted on metal)

DATA OUTPUT:
Proximity Data: Output based on card type
Magnetic Stripe Data: Wiegand 26, Wiegand 34 or All Bits Wiegand (up to 64 bits)

LED CONTROL:
Red/Green control with brown wire control line (ground wire)

WIRE LENGTH:
200 feet with #22 AWG wire
500 feet with #18 AWG wire

TEMPERATURE RANGE:
-35 to +66 degrees Celsius (-31 to 150 degrees Fahrenheit).

POWER:
5 VDC to 24.0 VDC input, 120 mA nominal at +5.0 VDC to 170 mA nominal at +12.0 VDC.

READ SPEED:
80 milliseconds

DIMENSIONS:
Reader; 4.70" H x 3.00" W x 1.54" D.

BUZZER:
Activates momentarily upon card acceptance and Keystroke activation or grounding of yellow wire.

Warranty Information

Dorado by HID warrants to the original purchaser that card readers are free from defects in material and, workmanship under normal use and service for 27 months, from date of original invoice, (control boards only). Normal wear and tear, including magnetic head wear, and damage caused Force Majeure, is excluded from this warranty. Unless otherwise agreed in writing by Dorado by HID, the buyer shall be responsible to assure the proper installation environment is provided, and Dorado by HID assumes no responsibility for malfunctions or damage due to improper installation of products. Dorado by HID's obligation under this warranty shall be limited to the repair or replacement of any returned product provided that the claim is presented within the time specified above. This warranty is in lieu of all other warranties express or implied, including the warranties of merchantability, or fitness for any particular use. In no event shall Dorado by HID be liable for any breach of warranty in an amount exceeding the net selling price of any defective products.

Returned Material

Before returning ANY product, you must call the Customer Service Department (949) 598-2000, to obtain a Return Material Authorization (RMA) number. Equipment that fails during normal use within the warranty period (see warranty information) will be repaired or replaced at the discretion of Dorado by HID. Equipment that fails after the warranty period has expired from external sources (such as lightning or abuse) will be repaired at Dorado by HID's current labor rate after a repair estimate has been provided. Following agreement by the client as evidence by Purchase Order or Credit Card submitted.

FCC Notice

Proximity Readers (Transmitters)

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.

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

(HID Readers and others in certain cases where shielded cable is used) For proper regulatory compliance, the drain wire should be disconnected at the power supply end of the cable.