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INSTALLATION GUIDE

FOR THE

SMALL GO CARD[®] ACCESS CONTROL TARGET



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REVISION STATUS

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B.00	10 Aug 01	Revised to include revision B of the ACT and Figure 1.
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1. INTRODUCTION

1.1 PURPOSE AND SCOPE

The purpose of this manual is to provide instructions for the installation of the Cubic **GO CARD**[®] Access Control Target hardware.

The scope of this manual includes the installation and configuration of the hardware mounting, wiring, and setup.



NOTE

The Access Control Target is intended for professional installation only.

1.2 ABBREVIATIONS AND ACRONYMS

A	ampere
ACT	Access Control Target
cm	centimeter
Cubic	Cubic Transportation Systems, Inc.
dc	direct current
in.	inch
LED	Light Emitting Diode
mA	milliamperere
MHz	megahertz
RF	Radio Frequency
Vdc	volts, direct current



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2. ACCESS CONTROL UNIT INSTALLATION

The assembly part number 061-1311 is a small Access Control Target (ACT) or reader that emulates a Wiegand card reader. The ACT connects to a standard five-wire Wiegand interface and to an 8 to 28 volt auxiliary power supply via an 8-pin terminal block.

The reader generates a 13.56 MHz RF field and reads standard **GO CARD** System Access Cards at distances up to 4 cm.

The reader has the same area as a single-gang wall plate (2.75 in. W x 4.5 in. H x 1.5 in. D) and surface mounts using two mounting holes. The mounting holes match the holes in a single-gang electrical utility box.

The reader is wired into the system using its internal 8-pin terminal block. It is important to note, there are two configurations of the ACT for wiring purposes. Use the label on the back of the ACT to determine the wiring needs.

Configurations are shown in Figure 1 and Figure 2.

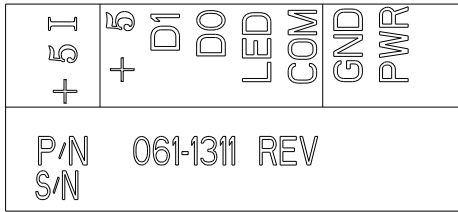


Figure 1. Configuration 1

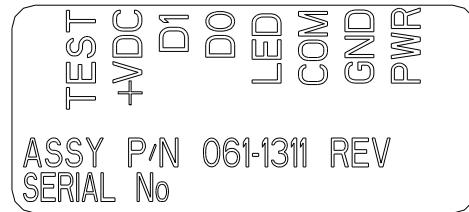


Figure 2. Configuration 2

2.1 WIRING FOR CONFIGURATION 1

Connections are as shown in Table 1 along with the following considerations:

1. Power is supplied on pins 7 and 8.
2. If the ACT is used with an existing access controller, pins 2 through 6 of the ACT are connected to the access controller standard five-wire interface.
3. If the controller used does not require optical isolation and does not provide 5 volt power, connect pin 1 to pin 2 and pin 6 to pin 7. This uses the reader's internal 5 volts for the optical isolator and the LED but defeats the optical isolation by connecting the signal and power grounds.
4. If the ACT is programmed (via an activation card) to output Wiegand data, the data output appears on pins 3 and 4. If the unit is programmed to output serial or magnetic stripe data, the data appears only on pin 3.

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Table 1. ACT Terminal Block Wiring Connections (Configuration 1)

Terminal	Function	Comment
1	Internal 5 volts	Provides +5 volts at up to 100 mA
2	External 5 volts	Isolator and LED power (Requires +5 volts at 20 mA)
3	Data 1	Optically isolated data out
4	Data 0	Optically isolated data out
5	LED	High = Red, low = Green, unconnected = Yellow
6	External Common	Isolator and LED power and data signal common
7	Power Common	Unit power and internal +5 volt common
8	Unit Power	Requires from +8 to +28 volts at up to 2.5 watts

2.2 WIRING FOR CONFIGURATION 2

Connections are as shown in Table 2 along with the following considerations:

1. Power is supplied on pins 7 and 8.
2. If the ACT is used with an existing access controller, pins 2 through 6 of the ACT are connected to the access controller standard five-wire interface.
3. If the controller used does not require optical isolation and does not provide 5 volt power, connect pin 2 to pin 8 and pin 6 to pin 7. This uses the reader's external power for the optical isolator and the LED, but defeats the optical isolation by connecting the signal and power grounds.
4. If the ACT is programmed (via an activation card) to output Wiegand data, the data output appears on pins 3 and 4. If the unit is programmed to output serial or magnetic-stripe data, the data appears only on pin 3.

Table 2. ACT Terminal Block Wiring Connections (Configuration 2)

Terminal	Function	Comment
1	Test	For production use
2	External 5 to 28 volts	Isolator and LED power (Requires 5 to 28 Vdc at 20 mA)
3	Data 1	Optically isolated data out
4	Data 0	Optically isolated data out
5	LED	High = Red, low = Green, unconnected = Yellow
6	External Common	Isolator and LED power and data signal common
7	Power Common	Unit power and internal +5 volt common
8	Unit Power	Requires from +8 to +28 volts at up to 2.5 watts



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3. LABEL

The reader's front label can provide identification and instructions. The front label is usually a customer designed and supplied part. Should the customer not wish to provide a label, a weather-resistant Cubic label is available.

4. WEATHERPROOFING

The reader, as supplied, is intended for use inside buildings. It is not weatherproof. It can be used on the outside of buildings if it is mounted on a nonporous surface using an available gasket and front label. If used, the gasket should be attached to the back of the reader and the label should be attached to the front of the reader. Peel the protective paper from the adhesive backing on the label and on the gasket and attach them to the unit.

5. WIRE

The wire used to supply power to the unit (via pins 7 and 8 of the terminal block) should consist of a twisted pair of sufficient size to carry a maximum of 0.3A dc.

The allowable voltage drop in the wires depends upon whether the unit's optical isolator is being used (pin 2 is not connected to pin 8 and pin 6 is not connected to pin 7) or is being bypassed (pin 2 is connected to pin 8 and pin 6 is connect to pin 7).

If the optical isolator is being used, then the voltage drop should be low enough to assure that the unit receives at least 8 volts and at least 0.3A.

If the optical isolator is not being used, then the voltage drop should be no more than 0.25 Vdc per wire (of the twisted pair of wires) or there will be too much ground offset between the unit and the controller to which it is attached.



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6. ACCESS CONTROL TARGET DIMENSIONS

Figure 3 provides the dimensions of the **GO CARD** Access Control Target.

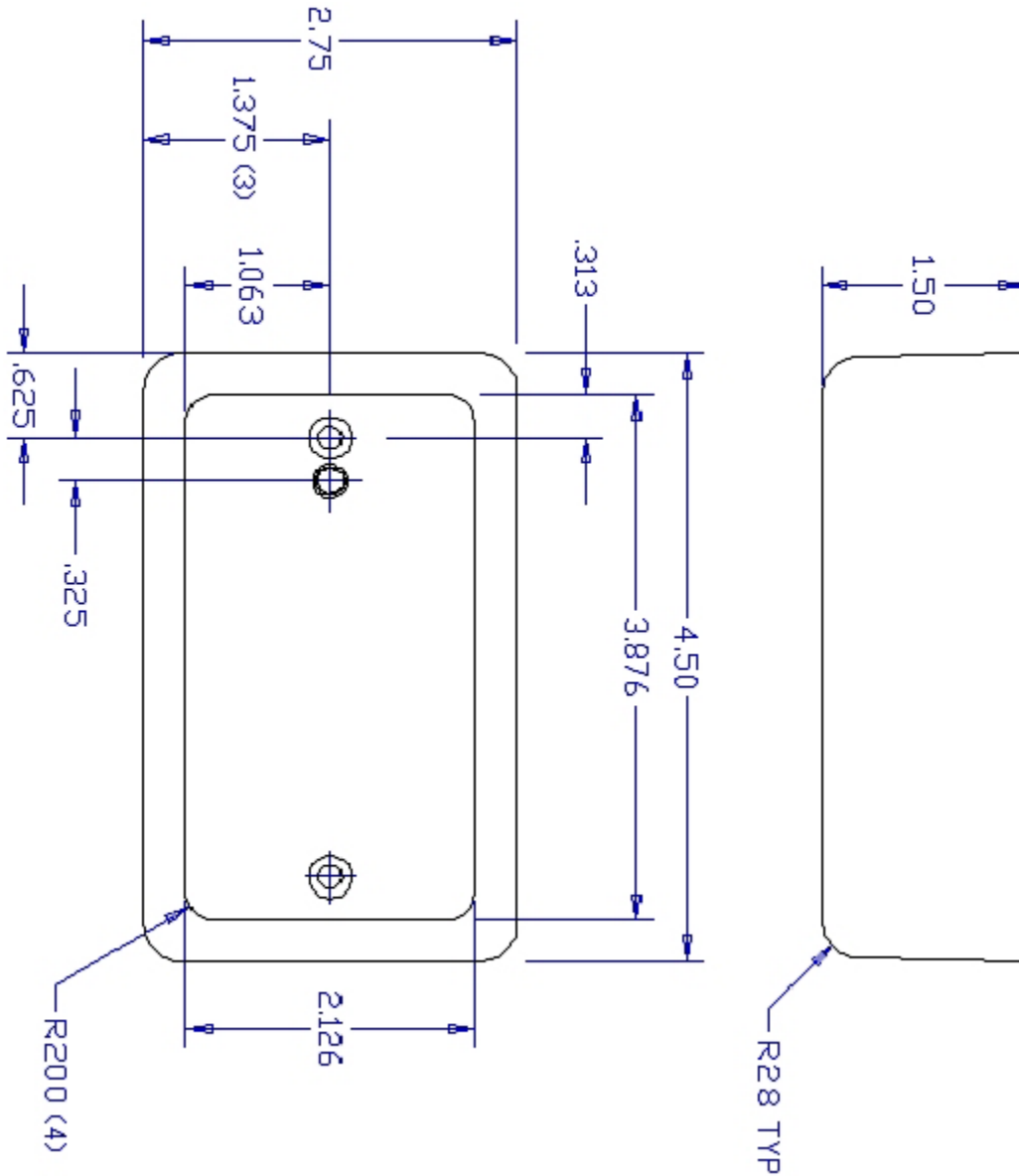


Figure 3. GO CARD Access Control Target, Small



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