

IntelliStripe 65

USB/RS-232 INSERTION READER

TECHNICAL REFERENCE MANUAL

Manual Part Number: 99875339 Rev 6

OCTOBER 2012

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REVISIONS

Rev Number	Date	Notes
1	8 May 2006	Initial Release
2	13 Feb 2007	Added RoHS Statement. Updated to show OTI contactless module
3	26 Mar 2007	Clarified FCC statement; updated operating temperature range; update current draw with OTI contactless module
4	23 Jul 2009	Added 21165055 and 21165059 - 21165068; updated Limited Warranty and Agency approvals
5	1 Jun 2010	Changed environmental low temperature from -40°C to -20°C; updated metal bezel compatibility list; updated drawings in the Appendix
6	15 Oct 2012	Added 21165069, -70, -71 & -78; removed 16051430 cable; updated figures to be more readable; included USB interface compliance

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This digital apparatus does not exceed the Class B limits for radio noise 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 classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.


CE STANDARDS

Testing for compliance with CE requirements was performed by an independent laboratory. The unit under test was found compliant with standards established for Class B devices.

UL/CSA

This product is recognized per Underwriter Laboratories and Canadian Underwriter Laboratories 1950.

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When ordered as RoHS compliant, this product meets the Electrical and Electronic Equipment (EEE) Reduction of Hazardous Substances (RoHS) European Directive 2002/95/EC. The marking is clearly recognizable, either as written words like "Pb-free", "lead-free", or as another clear symbol ().

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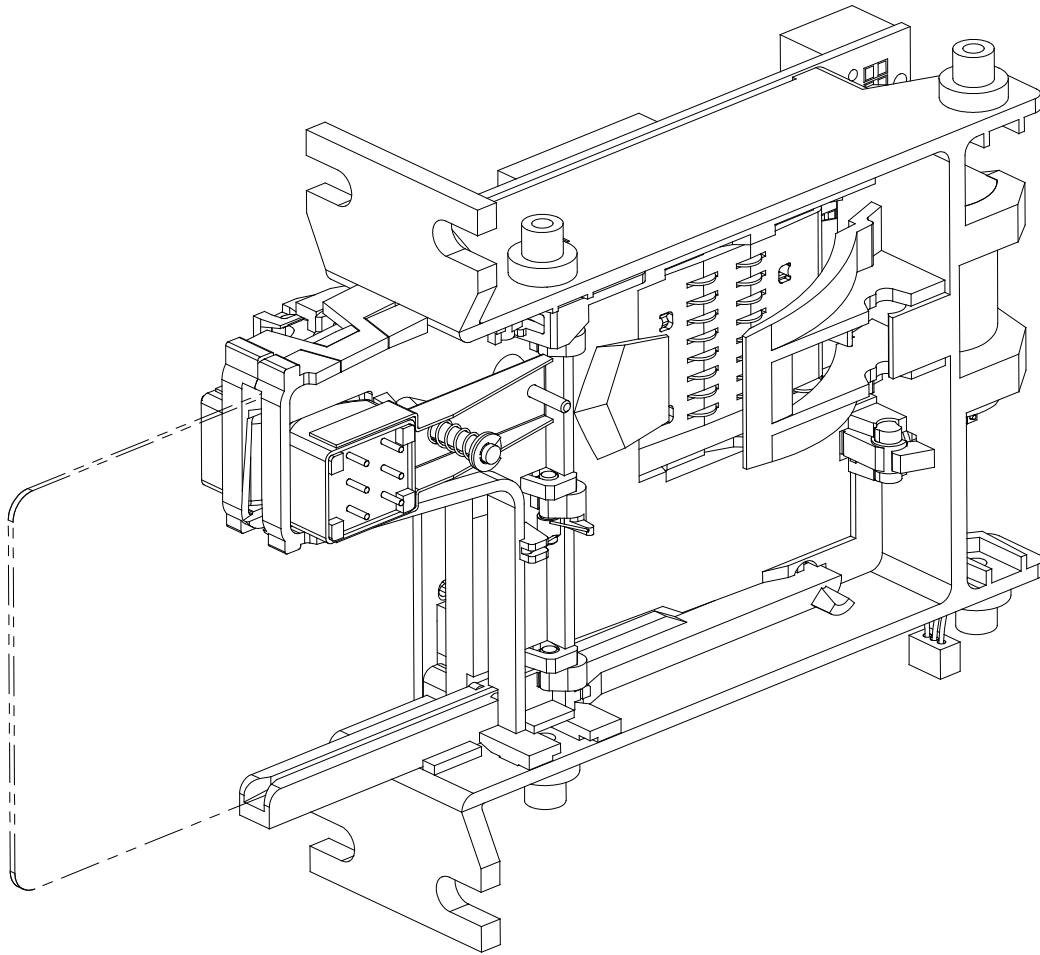


Figure 1-1. IntelliStripe 65, Front View

SECTION 1. FEATURES AND SPECIFICATIONS

The IntelliStripe 65™ Insertion Reader, shown in Figure 1-1, performs the following major functions:

- Reads magnetic stripe cards
- Communicates with ISO smart cards and many popular memory cards
- Supports one on-board SAM (Security Access Module)
- Includes an integrated USB interface
- Optionally supports Contactless Smart Card communication

The Reader communicates to a host using an RS-232 or USB interface with a defined protocol and command set. The 3-track Reader has an industry standard mechanical footprint. The IntelliStripe 65 is designed for self-service applications such as pay telephones, vending machines, kiosks, and fuel pumps.

CONFIGURATIONS

Unless otherwise specified below, all of the IntelliStripe 65 readers include the following capabilities:

- USB and RS-232 interface
- Smart Card connector with 8-contacts
- Single SAM socket
- Security Gate
- Card retention latch with power fail release
- Single 3-track head
- Bezel with built-in red/green LED

See **Appendix A** for a description of the options. Part numbers for the basic configurations are shown in the following table.

IntelliStripe 65, USB/RS-232 Insertion Reader

Part Number	Description
21165042	North American Plastic Bezel
21165043	No security gate; no latch; North American Plastic Bezel
21165044	Contactless smart card ready*; International Plastic Bezel
21165046	Same as 21165044 but with Contactless smart card module and antenna installed
21165047	Contactless smart card ready*; no bezel (front and side mounting configuration—suitable for metal bezel)
21165048	International Plastic Bezel
21165051	No latch (but motor is supplied for tamper protection); no bezel (front and side mounting configuration—suitable for metal bezel)
21165052	No gate; no latch, no bezel (front and side mounting configuration—suitable for metal bezel)
21165053	No bezel (front and side mounting configuration—suitable for metal bezel)
21165055	Side mounting, MagnePrint, Bezel with LED
21165056	Single 3-track head with ground lug; North American Plastic Bezel
21165058	Contactless smart card ready*; North American Plastic Bezel
21165059	Same as 21165048 but without latch
21165062	Same as 21165053 but with 10" ground wire and lug on head frame
21165063	Same as 21165052 but with 6" ground wire and lug on head frame
21165064	Same as 21165043 but with 6" ground wire and lug on head frame
21165065	Same as 21165051 but with Card Present switch installed
21165067	No latch, no bezel (front and side mounting configuration—suitable for metal bezel)
21165068	Same as 21165046 but with SAM socket on Contactless Module
21165069	Same as 21165056 but with metal bezel
21165070	Encrypting IntelliHead, International Plastic Bezel
21165071	Same as 21165070 but with Contactless smart card module and antenna
21165078	Same as 21165053 but Contactless smart card ready*

* Contactless module is included but antenna and cable must be ordered separately

ACCESSORIES

Other part numbers that may be shipped with the unit include the following:

Part Number	Description
16051408	RS232 / Power cable – 6 foot, IntelliStripe 65 host port to 9-pin D female RS232 and 2.5mm power jack
16051433	USB-A to USB mini-B cable (gray)
30037472	Demo Software, IntelliStripe Picture Demo (CD)
30037473	MagTek MCP Drivers (CD)
51300004	OTI Contactless communication module (mounts on “Contactless Ready” models
51300005	OTI Contactless antenna with LEDs (must be mounted away from IntelliStripe 65 bezel)
51300006	OTI coax antenna cable – 30cm (does not support LEDs)
51300007	OTI ribbon antenna cable – 19cm (supports LEDs)
51300012	Same as 51300004 but with SAM socket
64300080	Power Supply – Auto-ranging 100V-250V, regulated, 12VDC, 2.5mm plug. Requires adapter to mate with power outlet; use Adapter/Power Cord (P/N 71100001) for North American applications.
71100001	Power Outlet Adapter/Cord for North American applications (used with part number 64300080)
99510015	Demo Software, IntelliStripe Picture Demo (Web – ref www.magtek.com)
99510016	MagTek MCP Drivers (Web – ref www.magtek.com)

RELATED DOCUMENTS

This document (P/N 99875339) is from a hardware perspective only. Other MagTek documents that cover the command set, communications protocol, and API (Application Program Interface) are as follows:

Part Number	Description
99875161	IntelliStripe 65, Command Reference Manual
99875163	MCP, Serial Transport Protocol Reference Manual
99875164	MagTek Communication Protocol, Driver Reference Manual

ISO Documents: 7810, 7811, 7816 are available from ANSI at:
 Phone: 212-642-4900 or www.ansi.org

STANDARD FEATURES

Standard features of the IntelliStripe 65 are as follows:

- Multiple bezel styles allow for optimized mounting and integration
- Rugged—High impact plastic with read head attached to beam mount
- Vandal Resistant—Open chassis design provides superior debris clearing; half-card drop-out allows half-size credit cards and coins to be cleared from insert channel
- On board SAM (Security Access Module)
- RS232 and USB interfaces
- On board intelligence for transporting large blocks of data using a defined protocol and command set
- Test LED
- Program Flash upgradeable

OPTIONS

Any of these options may be selected:

- Smart Card Contacts (8) for reading ISO contact locations
- Front Card Gate prevents coins, dust, moisture, and debris, from entering the unit—opens only when ISO-size card enters the unit
- Card Latch physically latches the card inside the Reader ensuring optimum conditions for a smart card interface session
- Power-Fail Latch Release Mechanism—In case of a power failure, the latch releases the card automatically (requires external capacitor)
- On board Contactless Smart Card support
- Drivers available for all Windows Operating System platforms

SMART CARD INTERFACE

The Reader supports ISO7816 T=0 and T=1 cards not requiring V_{PP} , with a speed range of 9600 bps to 115200 bps. It also supports a variety of common memory card types. See IntelliStripe 65 Command Reference Manual (P/N 99875161) for more details.

MAGNETIC STRIPE READER

The Reader can read up to three tracks of magnetic stripe card data. The Mag-stripe can be configured to support all popular track combinations. See IntelliStripe 65 Command Reference Manual (P/N 99875161) for more details.

LATCH

The Reader contains a latch that can be used to prevent the user from withdrawing the card prematurely. See IntelliStripe 65 Command Reference Manual (P/N 99875161) for more details.

The power fail unlatch option disengages the latch during a power failure. This option is triggered when the power to the reader fails. An external backup capacitor is required for this option to function. This capacitor can be connected to the reader through a header on the board.

ON BOARD SAM INTERFACE

The Reader provides a socket for one on board SAM. The SAM complies to ISO 7816-3 (1997) electrical requirements and do not require V_{PP} . T=0 and T=1 are fully supported with a speed range from 9600 bps to 115200 bps. See IntelliStripe 65 Command Reference Manual (P/N 99875161) for more details.

SENSING SWITCHES

The Reader emulates sensing switches for card present and card latch. A physical sensor is provided to indicate that the card is seated in the reader and ready for smart card communication.

Card Present Switch

See IntelliStripe 65 Command Reference Manual (P/N 99875161) for more details.

Card Seated Switch

A snap-action switch is operated when a card is fully inserted into the Reader (card is at the fully rearward position). See IntelliStripe 65 Command Reference Manual (P/N 99875161) for more details.

Card Latch Switch

See IntelliStripe 65 Command Reference Manual (P/N 99875161) for more details.

TEST LED

The Test LED is shown in Section 2, Figure 2-4. When the unit is powered up, the Test LED will blink green. This indicates that the unit is in its standard operating mode.

FLASH UPGRADABLE

The unit's firmware is in-system Flash Upgradeable. This allows the unit to be upgraded to new smart card specifications.

RS-232 INTERFACE

The device can communicate to the host through an RS-232 interface. Once the host communicates to the device on this interface the device will no longer be able to communicate on any other interface until it is power cycled or reset. The device uses 8 data bits, 1 stop bit, even parity. The device can automatically sync to baud rates 9600, 14400, 19200, 28800, 38400, 57600 and 115200. See MCP Driver Reference Manual (P/N 99875164), MCP Serial Transport Protocol Reference Manual (P/N 99875163) and IntelliStripe 65 Command Reference Manual (P/N 99875161) for more details.

USB INTERFACE

The device can communicate to the host through a USB interface. It is compliant with the USB 2.0 full-speed device specification and is compatible with any host that is compliant with USB 1, 2 or 3.

Once the host communicates to the device on this interface the device will no longer be able to communicate on any other interface until it is power cycled or reset. The device uses vendor identifier 0801 (hex) and product identifier 000A (hex). The device contains a manufacturer string descriptor with a value of “MagTek”. The device contains a product string descriptor with a value of “IntelliStripe 65”. The device contains a programmable serial number string descriptor. The device does not get its power from the USB port; it needs to be self powered. When using the USB port, power must be applied directly to the PCB via the power connector or the host connector. See MCP Driver Reference Manual (P/N 99875164), MCP Serial Transport Protocol Reference Manual (P/N 99875163) and IntelliStripe 65 Command Reference Manual (P/N 99875161) for more details.

SPECIFICATIONS

Specifications for the Reader are listed in Table 1-1.

Table 1-1. Specifications

DATA FORMAT SPECIFICATION	
Reader Configuration	Data Format Specification*
Mag-Stripe Functions Track 1,2,3 only	ISO/AAMVA/ JIS formats ISO 7810, 7811, JIS x 6302 Type 2
Smartcard Functions	ISO 7816 T=0 and T=1 protocols, many popular memory cards EMVCo Level 1 Approval
* ISO (International Standards Organization), AAMVA, (American Association of Motor Vehicle Administrators), JIS (Japanese Industrial Standard)	
OPERATIONAL	
Card Speed	3 IPS (7,62 cm/sec) to 50 IPS (127, cm/sec)
Recording Method	Two-frequency coherent phase (F2F)
MTBF	Head: 1,000,000 passes (500,000 Insertion Cycles) SC contacts: 1,000,000 insertions
ELECTRICAL	
Input Voltage	12.0VDC \pm 5%
Current	500mA max, (1A with contactless smartcard option) 50mA idle, (300mA with contactless smartcard option)
MECHANICAL	
Chassis Mounting Options	
Front Flange	See Section 2, Figure 2-1
Side Mounting Studs	See Section 2, Figure 2-2
Side Mounting Holes	See Section 2, Figure 2-2
Dimensions (Core Chassis)	
Overall Length	4.70" (119,4mm)
Mounting Depth	3.80" (96,5mm) when mounted with front flanges
Height	1.40" (35,6mm)
Width	2.60" (66,0mm) without mounting bosses or flanges
Weight	5.02oz (142.2gr)
ENVIRONMENTAL	
Temperature Operating	-4°F to 122°F (-20°C to 50°C) (without contactless smartcard option) -4°F to 122°F (-20°C to 50°C) (with contactless smartcard option)
Storage	-4°F to 158°F (-20°C to 70°C)
Humidity Operating Storage	10% to 90% noncondensing 10% to 90% noncondensing
Altitude Operating Storage	0-10,000 ft. (0-3,048 m.) 0-50,000 ft. (0-15,240 m.)

SECTION 2. INSTALLATION

The Installation of the IntelliStripe 65 Insertion Reader includes mechanical and electrical connections.

BEZELS

There are three types of Bezels for this product: the North American Plastic Bezel, the International Plastic Bezel, and the International Metal Bezel. The type of bezel used is relevant to the mounting options described below. Appendix B contains illustrations and engineering drawings describing the three bezels.

International Plastic Bezel

The International Plastic Bezel is larger than the other two bezels and requires a larger panel opening. This bezel uses and is attached by metric screws. International Bezels are mounted to the Reader Chassis by the Front Flange only. The dimensions of the recommended panel opening for mounting are shown in Appendix B.

International Metal Bezel

The International Metal Bezel is slightly smaller than the International Plastic bezel but requires the same size panel opening as the International Plastic Bezel. This bezel uses and is attached by metric screws. International Bezels are mounted to the Reader Chassis by the Front Flange only. The dimensions of the recommended panel opening for mounting are shown in Appendix B.

North American Plastic Bezel

The North American Bezel is smaller than both International Bezels and requires a smaller panel cutout. This bezel follows the industry-standard footprint of MagTek the MT215 Insertion Reader. This bezel uses and is attached by imperial screws. North American Bezels are mounted to the Reader Chassis by the Side Mounting Studs only. The dimensions of the recommended panel opening for mounting are shown in Appendix B.

MECHANICAL MOUNTING AND BEZELS

Mounting options for the Reader are as follows:

- Front Flanges only (for International Bezels)
- Side Mounting Studs only (for North American Bezels)
- Side Mounting Holes only
- Front Flanges and Side Mounting Studs together

Chassis mounting features are shown in Figure 2-1. Mounting dimensions are shown in Figure 2-2. Descriptions of the mounting options are as follows:

Front Flange

Two molded flanges toward the front of the chassis (Figure 2-1) connect the Reader by four threaded studs, nuts, and washers. The International Bezel is used with the Front Flange.

Side Mounting Studs

There are four molded studs. Two are located on each side of the chassis. The North American Bezel is used with side mounting studs. Optional threaded inserts can be inserted in both ends of the studs and used with imperial screws, as indicated in Figure 2-1.

Side Mounting Holes

Four molded holes are available when studs are not provided. Holes are positioned in line with the centerline of the stud with molded nut retaining features, as shown in Figure 2-1 and Figure 2-2.

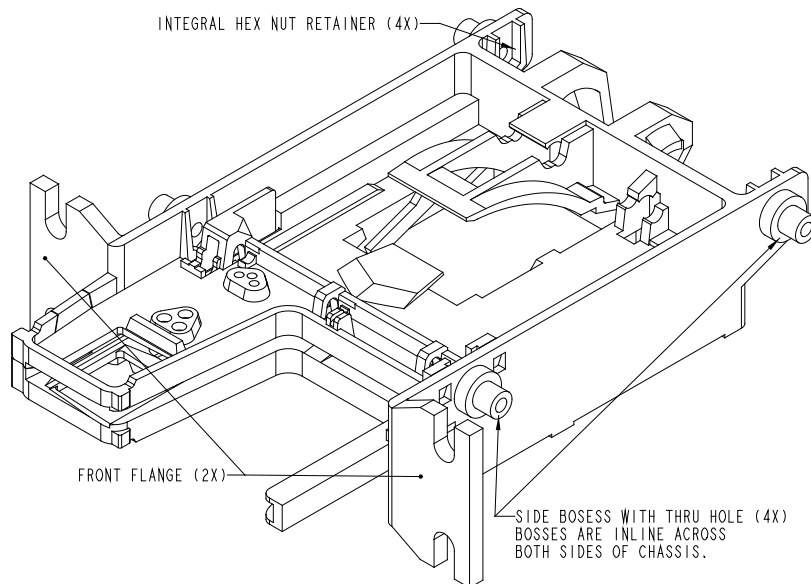


Figure 2-1. Chassis Mounting Features

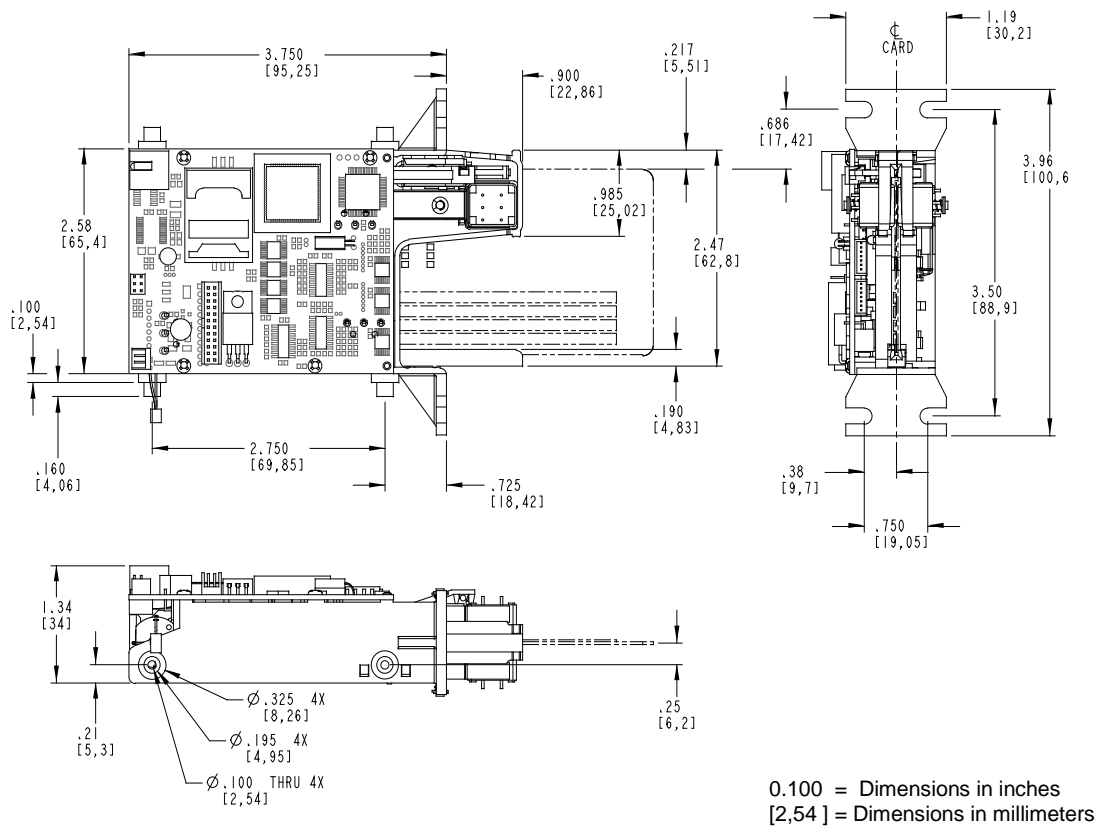


Figure 2-2. Dimensions For Mounting

ELECTRICAL CONNECTIONS

Connectors

Figure 2-3 shows the positions of the rear connectors for power and communication.

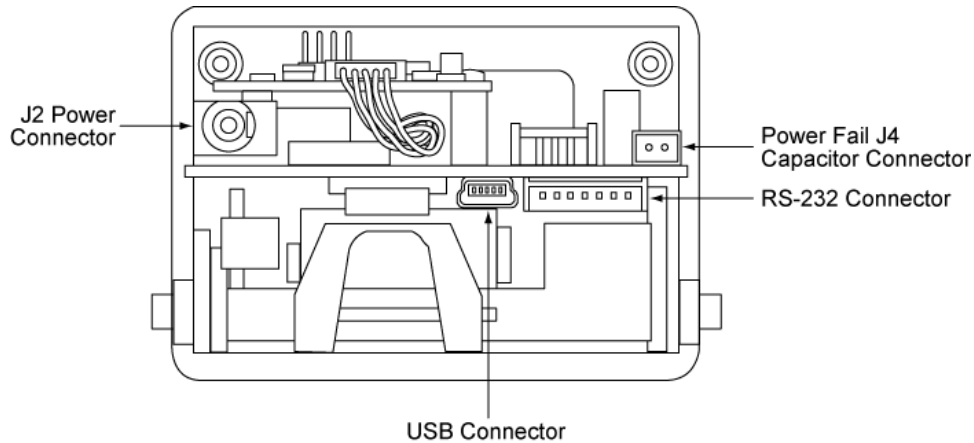


Figure 2-3. Power and Communication Connections

Host Connector - RS-232

The RS-232 connector, J1, connects to the host's power and RS-232 signals. Figure 2-3 shows the location of the 7-pin RS-232 Connector. Table 2-1 lists the pin numbers of the connector. If the RS-232 connection is used, the power can be supplied through the jack on the RS-232 cable (see Figure 2-10) or via the J2 Power Connector.

Host Connector - USB

The USB connector, J11, connects to the host's USB port. When using the USB connection, power must be supplied via the J2 Power Connector on the back of the IntelliStripe 65. If the USB connection is used, the power must be supplied to the J2 Power Connector.

Power-Fail Capacitor Connector

The Power-Fail Capacitor connector, J4, connects to an optional external capacitor that is used to unlatch the card during a power failure. Pin 1 connects to the positive side of the capacitor and pin 2 connects to the negative side (see Appendix A. Options, Power-Fail Latch Release Option).

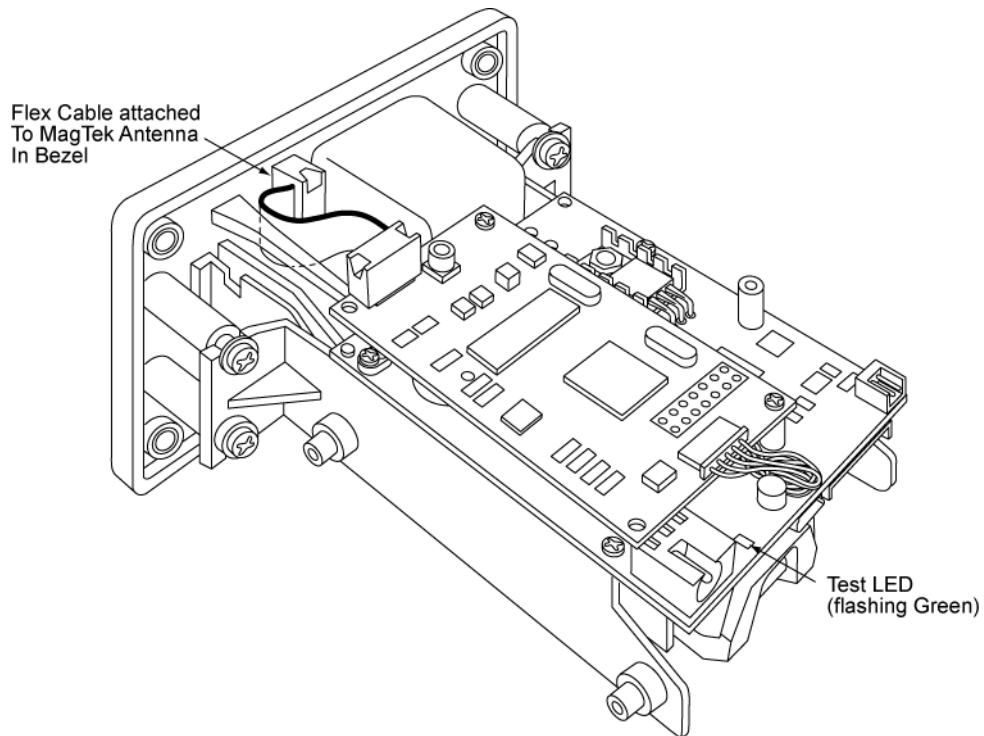


Figure 2-4. Fully Equipped Contactless Reader with Antenna in Bezel

Contactless Installation

Some models of the IntelliStripe 65 include the ability to add a contactless smart card module. The contactless module and its interface cable can be ordered separately from MagTek. Figure 2-5 shows how the cable and module are attached to the IntelliStripe 65 circuit board. Figure 2-6 shows the module fully installed.

IntelliStripe 65, USB/RS-232 Insertion Reader

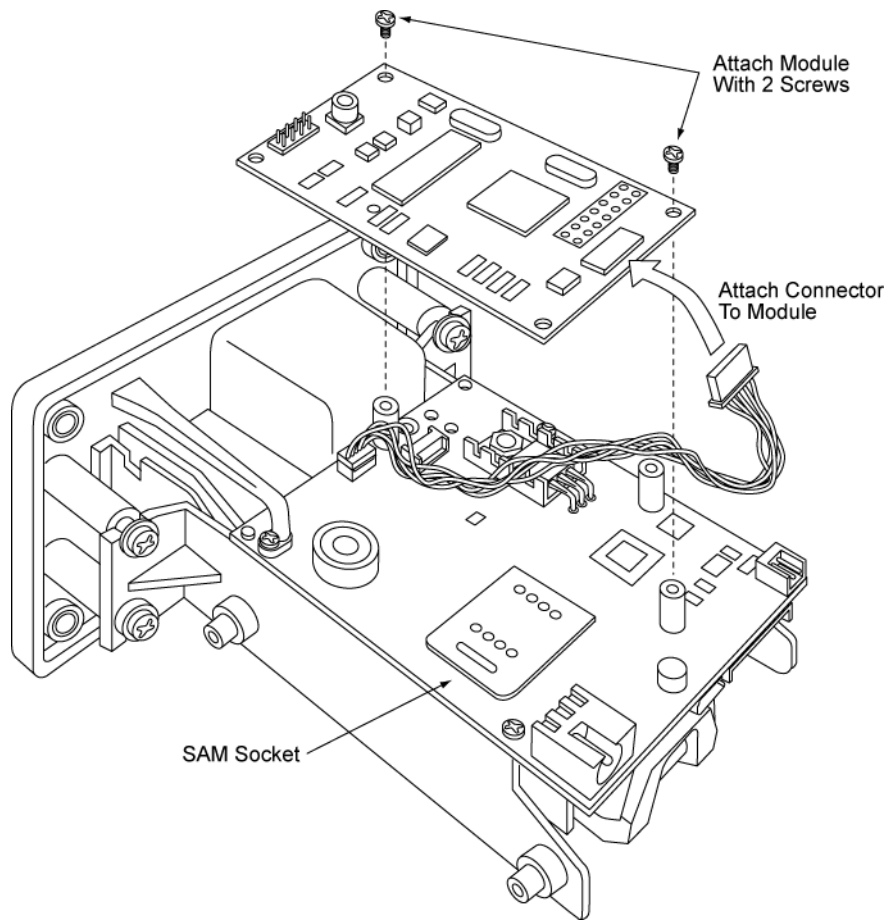


Figure 2-5. Installing Contactless Module on Contactless Ready Model

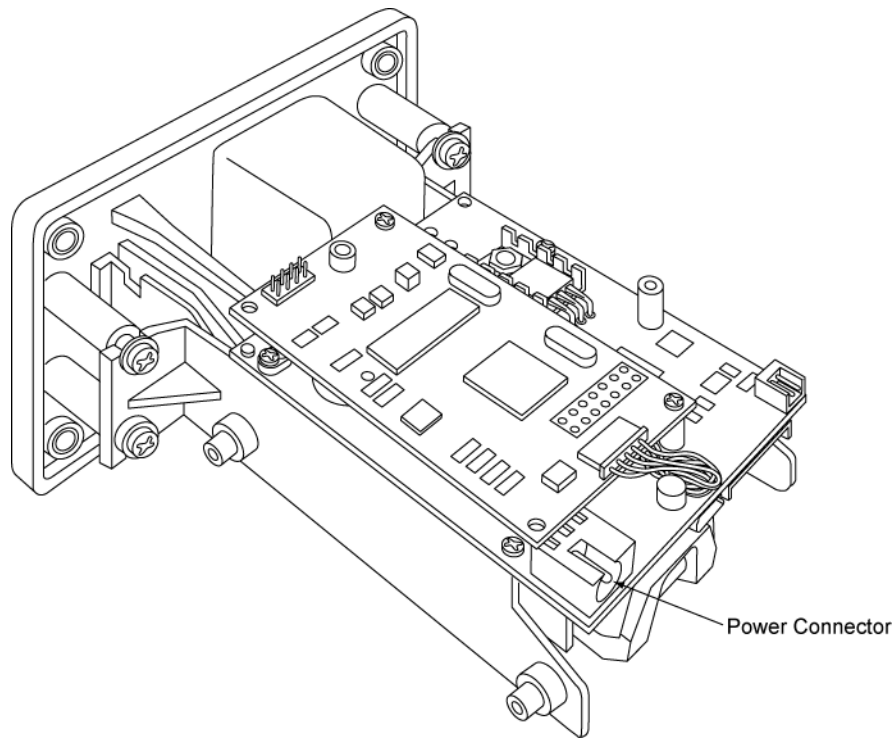


Figure 2-6. Contactless Module Installed

Antenna Installation

The antenna is a separate item that can be installed outside of the IntelliStripe 65. The antenna module and the interface cable are supplied separately from the reader. Two types of cables are offered:

- Flat Ribbon Cable – this cable is only 7.5” (19cm) but all 4 of the LEDs are supported (see Figure 2-7)
- Coax Cable – this 12” (30cm) cable offers a slightly greater range of antenna placement but it does not operate the LEDs on the antenna module (see Figure 2-8)

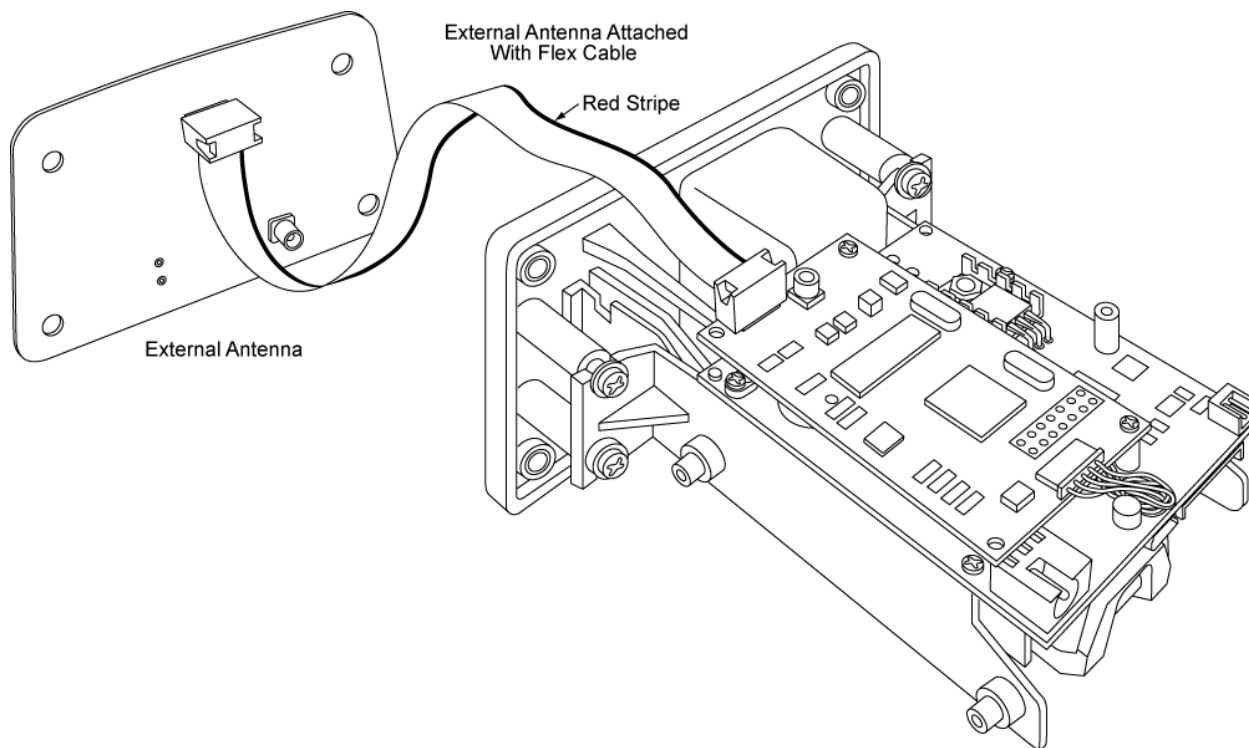


Figure 2-7. Using External Antenna with LEDs (Ribbon Cable)

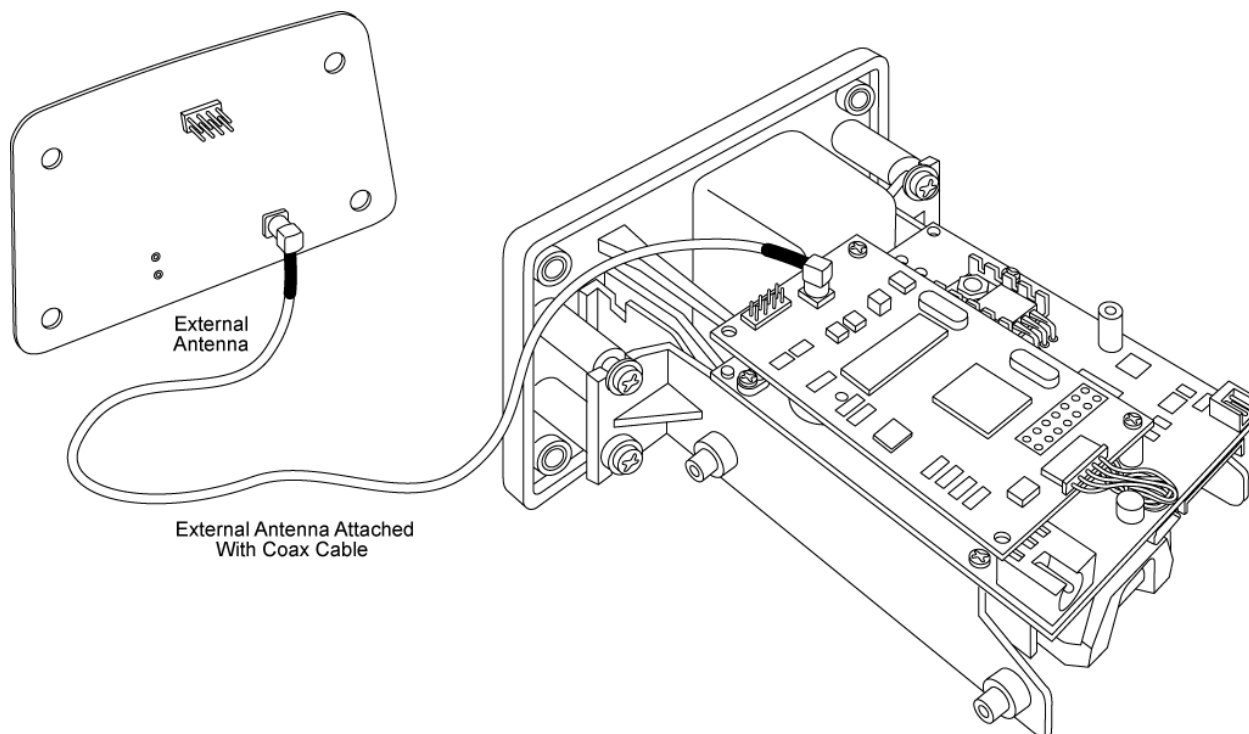


Figure 2-8. Using External Antenna without LEDs (Coax Cable)

Accessing SAM Module

If the contactless module is installed, it must be removed temporarily in order to access the SAM module. The two screws holding the contactless module onto the IntelliStripe 65 circuit board will have to be removed in order to reach the SAM module which is located under the contactless module (see Figure 2-9).

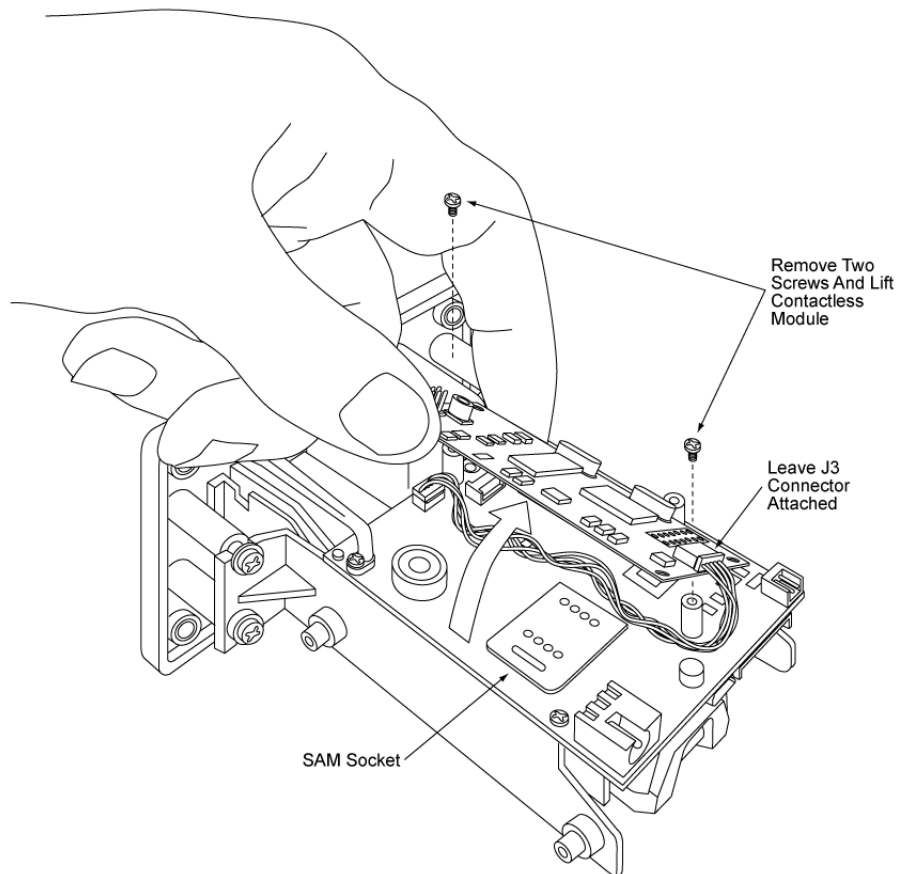


Figure 2-9. Removing Contactless Module to Access SAM Socket

RS-232 Cable

Figure 2-10 shows the cable (P/N 16051408) that connects the IntelliStripe 65 (7-Pin Connector) to the host (9-pin Connector). The length of the cable is 6' (1.8m).

IntelliStripe 65, USB/RS-232 Insertion Reader

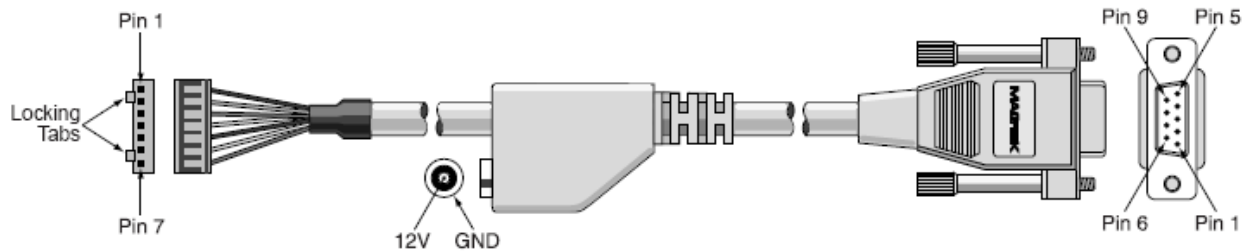


Figure 2-10. RS-232 Cable

Table 2-1 lists the connector pin numbers and signal names.

Table 2-1. Pin List for RS-232 IntelliStripe 65 Cable

Molex 7 Pin (51065-0700)		DE-9 Female		2.5mm Power Jack	
Pin Number	Signal Name	Pin Number	Signal Name		
1	TXD	2	RXD		
2	+12V			CENTER PIN	+12V
3	PWR GND			SHELL	GND
4	RXD	3	TXD		
5	RTS	8	CTS		
6	CTS	7	RTS		
7	SIGNAL GND	5	GND		
		6	DSR		
		4	DTR		

USB Cable

The USB cable is available in Pearl White (P/N 16051430) and MagTek Gray (P/N 16051433). It connects the Host (USB-A plug) to the IntelliStripe 65 (USB mini-B plug). The overall length of the cables is 6' (1.8m).

Power Supply

Figure 2-11 shows the Power Supply (P/N 64300080) 100-240V, regulated, 12VDC @ 1.5 Amps, 2.5 mm power jack. The AC power cord (P/N 71100001) is for use in North America. Other users must supply their own cord (requires an IEC-320-C13 connector at the power supply).

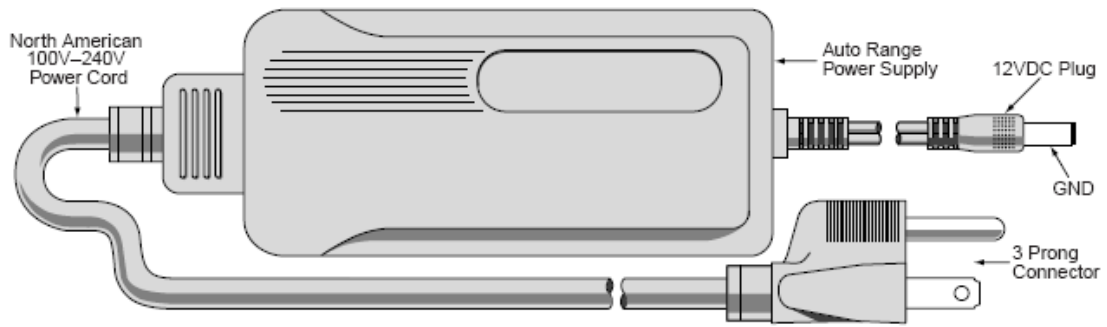


Figure 2-11. Power Supply

APPENDIX A. OPTIONS

CARD LATCH OPTION

The location and parts of the Card Latch Assembly are shown in Figure A-1.

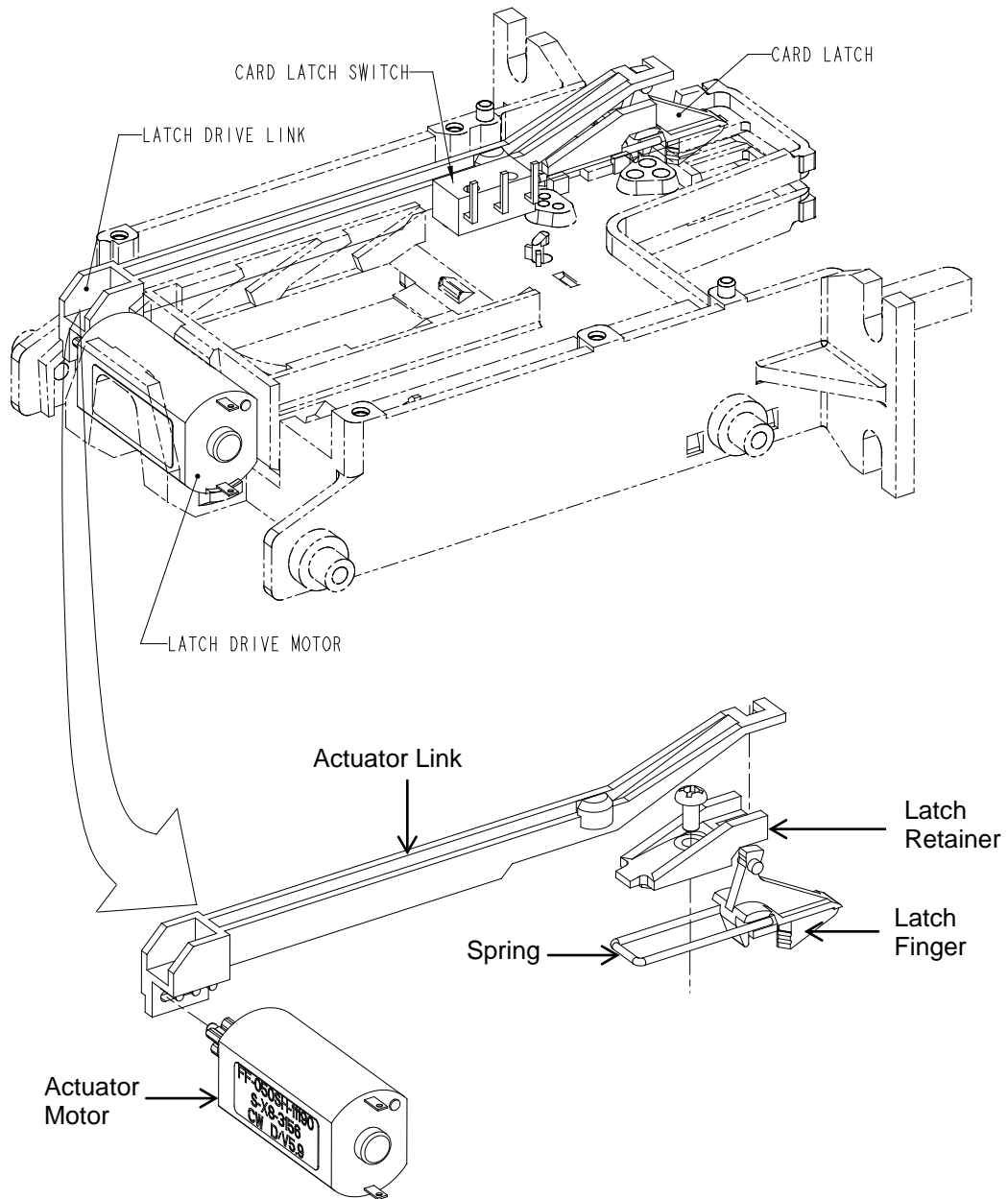


Figure A-1. Card Latch Assembly

POWER-FAIL LATCH RELEASE OPTION

The externally mounted power-fail capacitor is shown in Figure A-2.

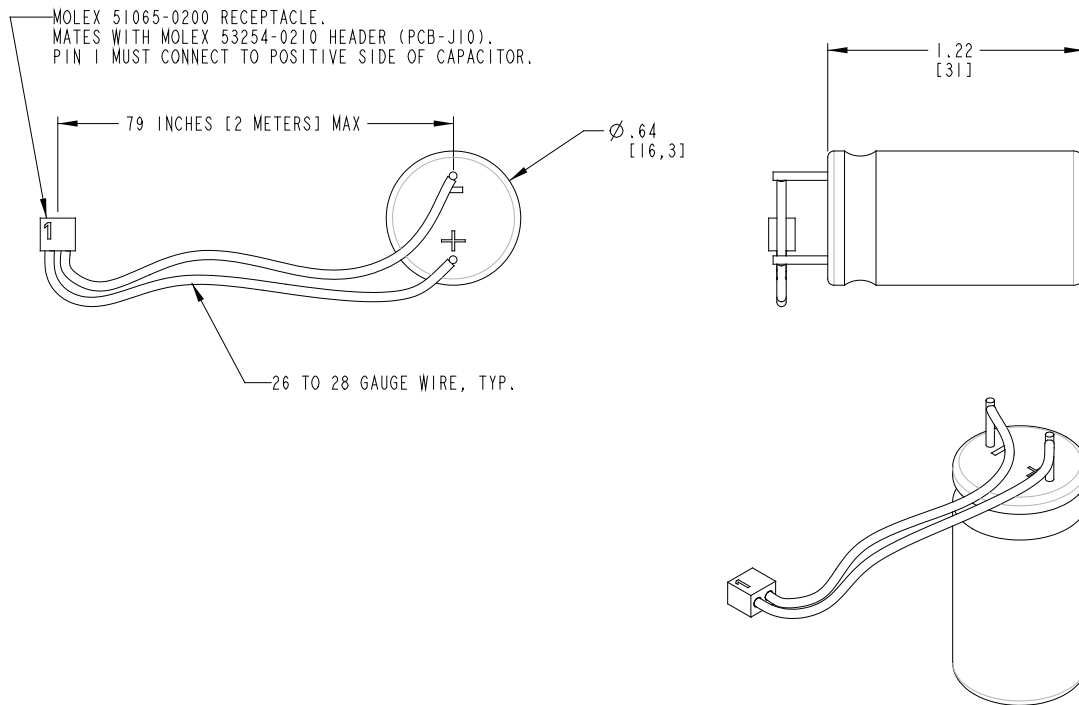


Figure A-2. Latch Release Capacitor

The power fail unlatch option disengages the latch during a power failure event. This option is triggered when the main input power to the reader fails. An external backup capacitor is required for this option to function. This capacitor can be connected to the reader through a header on the board.

In the case of power failure, the capacitor automatically opens the latch, which releases the card. The users must determine the wire length required for their specific application. The power fail capacitor range is 3300uF to 15000uF with a rated voltage greater than the applied reader input voltage.

GATE OPTION

The location and parts of the Gate Assembly are shown in Figure A-3.

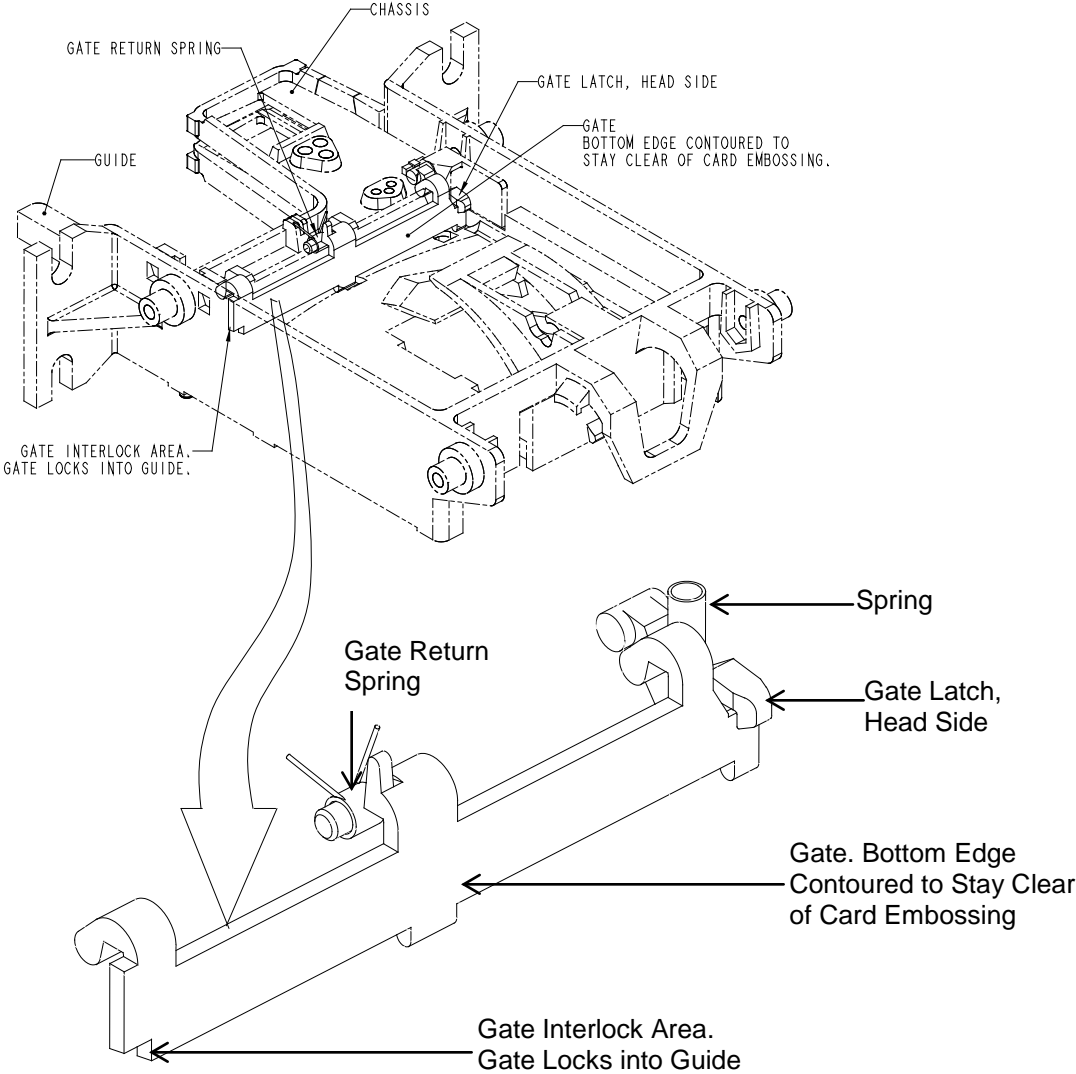


Figure A-3. Gate Assembly

APPENDIX B. BEZEL CONFIGURATION AND MOUNTING

Three bezel configurations are described in this appendix: the International and the North American Plastic Bezels and the International Metal Bezel. The International Bezels are slightly larger than the North American Bezel and require a larger panel opening for installation. The International Bezels are suited to applications requiring metric screws and the North American Bezel to imperial screws. From the drawings in this section, the user may design a bezel for different requirements.

INTERNATIONAL PLASTIC BEZEL MOUNTING

The International Plastic Bezel (P/N 21161202) is attached to the unit by four screws (Mounting inserts M3.5 x 5 Minimum Deep). The four screws are inserted into the front flange slots to retain the unit to the bezel. Figure B-1 shows the position and the dimensions of the flanges.

Figure B-2 shows the orientation and dimensions of the bezel and recommended dimensions for the panel opening. Four screws that mount the Bezel to the panel are also M3.5. The length of the screws depends on the panel thickness, washers, and spacers used in mounting the panel.

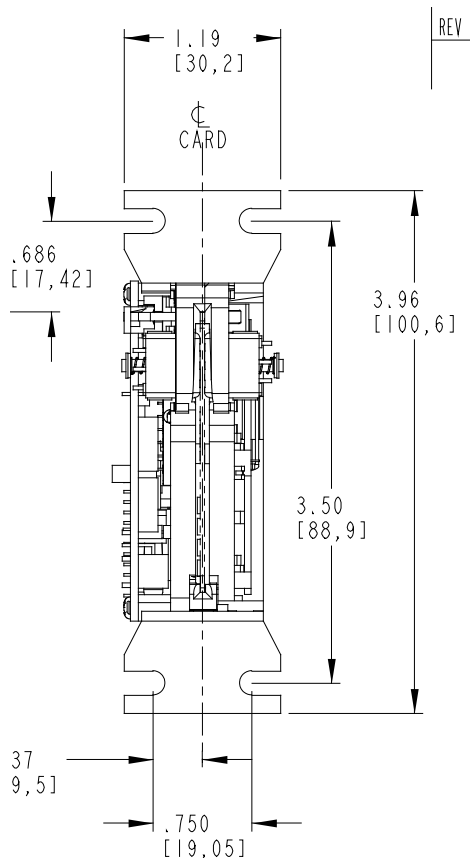


Figure B-1. Flanges for International Bezel Mounting

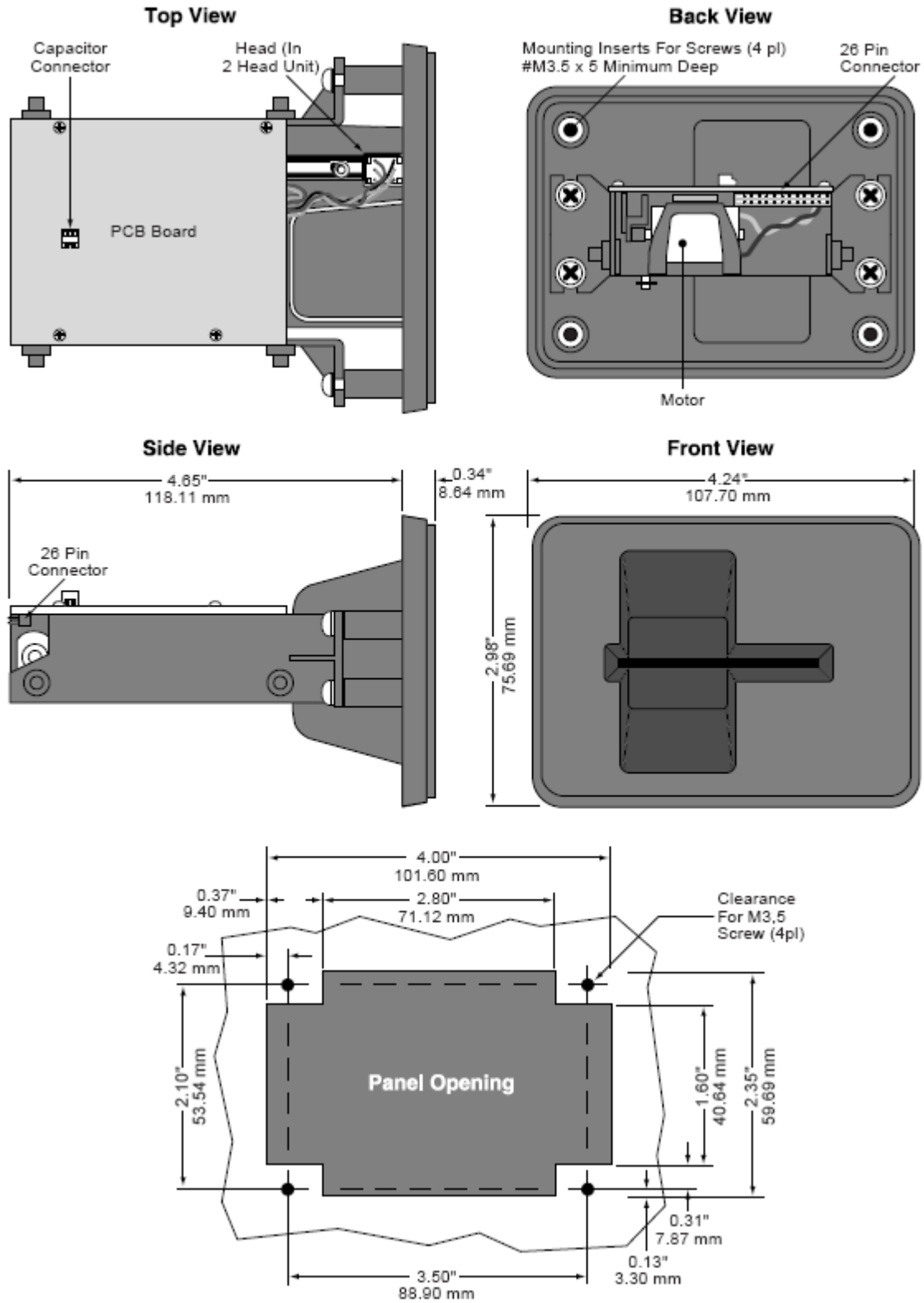


Figure B-2. International Plastic Bezel Mounting

INTERNATIONAL METAL BEZEL MOUNTING

The International Metal Bezel (P/N 21161204) is shown and described in Figure B-3. The Bezel also requires the front flanges for attaching the Bezel to the unit (see Figure B-1). Four screws are inserted into the front flange slots to retain the unit to the bezel. These screws are thread cutting and may be either Phillips head or T10 Torx[®].

Figure B-3 also shows the orientation and dimensions of the bezel and recommended dimensions for the panel opening. Four screws that mount the Bezel to the panel are also M3.5. The length of the screws depends on the panel thickness, washers, and spacers used in mounting the panel.

Compatibility

The Metal Bezel is not compatible with some units. The units compatible with the Metal Bezel are 1) front mount and 2) front and side mount together (M1 and M3). The units not compatible with the Metal Bezel are 1) side mount and 2) no mount (M2 and M4). Table B1 lists examples of units compatible with the Metal Bezel. Table B2 lists examples of units not compatible with the Metal Bezel.

Table B1. Examples of Configurations Compatible with the Metal Bezel

Part Number	Model	Mounting	Description
21165048	IntelliStripe 65	M3 – Front and Side Mounted	165 with flanges and bosses
21165051	IntelliStripe 65	M3 – Front and Side Mounted	165 with flanges and bosses
21165052	IntelliStripe 65	M3 – Front and Side Mounted	165 with flanges and bosses
21165053	IntelliStripe 65	M3 – Front and Side Mounted	165 with flanges and bosses
21165059	IntelliStripe 65	M3 – Front and Side Mounted	165 with flanges and bosses

Table B2. Examples of Configurations Not Compatible with the Metal Bezel

Part Number	Model	Mounting	Description
21165042	IntelliStripe 65	M2 – Side Mounted	165 with bosses only
21165043	IntelliStripe 65	M2 – Side Mounted	165 with bosses only

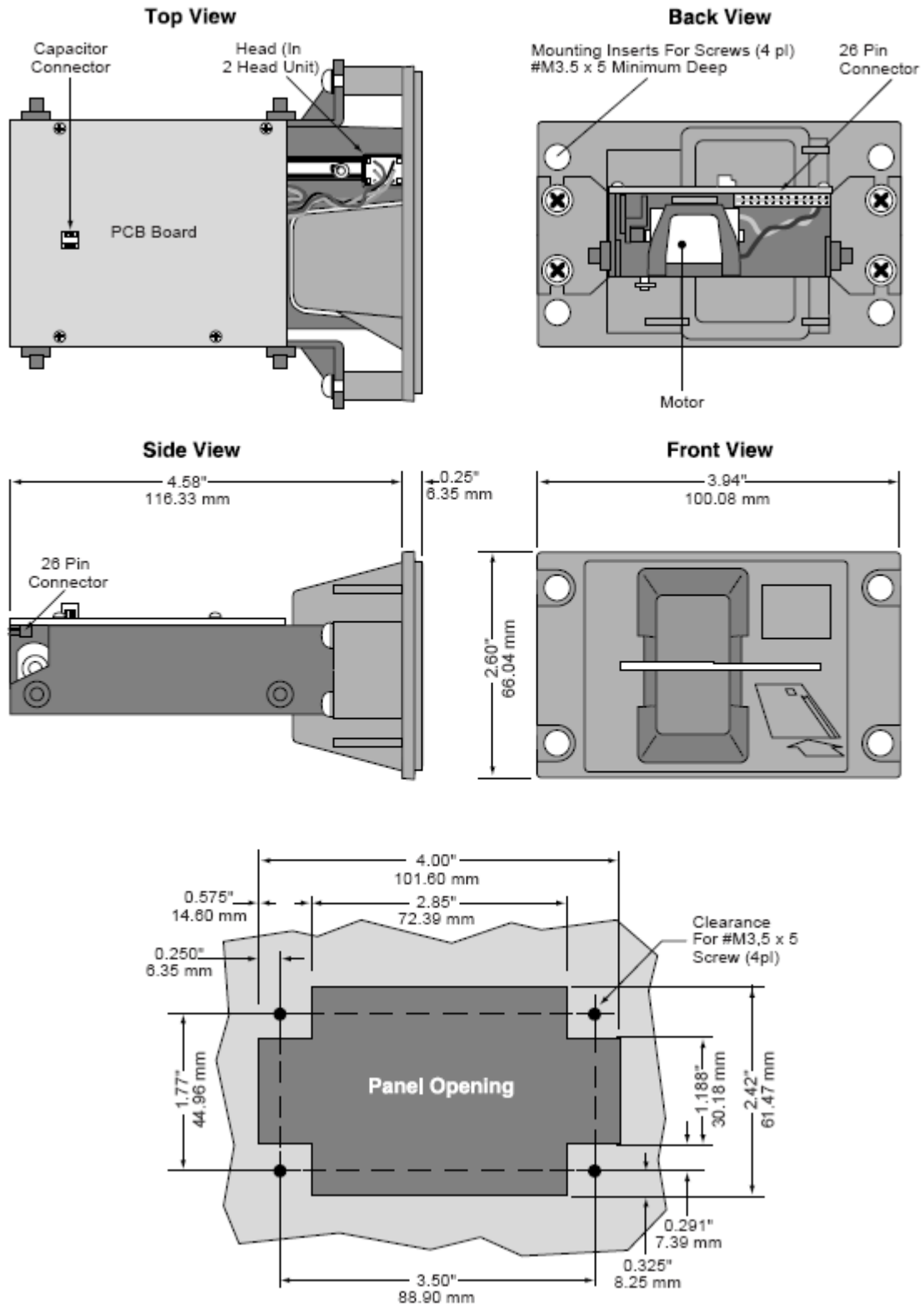


Figure B-3. International Metal Bezel Mounting

NORTH AMERICAN PLASTIC BEZEL MOUNTING

The North American Plastic Bezel (P/N 21161206) is shown and described on Figures B-4, B-5, B-6 and B7. The Bezel with the optional cutout for the LED (P/N 21161207) is shown and described on Figures B-4, B-9, and B-10. The North American Bezel is smaller than the International Bezels and requires a smaller panel opening for installation. The North American Bezel is suited to applications requiring imperial screws. From the drawings in this section, the user may design a bezel for different requirements.

Figure B-3 shows the orientation and dimensions of the bezel and recommended dimensions for the panel opening. Four screws that mount the Bezel to the panel are size 6-32. The length of the screws depends on the panel thickness, washers, and spacers used in mounting the panel. Figures B-4 and B-5 show the dimensions of the bezel in case a different bezel is required. Figures B-6 and B-7 show the brackets that are mounted on the side of the unit.

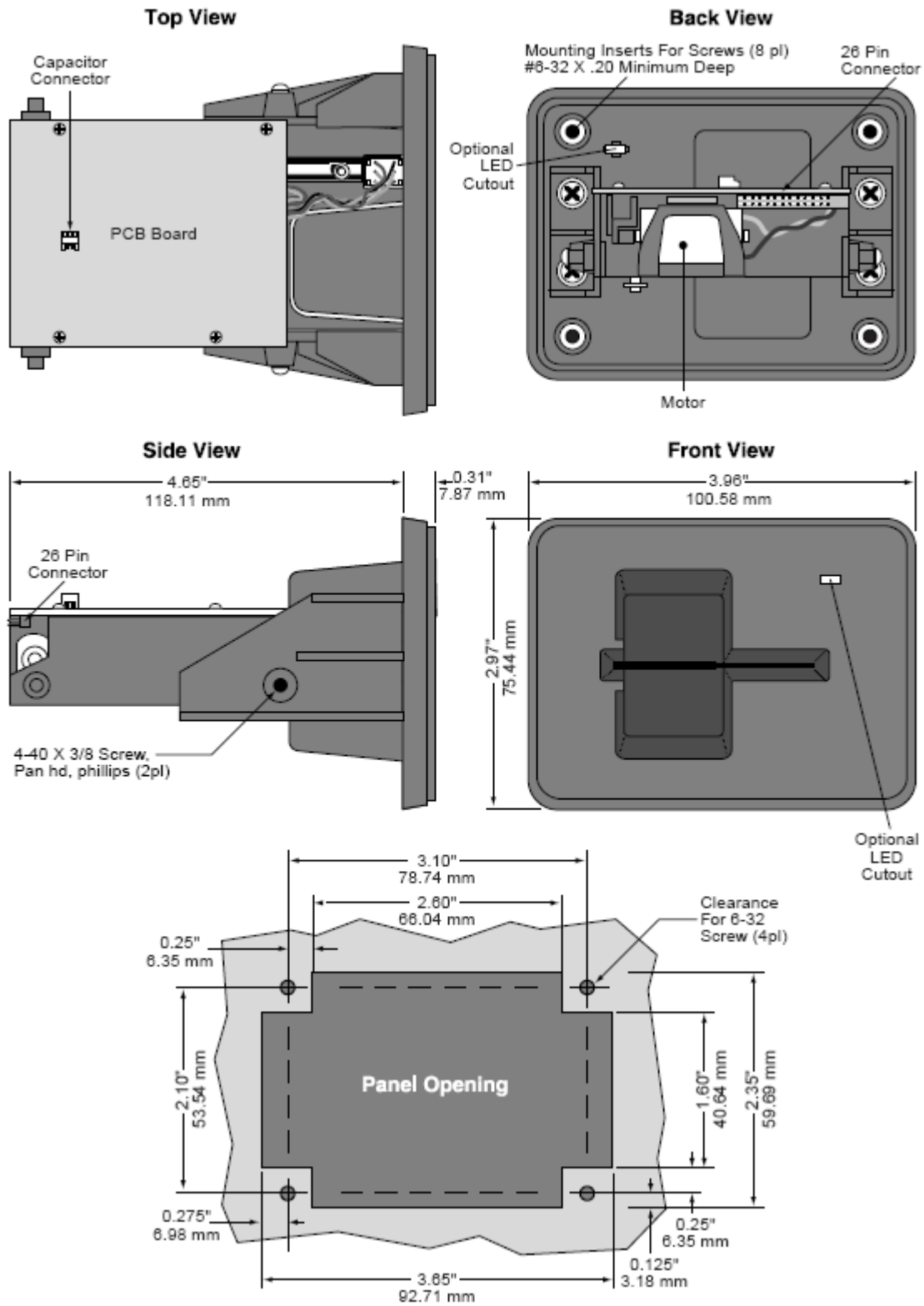


Figure B-4. North American Plastic Bezel Mounting

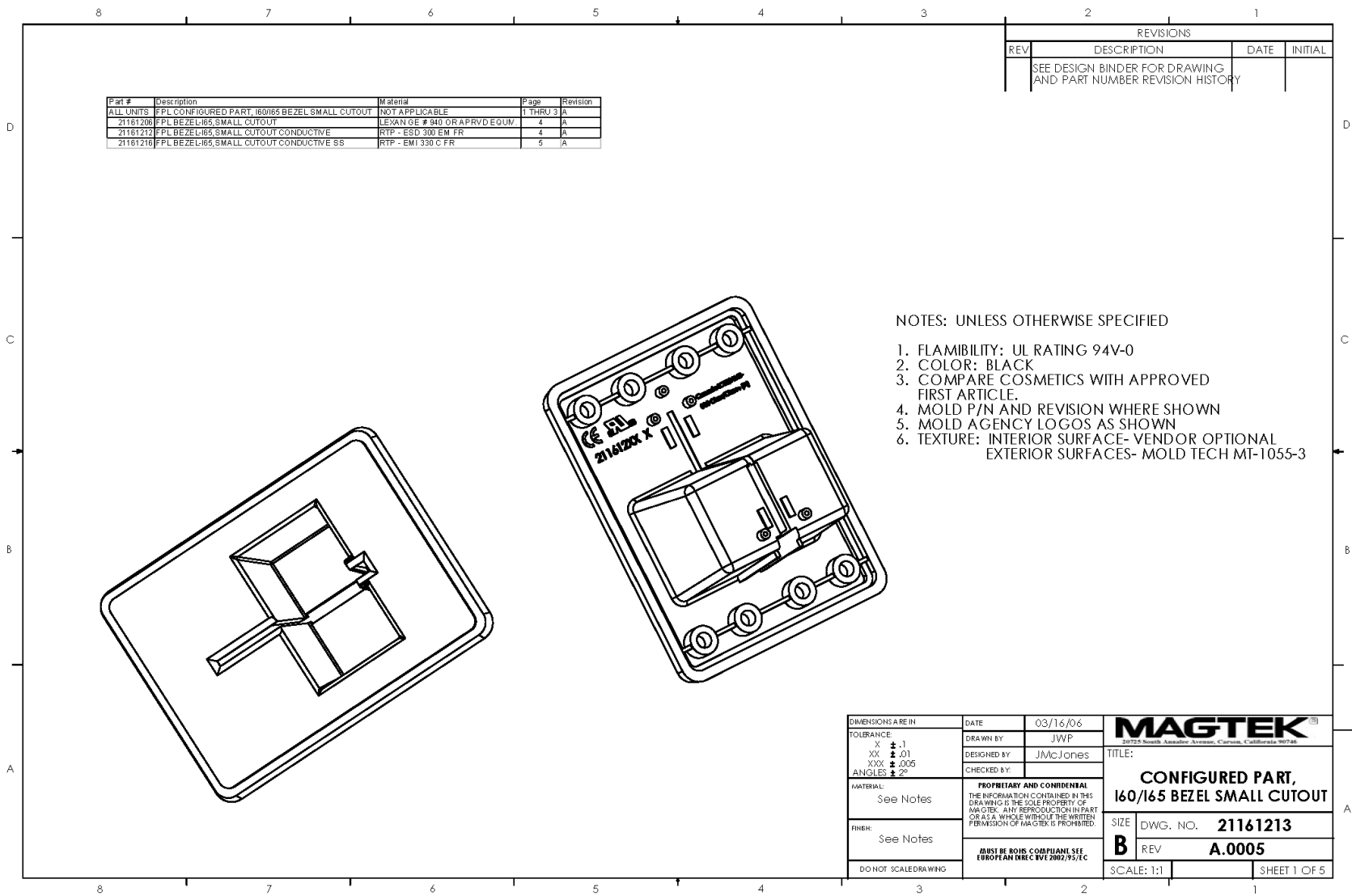


Figure B-5. Small Cutout Bezel (1)

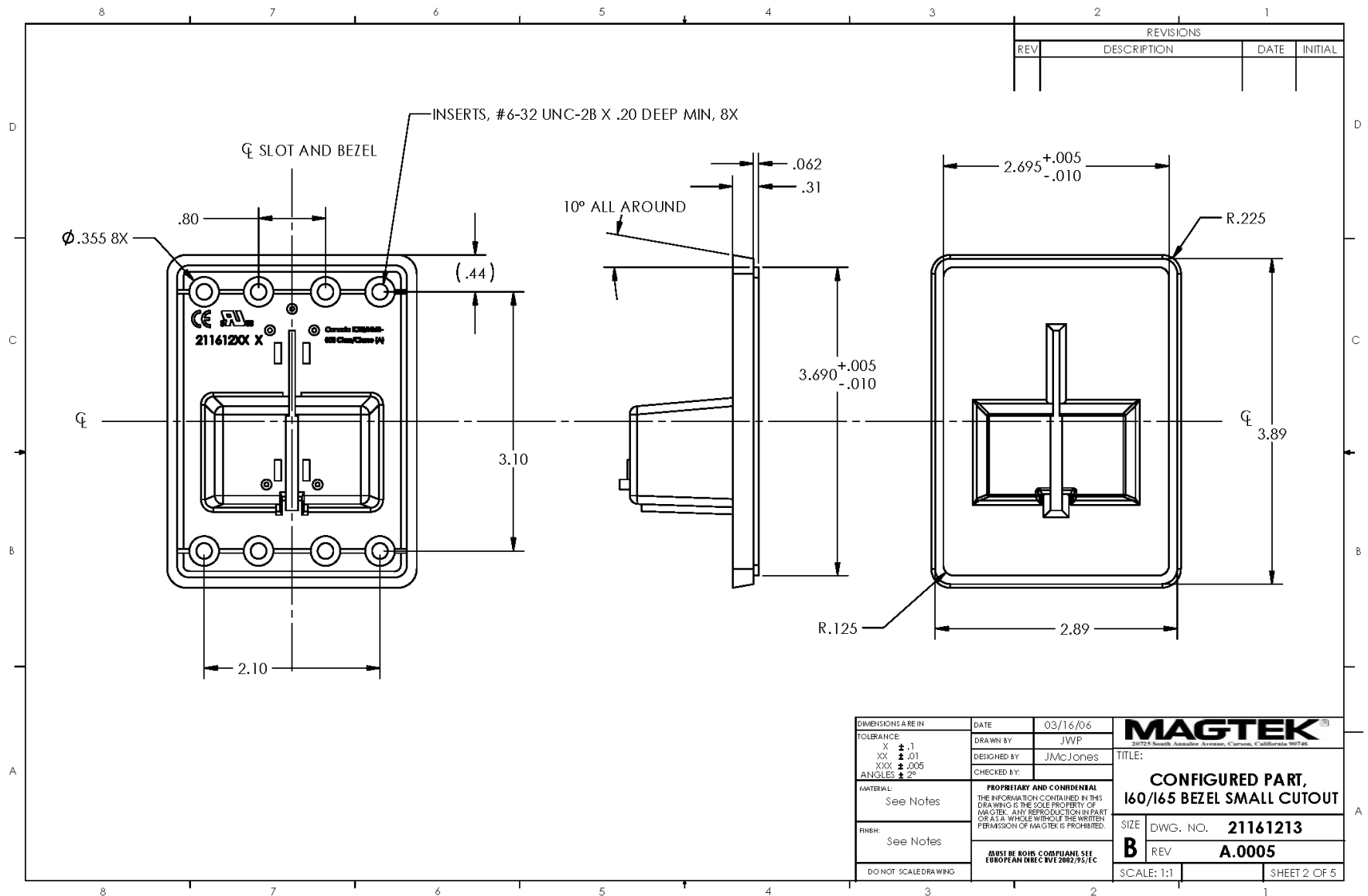


Figure B-6. Small Cutout Bezel (2)

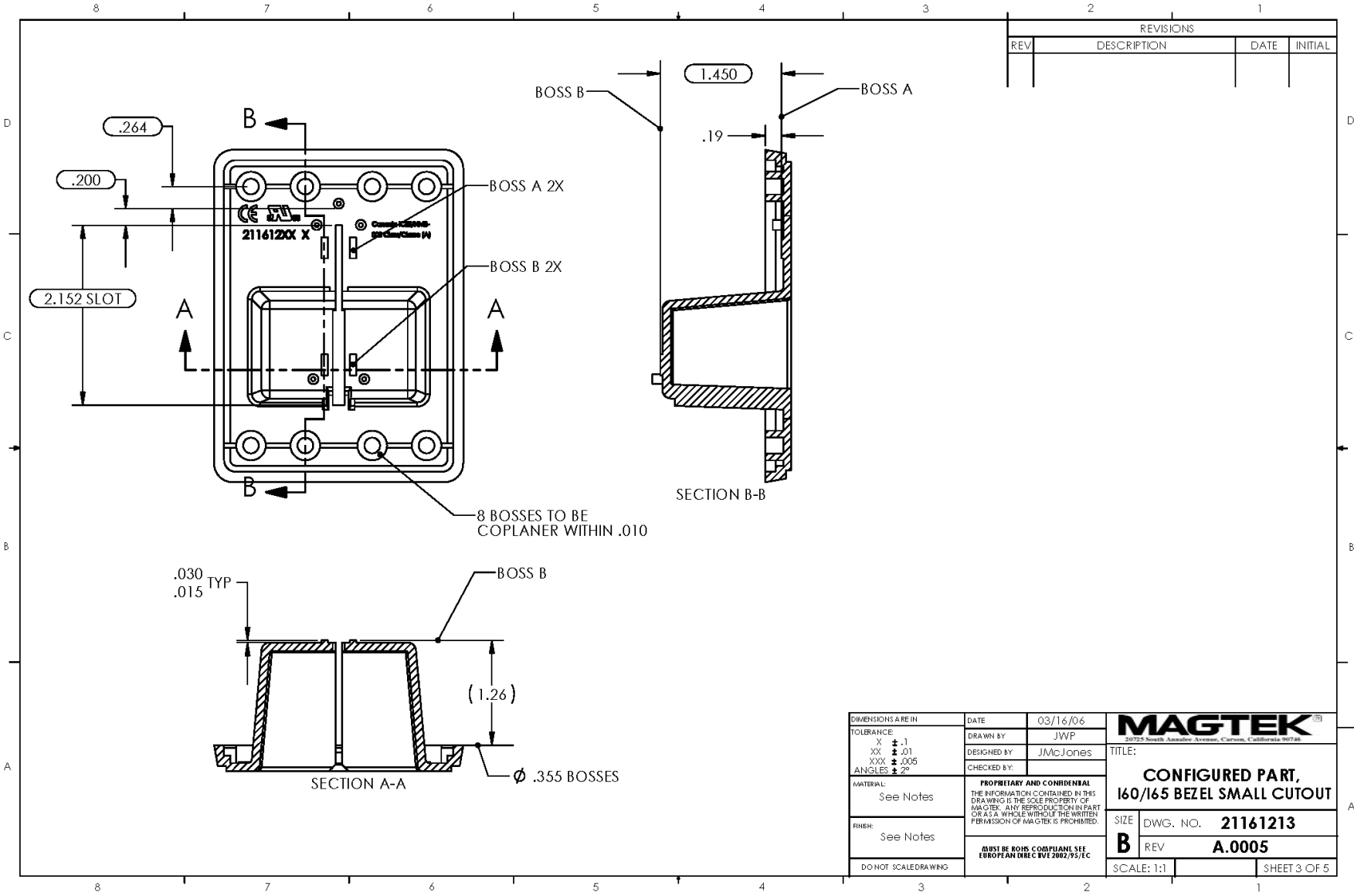


Figure B-7. Small Cutout Bezel (3)

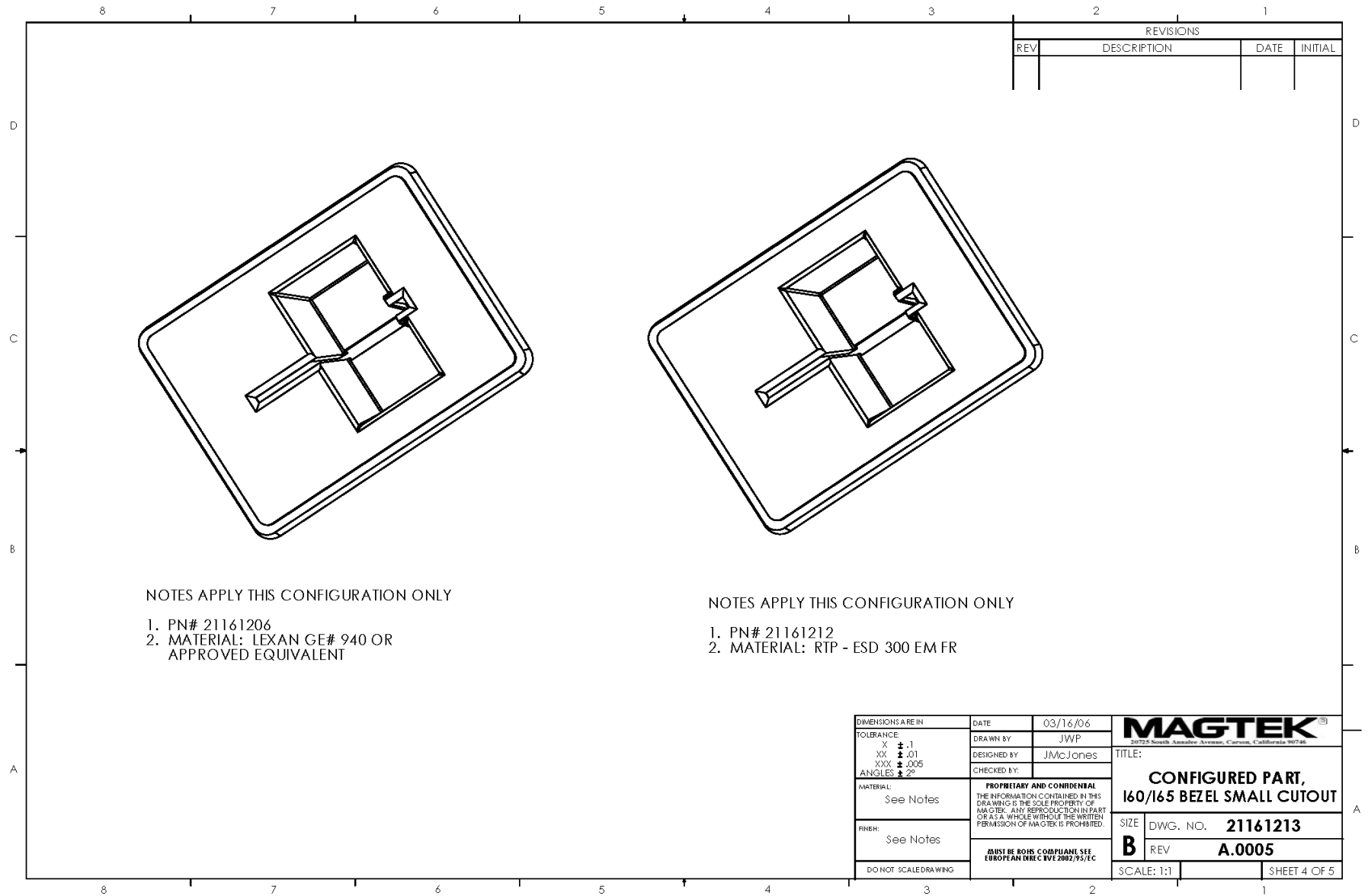


Figure B-8. Small Cutout Bezel (4)

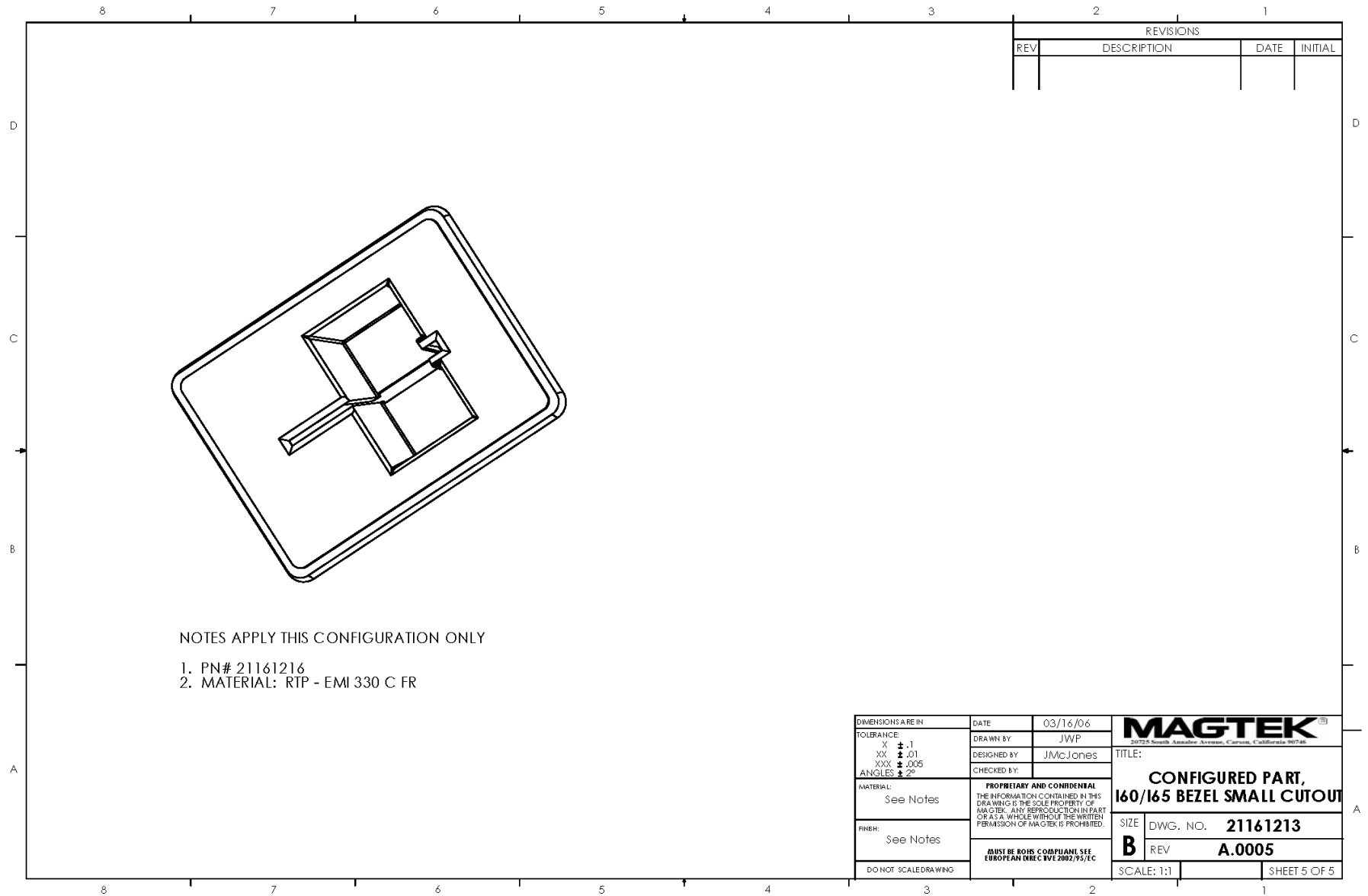
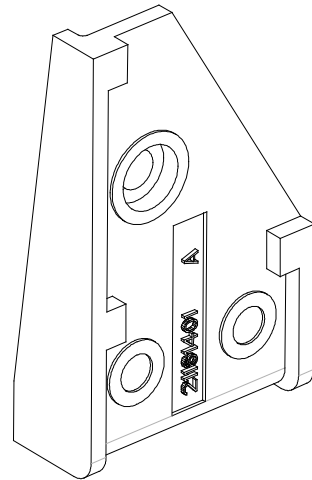


Figure B-9. Small Cutout Bezel (5)

REVISIONS			
REV	DESCRIPTION	DATE	INITIAL
A	ECN 6783. PRODUCTION RELEASE.	15MAR01	JMCJ



NOTES, UNLESS OTHERWISE SPECIFIED:

1. MATERIAL: LEXAN, GE#940, UL RATING 94V-0 OR APPROVED EQUIVALENT, COLOR: BLACK.
2. TEXTURE: SPI D-2.
3. COMPARE COSMETICS WITH APPROVED FIRST ARTICLE.
4. MOLD P/N AND REVISION WHERE SHOWN.
5. P/N 21161301 IS MIRROR IMAGE OF THIS PART AND SHALL BE USED FOR DIMENSIONS OF THIS DRAWING AS APPLICABLE.

TOLERANCES:		MAGTEK 20725 S. ANNALEE AVENUE CARSON, CA 90746	
.XX ± 0.01 .XXX ± 0.005 ANGLES ± 0.5			
DATE DRAWN: 09-Feb-01		BRACKET- BEZEL 165, HEAD SIDE	
DRAWN BY: JMCJ	SIZE B	SCALE 2.000	DWG NO. 21161401
DESIGNED BY: MCJONES	MODEL TYPE/NAME	PART / 21161401	REV A
			SHEET 1 OF 1

Figure B-10. Head-Side Bezel Bracket

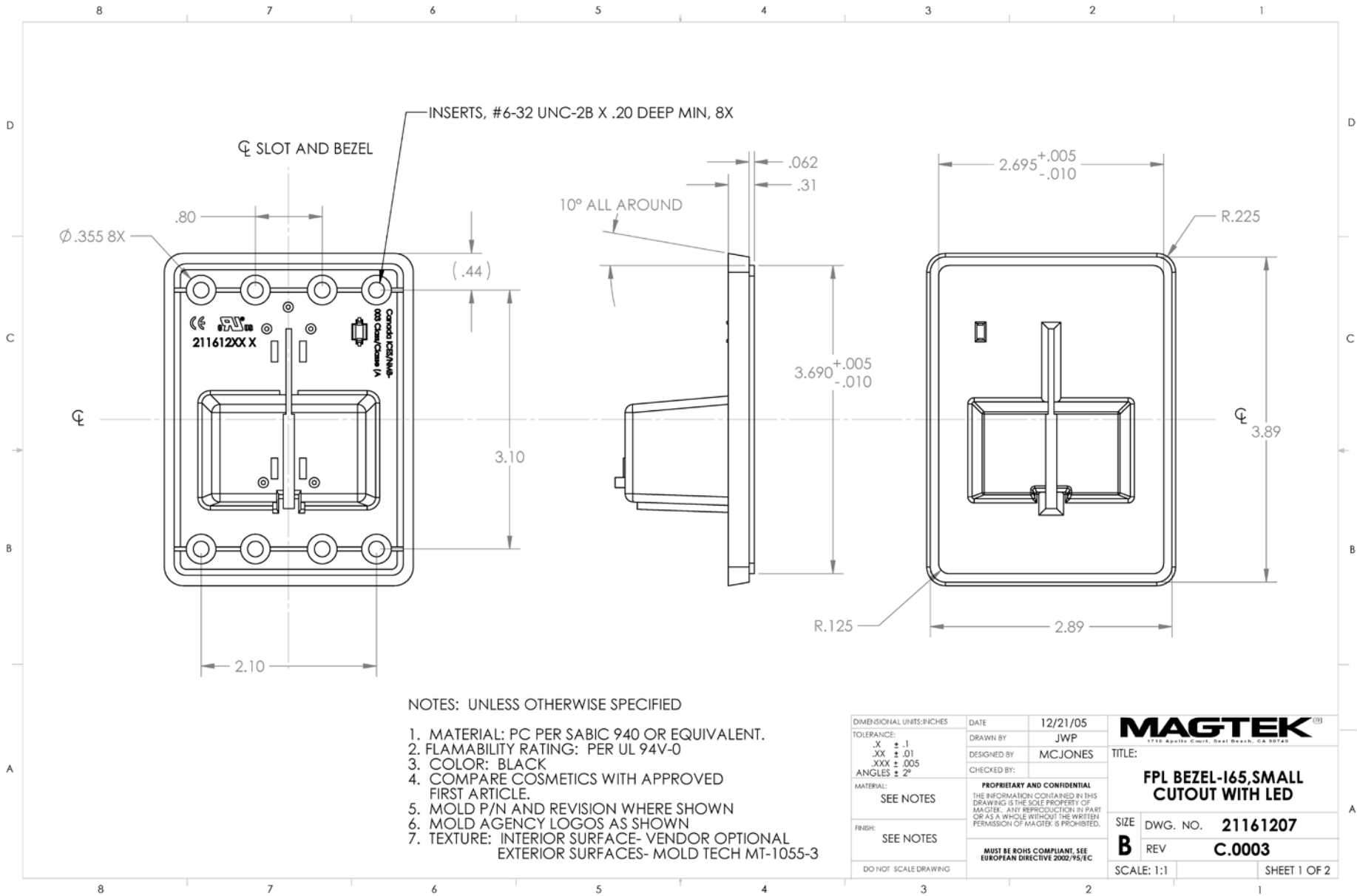


Figure B-91. North American Plastic Bezel with LED Cutout (1)

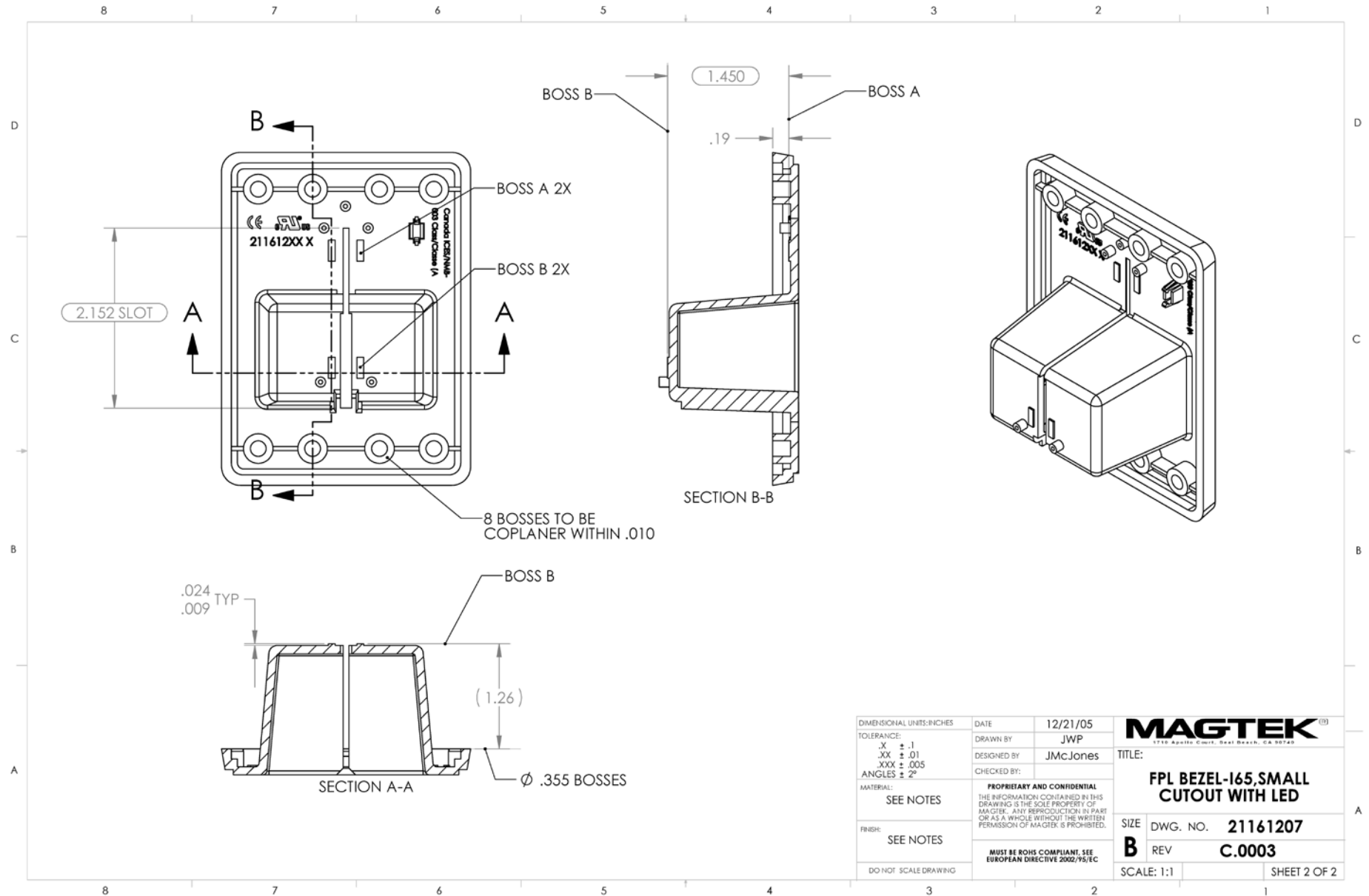


Figure B-102. North American Plastic Bezel with LED Cutout (2)