

100-MILLIMETER SWIPE READER WITH SHIFT-OUT ASIC TECHNICAL REFERENCE MANUAL

Part Number 99875287-3

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MAGTEK[®]

REGISTERED TO ISO 9001:2000

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REVISIONS

Rev Number	Date	Notes
1	20 Nov 03	Initial Release
2	9 Mar 04	Sec 1: Added more description in first four paragraphs; Specifications, Power Requirements: added idle and sleep modes; Sec 2: Added connector IO pinouts and -2 and -3 Trk Head pinouts. Appendix A, updated drawings 21040229 and 21040230.
3	11 May 04	Section 1, Configurations: Editorial corrections; Section 2: Updated Specs; Appendix A: Added drawings 21040230 and 21040229.

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This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential 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. However, there is no guarantee that interference will not occur in a particular installation.

FCC COMPLIANCE STATEMENT

This device complies with Part 15 Of The FCC Rules. Operation of this device 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.

CANADIAN DOC STATEMENT

This digital apparatus does not exceed the Class B limits for radio noise for 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.

CE STANDARDS

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

UL/CSA

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

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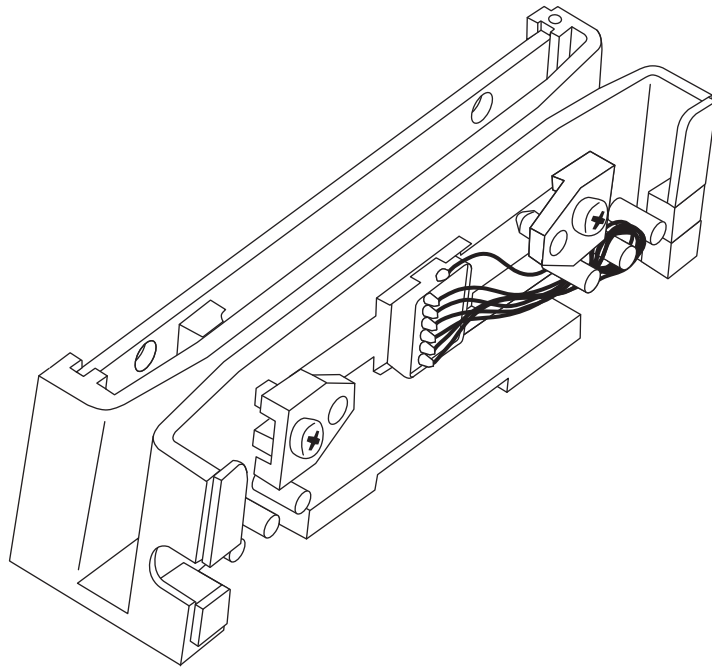


Figure 1-1. 100-millimeter Compatible Swipe Reader

SECTION 1. FEATURES AND SPECIFICATIONS

The 100-millimeter Magstripe Swipe Reader with Shift-Out ASIC is designed for providing magstripe read capabilities for use in the retail, access control, and time and attendance environments.

The reader chassis provides an industry standard mechanical footprint, along with magstripe read capabilities, which comply with the ISO 7810/7811 and AAMVA standards.

The Shift-Out interface provides a "next generation" electronics interface, which simplifies the process of collecting data bits as the card is swiped.

With Shift-Out technology, the reader's electronics take complete responsibility for recognizing when a card is being swiped, and for collecting all data bits during the card swipe process. Subsequently, the reader's electronics then send a "data ready" signal to the host interface, and allows the host to shift-out the data bits as required.

Key advantages of this product are as follows:

- Low power and "sleep mode" capabilities, which make this product ideal for use in hand-held battery powered devices. (75uA maximum current draw during sleep mode)
- Low voltage operation. (2.8VDC - 5.5VDC)
- Automatic detection of card swipe and real-time data collection.
- Shift Out data interface. (See Triple Track ASIC with Shift-Out, Specification, P/N 99875259 for details.)

CONFIGURATIONS

	Part Number	Read	Color
MT-211 100 mm Swipe Reader with 3-Track, Shift-Out ASIC	21040230	Tracks 1 & 2	Black
MT-211 100 mm Swipe Reader with 3-Track, Shift-Out ASIC	21040229	Tracks 1,2, & 3	Black

SPECIFICATIONS

STANDARDS	
Flammability	Meets UL94V-0
Speed	Card speed through the unit may vary from: 3 to 60 in/s (7.6 to 152.4 cm/s)
ELECTRICAL	
For electrical specifications, see reference document 99875259	
MECHANICAL	
Dimensions	See Appendix A
Connectors	See Appendix A
Life	1,000,000 passes
ENVIRONMENTAL	
Temperature	
Operating:	-30 °C to +70 °C (-22 °F to +158 °F)
Storage:	-30 °C to +70 °C (-22 °F to +158 °F)
Humidity**	
Operating:	10% to 90%
Storage:	100% noncondensing
Altitude	
Operating:	0-10,000 ft. (0-3048m)
Storage:	0-50,000 ft. (0-15,240m)

REFERENCE DOCUMENT

Triple Track ASIC With Shift-Out, Specifications, P/N 99875259

SECTION 2. INSTALLATION

This section consists of installation and connection of the Reader.

MOUNTING

The dimensions for mounting are shown below.

CONNECTORS

The connector pin lists are shown below. Connector J2 is provided for easy access without removing the PC board. If additional strain relief is required, J3 may be used, and a tie wrap can be routed through the holes adjacent to J3 to secure the cable.

The mating connector is

Housing Molex PN# 51021-0400

Terminal Molex PN# 50058-8000, 4 required.

I/O signal pin list is shown in Table 2-1.

Table 2-1. 2-Track and 3-Track I/O Signals

PCB J2 and J3	Signal
1	V _{DD}
2	GND
3	SO Data
4	SO Strobe

INTERFACE

For interface requirements refer to *Triple Track ASIC with Shift-Out, Specifications*, P/N 99875259.

APPENDIX A. ENGINEERING DRAWINGS

The following Drawings are provided in this section:

Part Number	Title
21040230	MT-211 100mm Tk 1, 2 w/3Tk ASIC
21040229	MT-211 100mm 3Tk w/3Tk ASIC

100mm Swipe Reader With Shift-Out ASIC

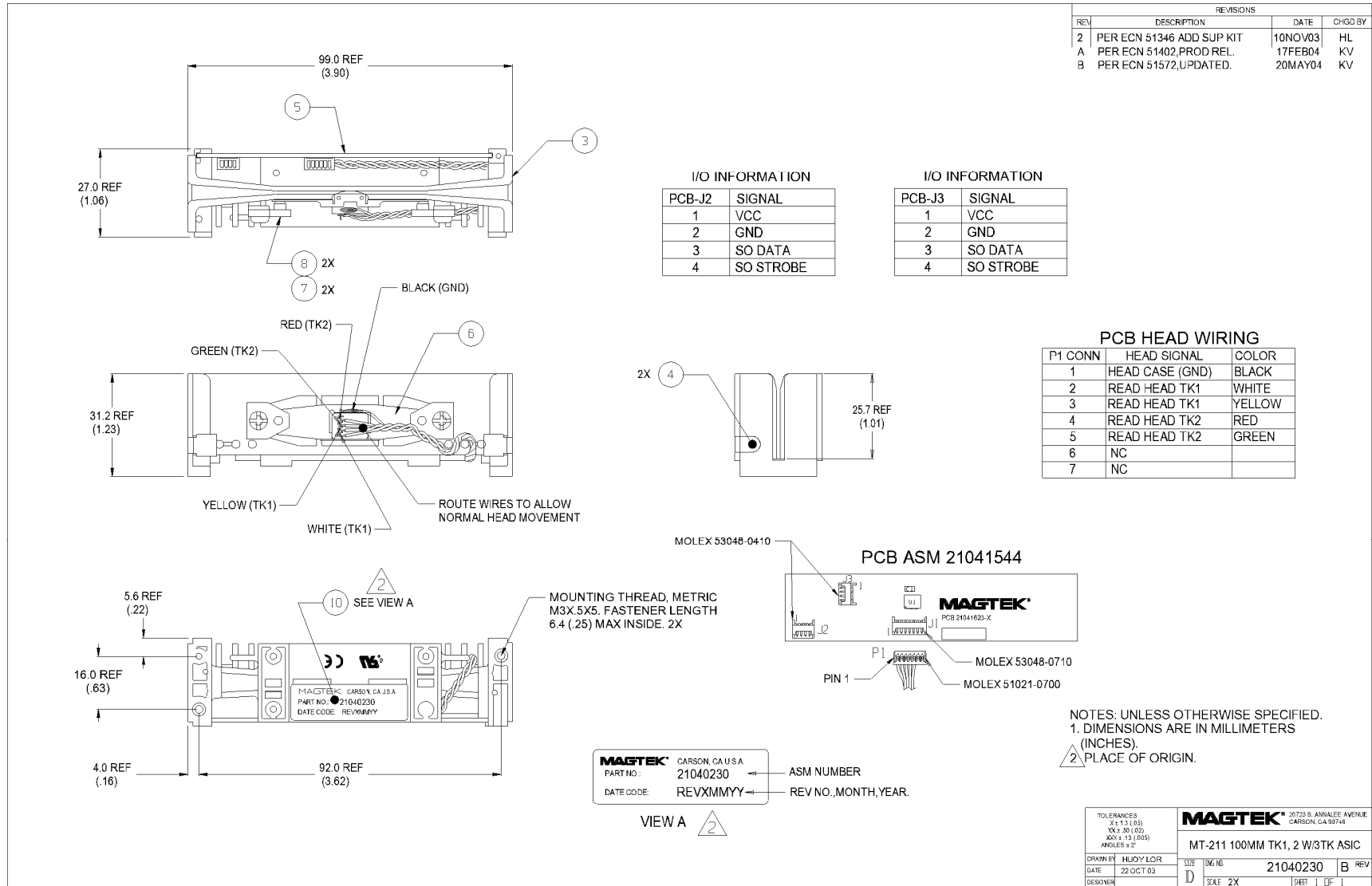


Figure A-1. 100-mm Swipe Reader, Tk 1, 2 w/3Tk ASIC

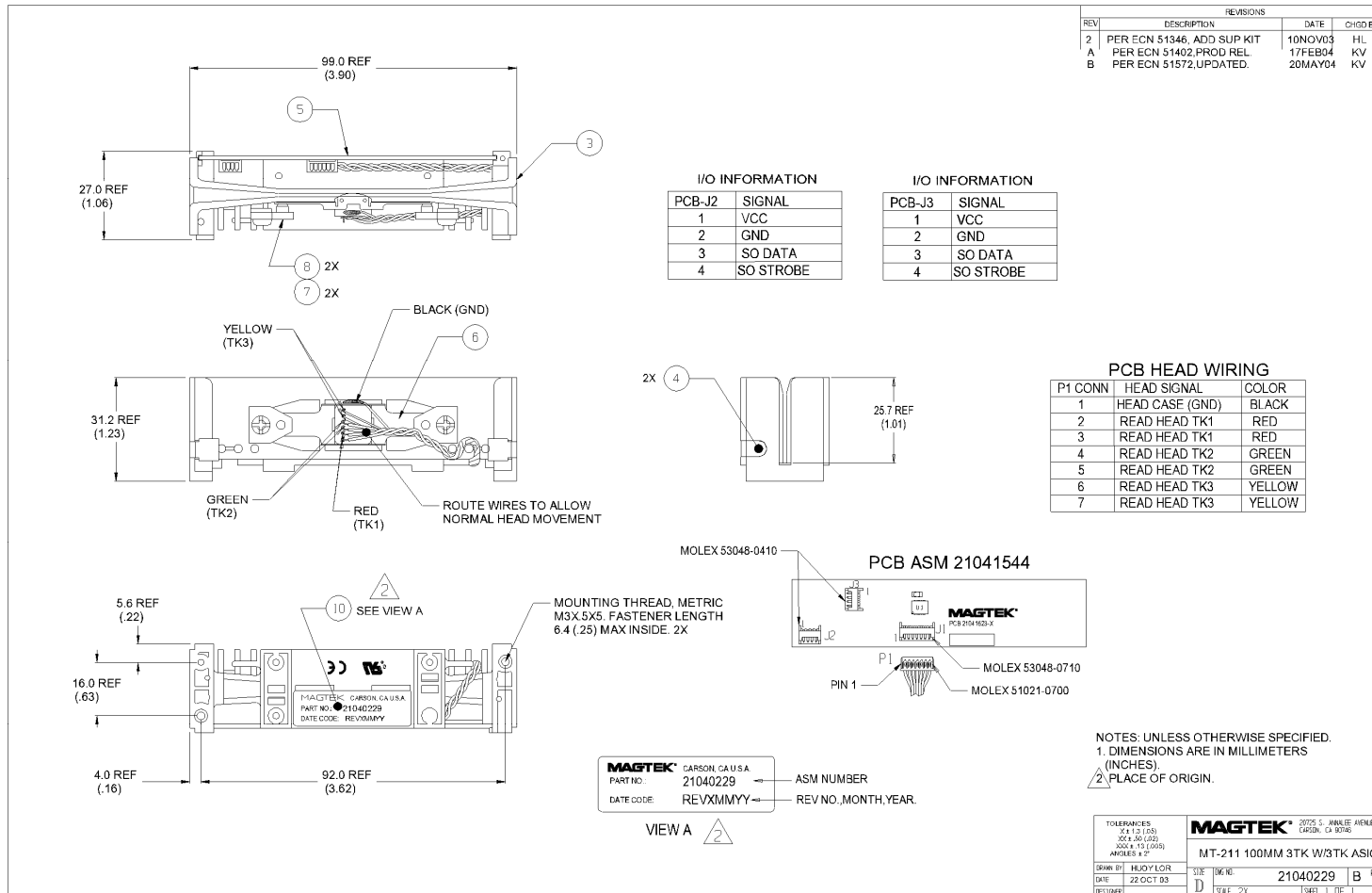


Figure A-2. 100-mm Swipe Reader, 3-Tk w/3Tk ASIC

