

SLIM PROFILE CARD GUIDE SWIPE READER TECHNICAL REFERENCE MANUAL

Part Number 99875147-4

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MAGTEK[®]

REGISTERED TO ISO 9001:2000

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REVISIONS

| Rev Number | Date | Notes |
|------------|-----------|--|
| 1 | 22 Oct 99 | Initial Release |
| 2 | 16 Aug 02 | Front Matter: Added completely changed agency page. Sec 1: rewrote second paragraph of Configurations, completely revised Specifications. Sec 2: Figure 2-2 added Molex connectors and changed title from "Tracks 1 and 3" to "1 and 2" |
| 3 | 16 May 03 | Front Matter: added ISO line to logo, changed Tech Support phone number, added new warranty statement, changed warranty from 90 days to 1 year; Sec 1, Specifications, power requirements: changed single and dual tracks from 2.4 V to 2.7 V. |
| 4 | 16 Jul 03 | Sec 1, Specifications, card speed, added speed in cm, changed 2.4 V to 2.7V. Sec 2, added 4 headers to Table 2-2. |
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Limited Warranty

MagTek, Inc. warrants that the Product described in this document is free of defects in materials and workmanship for a period of one year from the date of purchase where the date of purchase is defined as the date of shipment from MagTek. During this warranty period, MagTek shall, at their option, repair or replace without charge for either parts or labor, any failure, malfunction, defect or nonconformity which prevents the product from performing in accordance with MagTek's published technical specifications and manuals.

This warranty does not apply to wear of the magnetic read head. This warranty shall not apply if the product is modified, tampered with, or subject to abnormal working conditions. This warranty does not apply when the malfunction results from the use of the Product in conjunction with ancillary or peripheral equipment where it is determined by MagTek that there is no fault in the Product itself.

Notification by the Customer to MagTek of any condition described above should be directed to the Customer's MagTek Sales Representative or to MagTek's Help Desk at (651) 415-6800. If the Product is to be returned from the Customer to MagTek, a returned material authorization (RMA) will be issued by MagTek. The Customer shall be responsible for shipping charges to MagTek, (20801 S. Annalee Ave., Carson, CA 90746). MagTek shall be responsible for shipping charges back to the Customer.

Repair or replacement as provided under this warranty is the exclusive remedy. This warranty is in lieu of all other warranties, express or implied.

FOR OPTIONAL ELECTRONICS - FCC WARNING STATEMENT

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.

FOR OPTIONAL ELECTRONICS - 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.

FOR OPTIONAL ELECTRONICS - 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.

FOR OPTIONAL ELECTRONICS - 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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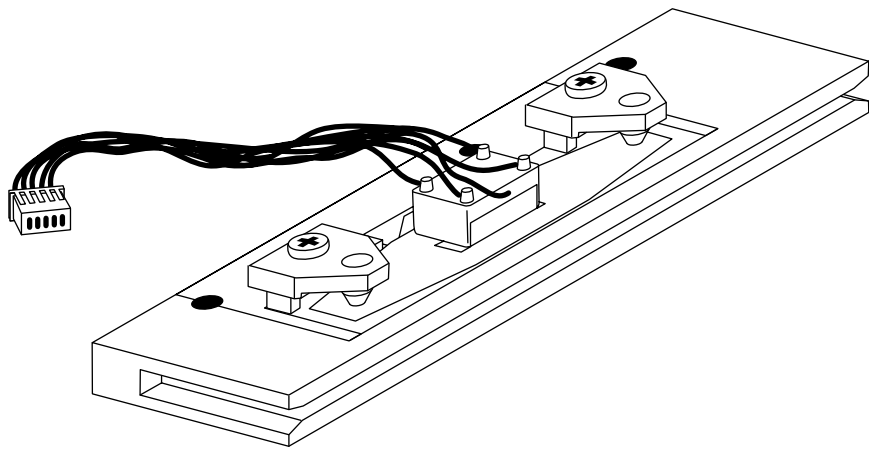


Figure 1-1. Slim Profile Reader, Tracks 1, 2

SECTION 1. FEATURES AND SPECIFICATIONS

The Slim Profile Card Guide is an OEM Swipe Reader with a TTL level interface and is designed for use in small enclosures - the width is 16mm. The Reader is in compliance with industry specifications, including ANSI/ISO Standards 7810, 7811-1 through -6, 7812, 7813, and AAMVA. The Reader can be customized. Bidirectional read capability is available.

CONFIGURATIONS

The standard configurations of the Slim Profile Reader are as follows:

| Description | Part Number |
|--|-------------|
| Includes card Tk 2 head spring (21052019) - No electronics | 21047003 |
| Includes card guide Tk 1,2 head spring (21052062) - No electronics | 21047004 |

P/N 21047004 can be connected to an optional two-track PCB, P/N 21041515 (normally no soldering required). P/N 21047003 can be connected to an optional single track, PCB P/N 21041537 (soldering is required). Or MagTek's IC, P/N 21006516 with associated components, can be installed on the user's own circuit board.

SPECIFICATIONS

Specifications are as follows:

| FLAMMABILITY | |
|---|--|
| Flammability | Meets UL94V-0 |
| ENVIRONMENTAL | |
| Operating Temperature | -30°C to 70° C |
| Operating Humidity | 10% to 90% relative humidity |
| Life | 300,000 passes Single Track 1,000,000 passes Multi-Track |
| PHYSICAL | |
| Dimensions | Length: 3.51" (89.2 mm) Height: 1.10" (27.9mm) Width: 0.63" (16.0mm) |
| Head Cable Length: | Single Track: 4.49" (114.0mm) Dual Track: 2.60" (66.0mm) |
| Connector | See Section 2, Connectors |
| ELECTRONIC WITH MAGTEK OPTIONAL PCBs OR ICs | |
| Recording Method | Two-Frequency Coherent Phase (F2F) |
| Speed | Card speed through the unit may vary from: 2 to 125 in/s at 75 bpi (5.1 to 318 cm/s at 29.5 b/cm) 2 to 60 in/s at 210 bpi (5.1 to 152.4 cm/s at 82.7 b/cm) |
| Power Requirements | Single Track: 2.7 to 5.5 VDC at 1mA, typical Dual Track: 2.7 to 5.5 VDC at 2 mA, typical |
| Output Signal Levels | $V_{ol} = 0.4V$ at 2 mA $V_{oh} = V_{cc} - 0.5V$ at -2mA, typical |

REFERENCE DOCUMENT

I/O Interface for TTL Swipe Readers, Technical Reference Manual, P/N 99875148

SECTION 2. INSTALLATION

This section consists of installation and checkout of the Reader.

MOUNTING

The mounting dimensions for Track 2 are shown in Figure 2-1.

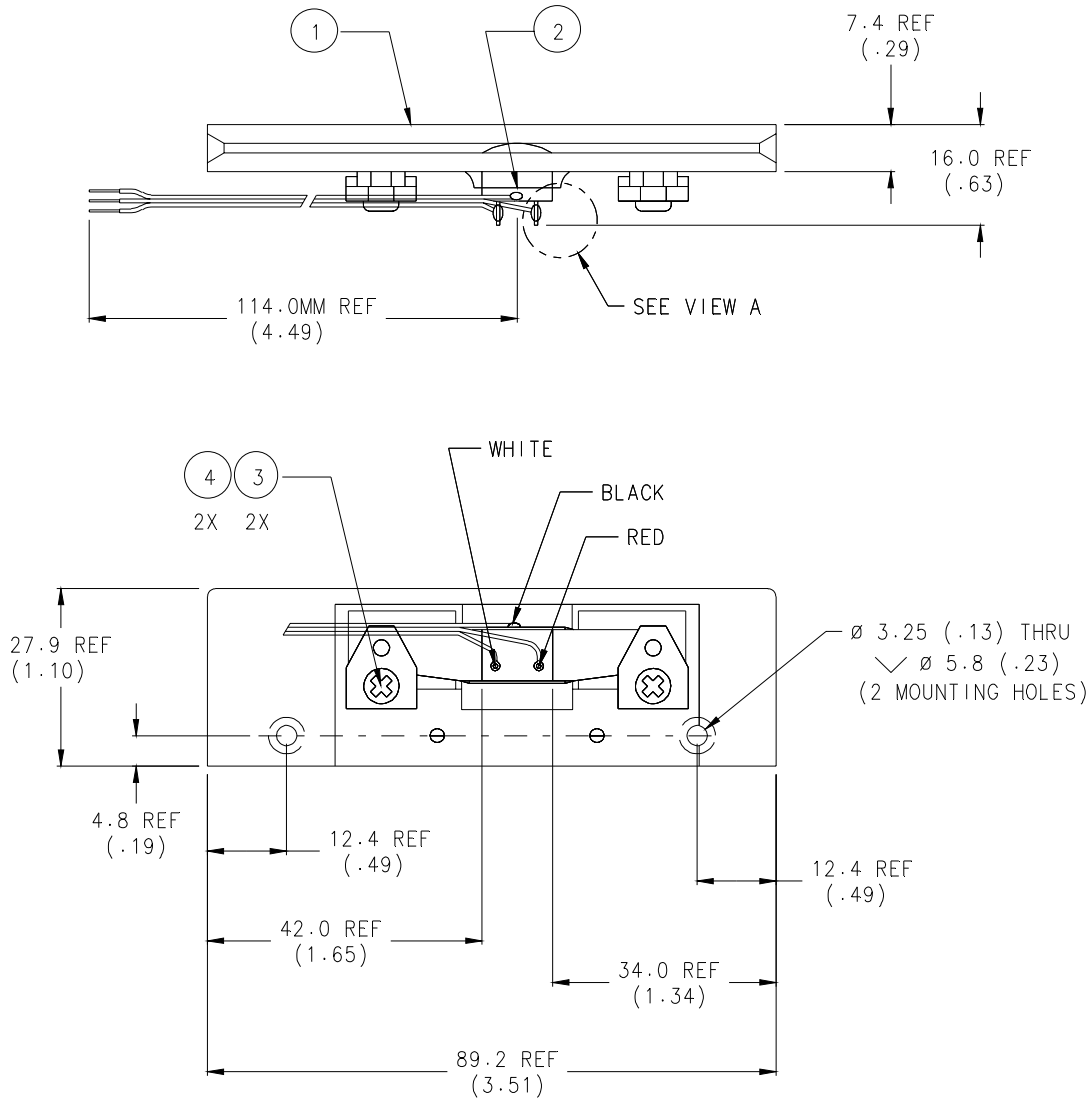


Figure 2-1. Reader Mounting Dimensions, Track 2

Slim Profile Swipe Reader

The dimensions for mounting with the cover are shown in Figure 2-2.

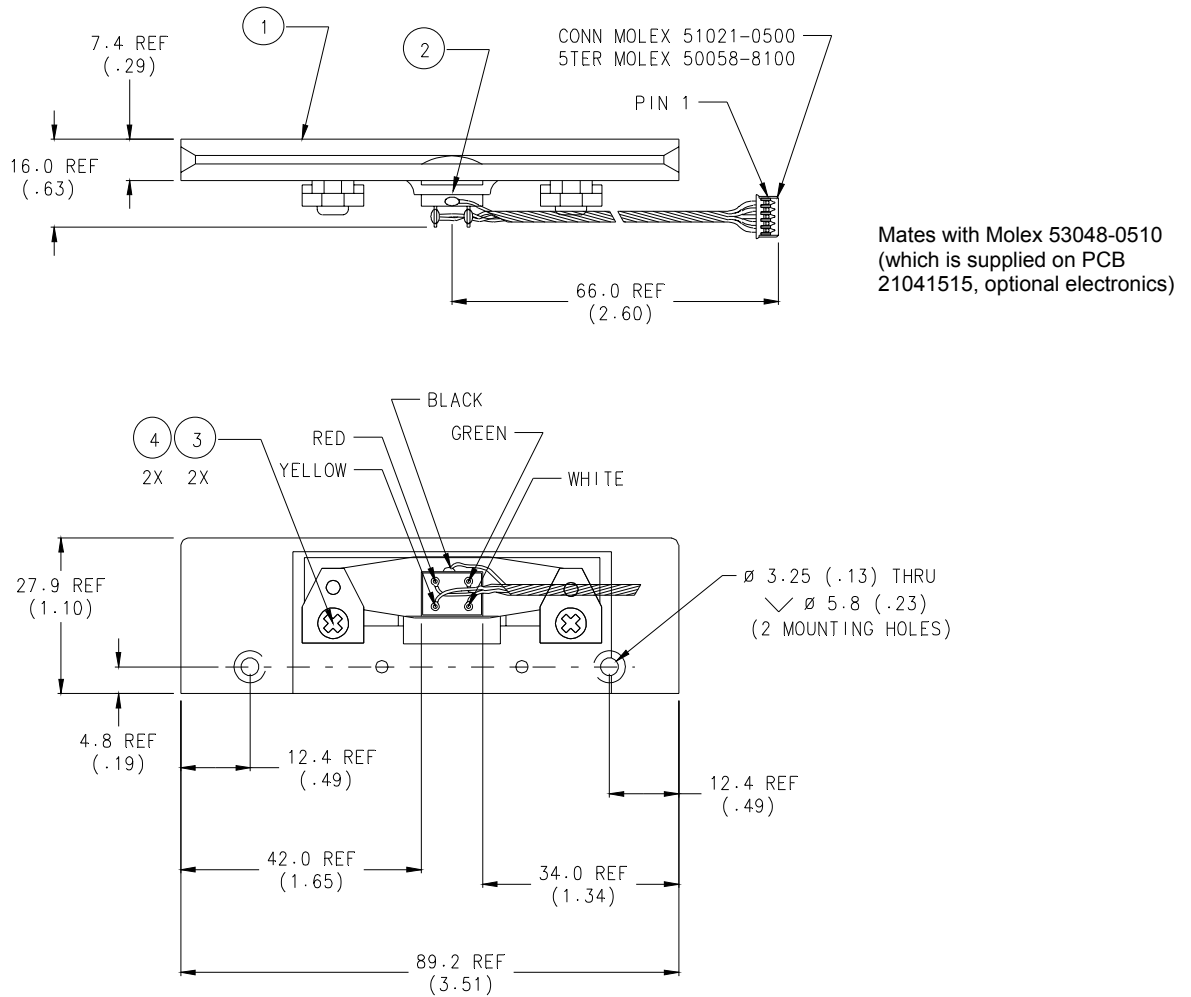


Figure 2-2. Reader Mounting Dimensions, Tracks 1 and 2

CONNECTORS

Single Track I/O Connection is shown in Table 2-1, and the Dual Track I/O Connector is shown in Table 2-2.

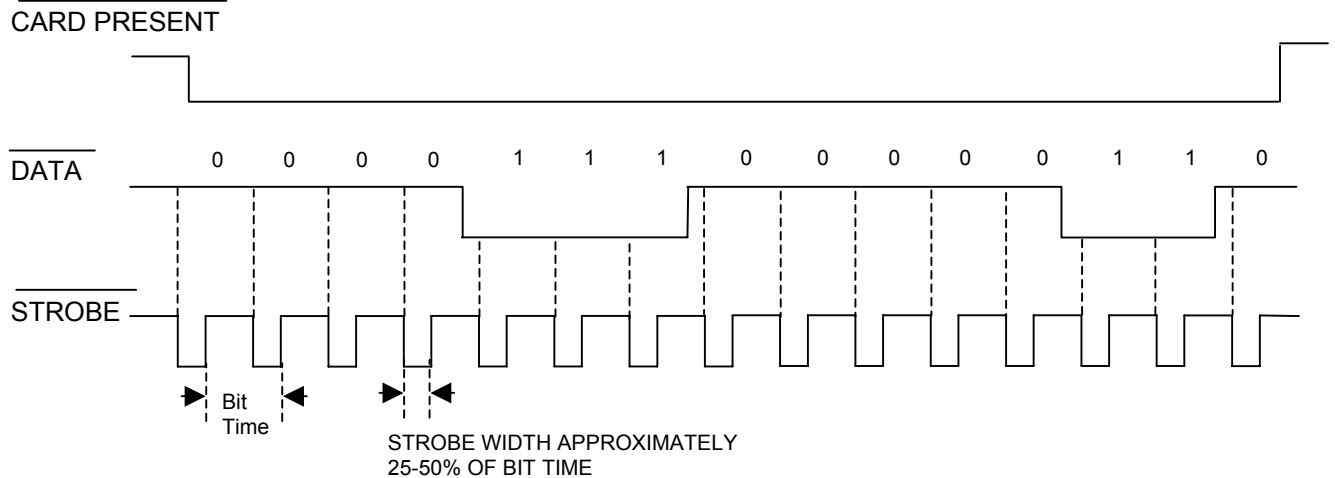
Table 2-1. Head Connections for Track 2

| | Signal | Color |
|------------------------------|-------------------|-------|
| Wires Only - No Connector | HEAD CASE GND | Black |
| | READ HEAD TRACK 2 | White |
| | READ HEAD TRACK 2 | Red |

Table 2-2. Head Connections for Tracks 1 and 2

| | Pin Number | Signal | Color |
|--|------------|-----------------|--------|
| Connector for Dual Track, 5 Pin Molex 51021-0500 1.25 MM CONTACT SPACING MATES WITH HEADERS 53398-0590, 53261-0590, 53047-0510, 53048-0510 | 1 | HEAD CASE (GND) | Black |
| | 2 | READ HEAD TK 1 | White |
| | 3 | READ HEAD TK 1 | Yellow |
| | 4 | READ HEAD TK 2 | Red |
| | 5 | READ HEAD TK2 | Green |

TIMING



Notes:

1. Time out of the CARD PRESENT signal occurs approximately 150 ms after the last strob transition.
2. DATA is valid 1.0μ sec before the negative edge of STROBE.

Figure 2-3. Timing

DATA

The Data signal is valid while the strobe is low. If the Data signal is high, the bit is a zero. If the Data signal is low, the bit is a one.

STROBE

The Strobe signal indicates when Data is valid. It is recommended that Data be loaded by the user with the leading edge (negative) of the Strobe.

CARD PRESENT

Card Present will go low after 14/15 flux reversals from the head. Card Present will return high 150 milliseconds after the last flux reversal.

When no card is being moved through the unit, the Data, Strobe, and Card Present signals are high. The signal timing diagram shown above represents the data along with other signals that are generated during the reading process.