



23884521

Magnetic Stripe Card Reader



Model SMR-5

Installation and Maintenance Instructions

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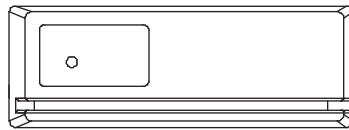
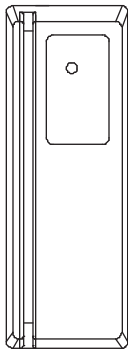
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General

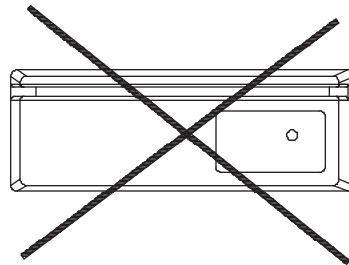
The SMR-5 magnetic stripe card reader is designed for reading standard or high-coercivity magnetic stripe cards. The reader has a TTL interface with selectable clock/data and data 1/data 0 signaling. A bi-color LED and a buzzer are standard. The following paragraphs describe instructions for installing and maintaining the card reader.

Mounting the reader

Find a suitable location to anchor the reader mounting bracket. The reader may be mounted vertically or horizontally. See recommended orientation. The mounting of the reader does not require a junction box. However, rigid conduit is required for outdoor application. A single gang junction box may be used to provide transition to rigid conduit. If a single gang junction box is used, a wall plate (optional) is available to cover the junction box. The reader is then secured to the mounting bracket using a UNC6-32 3/8 screw. Refer to figures for reader dimensions and typical junction box usage.



Recommended

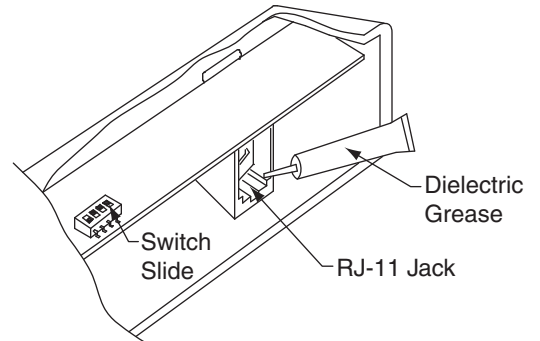


Not Recommended

Weather Proofing the Reader

SMR-5 reader is rated for outdoor use over extended temperature. A tube of dielectric grease is supplied for the installer to coat field connections to seal out moisture. After field connection/configuration is made, the grease is to be applied on the DIP switch slides and the modular jack to seal off moisture. Squeeze some grease into the modular jack before connecting the cable.

Do not use sealant to seal reader case to wall. Doing so will trap water in the reader and may cause damage to the reader.



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TTL Interface and Reader Wiring

The TTL interface has the standard 5-wire interface widely used in the access control application. In addition, an input to control the buzzer is provided. The reader has a RJ-11 modular jack for easy field connection. A short piece of pre-terminated cable is supplied with each reader for field wiring. Refer to pin number if the pre-terminated cable is not used. Cable with wires of 24AWG or larger are recommended for field wiring. If a shielded cable is used, connect the cable shield to either earth ground or signal ground at one end only.



Pin #	Wire	Signal	Description
1	Red	Vin	Power supply input, 5Vdc or 12Vdc, Model dependent
2	Green	/Data (Mag) or / Data 0 (Wieg)	Reader data output
3	White	/Clock (Mag) or / Data 1 (Wieg)	Reader data output
4	Brown	LED	LED input 1-wire control: 0V turns on the green LED (Normal) 5V turns on the red LED (Normal) 2-wire control: 0V turns on the red LED (Normal)
5	Orange	Buzzer/LED	Buzzer/LED input (or /CP, card present output) 1-wire control: 0V turns on the buzzer 2-wire control: 0V turns on the green LED (Normal)
6	Black	Signal Ground	Power supply return, DC ground

Highlighted states are compatible with the CT5000 or the WRI.

Grounding the Reader

To avoid having ESD (electro-static discharge) interfering with the operation of the reader, the reader casing shall be grounded. This can be accomplished by tying the mounting bracket to earth ground locally (e.g. grounded conduit).

Reader Configuration

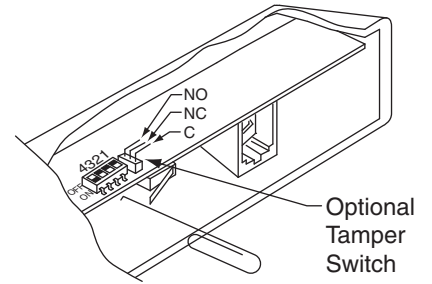
The DIP switches on the SMR-5 reader are used to configure the reader. See table below:

S4	S3	S2	S1		SELECTION
X	X	X	OFF	DATA INTERFACE	CLOCK / DATA (MAG STRIPE) OUTPUT
X	X	X	ON		DATA 1 / DATA 0 (WIEGAND) OUTOUT
X	X	OFF	X	LED/BUZZER	SINGLE WIRE LED CONTROL, HI=RED, LOW=GREEN
X	X	ON	X		TWO WIRE LED CONTROL, NO BUZZER CONTROL
	OFF			INVERT LED	NORMAL LED DRIVE
	ON				INVERT LED DRIVE
OFF					RESERVED FOR TEST

Highlighted states are compatible with the CT5000 or the WRI.

Tamper Switch

SMR-5 reader supports an optional form C, dry contact tamper switch. If used, it will allow detecting the removal of the reader from its mounting surface. The tamper switch can be wired in to either of the reader tamper lines on the CT5000 or the WRI



Reader Verification

Verify proper connection and correct supply voltage to the reader before the application of power! The reader performs a self-test when power is first applied to the unit. If power-on test is successfully completed, The reader will turn on the LED for approximately 1 second and sound the buzzer for 1 short beep. Then the reader is ready for normal operation.

Maintenance

The readers are designed to provide continuous service with minimal routine maintenance. However, contaminants (such as magnetic oxides from badges and dirt) tend to accumulate on the read head. Without regular cleaning, these contaminants will shorten the read head life and increase the probability of card read error. A maintenance schedule should be developed base on the card reader environment (dirty or clean) and the usage frequency (light traffic or heavy traffic). Extreme case may require daily cleaning.

Head cleaning may be done by using disposable, pre-saturated magnetic head cleaning card. These cards are readily obtainable from a number of sources (e.g. Clean Team Co. 805/ 581-1000).

The reader exterior surface is covered with high strength polymer and polyester membrane. It may be cleaned with a soft cloth and mild detergent if required.

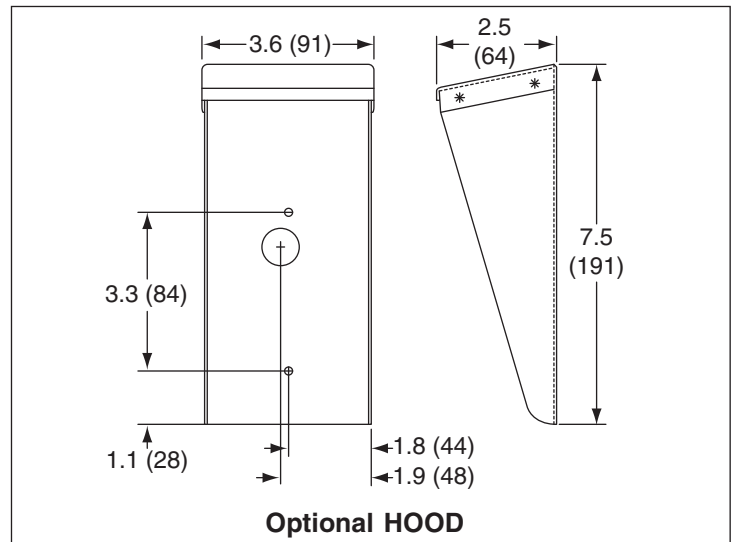
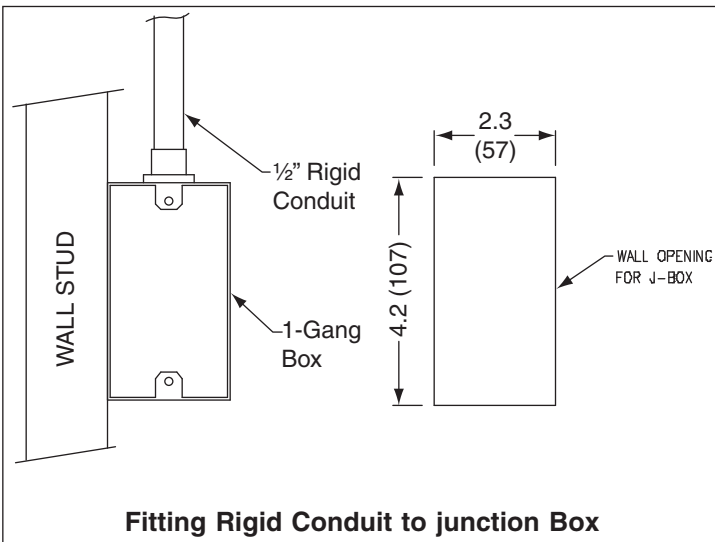
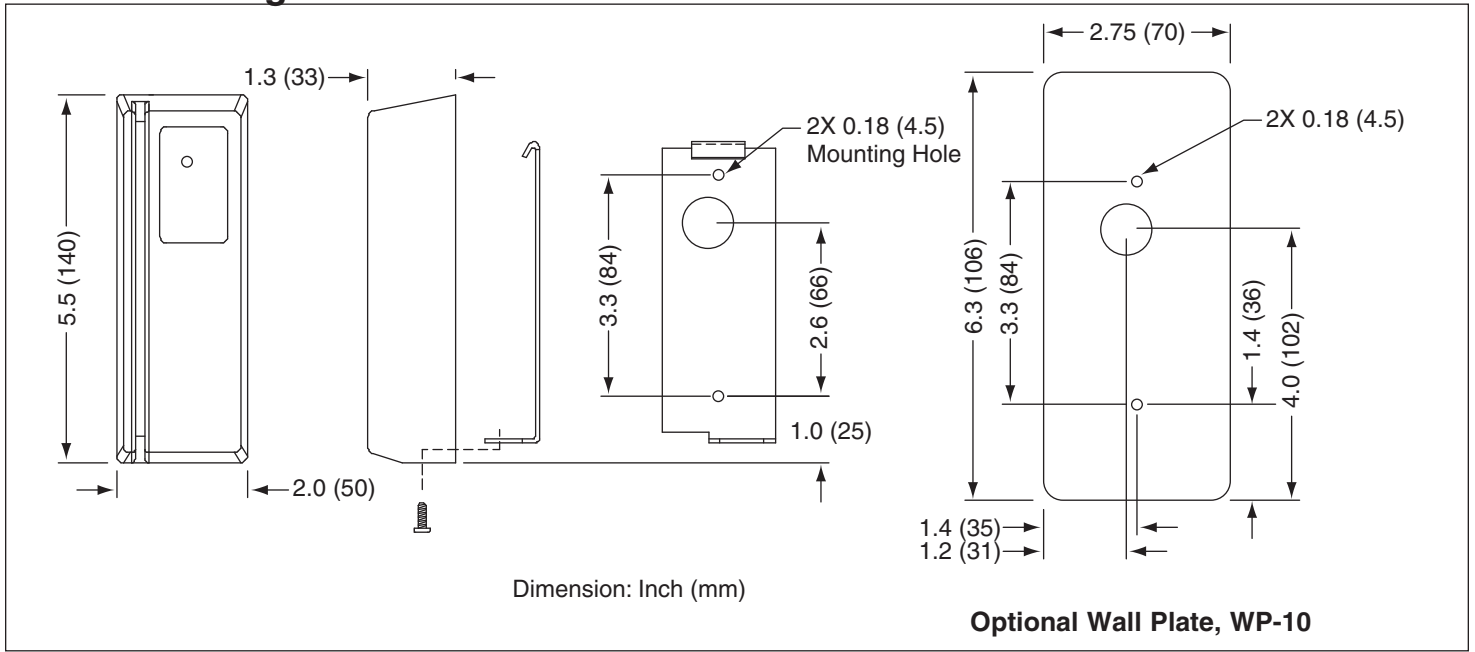
Specification

The reader is for use in low voltage, class 2 circuits only.

Power:	Voltage -	5Volt Model: 5.8 Vdc (4.9 to 6.4 Vdc) 12Volt Model: 12 Vdc (10.2 to 13.8 Vdc)
	Current -	50mA (20mA typical.)
Data output:	Data 1/0 pair or clock/data, switch selectable	
LED input:	1-wire mode:	input not driven: LEDs off input > 3.5Vdc: Red LED on (Inverted, Green LED on) input < 0.8Vdc: Green LED on (Inverted, Red LED on)
	2-wire mode:	input < 0.8Vdc: Red LED on (Inverted, Red LED off)
	Buzzer/LED:	1-wire mode: input not driven or > 3.5Vdc: buzzer off input < 0.8Vdc: buzzer on
Mechanical:	Dimension -	1.95" (50mm)W x 1.30" (33mm)H x 5.50" (140mm)L
	Weight -	10 oz. (284 g) nominal
	Material -	Case, Die cast aluminum, gray powder coat standard. Mounting, stainless steel Wall plate, 18 CRS, gray powder coat standard (optional equipment)
Card:	75 bpi, ANSI X4.16, Track 2 standard, Speed 3 to 50 ips	
Read Head:	500,000 passes typical, standard (Optional high-wear head available, -OH option)	
Wire Distance:	500' (152m) with 18 AWG wires.	
Environmental:	Temperature:	-55 to +85 degrees C, storage -40 to +75 degrees C, operating
	Humidity:	0-100%, RHNC standard

Highlighted states are compatible with the CT5000 or the WRI.

Reader Mounting Dimensions



Warranty

Schlage Lock Company warrants the product is free from defects in material and workmanship under normal use and service with proper maintenance for two years from the date of factory shipment. Schlage Lock Company assumes no responsibility for products damaged by improper handling or installation. This warranty is limited to the repair or replacement of the defective unit.

There are no expressed warranties other than set forth herein. Schlage Lock Company does not make, nor intends, nor does it authorize any agent or representative to make any other warranties, or implied warranties, and expressly excludes and disclaims all implied warranties of merchantability or fitness for a particular purpose.

Returned units are repaired or replaced from a stock of reconditioned units. Returns must be accompanied by a return authorization number (RMA) obtained from Customer Service, and prepaid postage and insurance.

Liability

The card readers should only be used to control exits from areas where an alternative method for exit is available. This product is not intended for, nor is rated for operation in life-critical control applications. Schlage Lock Company is not liable under any circumstances for loss or damage caused by or partially caused by the misapplication or malfunction of the product. Schlage Lock Company's liability does not extend beyond the purchase price of the product.

FCC Statement

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.

