Schlage Wyreless Access

READ FIRST WHEN INSTALLING A PIM-485-16-TD-NXT

Addendum

INSTALLING , CONFIGURING & OPERATING

PANEL INTERFACE MODULE

RS485

NexSentry Star I/II Version

(PIM-485-16-TD-NXT)

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Schlage Wyreless Access

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INSTALLATION & OPERATING INSTRUCTIONS

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1. Wyreless Access™ System (WAS)

1.1 Overview

Every access control system that uses Wyreless Access™ contains two different types of modules (Figure 1-1):

- at least one Wyreless Panel Interface Module (WPIM), and
- at least one Wyreless Access Point Module (WAPM)

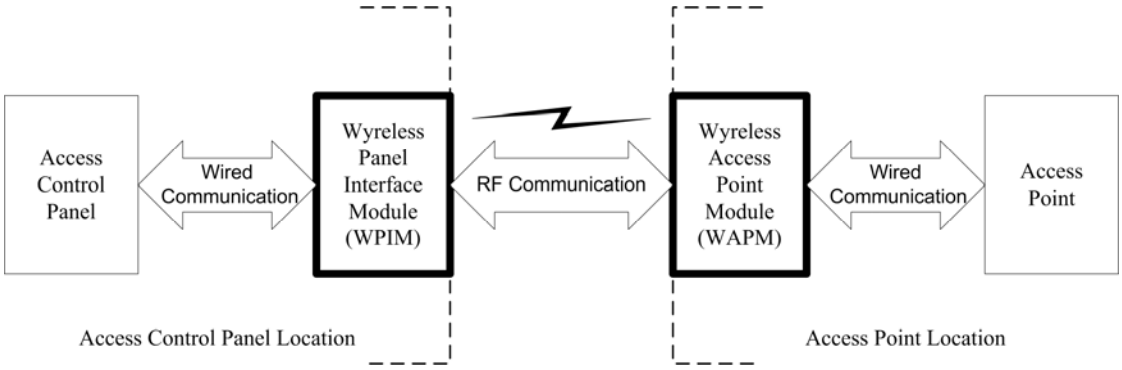

Figure 1-1 – Wyreless Access System Block Diagram

The WPIM is wired to the access control panel and ideally is installed very close to the access control panel. The WPIMs installation location is determined by the location of the WAPMs with which it will communicate using RF.

The WAPM is installed at the access point where access will be controlled and/or monitored. Depending on the application and which WAPM is used, some wiring at the access control point may be required.

Regardless of which WPIM or WAPM module is used, the communication link between the WPIM and WAPM is always RF.

This manual describes the installation and operation of a Panel Interface Module-RS485-NexSentry (PIM-485-16-TD-NXT), a WPIM.

1.2 Panel Interface Module-RS485-NexSentry (PIM-485-16-TD-NXT)

The Panel Interface Module-RS485-NexSentry (PIM-485-16-TD-NXT) is a product in Schlage's Wyreless Panel Interface Module (WPIM) category. The PIM-485-16-TD-NXT is the wireless interface to a NexSentry Star I or Star II Access Control Unit (Figure 1-2).

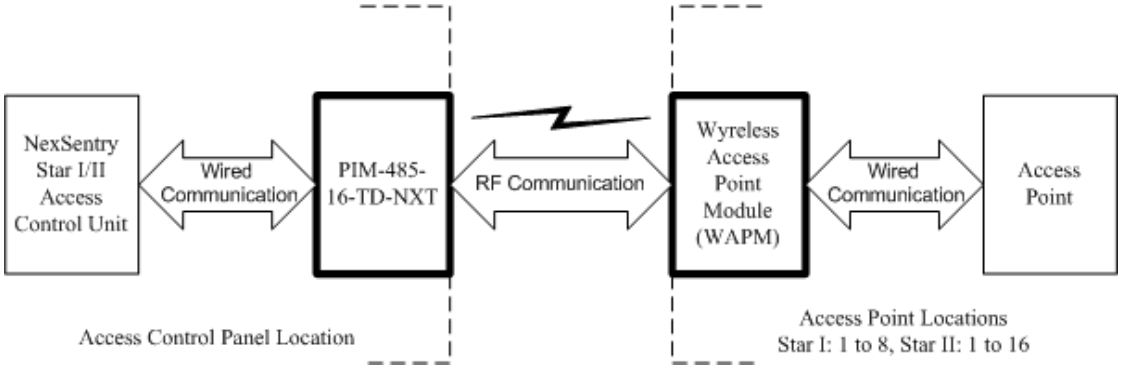

Figure 1-2 – PIM-485-16-TD-NXT Block Diagram

Up to 16 (8 for a Star I) PIM-485-16-TD-NXT can be connected via a 2 wire polled, RS-485 interface to a Star I/II.

Each PIM-485-16-TD-NXT can emulate up to 16 DR42xx DigiReaders, therefore a PIM-485-xx-NEX can control from 1 to 16 WAPM's (1 to 8 for a Star I).

The Schlage Configuration & Demonstration Tool (CDT) is used to determine what RS-485 polling addresses each PIM-485-16-TD-NXT will emulate.

NOTE: This manual is to be used in addition to the PIM Installation Manual (M053-001-xxx) and the Wyreless Access System Configuring and Operating Manual (M053-007-xxx).

There are four steps to installing a PIM-485-16-TD-NXT:

1. Using the PIM Installation manual (M053-001-xxx) determine the optimum PIM-485-16-TD-NXT mounting location and permanently mount the PIM-485-16-TD-NXT in that location.
2. Using the NexSentry Star Access Control Unit User Guide manual (6600062B) for a Star I or the NexSentry Star II Access Control Unit User Guide manual (6600058A) for a Star II, mount the Star I/II Access Control Unit and connect it to the PC that will be running either a terminal emulator (Star I) or the NexSentry software (Star II)

   Note: Make certain that that Star I/II Terminal Block TB1 is configured for the S-NET communication protocol.
3. Using this manual configure & connect the PIM-485-16-TD-NXT to the Star I/II Access Control Unit (section 2.1, page 8).
4. Using this manual, link the PIM-485-16-TD-NXT to all the WAPMs it will control (section 2.3, page 11).

The PIM-485-16-TD-NXT can be ordered with one of three possible enclosures. The xx in the PIM-485-16-TD-NXT sales model number indicates the maximum number of WAPM's that can be controlled by that sales model. Table 1-1 & Table 1-2 shows the PIM-485-16-TD-NXT sales model and its major specifications.

Sales Models	PIM-485-16-TD-NXT
Closed Enclosure	
Opened Enclosure	
Antenna	internal "c" or remote (ANT-REMOTE) (ANT-6DB-FLAT)

Table 1-1 – PIM-485-16-TD-NXT Sales Model

MODEL	ENCLOSURE	MAXIMUM NUMBER OF WAPMs	LOCATION	ACCESS CONTROL PANEL INTERFACE/DESCRIPTION
PIM-485-16-TD-NXT	plastic	16	indoor	RS485
ANT-REMOTE	plastic	n/a	indoor outdoor	Optional remote omni-directional antenna
ANT-6DB-FLAT	plastic	n/a	indoor outdoor	Optional remote 6db gain directional antenna

Table 1-2- PIM-485-16-TD-NXT Sales Model Table

2. Installing the PIM-485-16-TD-NXT

2.1 Configuring the PIM-485-16-TD-NXT to Emulate DR42xx DigiReaders

The Schlage Configuration & Demonstration Tool (CDT, version 1.4 or higher) must be used to configure each PIM-485-16-TD-NXT to emulate the desired number and address of DR42xx DigiReaders.

The PIM-485-16-TD-NXT must be connected to the PC running the CDT using a serial connection (either RS485 or RS232).

Once the PIM-485-16-TD-NXT is connected to the PC and the CDT is running, the Addresses tab on the CDT's PIM panel is used to configure the PIM-485-16-TD-NXT's emulation addresses. There are four fields on the Addresses tab: Unique, Addr Lo, Addr Hi, & MIRO. The Unique field shows the PIM-485-16-TD-NXT unique address and should never be changed without instructions from Schlage Technical Support. The Addr Lo indicates the lowest device address that the PIM-485-16-TD-NXT will emulate and Addr Hi indicates the highest. The MIRO indicates which group of 8 the device will be in. (The MIRO number will increment automatically when the number of linked devices is greater than 8.) Table 2-1 shows the allowable range of values for the Addr Lo, Addr Hi, & MIRO fields on the CDT Addresses tab.

PIM Model	Star Model	Addr Lo	Addr Hi	MIRO
PIMx-485-16-NEX	I	0-15	0-15	2-9
PIMx-485-16-NEX	II	0-15	0-15	2-17

Table 2-1 – CDT Addr Lo, Addr Hi, & MIRO Fields Range of Values

After setting the Addr Lo & Addr Hi fields to the desired values, click the Set button to send these values to the PIMx-485-x-NEX.

Rules for setting Addr Lo & Addr Hi:

- **Addr Hi must always be equal to or greater than Addr Lo**
- **For multiple PIM-485-16-TD-NXT's on the same S-NET there cannot be any address overlap, in other words on the same S-NET there can be only one PIM-485-16-TD-NXT emulating a specific DR42xx DigiReaders address.**
- **The DR42xx DigiReader addresses emulated by a PIM-x-485-x-NEX must be consecutive.**
- **A MIRO number must be unique to one PIM. While one PIM can emulate two MIRO's, one MIRO cannot be emulated by more than one PIM**
- **The ADDR LO and ADDR HI set the DR42XX DigiReaders addresses. This address along with the MIRO number fixes the addressing of the Door Position Switch, Request to Exit, and Output Relay as shown in Table 2-2, below.**

ADDR/READER	MIRO	Point Numbers		
		Door Position Switch	Request to Exit	Strike Relay
0	x	1	2	1
1	x	3	4	2
2	x	5	6	3
3	x	6	8	4
4	x	9	10	5
5	x	11	12	6
6	x	13	14	7
7	x	15	16	8
8	x+1	1	2	1
9	x+1	3	4	2
10	x+1	5	6	3
11	x+1	6	8	4
12	x+1	9	10	5
13	x+1	11	12	6
14	x+1	13	14	7
15	x+1	15	16	8

Table 2-2 - PIM, MIRO, Reader, Point Number Association for one PIM

2.2 Connecting the PIM-485-16-TD-NXT to a Star I/II Access Control Unit

Note: Make certain that that Star I/II Terminal Block TB1 is configured for the S-NET communication protocol.

2.2.1 PIM-485-16-TD-NXT using an Original PIM PCB

Star I/II – TB1	PIM-485-16-TD-NXT – J6
SNET A	A
SNET B	B

Table 2-3 – RS485 Connection: Original PIM PCB & RAMM

2.2.2 PIM-485-16-TD-NXT using a RS485 PIM PCB

Star I/II – TB1	PIM-485-16-TD-NXT – J6
SNET A	TA- & RA-
SNET B	TB+ & RB+

Table 2-4 – RS485 Connection: RS485 PIM PCB & RAMM

Note: The Star I/II has a 2 wire RS-485 interface therefore the PIM's J6 TA- & RA- must be connected and the PIM's J6 TB+ & RB+ must be connected.

2.3 Linking the PIM-485-16-TD-NXT to WAPMs

2.3.1 How to Set an RF Channel

One of fifteen RF channels can be set using DIP switch SW7 on the PIM. Table 2-5 shows how to set SW7 to select the desired RF channel:

Channel	Switch 1	Switch 2	Switch 3	Switch 4
1	up	up	up	Up
1	up	up	up	down
2	up	up	down	Up
3	up	up	down	down
4	up	down	up	Up
5	up	down	up	down
6	up	down	down	Up
7	up	down	down	down
8	down	up	up	Up
9	down	up	up	down
10	down	up	down	Up
11	down	up	down	down
12	down	down	up	Up
13	down	down	up	down
14	down	down	down	Up
15	down	down	down	down

Table 2-5 – DIP Switch Setting to Select the RF Channel

NOTE: The first two switch settings select Channel 1.

2.3.2 Linking WAPM's using the Configuration & Demonstration Tool (CDT)

The Schlage CDT can be used to link WAPM's to a PIM-485-16-TD-NXT. Refer to the CDT

The PIM-485-16-TD-NXT must be connected to the PC running the CDT using a serial connection (either RS485 or RS232).

Once the PIM-485-16-TD-NXT is connected to the PC and the CDT is running the Link tab on the CDT's PIM panel is used to control the PIM-485-16-TD-NXT's Link Mode. The Panel field needs to be set to indicate which WAPM is to be linked. Table 2-6 shows the allowable range of values for the Panel field on the CDT Link tab.

PIM Model	Panel Field
PIMx-485-16-NEX	0-15

Table 2-6 – CDT Panel Field Range of Values

2.4 PIM-485-16-TD-NXT Card Formats

The PIM-485-16-TD-NXT accepts a 26 bit Wiegand format, strips off the two parity bits and the eight bit facility code field, the resulting 16 bit card number field is sent to the STAR I/II controller for further processing.

2.5 PIM-485-16-TD-NXT Alarms

THIS FEATURE HAS NOT BEEN IMPLEMENTED YET.

Each WAPM linked to a PIM-485-16-TD-NXT can report five different types of alarms: low battery, reader tamper, loss of RF communications, lock motor stall, and PIM tamper. The PIM-485-16-TD-NXT reports these alarms using specific NexSentry alarm addresses as shown in Table 2-7.

Alarm	NexSentry Alarms	
	Reported as	Label
Low Battery		
Reader Tamper		
Loss of Communications		
Lock Motor Stall		
PIM Tamper		

Table 2-7 – NexSentry Alarms Generated by a PIM-485-16-TD-NXT

2.6 What Happens if the PIM-485-16-TD-NXT Loses DC Power

All of the configuration and linking information is stored in non-volatile memory in the PIM-485-16-TD-NXT. Therefore if PIM-485-16-TD-NXT DC power is lost or cycled, upon restoring DC power, the PIM will continue operation with the same configuration and linking information. **There is no need to re-configure or re-link.**

2.7 Using the PIM-485-16-TD-NXT Reset Switch

The Reset Switch, S3, is used if the PIM-485-16-TD-NXT does not seem to be working properly. Pressing the Reset Switch has the same effect as cycling DC power to the PIM-485-16-TD-NXT.

3. Contacting Schlage

For questions regarding Wyreless Access™:

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sales@recognition-source.com
techsupport@recognition-source.com
www.recognition-source.com
(630) 762-4450
(630) 762-4444 fax

4. FCC Compliance & Warnings

4.1 FCC Compliance

- This device has been authorized by the FCC Rules and Industry Canada.
- This device complies with the limits for a Class B digital device and a Class B intentional radiator, pursuant to Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions: (1) This device may cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- The Wyreless Access System Component must be installed by qualified professionals or contractors in accordance with FCC part 15.203, Antenna Requirements.
- Do not use any antenna other than the one provided with the unit.

4.2 Warnings

- RF Exposure - To comply with FCC RF exposure requirements for mobile transmitting devices this transmitter should only be used or installed at locations where there is normally at least a 20 cm separation between the antenna and all persons.
- Do not co-locate and operate in conjunction with any other antenna or transmitter.
- Use only the Battery Pack specified in this instruction manual.
- Do not subject Battery Pack to fire or high temperatures.
- Do not attempt to recharge, short out or disassemble Battery Pack.
- Follow local regulations for alkaline battery disposal.
- Immediately remove the batteries and discontinue use if:

  - the product is impacted after which the interior is exposed, or

  - the product emits a strange smell, heat, or smoke.

- Changes or modifications not expressly approved by Schlage, could void the users authority to operate the equipment.

5. Revision History

Version	Date	Changes
X001	07/03/02	preliminary in house release for comments
X001.1	09/06/02	updated Configuring and Linking sections for new CDT version
001	09/12/02	released for publication
002	01/13/04	added Star II/PIM/CDT addressing information/rules, removed obsolete sales models, added new sales model PIM-485-16-TD-NXT, added card format section