

# P-640 Patagonia Proximity Reader and Keypad

The P-640 Patagonia Proximity Reader and Keypad may be mounted directly to a US-sized single-gang wall box or a flat surface. It is ideal for high security dual verification applications requiring an access credential and/or personal identification number (PIN). It can also be used as a keypad only. Additionally, the P-640 features the option of HID compatibility (model P-640-H) allowing it to read both HID and Pyramid Series cards and tags.

The proximity reader and keypad portions of the single-piece P-640 both share the Wiegand data lines. Specifically keypad data is transmitted in either an 8-Bit Burst (default) or 26-Bit Wiegand data format. In another Farpointe Data first, the keypad itself is based upon cutting-edge, non-mechanical, capacitive technology, which, unlike membrane keypads, includes no moving parts prone to early failure. Advanced keypad enhancements include backlighting, physical tactile feedback, and a raised pip on the 5-key.

## *Please Note:*

- *The non-mechanical capacitive technology utilized by the P-640 is optimized for use with a bare finger.*
- *For best operation when entering a PIN it is recommended that the user's finger be physically lifted from the keypad between key depressions. Only one key can be pressed at a time.*
- *For user orientation in non-illuminated environments the 5-key is always illuminated.*
- *Card presentation or a key press illuminates the keypad for approximately 20 seconds. Further, each key press generates a single beep and LED flash from the P-640.*

## 1.0 P-640 Patagonia Keypad Output Formats

- 8-Bit Burst (factory default setting)
- 26-Bit Wiegand

The factory default Wiegand data transmission setting for the keypad portion of the P-640 is 8-bit burst, though it is capable of transmitting data in the 26-Bit Wiegand mode. The keypad uses the Wiegand Keypad Data Mode control card, presented to the reader, to change between the 8-bit burst and 26-bit Wiegand data modes.

*NOTE: The P-640 does not support magnetic stripe output.*

## 2.0 P-640 Keypad Operation: 8-Bit Burst Output

While in the 8-Bit Burst mode each key press results in the P-640 transmitting 8-bits of data to the host according to the Table on page 2.

*NOTE: To return the P-640 to the 8-Bit Burst mode of operation:*

1. *Cycle power to the reader, and then verify the reader is powered on.*
2. *Present the Wiegand Keypad Data Mode control card to the reader. The reader beeps four times.*
3. *Press the #-key. The reader beeps four times to indicate programming mode has ended.*

## 3.0 P-640 Keypad Operation: 26-Bit Wiegand Output

While in the 26-Bit Wiegand mode the user's PIN is outputted by the P-640 as the ID Number portion of a 26-Bit Wiegand message. As such PINs can range from 0 to 65534, with 65535 normally reserved as an error code. The facility code is programmed into the reader at set-up, while parity is calculated by the reader. The data comprising the 26-Bit Wiegand message is transmitted to the host only when the #-key is pressed according to the Table on page 2.

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PIN 65535 is normally used as an error code. The P-640 will transmit this code to the host when:

- The #-key is pressed without any preceding digits.
- The 0-key is pressed any number of times before pressing the #-key.
- Entering the PIN 65535, or any PIN greater than 65535.

*NOTE: To set-up the P-640 in the 26-Bit Wiegand mode of operation:*

1. Cycle power to the reader, and then verify the reader is powered on.
2. Present the Wiegand Data Mode control card to the reader. The reader beeps four times and then enters Facility code programming mode.
3. Enter the Facility code to be applied to the keypad. The site code may be set anywhere from 0 and 255 (one long beep is sounded if a facility code greater than 255 is entered). The default is usually set at 0.
4. Press the "#" key to exit programming mode. The reader beeps four times to indicate programming mode has ended.

*NOTE: Below is a list of important facts regarding P-640 operation in the 26-Bit Wiegand mode:*

- The #-key must be pressed to transmit the 26-Bit Wiegand message to the host.
- Pressing the \*-key overwrites all previous key presses. The reader beeps four times when the \*-key is pressed.
- There is a five second time-out between PIN entries, or entry attempts. If a timeout occurs all previous key presses are overwritten. The reader beeps four times to indicate a timeout has occurred.

8-bit Burst Format Table		
Keypad Entry	Binary Data	Decimal Equivalent
0	11110000	240
1	11100001	225
2	11010010	210
3	11000011	195
4	10110100	180
5	10100101	165
6	10010110	150
7	10000111	135
8	01111000	120
9	01101001	105
*	01011010	90
#	01001011	75

26-bit Wiegand Format Table	
Bit Number	Purpose
1	Even parity over bits 2 to 13
2 to 9	Facility Code (0 to 255); Bit 2 is MSB
10 to 25	ID Number/PIN (0 to 65,535); Bit 10 is MSB
26	Odd parity over bits 14 to 25