Ins-30060-US Long range reader

Paxton Access

Technical Support

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Technical help is available: Monday - Friday from 5am - 11pm PST / 8am - 2am EST
Saturday from 7am - 11am PST / 10am - 2pm EST

Documentation on all Paxton Access products can be found on our web site - http://www.paxton-access.com/

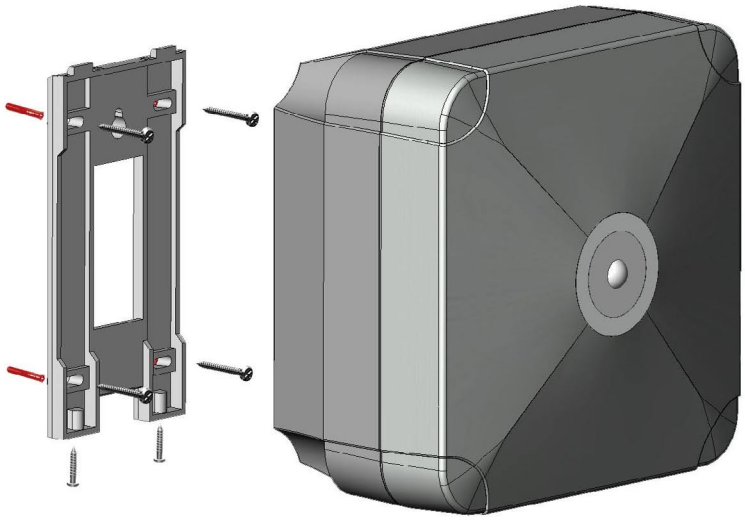
What is Hands Free?

A long range reader can read Paxton hands free tokens up to a maximum of 5 yards. The system comprises of a long range reader with an integral hands free interface and hands free tokens (keycard or keyfob). The system operates by using the field being transmitted by the reader to wake up the token which then communicates with the interface.

Existing Switch2 or Net2 control units, can be used without modification. Standard Paxton tokens/keyfobs can be used with this reader but at their normal read range (see table on back page)

Hands free tokens also include a standard proximity ID chip and can therefore be presented to any Paxton

Layout



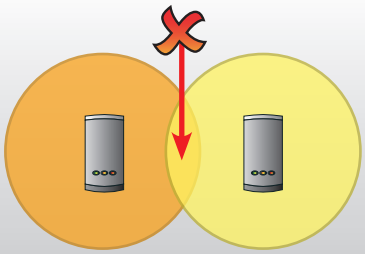
LED indications

The unit has a single high intensity LED array that displays RED or GREEN indications.

Steady RED - Waiting for card (IDLE state)
Flashing GREEN - Access Granted (or held unlocked)
Flashing RED - User Access Denied

If an error condition exists (ACU powered off, Cable break, etc) the LED will show a steady RED indication.

Before you install



Positioning readers

Readers should not positioned so that their active fields overlap.
(see table on back page for typical hand free read ranges)

For maximum read range the Hands Free reader field should not be overlapped by the field from other interference sources at or around 125KHz. These include Loop readers, non Paxton readers, etc.

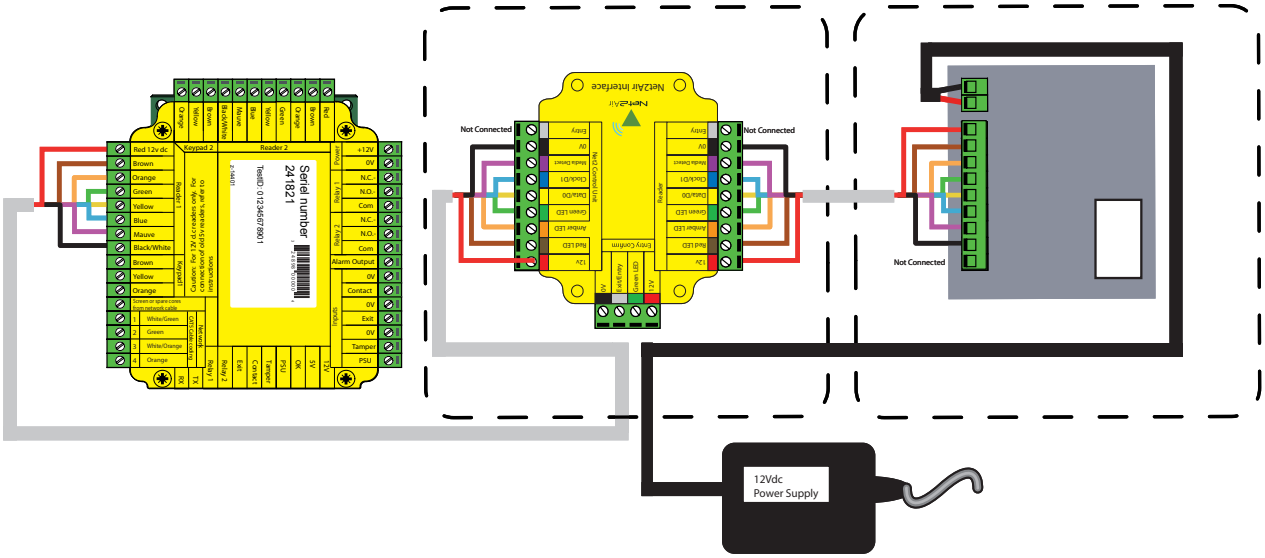
For optimum keyfob battery life please choose your reader location carefully to avoid placing it within hands free range of work stations, rest or smoking areas.

Read in, read out

When using in and out readers, users may be picked up by both readers as they move through the door which will effect the reliability of any Roll Call or Antipassback application. Ensure that sufficient spacing is provided between these readers for optimum range and reliability.

NOTE: Each long range reader requires a dedicated ACU reader port.

Wiring



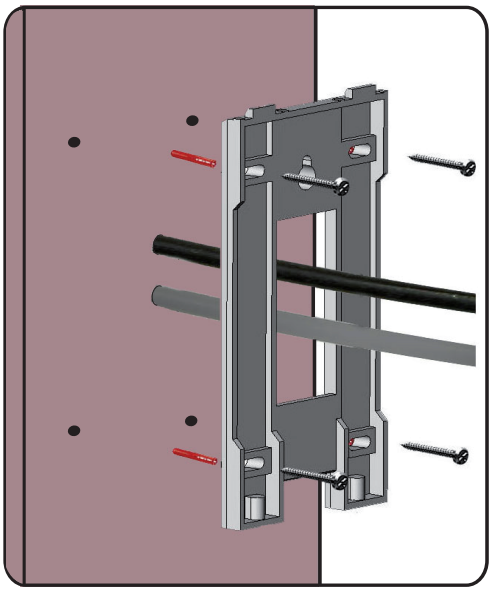
To achieve the maximum range for the device, the interface PCB has been mounted upside down to position the internal aerial away from other reader components.

A data cable must be run from the control unit to the reader interface. The recommended cable for this is Belden 9540; a 10 core overall screened cable with a maximum cable length of 100 yards. Spare cores should be used to double up on the power wires (Red/Black) to the interface.

The reader requires a higher current (up to 1A) than can be supplied by the ACU reader port and so an independent 12V DC power feed must be provided. As per the wiring diagram, the spare outputs on the Paxton 2A boxed power supply can be used for this purpose.

It is important to run an appropriate power cable to the reader that is capable of carrying a current of 1A.

Fitting



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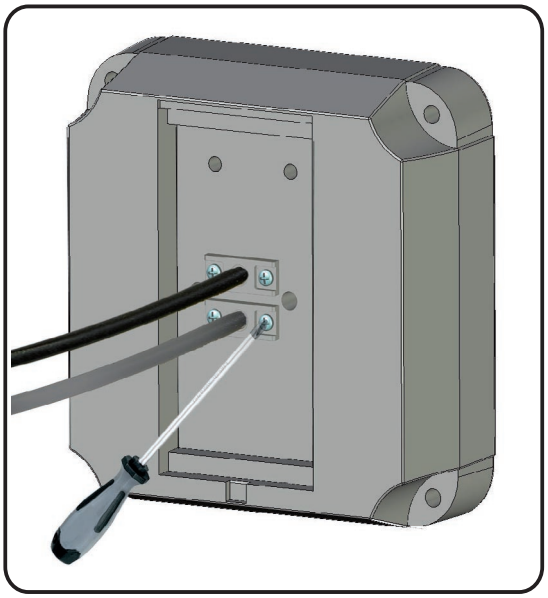

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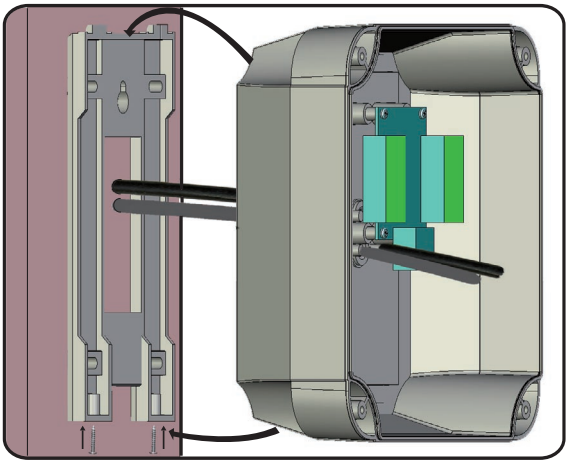

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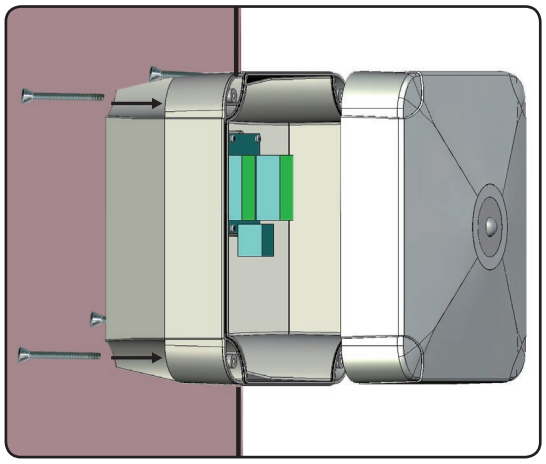

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The long range reader consists of a reader module mounted inside the front half of the housing and a hands free interface mounted inside the rear half. An interconnect cable is supplied that connects the two sections together.

Two 5 yard cables for data and power are provided. These enter the module at the rear through two compression glands. If longer cables are required, refer to the previous section for further details.

Determine the position of the reader and mark and drill holes for the fixing screws and cable access.

Fix the mounting plate to the post with the locating hooks at the top. (Fig 1)

Feed the cables for power and data thorough the mounting plate and into the rear section of the reader leaving enough slack to allow easy connection to the circuit boards later in the installation.

Tighten the weatherproof cable glands at the rear of the reader. (Fig 2)

Hang the rear reader section on the mounting plate and secure with two screws. (Fig 3)

Complete the wiring of the reader as shown in this instruction.

Join the front section to the rear section with the Allen screws provided. (Fig 4)

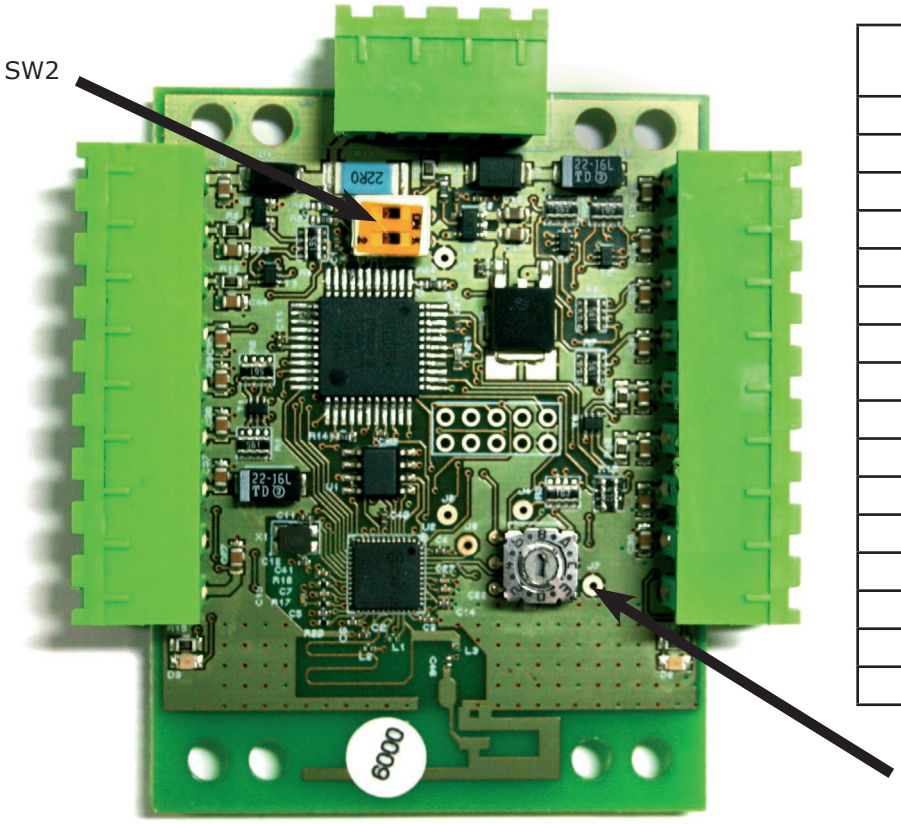
NOTE: It may be necessary to briefly remove the reader from its mounting plate if access to the Allen screws is limited by the post or wall.

Configuration

Changing frequency channel

If you are experiencing problems with the range or reliability this may be due to poor reader positioning, adjacent interfering 125KHz or 2.4 GHz equipment, e.g. an adjacent wireless PC network. Please refer to the 'Before you install' information regarding unit locations. If you are still unable to improve the system performance then you may try an alternative 2.4 GHz channel using Switch 1. Power cycle the unit after any changes.

The system has 16 different channels available. The unit is set to channel 4 as this frequency is normally clear of other device transmissions. This can be changed using a small flat blade screwdriver. Take care not to contact the circuit board with the screwdriver blade as this may damage components.



Switch position	GHz	IEEE 802.15.4 channel
0	2.405	11
1	2.41	12
2	2.415	13
3	2.42	14
4	2.425	15
5	2.43	16
6	2.435	17
7	2.44	18
8	2.445	19
9	2.45	20
A	2.455	21
B	2.46	22
C	2.465	23
D	2.47	24
E	2.475	25
F	2.48	26

SW1. Rotate the switch to select an alternate channel.

The switch should initially be set to the default position '4'

All hands free tokens automatically configure themselves to use the new channel. No configuration of the token is required.

Keycard configuration

The switch SW2 is used to select which button on a Keycard is active for this interface.

The unit must be power cycled if the switch position is changed to reconfigure the settings.

Please refer to instruction sheet ins-30037-US for switch configuration supplied with the keycard.

Using an entry confirmation button

Where two door readers may pick up the same hands free token, a push to make button can be used to confirm an entry request for the specific door. Where fitted, the button LED will flash for 5 seconds after the hands free token has been recognised and must be pressed to unlock the door.

To enable the use of an entry confirmation button do the following steps:

1. Power down the interface board
2. Power up the interface board
3. Press and hold the entry confirmation button for a minumum of 3 seconds within 60 seconds of power up.

To disable the use of the button repeat the above process.

Specifications

Electrical	Min	Max	
Voltage	11V DC	14V DC	
Current		1 A	
Additional power supply required			Yes
Carrier frequency	119 kHz	140 kHz	
	2.405 GHz	2.480 GHz	
Clock and data bit period			600 µs
System Specification	Min	Max	
Button confirmation input			Yes
Cable type for extensions			Belden 9540
Cable length between ACU and reader		100 yds	
Read Range	Token	Keyfob	Watchprox
Long range reader	3 inch	1 1/2 inch	1/2 inch
Read range with Hands Free token	Min	Max	
Long range reader		16 ft	
P200E metal mount		6 ft	
P200		8 ft	
P75		5 ft	
P50		4 ft	
P38		3 ft	
Environment	Min	Max	
Operating temperature	- 20 °C	+ 55 °C	
Waterproof			Outdoor Use
Dimensions	Width	Height	Depth
	8 1/2 inch	8 1/2 inch	4 3/4 inch

FCC Compliance

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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.