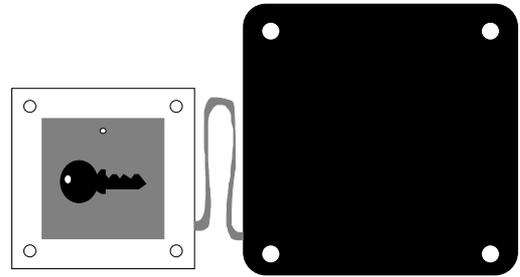
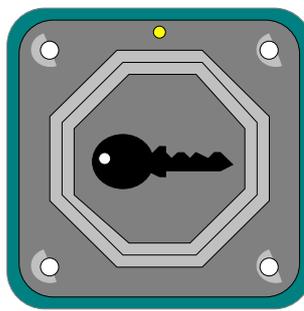
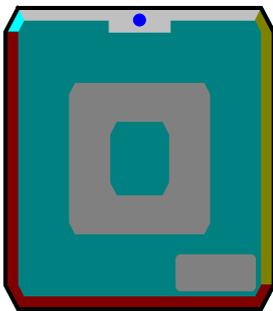


PAC Readers

Low Profile, Vandal Resistant and Panel Mount

<input type="checkbox"/> 2001 <input type="checkbox"/> 2001W <input type="checkbox"/> 2002 <input type="checkbox"/> 2002W <input type="checkbox"/> 2025	Low Profile Reader-Black Low Profile Reader-White Vandal Resistant Reader-Steel Vandal Resistant Reader-Brass Panel Mount Reader	CAUTION These readers should only be used with systems that use PAC ID keys. For example, they should not be connected to an Easikey controller.
---	--	--



Low Profile

Vandal Resistant

Panel Mount

Items Enclosed

Low profile reader
 4 terminal screws
 MOV
 Mounting backplate
 Label
 2 x 1" No.6 self-tapping screws

Vandal resistant reader
 4 terminal screws
 MOV
 4 x 1¼" No. 8 VR screws
 A special screwdriver (available separately) is required for the Vandal Resistant (VR) screws.

Panel mount reader and head
 4 terminal screws
 MOV
 Lexan window and backplate

Note

The readers come with a 6-wire suppression lead that should be installed as described in this datasheet. This cable must be installed to comply with CE regulations.

Dimensions

H x W x D in/mm
 3.94/100 x 3.46/88 x 0.47in/12

H x W x D in/mm
 3.94/100 x 3.94/100 x 0.47/(12

H x W x D in/mm
 3.62/92 x 2.44/62 x 0.59/15 Reader
 2.36/60 x 2.36/60 x 0.47/12 Head

Maximum Reading Range

2in/50mm

0.4in/10mm

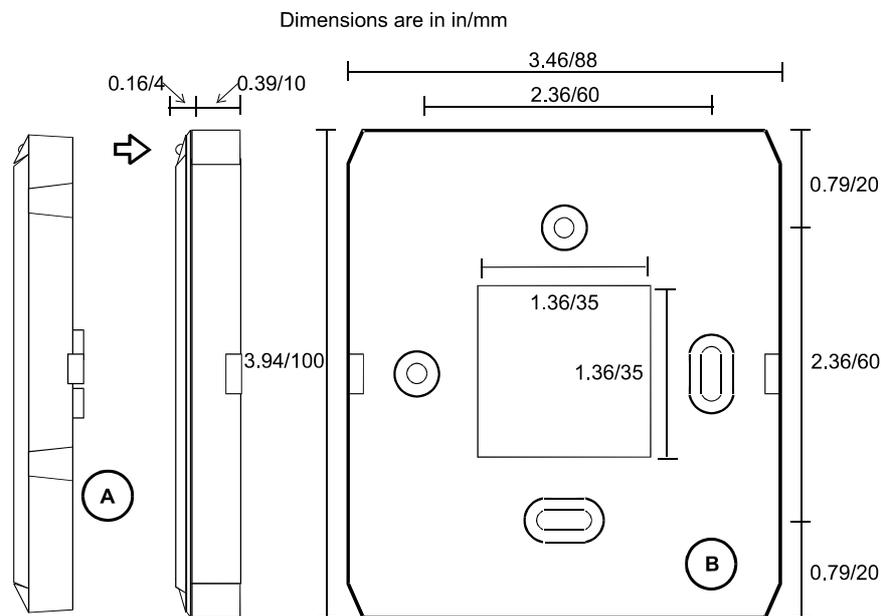
0.4in/10mm

Installation

CAUTIONS

1. The readers should **not** be mounted on metal.
2. The cable distance from controller to reader should **not** exceed the cable distance quoted in Section 0.
3. If using a **Request to Exit** switch, ensure that the wiring is **not** accessible if the reader is removed.
4. Ensure that the LED is always visible to the key holder.
5. If the reader is installed externally, the terminals on the rear of the reader **must** be sealed with a silicone compound to prevent corrosion.

Low Profile Readers



This reader comes in two parts, the reader itself (A) with 4 terminals and the backplate (B). The backplate has a rubber spacer at the rear.

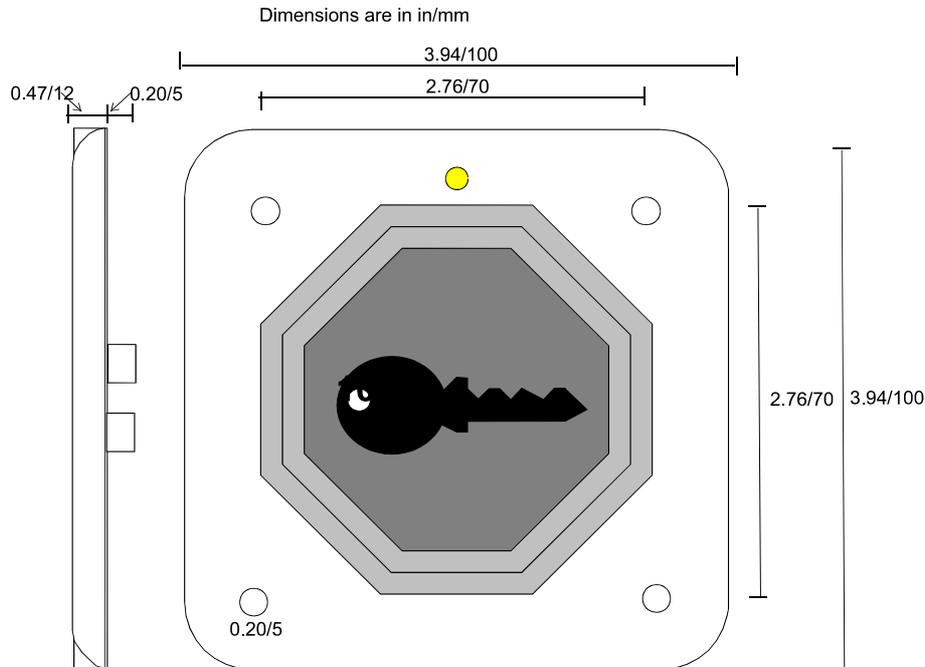
Mounting the Reader

1. The cable from the controller should be routed through the hole in the backplate. Leave enough cable exposed to allow easy wiring of the reader (at least 1 inch).
Note: There is limited room between the reader and backplate. You should ensure there is a void large enough behind the backplate to accommodate the any excess on the suppression cable.
2. Mount the backplate to a flat surface using the No.6 screws provided - or a something suitable for the material to which the reader is being mounted. The two holes are 60mm apart. Use the top (round) hole first, and the lower (oval) hole to ensure the reader is straight.
3. Ensure that the reader cable is **not** connected to the controller. Wire the reader to the cable as described later in this data sheet and in the door controller Installation Manual
4. Push the reader, with the green LED to the top, onto the backplate, the fixing tabs on each side should snap into place.
5. Place label on front of reader.

Removing the Reader

The reader can be removed from the backplate by placing a small flat-bladed screwdriver into the apertures on each side of the backplate. Take care not to damage the reader or backplate.

Vandal Resistant Readers



This reader should be mounted using the vandal resistant screws provided.

Note

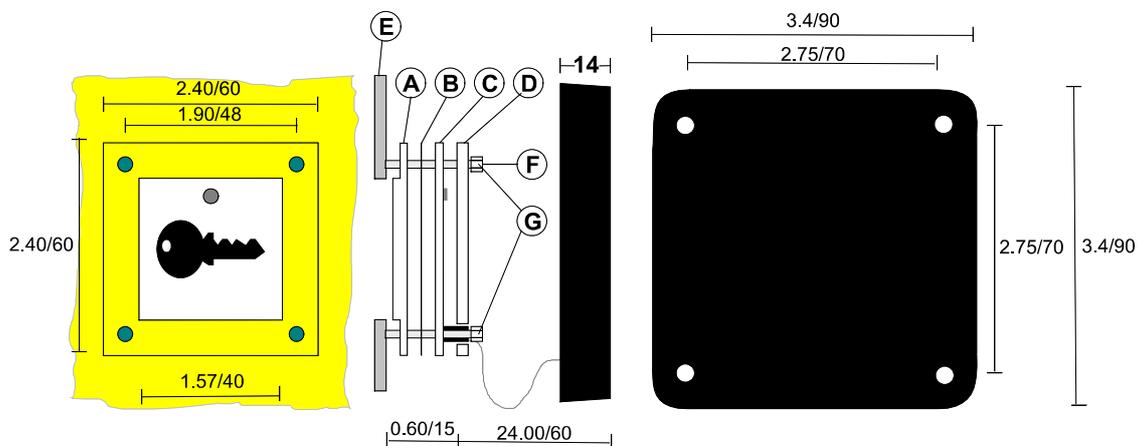
A special screwdriver (not supplied) is required to use these screws.

Mounting the Reader

1. The cable from the controller should come to the rear of the reader. Leave enough cable exposed to allow easy wiring of the reader (at least 1 inch).
Note: The terminals protrude $\frac{1}{4}$ in from the rear of the reader. You should ensure there is a void large enough (about $1\frac{1}{2}$ in square and $\frac{3}{4}$ in deep) behind the reader to accommodate the terminals and excess suppression cable.
2. Ensure that the reader cable is **not** connected to the door controller. Wire the reader to the cable as described later in this data sheet and in the door controller Installation Manual.
3. Apply a silicone sealant to the terminals to protect against moisture if the reader is mounted outside.
4. Mount the reader to as flat and even a surface as possible. This will reduce the possibility of it being levered from the wall. Either use the Vandal Resistant screws provided, or other suitable fixings. The LED should be to the top.

Panel Mount Reader

Dimensions are in in/mm



This reader is designed to be mounted in a steel panel (E) such as used in a door-entry system. There are two main units; the main module, a black rectangular unit, connected by a fixed length of cable to a reading head. The cable between the two parts is fixed, 24in/60mm long and should not be cut, extended or shortened.

Panel Aperture

The reading head is designed to fit a 1.57in/40mm square hole. Holes on the reading head, 1.89in/48mm between centres, accept M3 (metric) posts (F). The posts should be at least 0.59in/15mm long. The front cover (A) protrudes 0.10in/2.5mm through the hole.

Locating the Main Module

Mount the module in a convenient place behind the panel. The holes in each corner will accept No. 6 screws. Ensure that the module is close enough to the reader head to allow the panel to be removed without straining the cable. Wire the reader as seacribed in Section 0. Ensure there is sufficient space for any excess spression cable.

Mounting the Reading Head

There are 4 components to the reading head:

1. Remove the protective film from the front lexan window (A). Mount on the studs so that the centre fits through the aperture, with the shallow slot to the bottom.
2. Remove the backing from the label, and fit to the circuit board (C), the clear hole should align with the green LED.
3. Place the circuit board (C) and label over the studs against the window with the cable facing away from the aperture.
4. Fit the rear lexan cover (D) and clamp using screws suitable for the studs (G).

Reader Wiring

Notes

1. The wiring and location of readers is described in the documentation supplied with the door controller. All the readers described in this datasheet have identical terminals.
2. If connected to a PAC 2100 Series Door Controller, it is strongly recommended that a 100mA in-line fuse is installed in line with the reader supply.

Connecting the Suppression Cable

One end of the 6-conductor suppression cable is connected to the reader and the other is connected to the cable connected to the reader channel on the controller. The suppression cable comes with four spade crimps at one end for easy connection to the terminals on the reader. Crimp wire joints are provided for connection to the reader cable from the controller.

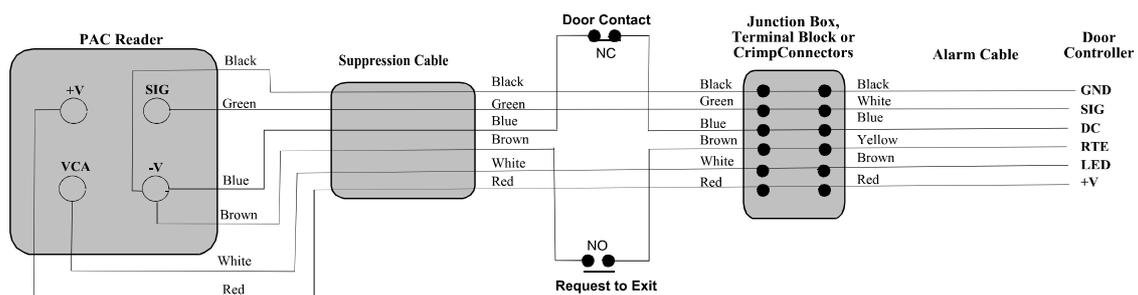
The following table details suppression cable connections to both the reader and to the reader cable from the controller.

Note

Care must be taken if a different colour convention for the controller reader cable is used than that given in the table.

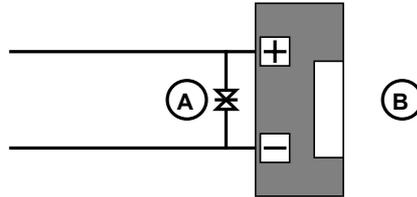
Suppression Cable		Controller Reader Cable			
Colour	Reader	Colour	PAC 2100 Series	PAC 2200 Series	PAC 202
Black	-V	Black	GND	GND	0V
Green	SIG	White	SIG	SIG1/SIG2	SIGA/SIGB
Blue	-V	Blue	DR1	DC/DR1	DC
Brown	-V	Yellow	DR2	RTE/DR2	RTE
White	VCA	Brown	LED	LED	LED
Red	+V	Red	+18V	+18V	+V

The following diagram is how we recommend that the cable is wired.



MOV - Lock Suppression

A Metal-Oxide-varistor (MOV) is provided with each reader. This device prevents back EMF ('spikes') being returned from the electric lock to the controller. This can cause severe damage over a period of time, and erratic operation of the system if not controlled.



The MOV (A) should be installed across the power terminals of the lock (B). It can be fitted across the relay contacts on the door controller, but this will be less effective.

Specification

Operating Temperature:	-40°C to +50°C
Current:	100mA (maximum)
Supply Voltage:	18V dc
Cable Type:	4 or 6-conductor, stranded, unshielded

Cable Gauge and Distances:

Cable Type	PAC 2100 Series	PAC 2200 Series	PAC 202
24AWG/0.22mm ² 7/0.2	750ft/250m	750ft/250m	230ft/70m *
20AWG/0.5mm ² 16/0.2	1500ft/500m	1500ft/500m	
18AWG/1.0mm ² , 32/0.2	3000ft/1000m	3000ft/1000m	

* These figures are for readers powered from the controller. The cable distances can be increased to 1650ft/500m by locally powering the readers.

Mean Time Between Failures: >100,000 hours

RFID Devices

As similar RFID technology is now widely used in a number of other industries, for example automotive immobilisers, it is possible that interaction between your access control credential and other devices may cause one or the other to function incorrectly. Should you suspect that you have experienced such a problem the solution is to separate your access control credential from other RFID devices.

FCC

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.

Low Profile	FCC ID HM3D8201
Vandal Resistant	FCC ID OQL-P-VN
Panel Mount	FCC ID OQL-P-PNL

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