

Manual Compendium

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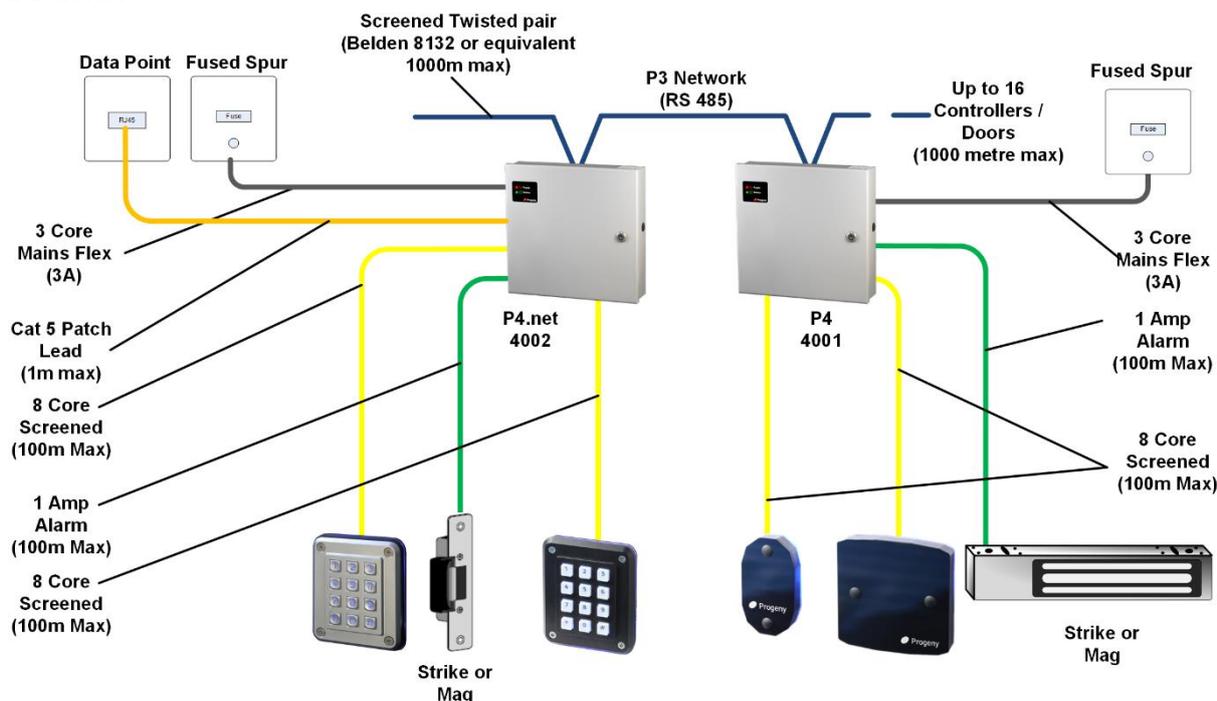


**When you have finished with
this manual please recycle it.**

Introduction

Every effort is made to ensure that this manual is complete and free from errors. However, we reserve the right to make changes to these products and this manual without notice.

No liability is accepted for loss damage or injury as a consequence of using these products or instructions.



Cables

There are four main types of cable used with the Progeny access control systems:

- 8 Core Screened Alarm cable (for Readers) *
- Screened Twisted Pair cable (for the RS485 Network) **
- Ethernet patch leads (for ethernet data point connection to a “.net” controller)
- 3 Core mains flex (to connect mains supply to the fused spur)

* Reader cable should not be twisted. Do not use CAT5 cable.

** Do not use CAT5 cable for the RS485 network connections

For reader cables, the screen of the cable should be connected to the earth stud at the right-hand side of the controller. Keep the pigtail of the screen as short as possible once the cable has entered the enclosure. The inner cores can then make the rest of the journey to the terminal blocks.

Pay close attention to the current rating of cables that are connected to this power supply and any fitted equipment. In particular the 2 Amp outputs, typical alarm cable is 7 strands of 0.2mm and is only rated at 1 Amp. Check with your supplier of the cable you are using.

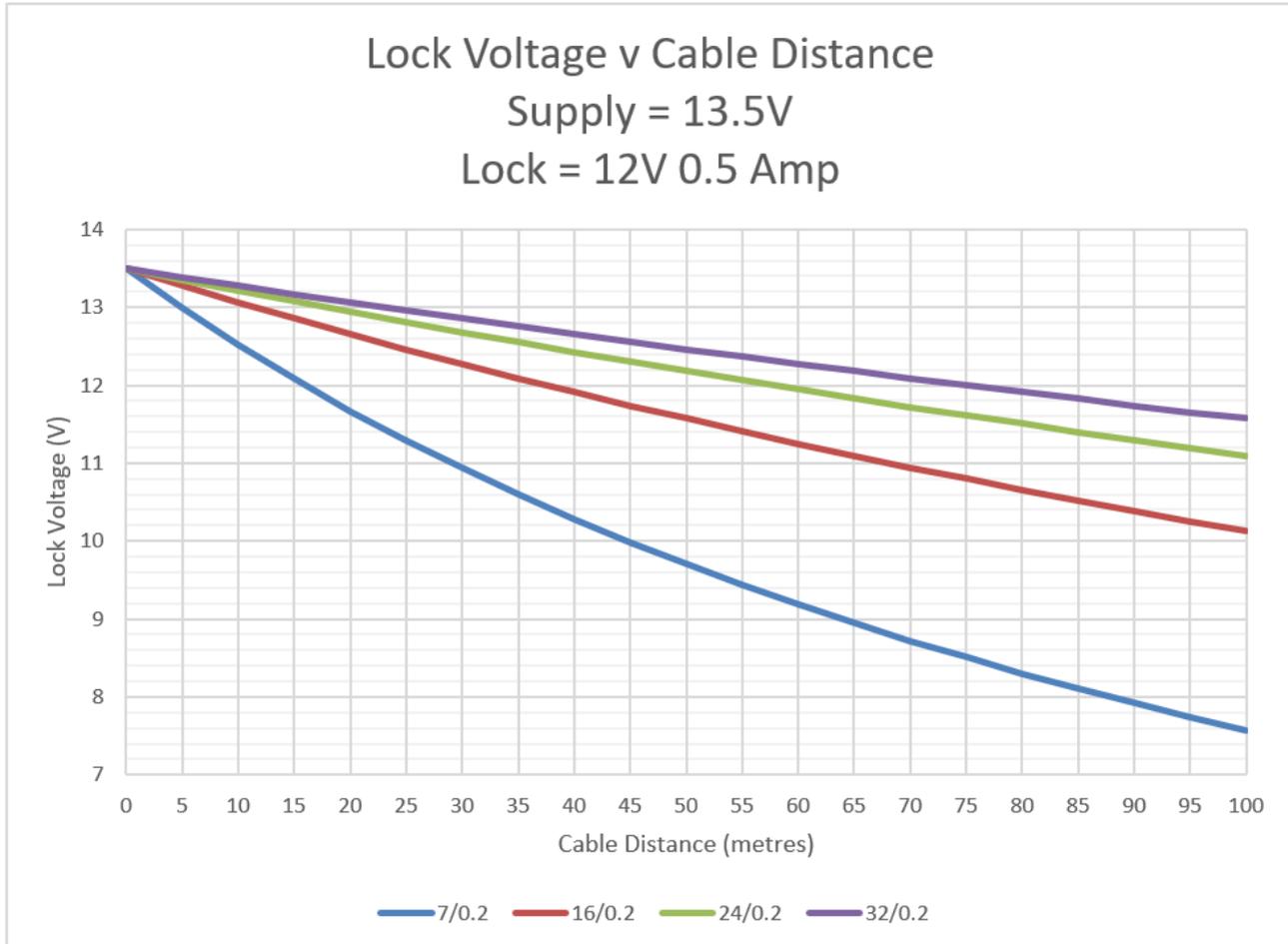
Cable Function	Cores	Screened	Twisted Pair	Strands per Core	Core Strand Thickness	Conductor Area	Resistance per 100m
Readers	6	Yes	No	7	0.2mm	0.22mm ²	9.2Ω
Keyboards	8	Yes	No	7	0.2mm	0.22mm ²	9.2Ω
Network	4	Yes	Yes	7	0.2mm	0.22mm ²	9.2Ω
Locks	2	No	No	16	0.2mm	0.50mm ²	4Ω

Lock Suppression

It is important to check that the locking device is suppressed. Any electromagnetic device will produce a Back E.M.F when power is removed. This can interfere with and even

Volt Drop in Long Cables

The graph below shows how the voltage at the locking device varies with cable length and core size.



damage other electronic equipment. Most good locking devices will already have suppression fitted. If not, you should fit an appropriate suppression device across the coil.

In the case of solenoid operated locks, a flywheel diode will do. Connect the cathode to the positive and the anode to the negative terminal of the coil. The diode will need to be rated at the full operating current of the coil.

Do not use a diode for a mag-lock, as this will cause an excessive delay to the release of the door. A MOV or VDR is a far better choice. Polarity is not critical, but make sure the rated voltage is greater than the normal operating voltage of the lock.

A more detailed explanation of Back E.M.F. can be located at our website here: <https://progeny.co.uk/back-emf-suppression>

Battery

For controllers in this manual with charger power supplies, we recommend fitting a 12V 7Ah battery in the event of a mains failure. Batteries should be serviced at regular intervals (24 months is a respectable period).

Important Note:

If rechargeable batteries are to be fitted, then they must be of the correct type. The power supply is designed to charge sealed lead acid batteries. **Do not** connect NiCad, Dry Cell batteries or any other battery chemistry.

Power down sequence:

Battery first then Mains

Power up sequence:

Mains first then Battery

4800 Dark Crystal Switch-Plate Reader

The Dark Crystal Reader is an RFID (Radio Frequency Identification) proximity reader for use with the Progeny P1 V4, P2 & P4 systems. The reader is intended for indoor use however it can be used externally if sealed against the mounting surface.

The Dark Crystal range uses a simple 4 wire interface for all power, data and signalling between Controller and Reader.

P4 Controllers (Firmware V4.5 +) and Doors Enterprise (V8 +) both support the following additional features:

- Alarm Volume Control (Engineers functions 33 & 35)
- Feedback Sound Volume Control (Engineers functions 32 & 34)
- Running Light Brightness Control (Engineers functions 58 & 78)

Installation

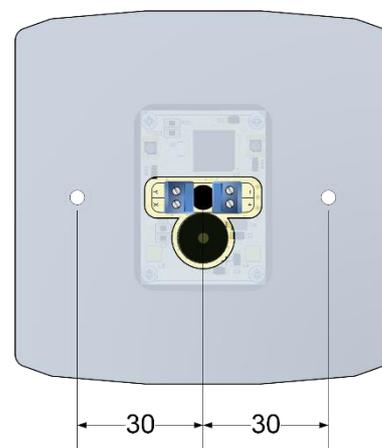
The Dark Crystal Switch Plate reader can be fitted directly to a standard UK light switch back box (with 60mm fixing centres). It is supplied with M3.5 screws for this purpose.

It may also be surface mounted: Drill a 6mm hole at the centre point of the mounting position for the cable. The two mounting holes are 30mm horizontally left and right of this hole. Drill and plug the wall for the screws being used. Make a 10mm deep rebate for the speaker at the back of the reader. Feed the cable through the 6mm hole and connect to the reader terminal block. Secure the reader with two screws.

Always use a screened cable (4 or 8 core 7/0.2 non-twisted) and connect the screen to earth at the controller. Maximum cable runs 100m.



CONNECTION TABLE			
Reader (T Block)	Recommended Cable	P4 Controller	C4 Controller
+	Red	+	+12V
-	Black	-	0V
X	White	X	X
Y	Green	Y	Y
	Screen	Earth	Earth



PRODUCT SPECIFICATION		
Parameter	Minimum	Maximum
Operating Voltage	8.0 Vdc	14.0 Vdc
Peak Current	-	100 mA
Average Current	-	50 mA
Cable Distance to Controller	-	100 m
Dimensions	W 90, H 90 D 19 (mm)	

4820 Dark Crystal Mullion Reader

The Dark Crystal Reader is an RFID (Radio Frequency Identification) proximity reader for use with the P1 V4, P2 and P4 systems. Completely sealed, this reader is ideal for external or internal applications.

The Dark Crystal range uses a simple 4 wire interface for all power, data and signalling between Controller and Reader.

P4 Controllers (Firmware V4.5 +) and Doors Enterprise (V8 +) both support the following features:

- Alarm Volume Control (Engineers functions 33 & 35)
- Feedback Sound Volume Control (Engineers functions 32 & 34)
- Running Light Brightness Control (Engineers functions 58 & 78)



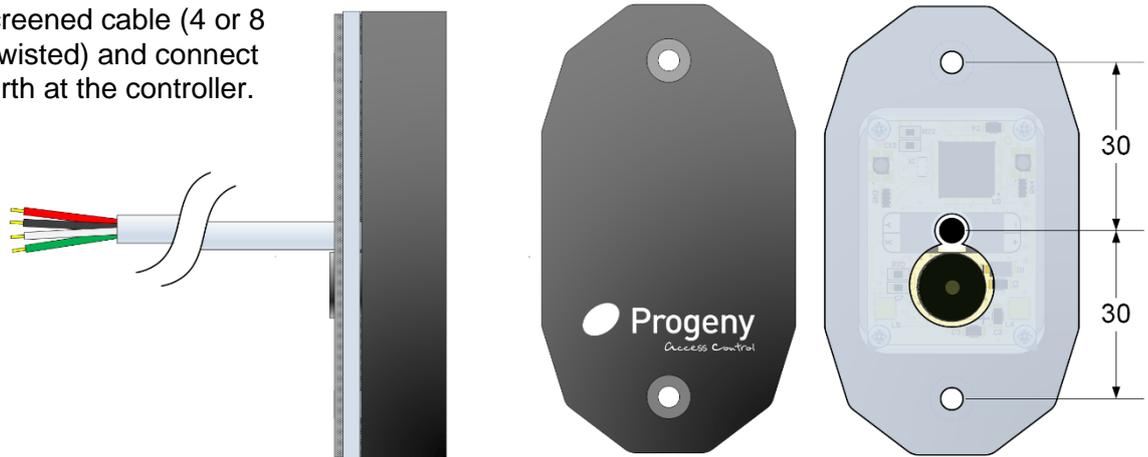
Installation

The Dark Crystal Mullion reader can be surface mounted for both internal and external situations. The electronics are completely encapsulated making the reader intrinsically weatherproof. A “Pig Tail” cable emerging from the centre back brings all the data and signalling over 4 core cable.

Drill a 6mm hole at the centre point of the mounting position for the cable. The two mounting holes are 30mm vertically above and below this hole. Drill and plug the wall for the screw being used. Make a 10mm deep rebate for the speaker at the back of the reader. Feed the cable through the 6mm hole and secure the reader with the screws provided.

Always use a screened cable (4 or 8 core 7/0.2 non-twisted) and connect the screen to earth at the controller.

Maximum cable runs 100m.



CONNECTION TABLE			
Reader Cable	Recommended Cable	P4 Controller	C2 Controller
Red	Red	+	+12V
Black	Black	-	0V
White	White	X	X
Green	Green	Y	Y
	Screen	Earth	Earth

4830 Dark Crystal Panel Mount Reader

The Dark Crystal panel mount reader is an RFID (Radio Frequency Identification) proximity reader for use with the Progeny P1 V4, P2 and P4 systems. The panel mount reader can be fitted to standard intercom/door entry units, where the cut out is provided. The reader is mounted behind a 40mm square aperture, with threaded studs on mounting centres spaced at 1.9" (48.25mm).

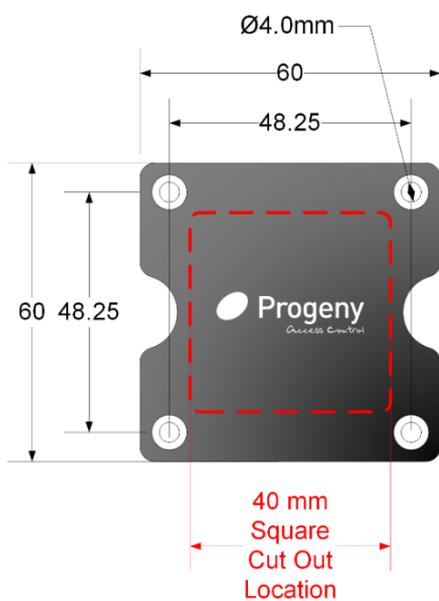
The Dark Crystal range uses a simple 4 wire interface for all power, data and signalling between Controller and Reader.

P4 Controllers (Firmware V4.5 +) and Doors Enterprise (V8 +) both support the following additional features:

- Alarm Volume Control (Engineers functions 33 & 35)
- Feedback Sound Volume Control (Engineers functions 32 & 34)
- Running Light Brightness Control (Engineers functions 58 & 78)

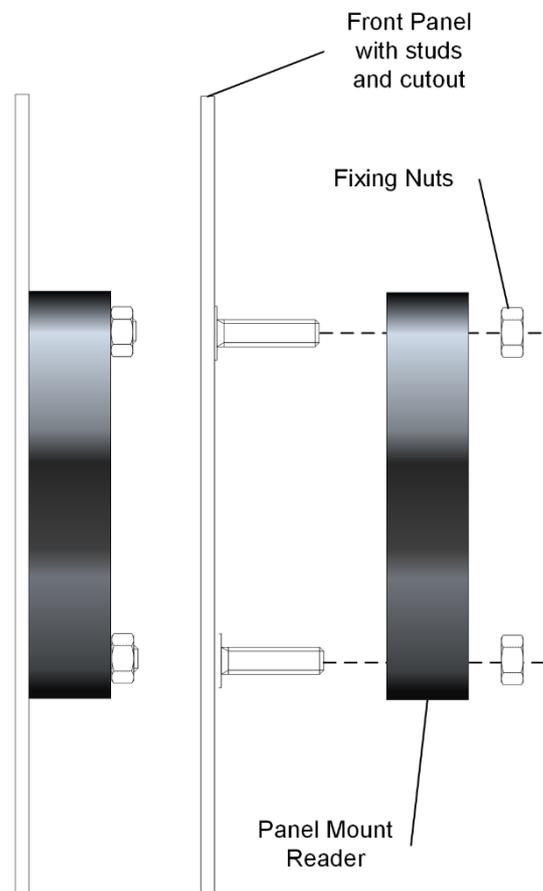


Installation



Slide the reader over the studs on the back of the panel, then use the nuts to tighten the reader up against the front.

Always use a screened cable (4 or 8 core 7/0.2 non-twisted) and connect the screen to earth at the controller. Maximum cable runs 100m.



CONNECTION TABLE			
Reader (T Block)	Recommended Cable	P4 Controller	C2 Controller
+	Red	+	+12V
-	Black	-	0V
X	White	X	X
Y	Green	Y	Y
	Screen	Earth	Earth

4840 Dark Crystal Vandal Resistant Reader

The Dark Crystal VR Reader is an RFID (Radio Frequency Identification) proximity reader for use with the Progeny P2 and P4 systems. The reader is intended for external or internal use particularly where there is a risk of vandalism.

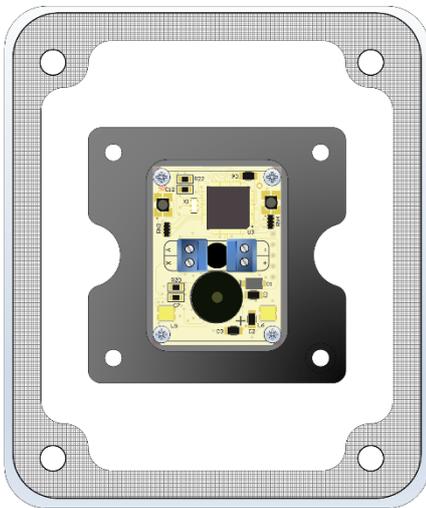
The Dark Crystal range uses a simple 4 wire interface for all power, data and signalling between Controller and Reader.

P4 Controllers (Firmware V4.5 +) and Doors Enterprise (V8 +) both support the following additional features:

- Alarm Volume Control (Engineers functions 33 & 35)
- Feedback Sound Volume Control (Engineers functions 32 & 34)
- Running Light Brightness Control (Engineers functions 58 & 78)



Installation



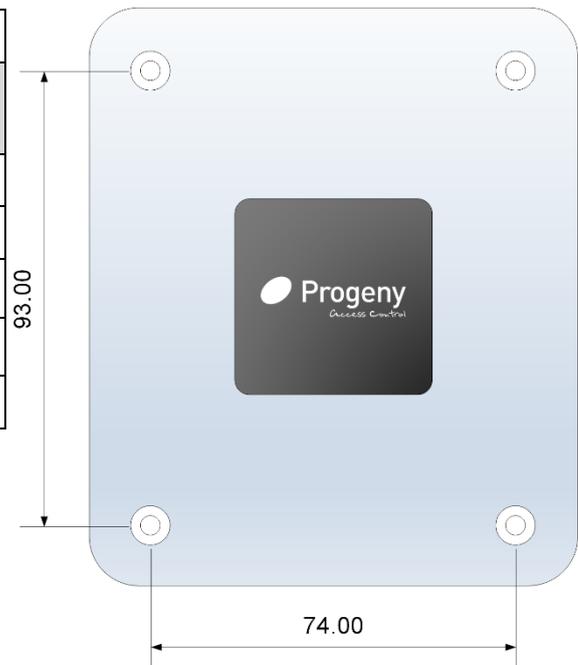
The Dark Crystal vandal resistant reader should ideally be flush mounted to maximise its vandal resistance. It may also be surface mounted using the 2132 surface mount back box.

Drill a 6mm hole at the centre point of the mounting position for the cable. Drill and plug the wall for the four fixing screws being used. Centres for these are shown in the diagram below.

Make a rebate for the reader 65mm x 65mm x 25mm deep. Feed the cable through the 6mm hole and connect to the reader terminal block. Secure the reader with four screws.

Always use a screened cable (4 or 8 core 7/0.2 non-twisted) and connect the screen to earth at the controller. Maximum cable runs 100m.

CONNECTION TABLE			
Reader (T Block)	Recommended Cable	P4 Controller	C2 Controller
+	Red	+	+12V
-	Black	-	0V
X	White	X	X
Y	Green	Y	Y
	Screen	Earth	Earth



2132 Surface Mount Backbox for 4840

Mounting

Screws to mount the back box and to secure the 4840 VR reader are provided.

Drill & Plug the wall for the screws provided.

It may be necessary to apply silicone sealant around the mounting holes to prevent water ingress from the rear.

Dimensions:

W:103mm H:122mm D: 31mm



4803 USB Crystal Reader

The Crystal Desktop reader connects to the USB interface of a PC running Doors Enterprise Version: 7.02.0022 or later.

Using the reader greatly simplifies:

- Adding new Cards or Fobs to the database.
- Swapping out the Card or Fob.

No configuration is necessary, the software automatically makes use of the reader when it is connected to a USB port.

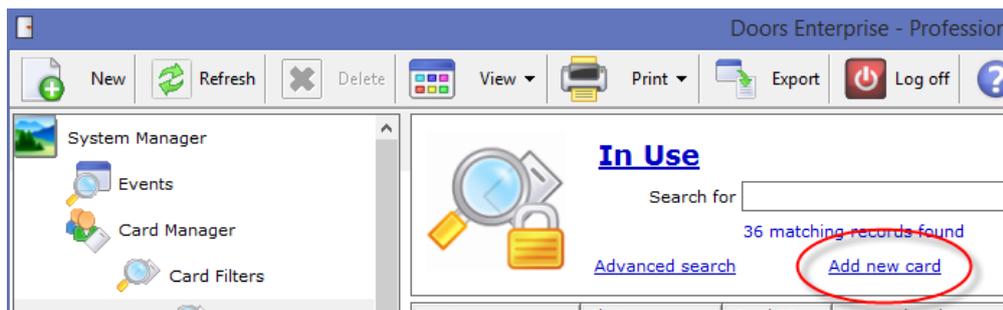
Connecting the Reader

- Before you begin, make sure the software installed is Doors Enterprise V7.02.0022 or later.
- This Reader does not work with Doors Express.
- Plug one end of the USB cable into the PC that has Doors Enterprise (client) installed.
- Plug the other end into the Reader itself. Be careful to make sure the broad side of the connector is facing upward.



Using the Reader to Add a Card or Fob

From card manager click the “Add new card” link:



Next click the ellipses button next to the “Card ID” field:

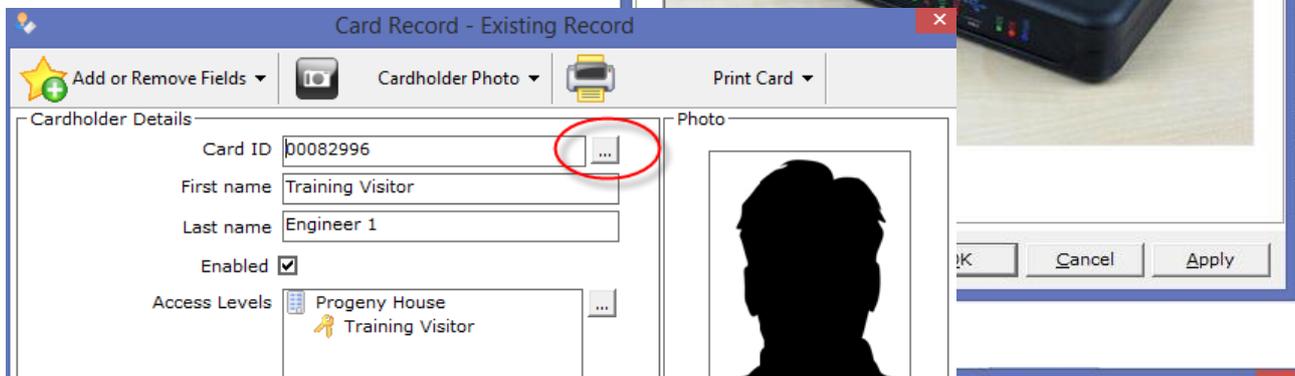
If the USB reader is connected, the Card ID dialogue will appear with a picture of the USB reader.

Present the new card or fob to the reader and its "Card ID" will be filled out for you.

Click OK to use this card ID.

Using the Reader to Swap a Card or Fob

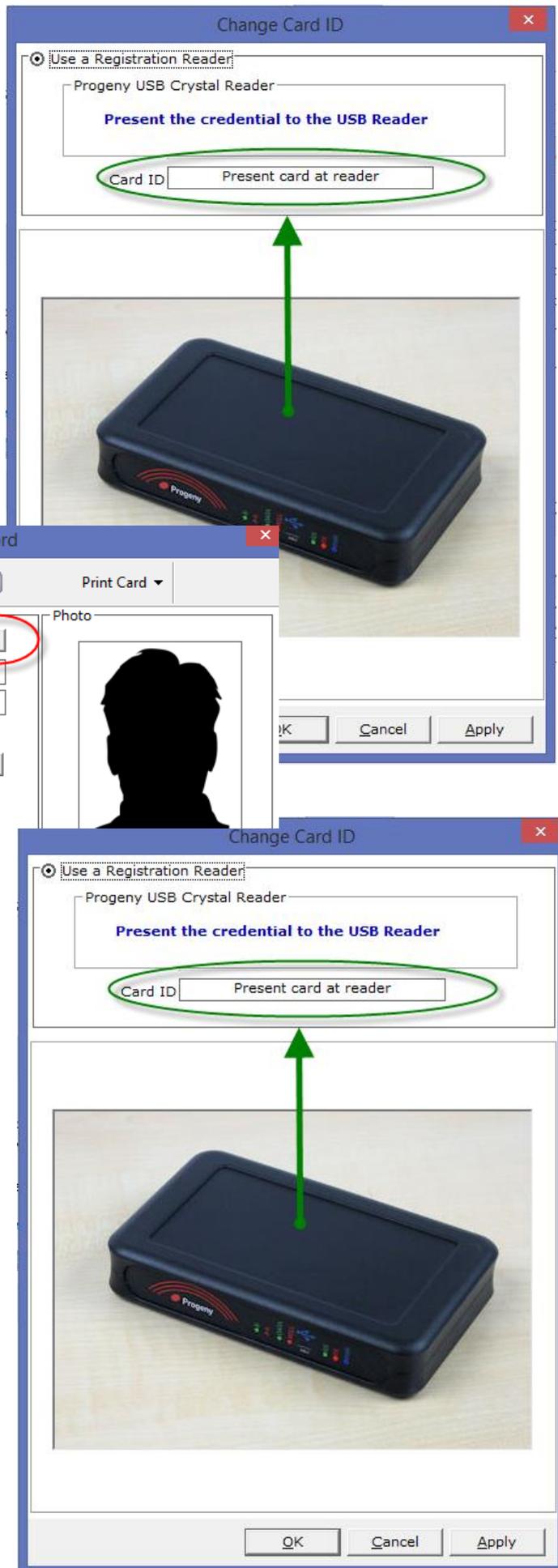
From card manager double-click an existing cardholder record, then click the ellipses button next to the card ID field:



If the USB reader is connected the Card ID dialogue will appear with a picture of the USB reader.

Present the new card or fob to the reader and its "Card ID" will be filled out for you.

Click OK to use this card ID.



4850 & 4851 Dark Crystal Biometric Readers



4850 Internal



4851 External

Dark Crystal Biometric Readers are both a Fingerprint Recognition Reader and an RFID (Radio Frequency Identification) proximity reader. The biometric features are only usable with the Progeny P4 systems.

The 4850 Internal readers are intended for indoor use. This reader offers the biometric sensor at a more ergonomic angle and can be fitted to a standard UK pattress box. Terminal blocks are provided for connection at the back of the reader.

The 4851 External readers are designed for outdoor use. This reader is sealed against the weather and the internal temperature is monitored and controlled to cope with ambient cold down to minus 20 °C. A pigtail cable is provided for connections.

Up to 1000 users can enrol two fingerprint templates each. These are copied to the controller and (if online) to the server database.

The Dark Crystal range uses a simple 4 wire interface for all power, data and signalling between Controller and Reader.



PRODUCT SPECIFICATION		
Parameter	Minimum	Maximum
Operating Voltage	8.0 Vdc	14.0 Vdc
Peak Current	-	150 mA
Average Current	-	50 mA
Cable Distance to Controller	-	100 m
4850 Dimensions		W 90, H 90, D 19 (mm)
4851 Dimensions		W 50, H 120, D 19 (mm)

4850 Internal Reader Installation

Connections

Always use a screened cable (6 or 8 core 7/0.2 non-twisted) and connect the screen to earth at the controller. Maximum recommended cable run is 50m. Longer cable runs up to 100m can be used if additional cores are used to double up on supply connections.

Mounting Height

Always mount the reader at a height that is comfortable for all users to present the fingerprints.

Mounting on Backbox

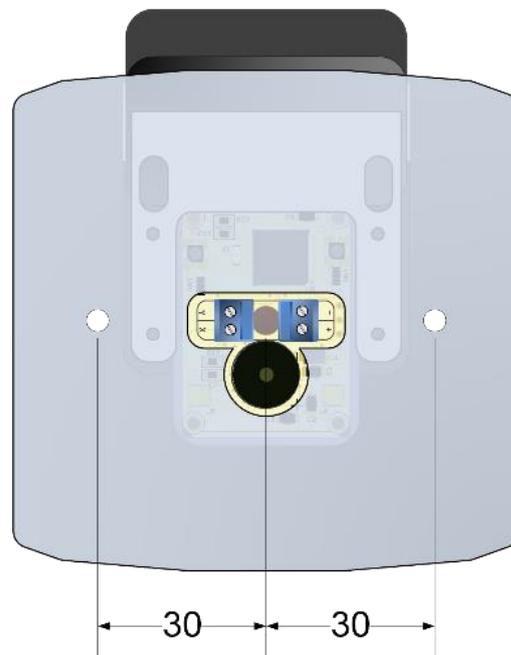
The Dark Crystal Biometric reader can be fitted directly to a standard single gang pattress box (with 60mm fixing centres). It is supplied with M3.5 screws for this purpose.

Mounting Direct to Wall

It may also be surface mounted: Drill a 6mm hole at the centre point of the mounting position for the cable. The two mounting holes are 30mm horizontally left and right of this hole. Drill and plug the wall for the screws being used. Make a 10mm deep rebate for the speaker at the back of the reader. Feed the cable through the 6mm hole and connect to the reader terminal block.

Secure the reader with two screws.

CONNECTION TABLE		
Reader (Terminal Block)	Reader (Pigtail Cable)	P4 Controller
+	Red	+
-	Black	-
X	White	X
Y	Green	Y
	Screen	Earth



4851 External Reader Installation

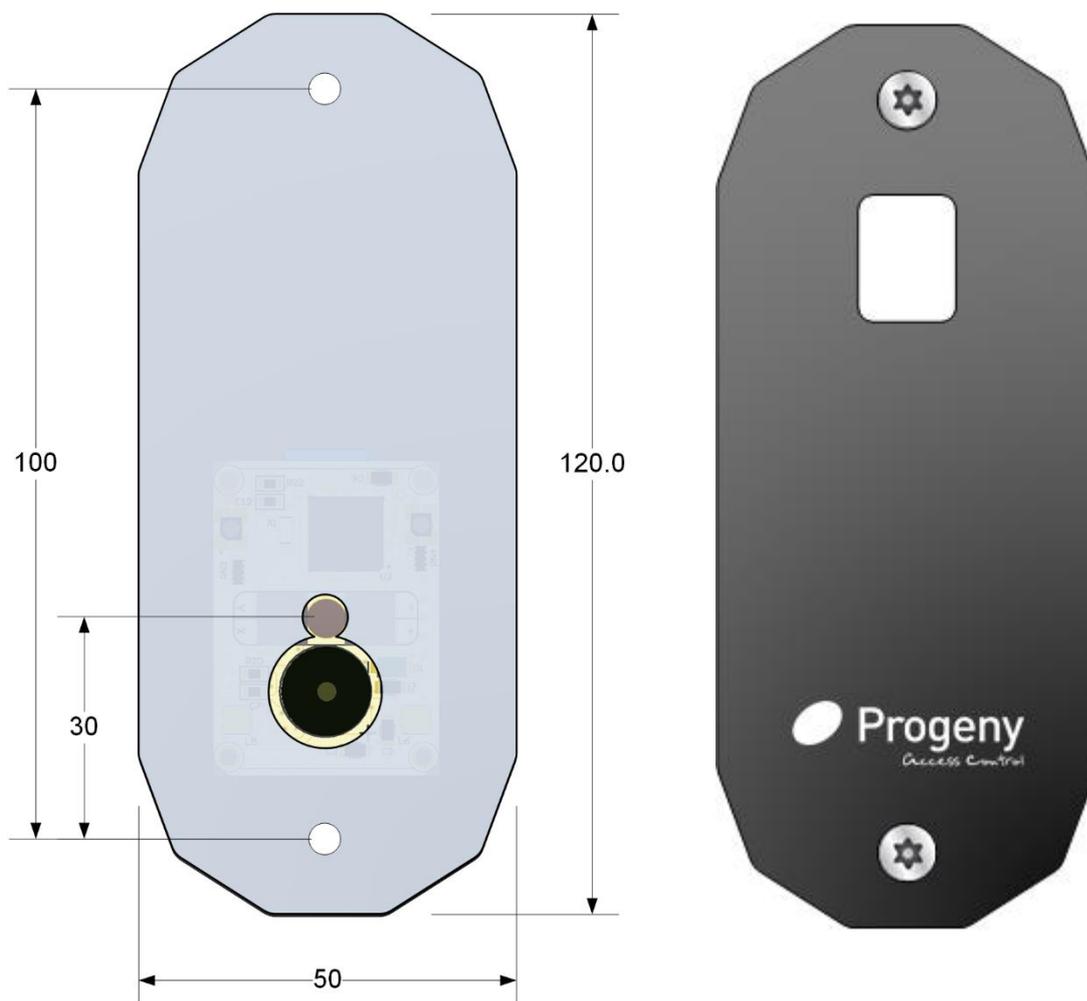
Mounting Height

Always mount the reader at a height that is comfortable for all users to present the fingerprints. For this reader, we would recommend at or above shoulder height for the tallest of users. If that is a problem for DDA compliance then dual height readers can be considered.

The External Dark Crystal Biometric is intended for surface mounting. Self-tapping screws are provided that can be used with wall plugs or directly into a metal panel.

Surface Mount

Drill a 6mm hole through the wall or panel for the pigtail cable. The two mounting holes are 30mm below and 70mm above this hole. Drill and plug the wall for the screws being used. Make a 10mm deep rebate for the speaker at the back of the reader. Feed the pigtail cable through the 6mm hole and connect to the on-going cable. Secure the reader with two screws.



Programming

P4 Controllers (Firmware V4.65 +) and Doors Enterprise (V8.1 +) both support the following additional features:

- Alarm Volume Control (Engineers functions 33 & 35)
- Feedback Sound Volume Control (Engineers functions 32 & 34)
- Running Light Brightness Control (Engineers functions 58 & 78)

Biometric Functions for Commissioning Engineers:

	Offline Engineers Function	Online Software Doors Enterprise
List Template ID via Event Log	21	Event Viewer
Copy All Templates	22	N/A
Delete all bio Templates	23	N/A
Bio Slot to ID table Create	24	N/A

Biometric Functions for the User:

	Offline User Function	Online Software Doors Enterprise
Add Administrator Rights to the Card ID	10	Card Manager Tick Box
Remove Administrator Rights to the Card ID	11	Card Manager Tick Box
Add / Edit Bio Template	14	Card Manager
Del Bio Template in Slot	15	Card Manager
Edit Bio Template to ID	16	Card Manager
Copy Single Template	22	Card Manager

Enrolment

Enrolment is the process of recording the biometric data from a user and linking that data to an "Access Identification Number" (ID number). This ID number is then used to control access permissions in the same way that a Card or Fob would be. It also means you can apply all the card-based features such as access levels with time profiles, valid from and valid to dates, Dormant ID policy etc.

With fingerprint biometric systems it is good practice to record two templates per user. This is for a couple of reasons:

1. If the finger is injured in some way and is modified or covered by plaster for hygiene reasons.
2. The location of a reader may favour the use of the left hand at one door but the right hand at another door.

The Progeny fingerprint biometric system keeps two templates available for each user. The use of two fingers per user is not compulsory but it is recommended.

There are 1000 slots available (2 fingers per slot), usually for left and right and that is how we will refer to them.

Choice of finger

For any given user some fingers will be better than others for identification. It is worth experimenting to find the best two fingers for each user. Before starting the enrolment of a new user, let them try different fingers from each hand to find the most comfortable and repeatable in terms of placing the finger on the sensor plate. It is common for users to try the index finger first but this may not be the best choice. The thumb or middle finger are often better in that they have a larger area and are less prone to injury (cuts etc).



Progeny
Access Control
User Finger Enrolment Record

User Name	ID	Left finger	Right finger
John Smith (Example)	99926317	L3	R1

Before starting the enrollment process, record the fingers to be used. There is a standard numbering convention 1 to 5:

1 Finger 1 Template Rule

The same fingerprint cannot be stored twice in different slot locations. For example, if John enrols his right index finger (R2) into “Right Slot 318” and then later we try to enrol the same finger (R2) into slot “Right Slot 250” this will fail. The system performs a duplication check at the point of enrolment.

Enrolment Procedure

Adding user biometric templates can be done in three ways.

1. Via the Doors Enterprise Software and a nominated enrolment Reader.
2. Via a programming Keypad using the user functions to start the process and specify a slot number.
3. Entirely at the reader using a Local Administrators Crystal Card / Fob and a sequence of gestures over the fingerprint sensor.

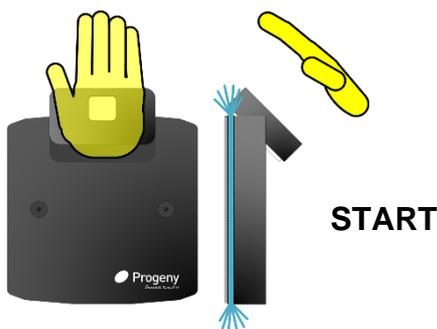
For the ‘Software Method’, please refer to the software manual and for the Keypad method refer to the Controller Manual.

Local Administrator Gesture Method

Administrators are defined by Doors Enterprise card manager or via the user menu functions 10 & 11 from the keypad. When a valid administrators’ RFID card is presented they may initiate a sequence of gestures to start an enrolment process.

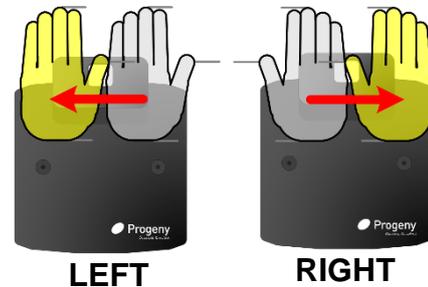
1. Enrol Start Gesture

Shortly following the presentation of a valid administrator card, hold the hand above but slightly away (5cm) from the fingerprint sensor for 2 seconds. The “status-light” colour will change to cyan.



2. Select Left or Right-Hand Template Gesture

Having completely removed your hand from the reader from the “Start Gesture” slowly swipe your hand at about the same distance from the sensor from Left to Right for “Right Hand” or Right to Left for “Left Hand”



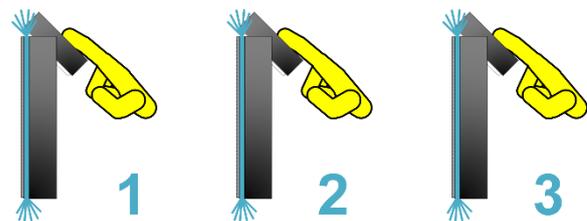
3. Select User ID

Present a Mirror Enrolment card for the user to be added. This card can be used later to remove the template.



4. Enrol Target Finger

Present the Target finger 3 times; the reader will beep and flash each time to indicate a good read. Three consecutive good reads are needed to complete the enrolment of that finger. A “Success Tone” (low to high notes) will confirm a good enrollment. A “Fail Tone” (high to low notes) would indicate that you need to keep trying.



A composite of these images will be used to create a “Biometric Template”.

USER NOTES



Biometric Enrolment

The enrolment of a biometric template for Progeny Biometric readers relies on the successful capture of 3 consecutive prints, all containing the same data. If there is a large difference between any one of the three prints, the enrolment will be rejected and will need to be re-started from the beginning.

It is critical that the finger is presented 3 times in the same place on the reader module, with enough pressure applied to make the finger pad flat across the sensor.

Tips:

- Make sure the enrolment reader is clean before you start
- Make sure the subjects' hands are clean and free from damage (Cuts, bruises etc)
- Keep the hand in a comfortable position and rested in such a way that the finger consistently presented and then removed from view in-between reads.
- If the first three attempts fail keep going the enrolment reader will carry on trying to get three consecutive good scans for 15 seconds or so.
- Find the best fingers for each user. Some fingers will be better than others. If you continue to have trouble with say "the index finger of the left" hand the try the thumb or middle finger.
- Don't accept a bad enrolment. If the enrolment of a particular finger was difficult and subsequent use testing of that finger gives intermittent results you may need to select a different finger.
- Record the finger finally used by the user in case they forget later.
- Never enrol the same finger in two slots or card records. If a user's ID card needs to change delete the fingerprints from that record first before adding them to a new card ID.
- If using two prints per user, they do not necessarily need to be from the left and right hands. They can be two different fingers from the same hand.

Notes:

- The enrolment reads are considerably more critical than a standard (general use entry or exit) read. It is imperative that the 3 enrolment templates be captured and matched as closely as possible, and the finger is kept as still as possible while capturing. Any difference between the 3 captures will undoubtedly cause a template rejection. If this is the case, please try again.
- Please also remember that an important characteristic of biometrics is that everyone is different; A small number of individuals are unlucky enough to have fingerprints that are just simply not suited to biometrics. If this is the case, there is no harm in trying different fingers. If all fingers have been tried exhaustively, it could just possibly be that the individual does not have suitable prints for biometric use (in which case, proximity functionality is a built-in feature of our entire range of biometric readers). Proximity fobs can be supplied for this purpose.

USER NOTES



Using the Biometric Reader for Access

On approaching the reader sense plate, it will light up waiting to scan the finger. Place the finger flat on to the scan plate.

When the finger is detected in contact with the scan plate then the reader will attempt to scan the finger.

Feedback from the Reader

Fast Strobe (5 flashes per second)

Not enough of the finger is in contact with the scan plate.

- Move the finger to get more fingerprint in contact.
- Vary the pressure applied to get more fingerprint in contact.
- If the finger skin is dry (common on cold frosty days) try breathing on the finger.
- If the finger is dirty, clean it before retrying.

Slow Strobe (1 flash per second)

The reader can see enough points of interest from your finger. However, it is not finding a match with those recorded during enrolment. Some of the necessary points are not in contact with the plate.

- Without removing the finger, reposition the finger to get the correct part of the finger on the scan plate.

Tips:

- Make sure the biometric reader is clean.
- Make sure the subjects' hands are clean and free from damage (Cuts, bruises etc)
- Check you are using the correct finger. During enrolment, the successfully enrolled finger will be recorded by your access control administrator.

4803Bio-Net Dark Crystal Biometric Desktop Reader

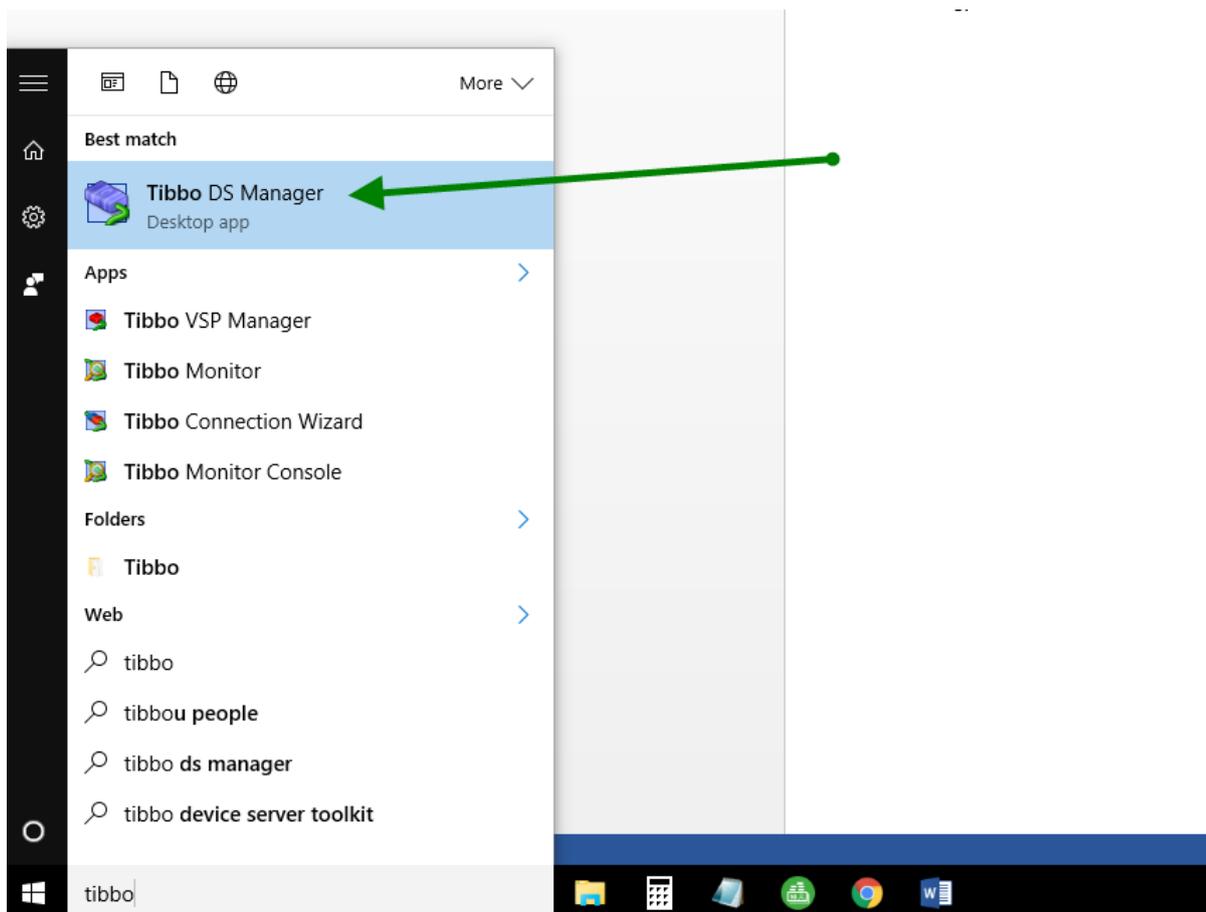
The Dark Crystal Biometric Desktop Reader is both a Fingerprint Recognition Reader and an RFID (Radio Frequency Identification) proximity enrolment reader. The biometric features are only usable with the Progeny P4 systems with controller firmware V4.5 and later. This reader is intended for indoor use.

Up to 1000 users can enrol two fingerprints each. These are recorded in the controller and (if online) in the server database.

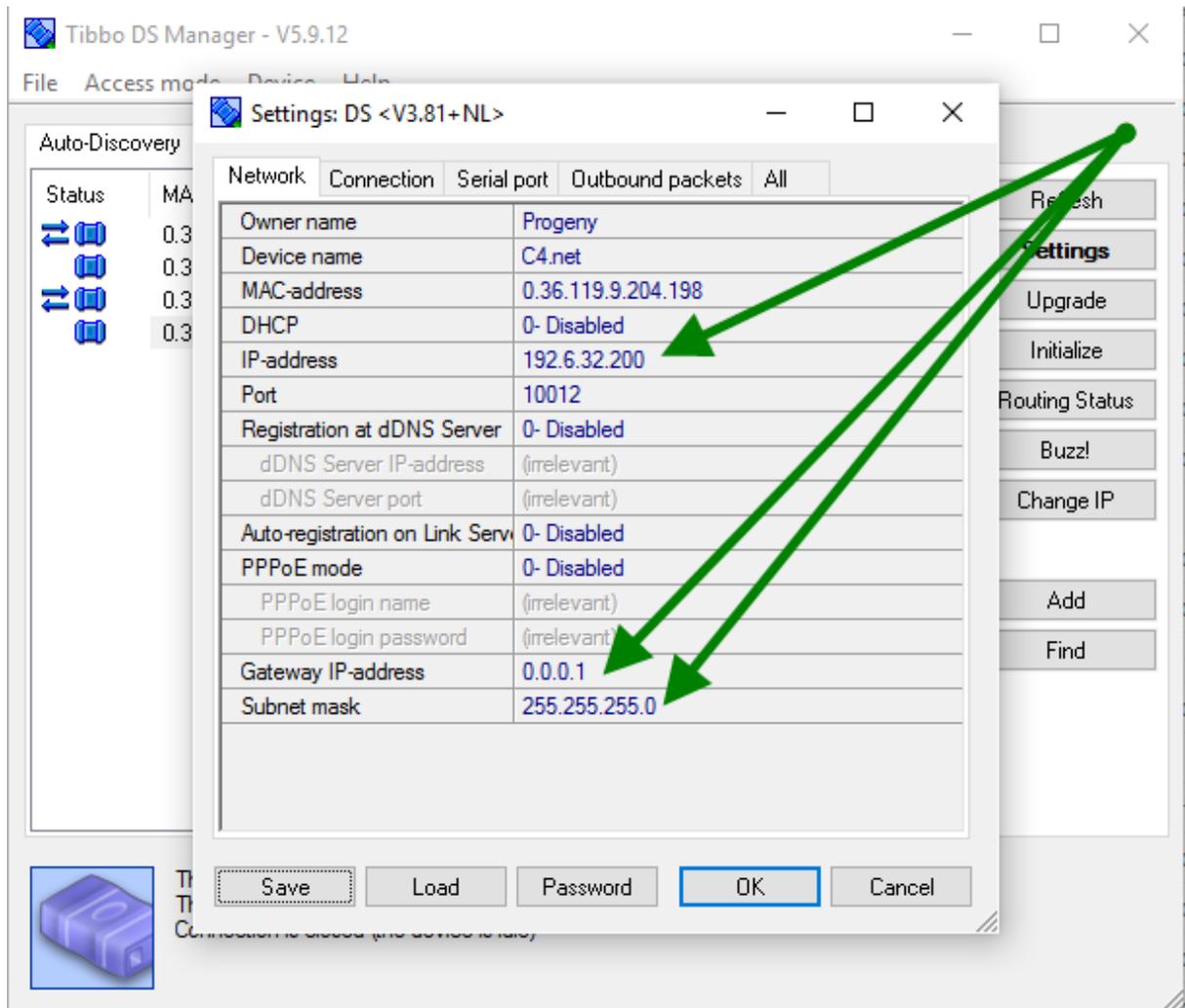
BIO Desktop Reader Setup

In order to set up your DARK CRYSTAL BIOMETRIC desktop reader, please do the following:

1. Install the TIBBO DEVICE SERVER TOOLKIT from within the "Drivers" folder of our latest software download.
2. Run the TIBBO DS MANAGER



3. When DS Manager opens, you will be presented with a list of all of the .NET controllers on your system. The desktop reader should, by default, appear at 192.6.32.200 – Double-click to select this controller
4. When prompted, enter the following password: a8M7p6
This will take you to the Tibbo settings page.



5. Make the appropriate changes to the IP ADDRESS, SUBNET MASK and GATEWAY fields. When complete, click <OK> and then select <Refresh> to ensure the correct changes have been applied.
6. In Doors Enterprise, create a LAN UDP connector entitled "Desktop BIO"
7. Then, add a door as normal using the controller ID on the base of the desktop reader, and the IP address you specified in Step 5
8. Set the reader technology as follows:
Reader A: Crystal Reader
Reader B: Crystal Reader

Your BIO desktop reader is now installed and ready for use.

Biometric Functions for Commissioning Engineers:

	Offline Engineers Function	Online Software Doors Enterprise
List Template ID via Event Log	21	Event Viewer
Copy All Templates	22	N/A
Delete all bio Templates	23	N/A
Bio Slot to ID table Create	24	N/A

Biometric Functions for the User:

	Offline User Function	Online Software Doors Enterprise
Add Administrator Rights to the Card ID	10	Card Manager Tick Box
Remove Administrator Rights to the Card ID	11	Card Manager Tick Box
Add / Edit Bio Template	14	Card Manager
Del Bio Template in Slot	15	Card Manager
Edit Bio Template to ID	16	Card Manager
Copy Single Template	22	Card Manager

Enrolment

Enrolment is the process of recording the biometric data from a user and linking that data to an "Access Identification Number" (ID number). This ID number is then used to control access permissions in the same way that a Card or Fob would be. It also means you can apply all the card based features such as access levels with time profiles, valid from and valid to dates, Dormant ID policy etc.

With fingerprint biometric systems it is good practice to record two templates per user. This is for a couple of reasons:

3. If the finger is injured in some way and is modified or covered by plaster for hygiene reasons.
4. The location of a reader may favour the use of the left hand at one door but the right hand at another door.

The Progeny fingerprint biometric system keeps two templates available for each user. The use of two fingers per user is not compulsory but it is recommended.

There are 1000 slots available (2 fingers per slot), usually one left and one right hand; that is how we will refer to them.

Choice of finger

For any given user some fingers will be better than others for identification. It is worth experimenting to find the best two fingers for each user. Before starting the enrolment of a new user, let them try different fingers from each hand to find the most comfortable and repeatable in terms of placing the finger on the sensor plate. It is common for users to try the index finger first but this may not be the best choice. The thumb or middle finger are often better in that they have a larger area and are less prone to injury (cuts etc).

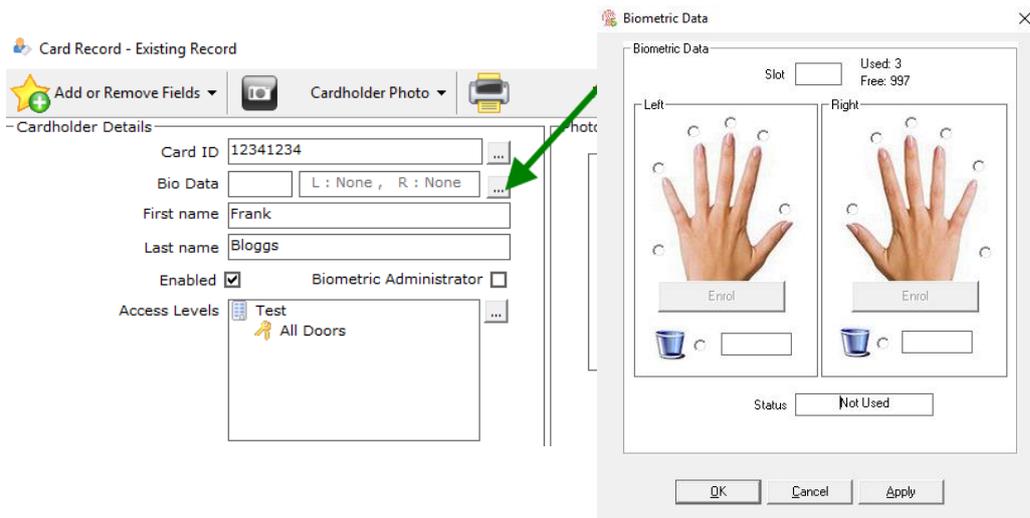
1 Finger 1 Template Rule

The same fingerprint cannot be stored twice in different slot locations. For example, if John enrolls his right index finger (R2) into "Right Slot 318" and then later we try to enrol the same finger (R2) into slot "Right Slot 250" this will fail. The system performs a duplication check at the point of enrolment.

Enrolment Procedure

In Doors Enterprise, select the relevant card record for the person you wish to enrol.

Then click the ellipsis at the right of the Biometric Data field in order to bring up the enrolment window



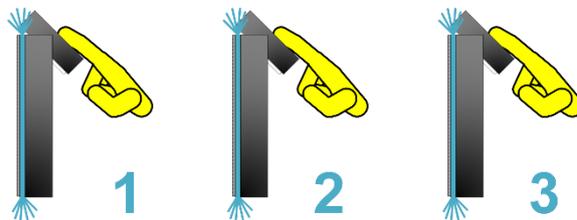
You can now select the chosen finger you wish to enrol for each hand. Once selected, click ENROL. The Desktop Reader Module will illuminate ready for the presented finger.

NOTE: It is important to register the RIGHT HAND FIRST in order for the left-hand enrolment option to become available.

Enrol Target Finger

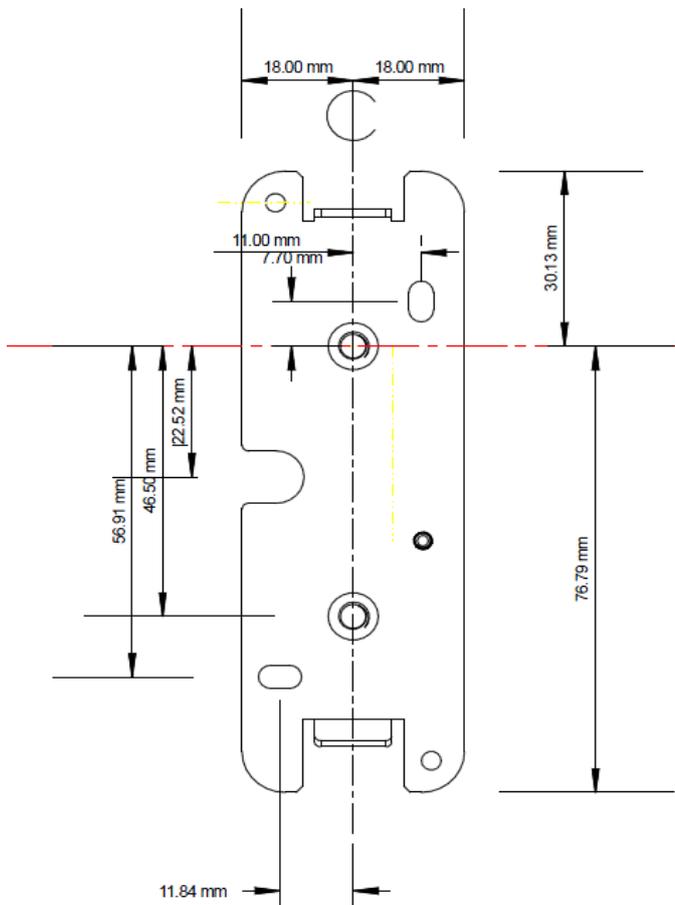
Present the Target finger 3 times; the reader will beep and flash each time to indicate a good read. Three consecutive good reads are needed to complete the enrolment of that finger. A "Success Tone" (low to high notes) will confirm a good enrolment. A "Fail Tone" (high to low notes) would indicate that you need to keep trying.

A composite of these images will be used to create a "Biometric Template".



In the event of a "Fail Tone", please try again; you will be starting again and will need 3 valid reads to enrol.

2075 External Magstripe Reader



Internal or External

Installation Procedure

1. Determine an appropriate mounting location. The reader may be mounted to any surface with the slot in a vertical position.
2. For Brick, Plaster etc: Drill and plug two holes for mounting the reader.
3. Drill a 16 mm hole for the cable.
4. Secure the reader backplate to the mounting surface.
5. Route the cable from the reader to the controller.
6. Mount the reader on the back plate and secure with the Alan key screw.
7. Test the operation of the reader.

2075 External Magstripe Reader

Connect the reader to the controller according to the wiring table below. Check the controller manual for the latest information.

CONNECTION TABLE		
Connection	Reader (Pigtail Cable)	P4 Controller
Reader +	Red	+
Reader -	Black	-
Data	White	X
Clock	Green	Y
LED	Orange	
BUZ	Yellow	
Not Used (Insulate)	Blue	No Connection
Not Used (Insulate)	Violet	No Connection
	Screen	Earth

PRODUCT SPECIFICATION		
Parameter	Minimum	Maximum
Operating Voltage	5.0 Vdc	18.0 Vdc
Peak Current	-	50 mA
Average Current	-	20 mA
Cable Distance to Controller	-	100 m
Card Speed Range	125 cm/s	380 cm/s
Temperature Range	-25 °C	+65 °C
Expected Head Life	1,000,000 swipes	-

4270 MIFARE Sector Reader

4270 is an RFID reader for MIFARE CLASSIC cards. The reader is weather protected and suitable for both indoor and outdoor use. Always use a screened cable, connected to earth, when connecting to a Progeny controller.

FITTING INSTRUCTIONS

CONNECTION TABLE			
Reader (T Block)	Recommended Cable	P4 Controller	C4 Controller
+	Red	+	+12V
-	Black	-	0V
X	White	X	X
Y	Green	Y	Y
	Screen	Earth	Earth

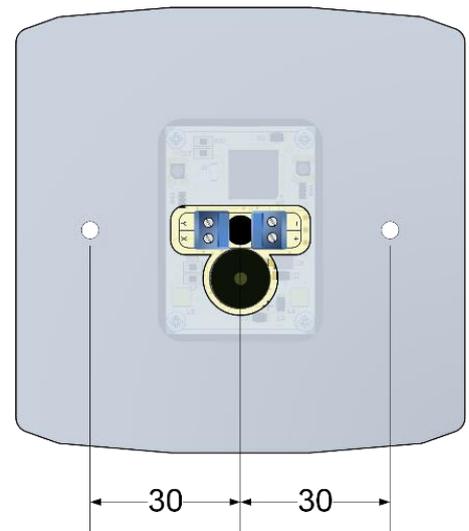
The Dark Crystal Switch Plate reader can be fitted directly to a standard UK light switch back box (with 60mm fixing centres). It is supplied with M3.5 screws for this purpose.

It may also be surface mounted: Drill a 6mm hole at the centre point of the mounting position for the cable. The two mounting holes are 30mm horizontally left and right of this hole. Drill and plug the wall for the screws being used. Make a 10mm deep rebate for the speaker at the back of the reader. Feed the cable through the 6mm hole and connect to the reader terminal block. Secure the reader with two screws.

Always use a screened cable (4 or 8 core 7/0.2 non-twisted) and connect the screen to earth at the controller. Maximum cable runs 100m.

NOTE:

Remember to select Reader Technology 0 (Crystal) first, then select the custom format.



PRODUCT SPECIFICATION		
Parameter	Minimum	Maximum
Operating Voltage	8.0 Vdc	14.0 Vdc
Current	-	95 mA
Cable Distance to Controller	-	100 m

4300 Telekey II Long Range Reader



4301 Telekey II fob
(Available Separately)

4300 Telekey II Reader
(Antenna Included)

Introduction

The Progeny 'Telekey II' is a long-range RFID reader and is ideal for controlling access through automated gates, barriers, roller shutters etc. The range of the fob and reader combination can be up to 5 or 150 metres, depending on configuration and installation environment. This long distance means that the process of opening an automated gate or roller shutter can be done on approach. This saves valuable time and removes the need to exit a vehicle for identification.

Each fob is uniquely identified with an ID number. This means that there is full access control over each individual fob. Each fob can be given access levels with time zones and calendars. The fob can have a Start and Expiry date applied and can be subject to the "Dormant Card Policy" unique to Doors Enterprise - P4 systems.

The fobs are powered by a single CR2032 cell that can be replaced at the end of battery life. The Reader reports low battery on transactions before the battery is finally exhausted.

The reader is intended to be mounted indoors. However, it can be used externally if sealed against the mounting surface.

The Dark Crystal range uses a simple 4 wire interface for all power, data and signalling between Controller and Reader.

P4 Controllers (Firmware V4.62 +) and Doors Enterprise (V8.0.0025 +) both support the following additional features:

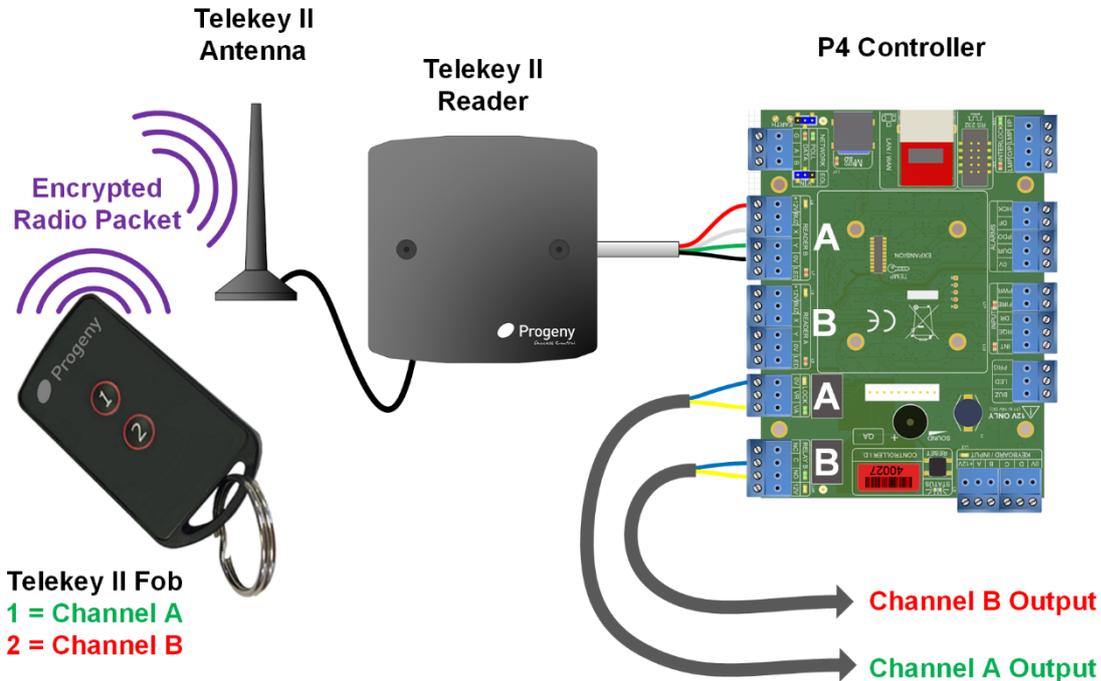
- Alarm Volume Control
- Feedback Sound Volume Control
- Running Light Brightness Control
- Low battery warning in the logged event record

One Reader One Channel

The reader and controller can be configured for one or two-channel operation. In single channel mode, both buttons "1" and "2" operate the same relay.

One Reader Two Channels

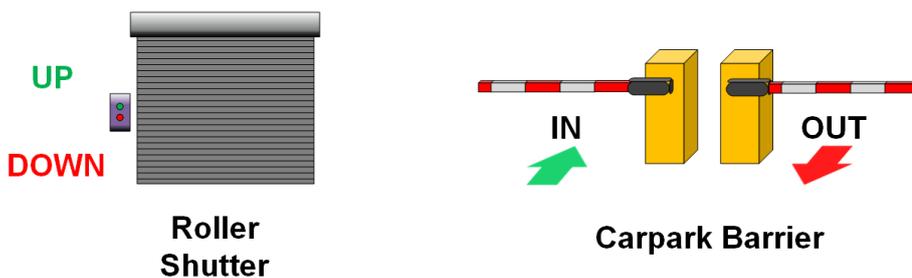
The two buttons allow for more than one channel to be used with the same receiver. When the button on the fob is pressed an encrypted data packet is transmitted to the reader. This data packet contains the unique ID of the fob, the battery status and which of the buttons was pressed. The reader passes this data to the P4 controller over a single 4 core cable. The 'button pressed' information is used to



channel the data as though it came from Reader A or Reader B.

The controller reader inputs A & B can be used to identify entry or exit. They can also be used with "Turnstile mode" to trigger separate outputs (Lock & Relay B) from the controller. Possible uses include:

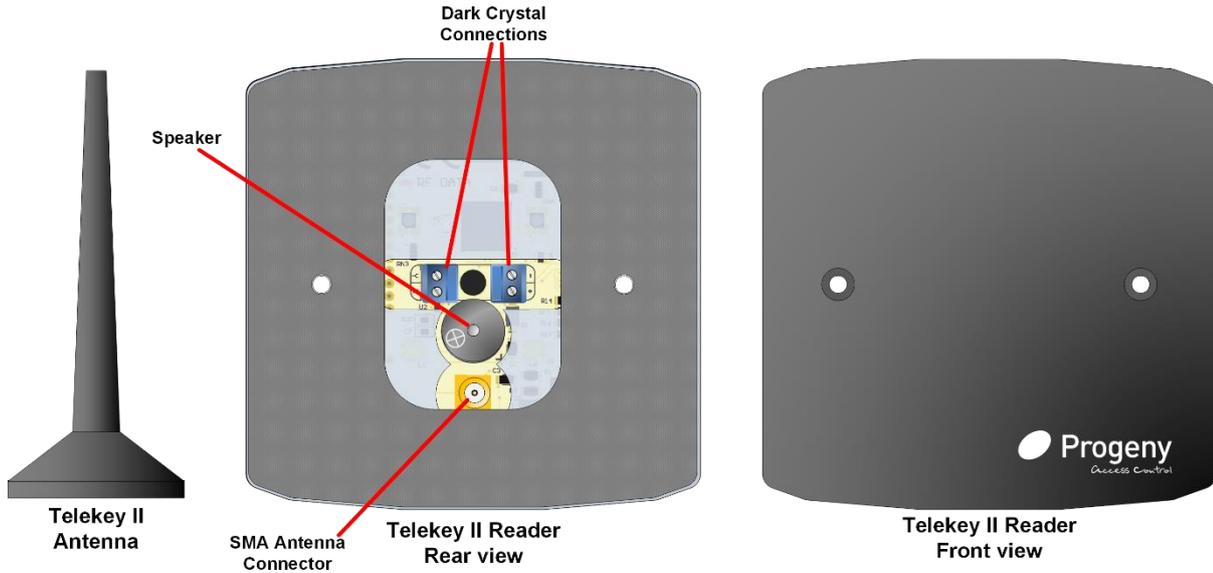
- Roll Call Login / Logout
- Car park barrier entry and barrier exit
- Roller Shutter Up / Down trigger
- Remote release by mobile guard/attendants



Notes:

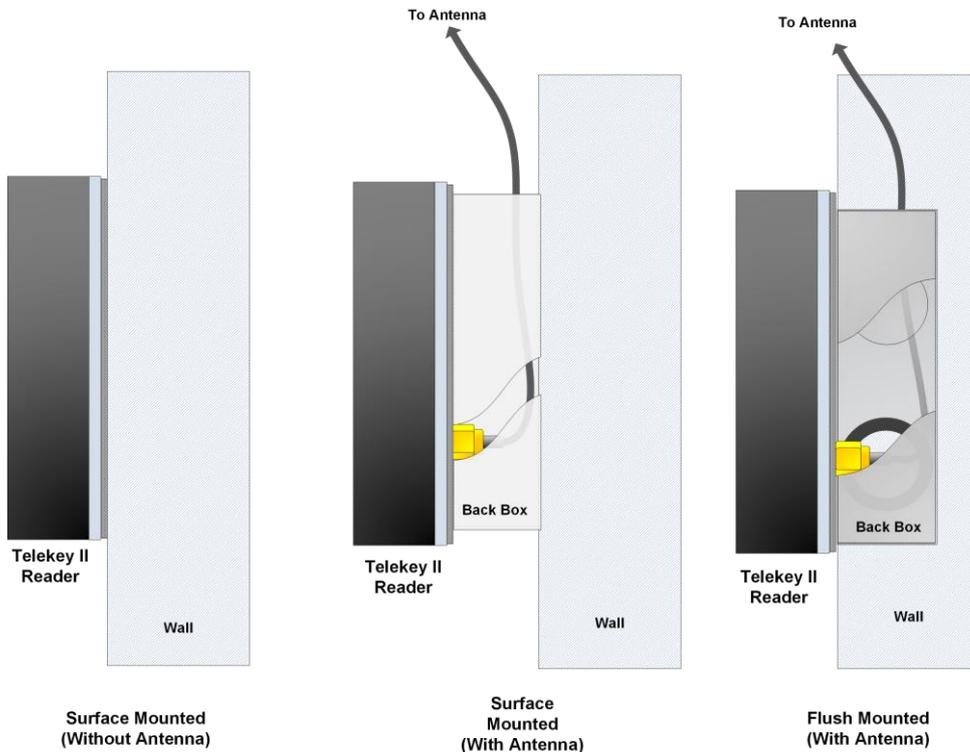
- If the interfaced device requires "voltage free" contacts, the output from "channel A" will need a slave relay.
- The output connections should only be connected to SELV voltages less than 30V.

Installation



The Dark Crystal long range reader can be fitted directly to a standard UK single gang back box (with 60mm fixing centres). It is supplied with M3.5 screws for this purpose.

It may also be surface mounted: Drill a 6mm hole at the centre point of the mounting position for the cable. The two mounting holes are 30mm horizontally left and right of this hole. Drill and plug the wall for the screws being used. Make a 10mm deep rebate for the speaker at the back of the reader. Feed the cable through the 6mm hole and connect to the reader terminal block. Secure the reader with two screws.

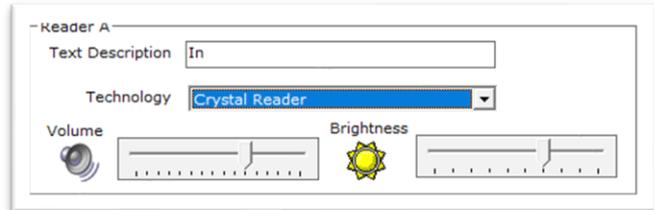


Reader Mounting Options

Connection Table		
Reader	Recommended Cable	P4 Controller
+	Red	+
-	Black	-
X	White	X
Y	Green	Y
N/A	Screen	Earth

Always use a screened cable (4 core 7/0.2 non-twisted) and connect the screen to earth at the controller. The maximum cable run is 100m.

At the controller select "Crystal Reader" as the reader technology. This is the default setting for P4 controllers. On the Doors Enterprise software, it is the top item in the drop-down list of reader technologies.



Reader Specification	
Frequency	433.92 MHz
Range (no antenna connected)	Up to 5 m **
Range (antenna connected)	Up to 150 m **
Compliance	ETS300-339 EN50081-1 EN50082-1
Supply Voltage	10.0 Vdc (Min) 14.0 VDC (Max)
Supply Current	50mA
Cable Distance to Controller	100 m
Dimensions	W 90, H 90, D25 mm
Fob Specification	
IP Rating	IP 65
Frequency	433.92 MHz
Battery	CR2032 3.3V Lithium Cell
Dimensions	W 32.7, H 59.2, D 8.0 mm

Notes:

** The operating radio range from the fob to reader/antenna is subject to the local environment including:

- Location and Height of the antenna/reader
- The Screening effect of buildings and other obstacles between the fob and reader

We recommend experimenting with the location of the reader and the antenna to achieve the range required.



4301 Telekey II fob

2052 Progeny HID Mullion Prox Reader

Product Codes

2052 Progeny HID Prox Reader
(Wiegand Interface)

2052-CD Progeny HID Prox Reader
(Clock & Data interface)

Mounting

The ideal mounting position for a card reader will depend on the application and reader type. Choose a position that will be natural for users to be able to swipe a card and then open the door, usually between 1.0 and 1.5 metres from the floor.

For Wood & Metal: Drill two (2) 2 mm holes approximately 1 inch deep for mounting the reader.

- For Brick, Plaster etc: Drill and plug two holes for mounting the reader.
- Drill a 16 mm hole for the cable.
- Secure the reader to the mounting surface.
- Route the cable from the reader to the controller.
- Test the operation of the reader. After completion of the test, apply the front cover to hide mounting points.

Proximity Reader Special Notes

Do not mount two readers back to back on either side of a wall.

The proximity reader may be mounted internally or externally.

Cable Notes

Always use screened and non-twisted cables (8-core 7/0.02 mm). See the introduction on page 3 for more detail.

Connections

Only one reader may be connected to each reader input of the controller. This is why two reader inputs are provided on Progeny P4 controllers.

Wiegand (Default Configuration) interface use this table. These readers will only work with credentials encoded with Wiegand formats including:

- Progeny Prox



- 26 Bit
- Corporate 1000
- Etc.

2052 Connection Table (Wiegand)

Reader	Recommended Cable Colour	P4 Controller
+	Red	+
-	Black	-
D1	White	X
D0	Green	Y
LED	Orange	LED
Sounder	Yellow	BUZ
N/A	Screen	Earth

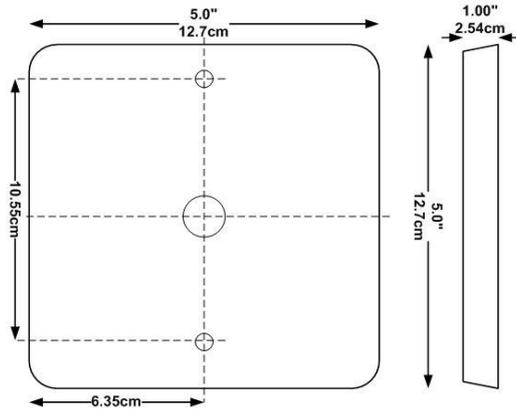
Clock & Data (Special Order) interface use the table below. Readers configured this way will be marked with a label "CD". These readers will only work with credential encoded with "Clock & Data" formats. (e.g. 8 Digit Clock & Data).

2052-CD Connection Table (Clock & Data)

Reader	Recommended Cable Colour	P4 Controller
+	Red	+
-	Black	-
Data	Green	X
Clock	White	Y
LED	Orange	LED
Sounder	Yellow	BUZ
N/A	Screen	Earth

2050-KB Progeny HID Reader with Keypad

These readers are only available in the



Wiegand Interface.

Mounting Procedure

The ideal mounting position for a card reader will depend on the application and reader type. Choose a position that will be natural for users to be able to swipe a card and then open the door, usually between 1.0 and 1.5 metres from the floor.

Determine an appropriate mounting location. The reader may be mounted to any surface, including metal.

For Wood & Metal: Drill two (2) 2 mm holes approximately 1 inch deep for mounting the reader.

- For Brick Plaster etc: Drill and plug two holes for mounting the reader.
- Drill a 16 mm hole for the cable.
- Secure the reader to the mounting surface.
- Route the cable from the reader to the controller.
- Test the operation of the reader. After completion of the test, apply the front label to hide mounting points.
- Proximity Reader Special Notes

Do not mount two readers back to back on either side of a wall.

It is a good idea to fully test the system before attaching the front cover. The proximity reader may be mounted internally or externally.

If the reader is being mounted externally,



spread silicon compound over the terminals, after connecting and testing.

Cable Notes

Always use screened and none-twisted cables (8-core 7/0.02 mm) for card readers.

Don't exceed the maximum cable length specified for each reader.

The screen of the cable should be connected to the earth stud of the controller. Keep the pigtail of the screen as short as possible once the cable has entered the enclosure. The inner cores can then make the rest of the journey to the terminal blocks

PRODUCT SPECIFICATION 2050		
Parameter	Min	Max
Operating Voltage Range	5.0 Vdc	16.0 Vdc
Peak Current @ 12Vdc	-	125 mA
Average Current @ 12Vdc	-	40 mA
Cable distance to the controller	-	100 m

PRODUCT SPECIFICATION 2050KB		
Parameter	Min	Max
Operating Voltage Range	10.0 Vdc	28.5 Vdc
Peak Current @ 12Vdc	-	155 mA
Average Current @ 12Vdc	-	100 mA
Cable distance to the controller	-	100 m

Connections

P4 Reader	Colour	2050KB	
+12V	Red	TB1-1	DC+
0V	Black	TB1-2	Ground
Y	Green	TB1-3	Data 0
X	White	TB1-4	Data 1
LED	Yellow	TB1-6	GRN LED
BUZ	Blue	TB1-8	Beeper
Earth Stud	Screen	TB1-5	Shield

SW1 Reader Configuration

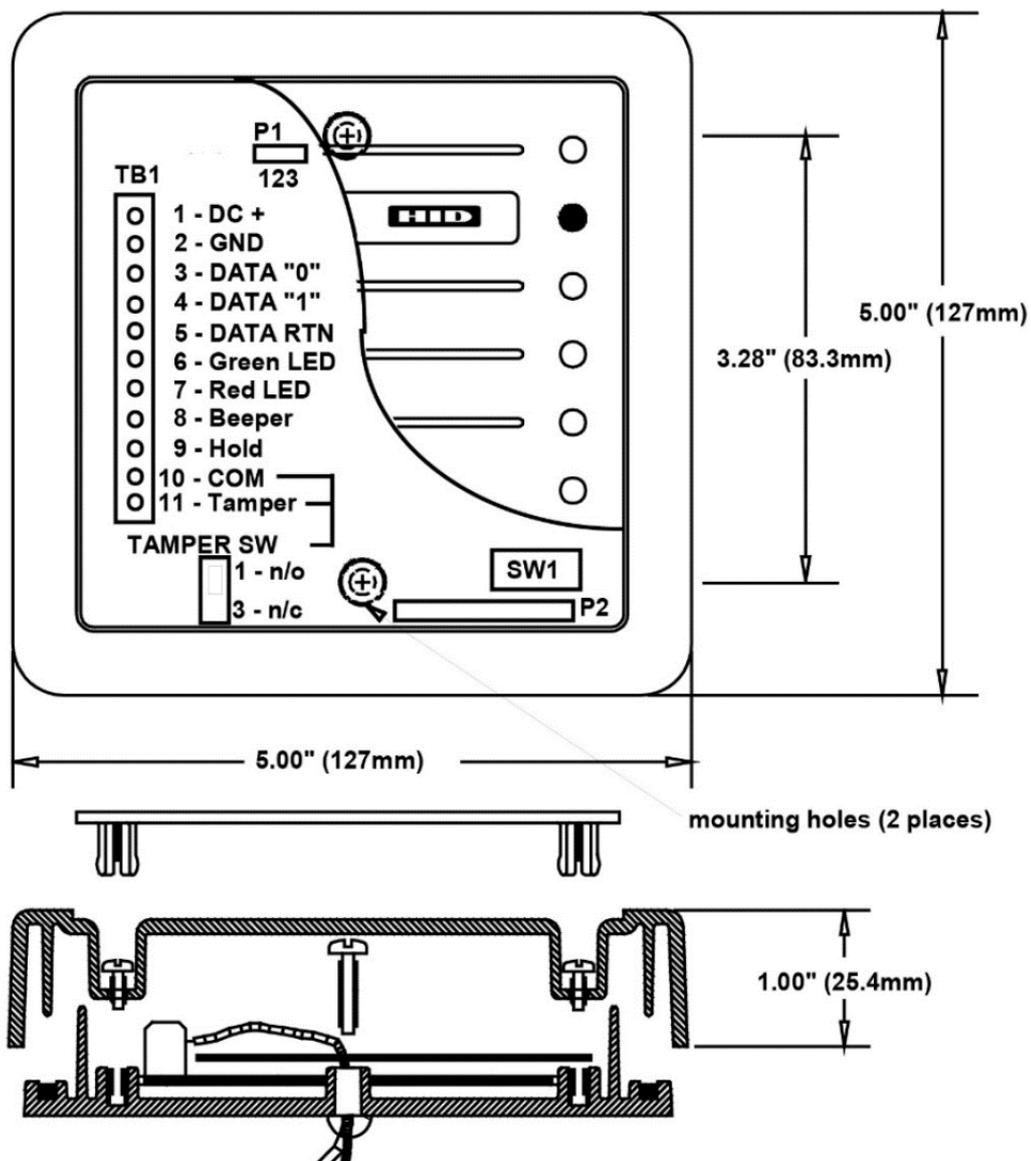
The 8-way DIP switch is factory set and should not need adjustment. The factory set DIP switch SW1 positions are as follows

- 1 = On
- 2 = Off
- 3 = On
- 4 = On
- 5 = Off
- 6 = On
- 7 = On
- 8 = On

P1 Metal Environment

(Link 2-3) The default for a non-metallic surface. If mounting on a metal surface move this link to (Link 1-2)

P2: (Link 2-3)



3231 Progeny iCLASS & 4710 Prox & Mobile Progeny iCLASS Mullion Reader

PRODUCT SPECIFICATION		
Parameter	Min	Max
Voltage Range	10.0Vdc	16.0 Vdc
Peak Current	-	225 mA
Average Current	-	65 mA
Cable distance to the controller	-	100 m



Product Codes

3231 Progeny iCLASS Reader (Pigtail)

3231-T Progeny iCLASS Reader (Terminal Block)

4710 Progeny Prox & Mobile Reader (Pigtail)

Mounting

The ideal mounting position for a card reader will depend on the application and reader type. Choose a position that will be natural for users to be able to swipe a card and then open the door, usually between 1.0 and 1.5 metres from the floor.

Determine an appropriate mounting location. The reader may be mounted to any surface, including metal.

For Wood & Metal: Drill two (2) 2 mm holes approximately 1 inch deep for mounting the reader.

- For Brick Plaster etc: Drill and plug two holes for mounting the reader.
- Drill a 16 mm hole for the cable.
- Secure the reader to the mounting surface.
- Route the cable from the reader to the controller.
- Test the operation of the reader. After completion of the test, apply the front label to hide mounting points.

Reader Special Notes

Do not mount two readers back to back on either side of a wall.

It is a good idea to fully test the system before attaching the front label. The proximity reader may be mounted internally or externally.

If the reader is being mounted externally, spread silicon compound over the terminals, after connecting and testing.

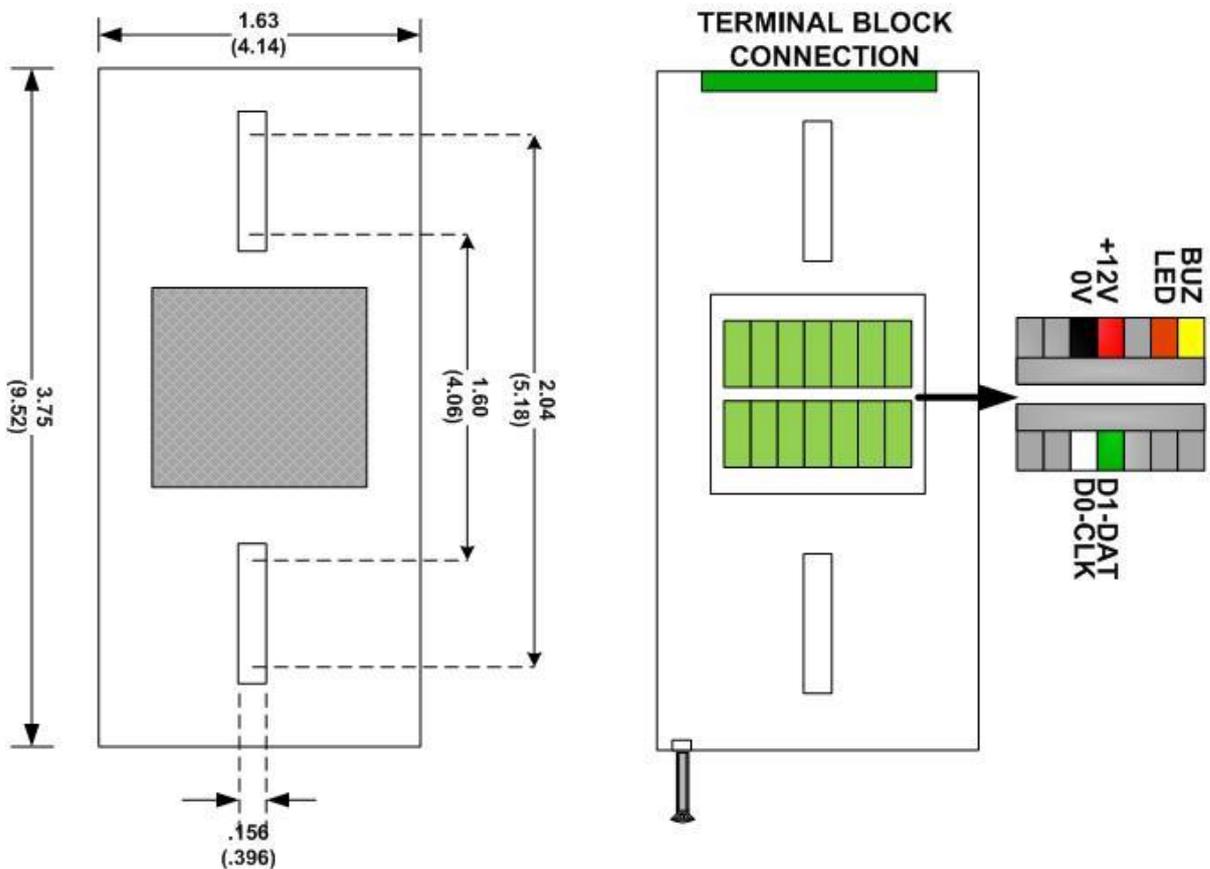
Cable Notes

Always use a screened and non-twisted cable (8-core 7/0.02 mm) for card readers. See the introduction on page 3 for more detail.

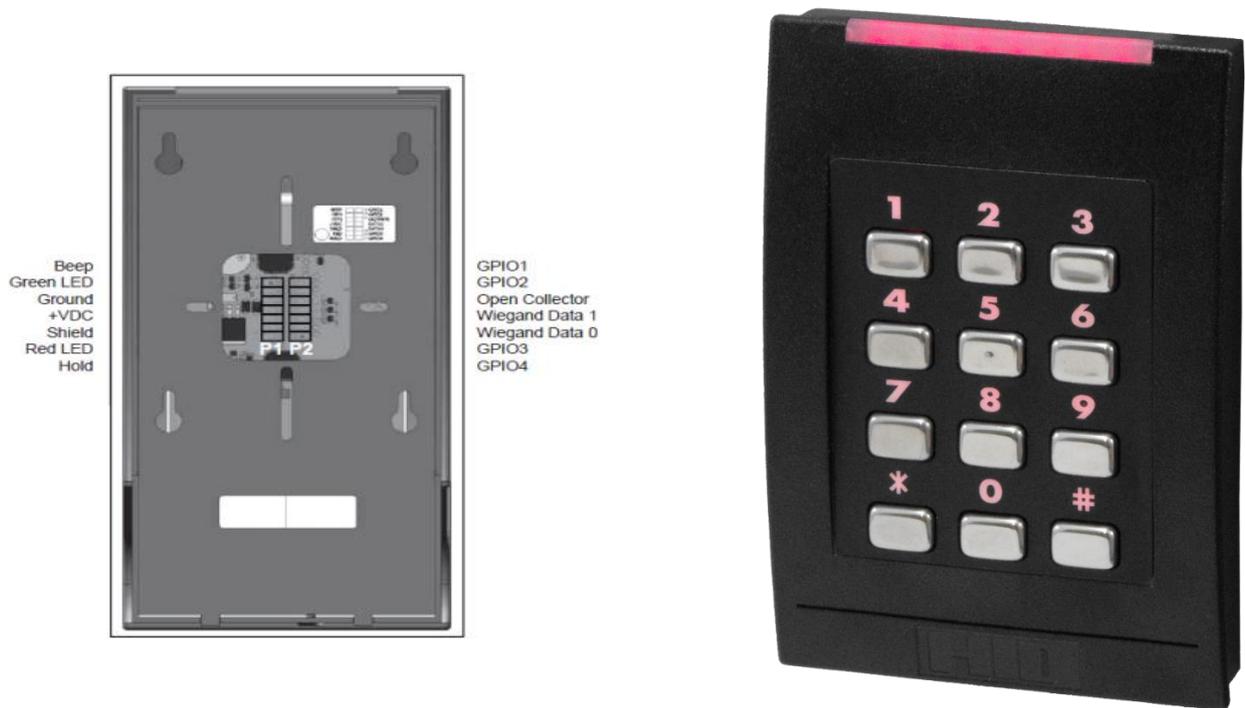
Connections

Only one reader may be connected to each reader input of the controller. This is why two reader inputs are provided on Progeny P4 controllers.

Connection Table (Wiegand)			
Reader	Recommended Cable Colour	Terminal Block	P4 Controller
+	Red	P1-4	+
-	Black	P1-3	-
D1	White	P2-4	X
D0	Green	P2-3	Y
LED	Orange	P1-2	LED
Sounder	Yellow	P1-1	BUZ
N/A	Screen	P1-5	Earth



3237 Progeny iCLASS Switch-Plate Reader with Keypad



Cable Notes

Always use a screened and non-twisted cable (8-core 7/0.02 mm) for card readers. See the introduction on page 3 for more detail.

Connections

Only one reader may be connected to each reader input of the controller. This is why two reader inputs are provided on Progeny P4 controllers.

Readers configured as Wiegand (Default Configuration) interface use this table.

These readers will only work with credentials encoded with Wiegand formats including:

- Progeny Prox
- 26 Bit
- Corporate 1000
- Etc.

Connection Table (Wiegand)			
Reader	Recommended Cable Colour	Terminal Block	P4 Controller
+	Red	P1-4	+
-	Black	P1-3	-
D1	White	P2-4	X
D0	Green	P2-3	Y
LED	Orange	P1-2	LED
Sounder	Yellow	P1-1	BUZ
N/A	Screen	P1-5	Earth

4124 Dark Keypad

4124-RF Dark Keypad & Reader

The Dark Keypad / Keypad Reader is exclusively for use with P4 access controller systems and takes full advantage of the crystal 4 wire interface.

- Card & PIN or Card & Code
- Card or Code
- Crystal RFID Reader Option
- Three Colour LED Display with Override
- Weather protected for both indoor and outdoor use.
- Star-key disable option
- Alarm Strobe Light
- Independent Feedback & Alarm Volume Controls
- Flush Mountable
- Surface Mount Back Box (Option)



Programming

Volume Control

Separate controls are provided for Alarm and Feedback sounds. 16 levels can be programmed from 0 (almost silent) to 15 (max).

Feedback Volume Control

Engineers function 34 for Reader A and 36 for Reader B.

Alarm Volume Control

Engineers function 33 for Reader A and 35 for Reader B

Lighting

The blue backlight can be suppressed using the feedback volume control functions. By adding 128 to the desired volume level e.g. Volume = 15 but would like to suppress the Blue Backlight the new value would be 143.

Star Key Mode

This keypad can be used for programming in the same way that the engineer's keyboard on the controller is used. However, for additional security, this can be stopped by disabling the "Star" key.

Engineers function 19, set to 0 = Disable or 1 = Enable.

Cables

Always use a screened and non-twisted cable (8-core 7/0.02 mm) for card readers. See the introduction on page 3 for more detail.

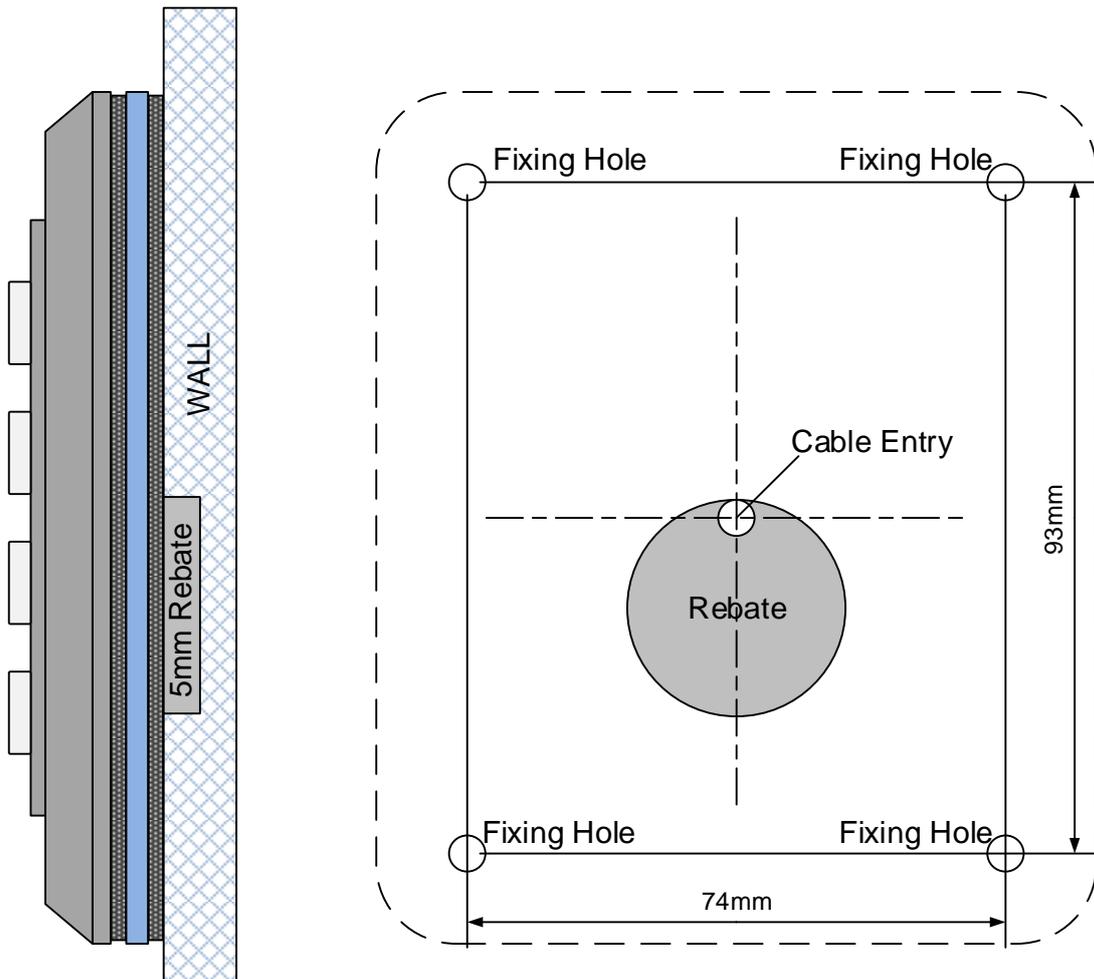
CONNECTION TABLE

Connection	Reader Cable	P4 Controller
Reader +	Red	+
Reader -	Black	-
X	White	X
Y	Green	Y
	Screen	Earth

Always use a screened cable and connect the screen to earth stud at the controller.

Flush Mounting

Flush mounting gives the lowest profile for the installed keypad reader. However, a little more care is required in preparing the surface holes.



Procedure:

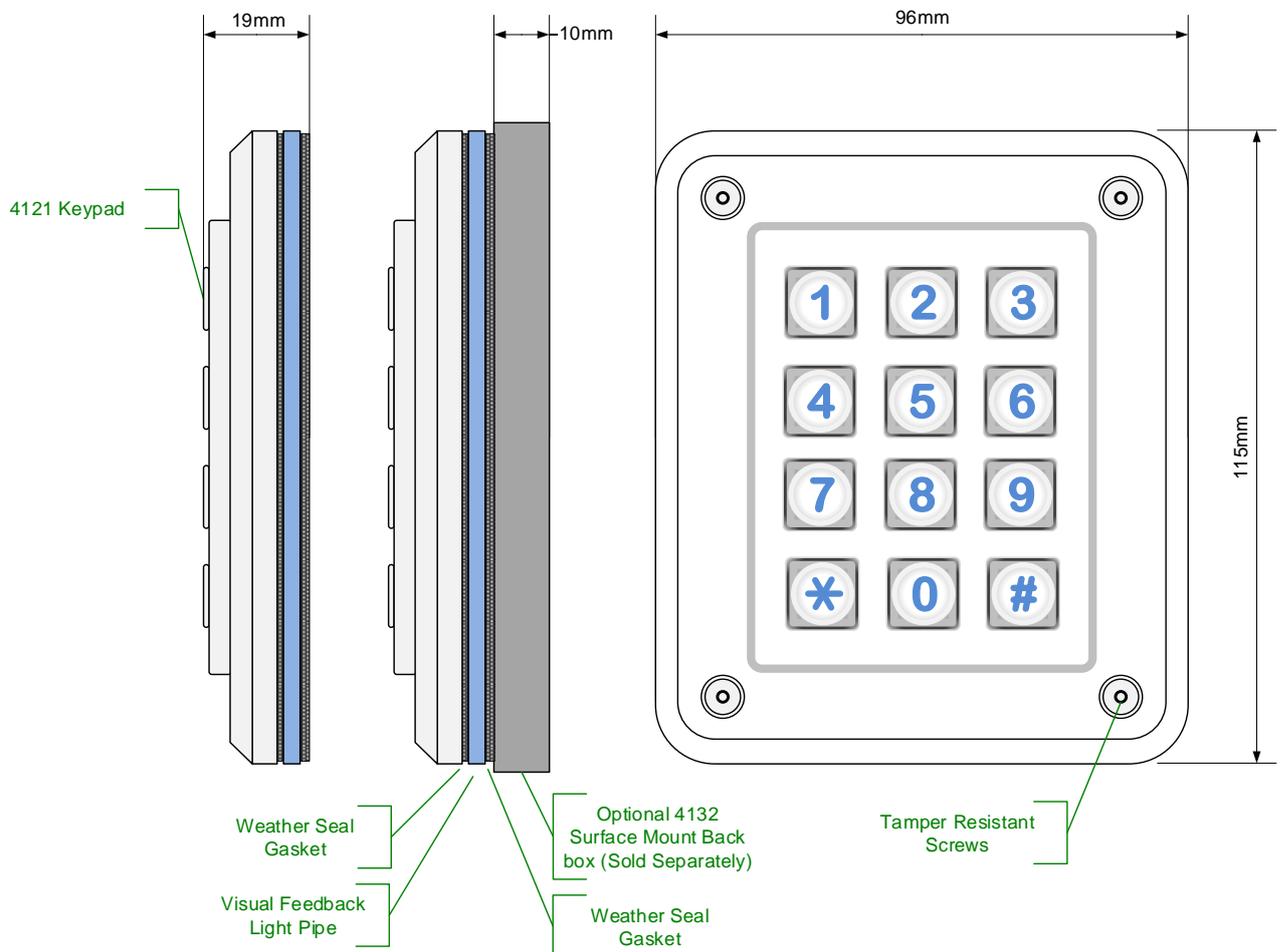
- Drill and plug the four mounting holes on the 74 mm by 93 mm centres as shown above (Not to scale)
- A central cable entry hole may also be required and a 5 mm deep Rebate for Speaker & Terminal Block. The rebate shown is 30mm in Diameter.
- Feed the cable through this hole and terminate the four connections to the reader.
- The gasket provided will seal a smooth surface however if a weather seal is required on a very rough surface use silicone sealant.
- Screw the keyboard to the wall being careful to manage the cable behind.

PRODUCT SPECIFICATION		
Parameter	Minimum	Maximum
Operating Voltage	8.0 Vdc	14.0 Vdc
Peak Current	-	100 mA
Average Current	-	50 mA
Cable Distance to Controller	-	100 m
Temperature Range	-20 °C	+40 °C
IP Rating	-	IP65
IK	-	IK09

4121 Dark VR Keypad

The Dark VR Keypad is exclusively for use with P4 access controller systems and takes full advantage of the crystal 4 wire interface.

- Vandal Resistant Construction
- Weather protected for both indoor and outdoor use.
- Three Colour LED Display with Override
- Star key disable option
- Alarm Strobe Light
- Independent Feedback & Alarm Volume Controls
- Flush Mountable
- Surface Mount Back Box (Option)



Programming

Volume Control

Separate controls are provided for Alarm and Feedback sounds. 16 levels can be programmed from 0 (almost silent) to 15 (max).

Feedback Volume Control

Engineers function 34 for Reader A and 36 for Reader B.

Alarm Volume Control

Engineers function 33 for Reader A and 35 for Reader B

Lighting

The blue backlight can be suppressed using the feedback volume control functions. By adding 128 to the desired volume level e.g. Volume = 15 but would like to suppress the Blue Backlight the new value would be 143.

Star Key Mode

This keypad can be used for programming in the same way that the engineer's keyboard on the controller is used. However, for additional security, this can be stopped by disabling the "Star" key.

Engineers function 19, set to 0 = Disable or 1 = Enable.

Cable

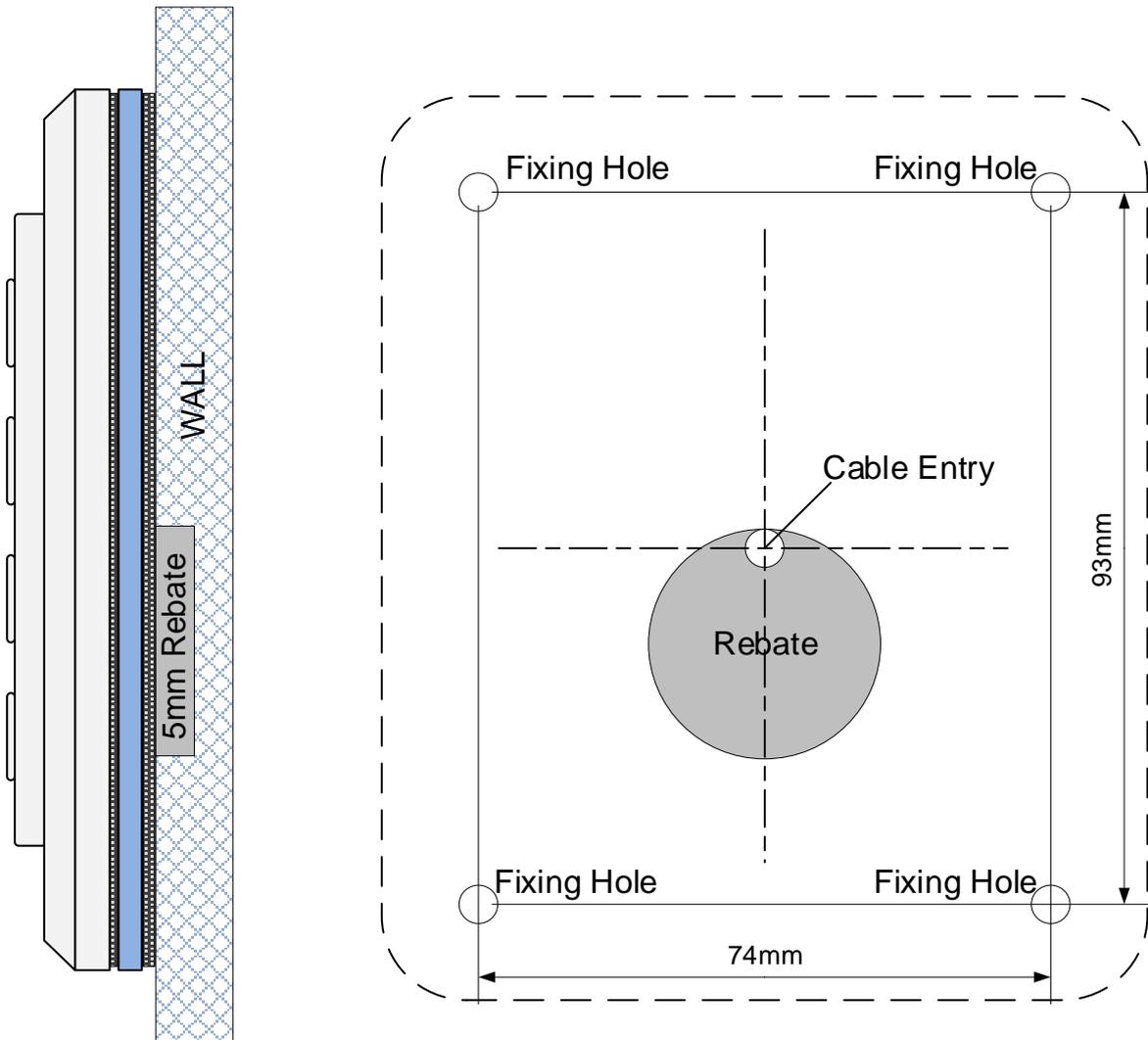
Always use a screened and non-twisted cable (8-core 7/0.02 mm) for card readers. See the introduction on page 3 for more detail.

CONNECTION TABLE		
Connection	Reader Cable	P4 Controller
Reader +	Red	+
Reader -	Black	-
X	White	X
Y	Green	Y
	Screen	Earth
Always use a screened cable and connect the screen to earth stud at the controller.		

PRODUCT SPECIFICATION		
Parameter	Minimum	Maximum
Operating Voltage	8.0 Vdc	14.0 Vdc
Peak Current	-	120 mA
Average Current	-	100 mA
Cable Distance to Controller	-	100 m
Temperature Range	-20 °C	+40 °C
IP Rating	-	IP65
IK	-	IK09

Flush Mounting

Flush mounting gives the lowest profile for the installed keypad reader. However, a little more care is required in preparing the surface holes.



Procedure:

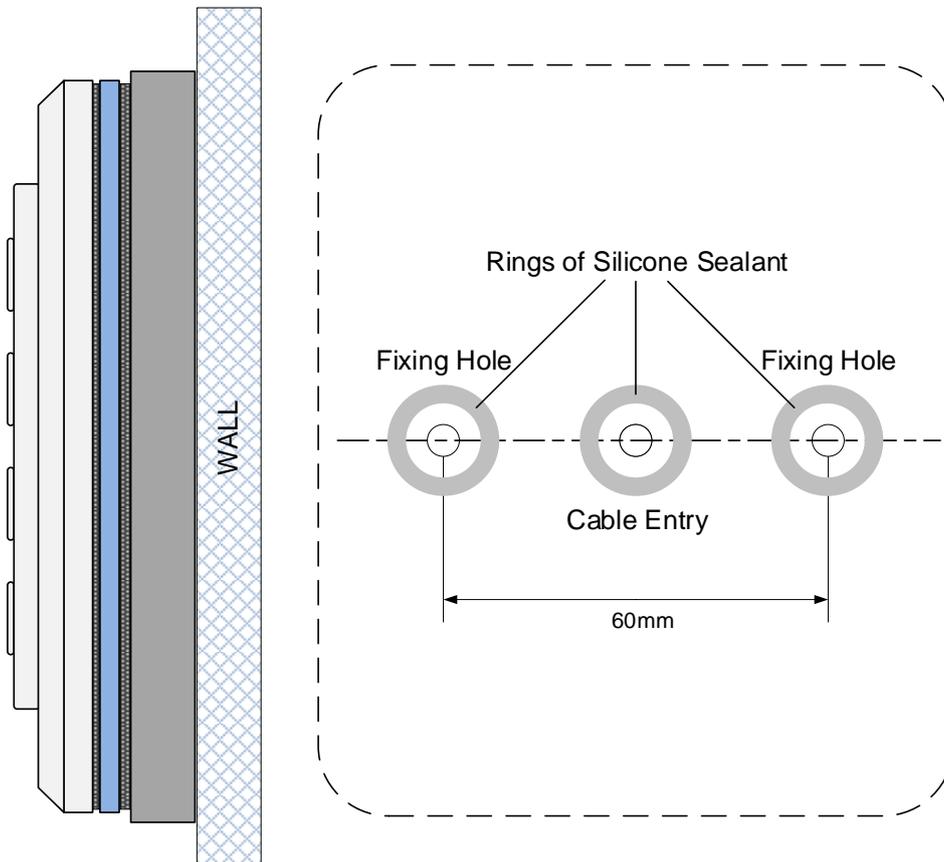
- Drill and plug the four mounting holes on the 74 mm by 93 mm centres as shown above (Not to scale)
- A central cable entry hole may also be required and a 5 mm deep rebate for the Speaker & Terminal Block. The rebate shown is 30mm in Diameter.
- Feed the cable through this hole and terminate the four connections to the reader.
- The gasket provided will seal a smooth surface, however, if a weather seal is required on a very rough surface use silicone sealant.
- Screw the keyboard to the wall being careful to manage the cable behind.

4132 Surface Mounting Back Box

When using the 4132 Surface mounting Back Box (Supplied Separately)

Procedure:

- If a standard light switch back box is available, use M3.5 Screws into this. Otherwise, drill and plug the wall on 60 mm centres as shown above (Not to scale).
- Also, drill a hole for the cable entry in the centre.
- The gasket provided will seal a smooth surface, however, if a weather seal is required on a rough surface, use silicone sealant around the screw holes and the cable entry.
- Fix the back box to the wall. Feed the cable through this hole
- Terminate the four connections to the reader.
- Fix the reader to the back box using four M4 machine screws. Be careful to manage the cable behind the keypad.



4133 Spy Proof Shield

Security

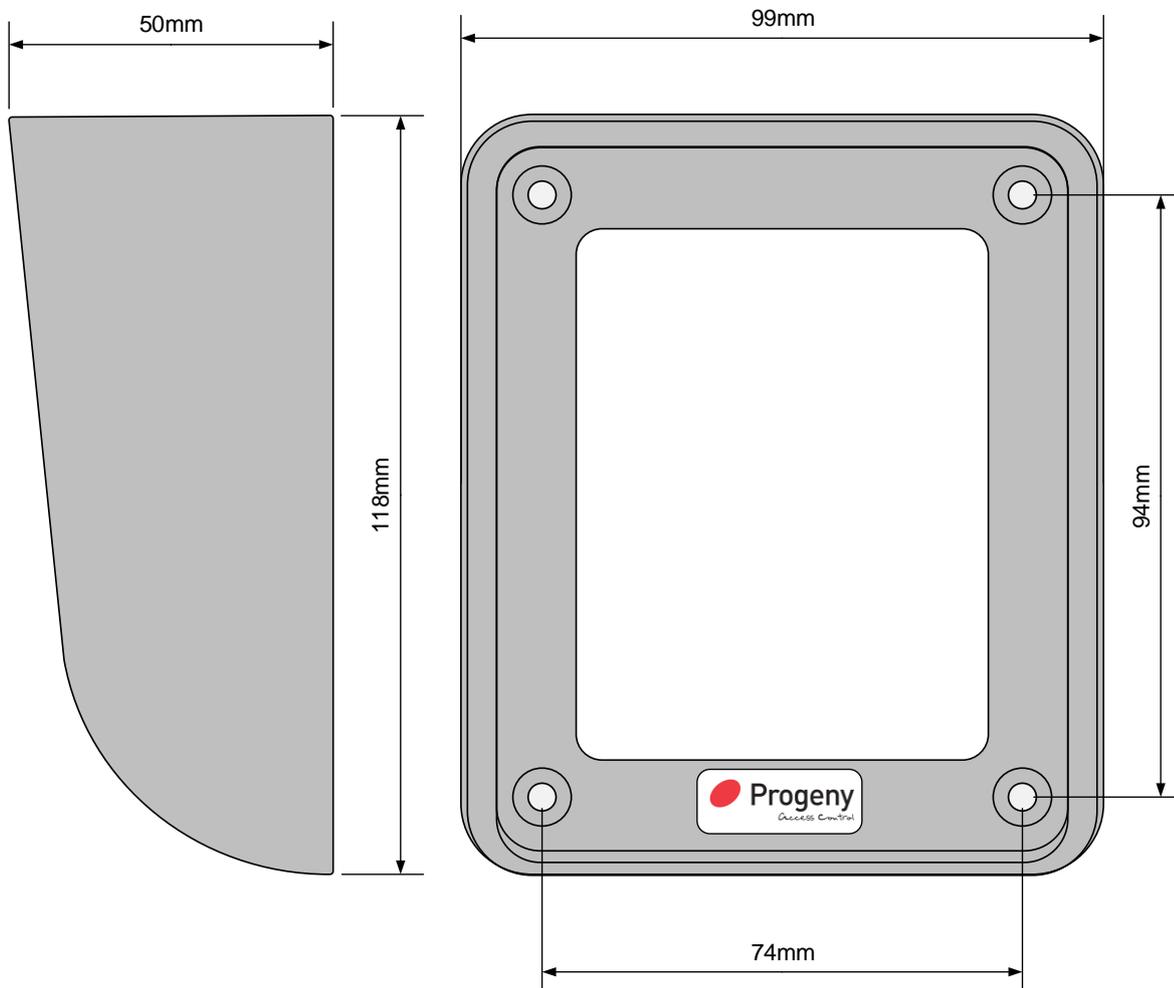
The shield protects against observation or surveillance when entering secret knowledge (PINs or Access Codes).

Upgrade / Retrofit

The shield is front mounted using the same fixing centres as the keypad itself. This makes upgrading an existing installation very easy.

Procedure

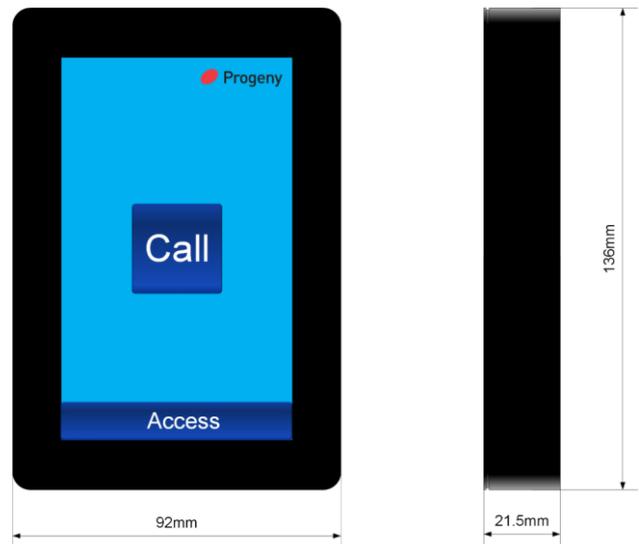
Pass the four keypad mounting screws through the spy shield first. Then Screw shield and the keypad to its mounting location



Dark Window Keypad

The Dark Window access terminal provides a secure means of entering access codes.

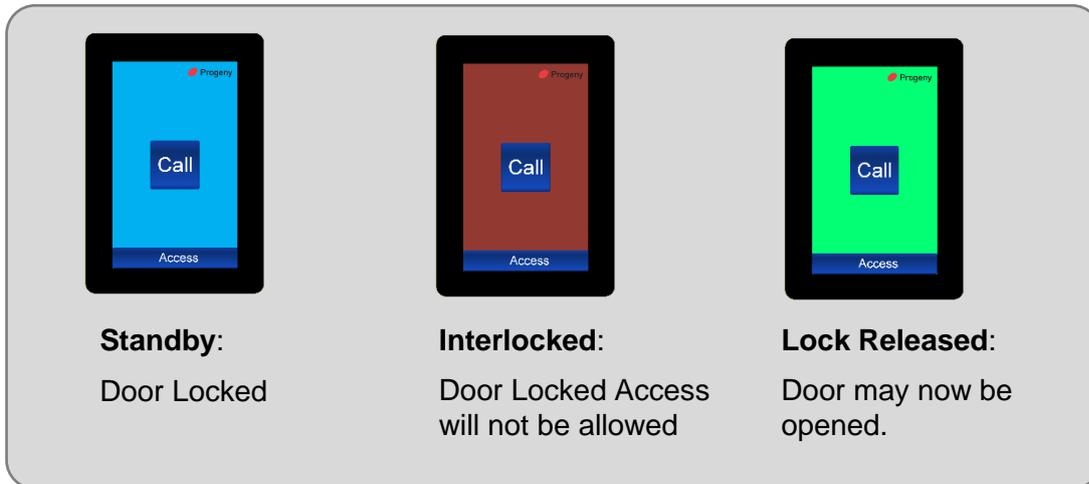
- MIFARE DESFire EV2 Reader (Option)
- Crystal Proximity Reader option
- Full Colour 5" Display
- Security Privacy Filter
- Capacitive Touch Sense
- Volume Control
- Call Button for Visitors
- Made in the UK
- 4 wire connection
- Limited Lifetime Warranty



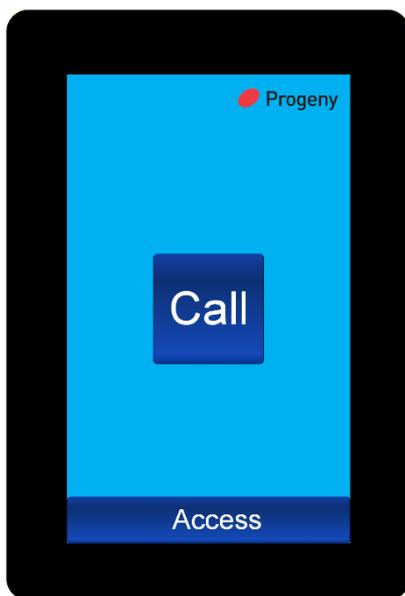
PRODUCT SPECIFICATION		
PARAMETER	MIN	MAX
Operating Voltage	8.0 V DC	14.0 V DC
Peak Current	-	180 mA
Average Current	-	155 mA
Cable Distance to Controller	-	50 m
Display Life	30,000 Hrs	50,000 Hrs
Brightness	460	500 cd/m ²
Viewing Angle	Vertical	+/- 70 Deg
	Horizontal	+/- 30 Deg

Display Status Indication

The status of the access control system is indicated by the background colour of the display



Using the Terminal



Call Button

The call button is displayed on the standby screen. Simply touch the “Call” button, a local call doorbell will be heard and a remote chime will also be triggered.

Access Keypad

To display the access keypad, touch the “Access” button at the bottom of the display. The display will then change to show a shuffled keypad.

Note the keys 0 to 9 inclusive will be shuffled randomly but the Star and Hash keys are always in the same locations.

Re-Shuffle

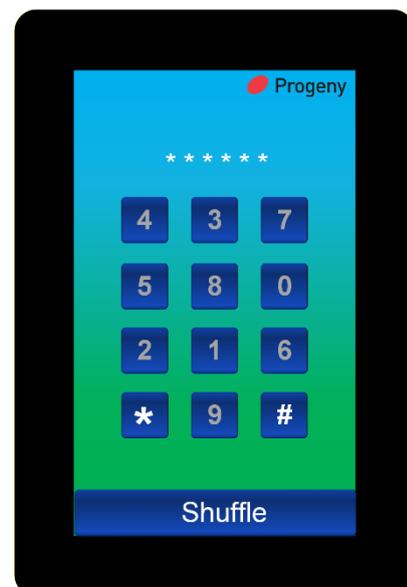
To re-shuffle, the keypad, touch the “Shuffle” button at the bottom of the display. This can be done at any point during the code entry procedure.

If no keys are pressed for 9 seconds the display will revert to the “Standby State”.

Once a code entry is started, a “* * *” progress bar will indicate how many keys have been entered so far.

Code Entry Error

If a mistake is made during the code entry, simply press the “#” key to cancel and start again.



Using Progeny Crystal DESFire Credentials

The DESFire reader antenna is located in the top of the keypad. Simply place the credential horizontally over the top of the keypad for it to be read.

The Crystal DESFire Credentials are MIFARE DESFire EV2 4K. These are backwards compatible with EV1 readers and systems.

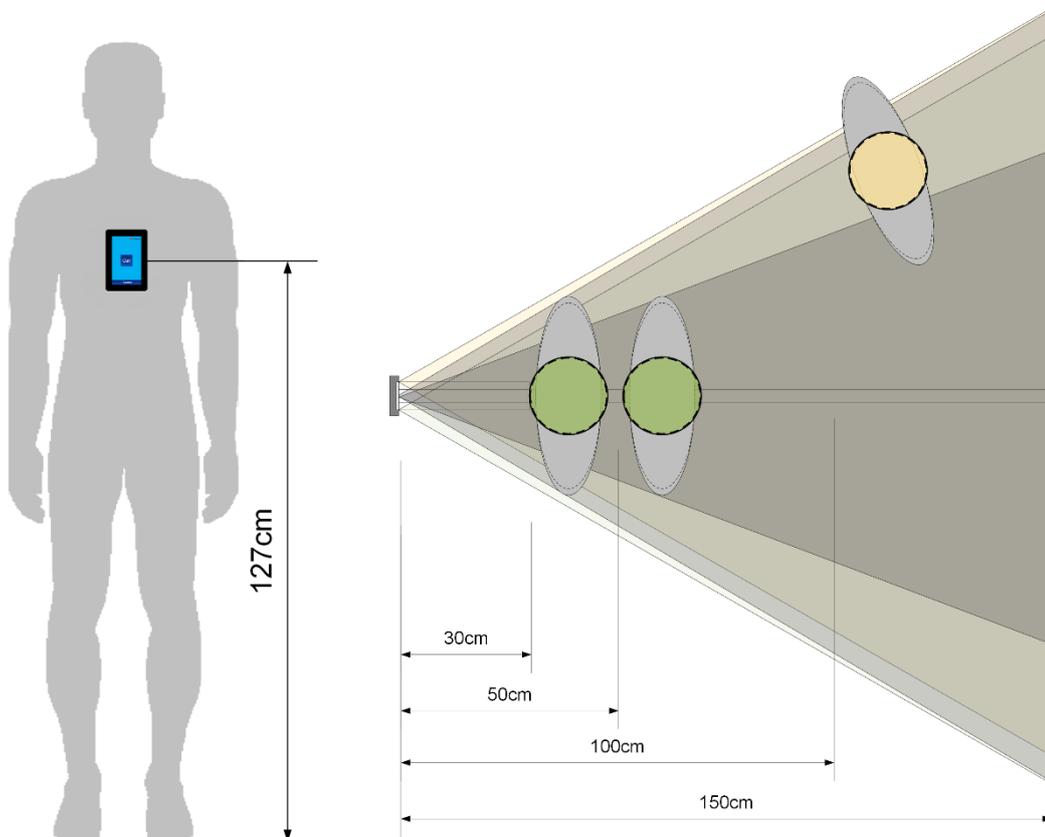




Installing the Dark Window Keypad

The Dark Window Keypad has a privacy screen to limit the viewing angle of the display. Position yourself centrally in front of the terminal so that you can comfortably use the keypad while obscuring the view of onlookers.

This device is intended for indoor use only. The recommended mounting height is 1.27m to the centre of the terminal. The viewing angle in the vertical axis allows good visibility to both short and tall users.



Procedure:

- Drill and plug the two mounting holes 60 mm apart on a vertical centre line to the position of the terminal. A cable entry hole may also be required. The lower mounting hole will be 42mm below the centre of the Access Terminal
- Pass the connecting cable through the mounting plate and screw the mounting plate to the wall. Check and adjust the plate to be vertical.
- Terminate the four connections to the terminal.
- Back off the M4 grub screw at the bottom the enclosure
- Hook the top of the terminal over the top of the mounting plate.
- Advance the grub screw so that it engages into the slot of the bottom of the mounting plate

Connections

Connect this terminal to either Reader A or Reader B of the P4 controller. The “Call Button” functionality was introduced at P4 firmware V4.67. The Dark Window Terminal connects to the controller with a simple 6 wire screened cable. Note that the supply connections use 2 cores each.

If the “Call Button” is required then use the contacts of Relay B to switch the supply to the remote Chime.

Programming

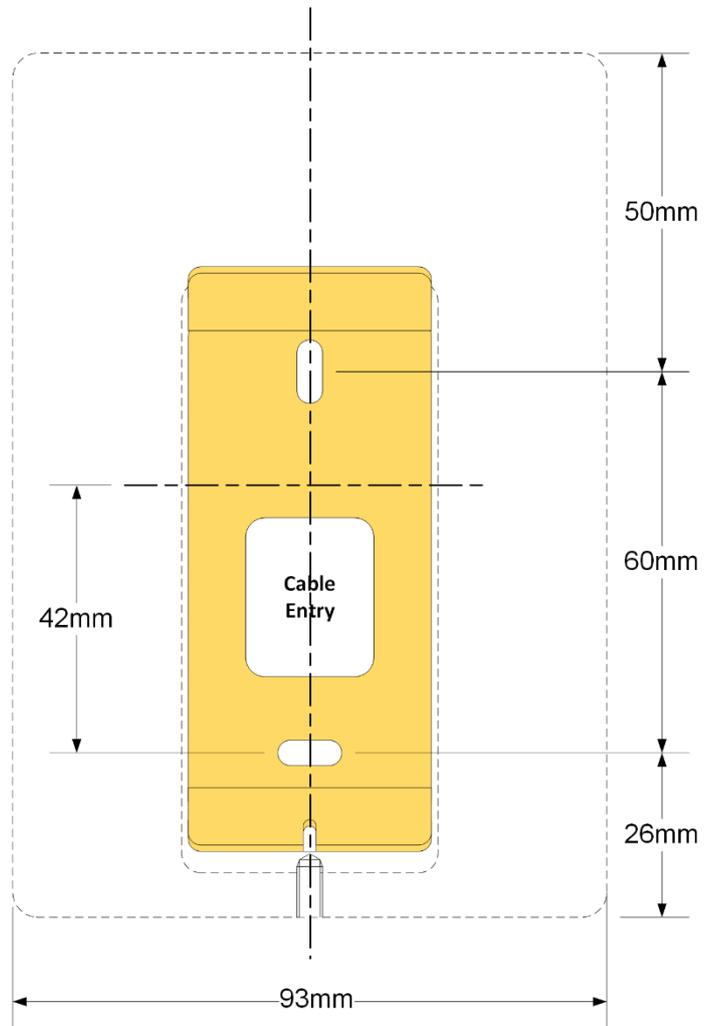
Some keypad settings are controlled from the P4 controller and some commissioning setting from the keypad itself.

Controller Settings for Dark Window Keypad

The default setting for the terminal Star key is disabled. So, it will be easier to set the initial engineers functions using the keypad inside the controller. Once the “Star” key is enabled, the programming functions can be accessed from the terminal keypad.

List of relevant Controller Settings:

1. Relay B to follow the “Call” Button
2. Relay B Time (Default = 3 Sec)
3. Terminal “Star” key enable (Default = Off)



CONNECTION TABLE		
Reader Connection		P4 Controller
+	Red	+
+	Orange	+
-	Black	-
-	Blue	-
X	White	X
Y	Green	Y
N/A	Screen	Earth

Always use a screened cable and connect the screen to earth at the P4 controller.

- 4. Terminal Sound Volume
- 5. Keypad Mode
- 6. Set the Access Code

Controller Programming Offline

Program functions are accessed in the normal way starting with a “Star” key press. The keypad keys will be shuffled for security reasons. Once the User or Engineers password have been accepted the keypad will revert to a telephone style keypad with red numeric keys.



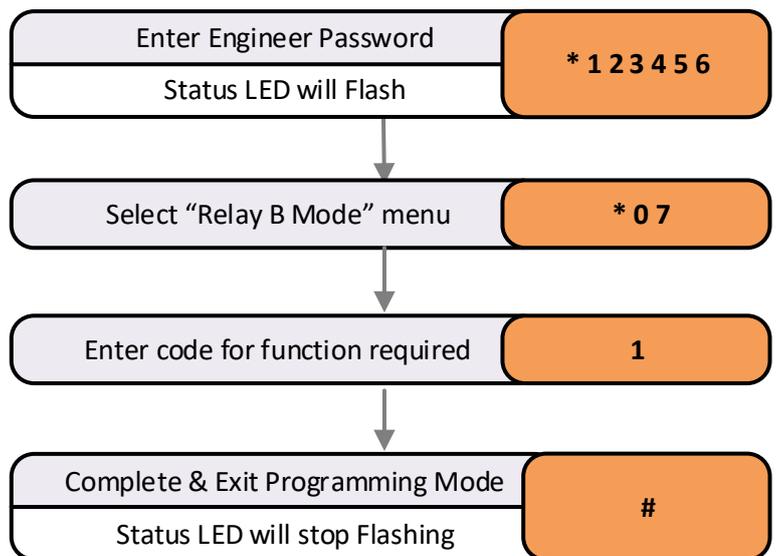
Press * and Enter User or Engineers Password

Programming Keypad

Call Button

Setting engineers function 7 to 1 will enable the “Call” Button to trigger Relay B of the P4 controller.

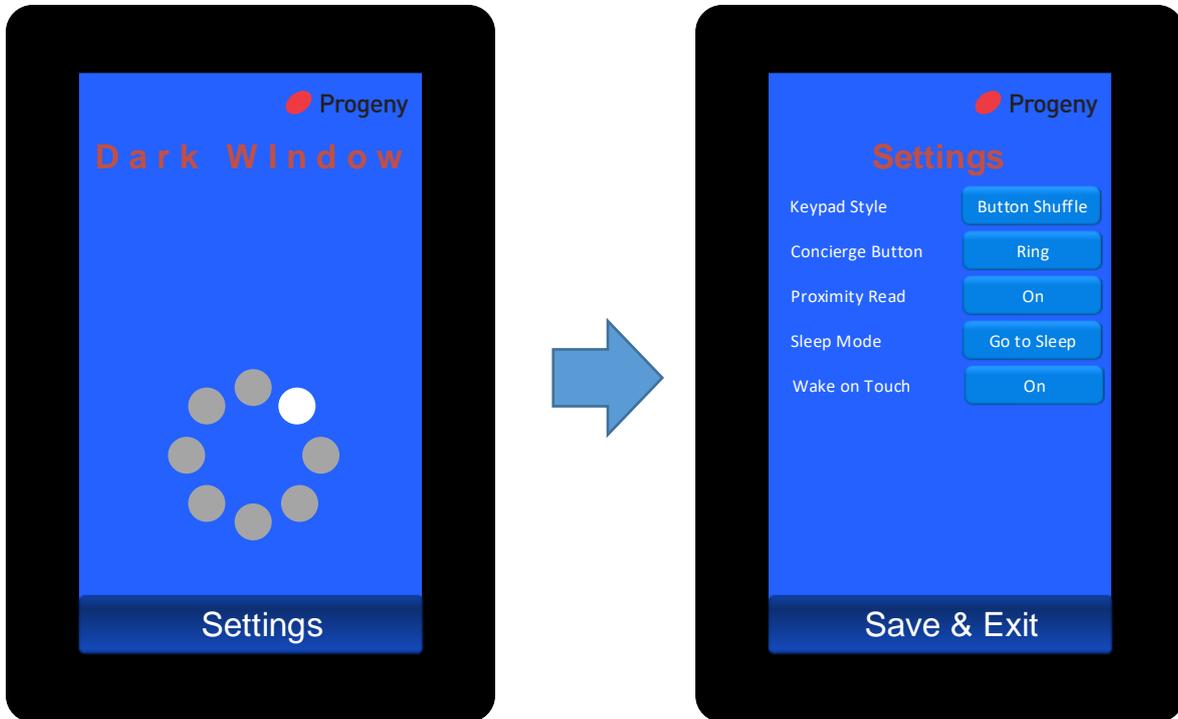
The Relay will change state for the time set for the Relay B channel. See below.



Dark Window Keypad Settings

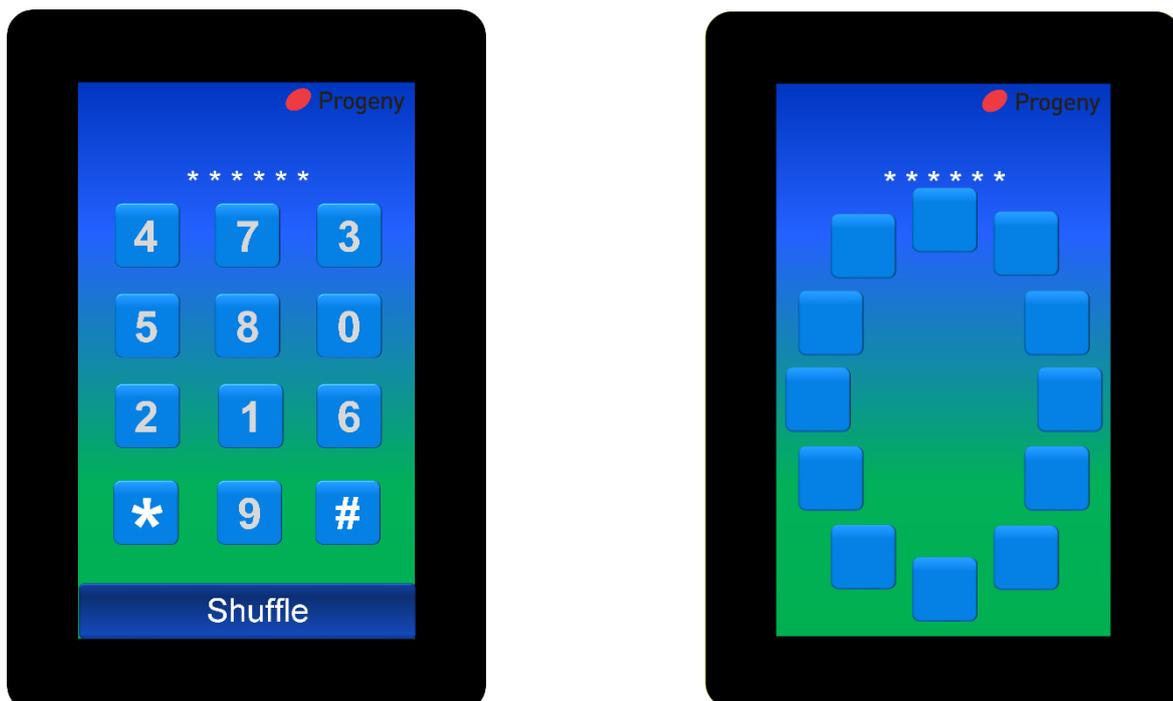
The commissioning stage settings for the keypad are accessed from the settings screen.

To get to the settings screen press the “Settings” Button. The settings button is displayed for a few seconds after power up.



Keypad Style

Two styles are offered “Button Shuffle” and “Clock Face”



Concierge Button

The P4 controller firmware needs to be 4.67 and later or Controller serial Number 48600 and above to use this feature.

The Concierge button setting has 4 options:

1. Call
2. Ring
3. Bell
4. Off

The first 3 change the text shown on the button and the last hides the button.

Proximity Reader

The setting has two options:

1. On
2. Off

This enables or disables the internal RFID reader.

Sleep Mode

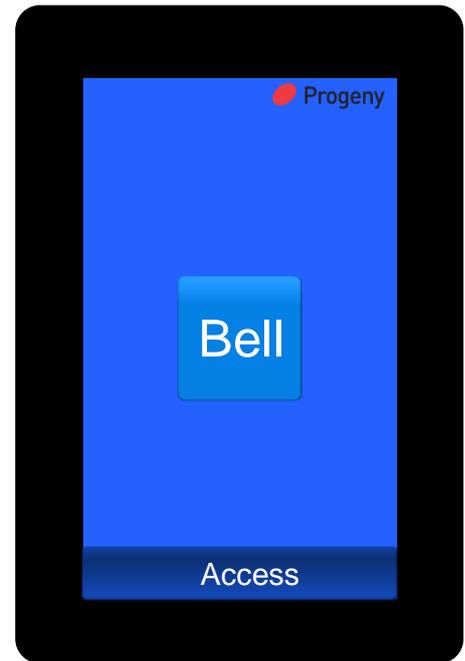
This option determines what happens to the display when the keypad is not in use.

1. Go to Sleep
2. Stay Awake

Wake on Touch

When the “Go to Sleep” mode is selected the keypad will wake on a valid proximity card. This option allows a touch anywhere on the screen to wake the keypad.

1. On
2. Off



4811 Dark Crystal Touch Switch

The Dark Crystal Touch Switch is an egress device for use with Progeny C4 and P4 access controllers. The switch is intended for indoor use however it can be used externally if sealed against the mounting surface.

The Dark Crystal range uses a simple 4 wire interface for all power, data and signalling between Controller and Reader.

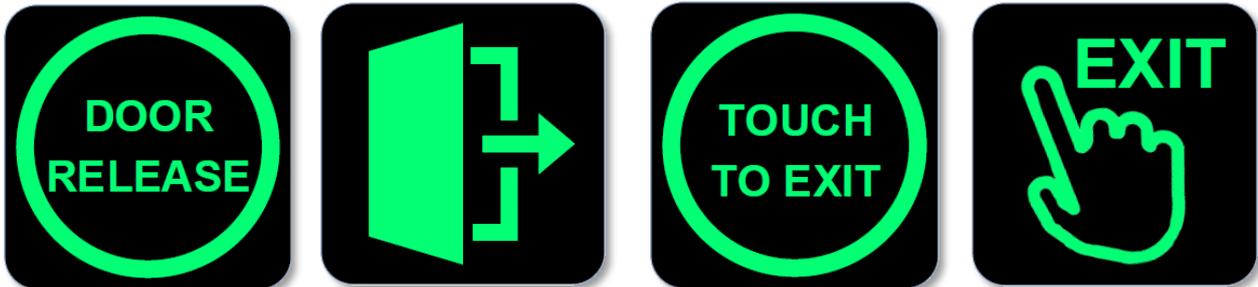
Features:

- Capacitive Sensor
- Self-calibrating
- Dark Crystal Design
- Choice of Graphic
- Colour Status Indication
- Courtesy Light



Choice of Graphic

The “Call to Action” graphic can be selected at installation time.



Operation

To Egress

To trigger the output simply touch the switch face centre with a finger or the flat of your hand.

Status Indication

The coloured status light will change from Blue to Pink and stay that way until the hand is removed. The display will then return to reflect the host-controlled LED signal. If the controller has granted access then the light will change to Green.

Courtesy Light

To activate the 30-second courtesy light touch and hold for 4 seconds. The courtesy light will then start and switch off automatically after 30 seconds.



Installation

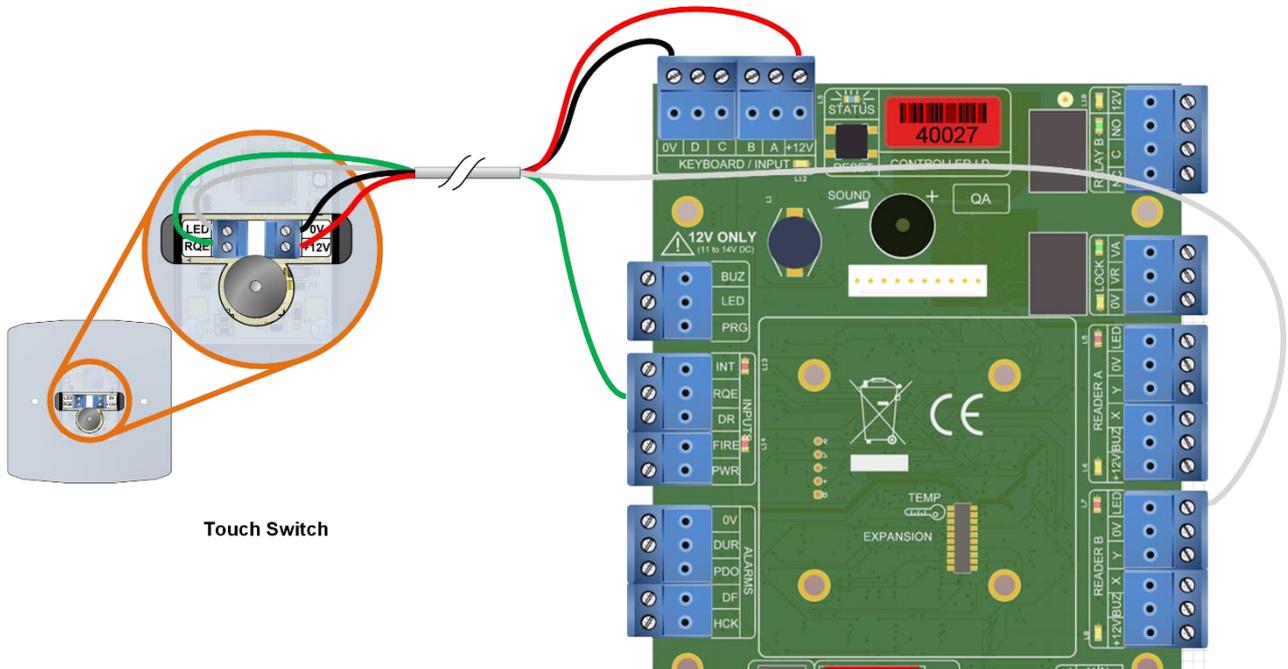
The Dark Crystal Switch Plate reader can be fitted directly to a standard UK light switch back box (with 60mm fixing centres). It is supplied with M3.5 screws for this purpose.

It may also be surface mounted: Drill a 6mm hole at the centre point of the mounting position for the cable. The two mounting holes are 30mm horizontally left and right of this hole. Drill and plug the wall for the screws being used. Make a 10mm deep rebate for the speaker at the back of the reader. Feed the cable through the 6mm hole and connect to the reader terminal block. Secure the reader with two screws.

Connection

Always use a screened cable (4 or more core 7/0.2) and connect the screen to earth at the controller. Maximum cable runs 100m.

PRODUCT SPECIFICATION	
Parameter	Maximum
Operating Voltage	9.0 to 14.0 Vdc
Peak Current	100 mA
Average Current	40 mA
Cable Distance to Controller	100 m
Dimensions	W 90, H 90 D 19 (mm)



CONNECTION TABLE			
Reader (T Block)	Recommended Cable	P4 Controller	C4 Controller
+ 12V	Red	Keyboard +12V	+12V
0V	Black	Keyboard 0V	0V
RQE	White	RQE	RQE
LED	Green	Reader-B LED	RQE
	Screen	Earth	Earth

P1 & P4 Controller Manual (Bitesize)

P1 Controller Notes:

This manual will cover both the P1 and P4 V4 controllers. The main difference is that P1 does not support any of the network functions and there is no .net version.

Product Codes:

4163 P1 Offline Controller (1 Door)

4163D P1 Offline Controller (2 Door)

4001 P4 Online or Offline Controller (1 Door)

4001D P4 Online or Offline Controller (2 Door)

4002 P4.net Online or Offline Controller (1 Door)

4002D P4.net Online or Offline Controller (2 Door)



SAFETY NOTES

- Please read this manual carefully before attempting to install, program or operate the Progeny Access Control equipment.
- This equipment must be installed in line with all relevant regulations and standards.
- Make sure that wiring is rated according to fuses and current limits of relevant power supplies.
- Apart from the mains supply, all connections to this unit must be SELV level. (Safety Extra Low Voltage, BS EN 60950 1992)
- No users should access the inside of the control box. The control box contains hazardous voltages and access is limited to qualified personnel only. All user-programming for the controller is either done at one of the keyboards or at the PC.
- Every effort is made to ensure that this manual is complete and free from errors. However, we reserve the right to make changes to these products and this manual without notice.
- No liability is accepted for loss damage or injury as a consequence of using these products or instructions.

MOUNTING

The optimum location for the controller depends on the application. As a general Guide:

- Always mount the control equipment on the secure side of the door.
- Mount as close as possible to the door(s) to be controlled (less than 100m).

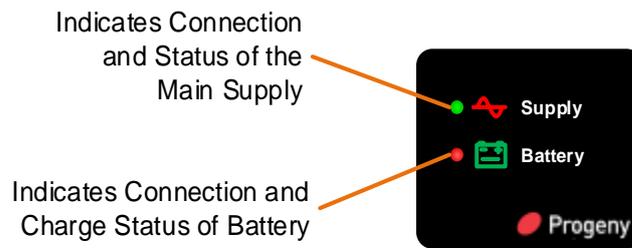
Offer the opened back of the enclosure up to the wall where the unit is to be mounted and mark the location of the fixing dimples on the wall. Drill and plug the wall. Bring in mains supply and other cables that are to enter via the rear cable access holes. Screw the controller to the wall.

WARNING: Extreme caution must be used when opening the controller housing. DO NOT touch any connections or components other than the reset button. Avoid touching any of the terminations with a metal object such as a wristwatch or jewellery.

POWER

The Progeny P4 controller should be connected to a 24 Hour 220/240V mains supply. Ideally, a fused spur should be used for this purpose. The cable used to connect the mains supply should be 0.75 to 2mm². A fused terminal block is provided for mains. Observe the polarity when making these connections.

When designing an access control system it is important to make sure that the power supply is not overloaded. The built-in power supply of the Progeny P4 controller is capable of providing power for most standard applications. However, there may be situations where additional power supplies are required. These notes are intended to help you determine when this is the case.



Each enclosure can house one or two door controllers. The 5A PSU in the enclosure supplies 2A at 12V (13.8V) to each controller channel.

IMPORTANT: If a battery is to be fitted then it must be of the correct type. The power supply is designed to charge sealed lead acid batteries. Do not connect NiCad or Dry Cell batteries or any other chemistry.

- Power up sequence should be: Mains first then Battery
- Power down sequence should be: Battery first then Mains

The current drawn from the power supply falls into three main categories:

- Supply current for internal electronics and charging batteries. For P4 controllers this is reserved as 1.25A. For P4 .net this is reserved as 1.5A.
- Lock Loads (Magnets, Strikes etc.)
- Auxiliary loads. (Readers, Keyboards, Indicators & Sounders)

P4 CONTROLLER MODULES

In the case of the 4001M and 4002M Modules supplied as components, the power is supplied via the two-way terminal block on the Keyboard Module. The Supply to this should be in the range 11 to 14Vdc and be able to supply 2.0 A. The cables should be 16/0.2 minimum or rated at 2.0A DC

CONNECTING 24V LOCKS

To operate a 24V lock a customer supplied 24V PSU will be required. Either the lock output can be used to drive the coil of a clean contact relay which in turn can be used to switch a 24V supply or **if not being used for another function**, Relay B of the P4 controller can be used to switch the 24V supply. If following the latter, it is important to ensure that Relay B is set to follow the Lock relay (factory default setting).

INDICATORS

Status LEDs can be found on the front panel of the controller and repeated at the keyboard and card readers. These indicators have the following meanings:

Keypad Status LED	Meaning
Off	Normal
On	Lock released
Flashing	Programming Mode

READER "A" & "B" LED's	Meaning
Off	Normal
On	Lock released
2 Flashes	Anti-passback
3 Flashes	Unknown Card / Fob
4 Flashes	Invalid card
5 Flashes	Card out of valid period
6 Flashes	Access level OTL
7 Flashes	Reader Error

SOUND

The sound is used to give the user additional feedback on the status of the controller and progress during Programming.

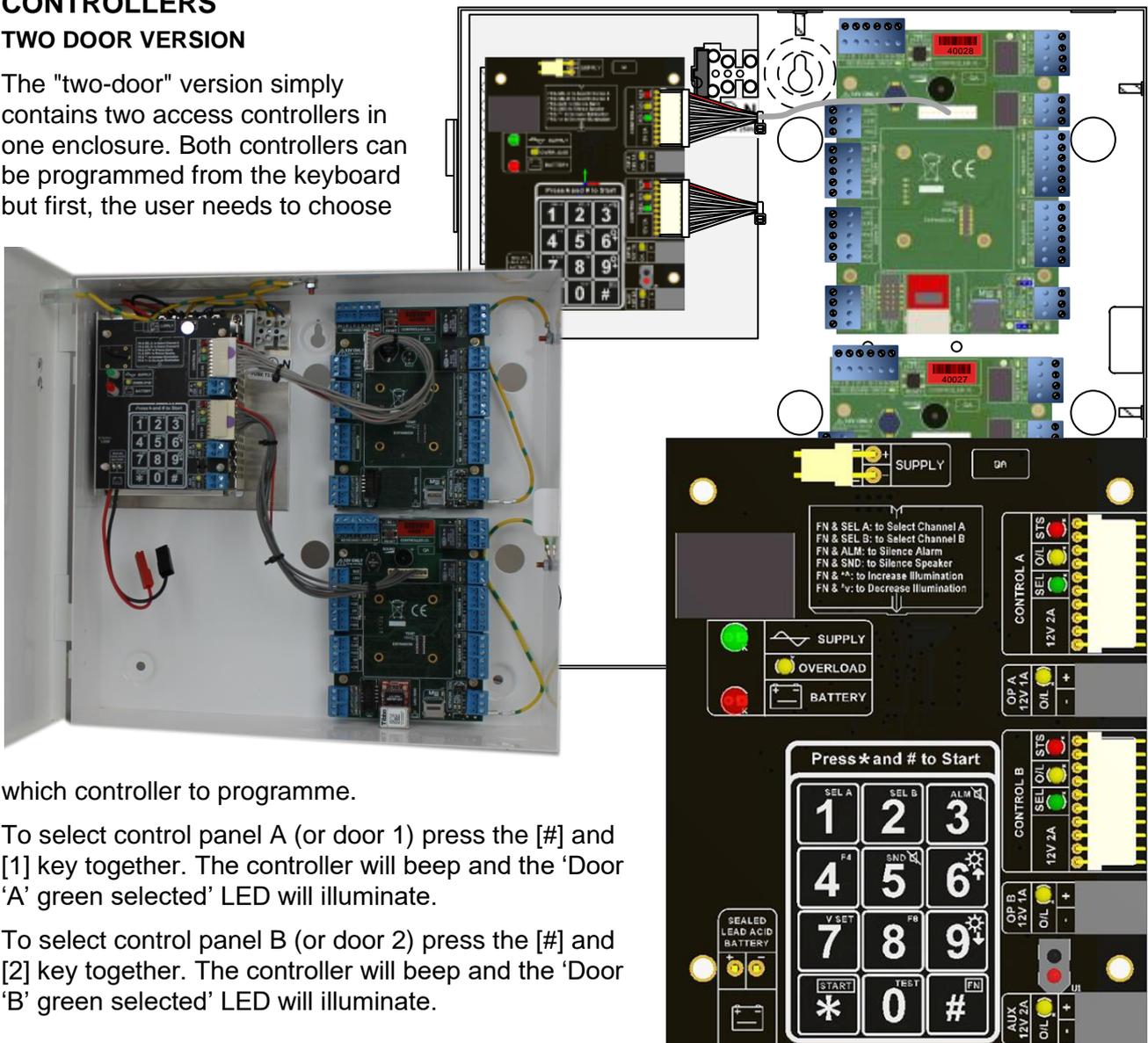
Sound	Meaning
Continuous Two Tone, High Volume	Failed to Close (PDO) Alarm
Four Notes “Low – High – Low – High”	Programming Mode
Two Notes “Low – High”	Confirm Programming Change
Two Notes “High – Low “	Programming Error
Single Short Note “High”	Keyboard Key Push
3 Long Beeps	Card not Registered (No Card Pack)
4 Short Beeps	Card Registered but not enabled.
Tic Tic Tic	Memory Programming in progress

Note: The sounds from the keyboard controller can be annoying if located in earshot. To mute the onboard sounder, press # & 5 together. However, the sounder will reactivate when the * key is pressed.

CONTROLLERS

TWO DOOR VERSION

The "two-door" version simply contains two access controllers in one enclosure. Both controllers can be programmed from the keyboard but first, the user needs to choose



which controller to programme.

To select control panel A (or door 1) press the [#] and [1] key together. The controller will beep and the 'Door 'A' green selected' LED will illuminate.

To select control panel B (or door 2) press the [#] and [2] key together. The controller will beep and the 'Door 'B' green selected' LED will illuminate.

ONE DOOR VERSION

The single door version contains only one controller and therefore, the indicators for Door B are not needed. These indicators are included in case the unit is ever upgraded to two doors. Before programming, make sure that the 'SELECTED' indicator for Door A is illuminated. If not press [#] and [1] keys together. The controller will beep and the 'Door 'A' selected' LED will illuminate.

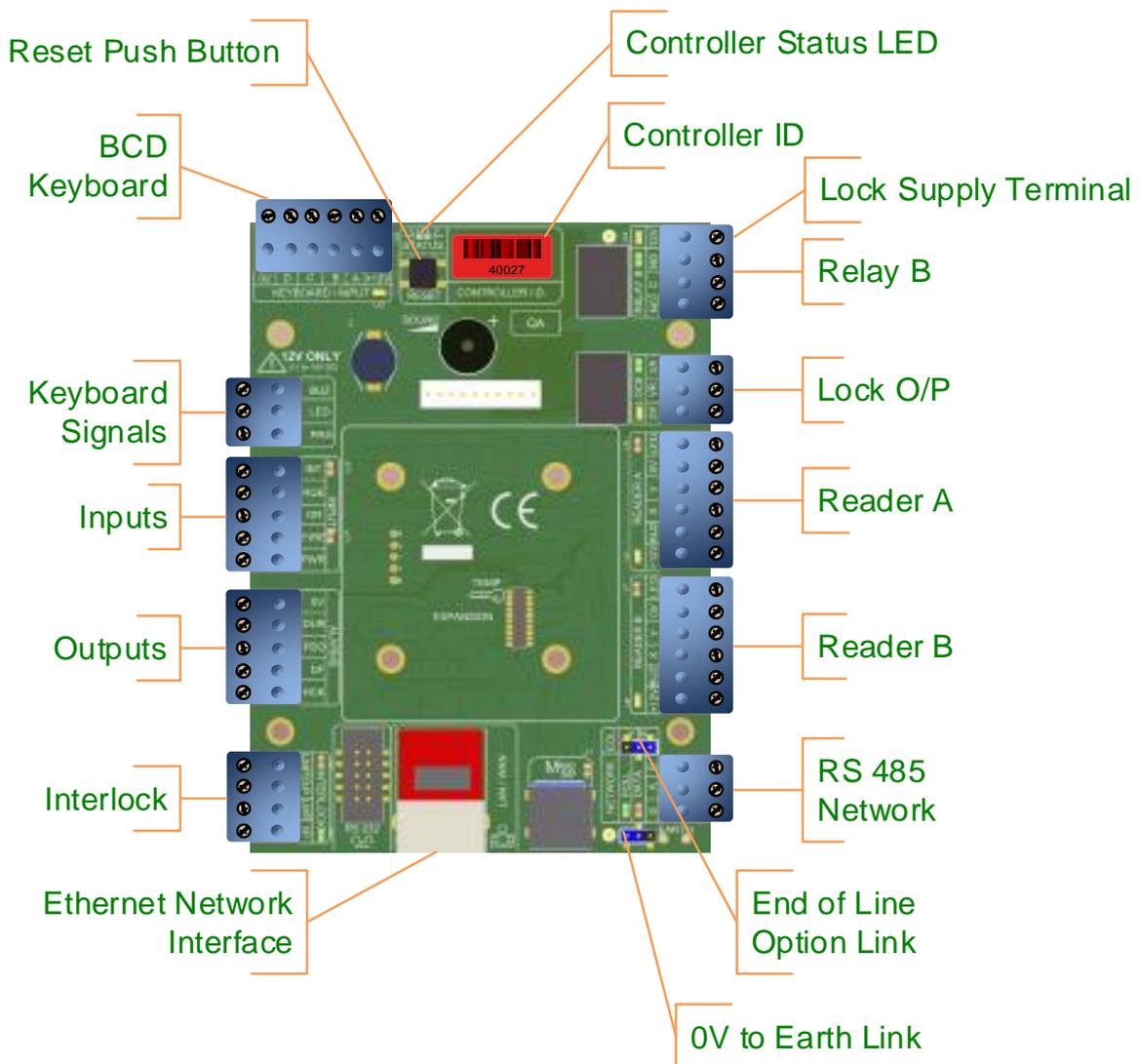
UNLOCKING THE KEYBOARD

To unlock the keyboard for programming first press * and #. The keyboard will not accept any input until it is enabled.

PROGRAMMING

Programming is achieved by entering a password at the keyboard followed by a menu selection code. There are two programming menus, one for the USER and one for the ENGINEER. Each menu has a separate six-digit password. Depending on the menu option selected, configuration data can then be entered at the keyboard.

P4 CONTROLLER



USER MENU

The User Menu is accessed by entering * followed by the User Password. The default for this is 654321.

User Menu #	Description	Default Value
* 00	User Password	6 5 4 3 2 1
* 01	Access Code	None
* 02	Discover Presented Cards	-
* 03	Forget Presented Cards	-
* 04	Add Card by Number	-
* 05	Remove Card by number	-
* 10	Add Bio Administrator Rights	-
* 11	Remove Bio Administrator Rights	-
* 14	Add / Update Template (Enrol)	-
* 15	Delete Bio Template	-
* 16	Edit Bio Slot to ID Table	-
* 22	Copy Templates	-
* 30	“Valid From” Time (HHMM)	0000
* 31	“Valid To” Time (HHMM)	0000

USER PASSWORD

Passwords are the means by which the systems operator gains access to the Programming functions. This is a 6-digit number and can be changed by using the following procedure.

Changing the user password

This example shows the password changed to 234567.

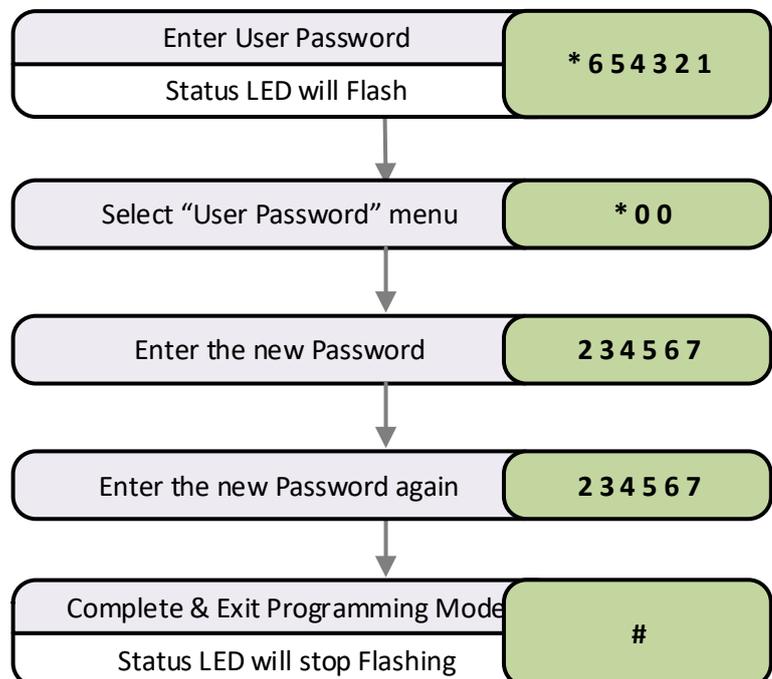
Default Value:

- 654321

The factory default can be restored by a “Full Reset” or by connecting the PWR input to 0V for 4 seconds.

Related Engineers Menus:

- 00 “Engineers Password”



ACCESS CODE FUNCTIONS

The P4 controller has a single access code that can be programmed. The access code can be any number of digits from 1 to 8. The access code is only active when the keyboard is in:

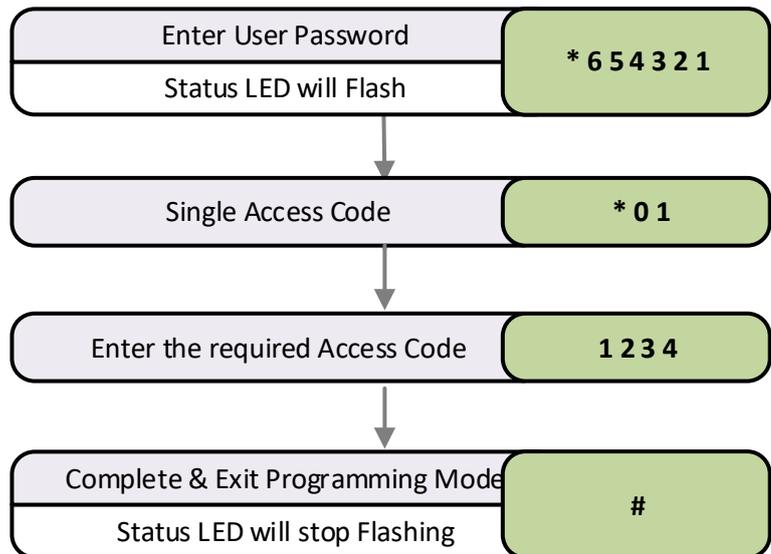
- Normal Keyboard Mode
- Card & Code Mode

See Engineers Function 20 for more details

If more than one access code is needed see “Virtual Card” modes for the keyboard.

REMOVING ACCESS CODES

Engineers’ function 98 will erase the access code.



ADDING CARDS by PRESENTATION (DISCOVER)

User function 02

Make sure you have the correct reader technology selected for the readers that are connected before using this function.

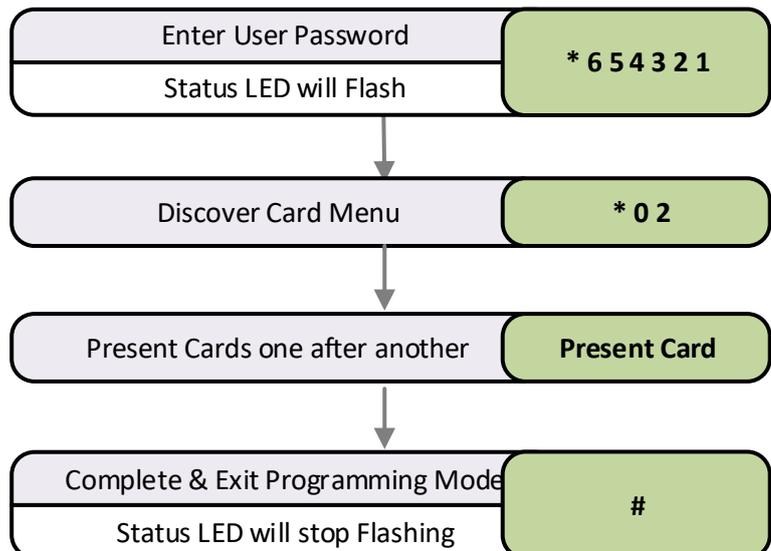
All cards presented to the reader will be remembered and given access.

Related User Menus:

- 03 “Forget Cards”
- 04 “Add Card”
- 05 “Disable Card”

Related Engineers Menus:

- 04 “Reader A Technology”
- 05 “Reader B Technology”
- 20 “Keyboard Mode”
- 11 “Random Search”

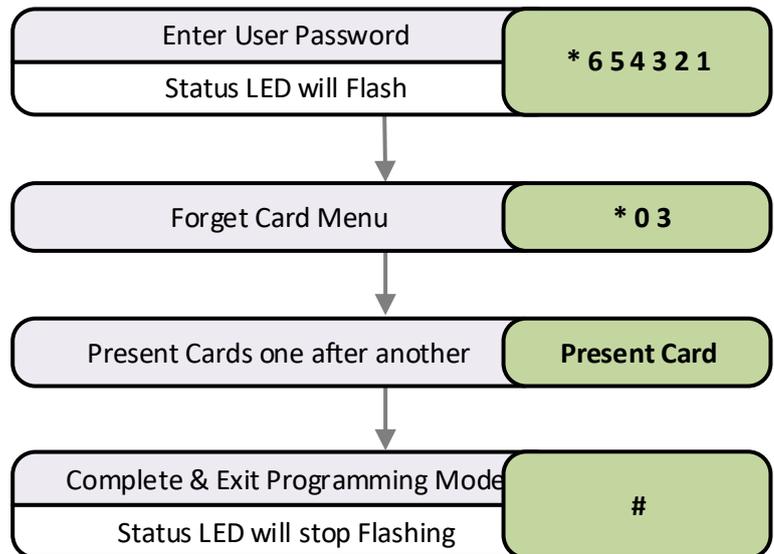


REMOVING CARDS by PRESENTATION (FORGET)

User function 03

This is the reverse of the Discovery Mode. The cards presented to the reader will be removed from memory and will report as "Unknown Card" if access is attempted.

If you simply need to disable a card use menu function 5.



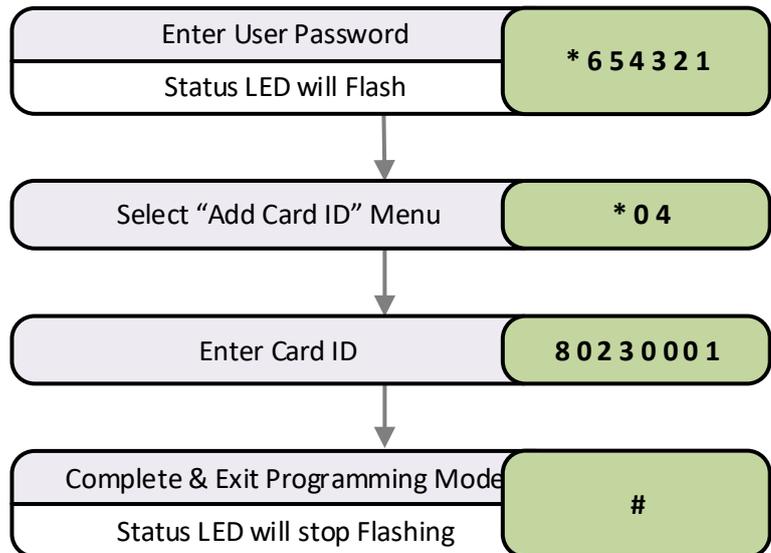
ADDING CARDS by NUMBER

Adding or enabling credentials by entering can be useful when the credentials themselves are not available or if a large number of credentials need to be added.

Single card:

Note that some cards have a serial number printed on them. This should be used with the cross-reference list, provided with cards, to determine the actual card number.

This example will enable a single card numbered 80230001.



Block of cards

The quickest way to enable a whole group of cards is to use the block add method shown in this flow diagram.

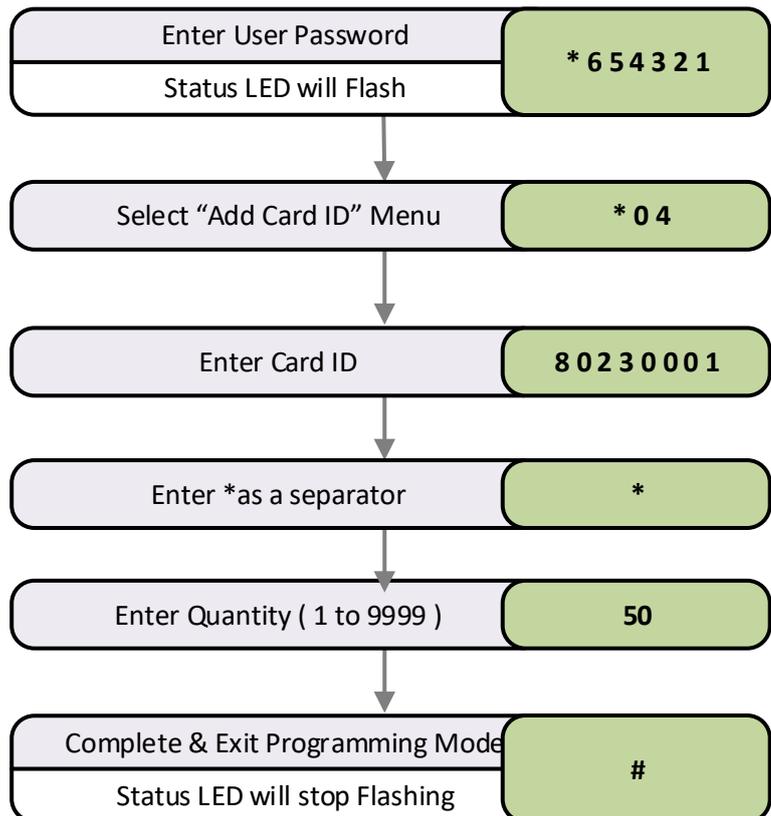
This example will enable 50 cards, Site code 8023 from card 0001 to 0050.

Related User Menus:

- 02 "Discover Cards"
- 03 "Forget Cards"
- 05 "Remove Card"

Related Engineers Menus:

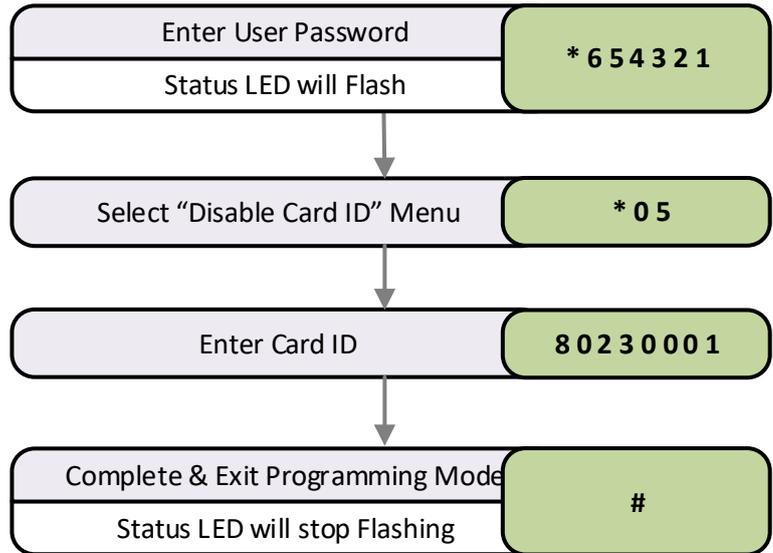
- 04 "Reader A Technology"
- 05 "Reader B Technology"
- 11 "Random Search"
- 20 "Keyboard Mode"
- 31 to 36 "Feedback Volume Control"



DISABLING CARDS by NUMBER

Single card

If a card is reported lost or stolen, the card can be disabled to remove the security risk without affecting any other card users.



Block of cards

The quickest way to disable a whole group of cards is to use the "block add" method shown in this flow diagram.

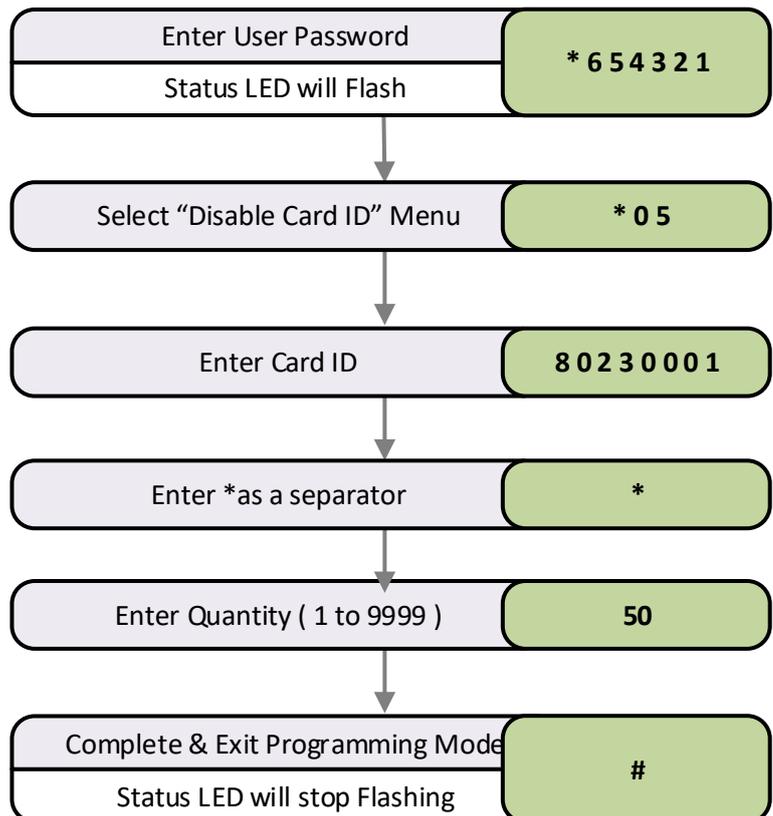
This example will disable 50 cards, Site code 8023 from card 0001 to 0050.

Related User Menus:

- 02 "Discover Cards"
- 03 "Forget Cards"
- 04 "Add Card"

Related Engineers Menus:

- 04 "Reader A Technology"
- 05 "Reader B Technology"
- 20 "Keyboard Mode"
- 11 "Random Search"
- 20 "Keyboard Mode"
- 31 to 36 "Feedback Volume Control"



ENGINEERS' MENU

Engineer Menu #	Description	Range	Default Value
* 00	Password	000000 to 999999	1 2 3 4 5 6
* 01	Delay to Lock Release	0 to 99 Sec	0
* 02	Lock Release Duration	0 to 99 Sec	3
* 03	PDO Time	0 to 99 Sec	0 = Off
* 04	Reader A technology	0 to 99	0 (P4 4 Wire)
* 05	Reader B technology	0 to 99	0 (P4 4 Wire)
* 06	Duress	1= On, 0 =Off	0 = Off
* 07	Relay "B" mode	0 to 12	0 (follow relay A)
* 08	Timer for "B" relay	0 to 99 Sec	3
* 09	Penalty Time	0 to 99 Sec	0
* 10	Hacker Count	0 to 99	0
* 11	Random Search Rate	0 to 99	0 (Off)
* 12	Unlock Time Zone	0 to 64 (250)	65
* 14	Lock Drive Mode	0 to 4	0 (Relay Only)
* 15	Auto Relock on Door Close	1= On, 0 =Off	0 (Off)
* 16	Clear Event Log	749162	-
* 17	Clear Card Data	749162	-
* 18	Network Security	0 to 1	0 (DE V7.01.x)
* 19	External keyboard * mode	0 to 1	0 = (Disabled)
* 20	Keyboard Mode	0 to 8	0 (Access Code)
* 21	List Bio Templates	0	-
* 22	Copy Bio Template	0, 1, 2, 51, 52, 53, 91, 92	-
* 23	Delete Bio Template	1, 2, 3, 4, 5	-
* 24	Bio Slot to ID Entry	-	-
* 25	Reader A APB Configuration	0 to 3	0
* 26	Reader B APB Configuration	0 to 3	0
* 27	Relay B Time Zone	0 to 64 (250)	65
* 28	2 nd Stage Delay	0	0
* 29	Network Transmit Delay	0 to 99	10
* 30	Controller Mode	3	3
* 31	Alarm Sound Volume Controller	0 to 15	15
* 32	Feedback Volume Controller	0 to 15	8
* 33	Alarm Volume Reader A	0 to 15	15
* 34	Feedback Volume Reader A	0 to 15	8
* 35	Alarm Volume Reader B	0 to 15	15
* 36	Feedback Volume Reader B	0 to 15	8
* 40 to 54	Custom Reader Template A	-	-
* 56	Prefix code for reader A	0000 to 9999	0000
* 58	Status Light Brightness Reader A	0 to 9	5
* 59	ID Factor Sequence A	-	-
* 60 to 74	Custom Reader Template B	-	-
* 76	Prefix code for reader B	0000 to 9999	0000
* 78	Status Light Brightness Reader B	0 to 9	5
* 79	ID Factor Sequence A	-	-
* 80	IP Address	0.0.0.0 to 255.255.255.255	0.0.0.0
* 81	Gateway IP address	0.0.0.0 to 255.255.255.255	0.0.0.0

* 82	Net mask (Host Bit Count)	0.0.0.0 to 255.255.255.254	255.255.255.0
* 84	Server IP Address	0.0.0.0 to 255.255.255.254	0.0.0.0
* 97	Factory Reset IP Settings	-	192.6.32.200
* 98	Clear Access Code	-	-
* 99	Reset User Password	-	654321

For a detailed description of all these functions see the full version of this manual.

READER A & B TECHNOLOGY

The reader technology code allows different types of card readers and cards to be used. Each card reader input can have its own technology setting.

Code	Template	Notes
0	Crystal Reader	Native Bidirectional 4 Wire Interface
1	ISO 15693	ISO 15693 (Tagit 64) (Firmware 4.30+)
2	Progeny Prox	Standard Progeny HID format for Prox & iCLASS
3	26 bit (8 + 14)	General 26 bit Max Card ID = 9999
4	26 bit (8 + 16)	Extended 26 bit Wiegand Max Card ID = 65535
5	MIFARE A	MIFARE CSN 8 + 16
6	MIFARE B	MIFARE CSN 16 + 16
7	Corporate 1000	Use Engineer 56 & 76 to set the ID for Reader A & B
8	Tech 8	Not Used by P4 Controllers
9	Progeny Magstripe	For use with Progeny Scrambled Magstripe Cards Only
10	Royal Mail	
11	8 Digit C & D	General clock & data
12	Lobby Entry	Uses the Most Significant 4 Digits as the Card ID
15	BSBELE (Hughs)	TECH 15 for P4 controllers

Programming Reader Technology A

Crystal readers

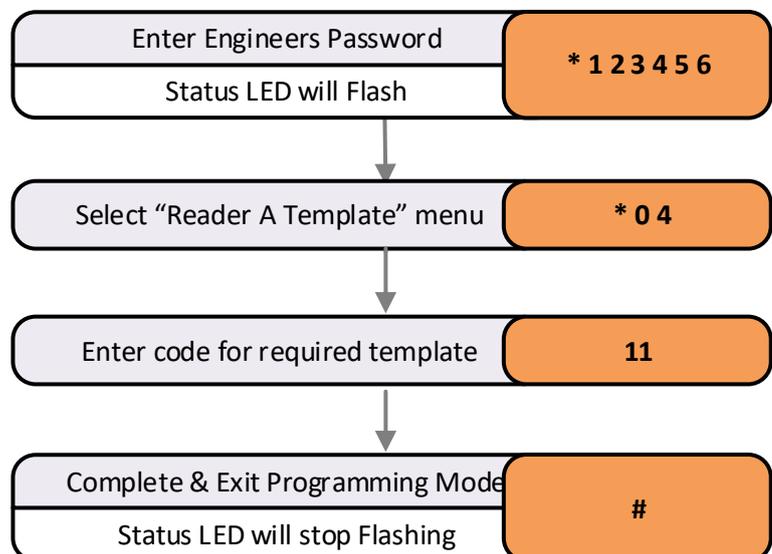
These can be connected in two ways. If the classic crystal reader 4 wire method is used select Template 0. If using the 6 wire method use template 11.

Progeny iCLASS readers

Most commonly uses Template 2 "Progeny Prox"

Progeny HID Pox readers

Most commonly uses Template 2 "Progeny Prox"



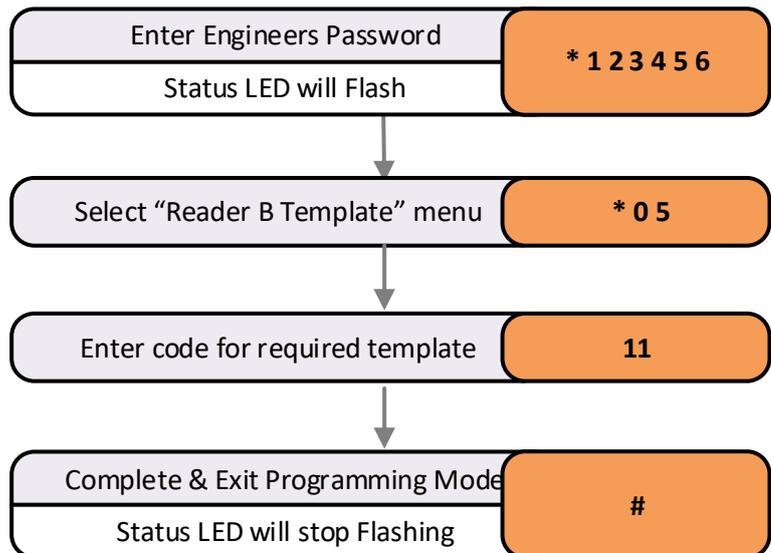
Programming Reader Technology B

Crystal readers

Can be connected in two ways. If the classic crystal reader 4 wire method is used select Template 0. If using the 6 wire method use template 11.

Progeny iCLASS readers

Code	Behaviour
0	Follow Lock Output
1	Future Use
2	Follow Door Forced
3	Follow Duress
4	Follow Hacker
5	Follow PDO
6	Random Search
7	Follow Fire Input
8	Follow Intruder Input
9	PC Controlled
10	Follow Time Zone
11	Two Stage Lock Release
12	Turnstile Mode



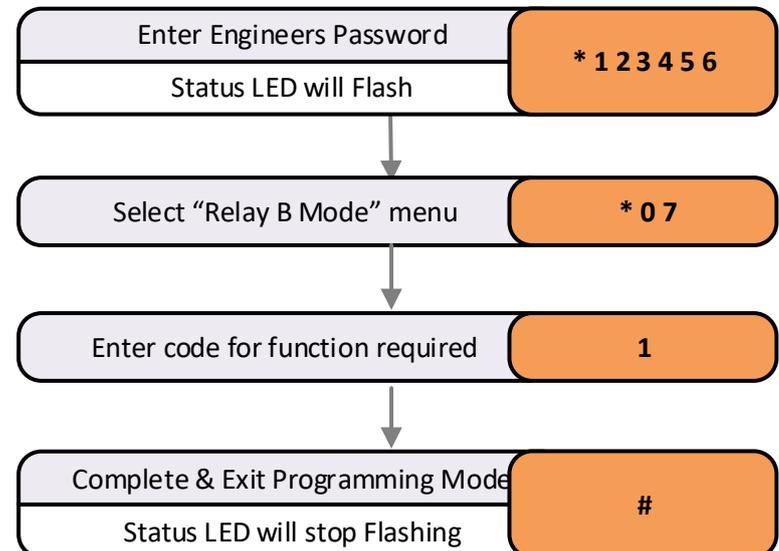
Most commonly uses Template 2 "Progeny Prox"

Progeny HID Pox readers

Most commonly uses Template 2 "Progeny Prox"

RELAY B MODE

Relay B can be configured to perform a number of different roles. By default, the relay simply mimics the lock relay and allows loads to be driven or provide voltage free contacts for other equipment such as Barriers, Turnstiles etc.



KEYBOARD MODE

By default the keyboards work as simple access code input. However, they can be used in a number of different modes of access control.

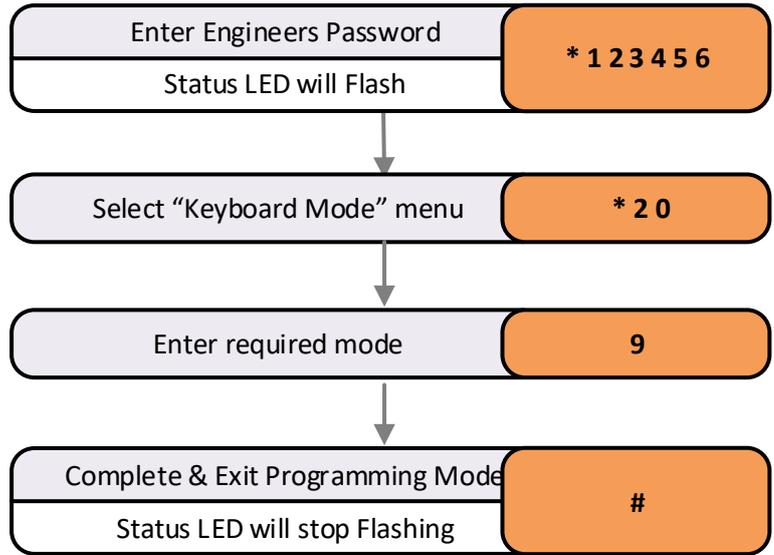
Related User Menus:

- 01 "Access Code"

Related Engineers Menus:

- 19 External keyboard * mode
- 98 Clear Access Code

Code	Behaviour
0	Normal Keyboard
4	Virtual Card (4 Digits)
5	Virtual Card (5 Digits)
6	Virtual Card (6 Digits)
7	Virtual Card (7 Digits)
8	Virtual Card (8 Digits)

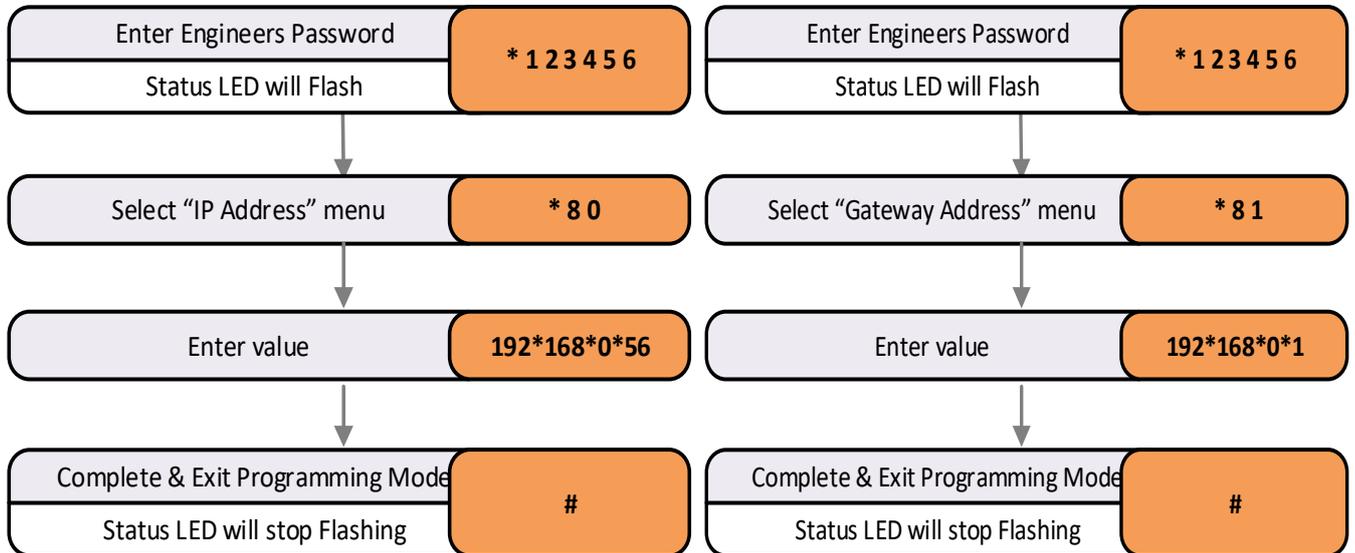


IP ADDRESS & GATEWAY ADDRESS

NOTE: When programming IP parameters, unplug the Ethernet cable and the RS485 Network Terminal Block.

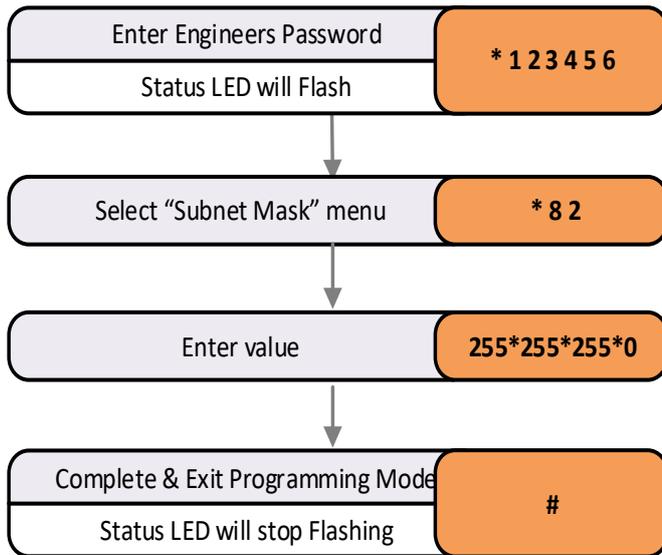
Programming the IP ADDRESS

Programming the GATEWAY ADDRESS



NETMASK

Programming the NETMASK



Class	Net-mask	Host Bits
C	255.255.255.254	1
C	255.255.255.252	2
C	255.255.255.248	3
C	255.255.255.240	4
C	255.255.255.224	5
C	255.255.255.192	6
C	255.255.255.128	7
C	255.255.255.0	8
B	255.255.254.0	9
B	255.255.252.0	10
B	255.255.248.0	11
B	255.255.240.0	12
B	255.255.224.0	13
B	255.255.192.0	14
B	255.255.128.0	15
B	255.255.0.0	16
A	255.254.0.0	17
A	255.252.0.0	18
A	255.248.0.0	19
A	255.240.0.0	20
A	255.224.0.0	21
A	255.192.0.0	22
A	255.128.0.0	23
A	255.0.0.0	24

Only certain values are valid for a Subnet Mask. The value is supplied by the network manager should be one of the following:

LOCK DEVICE BACK E.M.F SUPPRESSION

It is important to check that the locking device is suppressed. Any electromagnetic device will produce a back E.M.F when power is removed.

This can interfere with and even damage other electronic equipment. Most good locking devices will already have suppression fitted. If not, you should fit an appropriate suppression device across the coil.

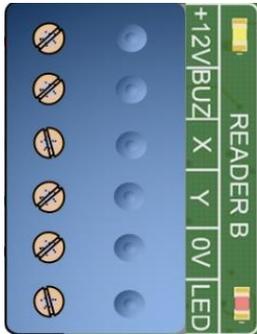
In the case of solenoid operated locks, a flywheel diode will do. Connect the cathode (Bar End) to the positive and the anode to the negative terminal of the coil. The diode will need to be rated at the full operating current of the coil.

Do not use a diode for a mag-lock, as this will cause an excessive delay to the release of the door. A MOV or VDR is a far better choice. Polarity is not critical, but make sure the rated voltage is greater than the normal operating voltage of the lock.

P4.NET CONTROLLER USING ETHERNET

Cables:

Cable Function	Cores	Screened	Twisted Pair	Strands per Core	Core Strand Thickness	Conductor Area	Resistance per 100m
Readers	6	Yes	No	7	0.2mm	0.22mm ²	9.2Ω
Keyboards	8	Yes	No	7	0.2mm	0.22mm ²	9.2Ω
Network	4	Yes	Yes	7	0.2mm	0.22mm ²	9.2Ω
Locks	2	No	No	16	0.2mm	0.50mm ²	4Ω



P4 Controller	Progeny HID Prox	Progeny iCLASS	Crystal 4 Wire
Template:	2: Progeny Prox	2: Progeny Prox	0: Crystal (Default)
+12V	Red (+12V)	Red (+12V)	+12V
BUZ	Yellow (BUZ)	Yellow (BUZ)	
X	White (D1)	White (D1)	X
Y	Green (D0)	Green (D0)	Y
0V	Black (0V)	Black (0V)	0V
LED	Orange (LED)	Orange (LED)	
Earth Stud	Screen	Screen	Screen

For full Manual download using this link:

<https://progeny.co.uk/wp-content/uploads/2018/05/MAN0034-P4-P4.net-V4.50-Controller.pdf>



4003-17 P4.PoE-17 V4 Manual

(Addendum to P4.net Manual)

Product Codes

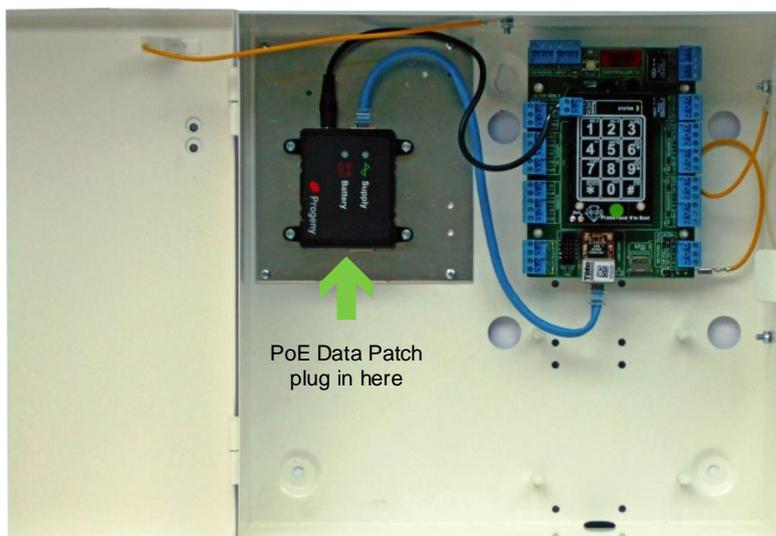
4003-17 P4.PoE Controller (1 Door)

4003-INJ-17 Power injector for 4003-17



SAFETY NOTES

- Please read this manual carefully before attempting to install, program or operate the Progeny access control equipment.
- This equipment must be installed in line with all relevant regulations and standards.
- Make sure that wiring is rated according to fuses and current limits of relevant power supplies.
- All connections to this unit must be SELV level. (Safety Extra Low Voltage, BS EN 60950 1992)
- No users should access the control box. Access is limited to qualified personnel only. All user programming for the controller is either done at one of the keyboards or at the PC.
- Every effort is made to ensure that this manual is complete and free from errors. However, we reserve the right to make changes to these products and this manual without notice.
- No liability is accepted for loss damage or injury as a consequence of using these products or instructions.

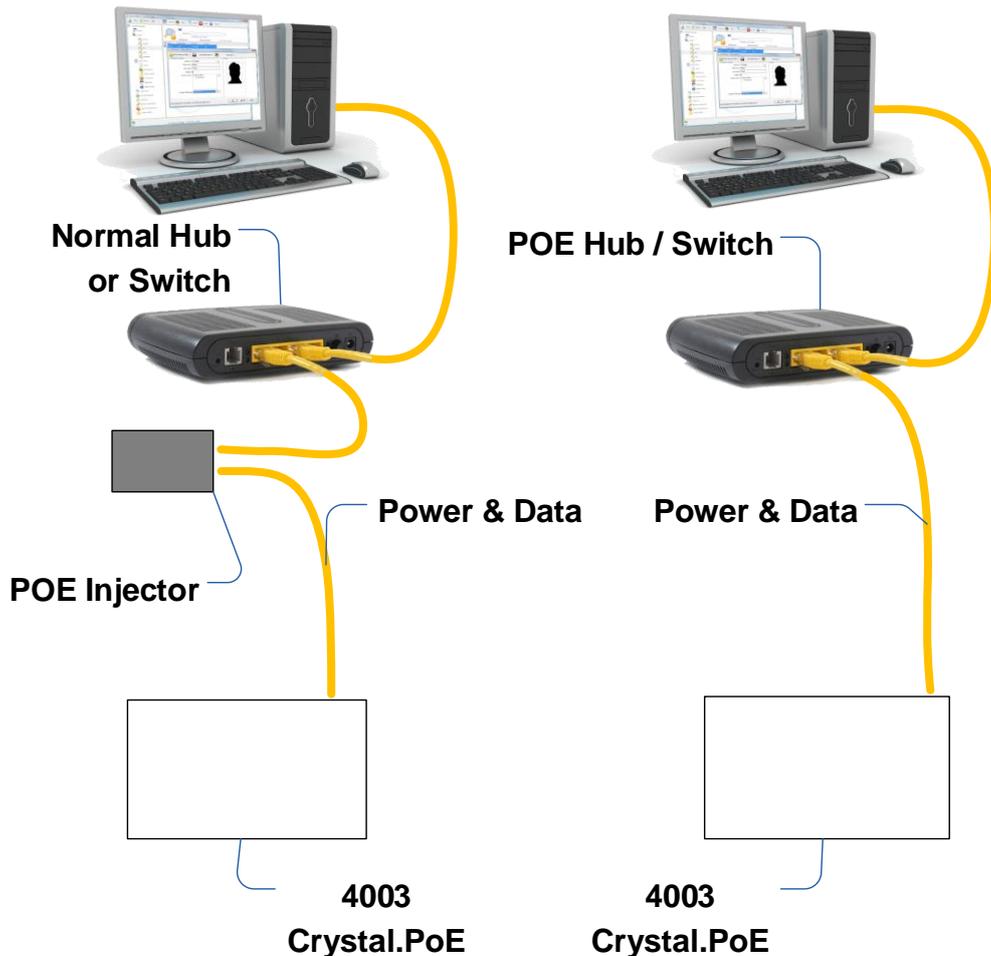


Introduction

The P4.PoE controller is a single door access control unit which takes its power from the same Ethernet cable that provides communication. This can save installation time and can be used where it is impractical to get a mains supply.

The switch used to connect to the controller will need to be a PoE switch or have an external PoE injector to add power to the data cable. The switch or injector should be IEEE 802.3af 15.4W type or better.

At the controller end the power and data are split and 12V is made available at 1.7 Amps.



Power Supply Budgeting

Careful attention should be paid to the supply loading budget. Check the supply current drawn by each device you intend to connect and make sure you do not exceed the 1.7 A available.

Supply Available	1700 mA
- P4.net controller Module	200 mA
- Crystal Reader for entry	50 mA
- Crystal Reader for exit	50 mA
- <u>Locking Device</u>	<u>600 mA</u>
Spare Capacity	800 mA

Other locking devices with lower supply current would give more headroom.

Specification

- PoE Standard IEEE 802.3at
- Supply Voltage 12.0V (12.2V Typical at 1.7 Amp Load)
- Supply Current (Total) 1.7 Amps
(1.75 A Typical, this can be dependent on Switch or injector)
- Number of Doors Single Door Controller

3107 USB to P4 RS485 Interface Adapter

INTRODUCTION

This Manual covers the 3107 Progeny USB to RS485 adapter for use with P4 One and Two Door Controllers product codes 4002 and 4002D respectively. This device creates a virtual com port on the PC and allows for connection of P4 controllers that are up to 1000m away.

NB: Regardless of the number of interconnected devices the maximum drop length of the cabling is 1000m.



The USB RS485 converter is housed in a strong plastic enclosure designed for use in rugged application areas. 3107 adds a Windows serial Com port via its USB connection and can be configured to work with the RS485 of the P4 network. USB Plug and Play.

Connection to USB is via a 0.9m detachable USB cable (supplied). Longer USB cables can be purchased separately if required.

P3 Controller settings

(NB: Required only if P4 firmware less than 3.27, P4 does not require this change)

In order for the 3107 to be able to communicate properly the network transmit timing of the P3 controllers must be delayed slightly. This is done through engineering function 29 with a value of 2.

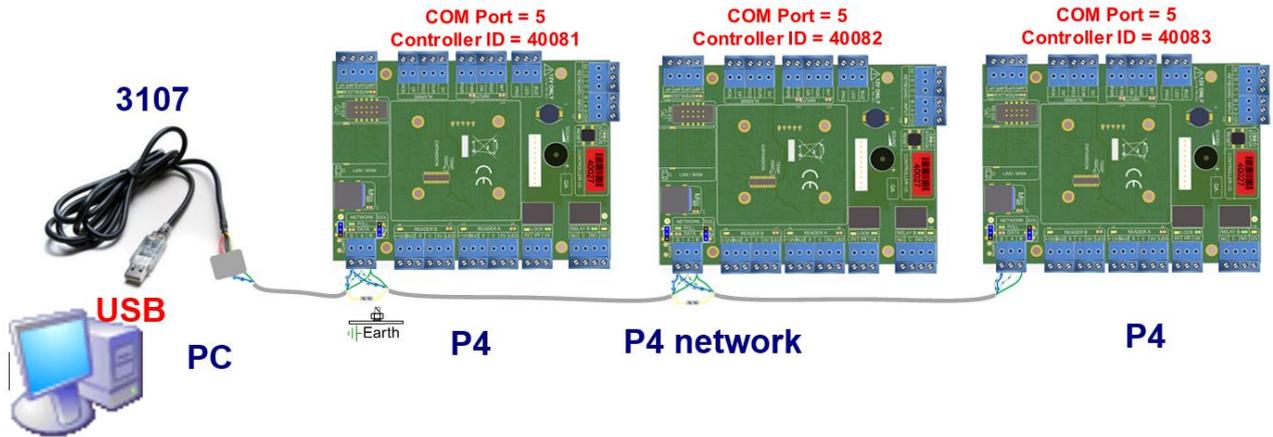
Enter: * 1 2 3 4 5 6 *29 2 #

This needs to be done at each controller to be connected to the adapter.

Steps to install your adaptor

Procedure:

1. Wire to P4 Controller Network
2. Connect to the USB Port
3. Set the adapter virtual COM port
4. Adjust the advanced settings



Drivers

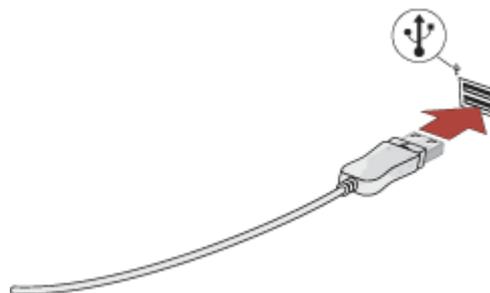
The 3107 USB VCP drivers are pre-installed on Windows 8, 8.1 and 10.

(STEP 1) Connect to the P4 Network

The 3107 USB to RS485 serial converter needs connecting in the following way. The Screen on the P4 network cable segments should be connected together and connected to Earth at the controller nearest to the USB adapter.

USB Adapter Connection	Wire	P4 Network Connection
A	Orange	A
B	Yellow	B
+5V	Red	NC
Terminator A	Brown	NC
Terminator B	Green	NC
GND	Black	G

(STEP 2) Connect to the USB Port

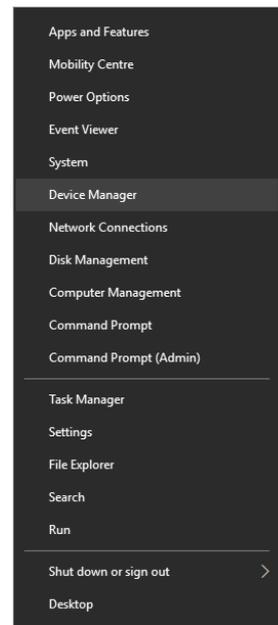
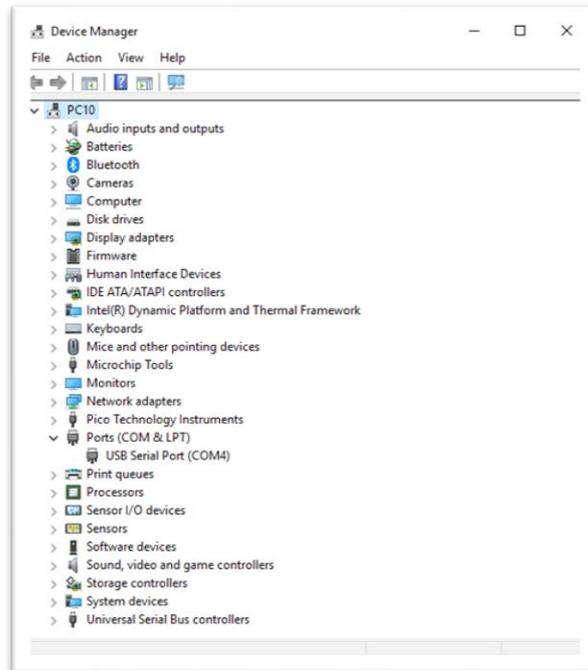


(STEP 3) Set the virtual COM port number

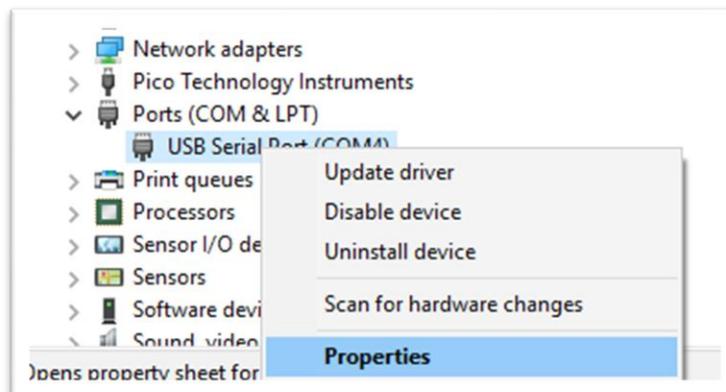
This is a general guide detailing how to find out and adjust the settings of the FTDI Virtual COM Ports.

On your windows keyboard press and hold the Windows Key then press the X key. The menu shown here will pop up.

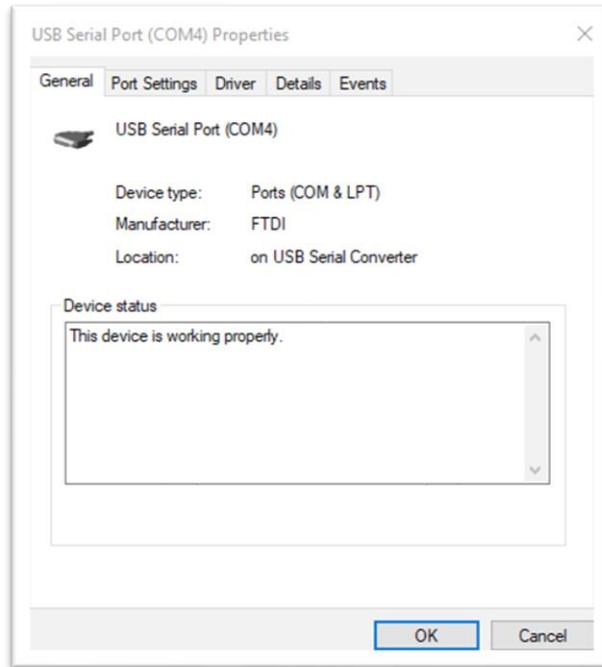
Click on the “Device Manager” menu option:



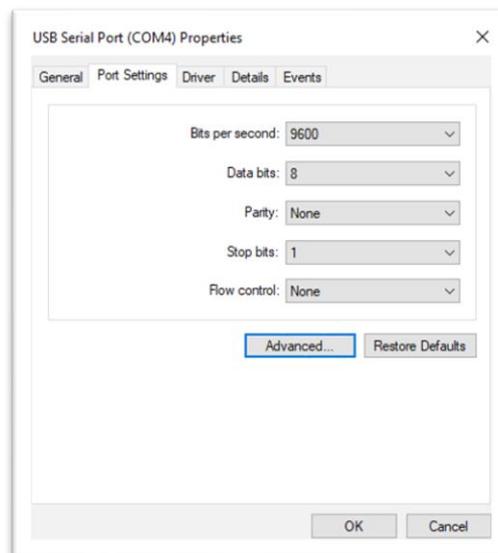
Next, right-click on the “USB Serial Port” device listed under ports. From the pop-up menu select properties.



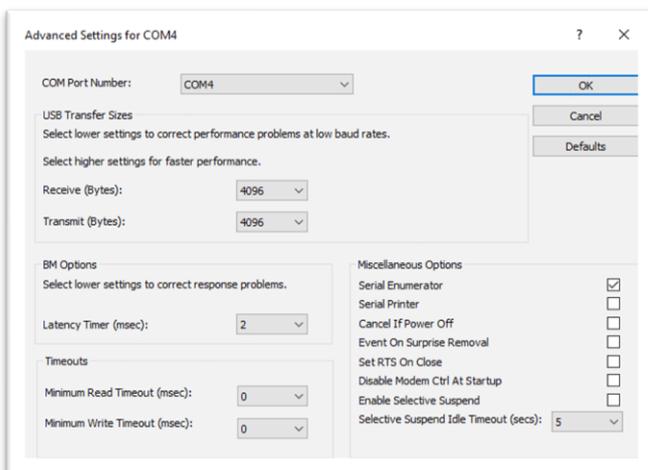
Select the “Port Setting” Tab:



Then Click the “Advanced Button”



(STEP 4) Advanced Settings



From here you can specify the COM Port Number.

Make sure the “Latency Timer” is set to 2 (msec)

4059 C4 Compact Controller Manual (Bitesize)



Introduction

The C4 is the latest compact controller from Progeny. C4 can work alone as a combined controller Keypad or Controller RFID reader or both. C4 can also be used with an externally connected Keypad, Reader or Reader-Keypad. The latter allows the role of the C4 to become a programming station or touch sensitive Request to Exit button or both.

Safety Notes

- Please read this manual carefully before attempting to install, program or operate the equipment.
- This equipment must be installed in line with all relevant regulations and standards.
- Make sure that wiring is rated according to fuses and current limits of relevant power supplies
- All connections to this unit must be SELV level. (Safety Extra Low Voltage as defined in BS EN 60950-1:2006)
- Every effort is made to ensure that this manual is complete and free from errors. However, we reserve the right to make changes to these products and this manual without notice.
- No liability is accepted for loss damage or injury as a consequence of using these products or instructions.

<https://progeny.co.uk/wp-content/uploads/2017/08/MAN0001-4059-C4-Controller.pdf>

For full Manual download using this link:



Programming

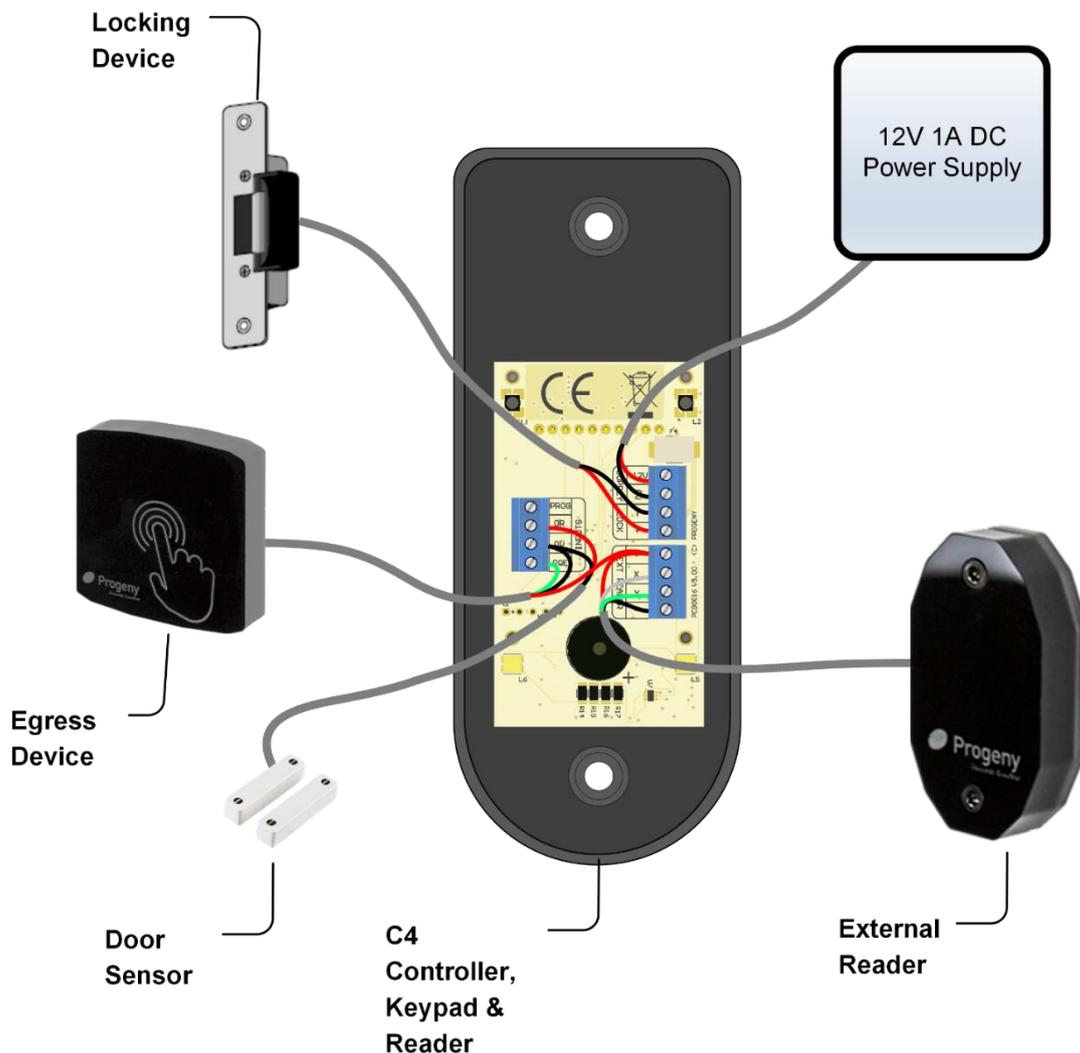
The C4 controller is capable of being programmed “Stand-Alone” from the onboard or externally connected Keypad. If planning to use the external keypad then you may need to enable the Star Key from the integral keypad (See engineer function 19).

Programming is achieved by entering a password at the Keypad followed by a menu selection code. There are two Programming Menus, one for the USER and one for the ENGINEER. Each menu has a separate six-digit password. Depending on the menu option selected, configuration data can then be entered at the Keypad.

Menu	Factory Default
User	654321
Engineer	123456

The default factory set passwords are:

Connection Diagram



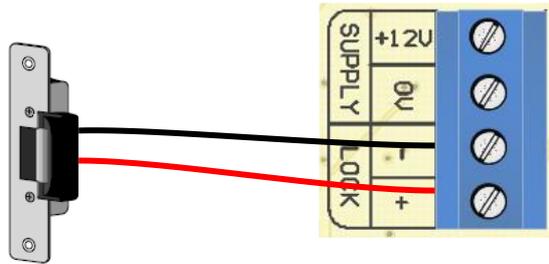
Quick Start Guide

To quickly set up and test your controller follow this procedure.

Wiring

Connect the locking device to the controller. Note if you are connecting to a magnet or any other fail open device you will need to set the “Lock Drive Mode” to 1. See Engineer function 14.

1. Connect the Lock
2. Connect a 12Vdc supply to the controller
3. Switch on the supply



Setting the Access Code

Once all the connections are made, the following procedure will get access using an access code **7890**.

1. Use the Access Code menu (see Page 78): * **6 5 4 3 2 1** * 0 1
2. Enter the new access code **7 8 9 0** #
3. Press the # key to finish.

Adding Credentials

Once all the connections are made, the following procedure will allow you to test a Credential.

1. Use the Adding Credentials menu (see Page 78): * **6 5 4 3 2 1** * 0 4
2. Now present the required Credentials to the reader one after the next.
3. Press the # key to finish.

Testing

Now test by presenting the Credential you enabled to the reader: The reader LED will turn green and the lock output will operate for 3 seconds.

Other Quick Starts

Other quick tests you can try are:

Request to Exit

Temporarily short the RQE input to 0V. This simulates a Request to Exit Button Push and will operate the lock output for 3 seconds

Quick Programming Tips

Key Switch

A key switch can be connected to allow quick access code change. This is very helpful if you have to change the code on a regular basis.

User Admin Credential

The user menu functions can all be accessed using a pre-defined administration credential. This takes the place of entering the User Menu Password. See “User Function 10” for more details

It is highly recommended that these passwords be changed in order to prevent hacking.

User Menu

The User Menu is accessed by entering * followed by the User Password. The default for this is 654321.

User Menu #	Description	Default Value
* 00	User Menu Password	6 5 4 3 2 1
* 01	Access Code	None
* 04	Add Credential by Number or Discovery	-
* 05	Remove Credential by number or Discovery	-
* 10	Administrator Credential	-

User Menu Password

Passwords are the means by which the systems operator gains access to the programming functions. This is a 6-digit number and can be changed by using the following procedure.

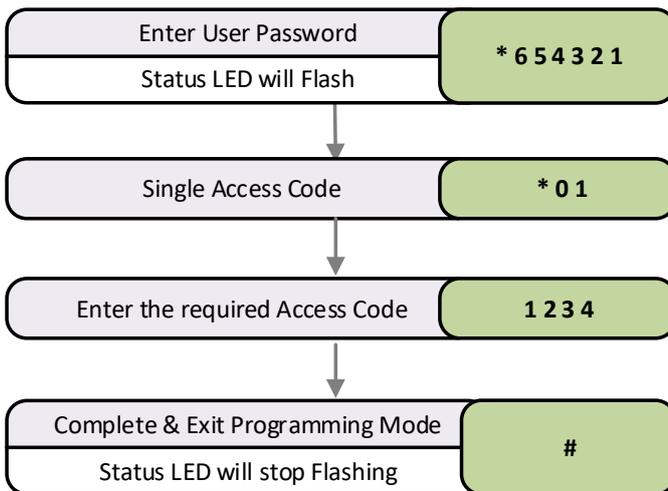
Changing the user menu password

This example shows the password changed to 234567.

Note:

To avoid having to remember the user password, an “Administrator Credential” can be nominated. See User function 10.

To use this Administrator Credential, follow the sequences as detailed in this manual but where you are asked to enter the User Password, present the Administrator Credential Instead.



Access Code

Setting the Access Code

User Function 01

The C4 controller has a single access code that can be programmed. The access code can be any number of digits from 1 to 8.

This example would set a 4 digit Access Code “1234”.

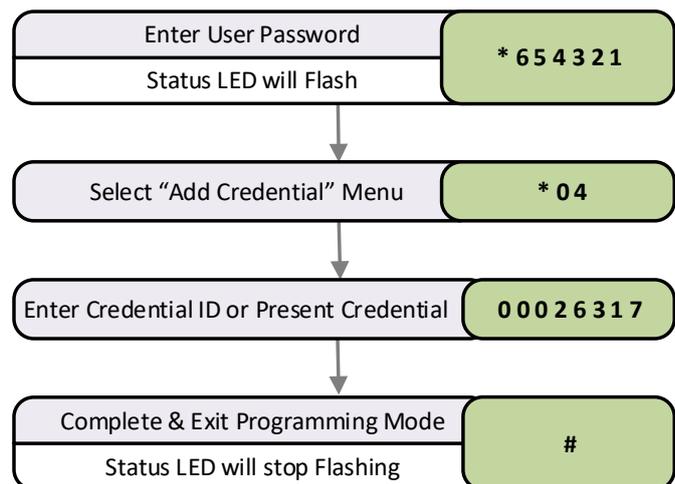
Credentials (Cards & Fobs)

Adding Credentials

Adding or enabling credentials by entering the Identification Number (ID) can be useful when the credentials themselves are not available or if a large number of credentials need to be added.

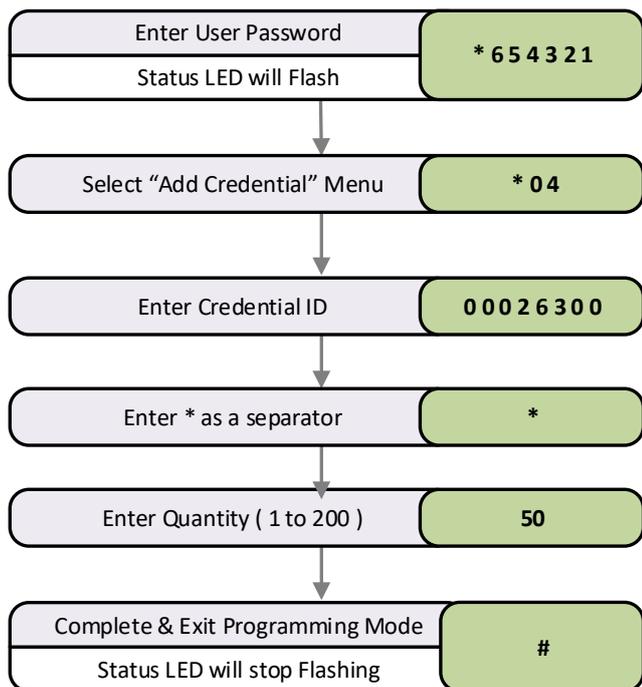
Single Credential:

Note: Some Credentials have a serial number printed on them. This should be used with the cross-referenced list provided with the Credentials, to determine the actual Credential number.



This example will enable a single Credential numbered 00026317

Block of Credentials



The quickest way to enable a whole group of Credentials is to use the “block add” method shown in this flow diagram.

The principle is to enter the ID of the first credential in the sequence and then specify the quantity to be added.

This example will enable 50 ID’s, from Credential 00026300 to 00263049.

Related User Menus:

- 05 “Remove Credential”

Related Engineer Menus:

- 20 “Keypad Mode”

Engineer Menu

Engineer Menu #	Description	Range	Default Value
* 00	Engineer Menu Password	000000 to 999999	1 2 3 4 5 6
* 02	Lock Release Duration	0 to 99 Sec	3
* 03	Door Alarm Delay	0 to 99 Sec	0 = Off
* 09	Penalty Time	0 to 99 Sec	0
* 10	Administrator Credential	00000000 to 99999999	0
* 12	Touch to Release Enable	0 or 1	0 = Disabled
* 14	Lock Drive Mode	1 to 2	2 = Power to Release
* 15	Auto Relock on Door Close	1= On, 0 =Off	0 (Off)
* 17	Clear Credential Data	749162	-
* 19	External Keypad * mode	0 to 1	0 = Disabled
* 20	Two Factor Authentication	0 to 1	0 = Disabled
* 31	Controller Alarm Volume	0 to 15	15
* 32	Controller Feedback Volume	0 to 15	8
* 33	Ext Reader Alarm Volume	0 to 15	15
* 34	Ext Reader Feedback Volume	0 to 15	8
* 58	Controller Status Light Brightness	0 to 9	5
* 78	Ext Reader Status Light Brightness	0 to 9	5
* 98	Clear Access Code	-	-
* 99	Reset User Password	-	654321

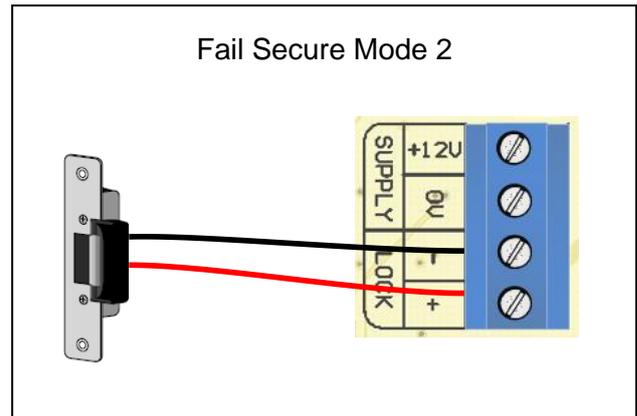
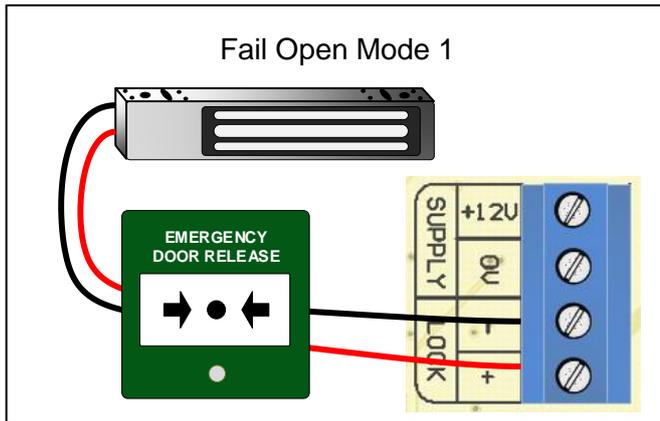
Lock Drive Mode

The electronic lock drive from a C4 controller switches the negative supply to the lock. By default, the output is programmed to drive a “Fail Secure” locking device. Power is only applied to the lock during the lock release time.

- “Fail Secure” = Power to release
- “Fail-Open” = Power to hold locked

If you are connecting a “Fail-Open” locking device such as a Door Magnet, then you will need to change the “Lock Drive Mode”

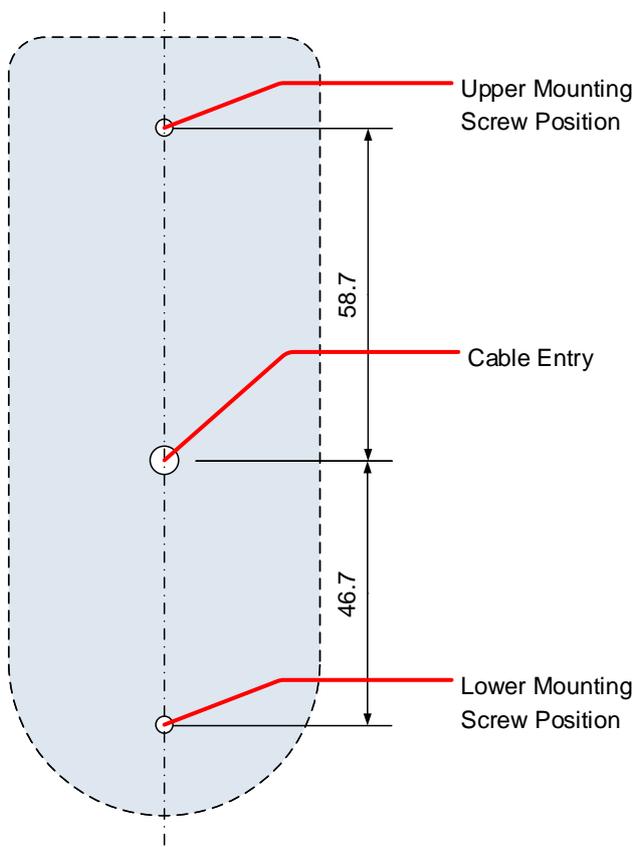
Lock Drive Modes 1 & 2



Restoring Factory Settings Reset Sequence

The reset button allows the engineer to perform a factory reset. This resets all parameters to the factory default values and removes all Credentials and the Access Code.

1. Remove Power to the Keypad/Controller
2. Press and Hold the "9" Key
3. Apply Power and keep hold the "9" Key until the status light turns blue.



The Controller will now use the factory settings for all codes and timings. See defaults listed in the User and Engineer menu.

In particular:

- User Password will be 654321
- Engineer Password will be 123456
- All Credential Data erased
- The Access Code is erase

Installation Mounting

The optimum location for the controller depends on the application. As a general Guide:

- Avoid mounting two RFID readers opposite each other on the same wall. Stagger them by one reader width.
- Mount at a convenient height for all users. Think about short and tall users and potentially those in wheelchairs.
 1. Drill a cable entry hole as shown in this diagram
 2. Draw a line vertically up 58.7mm and down 46.7mm. These are the centres for the two mounting screws.
 3. Pass the cable through the light pipe back plate & make all connections to C4.
 4. Screw the C4 Controller Into place over the light pipe.
 5. Test operation of the system before applying the membrane label.

N.B. The drawing here is not to scale. Do not use it as a template.

Power Supply Maximum Loads

The 12Vdc supply should have a capacity to run the electronics and locking device but also current limit suitable for the cable being used. For 7x0.2mm cables, this would be approximately 1A but check with your cable supplier.

Lock Suppression

It is important to check that the locking device is suppressed. Any electromagnetic device will produce a Back E.M.F when power is removed. This can interfere with and even damage other electronic equipment. Most good locking devices will already have suppression fitted. If not, you should fit an appropriate suppression device across the coil.

In the case of solenoid operated locks, a flywheel diode will do. Connect the cathode to the positive and the anode to the negative terminal of the coil. The diode will need to be rated at the full operating current of the coil.

Do not use a diode for a mag-lock, as this will cause an excessive delay to the release of the door. A MOV or VDR is a far better choice. Polarity is not critical, but make sure the rated voltage is greater than the normal operating voltage of the lock.

A more detailed explanation of Back E.M.F. can be located at our website here:

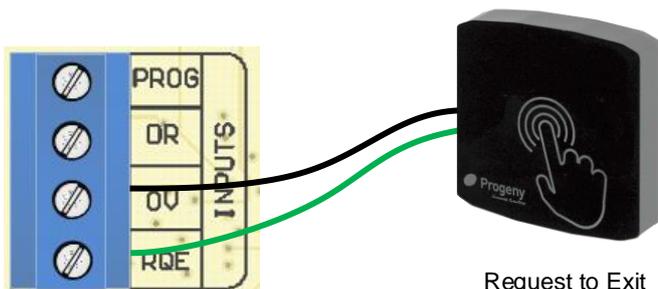
<https://progeny.co.uk/back-emf-suppression>

Inputs

Request to Exit (RQE)

The RQE "Request to Exit" input is used to trigger the lock release timer. The input accepts a normally open voltage free contact.

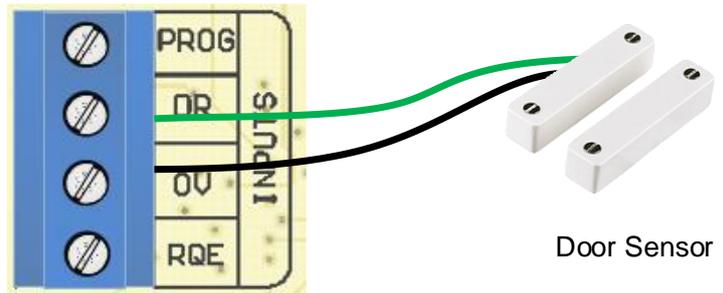
Generally, this input is used to provide egress where the locking device does not provide a mechanical override. Door Magnets and Turnstiles are a couple of examples.



Request to Exit

This input may also be used to provide a remote opening; from a reception desk or a video or intercom door entry system, for example.

Door Sense (DR)



Door Sensor

The Door Sense input is used to detect when the door is fully closed. The voltage free contact should be closed when the door is closed.

The example shown here is a separate sensor & magnet. Some locking devices including Door Magnets have a Door Closed Sensor built in.

The use of door monitoring is optional but there are many features that make use of this input including:

- Auto Relock
- Door Alarm (Failed to Close Alarm), (PDO)

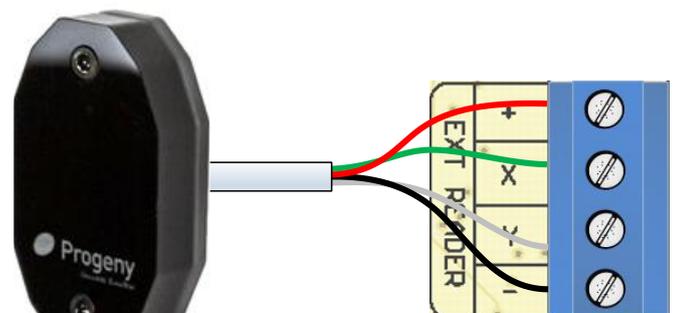
If the door is not being monitored, a wire link can be fitted between the "DR" input and the "0V" terminals or simply set the "Door Alarm Time" (Engineer Function 03) to 0.

External Reader / Keypad

Only one reader may be connected to the external reader input.

Cable & Connections:

Always use screened, none twisted cable. Don't exceed the 100m cable limitation.

4059 Controller /
Reader / Keypad

P2 V4 Controller Manual (Bitesize)

Product Codes:

4821 P2 V4 Online Controller (1 Door)

4821D P2 V4 Online Controller (2 Door)

4822 P2.net V4 Online Controller (1 Door)

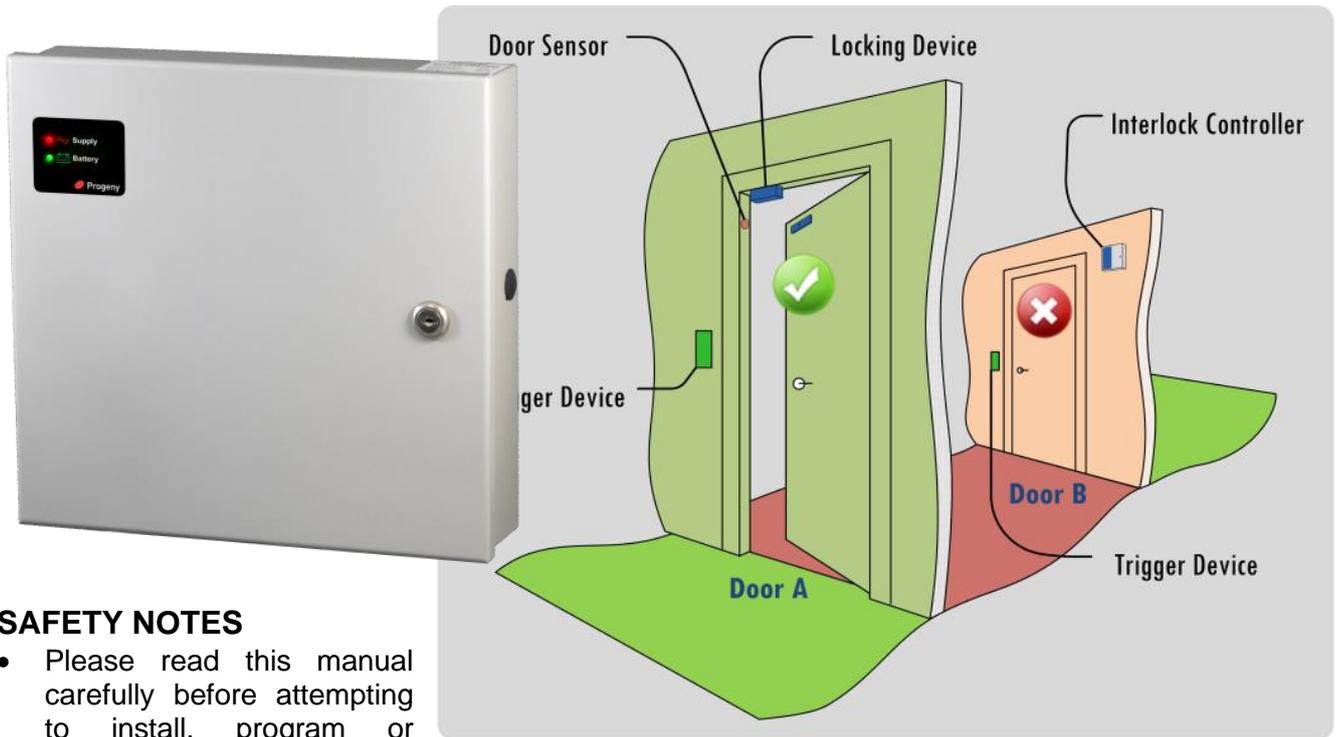
4822D P2.net V4 Online Controller (2 Door)



For full Manual download using this link:



2089 / 2089D Interlock Controller



SAFETY NOTES

- Please read this manual carefully before attempting to install, program or operate the Progeny access control equipment.
- This equipment must be installed in line with all relevant regulations and standards.
- Make sure that wiring is rated according to fuses and current limits of relevant power supplies.
- Apart from the mains supply, all connections to this unit must be SELV level. (Safety Extra Low Voltage, BS EN 60950 1992)
- No users should access the control box. The control box contains hazardous voltages and access is limited to qualified personnel only.

2089 - INTERLOCK PCB

This unit provides 12V at 1A as well as door monitoring & interlock facilities.

The user terminations are illustrated in the diagram below. Most inputs to this unit are optoisolated and provide either NC (normally closed) or NO (normally open) switch connection.

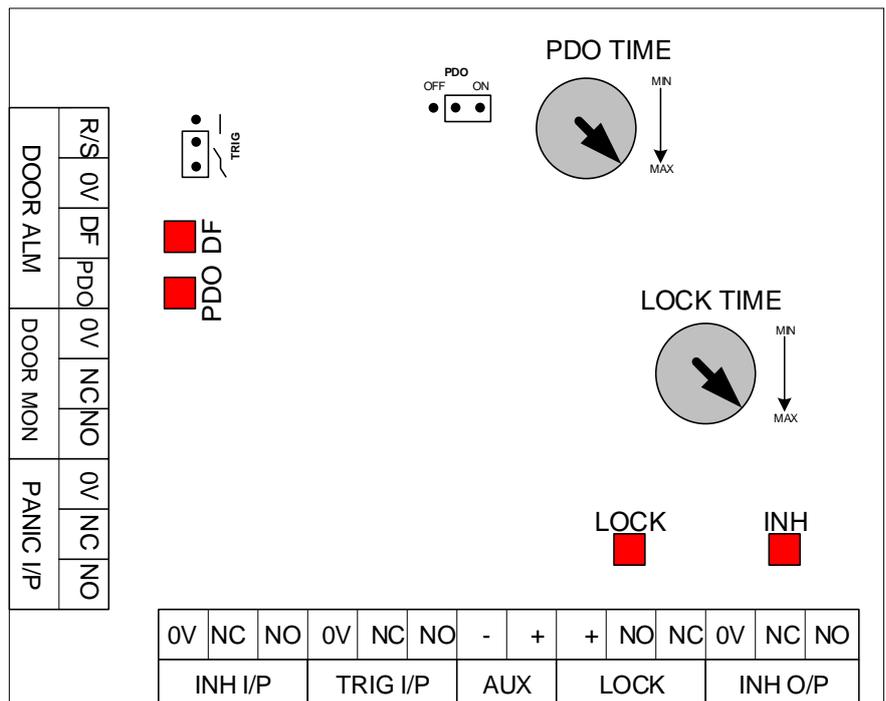
ADJUSTMENTS

PDO

This sets the time from door opening to PDO alarm. The range of the time setting is 1 to 20 seconds, or if the ON/OFF option is set to 'OFF'.

LOCK TIME

This sets the duration of the lock timer and thus the time for which the lock output is



active. The range of time settings is 1 to 20 seconds.

TRIG

This link selects the trigger mode for the lock timer, either AC or DC coupling.

DOOR ALM (R/S 0V DF PDO)

This set of terminals deal with the door monitoring alarms. R/S is normally open input to reset a 'Door Forced' alarm. DF and PDO terminals are open collector outputs switching to the 0V terminal for their respective alarm conditions.

The DF output is switched to 0V for the 'Door Forced' condition and the PDO is switched for the 'Prolonged Door Open' condition.

DOOR MON (0V NC NO)

A door switch may be wired to this input if door monitoring is required. This input is used to detect 2 types of alarm and to improve the interlock function. The 2 alarms are 'Door Forced' and 'Prolonged Door Open'.

If the door is detected as being opened before first triggering the lock timer then a 'Door Forced' alarm will be generated and latched. Shorting the R/S input to 0V resets this alarm.

If the door is left open for longer than the pre-set time the 'PDO' alarm will be generated. This alarm will cancel on the closure of the door.

A factory fitted link between 0V and NC should be removed if using a normally closed switch.

PANIC I/P (0V NC NO)

This input overrides any timer or inhibit condition and activates the lock output for as long as the input is active.

A factory fitted link between 0V and NC should be removed if using the normally closed switch.

INH I/P (0V NC NO)

This input allows interlocking of two doors. When activated this input will prevent the triggering of the "lock timer".

A factory fitted link between 0V and NC should be removed if using a normally closed switch.

TRIG (0V NC NO)

This input is used to trigger the lock timer. The lock time is adjusted using the trimmer

marked 'Lock Time'. This input may be wired to a push button or the output of some other control equipment.

A factory fitted link between 0V and NC should be removed if using a normally closed switch.

The operation of the trigger can be in one of two ways:

- (1) If TRIG is set to DC then the lock timer will only start when the input is returned to its normal state. Thus if the input is held active for 10 seconds then this time will be added to the lock time.
- (2) If TRIG is set to AC, the lock timer will start immediately after the input is activated. Thus the lock time will be unaffected by the duration of the trigger pulse.

AUX (+-)

These terminals are powered from the PSU and are 12V ONLY.

LOCK (+ NO NC)

This output is used to drive a magnet or strike. It provides a common +ve (12V) and 2 (two) switched terminals NC and NO. The NC terminal is normally connected to 0V, but disconnected during the lock time and would be used for fail-safe locks or strikes.

The NO terminal is switched to 0V for the duration of the lock time and would be used for "fail secure" locks or strikes.

Each output will drive up to 2 Amps. Please allow 0.5 Amps for battery charge.

For 24V locks, the wire between either NO or NC of LOCK and 24V output from a 24V PSU. Remember to common the 0V of the 24V PSU to a 0V on the interlock controller.

INH O/P (0V NC NO)

This output can be used to interlock other doors or provide a remote indication of 'Door Insecure' status.

These are 2 terminations besides the 0V connection, they are marked NC and NO.

These outputs are open collector switching to 0V. They will change state for the duration of the lock time if the 'Door Mon' input is active.

INSTALLATION

MOUNTING

The optimum location for the controller depends on the application. As a general Guide:

- Always mount the control equipment on the secure side of the door.
- If the user needs to programme the unit from the keyboard on the front panel, mount at head height in an accessible location with reasonable light.
- Mount as close as possible to the door(s) to be controlled (less than 100m).

Offer the opened back of the enclosure up to the wall where the unit is to be mounted and mark the location of the fixing dimples on the wall. Drill and plug the wall. Bring in mains supply and other cables that are to enter via the rear cable access holes. Screw the controller to the wall.

POWER

The Interlock Controller should be connected to a 24 Hour 220/240V mains supply. Ideally, a fused spur should be used for this purpose. The cable used to connect the mains supply should be 0.75 to 2mm². A fused terminal block is provided for mains; observe the polarity when making these connections.

When designing an access control system it is important to make sure that the power supply is not overloaded. The built-in power supply of the interlock controller is capable of providing power for most standard applications. However, there may be situations where additional power supplies are required. These notes are intended to help you determine when this is the case.

Each enclosure can house one or two interlock controllers. The **5A PSU** in the enclosure supplies 1A at 12V to each controller channel.

The current drawn from the power supply falls into three main categories:

1. Supply current for internal electronics and charging batteries. For interlock controllers, this is reserved as 900mA.
2. Lock Loads (Magnets, Strikes etc.)
3. Auxiliary loads. (Indicators & sounders)

PSU POWER SUPPLY LOADS (MAXIMUM)

The loads on the PSU terminals are as follows:

PSU Terminal	Connection Type	Current Limit with Resettable Fuse
Battery Charger	Spade Terminal	1A
Control A	Grey Cable	2A
Control B	Grey Cable	2A
OP A	Terminal Block	1A
OP B	Terminal Block	1A
Aux	Terminal Block	2A

There are overload LED indicators next to each terminal connection on the PSU.

BUDGETING

Note that the above table shows the current limit of each connection and does not show the total budget available. **Total available current at any one time is 5A.** When budgeting for the load it is the **Peak** current values of the devices that will be connected that should be used.

BATTERIES

We recommend fitting a 12V 7Ah battery in the event of a mains failure. Batteries should be serviced at regular 24-month intervals.

IMPORTANT:

If rechargeable batteries are to be fitted then they must be of the correct type. The power supply is designed to charge sealed lead acid batteries. Do not connect NiCad or Dry Cell batteries.

- Power up sequence should be: Mains first then Battery
- Power down sequence should be: Battery first then Mains

2069 Interlock Programmer

The 2069 interlock programmer greatly simplifies the interconnection of door interlock schemes. Any combination of the Progeny Access Control products can be interlocked.

Once connected the direction of interlocking can be simply programmed using the DIP switches. The action of the interlocking can be monitored using the onboard LEDs.

MOUNTING

- Remove the 2 screws and lid from the back box. Offer the back box to the wall and mark the positions of the mounting holes at the back of the box.
- Drill and plug the wall.
- Screw the back box to the wall bringing any rear entry cables through as you do so.

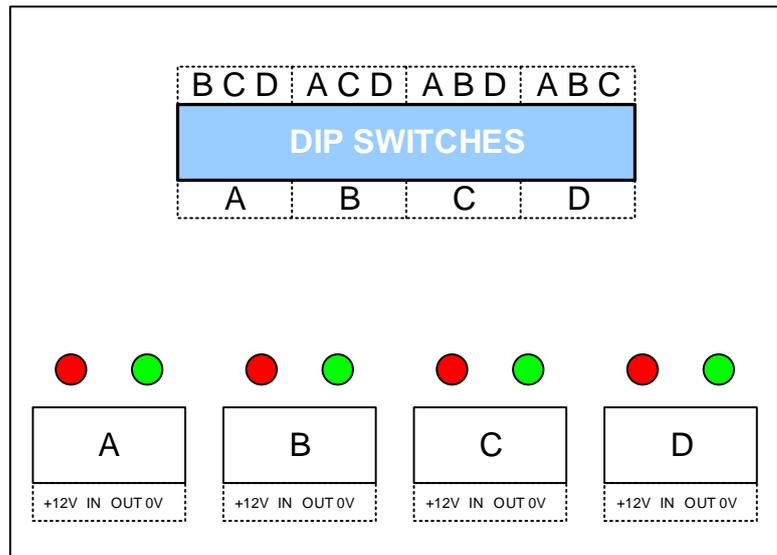
CONNECTION

Bring one of the four-core cables from each interlock board or Access Controller. The 2069 interlock controller takes its power supply from any or all of the controllers connected to it. The terminals are marked 12V but this voltage may be anything from 8 to 27.6V.

PROGRAMMING

Programming is achieved using a DIP switch in the centre of the PCB. The LED's adjacent

to the terminal blocks, where you connect the signal cables; indicate the status of the interlock signals.



Those LED's are positioned above terminals marked **IN** and **OUT**.

When '**OUT**' LED is lit, then that controller is signalling that the door it controls is open or insecure.

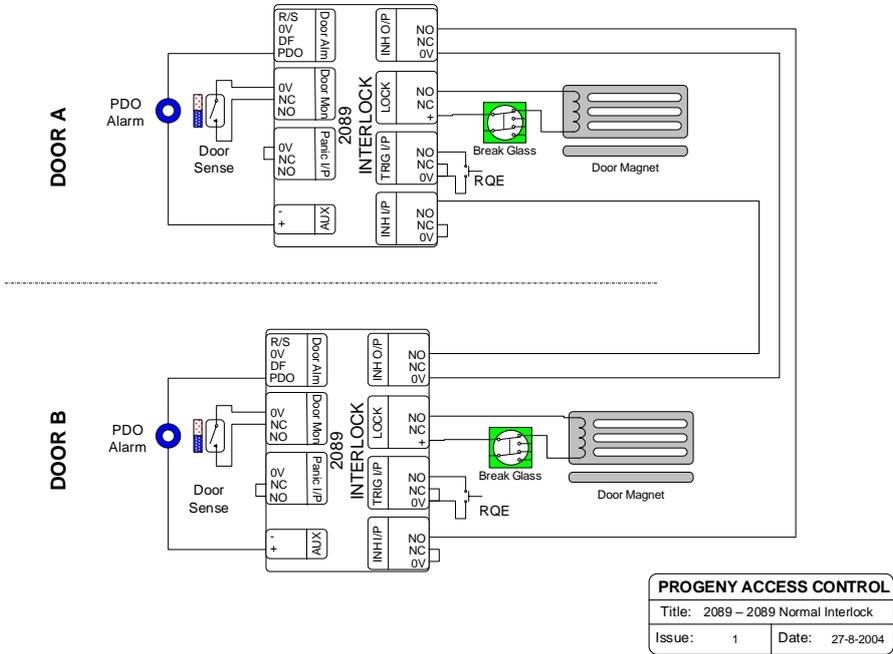
When the '**IN**' LED is lit, then a signal is being sent to the attached controller that it should not release the door under its control.

The interaction between the connecting doors can be set using the DIP switch 'S1'. The switch is labelled A, B.C and D. With all the switches off, no interlocking is active.

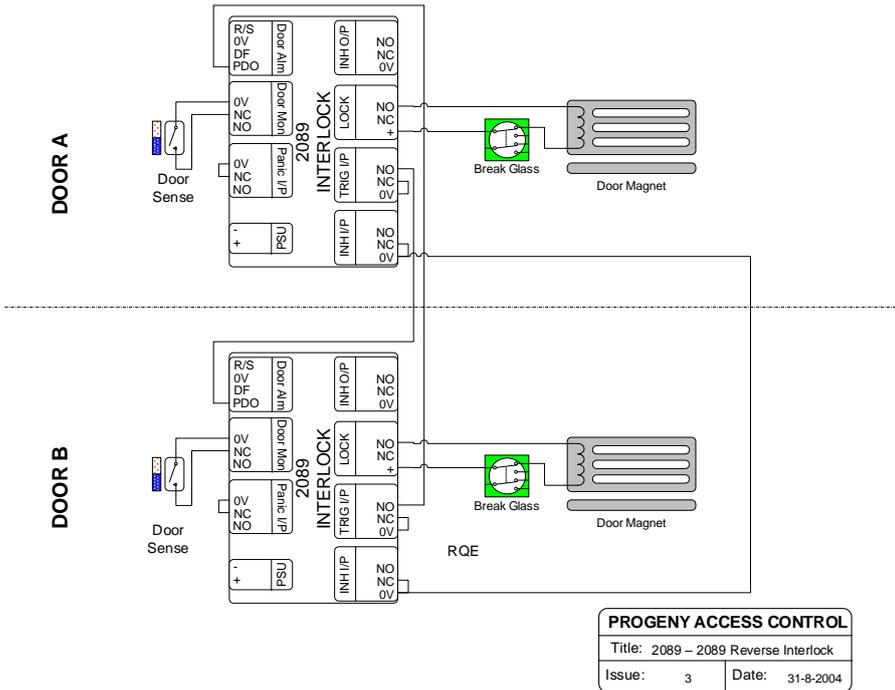
To get '**Door A**' to interlock (Hold Closed) Doors **C** and **D** while A is insecure (Open or Lock released), we simply switch '**ON**' the switches between **A**, **C** and **D**.

Interlock Connection Diagrams

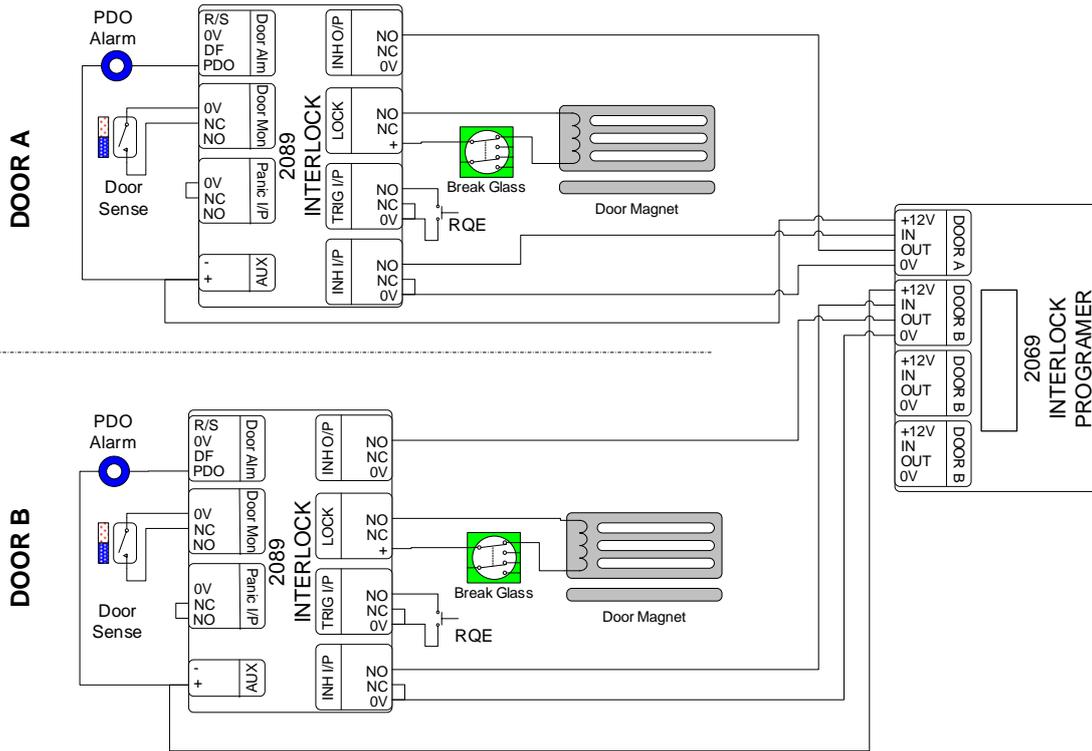
NORMAL INTERLOCK (2089/2089)



REVERSE INTERLOCK (2089/2089)

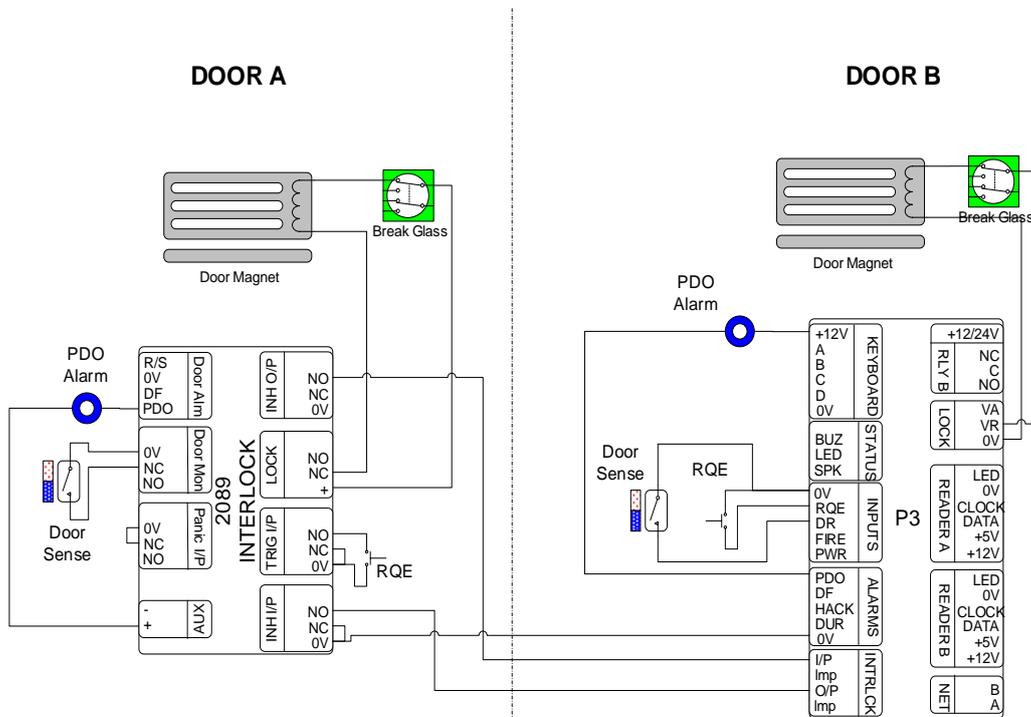


NORMAL INTERLOCK (2089D/2069)



PROGENY ACCESS CONTROL	
Title: 2 x 2089 – 2069 Normal Interlock	
Issue: 1	Date: 31-8-2004

NORMAL INTERLOCK (2089 to P4)



PROGENY ACCESS CONTROL	
Title: P3 – 2089 Normal Interlock	
Issue: 2	Date: 27-8-2004

Progeny Charger Power Supply Manual

Product Codes:

2071 Charger PSU (with Enclosure no Keypad) as general-purpose power supply

0011 Charger PSU (with Enclosure & Keypad) as service replacement

0048 Charger PSU Module (with Keypad no Enclosure) as service replacement

SAFETY NOTES

- Please read this manual carefully before attempting to install, program or operate the Progeny Access Control P4 equipment.
- This equipment must be installed in line with all relevant regulations and standards.
- Make sure that wiring is rated according to fuses and current limits of relevant power supplies.
- Apart from the mains supply, all connections to this unit must be SELV level. (Safety Extra Low Voltage, BS EN 60950 1992)
- No users should access the control box. The control box contains hazardous voltages and access is limited to qualified personnel only. All user programming for the controller is either done at one of the keyboards or at the PC.

New and Improved Power Supply

The new and improved Progeny 12V Charger power supply features an increased 5 amp capacity ensuring your access control system has a single box solution.

Features

- Improved 5amp capacity
- Touch Key Pad with built-in power unit (0048 only)
- Simpler, more aesthetic design
- Keypad locking facility
- Power and Battery indicators



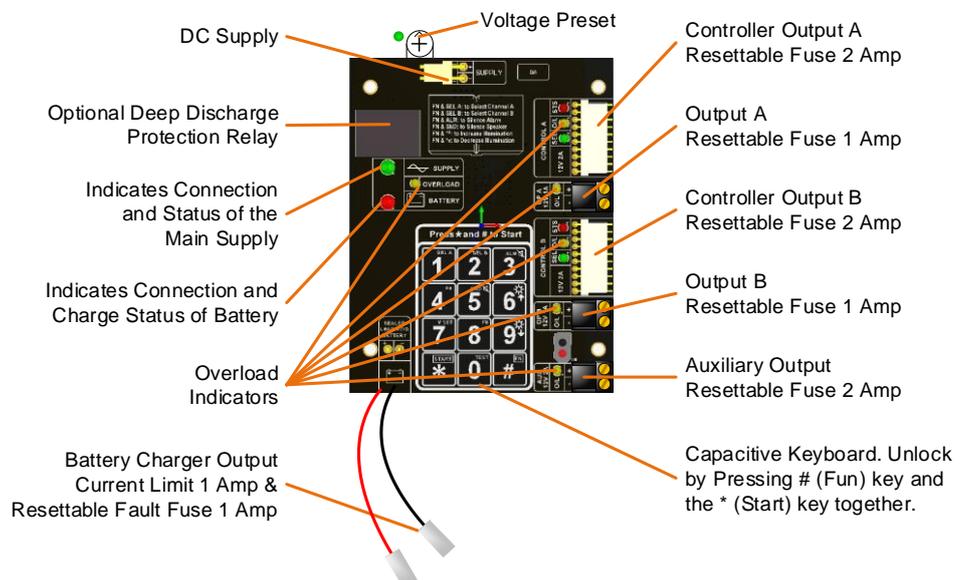
- Built-in service light
- New Charger features
- Optimised for Sealed Lead Acid Battery
- Battery charge status indication
- Battery connection overload protection
- Optional battery deep discharge protection
- 5 user load outputs with individual overload protection

Installation Instructions

Mounting

The optimum location for the controller depends on the application. As a general Guide:

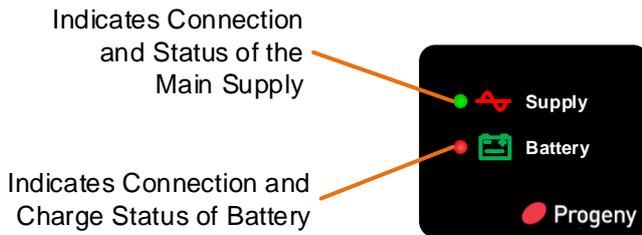
- Always mount the control equipment on the secure side of the door.
- If the user needs to program the unit from the keyboard on the front panel, mount at head height in an accessible location with reasonable light.



- Mount as close as possible to the door(s) to be controlled (less than 100m).

Offer the opened back of the enclosure up to the wall where the unit is to be mounted and mark the location of the fixing dimples on the wall. Drill and plug the wall. Bring in mains supply and other cables that are to enter via the rear cable access holes. Screw the controller to the wall.

Power



The P4 Controller should be connected to a 24 Hour 220/240V mains supply. A fused spur should be used for this purpose. The cable used to connect the mains supply should be 0.75 to 2mm². A fused terminal block is provided for mains; observe the polarity when making these connections.

Front Panel Indicators

When designing an access control system, it is important to make sure that the power supply is not overloaded. The built-in power supply of the P1 and P4 range of controllers is capable of providing power for most standard applications. However, there may be situations where additional power supplies are required. These notes are intended to help you determine when this is the case.

Each enclosure can house one or two door controllers. The **5A PSU** in the enclosure supplies 1A at 12V to each controller channel.

Power Supply Maximum Loads

To protect external wiring each output from the power supply has an individual current

Power Port	Connection Type	Overload Protected
Battery Charger	Spade Terminal	1A
Control A	Grey 10 Pin Cable	2A
Control B	Grey 10 Pin Cable	2A
OP A	Terminal Block	1A
OP B	Terminal Block	1A
Aux	Terminal Block	2A

limit or resettable fuse. There are overload LED indicators next to each output port that will light if the overload protection is activated. The maximum loads on the PSU terminals are as follows:

Budgeting

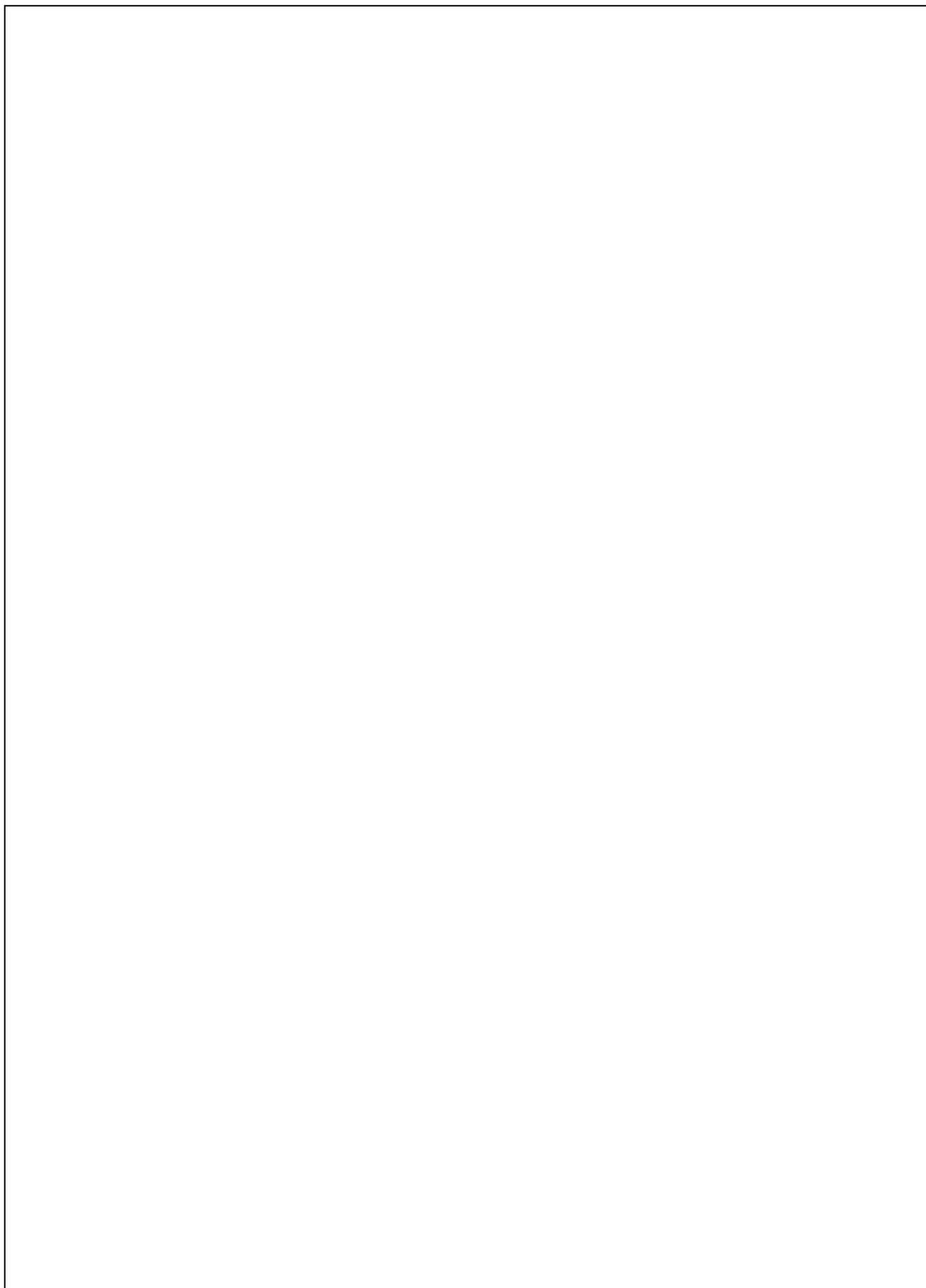
Note that the above table shows the current limit of each connection and does not show the total budget available. **Total available current at any one time is 5A.** When budgeting for the load it is the **Peak** current values of the devices that will be connected that should be used.

Cables

Pay close attention to the current rating of cables that are connected to this power supply and any fitted equipment. In particular the 2 Amp outputs, typical alarm cable is 7 strands of 0.2mm is only rated at 1 Amp. Check with your supplier of the cable you are using.

WARNING: Extreme caution must be used when opening the controller housing. DO NOT touch any connections or components other than the reset button. Avoid touching any of the terminations with a metal object such as a wristwatch or jewellery

Notes



Support

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Notes



**When you have finished with
this manual please recycle it.**