



Model BPR Compact Proximity Reader  
PD-367 Issue 3

**Items Supplied:**

1 x BPR Reader Module (May be fitted to a Panel)

1 x Diode (type 1N4007)

This Instruction Manual

**Also Required:**

Model PS4A or 340C Power Supply

Lock Release or Magnetic Lock

BP10, 10 User Fob Pack (1 or more)

Exit Button (optional)



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## Brief Description

The BPR Compact Proximity Reader is a complete access controller, based on the Mifare 13.56MHz tag technology, and can service up to 1000 Users. It is designed to be Panel mounted in a stainless steel or aluminium panel of between 2.5 mm to 3.0 mm thickness.

## Other Features:

- User & Shadow Fobs (supplied separately)
- Suitable for Fail-Secure or Fail-Safe Lock releases or Magnetic Locks
- Push-to-Exit Button (optional)

## Installation Instructions

- 1) Ensure that the BPR Reader is mounted in the correct orientation with the connectors towards the bottom
- 2) Remove the rear cover to connect: Follow the Wiring Diagram on Pg 12, observing the cable and power supply requirements
- 3) Ensure a Diode is fitted directly across the Lock release contacts (see Pg 12)
- 4) By default, the unit is setup for a fail-secure type lock. If using a fail-safe lock or a magnetic lock, it is advisable to complete steps 5-7 before connecting the lock.
- 5) Power up the unit for the first time. After a brief sequence of Red-Green-Blue, the LED should slowly blink Red to indicate Factory status.
- 6) Follow the instructions on Pages 4 to enrol a Program Fob.
- 7) Next program the Lock Type and Duration (see Pages 7 - 8)
- 8) If desired, you can perform a basic test of the Lock operation at this point by operating the exit button or by momentarily shorting the terminals marked EXIT.
- 9) Finally enrol the User and Shadow fobs. You can enrol and test each pair individually, or you can enrol a series of user/shadow pairs before testing.

## BP10 Fob Pack for 10 Users

Each Fob pack contains: -

- Unmarked Mifare fobs (21) - sufficient for both User and Shadow fobs
- An A5 sheet of labels (as illustrated on the facing page).
- An A4 pocket sheet (wallet) for storing the Shadow & Program fobs
- A printed record sheet for recording Users

For each User there is a pair of labels (User and Shadow) with matching serial numbers as shown. These should be applied to one side of each fob.

Shadow fobs are essential for deleting Users from the system and should be carefully retained using the included wallet

There is an additional label marked Program in each pack, although only one Program fob is required per BPR reader.

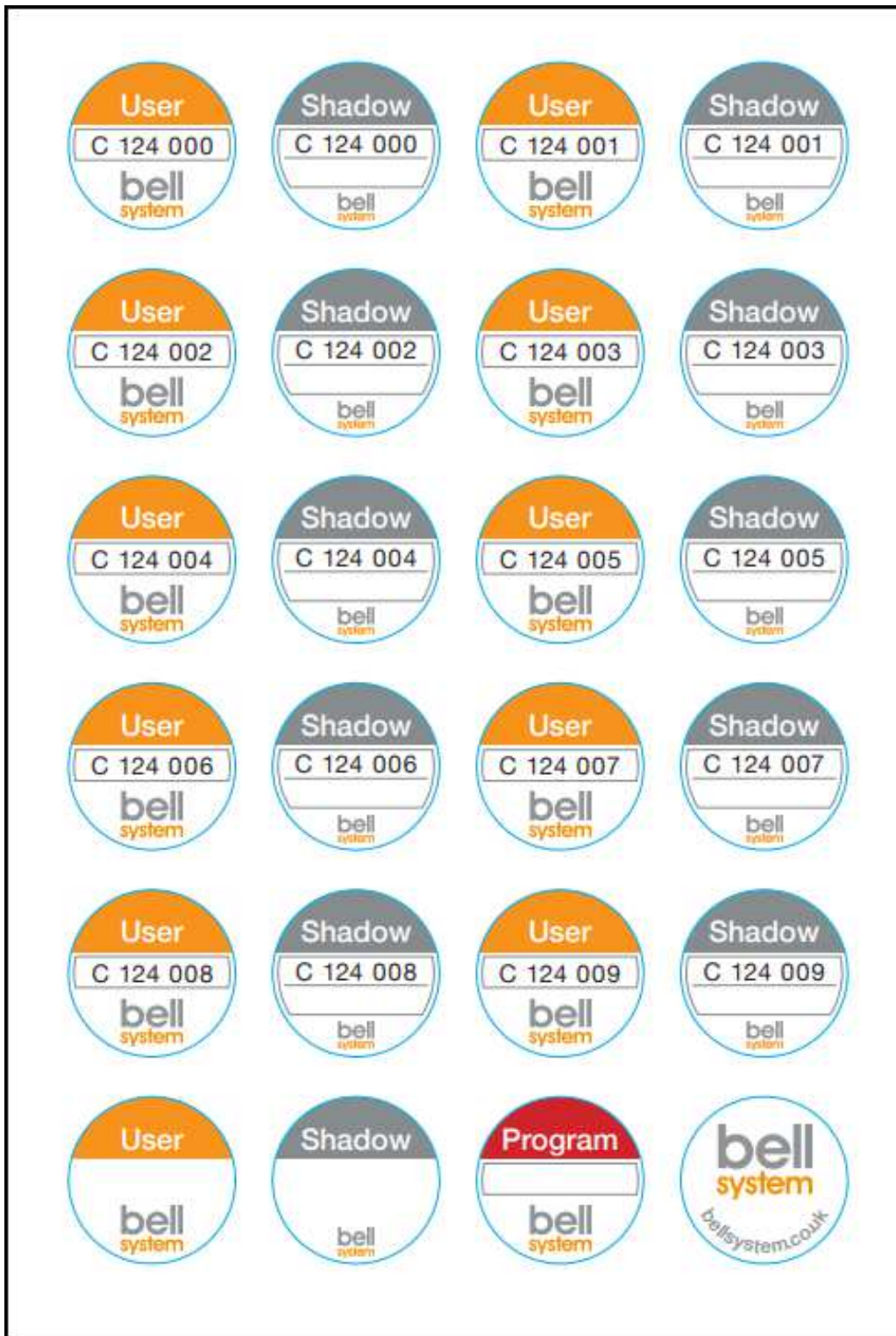
## Maintaining Records

As User Fobs are issued, it is recommended that a record of Users is created as shown below. A record sheet is included in each fob pack and is printed at the back of this manual. There is also space on each shadow fob label to record the User's name using a marker pen.

Fob Serial No.	User Name	Fob Serial No.	User Name
124 000	Jim Cooper	005	Luke Patterson
124 001	Thomas Abel	006	Bob Underwood
124 002	Cindy Walker	007	Aisha Patel
124 003	Shirley Todd	008	Jackie Cooper
124 004	Gordon Davies	009	Roger Brown

Note: Only the last 3 digits needs to be recorded when the first three digits are identical for all fobs on the system.

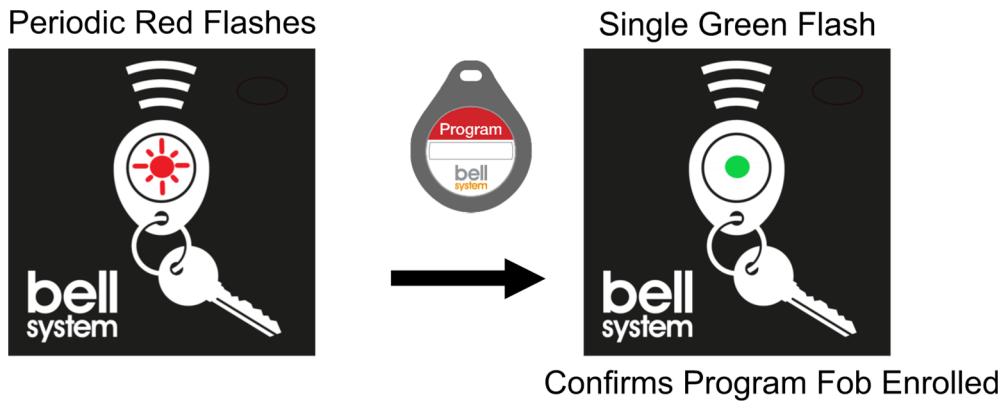
## Illustration of 10-User label sheet



(Two spare User/Shadow labels are provided without serial numbers.)

## Initial Programming

When the BPR Proximity reader is supplied from the factory or if a factory reset has been applied, the first step requires a Program fob to be enrolled. When power to 12V +/- is applied, the led flashes Red to indicate that it is ready to receive a program fob.



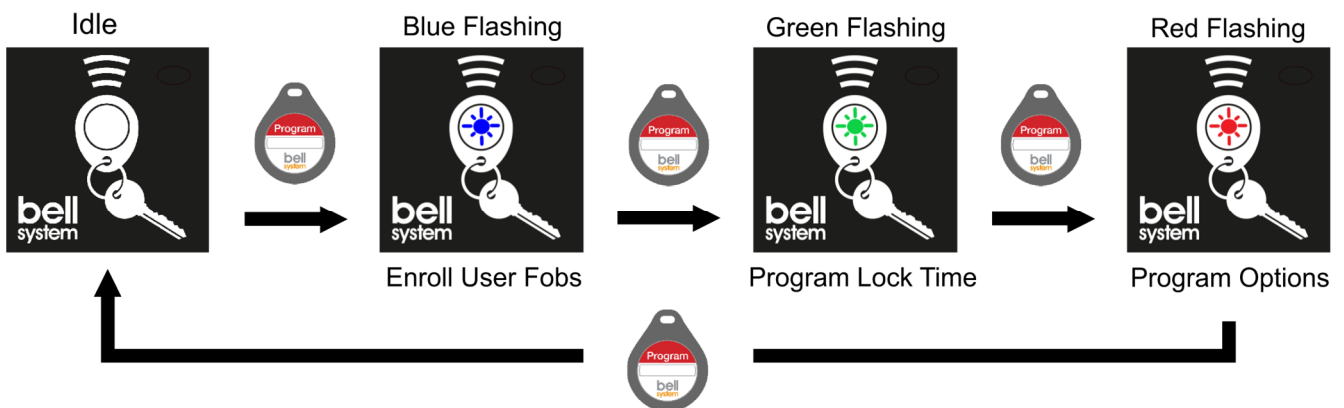
Present the Program fob to the reader which should respond with a single Green flash of the LED and a brief tone to confirm acceptance. The LED should now be off, indicating that the reader is in normal operating mode and ready to accept program instructions.

## Using the Program Fob

The Program fob is used to set the Reader into one of three programming modes:

Mode	Enrol/Program	LED Indication
1	User + Shadow fobs	Blue Flashing
2	Lock duration	Green Flashing
3	Lock type and Sounder mute	Red Flashing

Each time the program fob is presented to the reader it will jump to the next mode: -

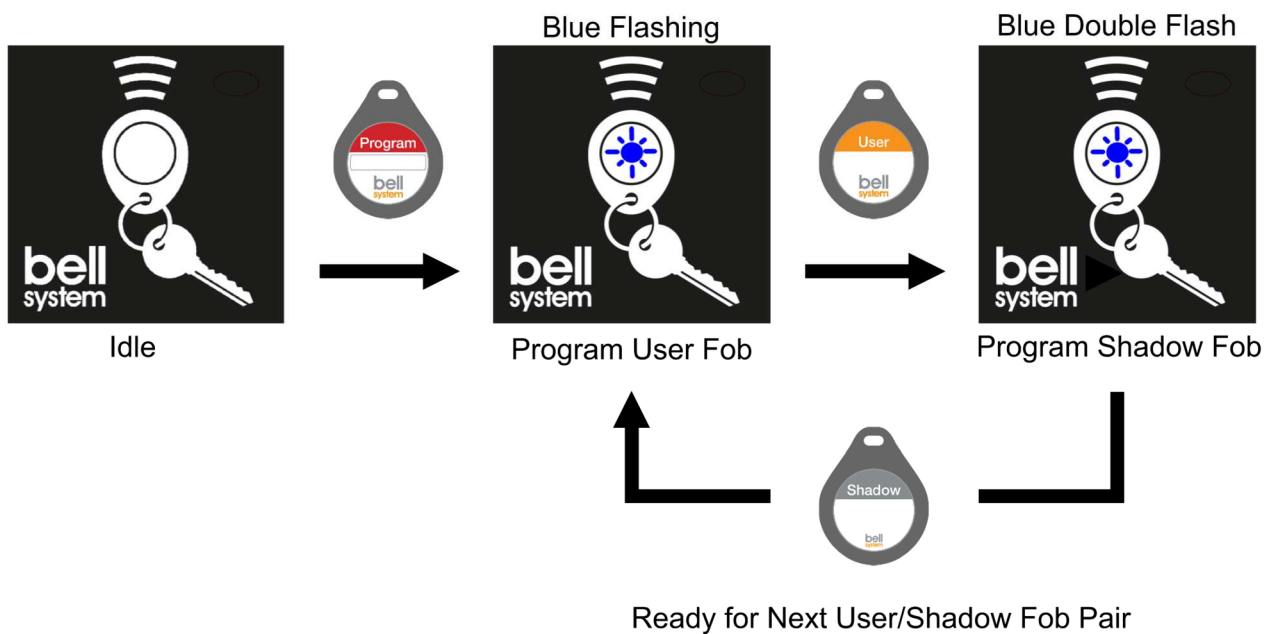


## Enrolling User Fobs

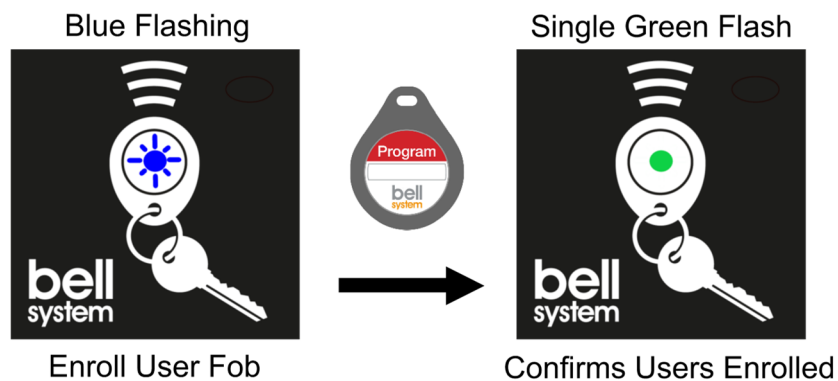
User and Shadow fobs are enrolled in Pairs and **must have matching serial numbers**.

A User Fob will not be enrolled unless a Shadow Fob has also been presented.

- Step 1) Present the Program Fob to Enter Mode 1 (“Enrol User and Shadow Fobs”)
- Step 2) Present a User Fob when the reader is flashing Blue (single flashes)
- Step 3) Present the matching Shadow Fob when the reader is double flashing in Blue.
- Step 4) Repeat Steps 2 & 3 until all the required fobs are programmed.



The sequence can be ended by presenting the Program Fob again or allowing it to timeout after 30 seconds of no activity: -

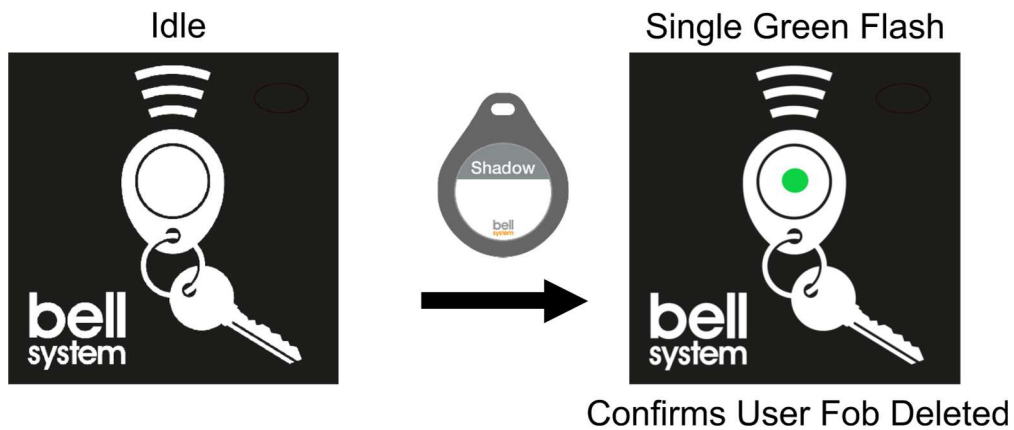


## Deleting User Fobs

(Note: The Program Fob is not required)

User Fobs are deleted from the system using shadow Fobs. The shadow Fob should have a matching serial number to the user Fob to be deleted, which can be ascertained from records kept at the time of initial programming. Alternatively, the user's name or other identifying mark may have been recorded directly on the Shadow Fob with a marker pen.

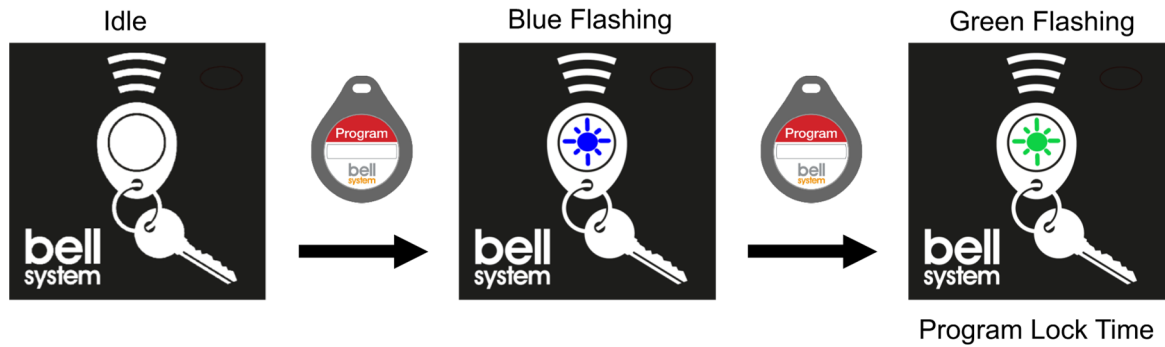
To delete a User Fob, simply present the Shadow Fob to the BPR reader:



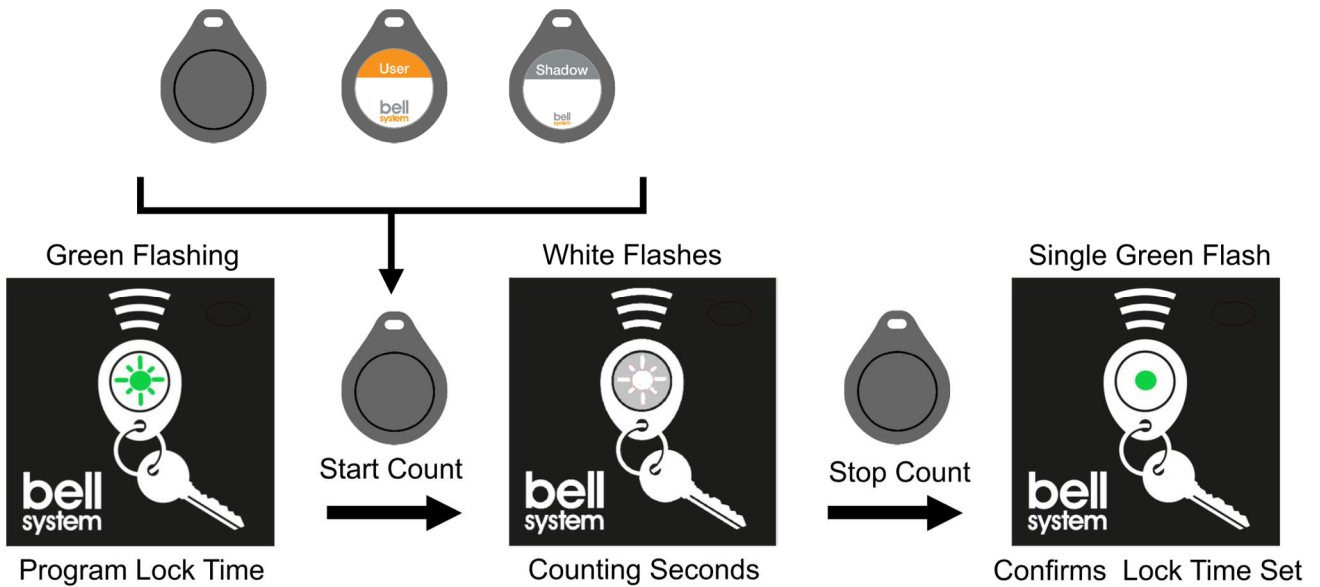
# Programming the Lock Release duration (1-20 secs)

Factory default: 3 secs

Present the Program Fob twice to Enter Mode 2 (“Program Lock Time”), confirmed by the reader flashing Green:



Use any other fob (User, Shadow or blank) to start and stop the timing sequence. After a brief delay, the reader will flash white, once for each second. Count the flashes and stop when the desired count has been reached. The count represents the Lock duration in seconds (e.g. for 5 seconds, count 5 white flashes). After 20 flashes the sequence will stop however if no fob is presented within a few seconds the reader will reset with the lock time unchanged.



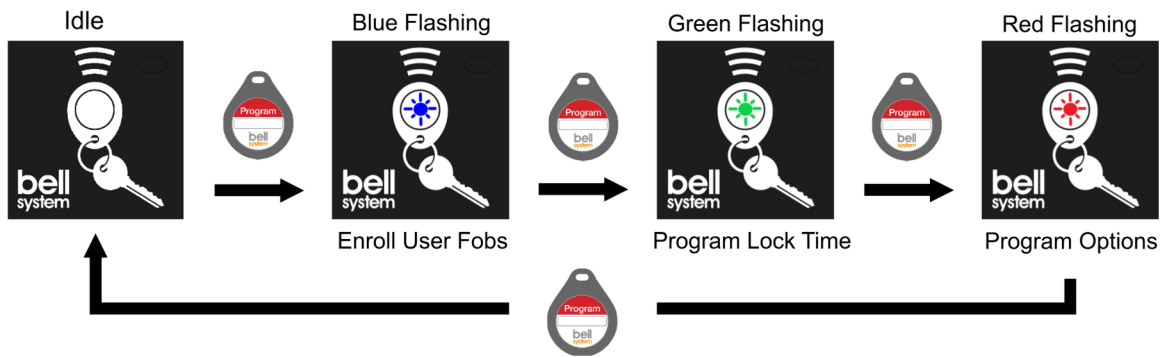
When the sequence has been stopped the reader will flash Green once to confirm that the new lock time has been accepted.

# Program Options: Lock Type, Sounder Mute, Night Light colour, level

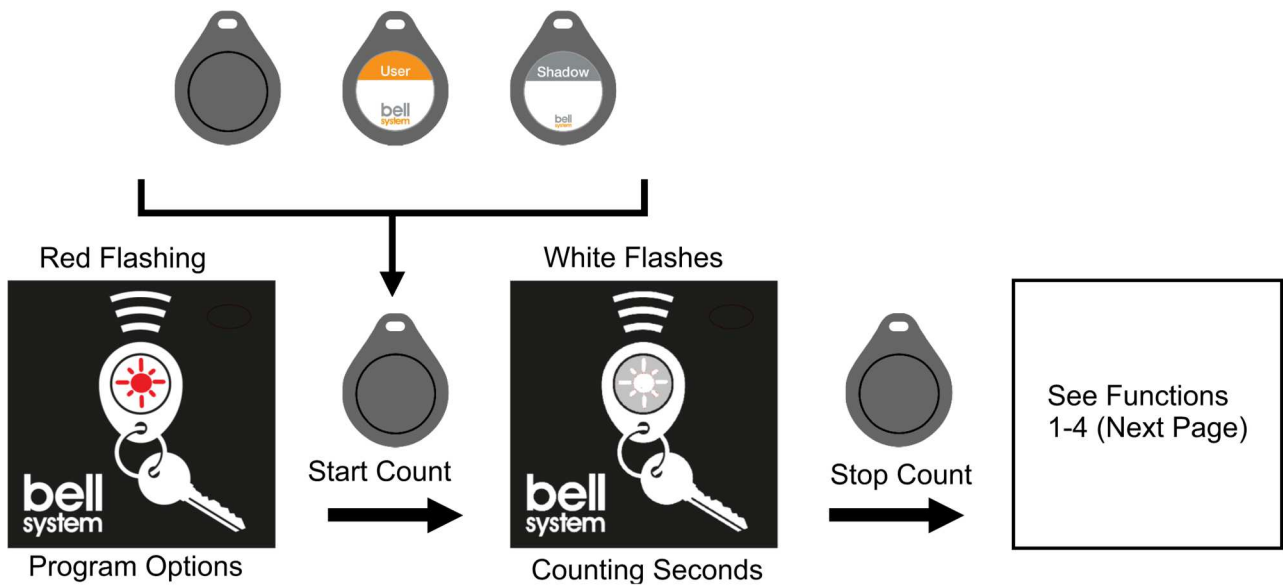
There are four Options provided as follows: -

Option (Count)	Action	Option	Factory Default
1	Toggle Lock Type	Fail-Secure or Fail-safe	Fail-Secure
2	Toggle Sounder mute	Muted or Enabled	Enabled
3	Toggle Night Light Colour	White or Blue	Blue
4	Change Night Light Level	4-levels, low to High	Lowest

Present the Program Fob three times to Enter Program Mode 3 (“Options”), confirmed by the reader flashing Red.



Use any other fob (User, Shadow or blank) to start and stop the counting sequence. The reader will flash white once each second. Count the flashes and stop after one flash for Option 1 or two flashes for Option 2 etc. ( e.g. count two white flashes to change the sounder status).



When the sequence has been stopped the reader will have entered the required mode (Options 1 thru 4):

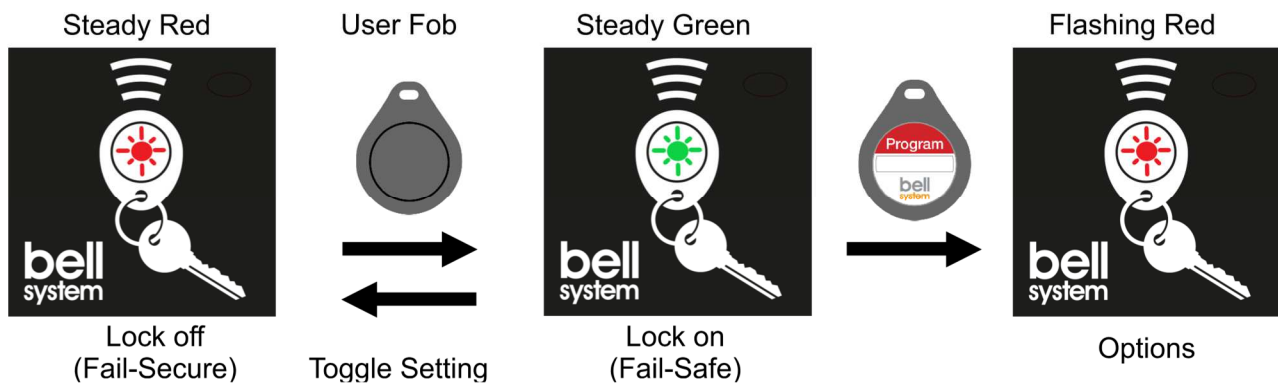
## Option 1 (Change Lock Type)

The Led will show Red or Green as follows:-

Led Colour	Lock Power	Lock Type
Red	Lock Normally off	Fail secure (default)
Green	Lock Normally on	Fail safe

Present the User/Shadow/Blank fob to toggle between the two Lock Types.

When satisfied, present the Program fob to return to the Options mode (flashing red) for further options or present the Program fob again to exit program mode altogether.



## Option 2 (Mute Sounder)

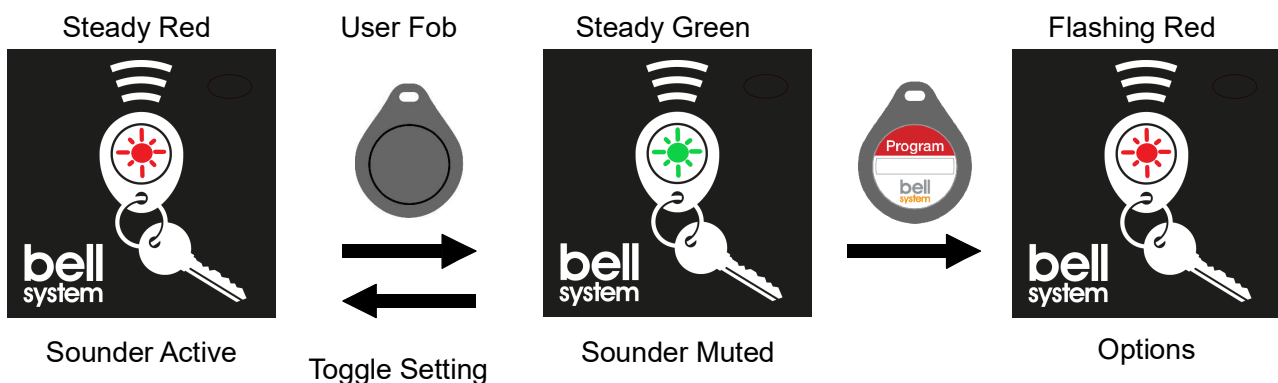
The Led will show Red or Green as follows:-

Led Colour	Sounder Status
Red	Sounder Active (default)
Green	Sounder Muted

Present a User/Shadow/Blank fob to toggle between the two states.

Note the Sounder is only muted for valid User Fobs not during programming or invalid fobs.

When satisfied, present the Program fob to return to the Options mode (flashing red) for further options or present the Program fob again to exit program mode altogether.

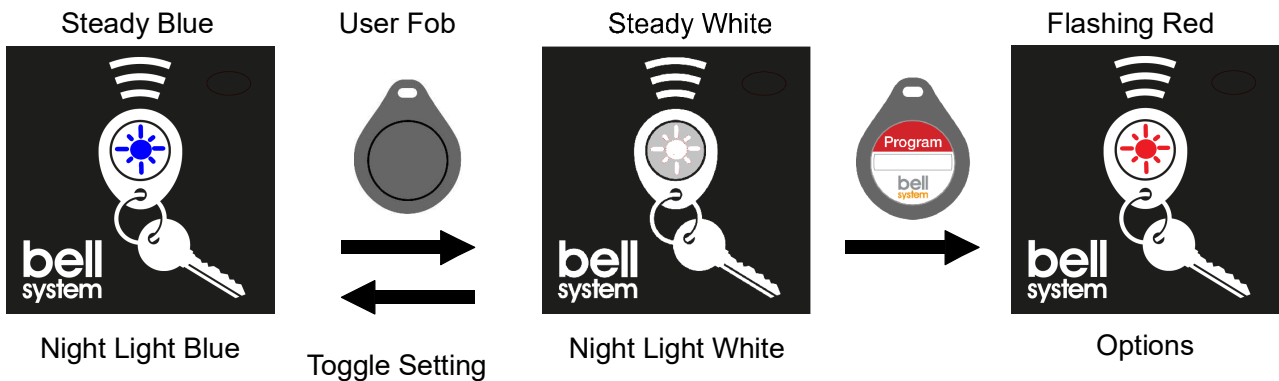


### Option 3 (Night Light Colour)

The Night Light feature allows the LED to remain on while the reader is idle to assist users in locating the reader. To avoid confusion in normal use, only white or blue is allowed.

Present a User/Shadow/Blank fob to toggle between White and Blue (appears at maximum brightness during selection).

When satisfied, present the Program fob to return to the Options mode (flashing red) for further options or present the Program fob again to exit program mode altogether.

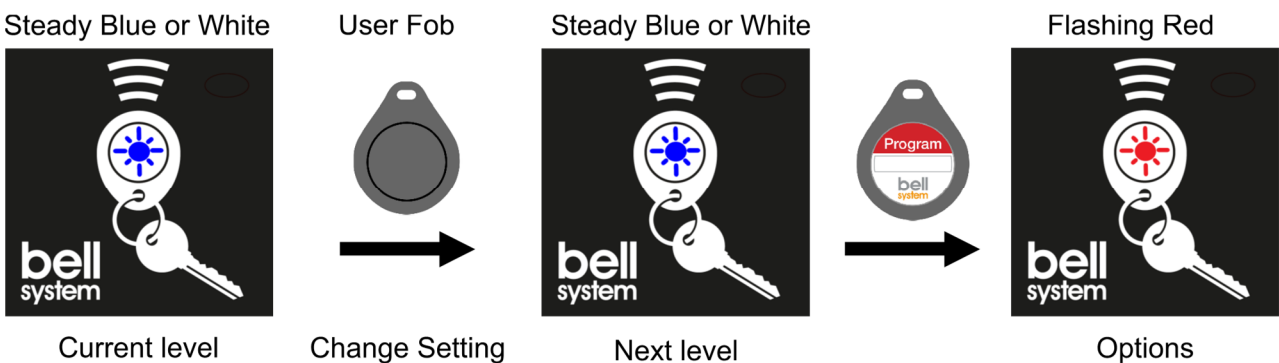


### Option 4 (Night Light Level)

The LED will operate at the current Night Light Setting (Blue or White from Option 3)

There are 4 levels of brightness that can be selected (50%, 25%, 12%, 6%). Present a User/Shadow/Blank fob to cycle between the levels. Note, the lower levels may not be easily visible in normal or bright lighting conditions and so they should be evaluated at the intended low/dark conditions.

When satisfied, present the Program fob to return to the Options mode (flashing red) for further options or present the Program fob again to exit program mode altogether.

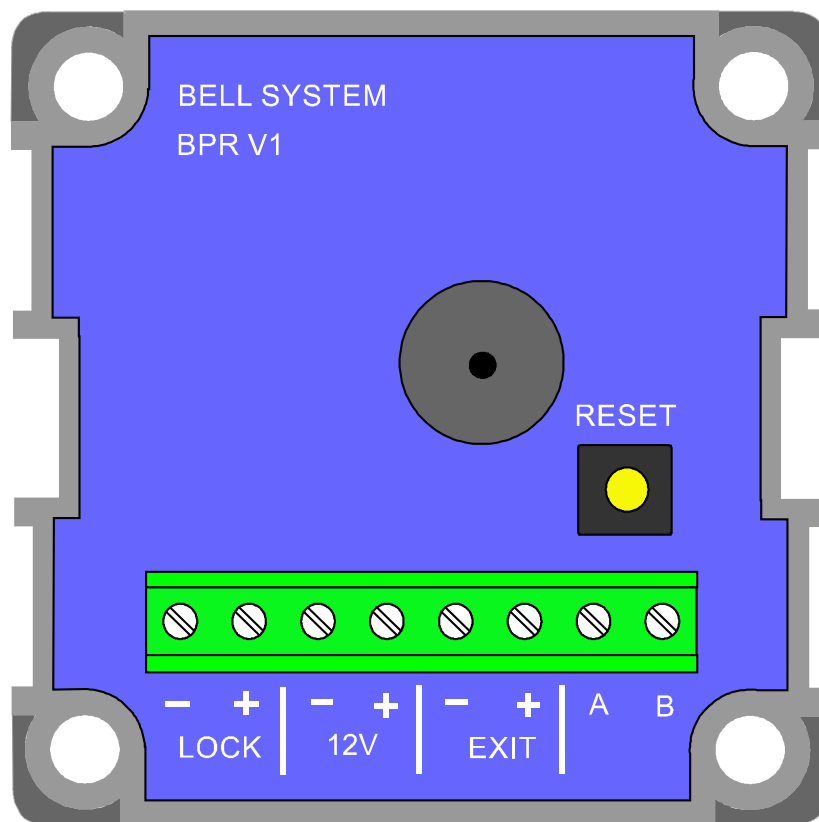


## Reset to Factory Settings

It may be necessary to reset the BPR to its Factory state if the Program Fob is lost or following a test session. For security reasons it is not possible to enrol a new Program Fob without also deleting all of the User and Shadow Fobs as well.

To proceed, remove the rear cover from the BPR reader by pulling up at the lower edge near the terminal blocks or applying a twisting action below one of the clips with a flat bladed implement or coin.

Once the cover is removed the RESET button is revealed: -



- 1) Press and hold the RESET button.
- 2) After a short delay the unit will flash Red and the Sounder will emit a rapid tone as a warning that data is about to be erased; release the button if a factory reset is **not** desired.
- 3) Once the sounder stops the unit will restore itself to factory settings confirmed by a single Green flash; you may now release the RESET button.

## Troubleshooting

Use the table below to determine the most probable causes of a fault condition:

Observation	Possible Cause/ Remedy
The BPR reader appears inoperative: (When power is first applied, an LED on the front of the reader should flash once in each colour in the sequence Red-Green-Blue).	<ul style="list-style-type: none"> <li>• Ensure that the Power Supply connections are not reversed.</li> <li>• Test the 12V connections with a meter to ensure the voltage is correct.</li> <li>• Temporarily disconnect the LOCK and EXIT connections to eliminate the possibility of a short circuit and retest.</li> </ul>
The Lock output is permanently active	<ul style="list-style-type: none"> <li>• Ensure that the Exit button is of the correct 'push to make' type.</li> <li>• To eliminate a possible short circuit, temporarily remove connections to the EXIT terminals and retest.</li> </ul>
The Lock release operates in reverse (releasing when it should hold and vice versa).	<ul style="list-style-type: none"> <li>• Ensure that the BPR is programmed for the correct Lock type (Pg 8).</li> </ul>
The Exit button does not operate the lock	<ul style="list-style-type: none"> <li>• Ensure the BPR is correctly configured for the type of lock.</li> <li>• Temporarily disconnect the connections to the EXIT pair and test with a short piece of wire applied to the EXIT terminals.</li> </ul>
The BPR goes thru its power up sequence (LED: Red-Green-Blue) when attempting to operate the lock release	<ul style="list-style-type: none"> <li>• The Power supply is being overloaded: Check the rating of the PSU in relation to the Lock release which should not exceed 1A.</li> <li>• The Lock connections may be short-circuited or the Lock has too low an impedance:</li> <li>• Temporarily disconnect the lock connections and retest: (The Green LED should operate for the programmed Lock Time)</li> </ul>
The BPR does not recognise or respond to the Fobs	<ul style="list-style-type: none"> <li>• Ensure that the correct Bell System supplied Mifare Fobs are being used.</li> </ul>
Enrolling User or Shadow Fobs fails.	<ul style="list-style-type: none"> <li>• Fob is already enrolled as a User, Shadow or Program Fob</li> <li>• 1000 Users are already enrolled</li> </ul>

## Specification

Dimensions	60mm x 60mm x 26mm
Voltage	10-15V (12V nominal)
Current	50mA max (not including lock release)
Lock Output	12V @ 1A max.
Exit button	Normally open (push to make)

## Security Considerations

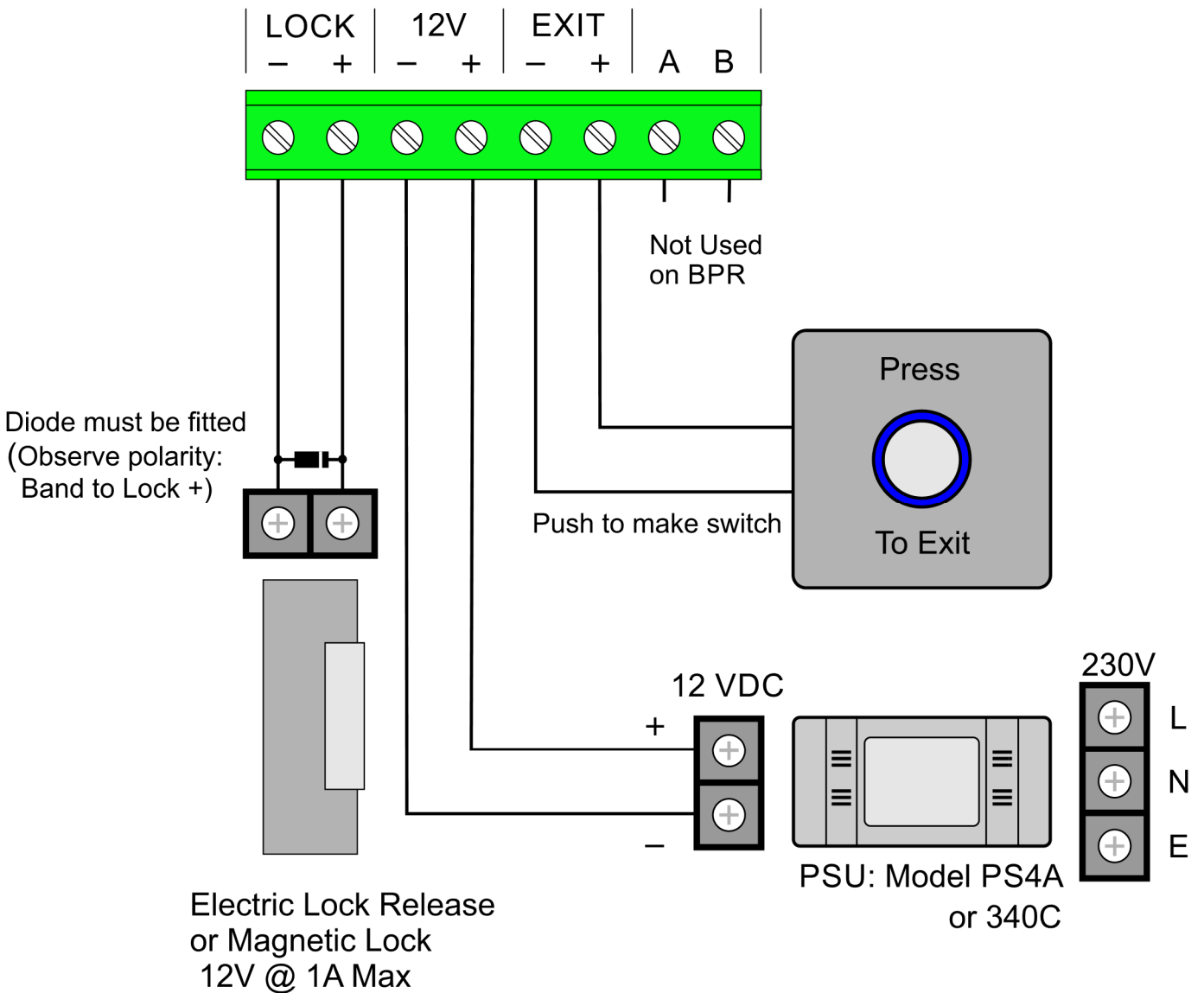
As an inherent feature of any Compact Reader, the active circuitry is located on the door side of the security system (i.e. behind the entrance panel). This product is therefore not suitable for applications requiring equipment to be positioned entirely on the secure side of the door.

# Typical Wiring Connections



Model BPR Proximity Reader

Cable requirements		
Lock	2m	2 x 0.5 mm
	10m	2 x 1.0 mm
12V	5m	2 x 1.0 mm
Exit	25m	2 x 0.5 mm



## Record of User/Shadow Fobs:

Fob Serial No.	User Name	Fob Serial No.	User Name

Fob Serial No.	User Name	Fob Serial No.	User Name

Fob Serial No.	User Name	Fob Serial No.	User Name

Fob Serial No.	User Name	Fob Serial No.	User Name

Fob Serial No.	User Name	Fob Serial No.	User Name





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## Compliance

This product complies with the following UK & European regulations: -

Electrical Safety: 2016/1101

EM Compatibility: 2016/1091

Low Voltage: 2014/35/EU

EM Compatibility: 2014/30/EU

