

# Installation Note

## SP500-GP Switch Plate Reader

IN00126

The SP500 Reader must be connected to a power supply and to a host access control system.

### Mounting and connecting

1. The SP500 Reader fits a standard single surface-mount or flush fitting back box, either metal or plastic, such as is used for light switches and mains plug sockets. The cover which clips onto the front of the Reader is 86mm square, so remember when you install the back box to leave enough clearance around it to fit the cover.

The Reader has a range of 5cm to 30cm (2in to 12in) dependent on the type of tag and back box used (a metal back box may result in a 10% reduction in range compared to a plastic box), so it must be mounted in a position where the card or tag can easily be brought within this distance.

2. The connections required for the Reader are power supply connections (0V and +12V DC or +24V DC), data output connections for Wiegand or Magnetic Stripe (D0, D1, DA) or ASCII/TTL (H, D0, DA), and a connection from the host to the Data Hold input (H) if data lines from two Readers are to be connected in parallel.

To promote EMC compliance we recommend you use 812 Cable as described here. If the Reader is mounted in a plastic back box then connect the screens at the host end only; at the SP500 the screens must be cut back and insulated. If the Reader is mounted in a metal back box then the overall screen must be connected at the host end and also to the metal back box. Do not connect any of the screens to the SP500 itself in either of these situations.

Route the cables into the back box, then make the connections shown in the table below.

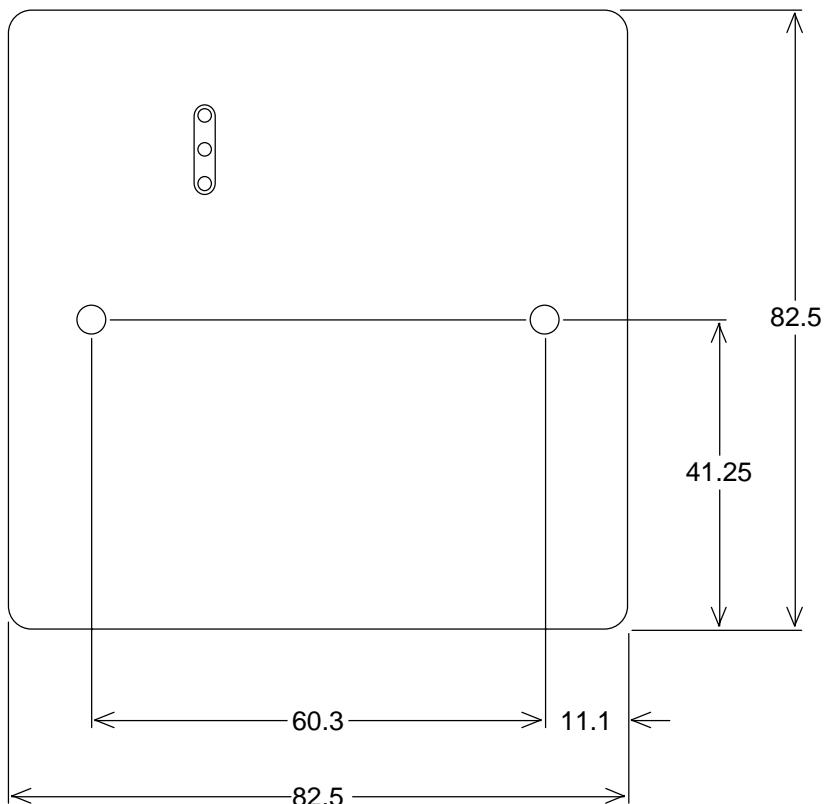
Reader	Function
V+	Power supply +12V unregulated or 24V battery-backed* (absolute max 32V, min 10.6V, 100mA max)
0V	Power supply 0V (-ve) (also ground reference for data output)
H (C)	“Data Hold” for Wiegand and Mag Stripe, “CTS” for ASCII/TTL
D0 (D)	“Data Zero” for Wiegand, “Data” for Mag Stripe, “TXD” for ASCII/TTL
D1	“Data One” for Wiegand, “Strobe” for Mag Stripe
DA	“Data Available” for Wiegand, “Present” for Mag Stripe, “RTS” for ASCII/TTL
HRN (Adr)	Horn - 0V to sound, +5V to turn off
R	Red LED control - 0V for red LED
R/G	Single wire LED control - 0V for green LED, +5V for red LED
 TAMPER	Tamper circuit connection (hard wired link)##

\*The SP500 is designed to be operated by 12V unregulated power supplies, or 24V battery-backed power supplies. Operating voltage range is 10.6 to 32.0V. The upper voltage is intended to be compatible with the charging of 24V lead-acid batteries. Charge methods vary, and may be temperature dependent. 32V max is intended to be compatible with commonly used charging methods. If the upper operating voltage is exceeded then permanent damage may be caused. Installers and systems designers should check the max power supply voltage under all conditions. Do not operate the SP500 using unregulated 24V supplies. The SP500 current consumption can be significantly less than 100mA. The unloaded peak voltage from a nominal 24V unregulated supply will exceed the absolute max.

#Two terminals are provided for use with a system 24hour tamper protection circuit.

### 3. Screw the Reader to the back box using the two M3.5 screws provided.

Fixing Dimensions (mm)



4. Do not clip the plastic cover on the front of the Reader until you have configured it and tested it (see Proximity Readers Handbook HB00117).
5. When you have configured the Reader and tested it to make sure that it is working correctly, press the plastic cover onto the front until it clips into place. Make sure you get the cover the correct way round so that the LEDs can shine through the translucent panel.

In order to reduce paper waste we do not ship a handbook with this product.  
You can download a copy of this or any other handbook from our website: <http://www.bewator.co.uk>

#### FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:  
1) This device may not cause harmful interference, and 2) This device must accept any interference received, including interference that may cause undesired operation.