Installation and User Instructions for S843 Readers

The S843 is a contactless smart-card reader, with LCD and keypad, which uses 20mA current loop pseudo-random communications. The S843 is able to read Philips® MIFARE® and Philips MIFARE DESfire smart cards.

For either type of card, the S843 supports the use of unencoded cards (where only the unique card serial number is read), or cards encoded with a card number. Several encoding formats are supported.

The reader can simultaneously support two different card types/formats (e.g. non-encoded MIFARE and smartMAX-encoded MIFARE DESfire, or non-encoded MIFARE and smartMAX-encoded MIFARE). The reader is automatically configured to accept the first two card types/formats presented.
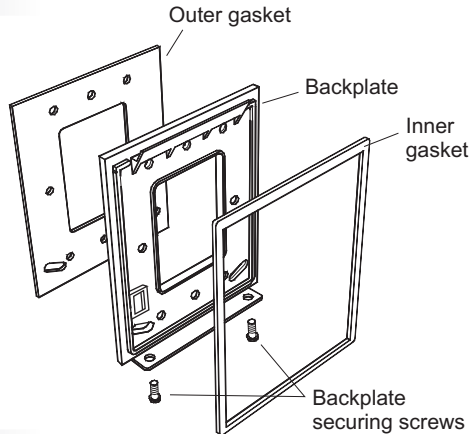

1   Fit the Weatherproofing Kit

When mounting outside, the two-part gasket kit must be fitted:

a) Remove the backplate from the reader by releasing the two securing screws.

b) Remove the cutouts and backing paper from the two gaskets, then stick them to the backplate as shown.
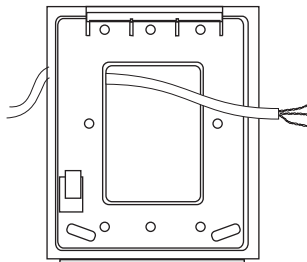
The optional heater kit maintains the reader at the correct temperature when mounted outside. With the backplate off, remove the backing paper from the two elements, then stick them to the inner sides of the reader. The heaters must be connected to a 24V AC supply (min 25VA).

Outer gasket

Backplate

Inner gasket

Backplate securing screws

2   Mount the Backplate

With the backplate off (see above), mount the backplate adjacent to the opening edge of the door and at a convenient height. Feed the required cables through the backplate:

- The cable from the controller.
- The cable from the heater, if used (must be a separate cable).
- A cable from a Remote Interface Module (RIM), if used. A RIM can reduce cable lengths to door furniture.
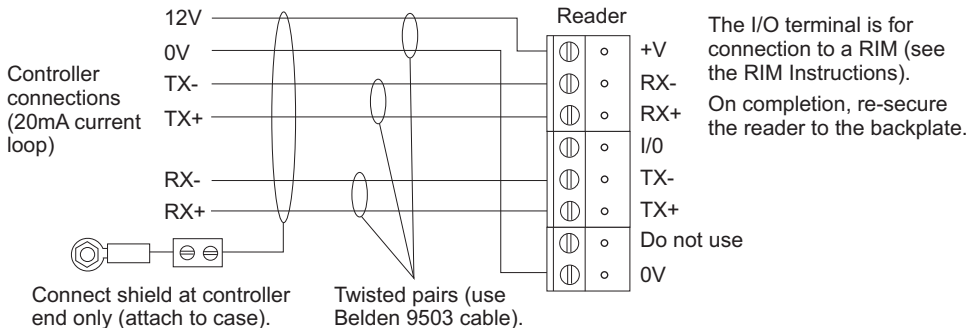

You should find that the backplate has holes for connection to most standard electrical backboxes.

3   Reader Links

Ensure no jumpers are fitted across LK3 (NODE TERM), LK4 (HGU TERM) and LK2 (TEST). If a jumper is provided, park it across one pin only. LK1 (USER FB) - set to 1 for sound on and 0 for sound off.

4 Reader Connections

Controller connections (20mA current loop)

	Reader	
12V	⊙	+V
0V	⊙	RX-
TX-	⊙	RX+
TX+	⊙	I/0
RX-	⊙	TX-
RX+	⊙	TX+
	⊙	Do not use
	⊙	0V

The I/O terminal is for connection to a RIM (see the RIM Instructions).

On completion, re-secure the reader to the backplate.

Connect shield at controller end only (attach to case).

Twisted pairs (use Belden 9503 cable).

Note: The **FERRITE** must be fitted!
Slide the ferrite sleeve onto cable before wiring terminal block. Ferrite to be placed 50mm (2") up cable and held in place with cable ties.

5 Reader Configuration

The reader supports the first two different card types/formats presented after power-up. For example, encoded MIFARE and encoded MIFARE DESfire (in this example, unencoded cards would not be recognized). The reader enters this configuration mode whenever power is re-applied.

A reader Setup menu can be displayed by pressing the * and # keys simultaneously while power is applied. You can use the menu to change the contrast and language used for the LCD (default English), and view the two card types/formats previously programmed. At the prompts, press * for No and # for Yes.

6 Using the Reader

Present the card face-on to the reader until you hear a "bleep". Cards can be presented in rapid succession; there is no need, for example, to wait for "UNLOCKED" to disappear before presenting another.

If the reader has been enabled for user-code mode at the controller, you can gain access by pressing the # key, entering your card number, then pressing the * key.

About the Reader Messages

READY – The reader is waiting for a valid card to be presented.

UNLOCKED – The lock is released and you may open the door.

ACCESS DENIED & LOCKED – You do not have access rights to gain entry, or the reader did not read your card properly (in this case, present it again).

ENTER PIN – Enter your PIN. If you make a mistake, the message INCORRECT PIN is momentarily displayed, followed by ENTER PIN, to prompt you to try again.

CARD PIN AND # – Enter the DESfire card PIN, then press # if the PIN is less than 8 digits.

(Flashing or steady) – These auxiliary indicators can be configured to operate in conjunction with conditional commands.

Specifications
Input voltage: 10.2-14Vdc.
Input current (excl. heater): 190mA @ nom. 12Vdc.
Operating temperature: -4 to 158°F (-20 to 70°C) without heater.
Operating humidity: 15 to 90%, non-condensing.
Maximum read range: 1" (25mm).
Approvals: EN50133, 1999/5/EC, IP65.

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