

Microlock[®] Prox 200

Single Door Access Control Unit

Installer and User Guide

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Notices

Manufacturer's details

This product is designed and manufactured by:

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435119 (USA)

417624 (Canada)

8226014, 8425238, 8326874 (UK)

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Introduction

Microlock Prox 200

The Microlock Prox 200 is a combined proximity card reader and access control unit, providing stand alone access control to a single door, with the capacity to store up to 200 cards and/or PINs in memory.

Equipment Provided

The following is provided as part of every Prox 200 package:

- Prox 200 Controller
- Installation kit
- Installation and Operating Instructions
- 2 User cards

Additional Equipment Required

Electric Lock Mechanism

Either power to lock or power to open configuration.

Power Supply

10-14 V DC, 500mA

Stand-by Battery (optional)

If mains power fails, then a stand-by battery will keep the Prox 200 operating for up to 30 hours with a 6Ah battery. This depends on whether the lock is powered from a different power supply and if so on its power consumption. If powered separately, then this will also need its own stand-by power supply to remain operational in the event of power failure. The memory in Prox 200 controller will not be lost in the event of power failure and therefore is not dependant on any stand-by battery.

Specification

12v sealed lead-acid type (“gel cell”). Yuasa 6Ah recommended.

Tamper Switch (optional)

The magnet fitted to the rear of the Prox 200 can be used to operate a Normally Open magnetic door sensor fitted in the wall behind the unit. This can be used to provide an input to an existing alarm system in the event of the unit being levered from the wall or the casing being opened by an unauthorised person.

Technical Specification

Operating Temp (Controller)	-10°C - +50°C
Humidity (Controller)	Water resistant (suitable for external installation in sheltered location)
Dimensions (mm)	120x100x30
Power Supply	10 –14V DC 200mA max
Relay Contacts	2A 30V DC Changeover
Operating Frequency	125 KHz

Installation

Important Installation Notes

Choosing a suitable location for installation

In order to achieve maximum card reading range, proximity readers should be mounted in a location away from sources of electrical noise, such as computer monitors, TV sets, mains wires and other proximity readers. Note also that any nearby metal will result in a reduction in card read range.

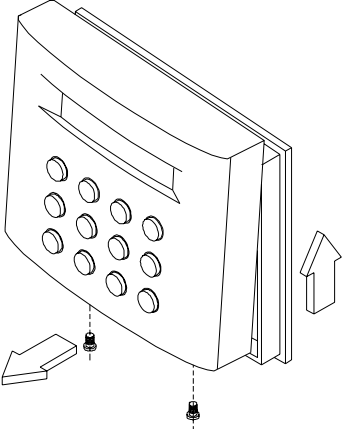
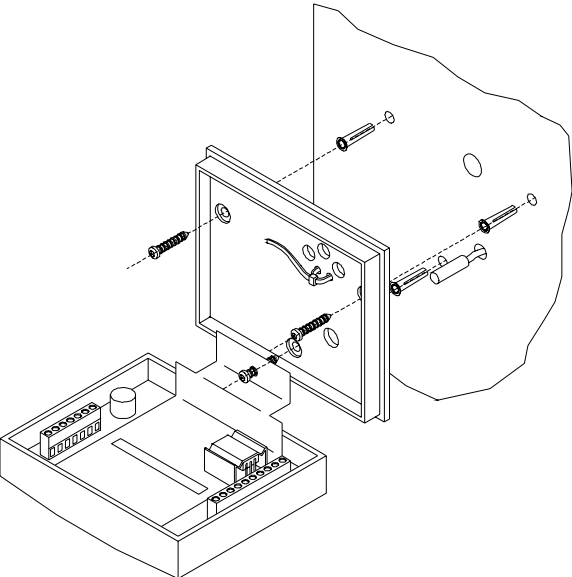
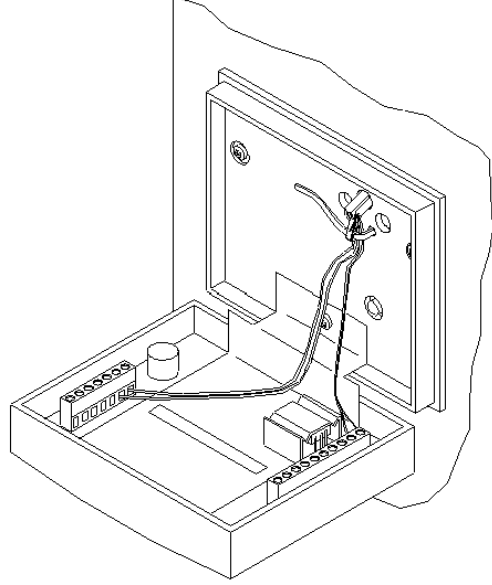
Before choosing a location, it is good practice to connect the reader and test for acceptable read range.

In order to comply with CE EMC regulations, TDSi proximity readers should be installed at least **1m** apart.

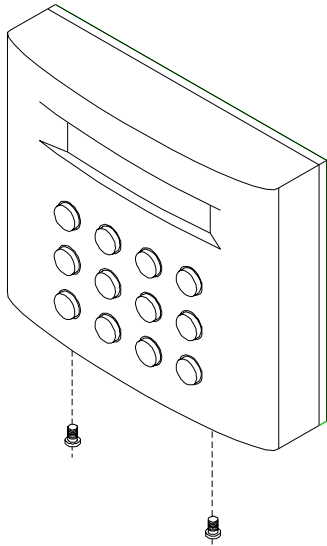
Guidance on cabling

- It is essential that only screened cables are allowed to enter the Prox 200 casing.
- The shield of each cable must be grounded at one end only. If peripheral equipment (such as readers, lock-strike, etc) are mounted on a metal surface, ensure that the metal surface is grounded and that the ground wire is grounded at the peripheral end, not the controller end.
- The amount of exposed screen inside the casing must be kept to a minimum to reduce radiating length. The lengths of unscreened wire inside the casing must also be kept to an absolute minimum.
- Where possible, cable lengths should be at least 2 metres, allowing induced static to dissipate before it reaches the controller.

Mounting and Assembly

1.		<ul style="list-style-type: none">• Remove the two securing screws from the underside of the unit.• Pull the bottom of the plastic casing forward and lift the cover up and away from the backplate.
2.		<ul style="list-style-type: none">• Drill three 5.5mm dia holes for wall plugs.• Drill holes as required for cables, and for optional magnetic tamper detection sensor.• Screw unit to mounting surface, attaching main casing to backplate as illustrated, using a screw through the hinge/label and backplate.• Fit cable tie to backplate. DO NOT fully tighten.
3.		<ul style="list-style-type: none">• Feed cables through backplate and connect to terminals as appropriate. Twist cable braids together, secure with crimp provided and feed behind cable tie.• Note! Ensure cables are routed inside the unit such that they will not come into direct contact with heat sink when unit is in operation.• Tighten cable tie, ensure braids are firmly secured together.

4.



- Fit main casing by positioning lugs over slots in top of backplate.
- Secure casing in place with fixing screws.
- For external installations, it is recommended that a silicon sealant be applied around the top and side edges of the backplate.

Wiring and Connections

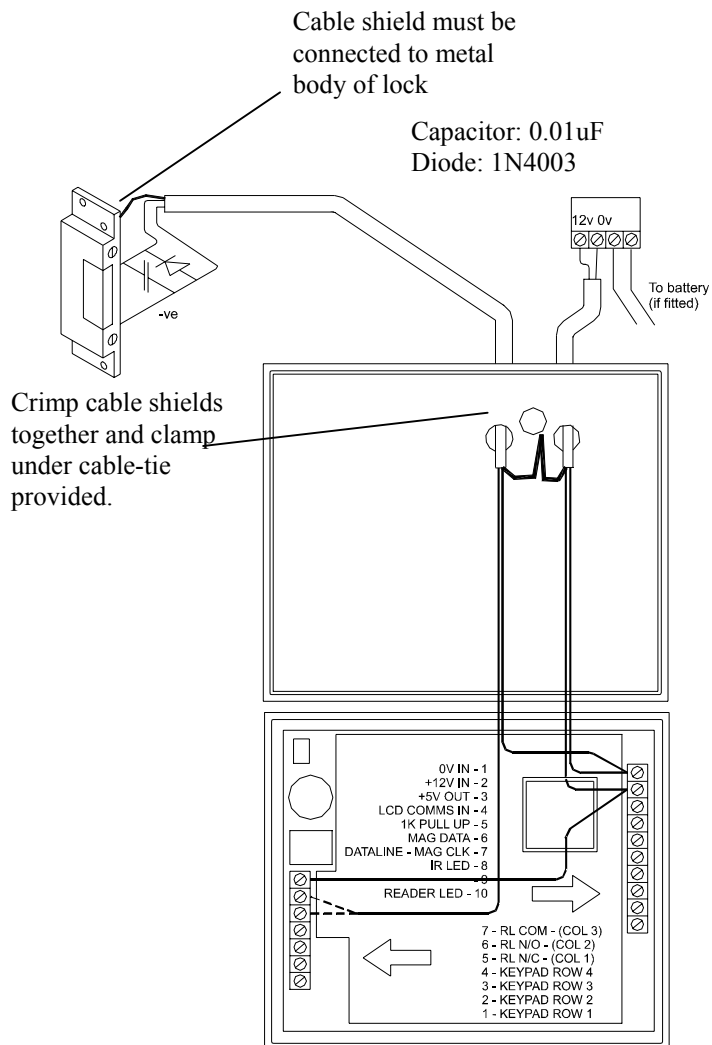
Connections

Label	Designation
0V IN – 1	0V
+12V IN – 2	12V DC
+5V OUT – 3	No connection
LCD COMMS IN – 4	No connection
1K PULL UP – 5	No connection
MAG DATA – 6	No connection
DATALINE – MAG CLK – 7	No connection
IR LED – 8	No connection
- 9	No connection
READER LED – 10	No connection

Designation	
Relay Common	7 – RL COM – (COL 3)
Relay Normally Open	6 – RL N/O – (COL 2)
Relay Normally Closed	5 – RL N/C – (COL 1)
No connection	4 – KEYPAD ROW 4
No connection	3 – KEYPAD ROW 3
No connection	2 – KEYPAD ROW 2
No connection	1 – KEYPAD ROW 1

Lock Strike and Power Supply Wiring

The following connections are required to connect the lock strike and power supply.



Lock Strike Connections		Power Connections	
-ve	1 – 0v IN	0V	1 – 0V IN
+ve	6 – RL N/O (power to release)	12V	2 – 12V IN
	5 – RL N/C (power to lock)		
Link 2 (12V IN) to 7 – RL COMM			

Anti-Tamper

A magnet is fitted inside the casing of the Prox 200. This can be used to operate a Normally Open magnetic door sensor fitted behind the backplate (as shown on page 5), to provide an input to an existing alarm system in the event of the unit being levered from the wall or opened by an authorised person.

Note: The hole in the backplate to accommodate a magnetic door sensor should **NOT** under any circumstances be used for cable entry, due to its proximity to the heat sink inside the unit.

Features and Facilities

Integrated Reader

The Prox 200 access control unit contains an integrated proximity card reader, meaning there is no requirement for an additional reader to be installed alongside the control unit.

Either standard ISO sized proximity cards or convenient proximity key fobs are available for use with Prox 200.

IDs

Up to 200 id's can be stored within the memory of the controller. These can be either 8 digit card/keyfob numbers, 4 digit PINs or a combination of both. It is also possible to assign a 4 digit PIN to a card for Card + PIN operation if required.

Cards numbers are added to and deleted from the memory of the unit using the **Add ID** and **Delete ID** features (see page 16). A **Learn** feature (see page 15) is also available to allow a several cards to be validated quickly. PINs are added and deleted using the **Add PIN** and **Delete PIN** features (see page 17).

Access Modes

Prox 200 can be configured to allow access via one or a combination of the following modes:

- Card only
- PIN only
- Card + PIN

By default, the unit will allow Card only and PIN only access. To enable Card + PIN mode, use the **Card + PIN** feature (see page 19).

Programming

Powering Up

On initial power up, or after a reset, the display will show the following:

Card or PIN

MASTER

At this point, either a Master PIN (4-digit) or Master Card can be defined, which will subsequently allow access to the Master programming menu.

Master PIN

If you choose to use a Master PIN, type a 4-digit number on the keypad. Do this TWICE to confirm. When a key is pressed the LCD should illuminate and a short beep heard. The display will then change to:

Card or PIN

Important! You must remember the Master PIN. There is no means of “reminding” yourself if you forget it!

Master Card

To define a card as a Master Card, present a card to the reader. Do this TWICE to confirm the card number. The display will then change to:

Card or PIN

Important! The Master Card must be kept in a safe and secure place!

Master Mode

Master Mode allows the Prox 200 to be programmed.

To enter Master Mode, enter the Master PIN (or present the Master Card). The display shows:

MENU
0 ADD id

There are 9 options within Master Mode, which repeatedly scroll around on the lower half of the display identifying the number to be pressed to select a particular function.

Pressing the **#** key from within a function (e.g. Add IDs) quits the current function and causes the menu to step back one stage. Pressing the **#** key again quits Master Mode completely

If no key is pressed for 30 seconds the unit will timeout, automatically quitting Master Mode.

Validating the first card

- Type in the Master PIN or present the Master card to enter Master Mode
- Select **1 Add ID**
- Type in the 8 digit card number on the keypad
- The display shows the card number and **Added**

For more information on adding cards, see page 15.

Master Menu

0	Learn	Add multiple Card numbers into the memory of the controller
1	Add ID	Add a Card number into the memory of the controller
2	Delete ID	Delete a Card number from the memory of the controller
3	Add PIN	Add a 4 digit PIN into the memory of the controller
4	Delete PIN	Delete a PIN from the memory of the controller
5	Lock Time	Configures the length of time the lock release relay will be energised for
6	Card or PIN	Enables Card only or PIN only access
7	Card+PIN	Enables Card+PIN or PIN only access
8	Language	Sets menu language
9	Reset	Restores factory default settings

0 – Learn

This feature allows the unit to automatically add cards into memory and is particularly useful when it is necessary to add several cards at once. A maximum of 200 ids (cards and/or PINs) can be stored in the units memory.

From the master menu, press **0**. The display shows:

Learn

Present a card to the unit. The card is automatically validated and the display shows:

Learn
12345678 Added

To exit the Learn feature, press the **#** key at any time.

Card + PIN

Where Card+PIN access is required, the user allocates their own PIN the first time they use their card. For information on Card + PIN mode, see page 19.

1 – Add ID

This feature allows card numbers to be added manually into the memory of the unit. A maximum of 200 ids (cards and/or PINs) can be stored in the units memory.

From the master menu, press **1**. Display shows:

Add ID

Type in the 8 digit card number on the keypad.

If you make a mistake while entering a number, press the ***** key to start again.

When 8 digits have been entered, the display shows:

Add ID
12345678 Added

To exit the Add ID feature, press the **#** key at any time.

Card + PIN

Where Card+PIN access is required, the user allocates their own PIN the first time they use their card. For information on **Card + PIN** mode, see page 19.

2 – Delete ID

This feature allows card numbers to be deleted from the controllers memory.

From the master menu, press **2**. Display shows:

Del ID

Type in the 8 digit number of the card you wish to delete.

If you make a mistake while entering the number, press the ***** key to start again.

When the 8 digit number has been entered, the display shows:

Del ID
12345678 Deleted

To exit the Delete ID feature, press the **#** key at any time.

3 – Add PIN

This feature allows PIN Only ids to be added into the memory of the controller.

From the master menu, press 3. Display shows:

Add PIN

Type the 4-digit PIN on the keypad

If you make a mistake while entering a number, press the ***** key to start again.

When the 4 digits have been entered, the display shows:

Add PIN

To exit the Add PIN feature, press the **#** key at any time.

4 – Delete PIN

This feature allows PINs to be deleted from the memory of the controller.

From the master menu, press 4. Display shows:

Del PIN

Type in the 4 digit PIN you wish to delete. If you make a mistake while entering the number, press the * key to start again.

When the 4 digits have been entered, the display shows:

Del PIN
1234 Deleted

To exit the Delete PIN feature, press the # key at any time.

5- Lock Time

This feature configures the length of time the lock release relay will be energised for following a valid access event. Such events will include:

- Presentation of a valid card (if card only is allowed)
- Entering a valid PIN (if PIN Only is allowed)
- A valid Card+PIN entry (if Card + PIN mode is activated)

From the master menu press **5**. Display shows:

```
Lock time
1>
```

Using the keypad, type in the new lock time in the range of 1 – 8 seconds. Display shows:

```
Lock time
Done
```

Latching Relay On

To permanently hold the lock relay “on”, set the lock time to 9. The lock relay will remain activated permanently following the next valid card or PIN entry.

The relay can be deactivated again by resetting the lock time and presenting a valid card/entering a valid PIN.

Latching Relay Off

To permanently hold the lock relay “off”, set the lock time to 0. The lock relay will remain deactivated until the lock time is reset.

6 – Card or PIN

This feature allows access via card-only or PIN-only modes.

From the master menu, press **6**. Display shows:

```
Card or PIN
Done
```

Card or PIN mode is now set.

7 – Card + PIN

This feature allows access via card + PIN or PIN-only modes.

From the master menu, press **7**. Display shows:

Card + PIN
Done

Card + PIN mode is now set.

Once Card + PIN mode is activated, users must define their own 4-digit PIN the next time their card is used. This is stored within the memory of the unit and becomes their PIN from then on.

To deactivate Card + PIN mode, select option **6 – Card or PIN** from the master menu.

Changing PIN

If the PIN is forgotten or needs to be changed, revalidate the card using the **Learn** or **Add ID** features. The display will show:

Add ID
Already Valid

This will reset the PIN allowing the user to redefine their PIN next time their card is used.

8 – Language

This feature allows the display language to be changed.

From the master menu, press 8. Display shows:

```
Language
0>
```

To change the display language, use the keypad to type in the required language code:

- 0 – English
- 1 – French
- 2 – German
- 3 – Spanish
- 4 – Danish

9 - Reset

This feature resets the unit to the factory default settings.

From the master menu, press 8. Display shows:

```
Reset
Sure?
```

At this point press the **#** key to cancel or the ***** key to confirm or the # key to abort.

Hard Reset

If the Master PIN is forgotten/Master Card lost, or the unit cannot be reset from the menu system, it is possible to reset the unit manually.

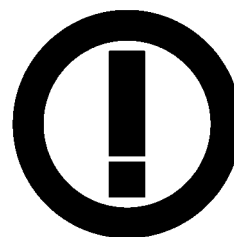
- Power down the unit.
- Link between 4 – LCD COMMS IN and 7 – DATALINE OUT.
- Power up the unit.
- Power down the unit, remove the link and power the unit up again.

The unit is reset to factory defaults. See page 13 for details on defining a new Master Card/PIN.

Alternatively, the unit can be reset with the following sequence of events:

- Power down the unit
- Power up the unit.
- Present the same valid user card 17 times, waiting for the lock time to expire each time.
- Power down and re-power up the unit. The Prox 200 will be reset.

Compliance Notices - 1



Compliance with CE regulations

The equipment is designed, tested and declared to conform to the following CE directives:

- 89/336/EEC - EMC Directive
- 93/68/EC - Low Voltage Directive
- 1999/5/EC - R&TTE Directive

Limitations on intended operating environment

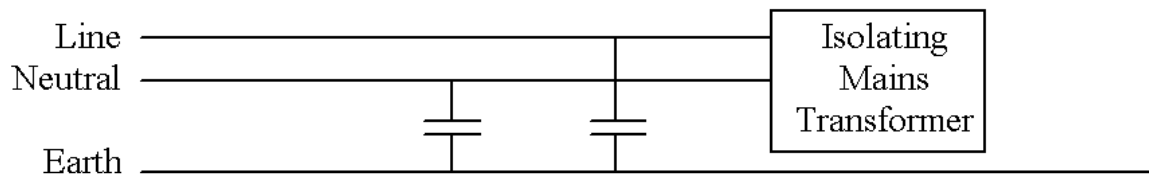
The equipment is intended for use in access control applications in a wide range of configurations. It is intended to control the use of third party equipment attached at the control interface. Such third party equipment and all cabling must be of suitable design and installation to ensure that the overall system complies with the requirements of the CE directives.

Guidance notes for the installation and use of TDSi equipment must be strictly followed. Due to the wide range of access control products TDSi cannot cover all possible type and combinations of equipment that may be assembled to form a total system. TDSi exercise due diligence to ensure that the equipment is suitable for use in the stated applications, but ultimate responsibility for the compliance of a complete system must rest with the prime contractor at a site where local conditions may require additional EMC precautions be taken.

Power supply requirements.

Note that any power supply used to drive this equipment must provide a smoothed DC voltage using a linear regulator. The power supply must NOT be of switched mode design. When used in security applications a battery backed-up power supply must be used to maintain operation during short power interruptions. Connections between the power supply and the equipment must be made using braided screen cable, of suitable power rating, with the braid screen connected to earth at the power supply.

To reduce interference TDSi recommend that the mains input to the power supply isolating transformer is fitted with 470pF, Class Y mains suppression capacitors. These should be connected from mains line to earth, and from mains neutral to earth.



Special note on multiple proximity reader installations.

To ensure compliance with CE EMC regulations, TDSi Proximity readers must be mounted at least 1m apart.

Compliance Notices - 2

FCC Regulations Notice .

This device complies with Part 15, Class B, of the FCC Rules. Operation is subject to the following two conditions:-

- a) This device may not cause harmful interference.
- b) This device must accept any interference received, including interference that may cause undesired operation.

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instructions, may cause interference harmful to radio communications.

There is no guarantee, however, that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CSA EMC Notice

This digital apparatus does not exceed the Class B Limits for radio frequency emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicable aux appareils numeriques de la Class B prescrites dans les reglement sur le brouillage radioelectrique edicte par le Ministere des Communications du Canada.

Radio Frequency Allocation Notice

Individual countries may have specific regulations on radio frequencies used by electronic equipment and purchasers are advised that it is their responsibility to ensure that equipment meets their local regulations. TDSi cannot be held responsible for consequences of any such breach and purchasers are therefore advised to check local regulations before installation.

Safety Notices:

Low Voltage 10 - 14v DC operation

Product description

The equipment should be powered from a fully approved, external, isolated, mains powered, fused, overload protected, 10 - 14v DC supply, with battery support.

Rating

The equipment is designed to operate from a 10 - 14v DC power supply and draw a maximum current of 200mA, excluding additional lock strike and sensor loads.

Safety

The equipment is designed to comply with the provisions of the international standard EN 60950 which covers safety of IT equipment.

WARNING: Disconnect the mains supply from any associated equipment before removing the covers or making connections to the equipment.

All regulations and requirements **MUST** be must strictly followed to prevent hazards to life and property both during and after installation, and during any subsequent servicing and maintenance. It is essential to comply with the local wiring regulations and to use mains cable appropriate for use in that installation. The electrical installation of the equipment must include convenient means to isolate the equipment from mains supply.

Siting and fixing of equipment.

The equipment may be installed indoors, out of doors, or in damp or exposed conditions provided it is carefully installed and sealed to the manufacturer's instructions. To ensure mechanical stability the equipment must be secured using appropriate fasteners or brackets to a wall, pillar or other part of the building structure, or to associated stable equipment. The equipment must not be sited near to sources of excessive heat. It is designed for use in ambient temperatures ranging from -10°C to +50°C (degrees Centigrade).

Connecting a low voltage DC supply to the equipment.

Always use a fully approved mains power supply to provide the 10 - 14V DC supply to the equipment. Install the power supply in accordance to the manufacturer's instructions. The 10 - 14V DC supply must be connected to the equipment using screened cable with the braid earthed correctly at both ends. Fit TDSi recommended suppression capacitors to the mains supply input of the PSU.

Connecting signal wiring to associated equipment.

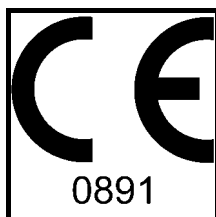
When the equipment is powered from an external low voltage 10 - 14V DC power supply it must be connected to other equipment forming part of an overall control system using supply and signal wiring connections made with screened cable with the screen securely connected to an earth point at the system power supply and at appropriate earth points within the system. Where individual remote equipment is locally earthed it is permissible to disconnect the cable screen earth connection at one end of the cable.

Internal fuse rating.

There are no replaceable fuses fitted with the equipment. Any mains driven power supply to which the unit is connected should be suitably fused for the application according to the supplier's instructions.

EC DECLARATION OF CONFORMITY

***Compliance with Radio & Telecommunications Terminal
Equipment Regulations***



Date of issue: 22/08/2001
Equipment Model Type: TDSI 1280 SERIES PROXIMITY/KEYPAD READERS
Model variant part numbers 5002-1280/1/2
Address: TDSi GROUP
SENTINEL HOUSE, NUFFIELD RD POOLE,
DORSET, BH17 ORE, UNITED KINGDOM

This is to certify that the aforementioned equipment fully conforms to the protection requirements of the following EC Council Directives on the approximation of the laws of the member states relating to:

<u>Applicable directives</u>	<u>Title</u>
1999/5/EC	Radio & Telecommunications Terminal Equipment Directive

Technical standards

EMC	EN-55022: 1994	Electromagnetic immunity
EMC	EN-50082-2:95 & EN-50130-4:1995	Electromagnetic immunity
LVD	EN60950	Safety of Information Technology Equipment
RTTE	ETSI EN 300 330-1:2001 (Equipment Class 3)	ERM; SRD; Radio equipment in the frequency range 9kHz to 25MHz and inductive loop systems in the frequency range 9kHz to 30MHz; Part 1: Technical characteristics & tests methods.

Signed on behalf of TDSi by:

Title:

P M Gater, Joint Managing Director.

