

Product Features

Designed to embrace cutting-edge RFID technologies in a stylish and innovative package, this advanced access control reader offers a refreshing breakthrough in the access security marketplace. Shaped in a sleek single-gang style design, with an RGB LED illuminated keypad, offering 'prox-and-pin' security, the reader may be fixed directly onto a US electrical backbox.

This powerfully secure and innovative reader has a beautifully clean aesthetic, and a bright RGB LED that can be applied to many applications such as colour coded access levels, migration status or mood lighting.

The reader housing is moulded using tough polycarbonate plastic, and includes a shadow-line backplate, a subtle and simple mechanical design feature that makes the reader, when fixed, appear to float against the wall.



clean, simple design

Images shown in this document are for illustrative purposes only. The features, colours, style and appearance may change without notice.

- 125KHz Proximity
- 13.56MHz Smart Contactless
- Bluetooth LE
- Black textured moulding
- Slim profile
- RGB LED
- Fully encapsulated electronics
- RGB illuminated keypad
- Wide range of output formats
- 5 year limited warranty
- Read range up to 10cm (4 inches)

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E&OE

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These devices comply 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.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

These devices contains: **FCC ID: TCZ-10103751G1**

SECURITY



EQUIPMENT



These RFID proximity readers comply with the essential requirements and relevant provisions of:
EU Directive 2014/53/EC



Together with information provided by suppliers and subcontractors, these devices comply with the requirements and relevant provisions of:
EU Directive 2011/65/EC



This symbol on the product or on its packaging indicates that the product must not be disposed of with normal household waste. Instead, it is your responsibility to dispose of your waste equipment by arranging to return it to a designated collection point for the recycling of waste electrical and electronic equipment. By separating and recycling your waste equipment at the time of disposal you will help to conserve natural resources and ensure that the equipment is recycled in a manner that protects human health and the environment.
EU Directive 2012/19/EC

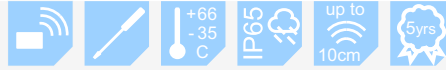


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1. parts list

- 1 x reader MODULE
- 1 x reader BACKPLATE
- 1 x 3 x 10mm black cross-head securing screw

2. specification



performance level for access control

This product complies with the following UL294 Access Control Performance Levels:

Destructive Attack	Level I
Line Security	Level I
Endurance	Level IV
Standby Power	Level I

See the UL Listed access control unit controller installation instructions for reader compatibility.

UL Ref. Number ??????

environmental

Operating Temperature	-35°C to +66°C	(-31°F to + 151°F)
Humidity	85 ±5% at 30 ±2°C	(86 ±3°F)
Ingress Protection	IP65	(not evaluated by UL)
Positioning	Suitable for INDOOR and OUTDOOR use.	

electrical

Power supply	Power is to be provided by a UL294 Listed, low-voltage Class 2 power limited supply or control panel, capable of 4 hours standby.
Voltage	+10Vdc to +16Vdc
Current	135mA typical
Data Voltage	Rest >4Vdc / Active <1Vdc
Data Output	Wiegand, Clock & Data, Custom Outputs
Indication	1 RGB LED + RGB illuminated keypad
Sounder	Integral speaker

dimensions

120mm x 76mm x 21mm (4.7 x 3.0 x 0.8 inches)

polymeric materials

Potting compound	UL R/C (QMFZ2)
Mouldings	UL746C

wiring

Wiring methods shall be in accordance with the National Electrical Code (ANSI/NFPA70), local codes, and the authorities having jurisdiction.

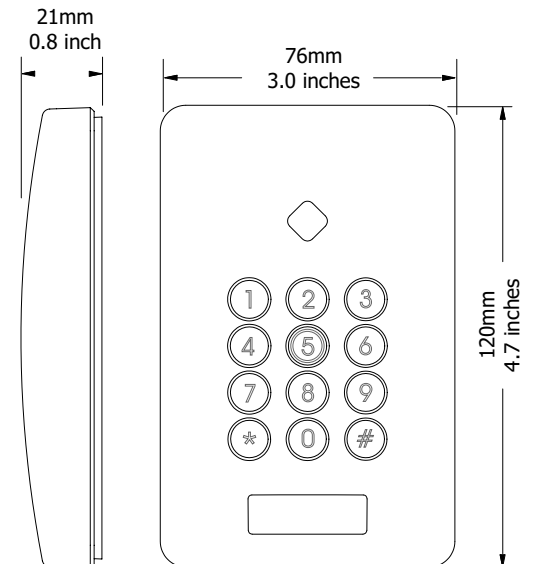
Recommended cable	BELDEN 953x (or equivalent UL listed) - Wiegand BELDEN 9502 (or equivalent UL listed) - RS485
Cable length	All cable and wiring must be Listed and suitable for use. Cable length must not exceed 30 metres maximum (98.5 feet) for UL
Minimum permissible wire size	not less than 26 AWG (0.24mm ²)

connections

Screw terminal

(All readers in this series use this terminal connection)

1	-	0V	Supply voltage ground
2	-	+Vdc	Supply voltage (+10Vdc to +16Vdc)
3	-	DATA1/CLK	Wiegand or Clock/Data output
4	-	DATA0/DAT	Wiegand or Clock/Data output
5	-	GREEN	Green LED control input
6	-	RED	Red LED control input
7	-	Buzzer	Buzzer control input
8	-	TMPR/CP	Tamper or Card Present output
9	-	RS485-	RS485 Bus
10	-	RS485+	RS485 Bus



3. installation guide

1

Remove module securement screw. Lever bottom edge of reader module away from the backplate, and lift up.

2

Fix reader BACKPLATE to a plain surface finish, using suitable screw fixings having a diameter no greater than 4mm (0.15 inch).

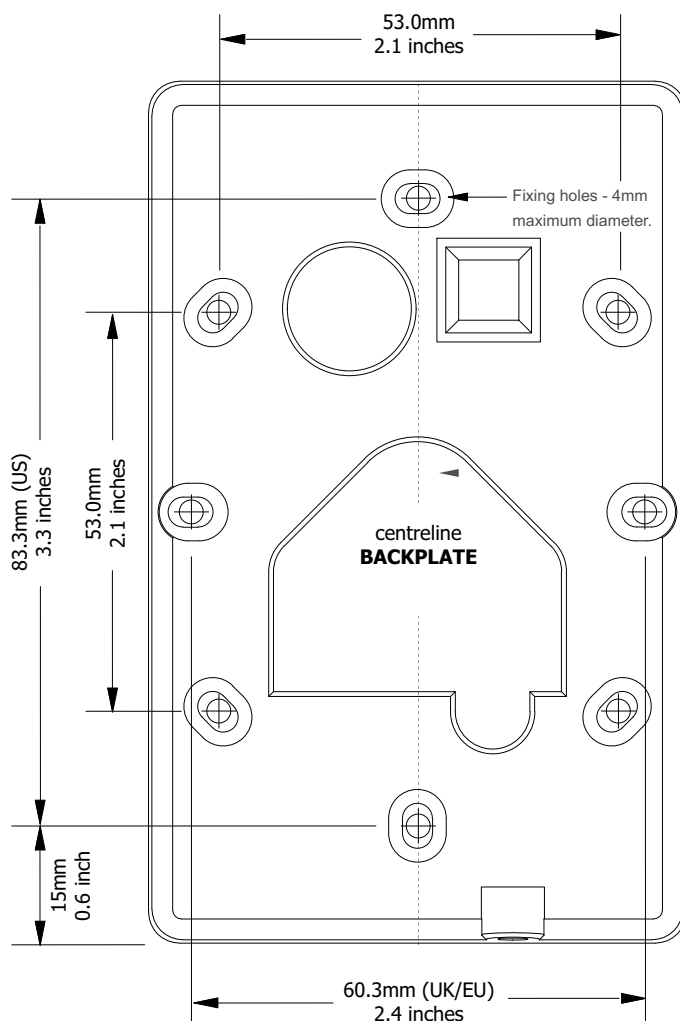
i

If printed full scale, you may use the drawing below as a fixing template.

MEASURE and CHECK DIMENSIONS before use.

NOTE:

Mounting this reader on (or near) metal may impair the read range of the unit.


1
2
3
i

Once the backplate is secured, make wire connections to the reader, in accordance with the screw terminal connections shown on Page 3 of this document and your control panel requirements. Ensure the cable does not impair or prevent the reader module being secured.


3

Fasten the reader module, ensuring the top-edge fixings engage correctly with the recesses at the top of the backplate. Swing the bottom edge of the module down and forward until you feel the unit 'snap' shut.

Secure the module to the backplate using the M3x10mm screw supplied.

If required, you may opt to use a security screw to the sizes shown here.

i

Following installation, it is recommended the access control system and control units are subjected to a maintenance and operational test procedure.

TEST COMPLETE SYSTEM AT LEAST ONCE A YEAR

4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

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'MIFARE', 'MIFARE Classic' and 'MIFARE DESFire EV1' are trademarks of NXP B.V.

4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

*00

LOG-ON PIN CODES

entering 'PROGRAMMING MODE'

*00nnnn#

Before you can configure the reader you **MUST** enter programming mode by using this command. You must enter the correct four-digit security PIN for the reader.

The factory default PIN = 1234

example

To place a FACTORY-DEFAULT reader into programming mode, you must enter: ***001234#**

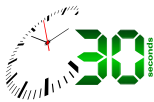
NOTE:

To change the log-on PIN code, see:
Section *98 on Page 12 of this document.

NOTE:

To exit PROGRAMMING MODE see:
Section *99 on Page 12 of this document.

You must correctly exit this mode to save any changes to values or settings you may have made.



After entering programming mode, the reader will time out after approximately 30 seconds if no keys are pressed for that duration. Any changes you may have made to values or settings will be lost.



*01

PIN mode PIN CODES

set PIN mode (output)

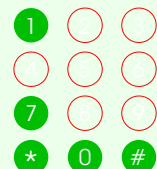
*01n#

This programming command allows you to configure how the reader handles keypad data. The reader is capable of keypad data output in a number of industry-standard formats. The following modes are supported:

- *010#** DISABLED (NO keypad output)
- *011#** HID 4-bit WIEGAND (factory default)
- *012#** Dorado 8-bit WIEGAND (compatible with INDALA)
- *013#** Mercury 8-bit WIEGAND burst
- *014#** 1 digit CLOCK and DATA
- *015#** Dorado 8-bit burst
- *016#** 8 digit CLOCK and DATA (buffered)
- *017#** 26-bit WIEGAND (buffered)
- *018#** 32-bit WIEGAND (buffered)
- *019#** 34-bit WIEGAND (buffered)

example

To set the reader to buffer keystrokes and output them in the industry-standard **26-bit WIEGAND** format, you should enter: ***017#** once the reader has been placed into programming mode.



4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

***02**

KEY TONE PIN CODES

set AUDIBLE TONE on KEY PRESS

***02n#**

During the entry of a buffered PIN you have the option of making the reader issue a confirmation beep or an error (triple-beep) on entering the PIN.

***020#** DISABLE (NO audio tone) (factory default)
***021#** ENABLE (audible tone on PIN entry)

example

To **ENABLE** the buzzer, enter: ***021#** once the reader has been placed into programming mode.



***03**

CARD TONE PIN CODES

set AUDIBLE TONE on CARD

***03n#**

During the entry of a buffered PIN you have the option of making the reader issue a confirmation beep or an error (triple-beep) on presenting a CARD.

***030#** DISABLE (NO audio tone) (factory default)
***031#** ENABLE (audible tone on presenting a card)

example

To **ENABLE** audio tone, enter: ***031#** once the reader has been placed into programming mode.



***04**

PROX READ PIN CODES

set PROXIMITY READING

***04n#**

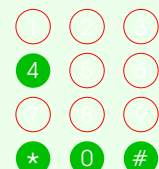
This programming command allows you to disable transmission of the proximity card data from the reader.

The reader will still beep to indicate that it has read the card.

***040#** DISABLE (data will NOT be sent)
***041#** ENABLE (data WILL be sent) (factory default)

example

To **DISABLE** transmission of the card data, enter: ***040#** once the reader has been placed into programming mode.



4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

***05**

**RX00 LED
PIN CODES**

set LED COLOUR CONFIGURATION

***05n#**

The LED may be configured to the following modes:

- *050#** RX standard LED configuration
- *051#** RX Demo
- *052#** RX buzzer
- *053#** RX AWE (excluded from documentation)
- *054#** RX MPS (excluded from documentation)

example

To set **RX Demo** enter: ***051#** once the reader has been placed into programming mode.



***06**

**SITE CODE
PIN CODES**

set SITE CODE EMBEDDING

***06nnnnn#**

This option allows the SITE CODE number to be combined with the card number read from the card and sent as the complete card info' message. The unit accepts site codes from **0** to **65535** - however the maximum valid value depends on the output format.

example

To embed **SITE CODE '123'** enter: ***0600123#** once the reader has been placed into programming mode.



***07**

**RX00 COLOUR
PIN CODES**

set LED QUIESCENT COLOUR

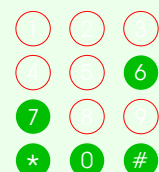
***07n#**

The LED may be configured to the following standard colours.

- *070#** Blue
- *071#** Magenta
- *072#** Yellow
- *073#** Orange
- *074#** Red
- *075#** White
- *076#** Turquoise
- *077#** OFF (LED disabled when in idle mode)

example

To set the LED to **TURQUOISE** enter: ***076#** once the reader has been placed into programming mode.



4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

***10**

**RX00 HID
PIN CODES**

set reader to read 'HID®'

***10n#**

Configure reader to read 'HID®' proximity cards.

- *100#** DISABLE function
- *101#** WIEGAND Pass Through
- *102#** Clock and Data

example

To set **WIEGAND Pass Through** enter: ***101#** once the reader has been placed into programming mode.



***11**

**RX00 EM
PIN CODES**

set reader to read 'EM'

***11n#**

Configure reader to read 'EM' proximity cards.

- *110#** DISABLE function
- *111#** 26-bit WIEGAND
- *112#** 34-bit WIEGAND
- *113#** 42-bit WIEGAND
- *114#** Clock and Data

example

To set **26-bit WIEGAND** enter: ***111#** once the reader has been placed into programming mode.



***12**

**RX00 CASI
PIN CODES**

set reader to read 'CASI'

***12n#**

Configure reader to read 'CASI' proximity cards.

- *120#** DISABLE function
- *121#** 4001 40-bit WIEGAND
- *122#** 4002 40-bit WIEGAND
- *123#** Extended 4001 40-bit WIEGAND
- *124#** Extended 4002 40-bit WIEGAND

example

To set **4001 40-bit WIEGAND** enter: ***121#** once the reader has been placed into programming mode.



4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

***13**

**RX00 AWID
PIN CODES**

set reader to read 'AWID'

***13n#**

Configure reader to read 'AWID' proximity cards.

***130#** DISABLE function

***131#** ENABLE function

example

To set **ENABLE** 'AWID' function, enter: ***131#** once the reader has been placed into programming mode.



***14**

**RX00 KANTECH
PIN CODES**

set reader to read 'KANTECH'

***14n#**

Configure reader to read 'KANTECH®' proximity cards.

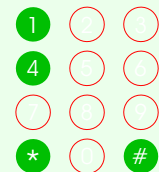
***140#** DISABLE function

***141#** 26-bit WIEGAND

***142#** 39-bit XSF WIEGAND

example

To set **KANTECH 26-bit Wiegand** enter: ***141#** once the reader has been placed into programming mode.



***15**

**RX00 FARPOINTE
PIN CODES**

set reader to read 'FARPOINTE'

***15n#**

Configure reader to read 'FARPOINTE®' proximity cards.

***150#** DISABLE function

***151#** ENABLE function

example

To enable **Farpointe** enter: ***151#** once the reader has been placed into programming mode.



4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

***20**
**RX80 MIFARE
PIN CODES**
set reader to read 'MIFARE®'
***20n#**

Configure reader to read 'MIFARE®' proximity cards.

- *200#** DISABLE function
- *201#** 26-bit WIEGAND
- *202#** 32-bit WIEGAND
- *203#** 34-bit WIEGAND
- *204#** Clock and Data
- *205#** MIFARE® SE

example

To set **26-bit Wiegand** enter: ***201#** once the reader has been placed into programming mode.


***21**
**RX80 ENDIAN
PIN CODES**
set reader to read 'ENDIAN'
***21n#**

Configure reader to read 'ENDIAN' proximity cards.

- *210#** Big ENDIAN
- *211#** Little ENDIAN

example

To set **Little ENDIAN** enter: ***211#** once the reader has been placed into programming mode.


***30**
**RX90 DESFire
PIN CODES**
set reader to read 'DESFire®'
***30n#**

Configure reader to read 'DESFire®' proximity cards.

- *300#** DISABLE function
- *301#** ENABLE function

example

To **ENABLE** function, enter: ***301#** once the reader has been placed into programming mode.



4. keypad programming guide

The following instructions give a step-by-step procedure for accessing the many features supported by this reader.

***98**

set PIN PIN CODES

set engineer's PIN code

***980000nnnn#**

Use this code to change the factory default PIN to your own 4 digit engineer's PIN setting.

The factory default PIN = 1234

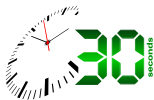
0000 current PIN (4 digits) (factory default = 1234)
nnnn engineer's PIN setting (4 digits)

NOTE: Remember to keep a record of your new PIN.

WARNING: If you forget your PIN setting, you will need to contact your **INSTALLER** or **SUPPLIER** to obtain a **RESET** code.

example

To set your new PIN to **6789** enter: ***9812346789#** once the reader has been placed into programming mode.



After entering programming mode, the reader will time out after approximately **30** seconds if no keys are pressed for that duration. Any changes you may have made to values or settings will be lost.



***99**

LOG OFF PIN CODES

EXIT CONFIGURATION MODE

***99#**

Use this code to EXIT the CONFIGURATION MODE of the reader.

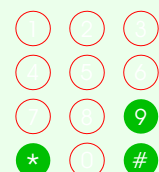
NOTE: You **MUST** use this code to ensure any changes to values or settings you may have made, are safely **SAVED** to the reader.

example

Enter: ***99#** to exit CONFIGURATION MODE (and save any settings made).



After entering programming mode, the reader will time out after approximately **30** seconds if no keys are pressed for that duration. Any changes you may have made to values or settings will be lost.



4. END of keypad programming guide