Indoor/Outdoor Proximity Reader and Keypad with 10cm (4in) Read Range

Stand alone
R885S

Installation and Operating Instructions
V1.1

PARADOX®

TABLE OF CONTENTS

INSTALLATION

To select an installation site:

- Avoid wiring the R885S's cables in the same conduit as AC power cables, lock power or signal wiring.
- Reader wiring must remain a minimum of 30cm (12in) away from other wiring, such as wiring for AC power, computer data, telephones, electric locks, etc.
- Avoid sites within 1.1m (3.5ft) of computer monitors or CRTs.
- Avoid sites near sources of broad spectrum EMI noise, such as motors, pumps, generators, DC to AC converters, AC switching relays, power supplies and light dimmers.
- Avoid sites near potential sources of RF signals, such as cellular phones, two-way radios, etc.

MOUNTING AND WIRING

Use the mounting plate as a guide to drill two holes to secure the mounting plate and a hole for the cable 0.95cm to 2.54cm (0.375in to 1in) wide. Place a grommet around the edge of the hole for the cable. Prepare the R885S's cable by cutting the cable jacket back 3.175cm (1.25in) and stripping the wires back 0.635cm (0.25in). Splice the R885S's wires with a recommended cable wire (see page 7) and connect as shown in *Figure 1* on page 5.

MOUNTING ON METAL SURFACES

Although the read range may decrease, the R885S can be mounted on metal. However, do not box in or surround the card reader with any kind of metal. If the reader must be installed in a metal enclosure, ensure that the face of the card reader is not covered and that at least 1.6" (4cm) remain between the card reader and the metal on all sides of the card reader.

TECHNICAL SPECIFICATIONS

Input Voltage:	Typical: 13.8Vdc, min.: 11.0Vdc, max: 14.5Vdc
Input Current:	Typical: 65mA @ 12.5Vdc, with card: 105mA
Consumption:	Typical: 812mW @ 12.5Vdc, with card 1.31mW
Frequency:	Exciter Field: 125kHz Pulse Modulated, receive low: 12.5kHz, Receive high: 15.625KHz
Operating Temp:	-25°C (-13°F) to +65°C (+149°F)
Cable Distance:	152.4m (500ft)
Suggested Cables:	22AWG, 0.8mm, Multi-conductor, Alpha 5196, 5198 18AWG, 1.2mm, Multi-conductor, Alpha 5386, 5388 Belden 9553, 18AWG, 6-conductor, stranded w/overall shield
Indicators:	Beeper, red LED and green LED

	For CR-R885-S: red and green Face Light For R885S: blue and green Face Light
Weight:	280g (9.8 oz.)
Material:	Black, UV resistant, ABS plastic
Dimensions:	99.5mm (5.75") x 118.5mm (2") x 19.5mm (1")
Wire Function:	Brown: Not used Black: G round Green: Pan ic Out White: COM Yellow: N ormally Closed (N.C.) Orange: Normally Open (N.O.) Red: +12 Vdc

Figure 1: Connection drawing (**12V** Locks)

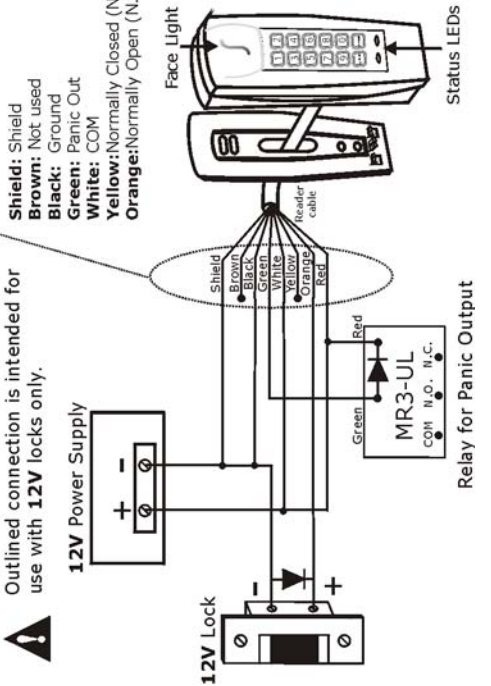
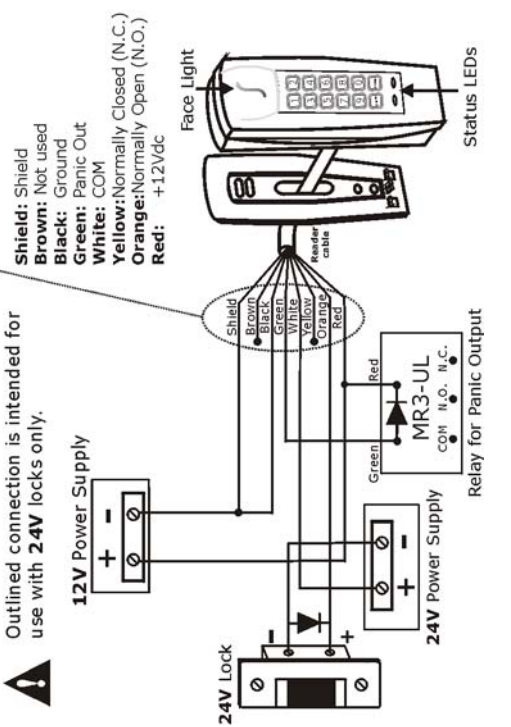


Figure 2: Connection Drawing (**24V** Locks)



FEEDBACK

Depending on the programming mode chosen, the feedback will differ. In the section *System Programming* on page 9 and *Master Programming* on page 16, the combinations of visual feedback and beep tones are specified step by step.

Visual Feedback: When information is entered on the reader's keypad, the red and/or green LEDs will flash, turn ON or turn OFF depending on the step reached in programming.

Confirmation Beep: When an operation is successfully entered, the reader emits a rapid series of beep tones ("beep-beep-beep-beep-beep").

Rejection Beep: When the system reverts to a previous status or an operation is incorrectly entered, the reader emits one long beep tone ("beeeeeeeeeep").

RESETTING TO DEFAULT

To reset all sections to factory defaults, disconnect reader's power supply. Press and hold the **[1]** and **[2]** keys simultaneously while re-connecting its power supply. The reader will emit a confirmation beep. Repeat this procedure a second time holding the **[3]** and **[4]** keys. Sections are reset when the reader emits the second confirmation beep.

CARD PRESENTATION TEST

Place the card parallel to the R885S reader (as shown in the figure) and move it toward the reader until the reader provides audio or visual feedback.

SYSTEM PROGRAMMING

The Installer Code (default: 000000) can program a new Installer Code PIN in section **[200]** and program all the system sections from **[001]** to **[005]** and **[101]** to **[104]**.

To Enter System Programming Mode:

1. Press and hold the **[CLEAR]** key for 4 seconds.
   The reader emits a confirmation beep, the green LED turns ON and the red LED turns OFF.
2. Enter the **[INSTALLER CODE]** and press the **[ENTER]** key.
   Reader emits a confirmation beep and the green LED flashes.
3. Enter the 3-digit **[SECTION]** and press the **[ENTER]** key.
   Reader emits a confirmation beep and green LED becomes constant.
4. Enter the required **[DATA]** and press the **[ENTER]** key.
   The reader emits a confirmation beep and the green LED flashes.
   Note: It may take several seconds for the module to register the command and emit a confirmation beep.
5. **To program another section, repeat steps 3 and 4**. To exit, press and hold the **[CLEAR]** key for 4 seconds.
   The reader emits a rejection beep and the green LED turns OFF.

SECTION [001] CARD/CODE OPTIONS

The R885S can function as a reader only, as a keypad only or as a combined reader **and** keypad. Option **[3]** by default

Enter	Description
[0]	Keypad and reader disabled. For programming only.
[1]	Reader only. Present valid card to the reader for Access Granted.
[2]	Keypad only. Enter valid code on the keypad for Access Granted.
[3]	Keypad and reader enabled. A user must present **BOTH** a valid card **AND** enter a valid code to receive an Access Granted.

When a Card/Code option is set, it may require several seconds for the system to update the programming. The reader emits a confirmation beep once the modification is complete.

SECTION [002] DOOR LOCK CONTROL

The Door Lock Control determines the length of time the locking device remains unlatched after an Access Granted. When **[0]** is programmed, the lock is unlatched after an Access Granted and remains unlatched until it receives a second Access Granted (functions like a key). When **[1]** to **[5]** is programmed, the lock remains unlatched for the defined time period. Option **[2]** by default.

Enter	Description
[0]	Card/Code Controlled Free Access (Latched).
[1]	1 second.
[2]	5 seconds.
[3]	10 seconds.
[4]	20 seconds.
[5]	60 seconds.

SECTION [003] ACCESS GRANTED OPTIONS

The Access Granted Options depend on the Card/Code Options set in section **[001]**. Option **[0]** by default.

Enter	Description
[0]	Single Access Granted.
[1]	Dual Access Granted.
[2]	Dual Access Granted with Dual Panic Disarm.

Single Access Granted

When **[0]** is programmed, one user can obtain Access Granted by using a valid card, code or both depending on the Card/Code Option set.

Dual Access Granted

When **[1]** is programmed, two users are required to obtain Access Granted. Each user must use a valid card, code or both depending on the Card/Code Option set. Only one user is required to disarm a Panic Alarm.

Example: When the reader and the keypad are enabled, User 1 must present a valid card and enter a valid code and then User 2 must present a valid card and enter a valid code for Access Granted.

Dual Access Granted with Dual Panic Disarm

When **[2]** is programmed, two users are required to obtain Access Granted (same as *Dual Access Granted*) and two users are required to disarm a Panic Alarm.

For example, a Panic Alarm is triggered, User 1 must present a valid card and enter a valid code and then User 2 must present a valid card and enter a valid code to disarm the alarm.

SECTION [004] DISPLAY ON CARD READ

The visual feedback when a card is presented to the reader can be adjusted according to the installation's requirements. Option **[3]** by default.

Enter	Description
[0]	Display on Card Read disabled.
[1]	Red Status LED flashes.
[2]	Green Status LED flashes.
[3]	Red and green Status LEDs flash.
[4]	Face Light flashes.
[5]	Face Light and red Status LED flash.
[6]	Face Light and green Status LED flash.
[7]	Face Light and both Status LEDs flash.

*Select **[0]** in Section [103] Face Light Operation on page 14 to enable options **[0]** to **[3]** in section **[004]** or select **[1]** in Section [103] Face Light Operation on page 14 to enable options **[4]** to **[7]** in section **[004]**.*

SECTION [005] KEYPAD LOCKOUT

When Keypad Lockout is enabled and the Installer Code is entered incorrectly 3 consecutive times, the keypad ignores all entries for 60 seconds. Option **[0]** by default.

Enter	Description
[0]	Keypad Lockout disabled.
[1]	Keypad Lockout enabled.

SECTION [101] BUZZER SETTING

The number of beep tones emitted as a response to a card being presented to the reader can be adjusted from 0 (disabled) to 7 (7 rapid beep tones). Option **[3]** by default.

SECTION [102] FACE LIGHT INTENSITY

The Face Light's illumination can be adjusted according to the installation's requirements from 0 (off) to 8 (brightest). Option **[4]** by default.

SECTION [103] FACE LIGHT OPERATION

The Face Light can be set to remain illuminated continually or can follow the state of the Status LEDs. Option **[1]** by default.

Enter	Description
[0]	Face Light constant.
[1]	Face Light follows Status LEDs.

*If **[0]** in section **[103]** is selected, this will override options **[4]** to **[7]** in Section [004] Display on Card Read on page 12. In addition, if **[1]** in section **[103]** is selected, this will override **[0]** to **[3]** in Section [004] Display on Card Read on page 12.*

SECTION [104] FACE LIGHT COLOUR

The Face Light's colour can be modified as desired. Option **[0]** by default.

*This feature only applies when Face Light Operation programmed in Section **[103]** is set for Option **[0]**: Face Light constant.*

Enter	Description
[0]	Blue Face Light.
[1]	Green Face Light.

SECTION [200] CHANGING THE INSTALLER CODE

The Installer Code (000000 by default) is used to program all the system's sections, but cannot program the Master and User Codes (see

page 16). In section **[200]** enter six digits where each digit can be any value from 0 to 9.

RESETTING THE INSTALLER AND MASTER CODES TO DEFAULT

To reset the Installer Code, Master Code 1 and Master Code 2 to factory defaults, disconnect the reader's power supply. Press and hold the **[3]** and **[4]** keys simultaneously while re-connecting its power supply. Installer Code, Master Code 1 and Master Code 2 are reset when the reader emits a confirmation beep.

MASTER PROGRAMMING

Master Programming Mode is used to program Master and User Codes.

SECTIONS [201] AND [202] CHANGING THE MASTER CODES

Master Code 1 (default: 111111) is used to program both Master Codes, the User Codes and the *Section [002] Door Lock Control* (see page 10). Master Code 2 (default: 222222) can program the User Codes and change its own PIN. Master Code 2 **cannot** program Master Code 1 or the Door Lock Control. In the desired section enter the 6-digit personal identification number (PIN) where each digit can be any value from 0 to 9.

To Change the Master Codes:

1. Press and hold the **[CLEAR]** key for 4 seconds.
   The reader emits a confirmation beep, the green LED turns ON and the red LED turns OFF.
2. Enter **[MASTER CODE 1** or **MASTER CODE 2]** and press the **[ENTER]** key.
   Reader emits a confirmation beep and the red and the green LEDs flash simultaneously.
3. Enter **[201]** to change Master Code 1 or **[202]** to change Master Code 2 and press the **[ENTER]** key.
   Reader emits a confirmation beep and the green LED becomes constant.
4. Enter the new PIN and press the **[ENTER]** key.

The reader emits a confirmation beep and both LEDs flash.

5. To exit, press and hold the **[CLEAR]** key for 4 seconds.
   The reader emits a rejection beep and the green LED turns OFF.

SECTION [203] USER CODE PROGRAMMING

Master Code 1 and 2 can activate cards and program the personal identification numbers (PIN) for the User Codes. The R885S includes 1000 User Codes. User Code **000** to **999** can be 1 to 8 digits in length where each digit can be any value from 0 to 9. You can use the table on page 24 to record the User Codes.

To Program User Codes:

1. Press and hold the **[CLEAR]** key for 4 seconds.
   The reader emits a confirmation beep, the green LED turns ON and the red LED turns OFF.
2. Enter **[MASTER CODE 1** or **MASTER CODE 2]** and press the **[ENTER]** key.
   Reader emits a confirmation beep and the red and the green LEDs flash simultaneously.
3. Enter **[203]** and press the **[ENTER]** key.
   Reader emits a confirmation beep and the red and the green LEDs flash alternately.
4. Enter the number of the desired User Code. Press the **[ENTER]** key.
   The reader emits a confirmation beep and the green LED turns ON. If the red LED turns ON,

the section is empty. If the red LED stays OFF, a User Code is already programmed in the section.

5. Program the card, access code (or both combined) according to the option selected in section [001] (see page 9). Then enable one of the following options:
   - Reader only: present the card to the reader without pressing the **[ENTER]** key. The reader will automatically advance to the next User Code.
   - Keypad only (PIN is less than 8 digits): enter PIN and press the **[ENTER]** key to advance to the next User Code.
   - Keypad only (PIN is more than 8 digits): enter PIN, the reader will automatically advance to the next User Code after you have entered the 8th digit.
   - Keypad and reader: present the card to the reader followed by the PIN. Press the **[ENTER]** key to advance to the next User Code.
6. The reader automatically advances to the next sequential user position. Return to step 5 to program another card.
   To exit:
   - Press **[CLEAR]** key. The red and green LEDs will flash alternately.
   - Press the **[CLEAR]** key a second time. Both LEDs will flash simultaneously.
   - Press and hold the **[CLEAR]** key a third time to exit this section.

*When you press the **[CLEAR]** key in step 5: If the User Code is not programmed, the R885S will revert to step 4. If a card or PIN was entered, press the **[Enter]** key to confirm the removal and advance to the next user code or press the **[CLEAR]** key to enter a new user code. If you press and hold the **[CLEAR]** key you will exit this section entirely.*

DELETING A USER CODE

User Codes can be deleted individually. When the User Code is deleted, a new card and/or PIN can be programmed in the section.

To Delete User Codes:

1. Press and hold the **[CLEAR]** key for 4 seconds.
   The reader emits a confirmation beep, the green LED turns ON and the red LED turns OFF.
2. Enter **[MASTER CODE 1** or **MASTER CODE 2]** and press the **[ENTER]** key.
   Reader emits a confirmation beep and the red and the green LEDs flash simultaneously.
3. Enter **[203]** and press the **[ENTER]** key.
   Reader emits a confirmation beep and the red and the green LEDs flash alternately.
4. Enter the 3-digit User Code (**not** the user's PIN) that you wish to delete. Press the **[ENTER]** key.
   The reader emits a confirmation beep and the green LED turns ON. The red LED should be OFF, indicating that the user code has

previously been programmed with a PIN/card. If the red LED is ON, the user code is free.

5. Press the **[CLEAR]** key.
   The red LED flashes.
6. Press the **[ENTER]** key to confirm the removal and advance to the next section.

To exit:

- Press **[CLEAR]** key. The red and green LEDs will flash alternately.
- Press the **[CLEAR]** key a second time. Both LEDs will flash simultaneously.
- Press and hold the **[CLEAR]** key a third time to exit this section.

SECTION [204] USER CODE RESET

User Code Reset is used to delete all the User Codes (from User Code **000** to **999**).

To Reset all User Codes:

1. Press and hold the **[CLEAR]** key for 4 seconds.
   The reader emits a confirmation beep, the green LED turns ON and the red LED turns OFF.
2. Enter **[MASTER CODE 1** or **MASTER CODE 2]** and press the **[ENTER]** key.
   Reader emits a confirmation beep and the red and the green LEDs flash simultaneously.
3. Enter **[204]** and press the **[ENTER]** key.
   Reader emits a confirmation beep, the green LED turns ON and the red LED turns OFF.
4. Press the **[1]** key and then press the **[ENTER]** key to confirm the reset.

Note: It may take several seconds for the module to register the command and emit a confirmation beep.

When the User Codes are reset, it may require several seconds for the system to update the programming. The reader emits a confirmation beep once the modification is complete.

USER OPERATION

USER ACCESS

Access is granted according to the Card/Code Option (see page 10) and the Access Granted Option set (see page 11).

	Single Access Granted	**Dual Access Granted**
Reader Only	1 user: user presents a valid card to the reader.	2 users: each user presents a valid card to the reader.
Keypad Only	1 user: user enters a valid User Code on the keypad and presses the **[ENTER]** key.	2 users: each user in turn enters a valid User Code on the keypad and presses the **[ENTER]** key.

	Single Access Granted	Dual Access Granted
Reader and Keypad	1 user: user presents a valid card to the reader. The reader emits a confirmation beep and the green Status LED flashes. User must enter a valid User Code on the keypad and press the **[ENTER]** key within 10 seconds.	2 users: the first user presents a valid card to the reader. The reader emits a confirmation beep and the green Status LED flashes. The first user must enter a valid User Code on the keypad and press the **[ENTER]** key within 10 seconds. The reader will emit a Confirmation Beep and the red Status LED flashes slowly. The second user has 30 seconds to present a valid card to the reader and then enter a valid User Code.

The second user's card and/or User Code must be different from the first.

PANIC ALARM

A panic alarm can be generated by pressing and holding the **[CLEAR]** and **[ENTER]** keys for 2 seconds. The Panic Alarm will activate the panic output (see *Figure 1* on page 5). Access will not

be granted to users until the Panic alarm is disarmed. Disarming a Panic Alarm depends on the Card/Code Option (see page 10) and Access Granted Option (see page 11). To disarm a Panic Alarm:

	Single Access Granted	**Dual Access Granted**	**Dual Access Granted with Dual Panic Disarm**
Reader Only	Present 1 valid card to the reader		2 users: each user presents a valid card to the reader.
Keypad Only	Enter 1 valid User Code and press the **[ENTER]** key		2 users: each user enters a valid User Code and presses the **[ENTER]** key.
Reader and Keypad	Present 1 valid card to the reader then enter 1 valid User Code and press the **[ENTER]** key		2 users: the first user presents a valid card to the reader. then must enter a valid User Code and press the **[ENTER]** key. The second user has 30 seconds to present a valid card to the reader and then enter a valid User Code.

The second user's card and/or User Code must be different from the first.

USER CODE TABLE

Use this table to keep a record of the User Codes. If you require extra pages, photocopy this table. The PIN column is provided for your convenience, however, we recommend **not** using it for security reasons.

User Code	Name	Card Number	PIN (optional)

User Code	Name	Card Number	PIN (optional)

WARRANTY

For complete warranty information, please visit www.paradox.com/terms. Your use of the Paradox product signifies your acceptance of all warranty terms and conditions. For the latest product approvals, such as UL and CE, please visit www.paradox.com. Specifications may change without prior notice.

PATENTS

One or more of the following US patents may apply: 7046142, 6215399, 6111256, 6104319, 5920259, 5886632, 5721542, 5287111, 5119069, 5077549 and RE39406 and other pending patents may apply. Canadian and international patents may also apply.

Notes

For technical support in Canada or the U.S., call 1-800-791-1919, Monday to Friday from 8:00 a.m. to 8:00 p.m. EST. For technical support outside Canada and the U.S., call 00-1-450-491-7444, Monday to Friday from 8:00 a.m. to 8:00 p.m. EST.
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