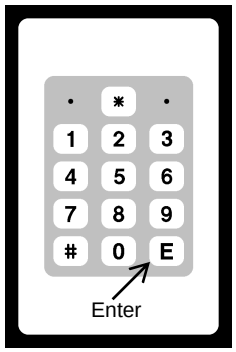
Presco™ KEYPAD

PRDA "Series 3"

"PRESCO" KEYPAD SYSTEM.

INTRODUCTION.

The PRDA Digital Keypad System utilises the latest microprocessor technology to operate most electric door locking devices on the market. These keypads offer the ability to access restricted areas by using easy to remember codes. A Lexan overlay protects the tactile (not membrane or rubber) buttons in heavy traffic areas and also offers water and dust resistance to the keypad. Additional keypads (total of 10) can be connected to allow remote activation from a reception desk etc.



FEATURES

- Split system for maximum security, (Keypad & Decoder).
- Door forced open detection.
- Door Open Too Long (DOTL) function.
- EGRESS function.
- 125 client programmable user codes.
- Digits can repeat ie. 12321.
- 3 to 7 digit management and user codes.
- Minimum 19 million possible user code combinations.
- Up to 10 keypads can be connected to one decoder.
- 10 year non volatile memory.
- Audible/visual confirmation.
- Sealed "Tactile" buttons.
- 17mm. thin surface mounting.
- Hidden screw mounting.
- Water resistant (with use of optional gasket).
- Operating Temperature Range: 0°C to 70°C.

SPECIFICATIONS

DECODER Voltage:	12-24 Volt A.C./D.C.
Current:	20 mA. + 45 mA relay when operated (24 Volt D.C).
	35 mA. + 65 mA relay when operated (24 Volt A.C).
KEYPAD Standby current:	0.25 mA.
ELC contacts: (Electric Latch Control)	30 Volt, 5 Amp A.C./D.C. SPDT.
DOTL output: (Door Open Too Long)	1 Amp max. sink current (open collector).
Maximum Keypad Decoder separation:	1 KM (0.6 Miles) (max. return resistance 100Ω. Non shielded).
Package size:	79 mm/123 mm/45 mm.
Weight:	200 gms.

MOUNTING

Use the supplied template to mark the position for mounting and wire cut-out hole.

IMPORTANT! Disconnect all power during wiring.

Do not over-tighten terminal screws on decoder.

DECODER TERMINAL DESCRIPTIONS

GND Negative output or Ground from Power Supply.

AC-DC AC or DC 12-24 Volt from Power Supply.

DTA Data (white wire from Keypad).

ELC (Electric Latch Control) 5 Amp. Relay operates momentarily with each correct code entered. This output can be varied for operating times between 1 and 255 seconds (factory set for 10 seconds).

- **A.** Use CM and NO for fail/secure operation. ie. power applied to unlock latch.
- **B.** Use CM and NC for fail/safe operation. ie. power removed to unlock latch.

DOOR A normally closed input to GND, goes open circuit when the door is open. The DOOR input is used to detect when the door has been opened for use by the door forced open, DOTL and automatic re-lock functions. The automatic re-lock function turns the ELC output off 1 second after the door opens, allowing the door to automatically re-lock when closed. **Note**: If the **DOOR** input is to be used it must be enabled via Memory 6.

DOTL (Door Open Too Long) open collector output operates when the door has been left open for longer than the programmed DOTL time or when the door has been forced open. See *DOOR OPEN TOO LONG* and *DOOR FORCED OPEN DETECTION* sections. The DOTL output is capable of sinking up to 1 Amp.

EGRESS A normally open or normally closed input to GND. See *SELECT EGRESS SWITCH TYPE* section. When this input is activated the ELC output will turn on and remain on until the input is removed. Once the EGRESS input has been removed, the ELC output will continue to operate for the programmed momentary time and the automatic re-lock and DOTL functions are also enabled.

OPERATING MODE RULES

1/ **1 beep** = successful code (ELC output turned on).

2/ **2 beeps** = successful code (ELC output turned off).

3/ **5 beeps** = management code entered.

4/ a **long beep** = a non existent code.

a **pause** then a **long beep** = 5 unsuccessful "tries". (System is locked out for 1 minute, if enabled in mem 5).

The [*] and Memory number are NOT required in the OPERATE mode.

5/ Cancel a wrong entry with [E], then re-try.

THE MEMORIES

Memory 0	Memory 1	Memory 2	Memory 3	Memory 4
Toggle operation user codes.	Momentary operation user codes.	Selects EGRESS switch type.	Enable/disable door forced open detection.	Door Open Too Long time.
Memory 5	Memory 6	Memory 7	Memory 8	Memory 9
Enable/disable 1 minute lockout.	Enable/disable Door input for reed switch.	Use two codes to operate ELC.	ELC relay operate time.	Management code.

BASIC SETUP SEQUENCE

1/ Select EGRESS switch type (Currently N/O). [Memory 2]

2/ Set ELC OPERATE TIME (Currently 10 seconds). [Memory 8]

3/ Enable/Disable DOOR INPUT (Currently disabled). [Memory 6]

4/ Set **D**oor **O**pen **T**oo **L**ong time (Currently 60 seconds). [Memory 4]

5/ Enable/Disable DOOR FORCED OPEN DETECTION (Currently enabled). [Memory 3]

6/ Enable/Disable 1 MINUTE LOCKOUT (Currently disabled). [Memory 5]

7/ Enable/Disable USE TWO MOMENTARY CODES (Currently disabled). [Memory 7]

8/ Program MANAGEMENT CODE. [Memory 9]

9/ Program USER CODES. [Memory 1 & Memory 0]

NOTE: Use the Program Link for steps 1 to 8 above (and step 9 if the management code is not used). Remove link when finished.

SELECT EGRESS SWITCH TYPE. (MEMORY 2)

Factory preset to: Normally Open - N/O.

Memory 2 stores whether the EGRESS switch to be used is Normally Open (N/O) or Normally Closed (N/C).

Note that this memory should only be altered if a N/C EGRESS switch is to be used, otherwise the EGRESS switch should be left as N/O.

1/ The program link **must be on**.

2/ The single digit after the **2** determines which type of EGRESS switch is to be used. The digit after the **2** must be either **0** or **1**.

Select Switch type. ⊡

[*][2][1][E] ..... N/C EGRESS switch selected (Warble).

[*][2][0][E] ..... N/O EGRESS switch selected (Warble).

ELECTRIC LATCH CONTROL (ELC) OPERATE TIME. (MEMORY 8)

Factory preset to: 10 seconds.

Memory 8 stores the time the ELC relay operates for when a momentary user code is used. It can be set to operate momentarily from 1 to 255 seconds.

1/ The Program link **must be on**.

2/ The digits after the **8** determine the operate time for ELC. The value must be between **1** and **255**.

Set ELC Time..... ⊡

[*][8][5][E] ..... Sets ELC for 5 sec operation (Warble).

[*][8][6][0][E] ..... Sets ELC for 60 sec operation (Warble).

DOOR INPUT ENABLE. (MEMORY 6)

Factory preset to: Door Input Disabled.

Memory 6 stores whether the decoder is to use the door reed switch input. When the door reed switch input is enabled the automatic re-lock, Door Open Too Long and Door Forced Open functions are then enabled.

Note that if the Door input is enabled, but a N/C reed switch is not used, the PRDA will not function correctly.

1/ The program link **must be on**.

2/ The single digit after the **6** determines whether the door reed switch input is enabled. The digit after the **6** must be either **0** or **1**.

Enable/Disable Door reed switch input ⊡

[*][6][1][E] ..... Enables door input (Warble).

[*][6][0][E] ..... Disables door input (Warble).

DOOR OPEN TOO LONG (DOTL) TIME. (MEMORY 4)

Factory preset to: 60 seconds.

Memory 4 stores the time that the door is allowed to remain open before the DOTL output is activated. It can be set from 0 and 9999 seconds. The DOTL time commences after the door has been unlocked and opened through the use of a valid code or EGRESS. If the door is held open for longer than the programmed DOTL time then the DOTL output will activate until the door is closed.

Note that a **0** value for the DOTL time will give the door an infinite time to remain open for, ie. DOTL is disabled.

1/ The program link **must be on**.

2/ The digits after the **4** determine the DOTL time to use. The value must be between **0** and **9999**.

Set DOTL time..... ⊡

[*][4][0][E] ..... Set DOTL time to infinite (Warble).

[*][4][3][0][E] ..... Set DOTL time to **30** secs (Warble).

[*][4][4][8][0][E] ..... Set DOTL time to **480** secs [8 mins] (Warble).

DOOR FORCED OPEN DETECTION. (MEMORY 3)

Factory preset to: Door Forced open Detection Enabled.

Memory 3 stores whether the decoder is to detect when the door has been opened without the use of a valid code or EGRESS. If detection is enabled and the door is forced open, the DOTL output will activate for 30 seconds or until the door is closed again (whichever is the longer time). However if detection is disabled, then the PRDA will go into the DOTL time-out loop as soon as the door is opened. If the door then remains open for longer than the programmed DOTL time, the DOTL output will activate until the door is closed again.

Note that Door Forced Open Detection must be disabled if the door can be opened without the use of a code or EGRESS switch.

1/ The program link **must be on**.

2/ The single digit after the **3** determines whether door forced open detection is enabled. The digit after the **3** must be either **0** or **1**.

Enable/Disable Door Forced Open Detection ⊡

[*][3][0][E] ..... Disables door forced open detection (Warble).

[*][3][1][E] ..... Enables door forced open detection (Warble).

DISABLE 1 MINUTE LOCKOUT. (MEMORY 5)

Factory preset to: 1 Minute Lockout Disabled.

Memory 5 stores whether the PRDA is to lockout all codes for 1 minute after 5 invalid codes have been tried. Enabling of the lockout feature may be desirable for higher security. Disabling of the lockout feature is necessary if door access must be guaranteed at all times.

1/ The program link **must be on**.

2/ The single digit after the **5** determines whether the lockout is enabled or disabled. The digit after the **5** must be either **0** or **1**.

Enable/Disable 1 Minute Lockout ⊡

[*][5][1][E] ..... 1 minute lockout **Enabled** (Warble).

[*][5][0][E] ..... 1 minute lockout **Disabled** (Warble).

USE TWO MOMENTARY CODES. (MEMORY 7)

Factory preset to: Do NOT use Two momentary Codes.

Memory 7 can be used to set up the PRDA as a "two code" system. What this means is that two different momentary user codes stored in the PRDA must be used before the ELC relay will operate for the time programmed in memory 8. The value stored in memory 7 is the time (in seconds) allowed between the two codes being entered. If the value stored here is zero (0) then only one code is required to operate ELC. If a second different code has not been entered before the programmed time has elapsed then the PRDA will wait for another two codes to be used.

Note that when "Two codes" is enabled (Memory 7 is not set to 0) then the toggle user codes (Memory 0) are not valid.

1/ The program link **must be on** to set **Memory 7**.

2/ The digits after the **7** determine the "Two codes" time to use. The value must be between **0** and **255**.

Set "Two codes" time ⊡

[*][7][0][E] ..... Only one momentary code required (Warble).

[*][7][3][0][E] ..... Allow **30** secs between the 2 codes (Warble).

[*][7][6][0][E] ..... Allow **60** secs between the 2 codes (Warble).

PROGRAMMING

PROGRAMMING MODE RULES.

1/ The [*] key = **Add**.

2/ The [#] key = **Delete**.

3/ Enter memory number ([1] for momentary operation codes, [9] for the management code, etc.) **before** any programmable information. This ensures the information is directed to the correct memory location.

4/ **Warble** = successful **Add** or **Delete**.

5/ **Long beep** warns that either codes are already in use, too long or short, or more than **125** codes have been used.

6/ Press each digit within 10 seconds after the preceding digit, otherwise information will be lost. If a wrong number is pressed, wait 10 seconds then start again.

NOTES:

1/ After trying the example codes below, delete them then add your own unique code/s. Avoid obvious codes like 1234.

2/ Up to 125 different user codes can be stored between **Memory 1** & **0**.

3/ Repeating digits, including the [#], are allowed in codes eg. [2][#][3][#][3] provided that [#] is not the first digit.

4/ Codes can be from **3** to **7** digits in length.

5/ There are **NO** factory preset codes programmed.

THE MANAGEMENT CODE. (MEMORY 9)

Memory 9 stores the **Management** code which allows the **Program** mode to be entered from any keypad **without** the Program link. Use this feature if regularly changing codes, or the decoder is difficult to access. As supplied, no **Management** code exists.

To add, change or delete the **Management** code, the Program link **must be on**. The digits after the [*][9] are the **Management** code.

Add Management Code ⊡

[*][9][2][4][6][E]..... **246** is the management code (warble).

[*][9][3][6][9][E]..... **369** has now over written **246** (warble).

..... •⊡ Restore operate mode.

Using the Management code •⊡

[3][6][9][E]..... **Program** mode entered (5 beeps).

[*][1][4][5][6][E]..... 456 added to memory 1 user codes (warble).

..... **Operate** mode entered automatically.

Note: that the system automatically returns to the **Operate mode** after a single management function has been performed. ie. add or delete a code. If the management function was not successful, the system still returns to the **Operate mode** (after a long beep).

Note: how **369E** replaces the Program link function but with the addition of the 5 beeps to clearly indicate which mode is current. All momentary and toggle user code programming examples on pages 6 & 7 below could be done with the management code. **369** is an example only. With link ON either overwrite it with a new code or delete with [#][9][E]. **REMOVE LINK**.

Note: If after entering the **Management mode** you decide not to add or delete a code, then press [E] to return to the **Operate mode**.

Note: If the Management code is forgotten, use the program link to over write the forgotten code with a new code. This feature obsoletes factory preset or "house codes" which can compromise security.

MOMENTARY OPERATION USER CODES. (MEMORY 1)

The codes programmed into **Memory 1** are used to operate the ELC relay for the length of time set in **Memory 8** (ELC OPERATE TIME).

Note: The digits after the [*][1] are the momentary operation user code.

Add user codes..... ⊡ Link **on both** pins (**Program mode**).

[*][1][5][6][7][E]..... 567 is added to memory 1 (warble).

[*][1][6][7][8][E]..... 678 is also added to memory 1 (warble).

Try user codes..... •⊡ Park link on 1 pin (**Operate mode**).

[5][6][7][E]..... ELC operates (1 beep).

[6][7][8][E]..... ELC operates with this code also (1 beep).

Delete a user code .⊡

[#][1][6][7][8][E]..... 678 is deleted from memory 1 (warble), 567 remains.

Delete all user codes ⊡

[#][1][E]..... Deletes all codes stored in Memory 1 (warble).

..... •⊡ Restore operate mode.

TOGGLE OPERATION USER CODES. (MEMORY 0)

The codes programmed into **Memory 0** are used to toggle the state of the ELC relay. These codes can be used as override codes to keep a door open during certain times. These codes are useful for a business where the door is to be unlocked during business hours but kept locked after hours, requiring people to use a momentary code to open the door.

Note: that when the ELC relay has been turned on (door unlocked) by using a toggle operation code, then the momentary operation codes are not valid until the ELC relay is turned off (door locked) and also that the DOTL time out routine does not start until the ELC relay is turned off.

Note: The digits after the [*][0] are the toggle operation user code.

Add toggle codes... ⊡

[*][0][8][5][2][E]..... 852 is added to memory 0 (warble).

[*][0][7][4][1][E]..... 741 is also added to memory 0 (warble).

Try toggle codes.... •⊡

[8][5][2][E]..... ELC relay turns on (1 beep).

[7][4][1][E]..... ELC relay turns off (2 beeps).

Delete a toggle code ⊡

[#][0][8][5][2][E]..... 852 is deleted from memory 0 (warble), 741 remains.

Delete all toggle codes ⊡

[#][0][E]..... Deletes all codes stored in Memory 0 (warble).

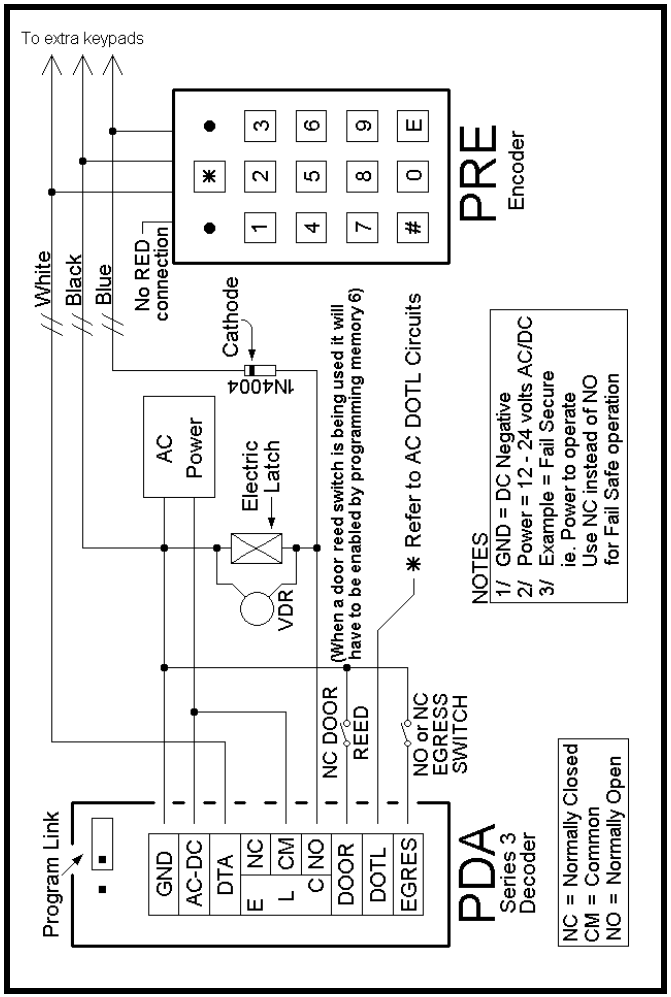
..... •⊡ Restore operate mode.

Design Philosophy - Problems and Solutions.

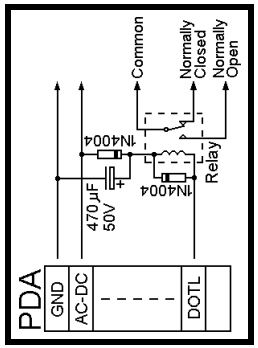
1/ Most keypads contain the switching relay and control wiring within the keypad housing. A skilled person could easily bypass the keypad function simply by removing it then manipulating the control wiring, a disastrous situation. "Presco" is "split" in 2 parts, so that the decoder can do all the processing at a remote protected environment. The code is transmitted between keypad and decoder in "computer" language, therefore cutting or shorting wires won't compromise security.

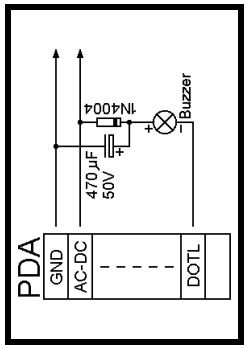
2/ Typical keypad installations require 7 or more wires thus increasing labour and cost. "Presco" uses only 3 wires to operate the door release, LED/buzzer feedback of code entry, acknowledgment of correct code, state of door strike, remote management code programming and power. Up to 10 keypads can be connected to PDA by simple parallel wiring. No synchronising is required.

PRDA A.C. Wiring Diagram

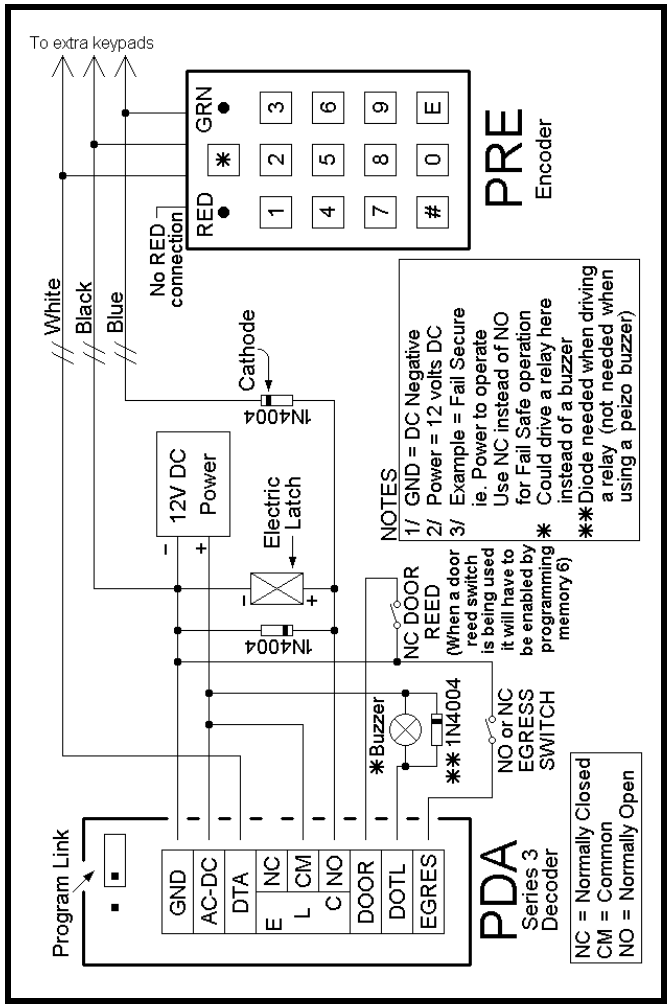


A.C. DOTL Circuits





PRDA D.C. Wiring Diagram



NOTE: The 3 1N4004 diodes referred to in the A.C. and D.C. diagrams are packaged with the PRDA.

OTHER MODELS AND ACCESSORIES.

P2 1 Amp. 30 Volt Control and Duress SPDT relays, timed or toggled operation, 125 user codes, 12 Volt D.C. operation.

P6 Six (6) open collector logic outputs, timed or toggle operation, 125 user codes, 12 Volt D.C. operation.

PRE Additional keypad encoder for any "Presco" decoder. Up to 10 per system allowed.

PKG Watertight gasket for PRE.

PRC Magnetic card reader. 12-24 Volt A.C./D.C. Compatible with any "Presco" decoder.

PROTECTION.

The NIDAC "Presco" keypad system has a high immunity to all types of static, EMF, and RF transmissions including those of Police and CB radio systems. Reverse polarity and overvoltage protection from lightning strike up to 10Kv is provided.

WARRANTY.

NIDAC SECURITY PTY. LTD. will repair or replace this product if proven to be faulty (excluding accidental or malicious damage) under the 36 month warranty offered from the date of purchase.

As NIDAC SECURITY PTY. LTD. or it's agents do not perform the final installation, inspection or training in the use of this product, they cannot be held liable for injury, loss or damage directly or consequentially arising from the use or misuse of this product.

"Presco" is a pending Trade Mark belonging to NIDAC SECURITY PTY. LTD. The "Presco" Keypad system is protected by provisional and pending patents in various countries including Australia.

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