PROVE™

VR43 & VR62

Series 2

Vandal and Weather Resistant Keypads

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FEATURES

- Suitable for indoor and outdoor usage.
- Durable and stylish metal keypad construction (satin chrome plated zinc die cast).
- 8 to 26 Volt D.C. operation.
- Vandal Resistant.
- Weather Resistant (IP67).
- Outputs Presco and Wiegand data.
- Blue LED Backlighting on keys standard.
- Compatible with all NIDAC Presco controllers.
- Fully configurable for custom Wiegand modes.
- Operating temperature range of -20ºC to 70ºC.
- 5 year manufacturer's warranty.

PACKAGE CONTENTS

Included in the package for your VR keypad is:

1 x VR43 or VR62 keypad.

1 x Installation manual (this document).

1 x VR keypad cable with rubber sealing boot.

1 x Hex Allen key to remove screw for fascia.

1 x Mounting template.

If any of these items are missing please contact your supplier.

SPECIFICATIONS

Voltage: 8V to 26V D.C. recommended.
7V to 30V D.C. absolute limits.

Current: 60mA max @ 7V D.C. (without backlighting)
110mA max @ 7V D.C. (with backlighting)

35mA max @ 12V D.C. (without backlighting)
70mA max @ 12V D.C. (with backlighting)

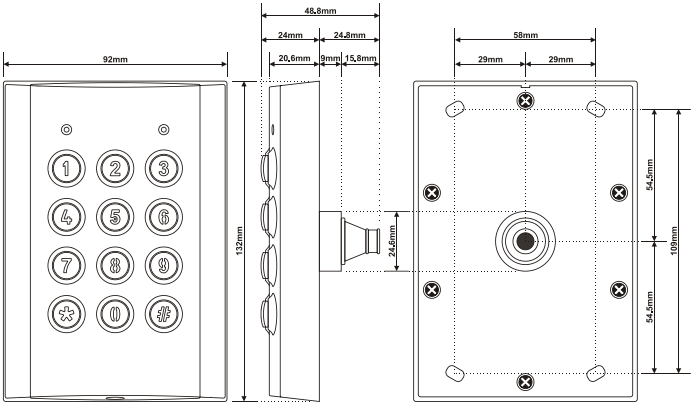
30mA max @ 24V D.C. (without backlighting)
55mA max @ 24V D.C. (with backlighting)

Ingress Protection Rating: IP67

VR43

Weight: 780 grams (including cable).

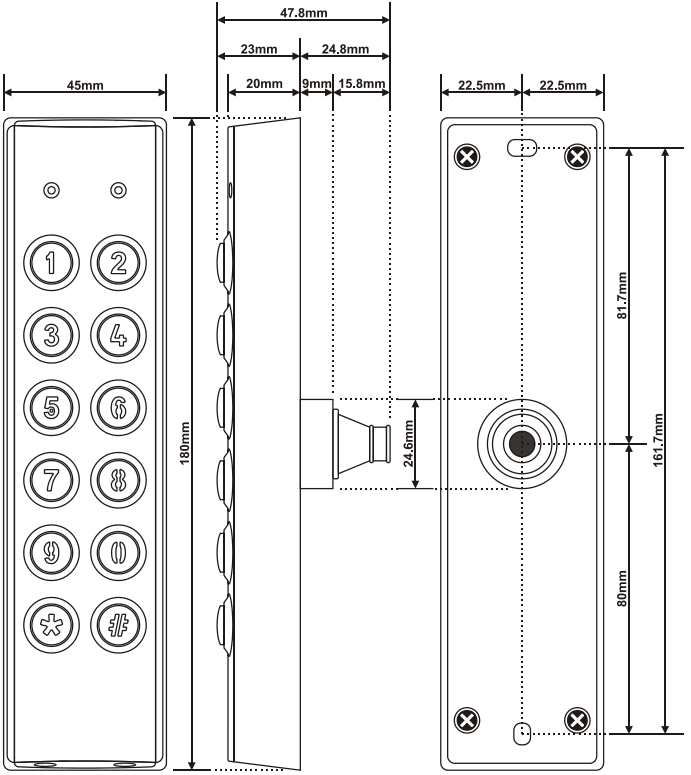
Dimensions: 132mm x 92mm x 20mm (H x W x D).



VR62

Weight: 620 grams (including cable).

Dimensions: 161.7mm x 45mm x 23mm (H x W x D).



WIRES

There are 12 wires for the VR keypads, not all will be needed for each installation. The unused wires should always be terminated and left unconnected.

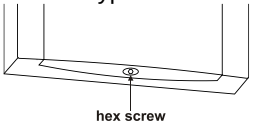
Black	0V (Ground).
Red	+12V to +24V D.C.
White	DTA (Presco data line).
Dark Green	D0 (Wiegand Data 0).
Yellow	D1 (Wiegand Data 1).
Violet	+3V to +24V D.C. Backlighting control.
Blue	Green LED control wire, +3V to +24V active.
Orange	Red LED control wire, +3V to +24V active.
Brown	Buzzer control wire, 0V active.
Light Green	Green LED control wire, 0V active.
Pink	Presco/Wiegand mode select wire, 0V active for Wiegand mode.
Grey	Chassis Earth connection.

NOTE: The Blue, Orange, Brown, Light Green and Pink wires can be programmed to control different functions. Refer to the Options section on page 8.

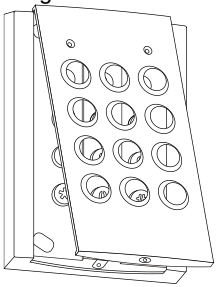
IMPORTANT: When using the VR43 or VR62 in an area subject to static discharges the chassis of the VR keypad should be connected to EARTH via the grey wire. It is highly recommended that this always be done no matter what the environment.

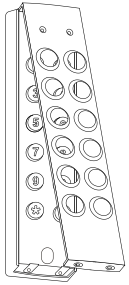
INSTALLATION

1. Using the supplied template mark out the location of the mounting screws and the cable exit. Drill out all points as necessary.
2. Using the supplied key remove the hex allen screw(s) at the bottom of the keypad that secure the fascia to the chassis.



3. Swing the fascia up from the bottom and it will unhook at the top allowing access to the mounting screw holes.





4. Attach the supplied cable by plugging in the connector (you may need to use a screw driver to push the connector around the edges to ensure it is in firmly). **Note** that it is designed to be inserted in one way only, however use of excessive force could allow it to be inserted wrongly so check the guide locators match before inserting.
5. Slide the rubber boot down the cable and press the first flange into the hole and leaving the second flange on the outside of the keypad. Make sure that it sits neatly in all places to ensure a correct seal.
6. Mount the keypad and reverse steps 2 & 3 to reattach the fascia to the keypad chassis.

USING THE VR KEYPADS WITH PRESCO

The VR43 & VR62 can be used to perform all the functions of a standard Prove PSK2 keypad. The only difference in operation is the use of the (#) key instead of the [E] key.

The (#) key is a dual purpose key. When it is pressed as the first key in a code sequence it generates a #, when pressed as a subsequent key it then becomes the [E] key.

Should it be necessary to generate a # in the middle of a code sequence then you must press and hold down the (*) key, press the (#) key then release both keys.

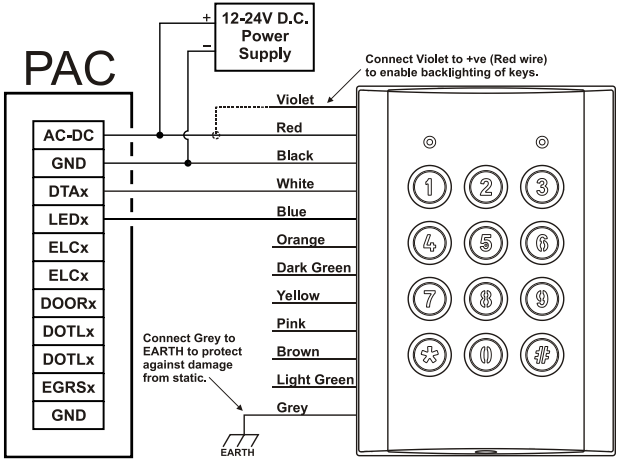
To use the keypad in Presco mode, press the code then the (#) key. The keypad can be set up to automatically send the code after a given number of key presses by setting memory 007 (refer to the OPTIONS section on page 8).

Example Code Sequences

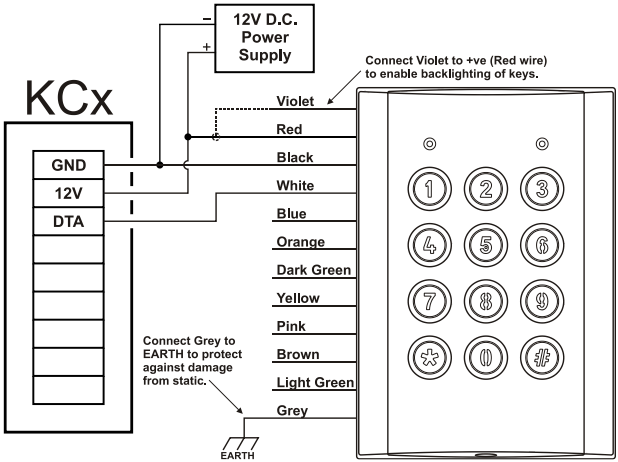
	PRE sequence	VR equivalent
1.	[*] [0] [0] [0] [1] [E]	(*) (0) (0) (0) (1) (#)
2.	[1] [2] [3] [4] [E]	(1) (2) (3) (4) (#)
3.	[#] [0] [0] [0] [E]	(#) (0) (0) (0) (#)

Remember to press (#) after the code to send it unless memory 007 has been set to auto send after a given number of keys.

VR TO PAC1 / PAC2 WIRING DIAGRAM



VR TO KC2, KC6 & PDA WIRING DIAGRAM



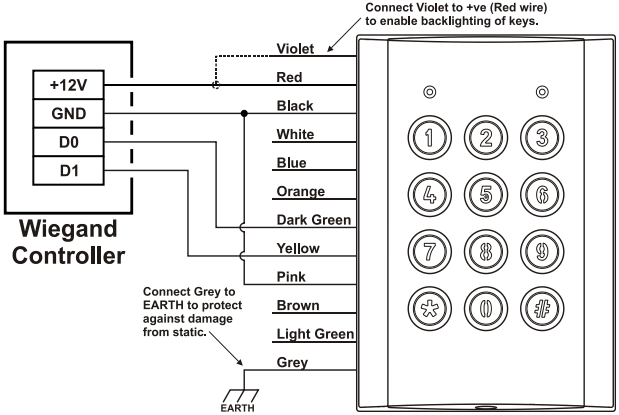
USING THE VR KEYPADS WITH WIEGAND

The VR43 & VR62 can be used with any standard wiegand and most non standard wiegand controllers. The site (facility) code can be set from the keypad itself (refer to the Wiegand Options sections on page 9) and the wiegand data is fully configurable with up to 64 bits of data. The VR keypads also support controllers that require burst mode format wiegand.

The Pink wire needs to be connected to 0V (the Black wire) to set Wiegand output mode (unless the unit has been programmed to force it into Wiegand mode via memory 005 (refer to the Wiegand Options sections on page 9)

To use the keypad in wiegand (non burst) mode, press the code then the (#) key. The keypad can be set up to automatically send the code after a given number of key presses by setting memory 007 (refer to the OPTIONS section on page 8).

VR TO WIEGAND WIRING DIAGRAM



Remember to press (#) after the code to send it unless memory 007 has been set to auto send after a given number of keys.

OPTIONS

There are several options that can be set to alter the way in which the VR keypad behaves. These options fall into the 3 categories of General, Wiegand and Presco, all of these are explained below.

The options can be set from either the keypad itself or through the use of a PIM (series 3 or later) and the PIM-VR software available from our website http://www.nidac.com in the downloads section under Presco software. Refer to the help file supplied with the software for details on how to use the PIM to set the VR keypad options.

General Options

These options set the functionality of the blue, orange, brown, light green and pink control wires as well as other options that are independent of whether the keypad is in Wiegand or Presco mode.

Memory Number	Function	Default Value
000	Blue wire control (1)	1
001	Orange wire control (1)	2
002	Brown wire control (1)	4
003	Light Green wire control (1)	1
004	Pink wire control (1) (2)	2
005	Force Presco or Wiegand mode (3)	255
006	Key press timeout	10
007	Auto send key count (4)	0
008	Key presses produce a beep & flash red LED (5)	255

(1) - Wire control values **[Memories 000 to 004]**

0 = Nothing controlled.
1 = Green LED.
2 = Red LED.
3 = Green LED + Red LED.
4 = Buzzer.
5 = Green LED + Buzzer.
6 = Red LED + Buzzer.
7 = Green LED + Red LED + Buzzer.

(2) - Pink wire control **[Memory 004]**

The Pink wire is always used to select Presco or Wiegand mode unless memory 005 is set to either 101 or 202 (see memory 005, note 3).

(3) - Force Presco or Wiegand mode **[Memory 005]**

101 = Always in Presco mode.
202 = Always in Wiegand mode.
All other values = Mode selected by pink wire.

(4) - Auto send key count **[Memory 007]**

When this memory is set to a non zero value the VR keypad will automatically send the data after **x** keys have been pressed, where **x**=value set for this memory.

Note: In Presco mode the auto send is disabled if the first key pressed is a ⊛ or ⊛.

(5) - Key press audio & visual confirmation **[Memory 008]**

101 = Key presses cause the red LED to flash but no beep is sounded.
151 = Key presses cause a beep to sound but the red LED doesn't flash.
202 = Key presses provide no visual or audio confirmation. The red LED doesn't flash and no beep is sounded.
All other values = Key presses causes a beep to sound and the red LED to flash.

Wiegand Options

These options set the format of the wiegand mode data sent by the keypad. Up to 64 bits of data including a site code up to 32 bits can be configured.

Memory Number	Function	Default Value
020	Site Code byte 3	0
021	Site Code byte 2	0
022	Site Code byte 1	0
023	Site Code byte 0 (used for standard 8 bit site code)	1
024	Number of bits in Site Code (0 to 32)	8
025	Number of bits in User Code (8 to 64)	16
026	Number of bits for start parity calculation	12
027	Number of bits for end parity calculation	12
028	Parity polarity (6)	2
029	Error handling (7)	255
032	Wiegand burst mode (8)	255
033	Custom Wiegand total number of bits (9)	255
034	Send LSB first (10)	255

Memory Number	Function	Default Value
035	Site Code start bit number	255
036	User Code start bit number	255

040	Default Custom Wiegand Pattern byte 7 (11)	255
041	Default Custom Wiegand Pattern byte 6 (11)	255
042	Default Custom Wiegand Pattern byte 5 (11)	255
043	Default Custom Wiegand Pattern byte 4 (11)	255
044	Default Custom Wiegand Pattern byte 3 (11)	255
045	Default Custom Wiegand Pattern byte 2 (11)	255
046	Default Custom Wiegand Pattern byte 1 (11)	255
047	Default Custom Wiegand Pattern byte 0 (11)	255

(6) - Parity Polarity [Memory 028]

0 = Start parity is Even, End parity is Even.
1 = Start parity is Odd, End parity is Even.
2 = Start parity is Even, End parity is Odd (default value).
3 = Start parity is Odd, End parity is Odd.

(7) - Error Handling [Memory 029]

This memory specifies what information is sent via the Wiegand interface when a code is entered that is too large to be represented by the current Wiegand format.
E.g. Standard 26 bit Wiegand has a 16 bit user code which allows a maximum code number of 65535. This memory determines what happens when a number greater than 65535 is entered.
101 = A code of 0 is sent.
202 = No information is sent, the keypad ignores the input.
All other values = The maximum allowable code number for the current format is sent (for 26 bit Wiegand this is 65535).

(8) - Wiegand burst mode [Memory 032]

101 = 4 bit burst mode, ⊛ & ⊜ keys enabled.
121 = 4 bit burst mode, ⊛ & ⊜ keys disabled.
202 = 8 bit burst mode, ⊛ & ⊜ keys enabled.
212 = 8 bit burst mode, ⊛ & ⊜ keys disabled.
All other values = Standard non burst mode Wiegand.

(9) - Custom Wiegand total number of bits [Memory 033]

When this memory is set to a value from 8 to 64 it overrides the standard Wiegand format of *start parity* followed by *site code* then *user code* then

end parity and replaces it with a fully customisable format with a total number of bits (including any parity bits) as specified in this memory.
Setting this memory to a value of less than 8 or greater than 64 will cause to PIM to use the standard Wiegand format.
Note that using this option requires a high understanding of Wiegand data. Nidac will only offer limited support for this feature.

(10) - Send LSB first [Memory 034]
101 = LSB of data is sent first for both site and user code.
All other values = MSB of site and user code data sent first.

(11) - Default Pattern bytes [Memories 040 to 047]
When the custom Wiegand format is used by setting memory 033 then the data in these memories is used to define the value for those bits not in use by the site code, user code and parity bits. The data used starts from Bit 0 (LSB) in Default Pattern byte 0 (memory 047), e.g. if the total number of bits is set to 24 then Default Pattern bytes 2, 1 & 0 are used.

Presco Options

These options set how the keypad operates when in Presco mode. It is highly unlikely that these options will ever need to be changed.

Memory Number	Function	Default Value
060	Internal/External mode Presco keypad (12)	255
061	Process received DTA chars mode (13)	255

(12) - Internal/External Presco mode keypad [Memory 060]
101 = Internal mode keypad.
All other values = External mode keypad.
Note: When set to internal mode the two button Emergency (✱ #) and One Way Arm (# #) features are enabled when used with a KC2 or KC6. This setting has no effect when the unit is being used with any other Presco controller (e.g. PAC1 or PAC2).

(13) - Process received DTA chars mode [Memory 061]
101 = Ignore all received DTA chars (keypad will not give beeps, warble, etc. after final # is pressed).
202 = Make noises for all received valid DTA chars received. The keypad will generate beeps, warble, etc. for all chars received at any time and after final # key is pressed.

All other values = Keypad will only make beeps, warble, etc. for DTA chars received after pressing the final ⑭ key.

Note: This memory only has an effect when the keypad is in Presco mode (either through the Pink wire or Memory 005 = 101), in Wiegand mode all received chars on the DTA line are ignored.

Setting the options via the VR keypad

To set any of the above options the keypad first needs to be placed into program mode, this is done by the following method:

1. Remove power from the VR keypad.
2. Hold down the ③, ⑥ & ⑨ keys.
3. Reapply power whilst continuing to hold down the keys.
4. Once the red & green LEDs start to flash alternatively to indicate you are in program mode release the keys.
5. The keypad will remain in program for 5 mins from the last attempted programming sequence.

Programming a memory

⑩ <3 digit memory number> <1 to 3 digit memory value> ⑭.

Reset all memories to factory defaults

⑩⑨⑧⑦⑥⑤④⑭ whilst in program mode.

Exit Program Mode

⑩⑨⑨⑨⑭ or wait 5 minutes after last programming attempt.

WARRANTY

The manufacturer will replace or repair this product if proven to be faulty (excluding accidental or malicious damage) under the 5 year warranty offered from the date of purchase.

As NIDAC Pty Ltd or its 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.

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