DOOR GARD COMMAND AND CONTROL SERIES keypads offer field proven reliability and cost effective solutions anywhere limited control or access is desired. Designed for individual control of up to four devices, Door Gard Command and Control Series keypads are the perfect choice for controlling electric locking devices, security systems, automatic operators or machinery. Door Gard keypads accept power from a 12 or 24 Volt AC/DC supply.

FEATURES:

- 4 INDEPENDENT OUTPUTS
- 4 INDEPENDENT TIMERS
- ALL OUTPUTSAssignable BY CODE
- ON BOARD MAIN RELAY
- 120 USERS
- REMOTE TRIGGERING INPUT
- KEYPAD PROGRAMMABLE

MEMORY
Non-volatile EEPROM memory means your codes and instructions will be there whether you remove power for 5 minutes or 5 years.

PROGRAMMING
All programming is done entirely from the front of the keypad. LED or sounder guidance makes programming easy. It takes seconds for an authorized user to change codes.

CODES
The Door Gard Command and Control keypads allow up to 120 individual user codes. Codes can be 1 to 5 digits in length and digits may be repeated. The Master Code is always stored in user location one (1).

MAIN RELAY
The main relay is a form C relay, which you can program as a timed output (1 to 99 seconds) or to toggle (latch). See the Wiring Diagram and Specifications for the relay electrical specifications.

AUXILIARY OUTPUTS
You can program these outputs as timed outputs (1 to 90 seconds) or to toggle (latch). They can be controlled individually or in combination by a code. Some models have 1 Amp form C relays and other models have negative voltage outputs with a 50mA sink.*

PANIC
Panic is activated by pressing the * and # keys at the same time. By default, it operates output 4 and activates for 1 second.

REMOTE TRIGGERING INPUT (REX)
By default, upon a momentary closure this normally open loop triggers the main relay for the same time period as the Master Code. You can also program the REX to operate any combination of the available outputs. The auxiliary outputs activate for their programmed time.

KEYPRESS FEEDBACK/AUDIBLE KEYPRESS
Door Gard Command and Control keypads, by default, acknowledge a keypress by momentarily illuminating the yellow LED or activate the sounder. This depends on the model. You can turn this off through programming.

KEYPAD ACTIVE OUTPUT
Door Gard Command and Control keypads can be programmed to energize a voltage output whenever a key is touched. You can use this to turn on lights, CCTV camera, or notify a guard. This output is not available if you are using the IEI 250 Printer Interface.

AUTO ENTRY
This feature is used when you don’t want to press the * key after entering your code. You only need to enter your code number (without pressing *) and the relay activates. To use this feature, the user codes must be the same length as the master code. Please remember to access program mode when auto entry is on, do not press the * key (Press: 99 # master code), however the * is required while entering programming commands.

AUDIT TRAIL
Using the 250 Printer Interface (not included), you can get an accurate real-time audit trail. Up to 8 keypads can be monitored simultaneously. The 250 comes with a power supply and a printer cable and it easily connects to any parallel printer. This output is not available on all models.

*Voltage Outputs may be converted to 1 Amp, Form-C relays by adding the 293 Auxiliary Relay Board (Model # 0219000).
TESTING THE KEYPAD
1. Connect the positive (+) lead of your power supply to the terminal strip (TS1) V+ input.
2. Connect the negative (-) lead of your power supply to the terminal strip (TS1) V- input.
3. Turn on your power supply.
4. Press 7890#123456 *. If all 12 keypresses are verified, the keypad enters self-test mode.
The yellow LED flashes/sounder beeps 3 times, then turns on solid for 3 seconds.

Note: Self-test mode can be used to troubleshoot a keypad in the field. If you do not get the continuous light, the memory has been corrupted and should be re-programmed with the default command (see option #19).

5. Enter the master code (default = 1234) followed by the * key and the relay energizes. Refer to programming section to program your keypad.

Note:
You can program your keypad in your shop or at the installation site. Programmed information is stored in non-volatile memory so it won’t be lost if power is removed.

COMMAND AND CONTROL
DEFAULTS
Door® Gard Command and Control keypads are designed for easy installation in a minimum amount of time. The following default settings are factory programmed:

Master Code (user 1): 1234
Main Relay Time: 5 seconds
Auxiliary Output Time: 5 seconds
Panic Output:
Keypad Active Output: Off
REX Triggers:
Keypress Feedback:
LED – Normal State: Red
LED - Relay Energized: Green
Auto-Entry: Off

If you must change the default settings or additional functions are desired, please refer to the Programming Options Chart after you are familiar with the Programming section.

PROGRAMMING
1. Enter programming mode
Press 99 # (master code) *

2. To Change master code
Press 1 # (new master code) *
Press (new master code) *
If you must change the Main Relay time, see option 2 on the Programming Options chart.

3. To Add/change second code
Press 2 # (new user code) *
Press (new user code) *

4. To Add/change third code
Press 3 # (new user code) *
Press (new user code) *

5. Up to 120 codes may be added in this fashion

6. Exit programming mode
Press * Off

NOTES:

- Door® Gard Command and Control keypads are factory programmed with a master code of 1234.

- *Indicator refers to either the yellow LED or sounder.

- The master code is always stored in user location 1.

- The master code allows access to programming mode and activates the main relay.

- By default (auto-entry is off), all codes must be followed by the * key.

- Codes may be from 1-6 digits in length, and digits may be repeated.

- If you forgot the master code or it is not working, momentarily push SW1, (see wiring diagram for location) to enter programming mode and go to option #19 on the Programming Options chart to default keypad.

- If the yellow LED lights solid or sounder is on steady while in programming mode, an error has occurred. Press * to clear (yellow LED should start flashing) and start over from step 2 or 3 above.

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PROGRAMMING OPTIONS CHART

If the pre-programmed default values must be changed or additional functions are desired, the following options may be programmed.

1. Enter programming mode
   Press 99 # (master code) *

2. Change master code/set main relay time
   Example: Master code of 4321/relay time of 10 seconds
   Press (time) # 1 #(new code) * (new code) *
   Press 10 # 1 # 4321 * 4321 *

3. Add/change user code
   Press (user number) # (new code) * (new code) *

4. Add/change user code to toggle main relay
   Press (00) # (user number) # (new code) * (new code) *

5. Delete user codes
   Press (user number) # **

6. Set output 2 time
   Press 12 # (Relay Time) # 0 # **

7. Set output 3 time
   Press 13 # (Relay Time) # 0 # **

8. Set output 4 time
   Press 14 # (Relay Time) # 0 # **

9. Set outputs for Remote Triggering Input
   Press 17 # (outputs: 1, 2, 3 and/or 4) # 0 # **

10. Set outputs for Panic
    Press 15 # (outputs: 1, 2, 3 and/or 4) # 0 # **

11. Turn keypress feedback/audible keypress on
    Press 30 # 0 # 1 # **

12. Turn keypress feedback/audible keypress off
    Press 30 # 0 # 0 # **

13. Turn yellow LED/sounder on with relay
    Press 30 # 1 # 1 # **

14. Turn yellow LED/sounder off with relay
    Press 30 # 1 # 0 # **

15. Turn auto entry on
    Press 30 # 2 # 1 # **

16. Turn auto entry off
    Press 30 # 2 # 0 # **

17. Turn keypad active on
    Press 43 # 0 # 99 # **

18. Turn keypad active off
    Press 43 # 0 # 00 # **

19. Erase keypad memory/reset defaults
    Press 46 # 00000 # 00000 # **

20. Energize selected output(s) with a user code
    Press 59 # (outputs 1, 2, 3 and/or 4) # user location # (new code) * (new code) *
    Press 59 # 23 # 2 # 4321 * 4321 *

Example: User 2; code 4321; energize outputs 2 & 3

21. Exit programming mode
    Press *

NOTES:

1. Relay times must always be represented by 2 digits. Example: 5 seconds = 05. Latching/toggle is accomplished by entering a time of 00.

2. Keypad active is a negative voltage output (sink) available on terminal (or wire) marked WB (see wiring diagrams for location).

3. This feature does not work with the master code.
If this product does not seem to operate properly, please call our Technical Support Department toll free at 1-800-343-9502 (or 781-821-5566) Monday-Friday 8:00 A.M. – 7:00 P.M. EST. We understand your time is valuable and we know that calling our Technical Support Department will ensure that you will make the most of it possible with your IEI product. Thank you for your purchase. We appreciate your business.

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**212w Wiring Diagrams and Specifications**

**TECHNICAL NOTES**

This product was re-designed using a new manufacturing technology, which changed the physical appearance of the keypad electronics. Also, the voltage selection jumper on the main circuit board is no longer required.

To prevent electrical kick back voltage from damaging the keypad, when using an electrical locking device, you MUST install the transorb as close as possible to the lock. Wire the transorb in parallel with the lock power terminals.

Also, to avoid ESD (electro-static discharge) from interfaring with the operation of the keypad, ground the negative terminal of the keypad to earth ground. If you cannot ground the power supply, then you must ground the keypad housing.

IEI recommends using a filtered and regulated power supply

When mounting the 212w outside, use a weatherproof back box and apply silicone to the area where the wires enter the case. Also, provide a weep hole at the bottom of the back box to prevent condensation from collecting on the circuit board. This keypad is not for use in extreme weather conditions; please consult the factory for additional keypad models.

**SPECIFICATIONS:**

**MECHANICAL:**
BOARD DIMENSIONS: 1.80"W x 2.555"H x 1.125"D

**ELECTRICAL:**
VOLTAGE: 12-24 Volts AC/DC (No Jumper Required)
CURRENT: 8mA@12VDC typical;
- 35mA with relay energized.
- 16mA@24VDC typical;
- 45mA with relay energized.
- 21mA@12VAC typical;
- 74mA with relay energized.
- 43mA@24VAC typical;
- 91mA with relay energized.

Note: Keypads using the 283 Relay Board, need an additional 30mA for each relay energized.

OUTPUTS: Main Relay: 5 Amp, Form C @ 24VDC with 10 Amp surge.
Outputs 2, 3, and 4 are 50mA negative voltage outputs

**ENVIRONMENTAL:**
TEMPERATURE: -20°F TO 130°F (-28°C TO 54°C)
Weather Resistant

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**Packing Checklist**

- 212w Keypad
- 10 Conductor Wire Harness (1)
- 4 Conductor Wire Harness (1)
- Slotted screws (2)
- Security Screws (2)
- Transorb (1)
- Mounting Gasket (1)
- Features & Programming Guide
- Warranty Guide
293 Auxiliary Relay Board

The IEI 293 plug-on relay board converts voltage outputs to 1 Amp, Form C relays and provides screw terminals for all inputs and outputs. The 293 fits into a standard 2" electrical box with the keypad.

293 Auxiliary Relay Board

Output 1

Output 2

Output 3

Output 4

Relay 1

Relay 2

Relay 3

Relay 4

12V 24V

K (in) Keypad Active
K (out)
RK REX Input
WR REX Input
BR Not Used
WR Not Used

Dip-switch selection for 12 or 24 volt operation. Switch all 3 to operation voltage.

Basic Access Control with an Electromagnetic Door Lock

Wrap/Orange
Brown

12-24VDC

Transorb
Electromagnetic Door Lock (Fail-Safe)

Basic Access Control with an Electric Door Strike

Wrap/Orange
Brown

12-24 VAC/DC

Transorb
Electric Door Strike (Fail-Safe)

Shunting a Normally Closed Zone and Wiring a Request to Exit Device (REX)

Wrap/Orange
Brown

12-24 VAC/DC

To Alarm Panel
Wiring an Accessory Relay

Accessory Relay

Coil +

Coil -

Wht/Red

Red

V+ V- NC C NO

12-24 VAC/DC

SW1

Note: Diagram shows output 2 as an example

Wiring to 250 Printer Interface
For a Hard Copy Audit Trail

*Print Live Only

12 VAC

Note: A separate power supply must be used for the locking device.

Arming and Disarming a Typical Alarm Control Panel

LEDs Operate on 12VDC

Alarm Control Panel

Green LED +
Green LED -
Red LED +
Red LED -

arms/Disarm

12 Volts (c)
12 Volts (r)

To control the LED's externally cut the four wires going to the green and red LEDs. Each LED has a black and red wire. Black is the negative and red is the positive. These LED's require 12VDC to operate.
Wiring Two Keypads to Control a Single Door

Keypad 1

Keypad 2

The diagram above shows how to connect two keypads to control a single door. Entering your code on keypad 2 unlocks the maglock directly. When you enter your code on keypad 1, it triggers the REX input of keypad two, which unlocks the door.

Please note that user codes must be programmed into both keypads.