791 and 793 Easy Entry™ Keypads

Description

The DMP 791 and 793 Easy Entry™ LCD Keypads are the industry's first burglary/fire keypads with integrated access control capability.

Each keypad provides three 2-button Panic keys, an AC power LED, an Armed LED, 32-character display, backlit keyboard with easy-to-read lettering and an internal speaker. The 791 and 793 also provide four fully programmable Class B protection zones you can program for a variety of burglary, fire, and access control applications.

Removing the Base

The keypad housing is made up of two parts: the *front*, which contains the circuit board and other components, and the *base*. To remove the base, insert a flat screwdriver into one of the openings on the bottom and ***gently twist*** while pulling the halves apart. Repeat with the other opening.

Installing the Keypad

The Easy Entry keypads each use the same plastic housing. They both are designed to easily install on any 4" square box, 3-gang switch box, 695 and 696 backbox, or flat surface. Figure 1 shows the mounting hole locations on the keypad base.

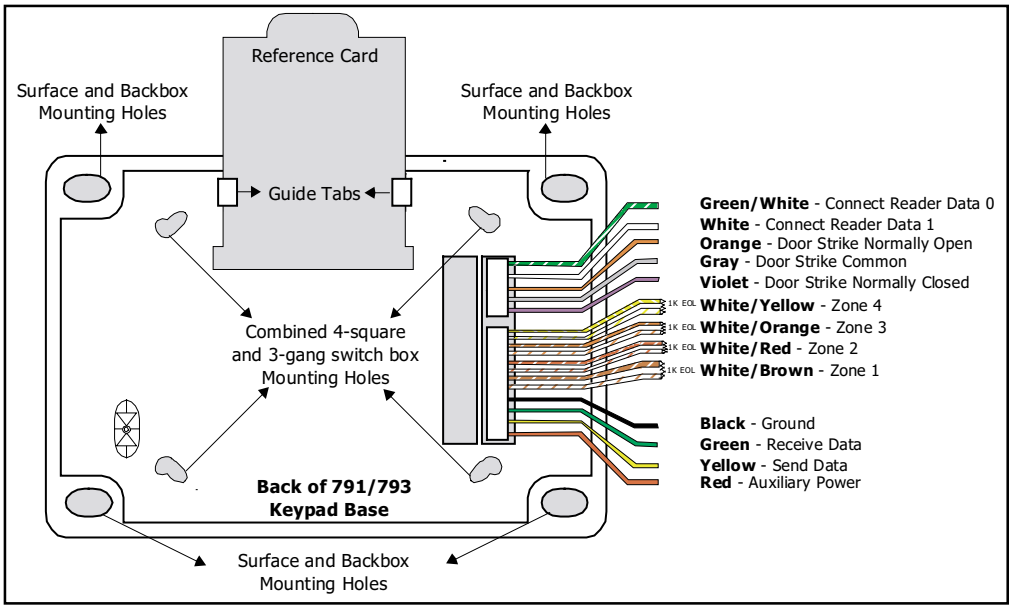


Figure 1: Back of Keypad with Wire Harness

Harness Wiring

The 791 and 793 keypads are each supplied with one 12-wire data bus/zone harness and one 5-wire output/reader harness. The harness connections and color codes are shown in Figure 1.

Wiring Specifications

When planning an installation, keep in mind the following four specifications:

1. You can install **individual keypads** on wire runs of up to 500 feet using 22 gauge wire or up to 1,000 feet using 18 gauge wire. To increase the wire length or add additional devices, a power supply is required.
2. **Maximum distance** for any one keypad bus circuit (length of wire) is 2,500 feet regardless of the gauge of wire. This distance can be in the form of one long wire run or multiple branches with all wiring totaling no more than 2,500 feet.
3. **Maximum number of devices** per 2,500 feet circuit is 40. (**Note**: Each panel allows a specific number of supervised keypads. Additional keypads can be added in the unsupervised mode. Refer to the panel's installation guide for the specific number of supervised keypads that are allowed.)
4. **Maximum voltage drop** between the panel (or auxiliary power supply) and any device is 2.0 VDC. If the voltage at any device is less than the required level, an auxiliary power supply should be added at the end of the circuit.

Refer to the 710 Module Installation Sheet (LT-0310) for more information. Also see the LX-Bus/Keypad Bus Wiring Application Note (LT-2031).

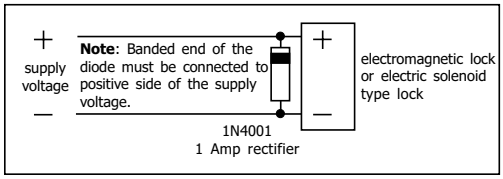


Figure 2: Diode Installation

Voltage Protection Diode

A separate clamping diode is included with each keypad in the shipping package. This diode may be installed across the power inputs of an electromagnetic lock to shunt excessive voltages away from the keypad. Install diode as shown in Figure 2.

2-Button Panic Keys

The Panic key function of the 791 and 793 keypads allows users to send Panic, Emergency, or Fire reports to the central station. The user must press and hold the two Select keys until a beep from the keypad is heard. At the beep, the panel sends an alarm report to the central station with the following zone numbers: 19 = **Panic**, 29 = non-medical **Emergency**, and 39 = **Fire.**

The Panic key function must be programmed if the Panic keys are to be used. See page 4 for programming instructions. Install the supplied icon label below the top row of Select keys.

Internal Speaker Operation

The Easy Entry keypads emit standard tones for key presses, entry delay, and system alerts. When used with the XR200, XR200-485, or XR2400F Command Processor Panels, the speaker also provides distinct **burglary**, **fire**, **zone monitor,** and **prewarn** tones.The Easy Entry keypads provide an alternate entry delay audible prewarn cadence that occurs when a zone alarm is displayed in the status list.

Keyboard Backlighting

The Easy Entry keyboards light any time a key is pressed or the speaker sounds. During an alarm condition, the keyboard turns **Red** to visually alert people on-site. The Red backlighting is turned off when all areas in the system are disarmed or when the Sensor Reset function is used. The keypad backlighting dims to medium brightness whenever the speaker is on.

How the Easy Entry Keypads Work

The 791 and 793 keypads allow users to present a proximity credential to an access control reader that in turn sends their user code to the keypad. Users can also manually enter their user code into the keypad. The keypad reads the user code, verifies its authority with the panel, and then powers its on-board Form C relay releasing a door strike or magnetic lock.

Door Contact Zone with Soft-Shunt™

If the door being released by the keypad is protected, you can provide a 40-second shunt by connecting its contact to zone 2 (White/Red pair) on the keypad and enabling the Soft-Shunt feature. See **ACTIVATE ZONE 2 SHUNT** on page 4 and **Door Strike Relay Operation** on page 5. Once the door strike relay is activated, the user has 5 seconds to open the door connected to zone 2. The zone is then shunted for 40 seconds. Door contacts may be N/C or N/O.

Zone 3 Request-to-Exit

You can also connect a normally **open** PIR (or other motion sensing device) or a mechanical switch to zone 3 (White/Orange pair) on the keypad to provide a request to exit capability to the system. See **ACTIVATE ZONE 3 EXIT** on page 4. When zone 3 is **shorted**, the keypad relay activates for 3 seconds. During this time, the user can open the protected door to start the 40-second Soft-Shunt entry/exit timer. If the door is not opened within 3 seconds, the relay restores the door to its locked state.

Note: A zone 3 Request-to-Exit is inhibited for 3 seconds after the keypad reads a card and a door strike occurs. This is to allow entry to area and pass under a Request-to-Exit PIR.

12 VDC Access Control Readers

To use 12 VDC readers with the keypad, connect the Red and Black power wires from the reader to the power wires from the panel. These connect in parallel with the keypad power wires. Connect the White data wire from the reader (Data 1) to the White wire on the 5-wire keypad harness. Connect the Green data wire from the reader (Data 0) to the Green/White wire on the 5-wire keypad harness.

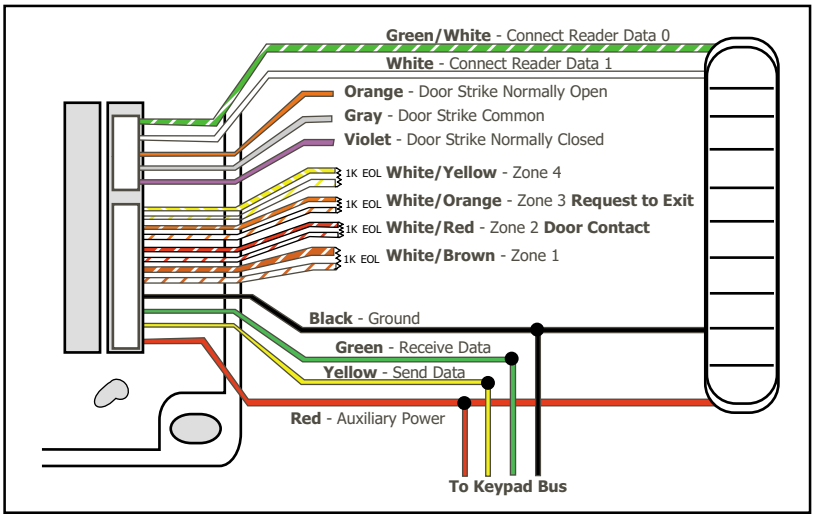


Figure 3: 12 VDC Reader Wiring

End-User Options

The 791 and 793 Easy Entry™ Keypads provide three adjustments to the keypad that can be made by the end-user through a User Options Menu. The user can also view the keypad model number and address in User Options. Below is a description of the adjustments and instructions on their operation.

To access the **User Options** portion of the keypad, press and hold the Back Arrow and COMMAND keys for two seconds. The keypad display changes to **SET BRIGHTNESS**. Use the COMMAND key to display the next Option or press the Back Arrow key to exit the **User Options** function.

Backlighting brightness

Set the brightness level of the keypad's LCD Display, AC LED, and the Green keyboard backlighting. Use the left Select key to lower the keypad brightness and the right Select key to raise the brightness. If the brightness level is lowered, it reverts to maximum intensity whenever a key is pressed. If no keys have been pressed, and the speaker has not sounded for 30 seconds, the user-selected brightness level is restored.

Internal speaker tone

Set the tone of the keypad's internal speaker. At the **SET TONE** display, use the left Select key to lower the tone and the right Select key to raise the tone.

Volume Level

Set the volume level of the keypad's internal speaker for key presses and prewarn conditions. During alarm and trouble conditions, the volume is always at maximum level. Use the left Select key to decrease the keypad volume and the right Select key to increase the volume. Press the COMMAND key to display the Model Number.

Model Number

The LCD displays the model number, and the version and date of the keypad's firmware. The user cannot change this information in **User Options**.

Keypad Address

The LCD displays the current keypad address. While in User Options, the user cannot change the keypad address. Press the Back Arrow key to exit the **User Options** function.

Installer Options Menu

The Easy Entry keypads also contain a **Keypad Options** and **Keypad Diagnostic** program that allows installers and service technicians to configure and test the keypad operation.

You can only access the **Installer Options Menu** through the User Options function. After holding down the Back Arrow and COMMAND keys for a few seconds and getting the **SET BRIGHTNESS** display, enter the code 3577 (INST) and press COMMAND. The display now changes to **KPD OPT** (keypad options) **KPD DIAG** (keypad diagnostics) and **STOP**.

Keypad Options (KPD OPT)

This option allows you to set the keypad address, select supervised or unsupervised mode, change the default keypad message, individually arm the 2-button Panic keys, and select Soft-Shunt, Request-to-Exit, and 4-digit entry cards. To enter, press the left Select key under **KPD OPT**. The display changes to **CURRENT KEYPAD ADDRESS: # #**.

Set the CURRENT KEYPAD ADDRESS:

You can set the keypad address from 01 to 05 with the XRSuper6 and XR20, from 01 to 09 with the XR40, XR200, and XR2400F, and 01 to 16 with the XR200-485. The factory default address is set at 01. To change the current address, press any Select key and then enter the new address using the appropriate number keys on the keyboard. It is not necessary to enter a leading zero for addresses 01 to 09.

Select Supervised or Unsupervised KEYPAD MODE:

You can configure the keypad for either supervised or unsupervised operation. Supervise keypads that have zones connected to them. Supervised keypads cannot share addresses with other keypads. To enhance the supervision feature, assign an output to the Device Fail Output in the panel's programming and connect a device to the corresponding output that will trip when the keypad fails. This provides notification at the central station and the site. The other keypads will not display the device fail.

Unsupervised keypads *can* operate with other unsupervised keypads sharing the same address. Zones cannot be used on unsupervised keypads. To change the current setting, press the Select key under **SUP** or **UNSUP.** An asterisk appears next to the selected option.

Note: An unsupervised address cannot be programmed for Device Fail Output.

Change the DEFAULT KEYPAD MESSAGE:
You can enter a custom message of up to 16 characters that appears on the top line of the keypad display whenever that line is not being used for any other purpose. Press any Select key to clear the current display and use the data entry keys to enter a new custom display.

Entering Alpha Characters
You can use the keypad to enter alpha characters. To enter an alpha character, press the key that has the desired letter written below it. The keypad display will show the number on that key. To change the number to a letter, press the top row Select key that corresponds to the location of the letter under the key. For example, if you press key number 1, the letters for that key are A, B, and C. Press the first Select key for A, the second Select key for B, and the third Select key for C.

Entering Non-Alphanumeric Characters
When in the Installer Options Menu, each key also has a special, non-alpha character you may use. These characters are not shown on the keypad. Enter a space by pressing 9 then the third Select key. The special characters available are as follows starting with the 1 digit key to the 9 digit key: **( ) ! ? / & $, '** and **- . * #** for the 0 key.

ARM PANIC KEYS:
You can use this option to configure the top row of Select keys as 2-button Panic keys. To enable or disable a Panic, press the Select key under the appropriate display: **PN** (Panic), **EM** (Emergency), and **FI** (Fire). Once the panic is enabled, an asterisk appears next to the description. Refer to the **2-Button Panic Keys** section on page 2 of this document.

Burglary Zones
Zones 1 and 4 can be used as burglary protection zones. See Figure 1 for information on zone wiring from the keypad harness.

ACTIVATE ZONE 2 SHUNT: NO YES
Select **YES** to enable the Soft-Shunt™ feature on zone 2. This zone provides the Soft-Shunt™ for door contacts. Zone 2 must be programmed into the panel.

ACTIVATE ZONE 3 EXIT: NO YES
Select **YES** to enable the Request to Exit feature on zone 3. Zone 3 is included in panel programming by default.

4 DIGIT ENTRY CARDS: NO YES
Select **YES** to enable the 4-Digit Entry Cards function on Home/Away or other systems that require 4-digit user codes.

ALL? NO YES DELAY: 2
Select the number of seconds the keypad should wait when an area system displays **ALL? NO YES** during ***arming/ disarming*** or a **HOME/SLEEP/AWAY** system waits during ***arming only***. If **NO** or **YES,** or **HOME, SLEEP,** or **AWAY** is not pressed before the delay expires, the keypad automatically selects the **YES** or the **AWAY** key. Select zero (0) for no delay. The delay can be one to nine (1-9) seconds. The delay also occurs when a Wiegand card is presented for arming the Home/Sleep/Away system. After a card is presented, **HOME SLEEP AWAY** displays. The keypad waits the programmed number of seconds before automatically sending **AWAY** to the panel.

Keypad Diagnostics (KPD DIAG)
This option allows you to check the display segments, check the keyboard backlighting, and test individual keys. Press the Select key under **KPD DIAG**. The keypad lights all segments of the display and illuminates the keyboard in green. A few seconds later the keypad turns off the display and illuminates the keyboard in red. The keypad then alternates between these two states for approximately two minutes.

Press COMMAND at any time to continue. The display changes to **PRESS KEY TO TEST**. This option allows you to test each key on the keyboard to ensure it is operating properly. Press and hold each key for about two seconds. The number of the key being held appears in the display. Verify it is the correct number before testing the next key.

Zone test
This option allows the keypads to display the current electrical status of the their four protection zones. The status is shown as **OPEN**, **SHRT**, or **OKAY**.

INPUT WIEGAND
This option tests the reader input from proximity cards. The display shows **OKAY** each time a good card is read.

Exiting the Installer Options

When done, press the COMMAND key once to return to the Installer Options screen. Press the Select key under **STOP** to exit the Installer Options function.

Programming Cards into the System

From the User Menu, select **USER CODES?**. Choose **ADD**. At the **ENTER CODE: -** display, present the user's card to the reader. The keypad works by reading the 4 or 5-digit user code from the data sent by the access control reader. For more information, refer to the panel's user's guide section on adding, deleting, and changing user codes.

Additional Power Supply

If the current draw for all keypads exceeds the panel's output, you can provide additional current by adding a Model 505-12 auxiliary power supply. Connect all keypad common wires to the negative terminal of the power supply. Run a jumper wire from the power supply's negative terminal to the common terminal of the panel. Connect all keypad power (+12 VDC) wires to the positive terminal of the power supply. Do NOT connect the positive terminal of the power supply to any terminal of the panel. Refer to the 504-24 and 505-12 Power Supply Installation Guide (LT-0453) for more information.

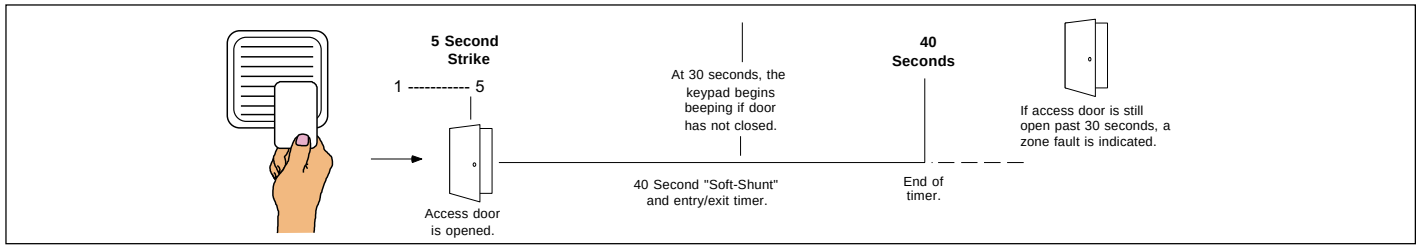
Door Strike Relay Specifications

The Easy Entry keypads provide one internal Form C (SPDT) relay for controlling door strikes or magnetic locks. Three wires on the 5-wire harness, Violet (N/C), Gray (Com), and Orange (N/O), allow you to connect devices to the relay.

The Form C relay draws up to 30mA of current and its contacts are rated for 1 Amp at 24 VDC.

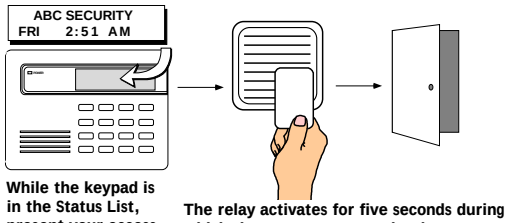
Door Strike Relay Operation

As soon as the user code sent from the reader has been verified by the panel, the keypad Door Strike relay activates for five seconds. (**Note:** The length of the 5-second delay is programmable when the keypad is used on an XR200-485.) During this time, the access door (connected to zone 2) must be opened to start the 40-second entry/exit timer and zone soft shunt. See the timeline shown below.



User's Guide

There are three different operating modes: Door Strike, Arming and Disarming, and Entry Delay. All of the examples below assume that **CLOSING CODE** is **YES** in the panel's programming.



While the keypad is in the Status List, present your access card.

The relay activates for five seconds during which time you can open the door.

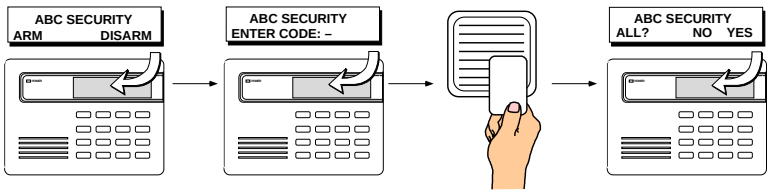
Once you open the door, you have 40 seconds to exit and close the door before the zone 2 Soft-Shunt expires.

DOOR STRIKE

Area and All/Perimeter Door Strike - From the Status List, present your card to the reader. Once it is validated by the system, the Door Strike relay activates. See **Door Strike Relay Operation** above. Home/Away systems only activate the Door Strike relay when arming and disarming.

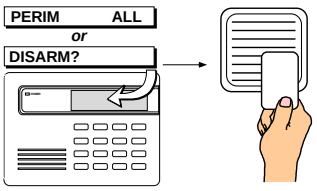
ARMING AND DISARMING

Area system Arming and Disarming - Press Command. The keypad displays **ARM DISARM**. Press the Select key under either option. The keypad displays **ENTER CODE: -**. Present your card to the reader. Once it is validated by the system, all areas accessible by you arm or disarm automatically and the Door Strike relay activates.



Select NO to arm or disarm individual areas. Select YES, or simply wait, and the keypad will automatically arm or disarm all areas for which you are authorized.

All/Perimeter system Arming and Disarming - Press COMMAND. The keypad displays **PERIM ALL** (when arming) or **DISARM?**. Press the Select key under the desired option. The keypad displays **ENTER CODE: -**. Present your card to the reader. Once it is validated by the system, both areas arm or disarm automatically and the Door Strike relay activates.

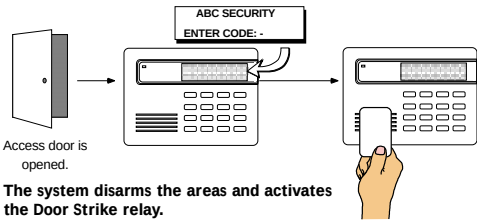


Home/Away system Arming and Disarming - Present your card to the reader. If the system is armed, once the card is validated all areas are disarmed**.**

If the system is disarmed when you present your card, once it is validated all areas are armed in the AWAY mode.

ENTRY DELAY

All Systems - Once the protected door is opened and the entry delay starts, the keypad displays **ENTER CODE: -**. Present your card to the reader. Once it is validated, the system disarms all areas accessible by you and activates the Door Strike relay. Area systems provide a delay to allow selected areas only to be disarmed. See Arming and Disarming above.



Using the access reader for user menu access

You can also use a card reader to access the User Menu. When the **MENU? NO YES** display is shown,. present your proximity card to the reader.

Compatible Access Devices

The 791 and 793 Keypads are compatible with the following readers and access keypads.

Readers and Access Keypads	Current while in Standby	Current while Reading
PP-6005B ProxPoint Plus	30mA	75mA
MP-5365 MiniProx	20mA	110mA
PR-5455 ProxPro II	25mA	125mA
TL-5395 ThinLine II	20mA	115mA
MX-5375 Maxi-Prox	200mA	700mA
VP-6100 V-Prox	150mA	250mA
VP-6200 V-Pass	200mA	250mA
SSWiLW Keypad	6.2mA	38mA
SSWFX Keypad	15mA	15mA
SSWiLM-AL Keypad	19mA	49mA
SS/WG-Q15 Keypad	1.6mA	47.7mA

Specifications

Operating Voltage	8.5 - 16 VDC
Current while in Standby:	100mA + 1.6 per active zone
Current while in Alarm:	100mA + 2 per zone in alarm
Current with Door Relay On:	130mA
Dimensions	6.5” W x 5” H x 1” D

Panel Compatibility

DMP XRSuper6, XR20, XR40, XR200, XR200-485, and XR2400F Command Processor™ Panels

Approvals

- Underwriters Laboratories
- New York Material Equipment Acceptance (MEA)
- California State Fire Marshal (CSFM)
- Factory Mutual (FM)

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