

# Ness M1 KP2 & KP3- LCD Keypads



## APPLICATION

The Ness-M1KP2 & KP3 are low profile, addressable LCD Keypads for the M1 Cross Platform Controls. They feature a 32 character blue/white backlit display, blue lighted keys, 4 programmable function keys, along with the ELK / MENU navigation keys. The standard configuration is surface mountable, however the 101-256 version also has an optional 'flush mount kit' (Ness Part No. 101-259). The M1KP's are compatible with "external" proximity readers which utilize standard 26 Bit Wiegand format, allowing cards or fobs to be used for Arming, Disarming or door access control, etc.

## FEATURES

- Blue/White Backlighted Hi-Contrast LCD Display
- Four (4) Programmable Function Keys
- Unique Menu Navigation/Direction Keys
- Operates on 4-Wires (M1G/M1EZ8 "RS485" Data Bus)
- Built-in Piezo Sounder with Adjustable pitch
- Accepts "External" 26 Bit Wiegand Prox Reader (Optional)
- Input for 1 Supervised Zone
- One Programmable "Switched Positive" Voltage Output
- Exit, Stay, Chime, and Bypass Keys
- Optional recess "Flush" mount kit available (Ness Part # 101-259) (Only available for the 101-256)

## SPECIFICATIONS

- Connection: 6 Pin Plug-in "Flying Lead" Connector (Included)
- Colour: White
- Operating Voltage: 13.8 VDC
- Current Draw: ~30 mA Idle (low back light level, sounder silent)  
~85 mA Fully Active (max. back light)
- Size: 118mm W x 140mm H x 24mm D (9.5 mm D recess mount)

Features and Specifications subject to change without notice.



Side profile to help visualize the 101-256 M1S/FKP surface mount vs recess mounted.



101-256 F/S LCD Keypad



101-255 LCD Keypad

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# INSTALLATION AND ENROLLMENT OF NESS-M1KP KEYPAD

Ideal keypad mounting height is 1.25 -1.5 metres above the floor. Select a location with an ambient temperature range between 0° and 49° C (32° to +120° F). Avoid direct sunlight if possible. CAT5 or CAT6 wire (4 Pair, 8 conductor) is highly recommended for all data bus cables and the extra wires maybe required for data return paths where multiple homeruns or devices are installed. (If cable is to be installed in installations where electrical noise maybe present then a twisted pair shielded cable should be considered. **NOTE: Please refer to the M1 or EZ8 Installation Manual for important information about Data Bus termination when multiple homerun cables are installed.** Minimum cabling should be four conductor 22 or 24 gauge. Maximum resistance per wire is 25 Ohms. Device placement beyond 305 mts (1000 feet) is not recommended. **DO NOT SPLICE OR CONNECT WIRE WITH CONTROL POWER ON.**

1. Fasten mounting plate directly to the wall (or to electrical box) using **flat head screws to prevent shorts to the back of the circuit board.**
2. Splice the Black, Red, White, and Green wires of the plug-in connector to the data bus cable. Plug connector into keypad. Tuck wires neatly into back plate and install Keypad on mounting plate using the provided #4 plastite screws. Snap on the "picture" frame trim ring with the edge having the two notches facing down.

## Setting the Data Bus Address and Enrolling Device(s) into the System

Keypads and expander devices communicate with the M1 over the RS-485 4-wire data bus. Each device must have a unique address setting (from 1 to 16) within it's device type. Keypads are device TYPE 1, input (zone) expanders TYPE 2, output expanders TYPE 3, etc. The purpose of device types is so that the address numbers can be re-used in each different device type. It is OK to have a Keypad, a Zone Expander, and a Output Expander all set to address 2 and on the same data bus since each device is a different device type. **It is NOT OK to have duplications of addresses within the same device type. I.E. Multiple keypads on the same control cannot be set to 'like' addresses.**

**SETTING THE ADDRESS:** From the factory all keypads are set to address 1. Valid keypad addresses are 1 to 16. The first keypad on the system (Keypad 1) is automatically enrolled upon power up. Each additional keypad must be assigned a unique address and then manually enrolled from "Menu 1 - Bus Module Enrollment". (See M1 Instruction Manual, Menu 01, for complete instructions on Bus Module Enrollment)

1. Press and hold the " \* " key for 10 seconds until the LCD displays:

**Exit when done. F1 Set Addr.** (This is Keypad setup mode)

NOTE: This mode may also be accessed by removing power from the keypad (unplugging the data bus cable) and then applying power while holding any key pressed.

2. Press the F1 key to display the current address setting.
3. Set the desired address by entering a number from 1 to X.
4. Press the Exit key when done.

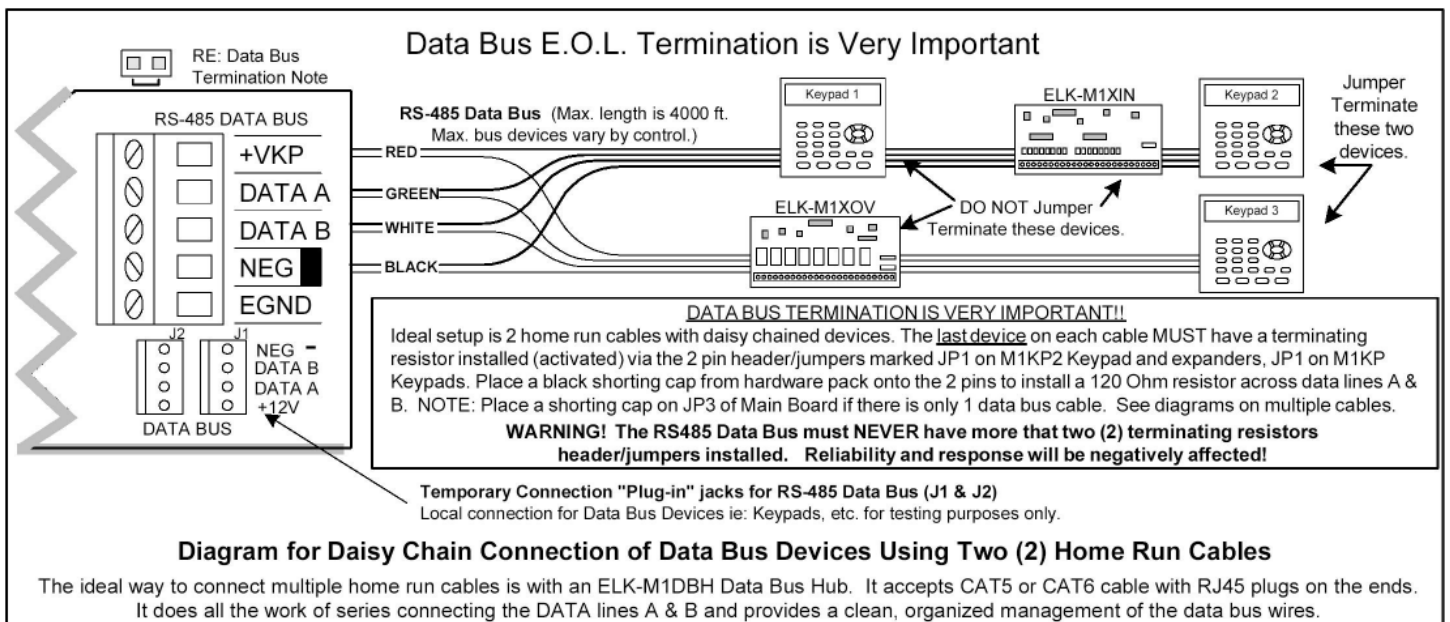
## ENROLLING:

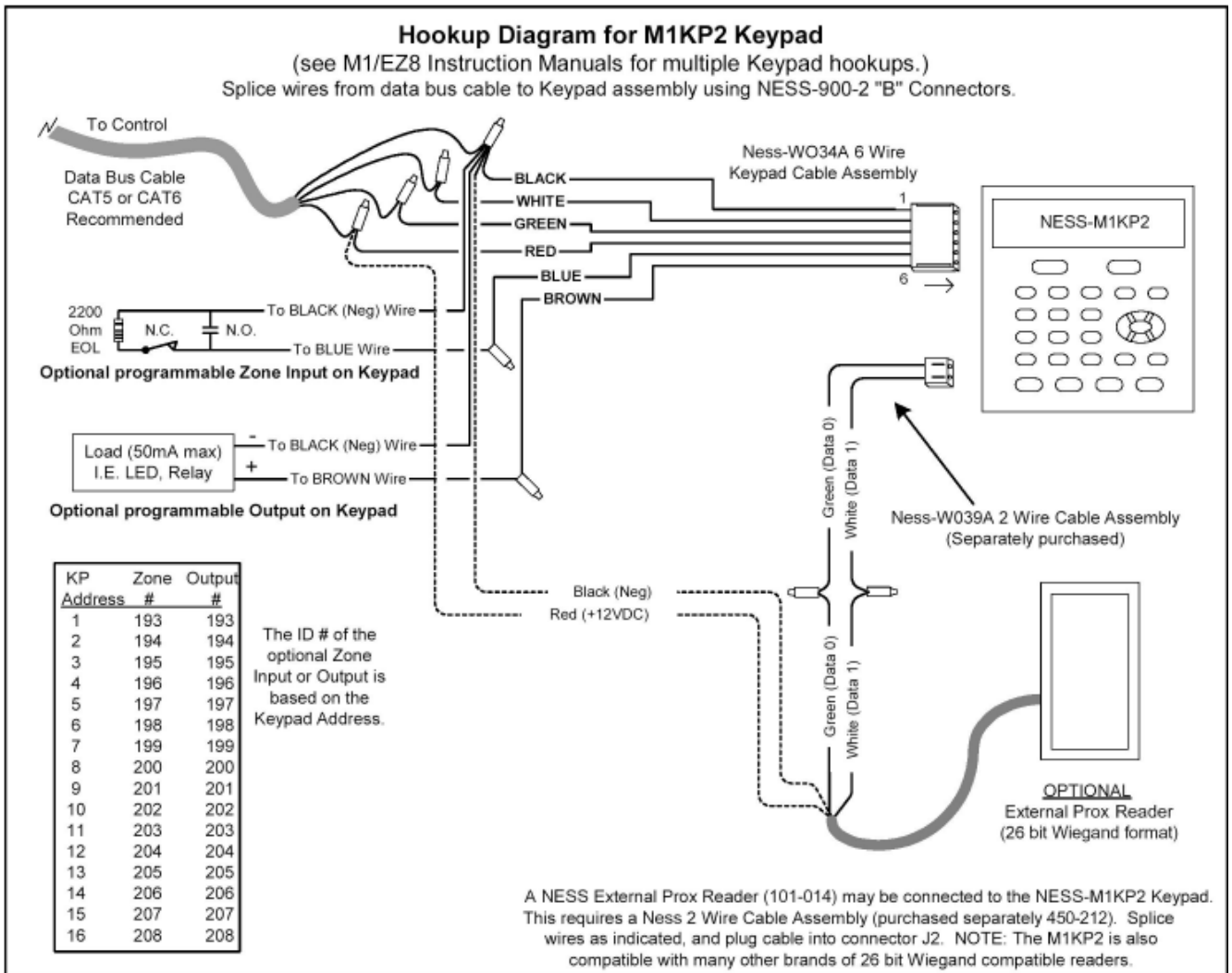
1. Press the ELK / MENU key, then press 9 (or scroll up) to display 9 - Installation Programming. Press the RIGHT arrow key to select this menu. The Installer Program Code (PIN) must be entered to access this menu.
2. Enter the Installer Program Code. (See M1 Manual for the default Code)
3. The first Installer Programming menu displayed will be "Bus Module Enrollment"
4. Press the RIGHT arrow key to select this menu. "Enrolling Bus Modules" will display
5. The M1 transmit an enrollment message to all data bus devices, following by a display showing the total Bus Modules that are enrolled. To view the enrolled devices and/or remove a device press the RIGHT arrow key next to the word Edit.
6. Press the \* or Exit keys to exit Installer Programming.

**Auth. Required**  
**Enter Valid Pin**

**01-Bus Module**  
**Enrollment**

**XX Bus Modules**  
**Enrolled, Edit**





#### INSTALLING AN EXTERNAL PROXIMITY CARD READER (OPTIONAL)

1. Turn Off the control panel power. Remove the Keypad from its mounting plate and disconnect the 6 wire cable assembly.
2. Splice the Red (+) and Black (-) wires from the external prox reader to the Red and Black wires of the data bus and the 6 wire cable assembly.
3. Splice the Green (data 0) and White (data 1) wires from the external prox reader to the Green and White wires of Wiegand connector (Ness Part # 450-212 (Not Supplied with keypad)).
4. Power up the M1 controller and follow the instructions for enrolling cards or fobs.

#### ENROLLING PROXCARDS AND FOBS

Prox cards/fobs are enrolled into a User Code location using the same procedures used to add/change User Code PINs.

1. Press the ELK key, then press the 6 key (or scroll up) to display 6 - Change User Codes. Press the RIGHT arrow key to select this menu. A Master user code (PIN) must be entered to gain access to this menu.
2. Enter the three digit number of the desired User Code location (001 to 199) or use the UP or DOWN arrow keys to scroll through the codes. Then select CHG by pressing the RIGHT arrow key.
3. The keypad will display any existing 4 or 6 digit code that is programmed for this user along with any programmed name. (If no code is programmed into that user location then the code will be 0000.)
4. Present a new (not previously enrolled) prox card/fob to the reader. If accepted the Keypad will beep 3 times and display the card/fob 12 digit ID.
5. If the card/fob is rejected, a low error tone and Code Not Authorized, Redo will display. Causes for reject include: A. The card/fob has already been enrolled (duplicate codes are not allowed) OR B. The facility code in the card/fob does not match the reader facility code. Some prox readers can only read cards/fobs with a matching facility code.
6. Once a prox card/fob is enrolled in a user code location, its capabilities are set by the User Code Options found in Menu 02 of the M1 Installer Level Programming. The commonly used options are: Arm the M1 Control, Disarm the M1 Control, or Access event. An Access event occurs when a valid prox card/fob is read at a keypad. It will not do anything unless included in a Whenever/And/Then Rule from the Ness-RP software. An Access event can be used to create virtually any desired reaction. i.e., turn on an output, a light, close/open a relay, etc.

The following is an example of a rule which will turn on Output 003 for 10 seconds whenever a valid prox card/fob (with Access Option enabled) is presented at Keypad 01. This output could be used to break or make power to a door strike.

**WHENEVER Keypad 01 Access is Activated  
THEN Turn On Output 003 for 5 seconds.**

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