

LIFT POSITION INDICATOR

DM2M2

Two character dot-matrix 10 x 7 DOTS

DATA SHEET

- ❖ Two inch (53mm) dual dot matrix alphanumeric display.
- ❖ Supports up to 32 floors.
- ❖ Direction arrows available in scrolling, static and scrolling over digit modes.
- ❖ Four signalling options: binary; gray; one wire per floor and stand-alone.
- ❖ Active high or active low signalling.
- ❖ Scrolling message facility.
- ❖ Internal buzzer.
- ❖ Field programmable via three on-board push buttons.
- ❖ Pluggable connectors.

Description

The DM2M2 is a 2" (53mm) dual character dot matrix position indicator for elevators. The DM2M2 can display direction and programmed messages as well as position. The display characters and arrow can be configured to be static or scrolling. All alphanumeric characters are available including hyphen (-) and blank (no characters).

The DM2M2 can be programmed for up to 32 floors in binary, gray or stand-alone signalling modes. In one wire per floor signalling mode it is can be programmed for up to five floors.

The DM2M2 can be programmed on-site via of three small on-board push buttons.

Inputs

1. Y1...Y5: Inputs for display commands at each floor. These inputs accept binary code, gray code, one wire per floor or stand-alone dependant on user's configuration. Inputs are active high. Active low is available on request. (Order model: DM2M2-L. The only difference between DM2M2 and DM2M2-L is the inclusion of resistor RN1=22K on DM2M2-L. The software remains the same.) Y1 is the least significant bit (LSB), Y5 is the most significant bit (MSB).
2. A, B, C: Inputs for selection of scrolling messages. Messages are factory programmable and cannot be programmed by the user. Inputs are active low. Please refer to Table 1 below:

Table 1

A	B	C	Description
-	-	-	--
-	-	0	Fire Control.
-	0	-	Lift out of service.
0	-	-	Lift overloaded. *
-	0	0	Maintenance operations.
0	-	0	Car preference.
0	0	-	Evacuation control. *
0	0	0	Doors closing.

" - " = Left open , floating.
" 0 " = GND.

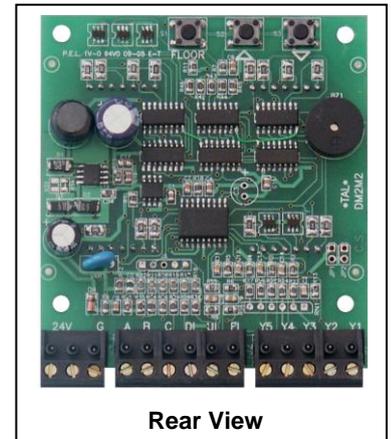
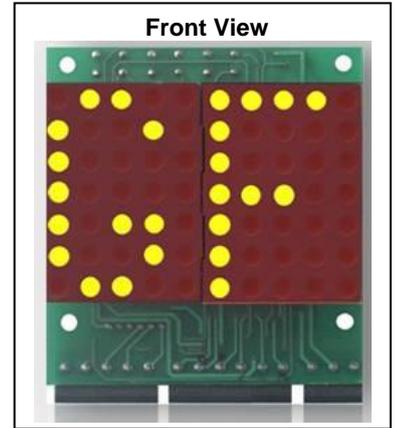
* Internal Buzzer will sound when this message is triggered.

3. UI, DI, FL: Inputs for controlling direction arrows. All inputs are active low.

UI - For showing arrow while ascending.
DI - For showing arrow while descending.
FL - Arrow control.

The following characteristics of DM2M2 can be programmed on-site via the three on-board push buttons.

1. Floor Display Sequence: Determines the display for each floor.
2. Floor Display Type: Determines display mode for each floor. The available possibilities are:
 - a. No floor characters (arrow only).
 - b. Static characters (non-scrolling).
 - c. Scrolling characters.



3. Arrow Type: Determines type of arrow the DM2M2 will show via UI, DI and FL inputs. Select from:

Table 2

1	Central static arrow, displays on UI = 0 or DI = 0, overrides current floor display, starts scrolling on FL = 0.
2	Central static arrow, displays on UI + FL = 0 or DI + FL = 0, overrides current floor display. Arrow does not scroll. This is lantern mode.
3	Left hand side static arrow, displays on UI = 0 or DI = 0, overrides left hand side character of floor display (if any), starts scrolling on FL = 0.
4	Central "triangle" static arrow, shows on UI = 0 or DI = 0, does not override current floor display. Starts scrolling "Over current display" on FL = 0.

4. Signalling Type: Determines which code the DM2M2 will accept at inputs Y1...Y5. Select from:

- a. Binary Code, starts from 00000.
- b. Gray Code, starts from 00001
- c. One wire per floor code.
- d. Stand-alone code (via magnetic sensor).

Programming

1. Programming Floor Display **Sequence**:

To programme the DM2M2 follow the instructions as follows:

Press "floor" button, dot matrix LED 1 will start flashing (refer to fig. 1 for dot matrix numbering sequence); select the desired character via "△" button to scroll up or "▽" button to scroll down; press "floor" button once desired display has been chosen; LED 2 will start flashing; use "△" button or "▽" button to select the desired characters; continue on to LED 3 by pressing "floor" button once more; select the desired character; repeat process until all floor displays have been selected.

Please note that all alphanumeric characters are available as well as 'blank' (no character) and hyphen (-). The program is automatically registered in memory if no button is pressed within 5 seconds following display selection.

2. Programming Floor Display **Type**:

Press "floor" button, dot matrix LED 1 will start flashing, while it continues to flash simultaneously press the "floor" and "△" buttons. One of the following will show:

- a. d 1
- b. d/1 (The " " sign is scrolling).
- c. d

d 1 - The DM2M2 will be configured to show static digits only.

d /1 - The DM2M2 will be configured to show scrolling digits only.

d - The DM2M2 will be configured no to show digits at all (it will show arrows only).

Select mode of display (1,2 or 3) by pressing the "△" button until desired mode shows.

3. Programming Arrow **Type**:

Enter programming mode by pressing "floor" button, dot matrix LED 1 will start flashing; while it flashes simultaneously press the "floor" and "△" buttons; then press "floor" button again until one of the following is displayed:

- | | | |
|---|---|---|
| <ol style="list-style-type: none"> #1. ↓ Scrolling arrow. #2. ↓ Static arrow. #3. ↓ 1 Left arrow, static. #4. ▽ Scrolling (triangle) arrow. | } | <p>For details
please refer to table 2.</p> |
|---|---|---|

Select desired arrow type (1,2, 3 or 4) by pressing the "△" button, according to table 2.

4. Programming Signalling **Type**:

Press "floor" button, dot matrix LED 1 will start flashing; while it flashes simultaneously press the "floor" and "△" buttons; continue to press "floor" button until one of the following is displayed:

1. b
2. b'
3. g
4. w
5. m



1. b - Binary code signalling.
2. b' - Inverse binary code signalling.
3. g - Gray code signalling.
4. w - One wire per floor signalling: one wire at a time is activated out of five wires (Y1...Y5) to choose five different displays, i.e. five different floors.
5. m - Stand-alone code (via magnetic sensor).

Select desired signalling type (1,2, 3, 4 or 5) by continuing to press the " Δ " button until desired signalling type is displayed.

If DM2M2 is required for **stand-alone** operation (independent of controller signals) DM2M2-L must be specified when ordering (refer to ordering information). DM2M2-L uses identical software to DM2M2 (i.e. programming parameters and methodology remain the same) but the hardware differs through the inclusion of resistor RN1=22K to the circuit.

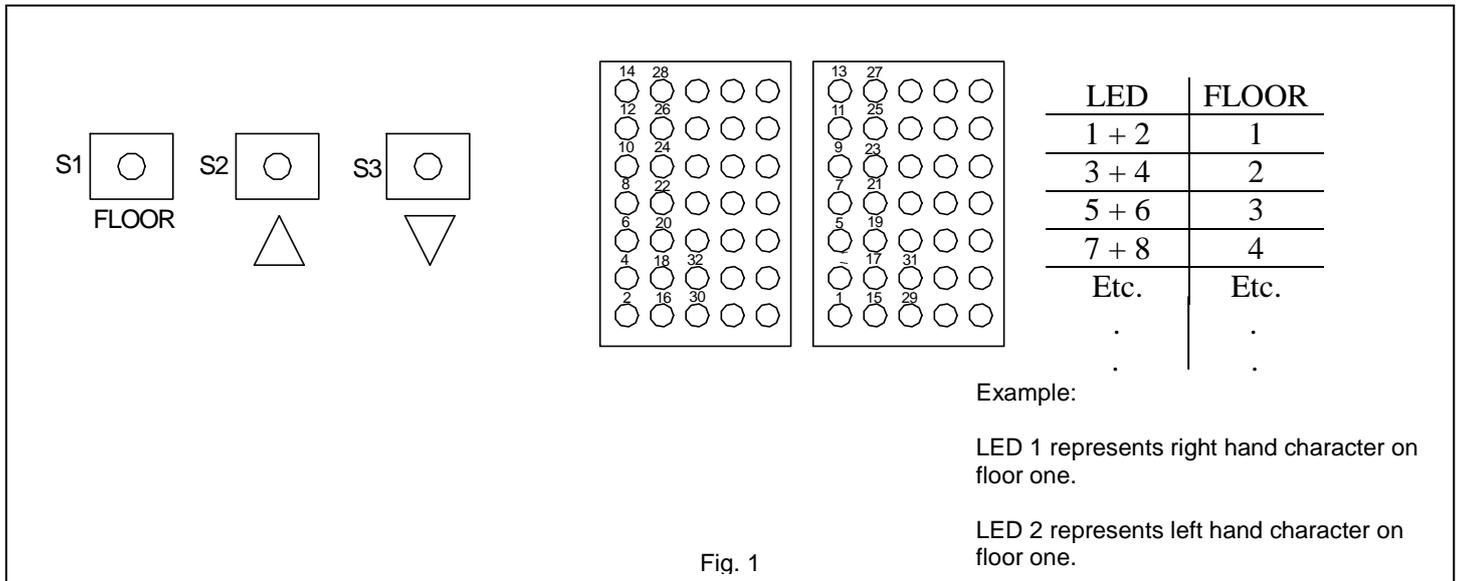


Fig. 1

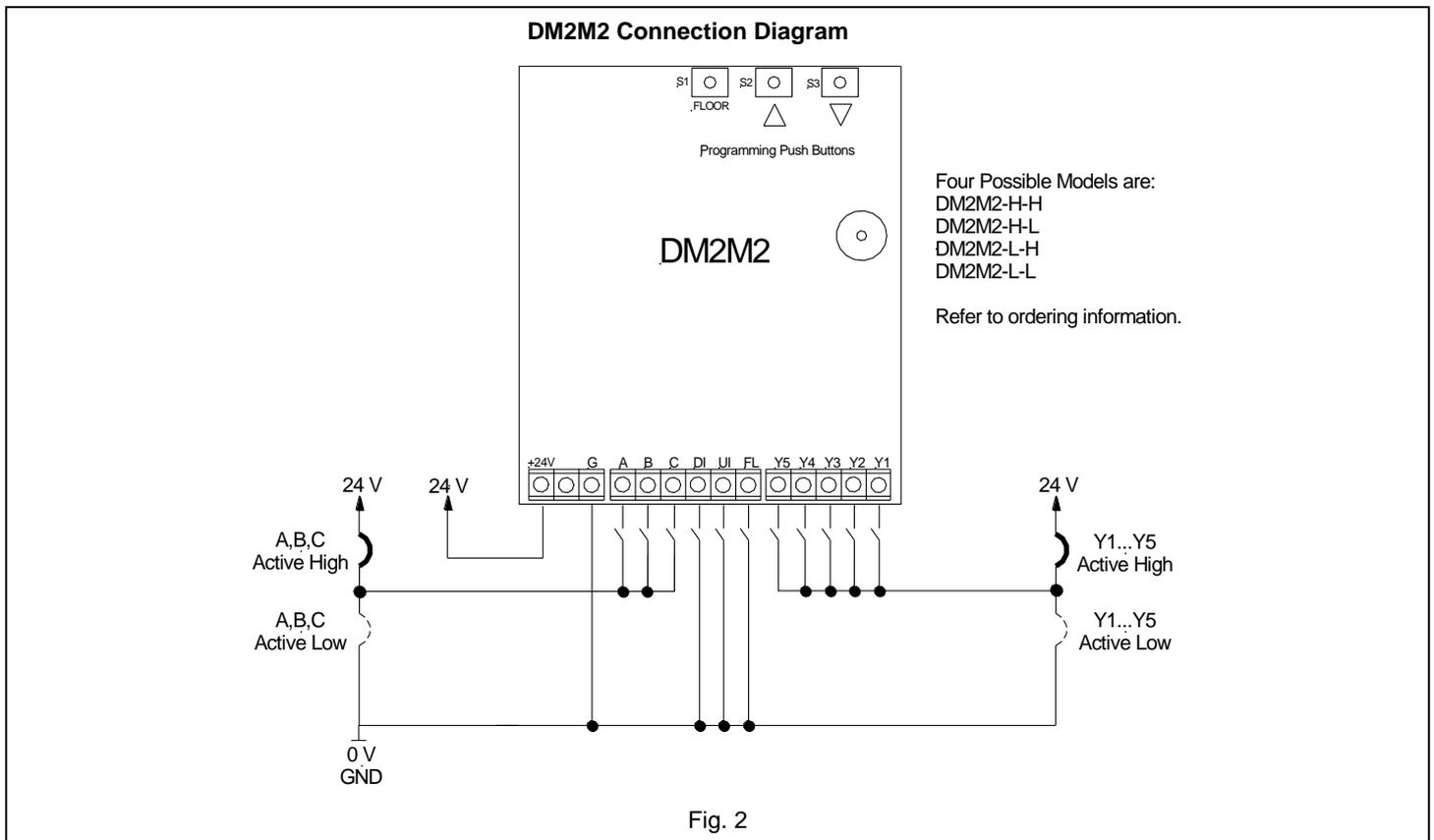


Fig. 2



Specifications

Power Supply	12VDC - 31VDC.
Current Consumption	110mA @ 24VDC.
Signalling	Binary, Gray code, one wire per floor or stand-alone operation, software configurable. Activation via inputs Y1...Y5, active high (active low available optionally). One wire per floor permits up to 5 floors maximum, all other modes up to 32 floors.
Messages	Seven messages selected via A, B, C inputs, active low.
Arrows	Four types of arrows, software configurable, activated and controlled via UI, DI, FL active low.
Display	Two dot matrices (5 X 7 dots each), 53mm height, red LEDs.
Input Threshold All Inputs	< 3VDC = "0" > 6VDC = "1" Typically = 4.5 VDC.
Input Impedance	100K Ω , resistive.
Terminals	Pluggable terminals.

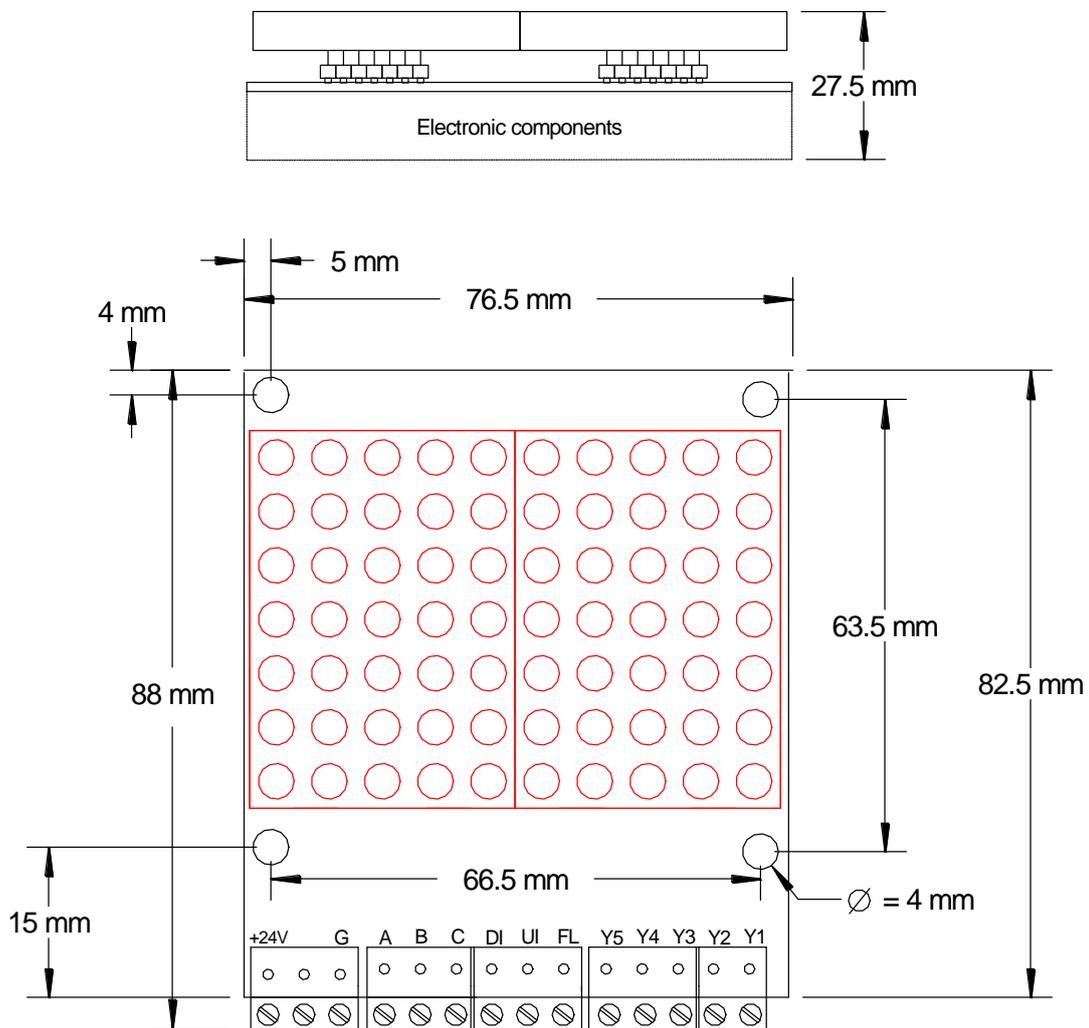
Dimension Diagram

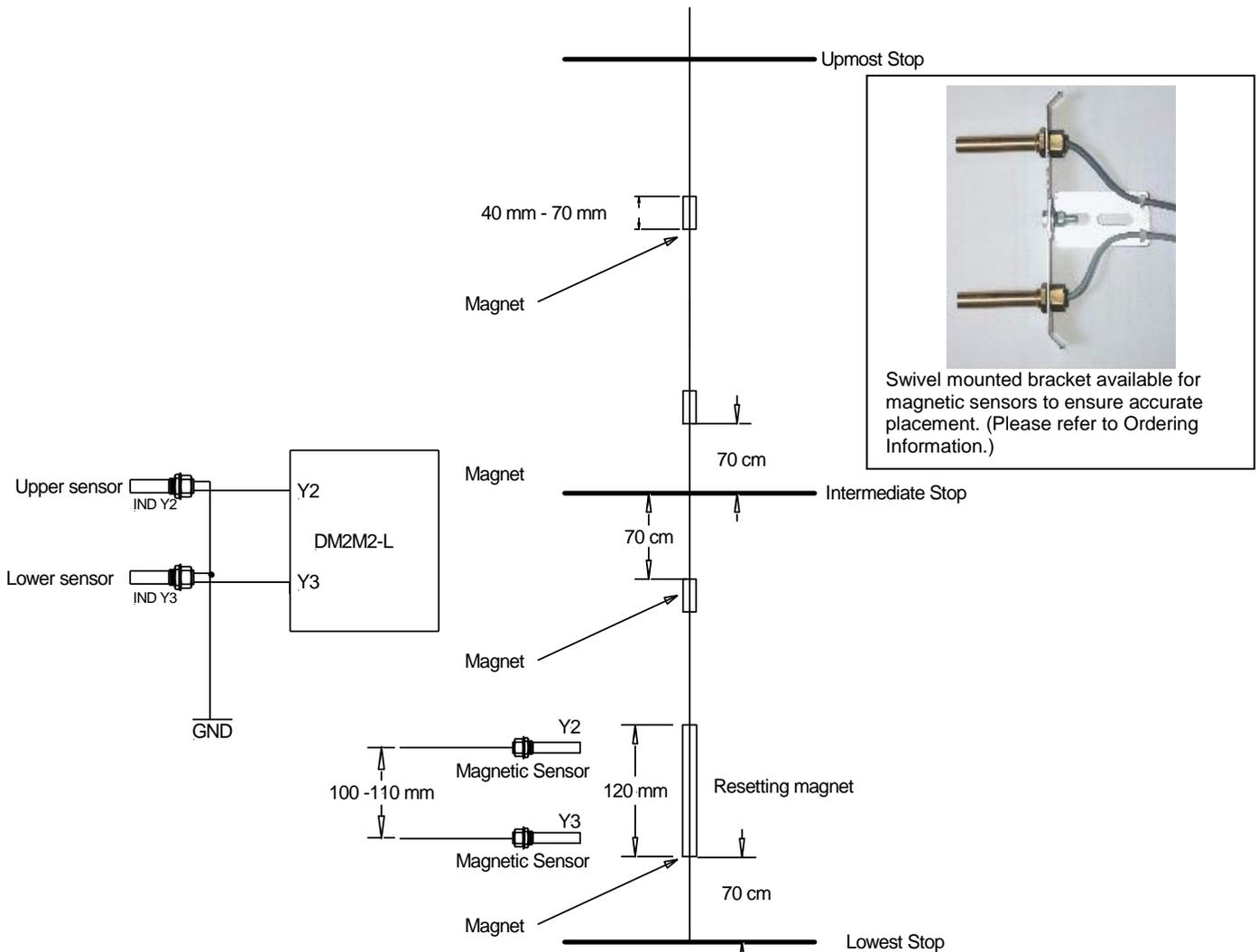
Fig. 3



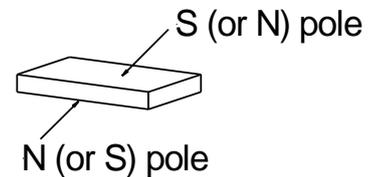
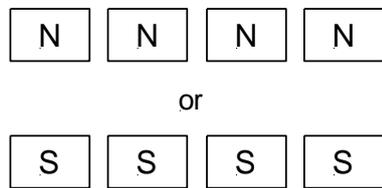
Stand-alone Operation

Magnet Arrangement and Sensor Connection Diagram

Magnetic Sensor Type : Normally Open. (Nonlatching)



Attention: If the 120 mm magnet (at the bottom stage) consists of a series of smaller magnets laid consecutively then it is essential to ensure that the polarities of the magnets are aligned correctly, as follows:

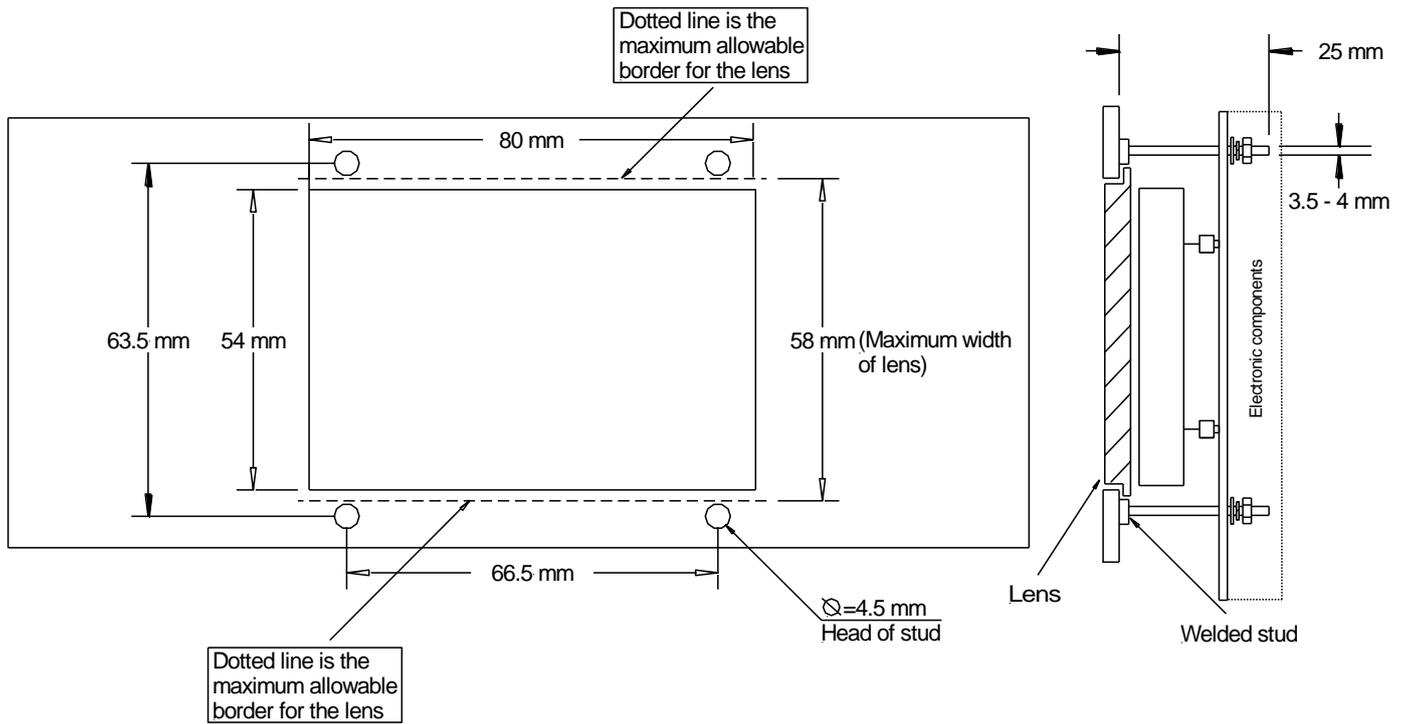


To check the polarity alignment a test magnet must be passed over the series of magnets. All magnets in the series must attract the test magnet or all must repel the test magnet. In case of any inconsistency the offending magnet(s) must be corrected or the DM2M2-L will not work function correctly.

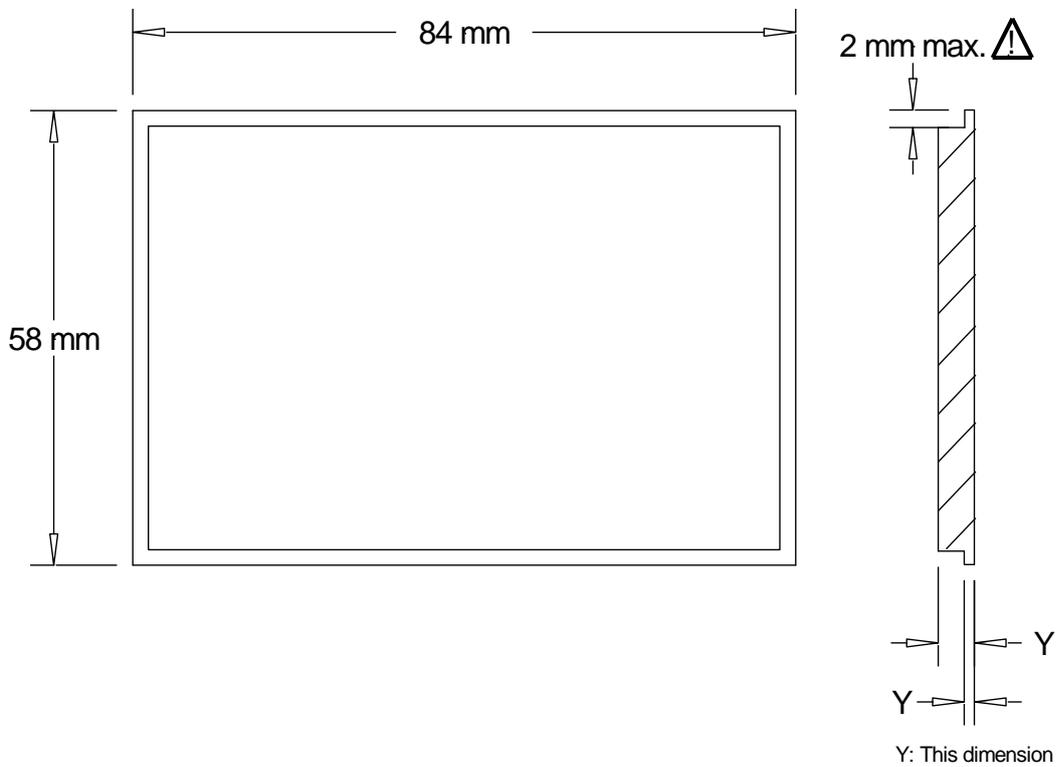
When correctly aligned small gaps may appear between consecutive magnets thus increasing the overall length of the series. This will not affect the performance of DM2M2-L in any way.



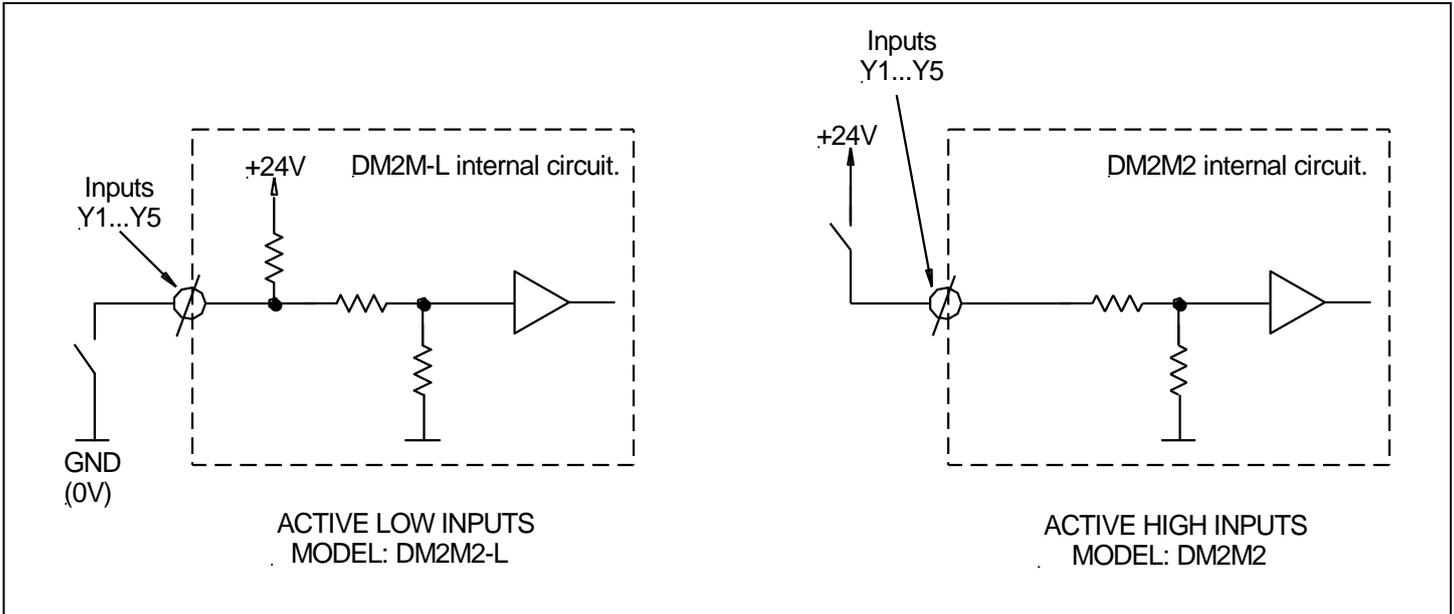
Recommended Panel Cutout



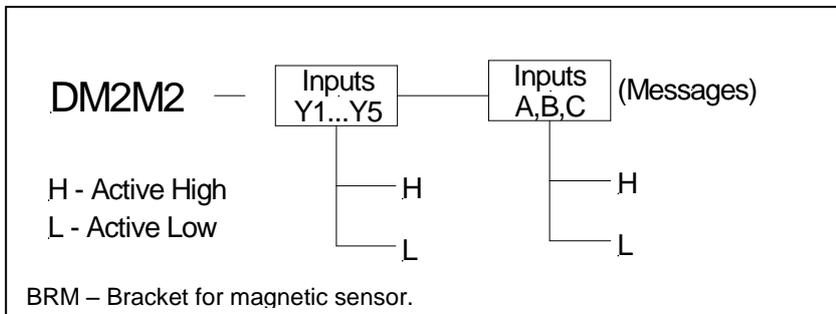
Recommended Lens Dimensions



Active High, Active Low Information



Ordering Information



* DM2M2-L uses identical software to DM2M2 (i.e. programming parameters and methodology remain the same) but the hardware differs through the inclusion of resistor RN1=22K to the circuit.

Telephone assistance is available in English language.

