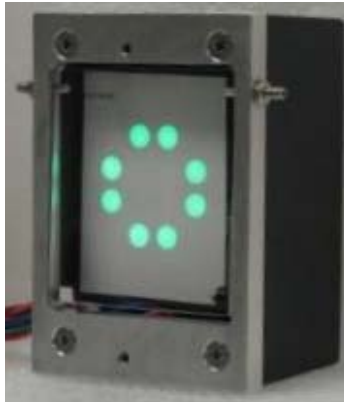


Instruction Manual

80130 Pecking Key



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### **Stimulus Array**

4 X 4 array of RGB LED's on a 7mm pitch.

Each LED will appear as a 5mm dot.

The LED's will shine through an array mask giving the impression of a blank canvas when the LED's are switched off.

Each LED can display 8 colours; Blue, Green, Turquoise, Red, Lilac, Yellow, White, Orange.

The Display array will be programmed to display any of 16 shapes, in any of the 8 colours. The shapes include; Cross, Forward Slash, Back Slash, Square, circle, Small Dot, Vertical Bar, Horizontal Bar, All On.

### **Pecking Key**

The Pecking key will be made of clear 3mm Perspex and will be a visible size of 35mm square.

The key will be hinged about two pivot points to allow free movement.

The key will have an approximate travel of 2.2mm (measured at the bottom of the key).

The key will have an approximate trigger point 0.6mm (measured at the bottom of the key).

The report switch will be a Hinge roller type V4 microswitch – Electrical life – 100,000 presses.

Maximum registered pecks per second >10.

Force required to register a peck (measured in the centre of the key); 50cN.

### **Electrical Connections**

- 1) 12 – 28VDC
- 2) 0VDC
- 3) Key Press Report. (de-bounced)
- 4) Key Press Report (inverted output) (de-bounced).
- 5) Image Latch. The image represented by lines 6 to 12 will be transferred to the LED array when this line is switched from a high voltage to a low voltage. The image will remain whilst the line is held low. The image will be off when the line is high.
- 6) Colour Selection bit 0
- 7) Colour Selection bit 1
- 8) Colour Selection bit 2
- 9) Image Selection bit 0
- 10) Image Selection bit 1
- 11) Image Selection bit 2
- 12) Image Selection bit 3

Note: All input lines. Low 0V - 1.5V. High 3.5 - 28V.

Note: Lines 6 to 12 can be connected as a bus to allow multiple keys to use the same output lines.

### **Operation**

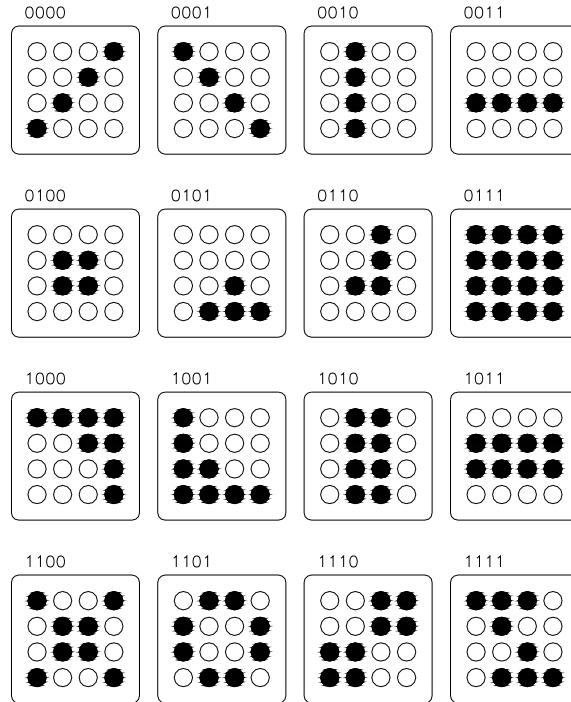
The image represented by lines 6 to 12 will be transferred to the LED array when the image latch line is switched from a high voltage to a low voltage. The image will remain whilst the line is held low. The image will be off when the line is high.

To place an image on the LED array

- 1) Set the required Colour and Image selection on the selection output lines (see 'Image information' for selection codes).
- 2) Wait 10ms.
- 3) Set the image latch on the required pecking key or keys .
- 4) Wait 10ms before changing the Colour and Image selection lines.
- 5) Releasing the image latch will switch the array off.

### Image information

Image codes for selection are; (Shown as bit 3,2,1,0)



Colour codes for selection are; (Shown as bit 2,1,0)

- 000 Orange
- 001 Red
- 010 Green
- 011 Yellow
- 100 Blue
- 101 Lilac
- 110 Turquoise
- 111 White

### Physical Dimension

See Drawing overleaf.

