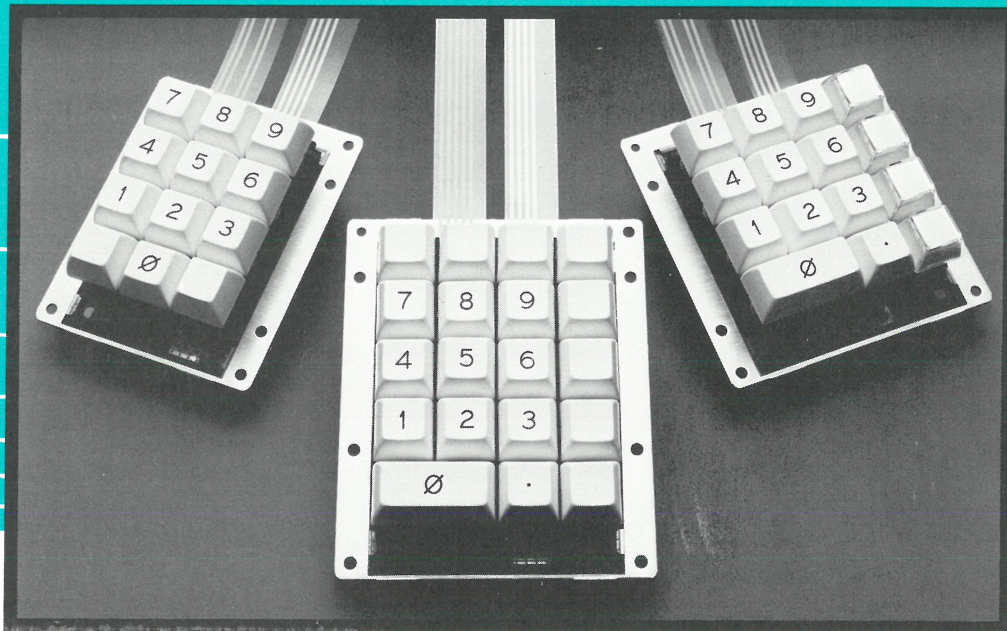


# OAK



## FTM<sup>®</sup> KEYPADS & SWITCH ARRAYS

Oak's rugged full travel membrane keypad is custom designed to meet the most stringent needs of the user: low cost, long life, and high reliability.

An inherent front sealed design protects the contacts against spilled liquids, dust, and other contaminants, resulting in enhanced reliability and prolonged life.

These keypads feature industry standard full travel (.160 in.) plastic keyparts to facilitate valid data entry. The switch incorporates pretravel, and overtravel—desirable features for ease of operation, input accuracy, and low operator fatigue.

The full travel membrane keypad is well suited to a wide range of applications, from P.O.S. to banking terminals—to light industrial machinery and process controls—as well as telephone and PBX systems.

Contact our nationwide network of factory trained sales representatives to assist you in specifying the FTM keypad.

- Low cost
- Reliable
- Environmentally sealed
- Long life
- Ease of interface
- Optional RFI/EMI shielding

### Mechanical

**Life Expectance:** 100 million cycles per key

**Switch Action:** Momentary (\*Alternate Action Available)

**Travel:** .160 in. nominal with 0.080 in.  $\pm$  .025 pretravel

**Actuation Force:** 2.2  $\pm$  0.5 oz. standard (\*Other forces are available)

**Sculptured or non-sculptured**

\*Choice of 0° or 11° plunger industry standard .750 centers

\*Maximum number of keys: 231

\*OEM Only

### Electrical

**Operating Voltage:** 1.0 volts to 30.0 volts, DC or peak AC

**Operating Current:** 50  $\mu$ A to 20 mA resistive load

**Switch Power:** 250  $\mu$ watts to 0.5 watt peak power, resistive load

**Insulation Resistance:** Ambient: 10<sup>9</sup> ohms; After 96 hrs. at 95% R.H. and 40°C: 10<sup>7</sup> ohms

**Contact Bounce:** 500  $\mu$ sec typical; 5 msec for hard rap induced bounce

**Switch Interconnections:** SPST, X-Y Matrix, or \*Switch to common

**RFI/EMI Shielding:** Optional

**Dielectric withstanding voltage:** 250 VRMS, 60 Hz between any two circuit traces

**CUSTOM ELECTRONICS AVAILABLE**

### Environmental

**Operating Temperature:** -0°C (32F) to 65°C (149F)

**Storage Temperature:** -40°C (-40F) to 85°C (185F)

**Humidity:** Passes MIL-STD 202 method 103 humidity test. 95% R.H. noncondensing at 40°C

**Contaminants and Cleaning:** Front sealed



# STANDARD FTM KEYPADS

## AVAILABLE THROUGH DISTRIBUTION

### Standard Features:

Keycap Color: Cream White (T22044)  
 Legend Color: Black  
 \*\*RFI/EMI Shielding  
 Switch Resistance: 100 ohms max.

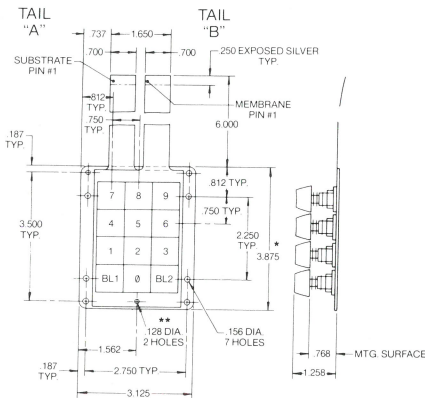
Custom Keycap - Legends  
 - Colors  
 - Shapes  
 Custom Engraving

**3 x 4 Matrix**  
 12 Keycaps  
 Part No. 5-64951-051

**4 x 4 Matrix**  
 15 Keycaps  
 Part No. 5-64951-052

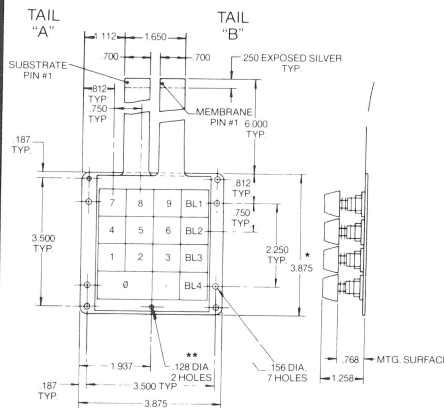
**4 x 5 Matrix**  
 19 Keycaps  
 Part No. 5-64951-053

### Mounting Diagram



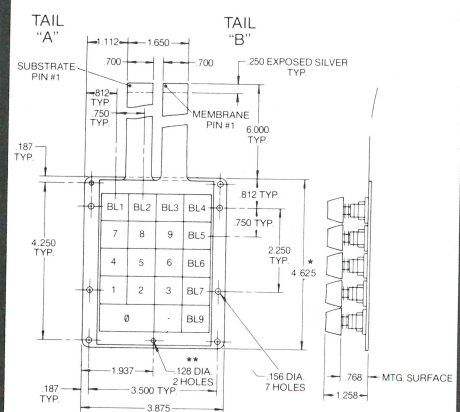
\*Allow for a .025" break off burr both ends

### Mounting Diagram



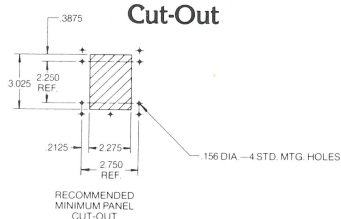
\*Allow for a .025" break off burr both ends

### Mounting Diagram

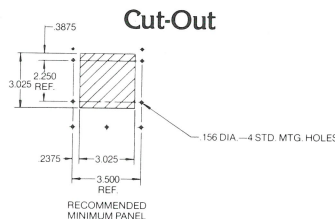


\*Allow for a .025" break off burr both ends

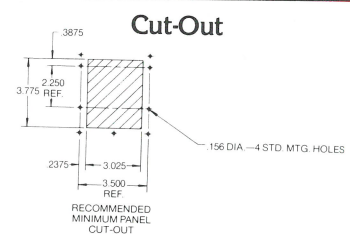
### Cut-Out



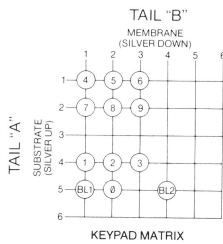
### Cut-Out



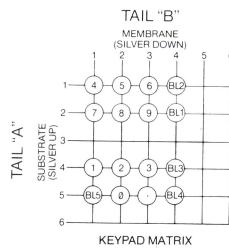
### Cut-Out



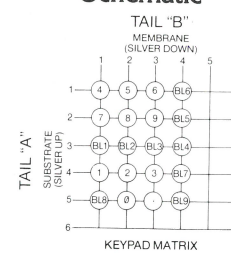
### Schematic



### Schematic



### Schematic



2 Blank Keycaps—Suitable for engraving  
 Keycap Marking: Ø Through 9  
 Gorton Modified Type

4 Relegendable Keycaps  
 2 Active Switches for Ø (Ø and BL5)  
 Keycap Marking: . and Ø Through 9—  
 Gorton Modified Type

8 Blank Keycaps—Suitable for engraving  
 2 Active Switches for Ø (Ø and BL8)  
 Keycap Marking: . and Ø Through 9—  
 Gorton Modified Type

\*\* .128 Diameter hole provided for connecting mounting plate and tip shield to ground.

# DAK Switch Systems Inc.

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