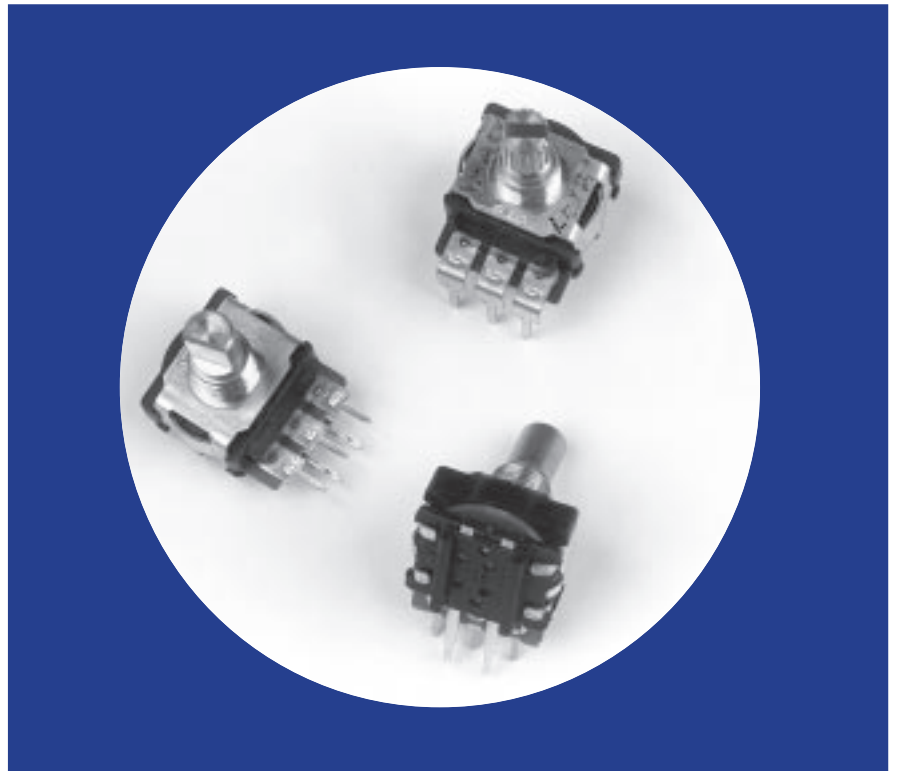


16 mm Rotary Encoders

Features

- Low cost, robust design
- Miniature 16mm style
- Bushing mounted
- PC terminals, with shaft parallel or perpendicular to PC board
- 2 bit, 4 bit Gray and 4 bit Hexidecimal codes available
- 16 detents available
- Optional momentary switch
- RoHS compliant



Electrical and Mechanical Specifications

Voltage Rating

5VDC @ 0.5milliamp

Current Rating

5mA max.

Temperature Rating

Operation: -25°C to +100°C

Contact Resistance

500 ohms static closed circuit maximum
Contact CTS for special requirements

Detent Points

16 detents available

Resolution Switch Rating

4,6,8,10 or 12 pulses in 360° on 2 bits

Total Rotational Angle

360°

Rotational Torque

36~216 gfcM (0.5~3 in-oz)
Contact CTS for special requirements

Rotational Life

50,000 cycles min.

Switch Life

15,000 operations for 0.5mm(.020") travel

Switch Contact Resistance

100 milliohms maximum initial
200 milliohms maximum after life

Switch Operation Force

350 ±150 gf (12.3 oz ±5.3 oz)

Switch Bounce

5 milliseconds max.

Switch Travel Length

0.5mm (.020")

Pull and Thrust on Shaft

Withstand a pushing force and pulling force of 8 kg static load applied to axial direction for 10 ±1 second without physical damage or electrical degradation

TRUTH TABLE 2 BIT BINARY

DENOTES CONTACT CLOSURE TO COMMON	B	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
	A	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0
POS. NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	

0	1	1
1	1	0
46	47	48

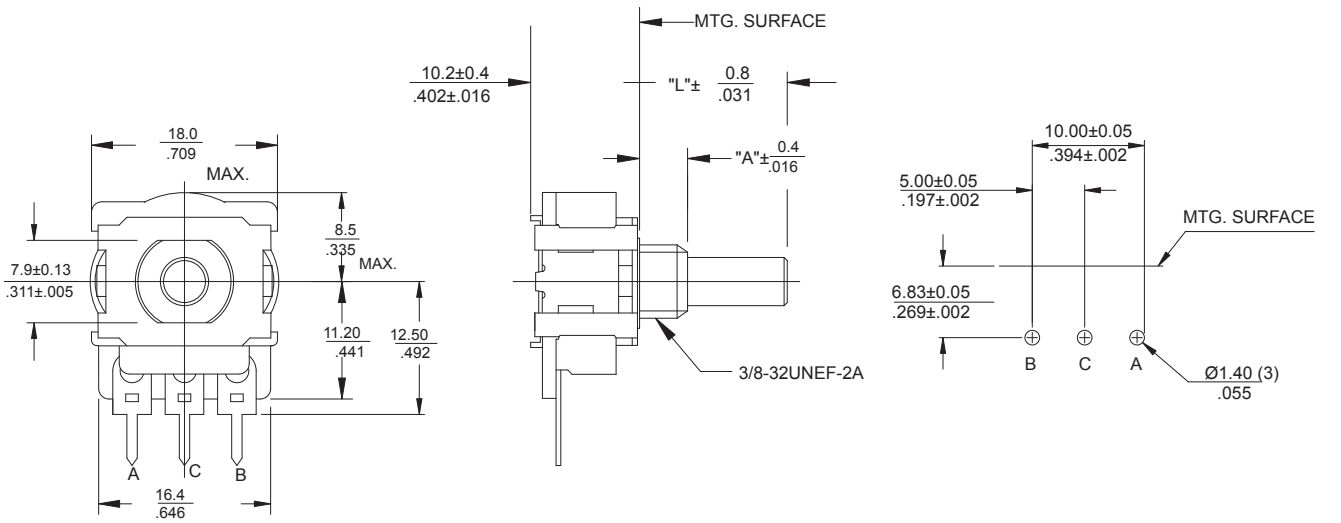
4 BIT GRAY CODE

POS. NO.	DENOTES CONTACT CLOSURE TO COMMON							
	A	B	E	F				
1	0	0	0	0				
2	0	0	1	0				
3	0	0	1	1				
4	0	0	0	1				
5	0	1	0	1				
6	0	1	1	1				
7	1	1	1	1				
8	1	1	0	1				
9	1	0	0	1				
10	1	0	1	1				
11	1	0	1	0				
12	1	0	0	0				
13	1	1	0	0				
14	1	1	1	0				
15	0	1	1	0				
16	0	1	0	0				

4 BIT HEXIDECIMAL

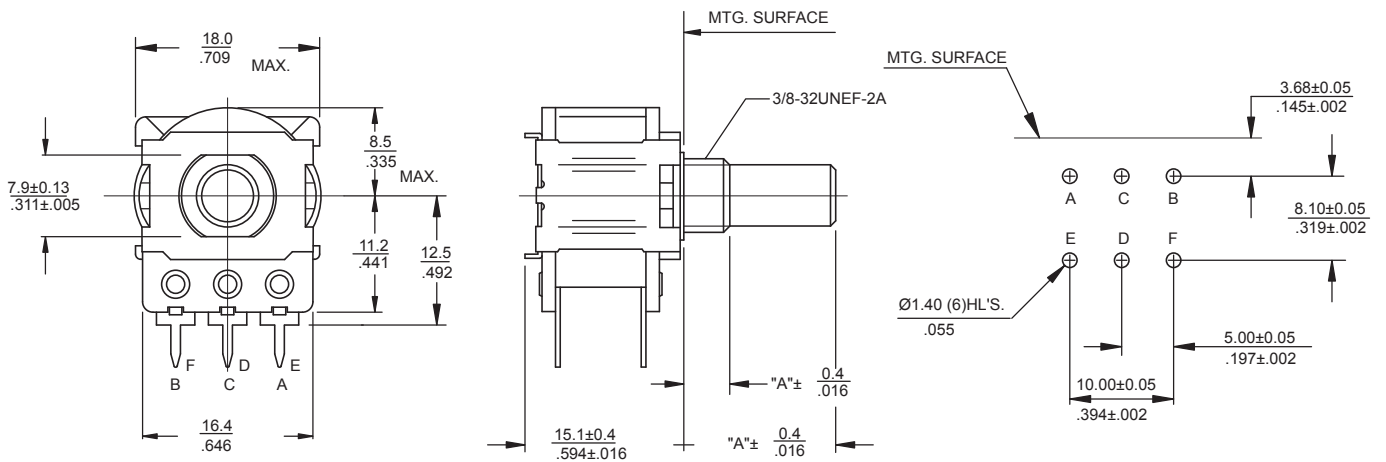
POS. NO.	DENOTES CONTACT CLOSURE TO COMMON							
	A	B	E	F				
1	0	0	0	0				
2	1	0	0	0				
3	0	1	0	0				
4	1	1	0	0				
5	0	0	1	0				
6	1	0	1	0				
7	0	1	1	0				
8	1	1	1	0				
9	0	0	0	1				
10	1	0	0	1				
11	0	1	0	1				
12	1	1	0	1				
13	0	0	1	1				
14	1	0	1	1				
15	0	1	1	1				
16	1	1	1	1				

X288 Typical 2-bit Encoder parallel to P.C. Board



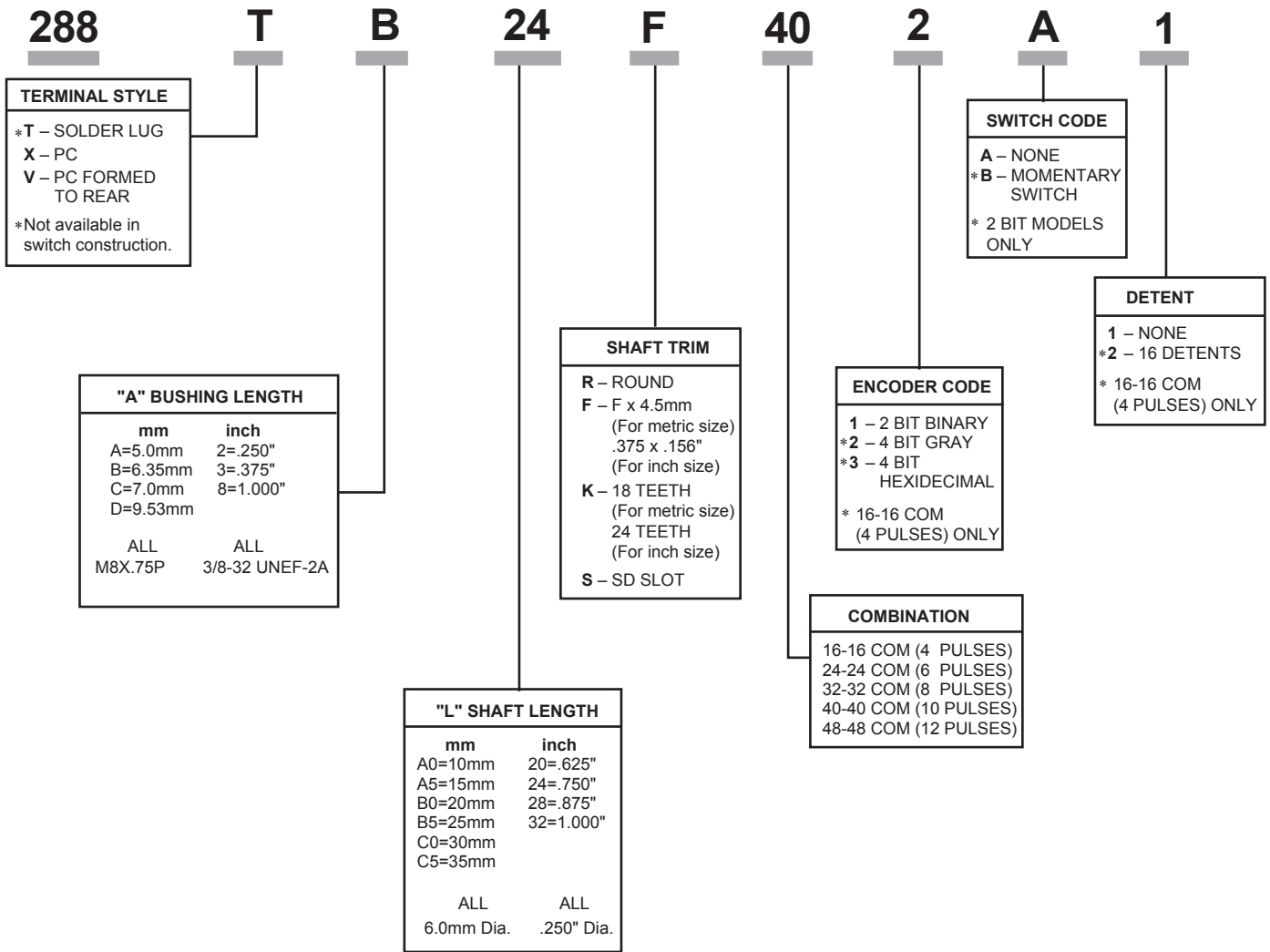
DIMENSION : $\frac{\text{mm}}{\text{INCH}}$

X2-288 Typical 4-bit Encoder parallel to P.C. Board



DIMENSION : $\frac{\text{mm}}{\text{INCH}}$

Ordering Information



METRIC BUSHING EQUIPPED WITH METRIC SHAFT.