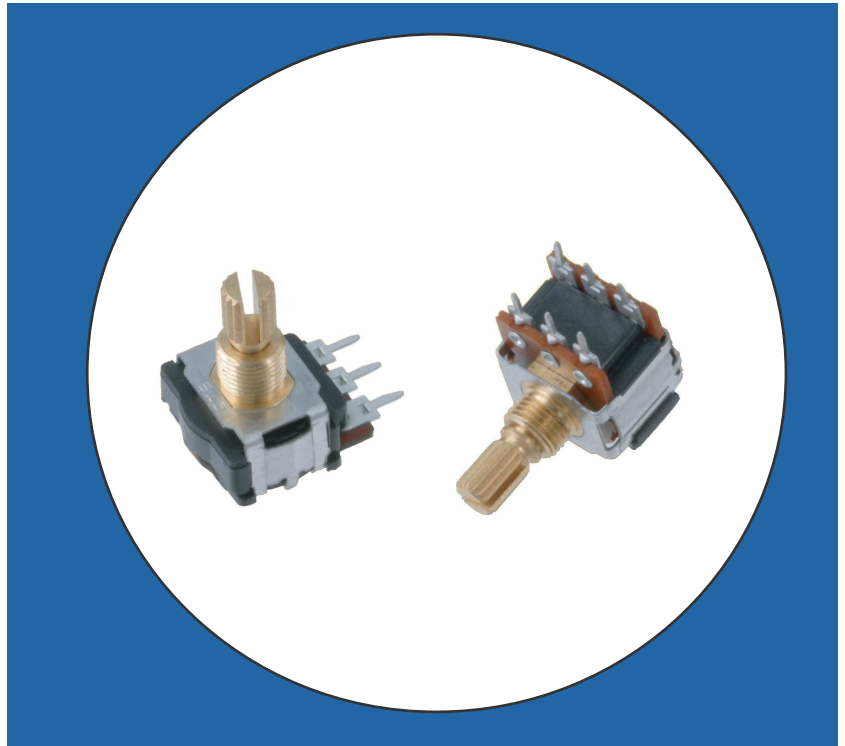


Commercial Miniature 16mm Size Rotary Encoder

Features

- Robust Construction
- 2-bit Incremental or 4-bit Absolute Encoder
- Optional Momentary Switch
- Available with 16 Detents
- Continuous Rotation
- Bushing Mount
- Solder Lug or PCB Terminals
- RoHS Compliant



Electrical and Mechanical Specifications

Encoder:

Contact Resistance

500Ω maximum

Voltage Rating

5 VDC @ 0.5mA maximum

Detent Points

16 detents available

Rotational Life

50,000 cycles

Resolution

2-bit: 4, 6, 8, 10 or 12 pulses in 360°

4-bit: 16 combinations in 360°

Insulation Resistance

10MΩ minimum at 50 VDC

Temperature Range

Operating: -25°C to +100°C

Storage: -30°C to +100°C

Rotational Torque

No Detent: 36 - 216 gf.cm

With Detent: 100 - 500 gf.cm

Solder Heat Resistance

260°C for 5 seconds

Push-Pull Strength of Shaft

8 kg minimum for 10 seconds

Special

Consult CTS for customized or features not listed, including other detent points, resolution, torque and mounting style.

Electrical and Mechanical Specifications (continued)

Optional Momentary Switch:

Switch Contact Resistance

Initial: 100mΩ maximum
After Life Cycles: 200mΩ maximum

Switch Rating

16 VDC @ 20mA maximum

Switch Bounce

5 milliseconds maximum

Switch Operating Force

350 ± 150 g (12.3 ± 5.3 oz.)

Switch Life

15,000 operations

Switch Travel

0.5mm (.020")

Truth Table

2 BIT BINARY CODE

DENOTES CONTACT CLOSURE TO COMMON	2 BIT BINARY CODE															
	B	0	0	1	1	0	0	1	1	0	0	1	1	0	0	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

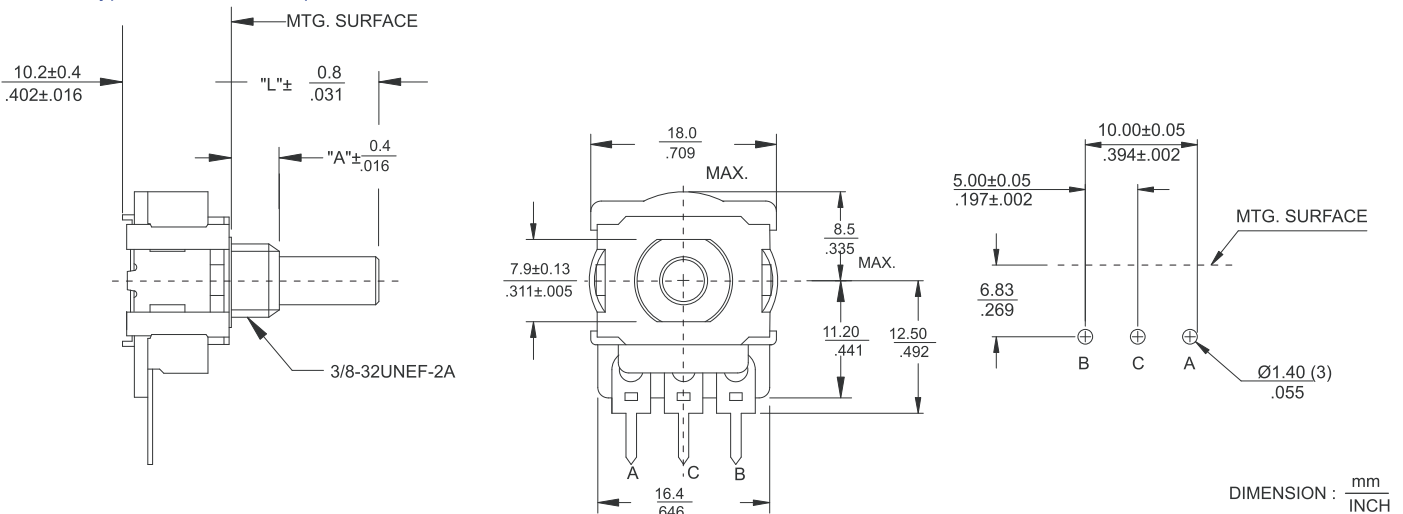
4 BIT GRAY CODE

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

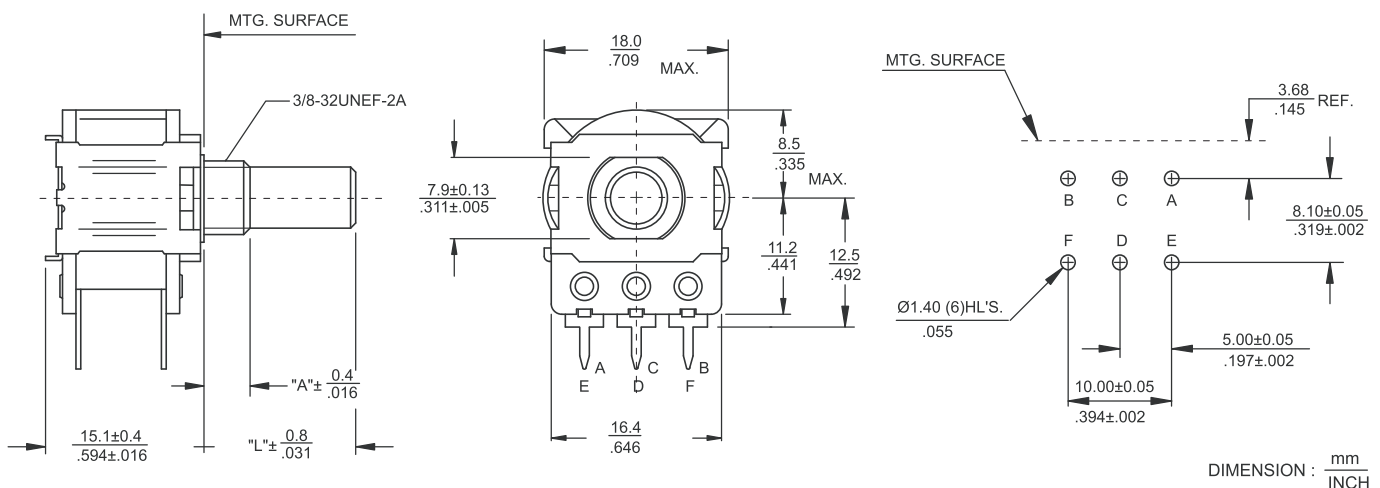
4 BIT HEXADECIMAL CODE

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

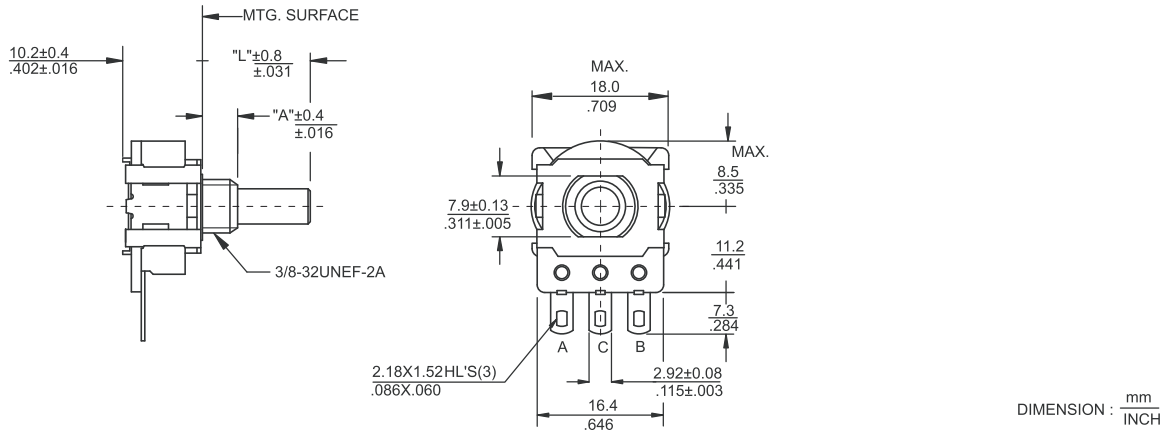
288X Typical 2-bit Encoder parallel to P.C. Board



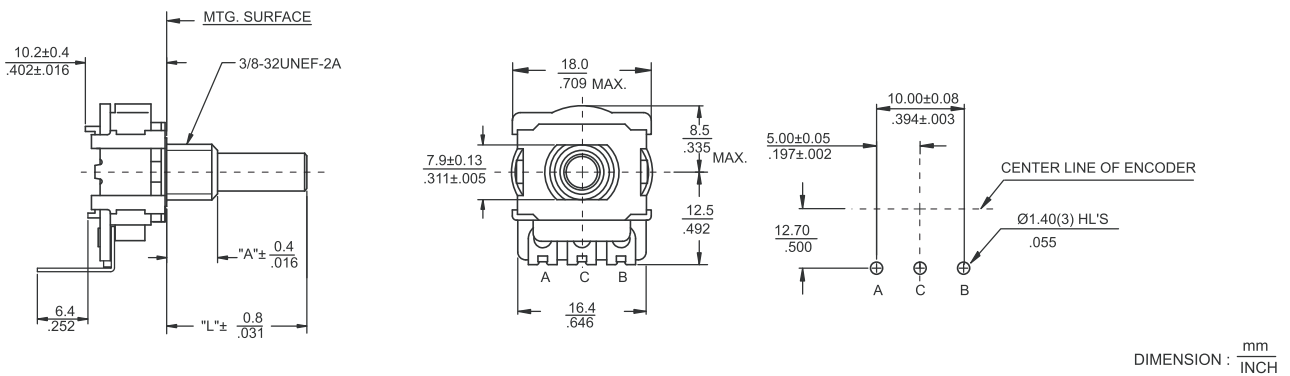
2-288X Typical 4-bit Encoder parallel to P.C. Board



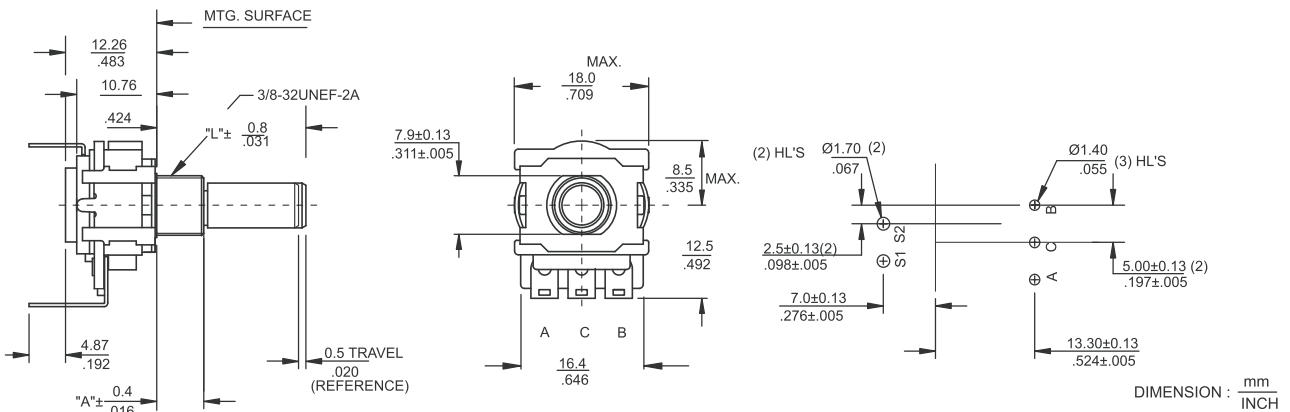
288T Typical 2-bit Encoder With Solder Lug Terminals



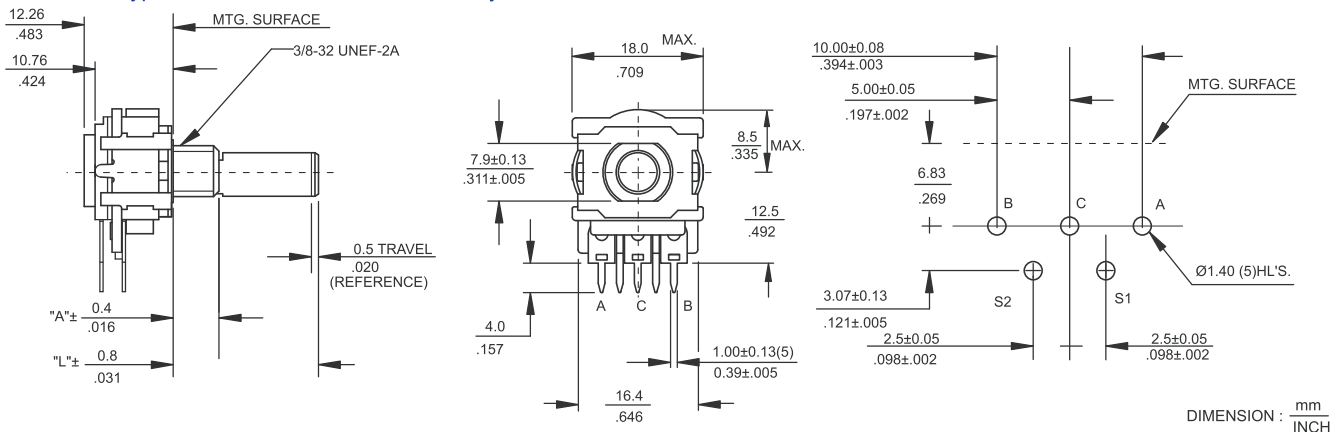
288V Typical 2-bit Perpendicular to P.C. Board



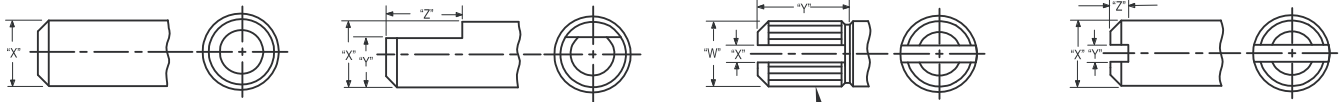
MC-288V Typical 2-bit Encoder With Momentary Switch Perpendicular to P.C. Board



MC-288X Typical 2-bit Encoder With Momentary Switch Parallel to P.C. Board



Shaft Trim



R - ROUND

	X
Imperial Shaft	.250"
Metric Shaft	6.00

F - FLATTED

	X	Y	Z
Imperial Shaft	.250"	.156"	.375"
Metric Shaft	6.00	4.50	7.00

K - KNURLED & SLOTTED

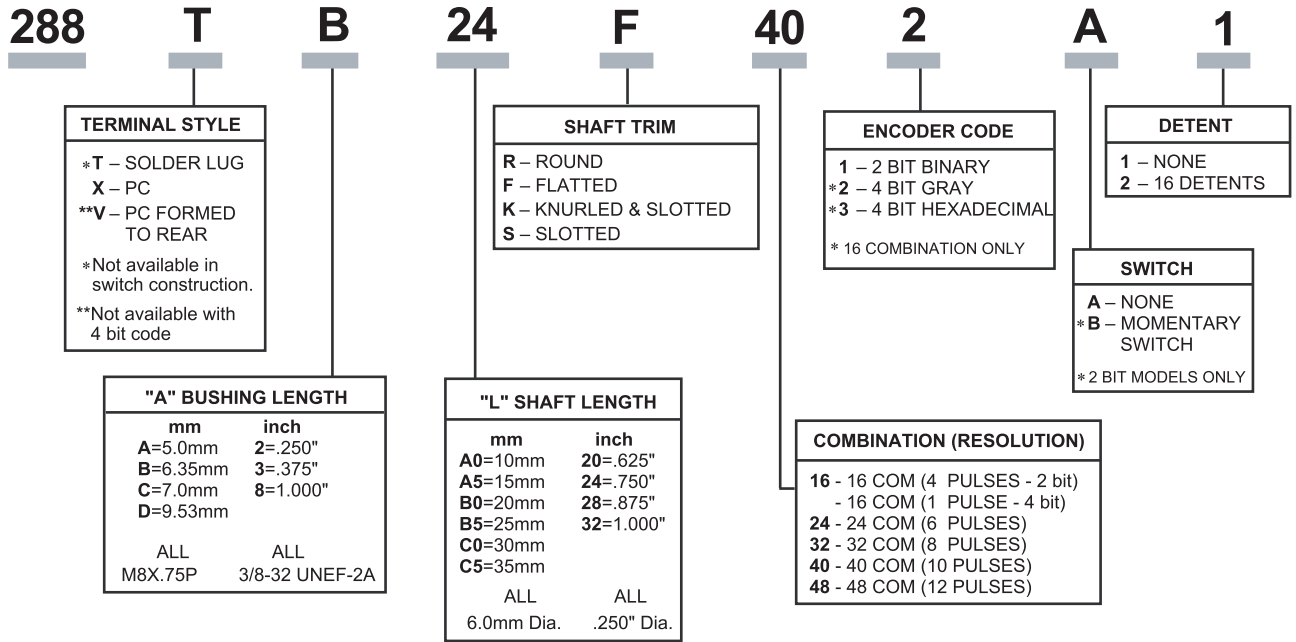
	W	X	Y	Z
Imperial Shaft	.236"	.062"	.344"	24 TEETH
Metric Shaft	6.00	1.57	7.0	18 TEETH

S - SLOTTED

	X	Y	Z
Imperial Shaft	.250"	.046"	.062"
Metric Shaft	6.00	1.17	1.57

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

Ordering Information



Please consult CTS for customized or features not listed.

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