Model 510

NEW

Electrical

OUTPUT:
2-bit grey code, channel L leads channel R by 90 deg electrically in the CW direction. 4-bit grey code, absolute electrical position output.

CLOSED CIRCUIT RESISTANCE:
5 ohms maximum

OPEN CIRCUIT RESISTANCE:
100K ohm minimum

CONTACT RATING:
Resistance load 250mA @ 28Vdc maximum

SWITCHING LOADS:
1.5mA @ 115 Vac
150mA @ 14Vdc

BOUNCE (Jitter):
5 ms/cycle @ 15 RPM

DIELECTRIC WITHSTANDING VOLTAGE:
1000 Vac @ sea level

ELECTRICAL TRAVEL:
Continuous

OPERATING SPEED:
50 RPM maximum

Mechanical

ROTATIONAL TORQUE:
3-5 oz. in. (2.16 - 3.60 Ncm)

MECHANICAL TRAVEL:
Continuous

PANEL MOUNTING TORQUE:
7 lbs. in. (1.13Nm) maximum

SHAFT LOAD FORCE:
10 lbs. in. (1.13Nm) maximum

SHAFT PULL FORCE:
10 lbs. maximum

TERMINALS:
Standard PC style, 3 terminals on 0.100" (2.54mm) grid-in-line perpendicular or parallel to shaft. Solder hook available on 0.200" grid.

MOLDED CONSTRUCTION:
Molding compound used for housing/bushing and shaft has a UL94V-2 rating

ROTATIONAL LIFE:
100,000 detented cycles at rated load typical.
(1 cycle = 720 degrees)

Operational

TEMPERATURE RANGE:

Operating temperature: -40 degrees C to +105 degrees C
Storage temperature: -55 degrees C to +120 degrees C

HUMIDITY:

Per MIL-STD. 202, Method106C: Insulation resistance shall be 1 Megohm maximum of a relative humidity 90% @ 25 degrees C

SHOCK:

Per MIL-STD. 202, Method 213, Test Condition G, consisting of 18 impacts shock at 50 G's for duration of 11ms

VIBRATION:

Per MIL-STD. 202, Method 214, Test Procedure A

Output Table

1/4 CYCLE PER DETENT

CW ⟶

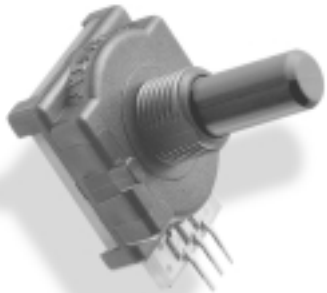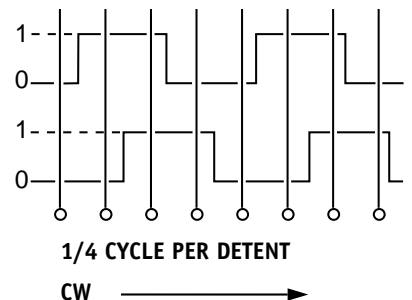*FEATURES:*

Cost Effective
- Eliminates A/D converters

High Resolution
- Up to 36 positions

Stability
- Operating range of -40C to +105C

Variability
- Horizontal and vertical mounting

ISO 9001 CERTIFIED

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DIMENSIONS for Series 510

2-Bit, 36-Position Incremental Output

Step	1	G	2
1			
2			
3			
4			
5			
5			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			

2-bit, 16 pos.
2-bit, 24 os.
2-bit, 36 pos.

P.C. TERMINALS TYPE B-110

.343
.250 +.002 -.001
3/8-32 UNEF -2A

.320
.830 ±.005 SQUARE
.615
.250
.100 TYP.
.100 (2X)

TYPE "B" MTG. WITH BRACKET
.625
.245

.050 (2X)
.900
.450
.100 (2X)
.250
.600
.300
Ø .047 (7X)

PC TERMINALS TYPE C-30
.343
.156
.156
.363

SOLDER HOOK TERMINALS (ON .200 SPACING)
.200 REF
.100

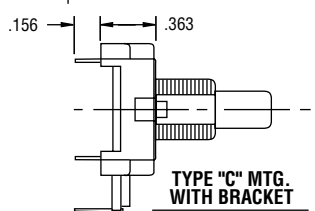**TYPE "C" MTG. WITH BRACKET**

Ø .047 (7X)
.320 (2X)
.450 (2X)
.600 (2X)
.100 (2X)
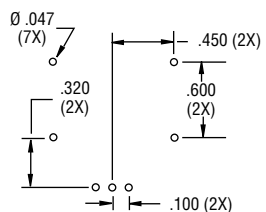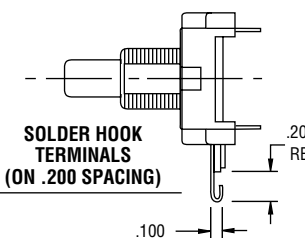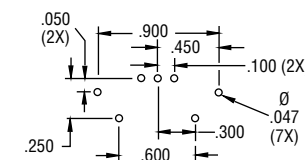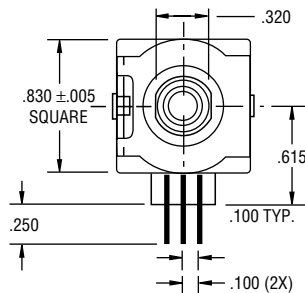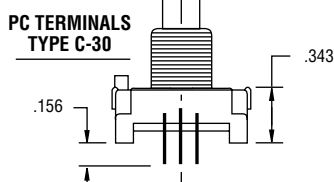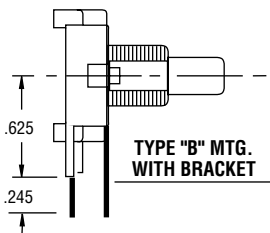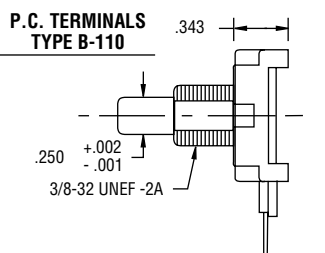
4-bit, 6-Position Incremental Output

Step	1	4	2	G	8
1					
2					
3					
4					
5					
5					
7					
8					
9					
#					
#					
#					
#					
#					
#					
#					

4-bit, 16 pos.

■ Closed   □ Open

.830 ±.005 SQUARE
.415
.020 X .025 THK
.100 TYP.
.100 (2X)

.005/.010 R
.060
.206 ±.010 SUGGESTED
.047 DIA. SUGGESTED

SHAFT DIMENSIONS

SLOTTED SHAFT
±.005 .068
±.005 .047

FLATTED SHAFT 3/4"; 7/8" F.M.S.
.218
.375
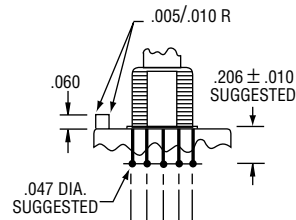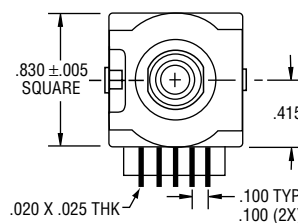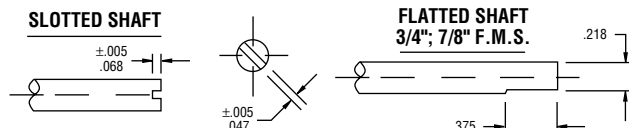
ORDERING INFORMATION

When ordering, indicate the desired options as shown in this example:

510E   1   A   48   F   204P   P

SERIES
510E

BUSHING LENGTH
A = Bushing: 3/8 (9.53mm) dia. X 1/4 (6.35mm) long.
G = Bushing: 3/8 (9.53mm) dia.X 3/8 (6.35mm) long.

LOCATING PIN
1 = @ 9 O'clock
0 = None

SHAFT LENGTH CODES
Single Shaft FMS coded in 64ths
48 = 0.750"
56 = 0.875"

SHAFT ENDING
S: Slotted
F: Flatted

BITS, CYCLES AND MECHANICAL DETENTS PER REVOLUTION
2-bit grey code options:
204P = 4 cycles/rev., 16 detents/rev.
206P = 6 cycles/rev., 24 detents/rev.
209P = 9 cycles/rev., 36 detents/rev.
4-bit grey code options:
416P = 16 cycles/rev., 16 detents/rev.

TERMINALS
B: PC terminals straight (horizontal mount) Type B-110
C: PC terminals bent back (vertical mount) Type C-30
P: Type B with mounting bracket
D: Type C with mounting bracket
S: Solder Hook
Hardware not included

To order or for custom applications, call 800-874-1874

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