



The Electroswitch 700 Series is the economical solution to virtually any digital encoder or potentiometer requirement. As the latest version in our new generation of rotary encoder products, the 700 Series has been freshly tooled to include resistive analog output for potentiometer applications, as well as the standard digital code for direct interface with a microprocessor. The .890" package enhances the original design concept, delivering high performance and quality levels in triple digit PPRs.

## FEATURES

- **Digital Codes Available: Incremental Quadrature, Absolute, Gray**
- **Analog Resistive Output For Use As A Potentiometer**
- **5K And 10K Resistive Element Standard**
- **High Temperature Materials Meet 85°C Requirements**
- **Push button Feature**
- **Push to Turn Feature**
- **RoHs Compliant**

## BENEFITS

- **Multiple Output Codes Allow Simpler Integration with a Wider Variety of Receiving Devices**
- **Encoder or Potentiometer function in same package**
- **Excellent Performance in Harsh Environments**
- **Push button Allows Dual Function with Single Shaft Input**
- **Low Profile Package**

## APPLICATIONS

### Medical

- Rehab Treadmills
- X-Ray Equipment
- Cold Therapy/Compression Equipment

### Audio/Music

- Volume Control
- Automotive
- Home
- Professional
- Electric Guitars

### HVAC

- Temperature Control
- Fan Control

### Appliance

- Electronic Range Control of Bake time
- Electronic Range Control of Temperature and Duration
- Dishwasher Control

### Agriculture/Construction

- Bailer control for height and speed
- Electronic control interface

### Test and Measurement

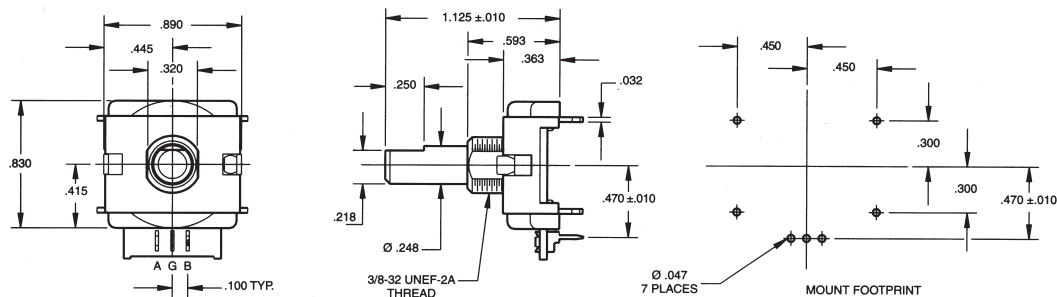
- Automotive Test Equipment

### Panel Input Device

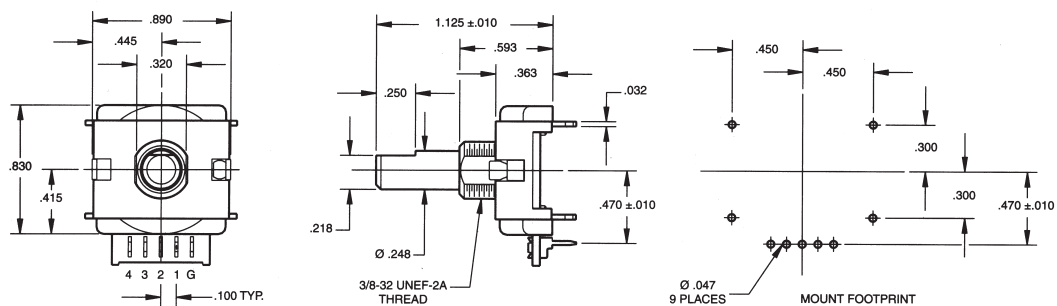
- Menu scroll and select via pushbutton

### Timer Setting

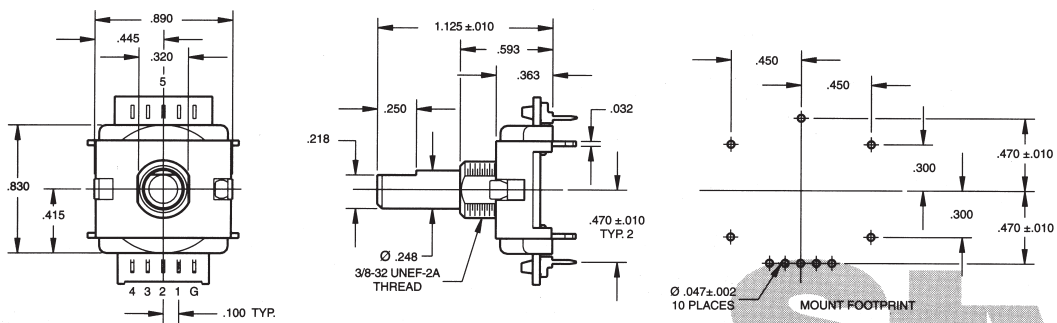
- Irrigation controls



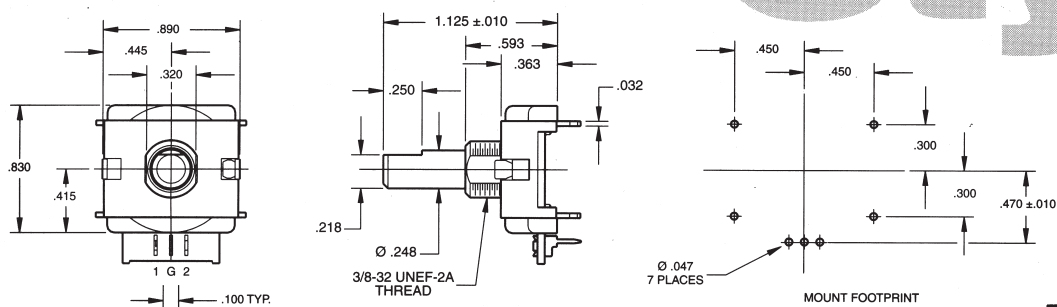
**700 Series**



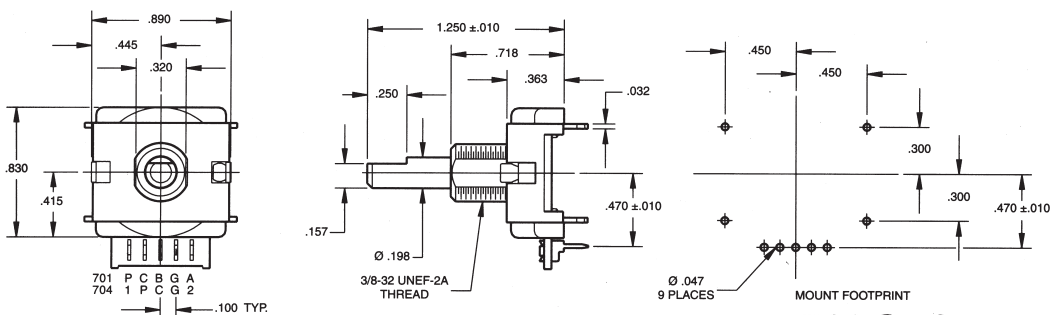
**12 or 16 position 702 Series**



**24 or 32 position 702 Series**

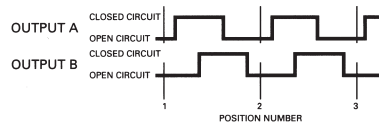


**703 Series**

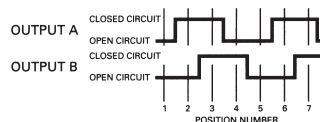


**701 Series or 704 Series**

## QUADRATURE CODE FULL CYCLE PER DETENT (12, 16, 24 POSITION)



## QUADRATURE CODE 1/4 CYCLE PER DETENT (12, 16, 24, 32, OR 36 POSITION)



QUADRATURE CODE  
FULL CYCLE  
12, 16, 24 POSITION

SWITCH POSITIONS	OUTPUT	
	A	B
1		
2	•	
3	•	•
4	•	•
5		•
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		

QUADRATURE CODE  
1/4 CYCLE  
ALL POSITION

SWITCH POSITIONS	OUTPUT	
	A	B
1		
2	•	
3	•	•
4	•	•
5		•
6		
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		

GRAY CODE  
16 POSITION (\*)

SWITCH POSITIONS	OUTPUT			
	1	2	4	16
1				
2	•			
3	•	•		
4	•	•	•	
5	•	•	•	
6	•	•	•	
7	•	•	•	
8	•	•	•	
9	•	•	•	
10	•	•	•	
11	•	•	•	
12	•	•	•	
13	•	•	•	
14	•	•	•	
15	•	•	•	
16	•	•	•	

GRAY CODE  
32 POSITION (\*\*)

SWITCH POSITIONS	OUTPUT			
	1	2	4	16
17				
18	•			
19	•	•		
20	•	•	•	
21	•	•	•	
22	•	•	•	
23	•	•	•	
24	•	•	•	
25	•	•	•	
26	•	•	•	
27	•	•	•	
28	•	•	•	
29	•	•	•	
30	•	•	•	
31	•	•	•	
32	•	•	•	

• INDICATES LOGIC HIGH

\* - 12 position gray code is the same as a 16 position without positions 11 through 14.

\*\* - 24 position gray code is the same as a 32 position without positions 21 through 28.

## Specifications

Current Carrying Capacity	Resistive 0.5 watt	Detent Angles	36°, 30°, 22.5°, 15°, 11.25°, 10°; others upon request
Switching Load	1mA at 115 VAC, 15mA at 14 VDC	Molded Construction	Valox plastic rated 94 V-0 or better
Shock Humidity	MIL-STD 202E	Board Material	FR-4 with 1 oz. copper clad, plated
Dielectric Strength	750 volts	Push-Button Characteristics	Stroke: .065 ± .015
Contact Resistance	1 ohm typical	Push-Button Force: 15 oz. max.	
Contact Bounce	5 ms @ 15 RPM	Push-Button Resistance: 80 ohms max.	
Contacts	Phosphor-bronze gold interface with program board	Torque: 12, 24 position = 1.6 ± 3 in.-oz.	
Codes	Resistive, Quadrature, A/B, Binary, Gray	Torque: 16 position = 2 ± 3 in.-oz.	
Code Program	Non-shorting typical	Torque: 32, 36 position = 1.2 ± 3 in.-oz.	
Operating Forces	16 position = 7.5 in.-oz. ± 20%, 36 position = 4.5 in.-oz. ± 20%	Contact Resistance: 5 ohms max.	
Life	50,000 cycles (50% loss in torque over life. High temperature operation will reduce detent life.)	Contact Bounces: 5 ms max. @ 15 RPM	
Operating Temperature	-40°C to +85°C	Push-Button Life: minimum 250,000 operations	
Shaft Material	Molded plastic		
Anti-Rotation Device	Flatted mounting bushing .375" dia. x .320", double "D"		

## Ordering Information

### Code

700: Quadrature  
701: Quadrature with Push-button  
702: Absolute  
703: Resistive  
704: Resistive with Push-button

### Electrical Cycles or Resistive Value

700: 06, 08, 09, 12, 16, 24, 32 or 36  
701: 06, 08, 09, 12, 16, 24, 32 or 36  
702: 01  
703: 05K or 10K  
704: 05K or 10K

### Number of Detent Positions

700: 12, 16, 24, 32, 36 or 00: No Detents  
701: 12, 16, 24, 32, 36 or 00: No Detents  
702: 12, 16, 24, or 32  
703: 00: No Detents  
704: 00: No Detents

701

08

32

### 700 Series Standard Offerings

700-09-36	701-08-32	702-01-12	703-05-00	704-05-00
700-16-16	701-04-16	702-01-16	703-10-00	704-10-00
700-24-24	701-06-24	702-01-24		