



**THE SERIES 1800 ENCLOSED SWITCH IS DESIGNED FOR CRITICAL ORDNANCE APPLICATIONS AND DEMANDING USAGE IN AIRCRAFT, MEDICAL AND INDUSTRIAL CONTROLS AND INSTRUMENTATION, AS WELL AS ELECTRONIC EQUIPMENT.**

## The Innovative Switch Company

The definitive one half-inch rotary selector switch, the Cole 1800 Coded Series is engineered to meet or exceed applicable MIL-DTL-3786, MIL-PRF-22710, Style SR20 requirements.

The switch is available with 1 pole, 2 to 10 positions, and 2 pole, 2 to 5 positions. Available in standard solder lug or printed circuit terminations, the Cole 1800 Coded Series can be furnished with an internal seal.

This unique Cole design option renders the switch impervious to water, contaminants and most solvents.

Quality construction, including materials that meet the strictest standards, allows these subminiature switches to combine high current switching capacity with constant low contact resistance.

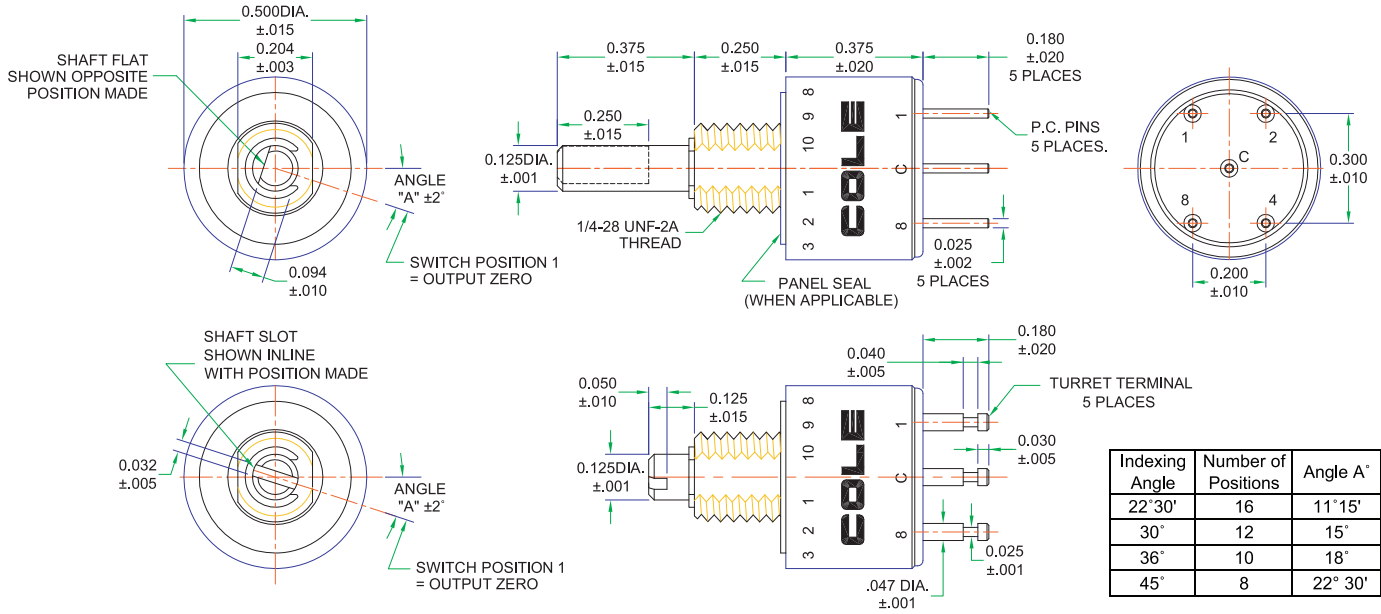
Long life and high reliability are ensured by exceedingly stringent inspection and testing procedures.



## **1800 CODED SERIES** Coded Half-Inch Enclosed Rotary Switches

# 1800 CODED SERIES

## Coded Half-Inch Enclosed Rotary Switches



22°30' - 16 Positions HEXADECIMAL																
Common "C" Connected to Terminals	SWITCH POSITION															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1		•		•		•		•		•		•		•		•
2			•		•		•		•		•		•		•	
4				•		•		•		•		•		•		•
8					•		•		•		•		•		•	

30° - 12 Positions BINARY CODED DECIMAL (12 BIT)												
Common "C" Connected to Terminals	SWITCH POSITION											
	0	1	2	3	4	5	6	7	8	9	10	11
1		•		•		•		•		•		•
2			•		•		•		•		•	
4				•		•		•		•		•
8					•		•		•		•	

36° - 10 Positions BINARY CODED DECIMAL										
Common "C" Connected to Terminals	SWITCH POSITION									
	0	1	2	3	4	5	6	7	8	9
1		•		•		•		•		•
2			•		•		•		•	
4				•		•		•		•
8					•		•		•	

45° - 8 Positions OCTAL CODED DECIMAL								
Common "C" Connected to Terminals	SWITCH POSITION							
	0	1	2	3	4	5	6	7
1		•		•		•		•
2			•		•		•	
4				•		•		•
8					•		•	

### ORDERING INFORMATION

For	Order Number
Hexadecimal	1822-HEX-16
Binary Coded decimal (12 bit)	1830-BCD-12
Binary Coded decimal	1836-BCD-10
Octal	1845-OCT-8

### OPTION

The following options can be added to the standard switch. When ordering, simply add the letters after the basic part number.

- A = Adjustable stops.
- F = Fixed stop between the last and first position of switches when maximum switch positions are selected.
- P = Panel and shaft seals.
- SD = Screw driver slot.

Other Coded are available upon request contact factory

While ordering information is provided, we encourage you to contact Cole for assistance creating a part number.



**COLE**  
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ISO9001 CERTIFIED

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# 1800 CODED SERIES

## Coded Half-Inch Enclosed Rotary Switches

### 22.5" BINARY CODED DECIMAL

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

### 22.5" GRAY CODE

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

### 30" BINARY CODED DECIMAL

POSITION	1	2	3	4	5	6	7	8	9	10	11	12
1		•		•		•		•		•		•
2			•	•			•	•			•	•
4					•	•	•	•				
8									•	•	•	•

### 30" QUAD GRAY CODE

POSITION	1	2	3	4	5	6	7	8	9	10	11	12
1		•	•			•	•			•	•	
2			•	•			•	•			•	•
4												
8												

### 36" BINARY CODED DECIMAL

POSITION	1	2	3	4	5	6	7	8	9	10
1		•		•		•		•		•
2			•	•			•	•		
4					•	•	•	•		
8									•	•

### 36" REFLECTED GRAY CODE

POSITION	1	2	3	4	5	6	7	8	9	10
1		•	•			•	•			•
2			•	•	•	•				
4					•	•	•	•	•	•
8									•	•

### 45" BINARY CODED DECIMAL

POSITION	1	2	3	4	5	6	7	8
1		•		•		•		•
2			•	•			•	•
4					•	•	•	•
8								

### 45" REVERSE OCTAL

POSITION	1	2	3	4	5	6	7	8
1	•		•		•		•	
2	•	•			•	•		
4	•	•	•	•				
8								

### ORDERING INFORMATION

For  
Hexadecimal  
Binary Coded decimal (12 bit)  
Binary Coded decimal  
Octal

Order Number  
1822-HEX-16  
1830-BCD-12  
1836-BCD-10  
1845-OCT-8

### OPTION

The following options can be added to the standard switch.  
When ordering, simply add the letters after the basic part number.  
A = Adjustable stops.  
F = Fixed stop between the last and first position of switches.  
P = Panel and shaft seals.  
SD = Screw driver slot.  
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# 1800 CODED SERIES

## Coded Half-Inch Enclosed Rotary Switches

### 1800 Coded Series Technical Data

Specification	Unit	Value	Note:
Military Specifications		ENCODER MIL-DTL-3786 MECHANICAL	
Continuous (Non-Switching) Current Carrying Capacity	Amps	1	at 28 VDC, with max. contact temperature rise of 20°C
Switching Current Capacity at 28 VDC resistive	Amps	0.125	at Atmospheric pressure with 85°C and at reduced Barometric pressure with 25°C
Switching Current Capacity at 115 VAC resistive	Amps	0.125	
Switching Current Capacity at 28 VDC inductive (2.8 H.)	Amps	0.030	
Switching Current Capacity at 28 VDC Lamp Load	Amps	0.075	
Low Level max. capacity	mA	10	at 30 millivolts DC max.
Dielectric Strength, min.	VRMS	600	
Contact resistance, max. (initial)	milliohms (mΩ)	50	
Contact resistance, max. (after life)	milliohms (mΩ)	100	
Insulation resistance, min. (initial)	megaohms (MΩ)	50000	at 100 VDC
Insulation resistance, min. (after life)	megaohms (MΩ)	25000	at 100 VDC
Switching Life	cycles	25000	at rated loads, sea-level, 25°C, 68% relative humidity
Mechanical Life	cycles	25000	
Rotational Torque, min.	inch ounces	3	
Rotational Torque, max.	inch ounces	18	
Stop Strength, max.	inch pounds	7	
Mounting Ferrule Strength	inch pounds	15	
Withstanding Shaft Push Force	pounds	100	
Weight	grams	11	
Molded Parts		thermoplastic	
Contact Surfaces		Gold plated	
Altitude	feet	70000	typical pressure at 70,000 feet: 0.64 psi
Temperature, min.	degrees Celsius	-65	
Temperature, max.	degrees Celsius	85	
Vibration Tested		Meets	Per MIL-DTL-3786, MIL-STD-202, Method 204, test condition "B", vibration grade 3
Impact Shock, Medium		Meets	MIL-STD 202; Method 213
Impact Shock, High		Meets	at 100g, MIL-STD 202, Method 207
Moisture Resistant		Meets	MIL-STD 202; Method 106
Salt Spray Resistant		Meets	MIL-STD 202, Method 101, Condition "B"
Explosion Proof		Meets	MIL-STD 202, Method 109
Immersion		Meets	3 feet water, MIL-STD-202, method 104, test condition "C"
EMI/RFI		Meets	MIL-DTL-3786, 2 ohms Shaft to ground max.