SERIES 56

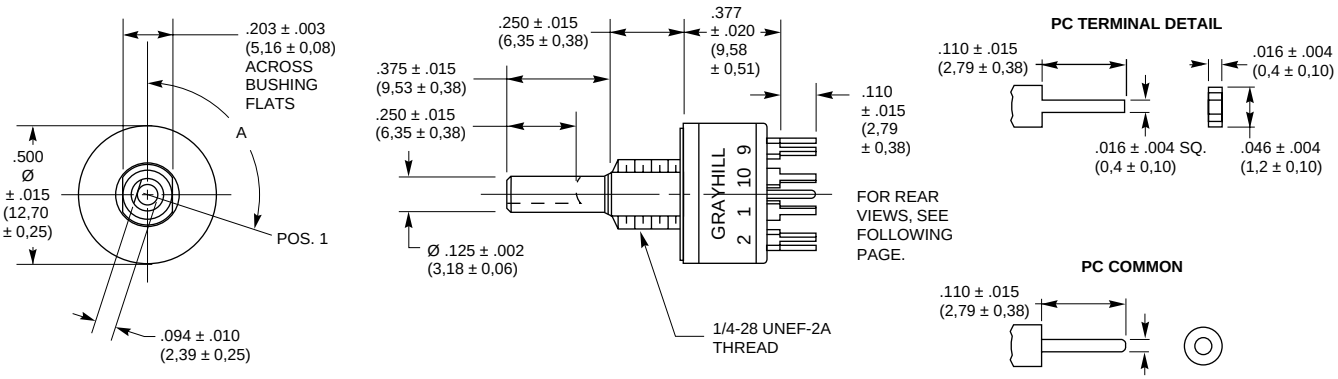
0.5" Diameter, 200mA, .355" Behind Panel

FEATURES

- Requires Minimum Distance Behind the Panel
- Adjustable Stop Types Provide Prototypes Immediately
- Industrial Quality, Economically Priced

DIMENSIONS In inches (and millimeters)

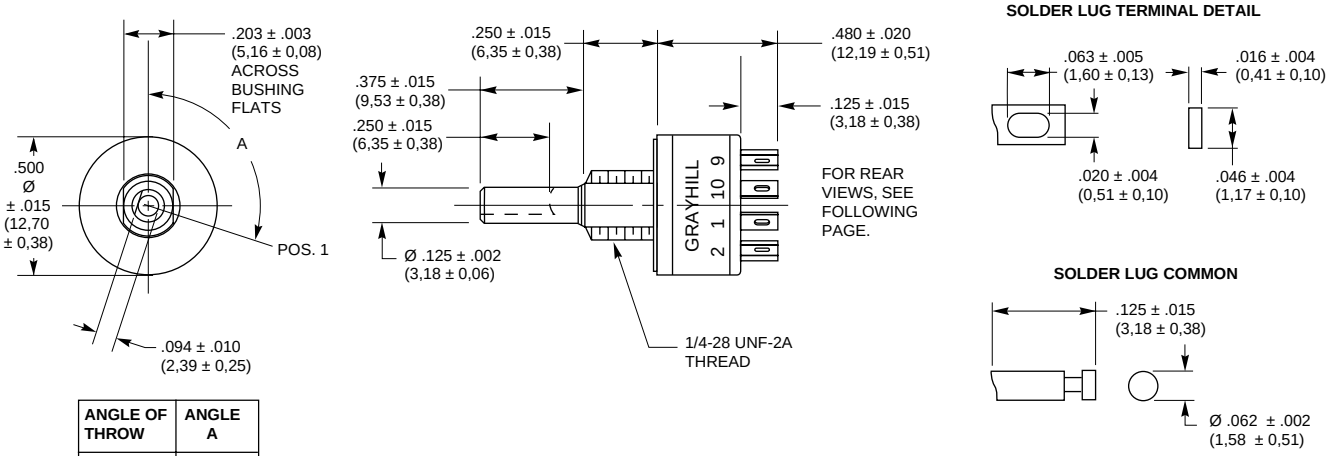
PC Mount Style



ANGLE OF THROW	ANGLE A
30°	105°
36°	108°

Grayhill part number and date code marked on label.
Customer part number marked on request.

Solder Lug Style

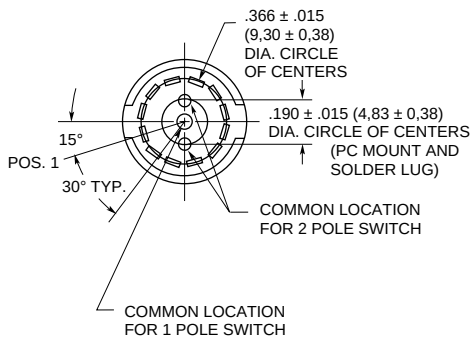


ANGLE OF THROW	ANGLE A
30°	105°
36°	108°

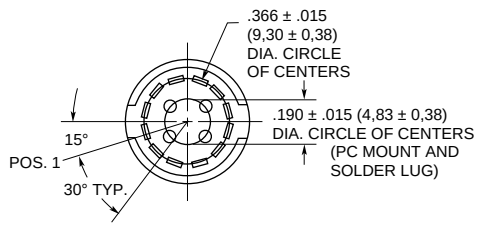
Grayhill part number and date code marked on label.
Customer part number marked on request.

CIRCUIT DIAGRAMS AND REAR VIEWS: PC Mountable AND Solder Lug Terminals

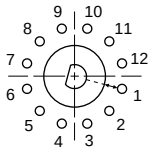
Rear View



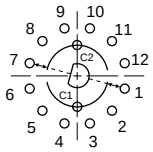
Circuit as Viewed From Shaft End



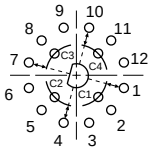
30° Angle of Throw



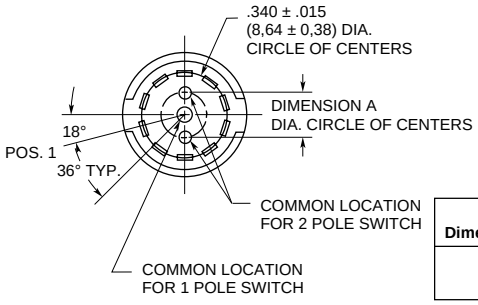
ONE POLE



TWO POLES

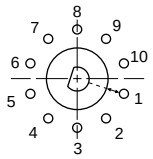


FOUR POLES

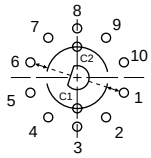


Dimension	PC Mount Terminals	Solder Lug Terminals
A	.184 ± .015 (4,67 ± 0,38)	.126 ± .015 (3,20 ± 0,38)

36° Angle of Throw



ONE POLE

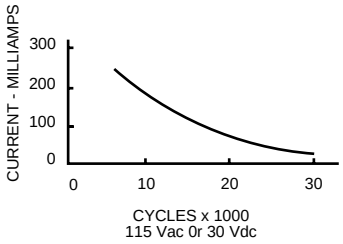


TWO POLES

SPECIFICATIONS

Electrical Ratings

Chart shown for non-shorting (break before make) contacts, resistive load.



One cycle is 360° rotation clockwise and 360° return. The data for the curve was measured at sea level, 25°C and 68% relative humidity with the life limiting criteria which follows.

Contact Resistance: 100 milliohms maximum, (15 milliohms initially).

Insulation Resistance: 10,000 Mohms minimum between mutually insulated parts (50,000 Mohms initially).

Voltage Breakdown: 600 Vac minimum between mutually insulated parts at standard atmospheric pressure.

Life Expectancy: As determined from the load-life curve for the current to be switched. Contact GRAYHILL for more information if any of the following is true: the life limiting criteria are more critical than those listed; longer operation is required; a larger make and break current is required; the operating environment includes elevated temperatures or reduced pressures.

Contact Carry Rating: Switch will carry 6 amperes continuously with a maximum contact temperature rise of 20°C.

Additional Characteristics

Contact Type and Forces: Shorting or non-shorting wiping contacts with over 25 grams of contact force.

Shaft Flat Orientation: Flat opposite contacting position of pole number one (see circuit diagrams).

Terminals: Switches have the full circle of terminals, regardless of number of active positions.

Stop Strength: 7.5 lb-in. minimum

Rotational Torque: 3.5 to 9 oz-in. (21-53 mN-m), depending on the number of poles.

Bushing Mounting: Required for switches with stops, and recommended for switches without stops.

Meets MIL-S-3786 for:
High and medium shock; Vibration (10 to 2,000 Hz); Thermal shock (-65° to 85 ° C); Salt spray; Explosion; Stop strength (7.5 in-lbs. minimum (.85 N-m); Terminal strength; Sealed styles withstand water pressure of 15 PSI minimum (103 KPa) without leakage.

Materials and Finishes

Housing: Zinc die cast, zinc-plated with chromate treatment.

Mounting Nut: Brass, zinc-plated with chromate treatment.

Lockwasher: Spring steel, zinc-plated with chromate treatment.

Panel Seal: Silicone rubber

Shaft and Stop Arm: Zinc die cast, zinc-plated with chromate treatment.

Retaining Ring: 302 Stainless steel, passivated

Shaft Seal: Silicone rubber

Stop Pins: 303 Stainless steel, passivated

Detent Rotor: Molded thermoplastic

Detent Spring: Tinned music wire

Detent Balls: Steel, nickel-plated

Contact Spring: Stainless steel, passivated

Rotor Contact: Brass, silver over nickel plate

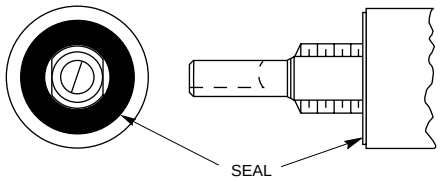
Common Ring: Brass, gold over silver over nickel plate

Terminals: Brass, gold over silver over nickel plate

Switch Base: Molded thermoset plastic

Mounting Hardware: One mounting nut .089" thick by .375" across flats and one internal tooth lockwasher are supplied with the switch.

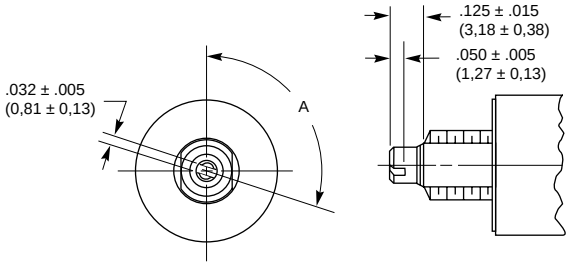
SHAFT AND PANEL SEAL: Style S



Panel is sealed by an O-ring at the base of bushing. Shaft is sealed by an O-ring inside the bushing. After the switch is mounted, seals do not alter the dimensions of the unsealed style.

Shaft and Panel Seal

SCREWDRIVER SLOTTED SHAFT: Option

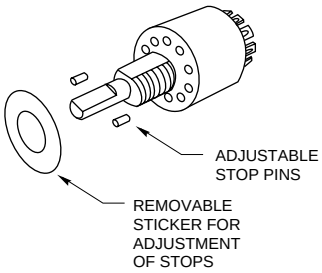


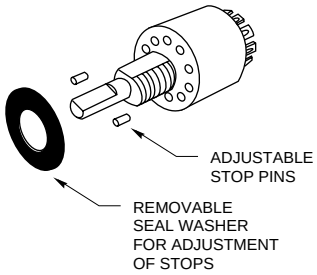
Series 56 rotary switches are available with a screwdriver slotted shaft with dimensions as shown. Available in the styles, angles of throw and pole/positions combinations shown in the choice and limitations chart.

Screwdriver Slotted Shaft

ADJUSTABLE STOP SWITCHES

Two stop pins and an adhesive backed sticker or seal washer are provided. Sticker is temporarily removed to locate stop pins as desired to limit the shaft rotation. All dimensions are identical to the fixed stop switch counterpart.





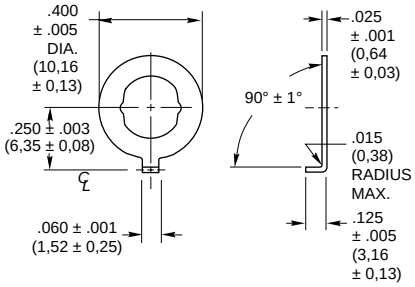
Adjustable Stop

SUGGESTED ADJUSTABLE STOP SUBSTITUTION GUIDE

Fixed Stop Style	Adjustable Stop Style Equivalent	Fixed Stop Style	Adjustable Stop Style Equivalent
56A	56D	56B	56BD
56S	56SD	56BS	56BSD
56P	56DP	56BP	56BDP
56SP	56SDP	56BSP	56BSDP

ACCESSORY: Non-Turn Washer

In Inches (and millimeters)



Part No. 50J1066

Cut round hole for the bushing and for the non-turn tab. Washer fits the double D bushing flats. Washer is sold only when accompanied by an order for a like number of switches. Washer is 302 stainless steel.

CHOICES AND LIMITATIONS: Series 56

A = Standard, 1/8" Shaft
B = Screwdriver Slot Shaft
D = Adjustable Stop (Adj. Stop)
P = PC Mount Terminals
S = Shaft/Panel Seal (S/P Seal)

Style Designation	FEATURES: Solder Lug Terminals	PC Mount Terminals	Shaft/Panel Seal	Adjustable Stops[1]	Screwdriver Slotted Shaft Equivalent	Angle Of Throw	Number Of Poles	Number Of Positions Per Pole	Shorting Or Non-Shorting Contacts
A	X				B	30°	1 2 4	02 thru 12 02 thru 06 02 or 03	N or S N or S N or S
S	X		X		BS				
P		X			BP				
SP		X	X		BSP				
D	X			X	BD	36°	1 2	02 thru 10 02 thru 05	N or S N or S
SD	X		X	X	BSD				
DP		X		X	BDP				
SDP		X	X	X	BSDP				

[1] Adjustable stop versions allow selection of 2 positions to the maximum number of positions per pole.

ACCESSORIES

Control knobs available, see page I-57.

STANDARD OPTIONS

Available from your local Grayhill Distributor
For prices and discounts, contact a local Sales Office, an authorized local Distributor, or Grayhill. Not available thru Distributors when Intermixing of shorting and non-shorting contacts. Contact Grayhill.

ORDERING INFORMATION

56A36–01–1–10N–F

Series
Style: Letters from Choices Chart
Angle of Throw: 30 or 36°

Stop Arrangement: The suffix C or F must be added to a one pole per deck switch with the maximum number of positions to indicate continuous rotation (C) or fixed stops (F) between position 1 and the last position. Leave blank if not applicable.
Type of Contacts: N = Non-shorting, S = Shorting
Positions Per Pole: 02 as a minimum to the maximum allowable for the angle of throw and number of poles per the Choices Chart. Use the letters AJ in this location if adjustable stop switch is to be ordered.
Poles per Deck: Limited by angle of throw. See chart
Number of Decks: 01 only

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