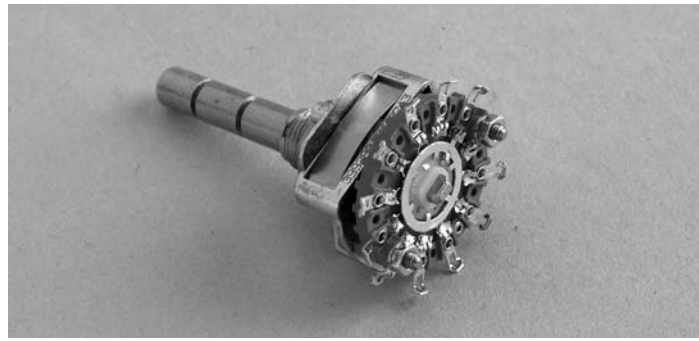
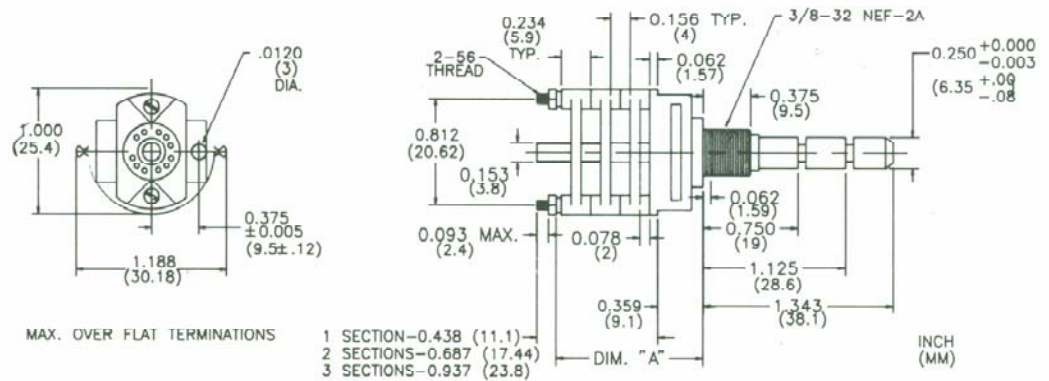


A Type

1 inch diameter switches with Electroswitch patented Unidex® detent for positive action, feel and torque control. Double-wiping, self-cleaning contacts in silver plated brass, or silver alloy. Unique protective coating guards against tarnish and corrosion, extends shelf life.



A Type Drawing



Specifications

Size

1" diameter nominal, with up to 3 sections
Max. depth, 1.281

Mounting

Clearance holes for a .375-32 bushing and a .120 diameter locating key on a .375" radius

Shaft

.250 diameter (+000 -0.003); or .125 diameter (+000 -0.003)

Indexing

Unidex® dual ball, 30

Terminal Strength

2.5 lb. pull

Stator Insulation

Diallyl phthalate per MIL-M-14
Glass silicone

Rotor Insulation

Thermoplastic

Section Thickness

Type AM - .078

Type AE - .062

Contacts

Silver-plated brass or silver alloy.

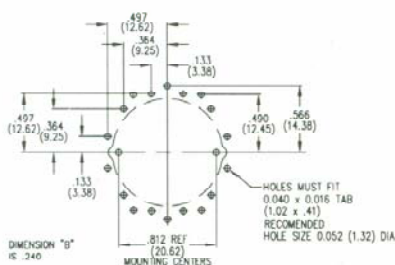
Contact Resistance

.003 to .015 ohms between adjacent clips

Electrical Rating

Break .5 amp at 28 volts DC, .25 amp at 110 volts AC, resistive. Carry 5 amps

PCB Layout



A Type Switch Assemblies

With Silver - Plated Brass Contacts and Solder Terminals

Total Poles	Active Positions	Poles/Section	Figure Number*	Number of Sections
1	2-12	1	1	1
2	2-6	2	2	1
2	2-12	1	1	2
3	2-5	3	7	1
3	2-12	1	1	3

A Type Section

Total Poles	Active Positions	Section Type	Figure Number*
1	2-12	Standard	1
2	2-6	Standard	2
3	2-5	Standard	7
1	2-12	Notched Blade	9
1	2-10	Conductive Shorting	10
1	-	Capacitor Decade	12
1	-	Resistor Decade	13
1	-	Binary Coded 0-11	11

With Printed Circuit Terminals

1	2-12	Standard PC	1
2	2-6	Standard PC	2
3	2-5	Standard PC	7

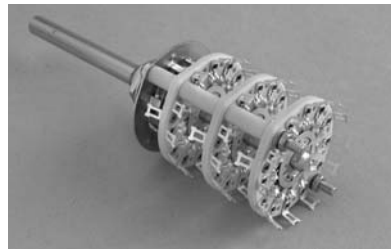
TYPE A 'PCB' Sections with Silver Alloy

Printed Circuit Terminations, Glass Epoxy Insulation

1	2-12	APCB	21
2	2-6	APCB	20

F Type

1.312 inch diameter switch with dual ball-type indexing for a positive feel and uniform torque. Double-wiping, silver-plated brass contacts, or silver alloy. Unique protective coating guards against tarnish and corrosion, extends shelf life. Type F, phenolic insulation; Type FC, ceramic insulation.



Specifications

Size

Type F: 1.281 width x 1.312 height.
Type FC: 1.25 width

Mounting

Clearance holes for a .375-32 bushing and a .125" x .037" locating key on a .531" radius

Shaft

.250" diameter (+000 -.003)

Indexing

Hill and valley dual ball type, 30°

Terminal Strength

5 lb. pull

Rotor Insulation

Type F, phenolic PBE-P per LP-513 or thermoplastic; Type FC, ceramic

Stator Insulation

Type F: phenolic PBE-P per LP-513;
Type FC: ceramic

Section Thickness

Type F: .062"

Type FC: .120"

Contacts

Silver-plated brass, or silver alloy.

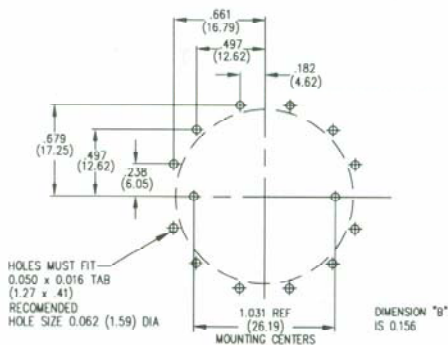
Contact Resistance

.003 to .015 ohms between adjacent clips

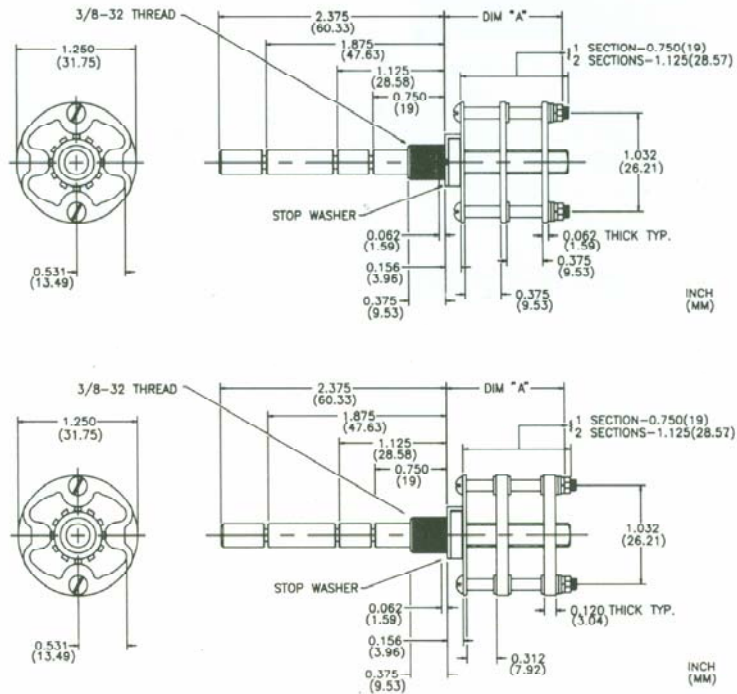
Electrical Rating

Break 1 amp at 28 volts DC, .5 amp at 110 volts AC, resistive. Carry 5 amps

PCB Layout



F Type Drawing



F Type Switch Assemblies

With Silver - Plated Brass Contacts and Solder Terminals

Total Poles	Active Positions	Poles/Section	Figure Number *	Number of Sections
1	2-11	1	6	1
2	2-5	2	4	1
2	2-11	1	6	2
3	2-3	3	5	1

With Silver - Plated Brass Contacts and Printed Circuit Terminals

1	2-11	1	6	1
2	2-5	2	4	1
3	2-3	3	5	1

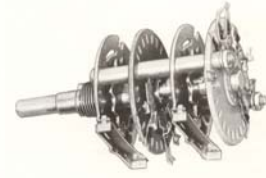
F Type Section

With Silver - Plated Brass Contacts and Solder Terminals

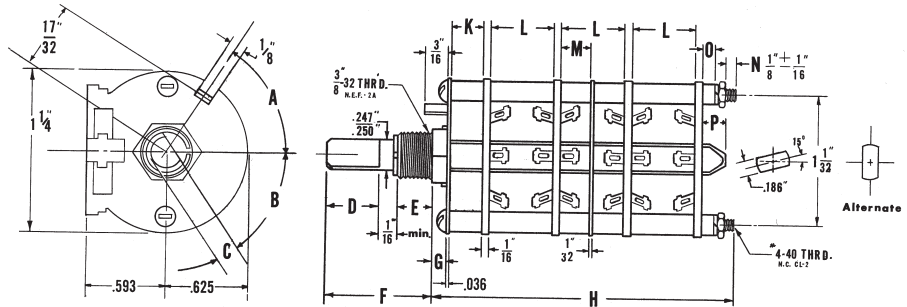
Total Poles	Active Positions	Section Type	Figure Number *
1	2-11	Standard	6
2	2-5	Standard	4
3	2-3	Standard	5
1	2-11	Notched Blade	8
1	2-11	Standard	6
2	2-5	Standard	4
3	2-3	Standard	5
1	2-11	Notched Blade	8

SK Type

SK type is a miniature switch designed for multi-circuit application where space is limited. The actual chassis mounting area is only 1-9/32" in diameter and the maximum distance across its 60° contacts is but 1-5/16" in diameter. It is constructed by means of the strut screw and spacer method making possible the use of any number of wafers per switch section. Contact locations are of the standard radial type and the stators provide for contacts on either the front or insulated side.



SK Type Drawing



- A. Angle of locating Key 0°, 45°, 315°.
- B. Flat angle Per Customer Specification. Tolerance ± 2°.
- C. Thickness of Flat Per Customer Specification Tolerance ± .002°.
- D. Flat Length - Any, as Required. Tolerance ± 1/64".
- E. Bushing Thread Length - Any, as Required. Standard 1/4" or 3/8".
- F. Shaft Length From Mounting Surface. Any, As Required. Tolerance ± 1/32".
- G. Bushing Shoulder - Any, as Required. Standard 1/8". Tolerance ± .005".
- H. Maximum Overall Length Behind Mounting Surface. Per Customer Specification. Indicate if Important.
- I. Detent Spacer - Minimum 1/4" if No Contacts Are Used On Front Side of Section. Minimum 3/8" With Contacts On Front Side of Section. Tolerance ± 1/64".
- J. Spacers - Minimum 7/16" with Bent Contacts Opposed. Minimum 3/16" with No Contacts Opposed. Minimum 1/4" with Flat Contacts Opposed.
- K. Detent Spacer - Minimum 1/4" if No Contacts Are Used On Front Side of Section. Minimum 3/8" With Contacts On Front Side of Section. Tolerance ± 1/64".
- L. Spacers - Minimum 7/16" with Bent Contacts Opposed. Minimum 3/16" with No Contacts Opposed. Minimum 1/4" with Flat Contacts Opposed.
- M. Spacer Between Electro-Static Shield and Section Minimum 1/8". Tolerance ± 1/64". Shields May Be Located Where Desired.
- N. Strut Screw Extension 1/8" ± 1/16" unless otherwise specified.
- O. Spacer Required on Rear of Section. Minimum 3/32". Standard 1/8".
- P. Shaft Extension - Any, as Required. Normally 1/8".

Specifications

Size

1.281" diameter nominal

Mounting

.250 diameter (+000 -.003)

Shaft

.250 diameter (+000 -.003)

Stator Insulation

Glass epoxy or Phenolic

Rotor Insulation

Glass epoxy or Phenolic

Section Thickness

.062

Contacts

Silver-plated brass or silver alloy.

Contact Resistance

.002 ohms between adjacent clips

Electrical Rating

.230A @ 115 VAC

1.5A @ 28 VDC

Contact Staking

Solder-lug clips are secured to the stator using Electroswitch's patented "T" slugs

Terminal Type Construction

"T" slug or Wedgelock construction

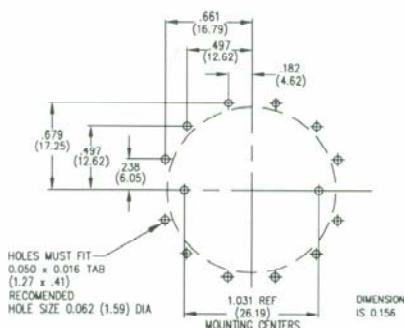
construction

SK Type Switch Assemblies

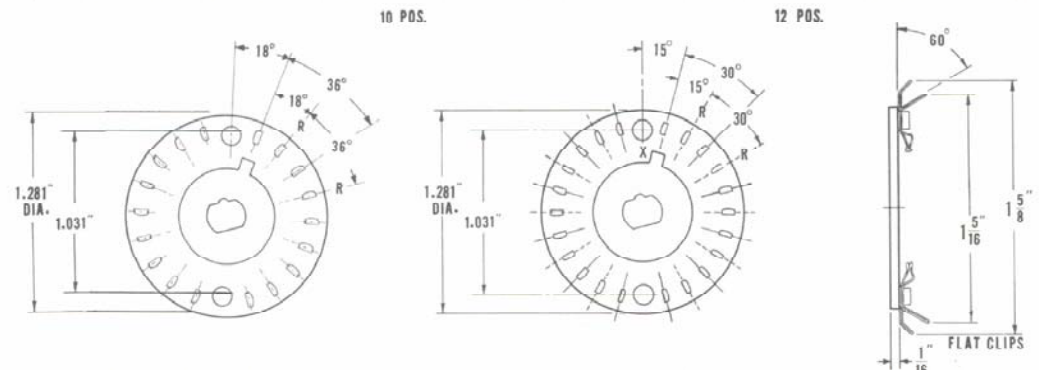
MAXIMUM SWITCHING PER SECTION

Poles	30° Index 12 Position	36° Index 10 Position	45° Index 8 Position	60° Index 6 Position	90° Index 4 Position
1	2 to 12 Pos.	2 to 10 Pos.	2 to 8 Pos.	2 to 6 Pos.	2 to 4 Pos.
2	2 to 9 Pos.	2 to 7 Pos.	2 to 7 Pos.	2 to 6 Pos.	2 to 4 Pos.
3	2 to 5 Pos.	2 to 4 Pos.	2 to 3 Pos.	2 to 3 Pos.	2 Pos.
4	2 to 4 Pos.	2 to 3 Pos.	2 to 3 Pos.	2 to 3 Pos.	2 Pos.
5	2 to 3 Pos.	2 Pos.	2 Pos.	2 Pos.	
6	2 Pos.			2 Pos.	

PCB Layout



SK Type Section

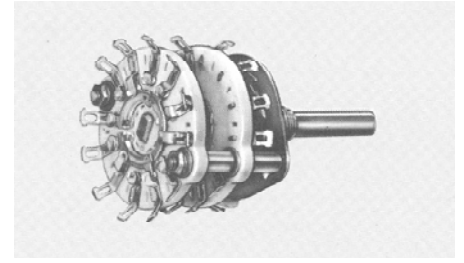
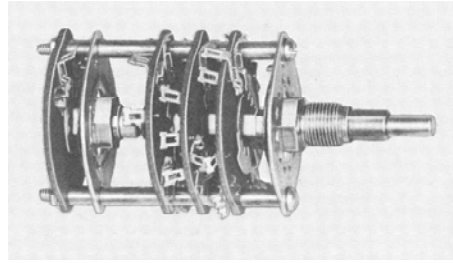


4M Type

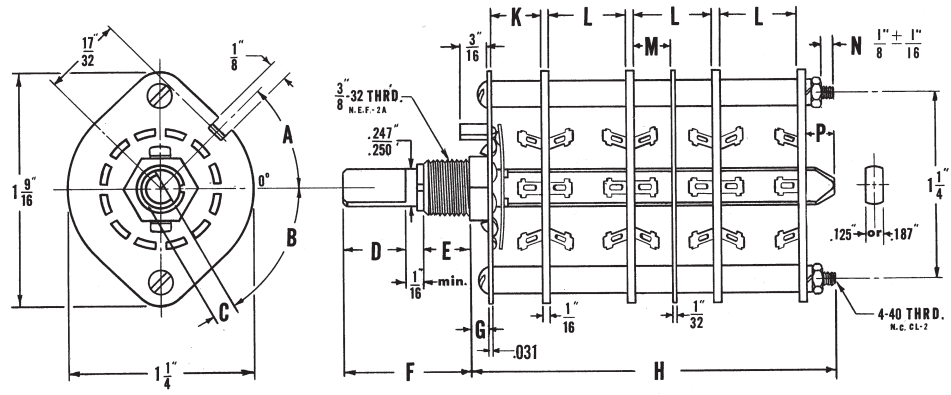
Type 4M switches are ideally suited for all multi-circuit switching applications. These switches may be supplied to commercial, military specifications.

Characteristics of Electroswitch's double wiping contact switches is the patented "Wedglock" design which is used to fasten the contacts to the stator, the most stable method of contact fastening available.

The 4M has many detent angles and circuits available. A starwheel, springs and single ball are used to provide positive detent action for the following variations: 22.5°, 25.7°, 30°, 36°, 45°, 60° and 90° detent angles.



4M Type Drawing



- A. Angle of Locating Key 0°, 45°, 135°, 180°, 225° & 315°. Tolerance ± 2°.
- B. Flat angle Per Customer Specification. Tolerance ± 2°.
- C. Thickness of Flat Per Customer Specification. Tolerance ± .002°.
- D. Flat Length - Any, as Required. Tolerance ± 1/64".
- E. Bushing Thread Length - Any, as Required. Standard 1/4" or 3/8".

- F. Shaft Length From Mounting Surface. Any, As Required. Tolerance ± 1/32".
- G. Bushing Shoulder - Any, as Required. Standard 1/8". Tolerance ± .005".
- H. Maximum Overall Length Behind Mounting Surface. Per Customer Specification. Indicate if Important.

- K. Detent Spacer - Minimum 1/4" If No Contacts Are Used On Front Side of Section. Minimum 3/32" With Contacts On Front Side of Section. Tolerance ± 1/64".
- L. Spacers - Minimum 7/16" with Bent Contacts Opposed. Minimum 3/16" with No Contacts Opposed. Minimum 1/4" with Flat Contacts Opposed.

- M. Spacer Between Electro-Static Shield and Section Minimum 1/8". Tolerance ± 1/64". Shields May Be Located Where Desired.
- N. Strut Screw Extension 1/8" ± 1/16" unless otherwise specified.
- P. Shaft Extension - Any, as Required. Standard 1/8".

Specifications

Size

1.560" diameter nominal

Mounting

Shaft

.250 diameter (+000 -.003)

Stator Insulation

Phenolic or Ceramic treated with Dow Corning 200 for moisture resistance.

Rotor Insulation

Phenolic or Ceramic

Section Thickness

.062 Phenolic - .203 ceramic

Contacts

Silver-plated brass or silver alloy.

Contact Resistance

.002 ohms between adjacent clips

Electrical Rating

.230A @ 115 VAC

1.5A @ 28 VDC

Contact Staking

Solder-lug clips are secured to the stator using Electroswitch's patented "T" slugs

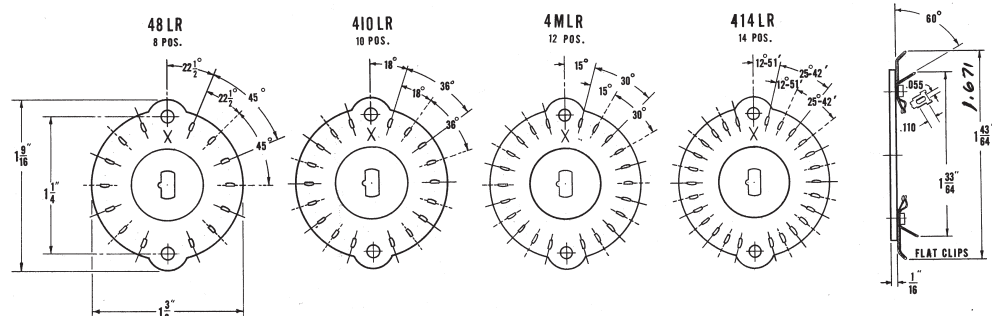
Terminal Type Construction

"T" slug or Wedglock construction

4M Type Switch Assemblies

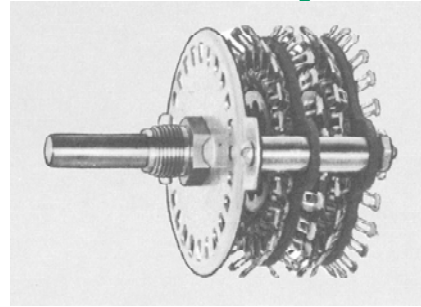
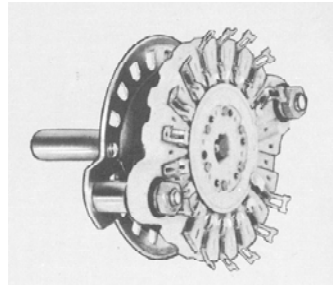
MAXIMUM SWITCHING PER SECTION					
Type	48 LR	410 LR	4 MLR	4 MLR	414 LR
Poles	45° Index (8 pos.)	36° Index (10 pos.)	30° Index (12 pos.)	60° Index (6 pos.)	25.7° Index 14 pos.
1	2 to 8 Pos.	2 to 10 Pos.	2 to 12 Pos.	2 to 6 Pos.	2 to 14 Pos.
2	2 to 4 Pos.	2 to 5 Pos.	2 to 6 Pos.	2 to 6 Pos.	2 to 7 Pos.
3	2 to 3 Pos.	2 to 4 Pos.	2 to 5 Pos.	2 to 3 Pos.	2 to 6 Pos.
4	2 Pos.	2 to 3 Pos.	2 to 4 Pos.	2 to 3 Pos.	2 to 5 Pos.
5	-	2 Pos.	2 to 3 Pos.	2 Pos.	2 to 3 Pos.
6	-	-	2 Pos.	2 Pos.	2 Pos.
10	-	-	on-off, off-on	-	-

4M Type Section

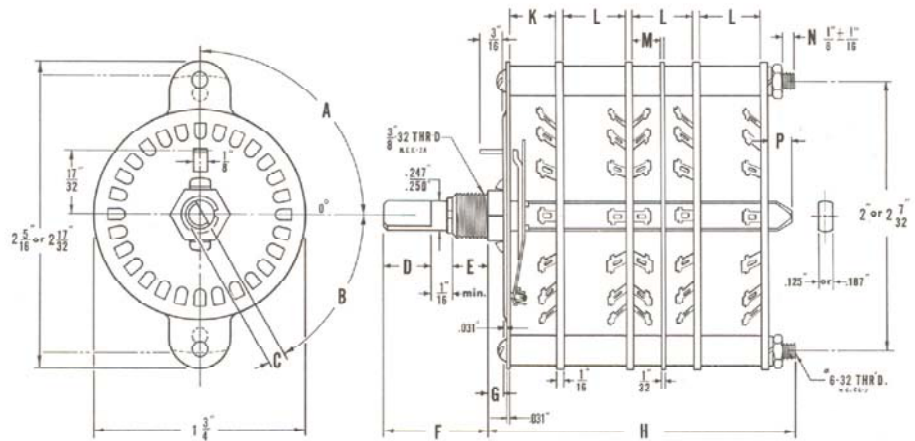


7M Type

7M type switches are ideally suited for instrument and special purpose uses or for heavy duty multi-circuit applications. The contact arrangement is similar to standard rotary switching in radial form. Several of the 7M types are available with either 2" or 2 7/32" strut centers (see illustrations below for those available in both sizes). Switches having 2 7/32" strut centers provide greater space at contact locations for component wiring. Those having 2" strut centers require 90° bent clip at contact locations in line with, and adjacent to, the strut centers.



7M Type Drawing



- A- Angle of locating Key 0°, 45°, 90°, 135°, 180°, 225°, 270°, 315°.
- B. Flat angle Per Customer Specification. Tolerance ±2°.
- C. Thickness of Flat Per Customer Specification. Tolerance ±.002".
- D. Flat length - Any, as Required. Tolerance ±1/64".
- E. Bushing Thread Length - Any, as Required. Standard 1/4" or 3/8".
- F. Shaft Length From Mounting Surface. Any, As Required. Tolerance ±1/32".
- G. Bushing Shoulder - Any, as Required. Standard 1/8". Tolerance ±.005".
- H. Maximum Overall Length Behind Mounting Surface. Per Customer Specification. Indicate if Important.
- K. Detent Spacer - Minimum 9/32" If No Contacts Are Used
- L. Spacers - Minimum 7/16" with Bent Contacts Opposed. Minimum 3/16" with No Contacts Opposed. Minimum 1/4" with Flat Contacts Opposed.
- M. On Front Side of Section. Minimum 5/16" With Contacts On Front Side of Section. Tolerance ±1/64".
- N. Spacer Between Electro-Static Shield and Section Minimum 1/8". Tolerance ±1/64". Shields May Be Located Where Desired.
- P. Shaft Extension - Any as Required. Standard 1/8".

Specifications

Size

2" or 2 7/32" diameter nominal

Mounting

Shaft

.250 diameter (+000 -.003)

Stator Insulation

Glass epoxy or Phenolic

Rotor Insulation

Glass epoxy or Phenolic

Section Thickness

.062 Phenolic

Contacts

Silver-plated brass or silver alloy.

Contact Resistance

.003 ohms between adjacent clips

Electrical Rating

.230A @ 115 VAC

1.5A @ 28 VDC

Contact Staking

Solder-lug clips are secured to the stator using Electroswitch's patented "T" slugs

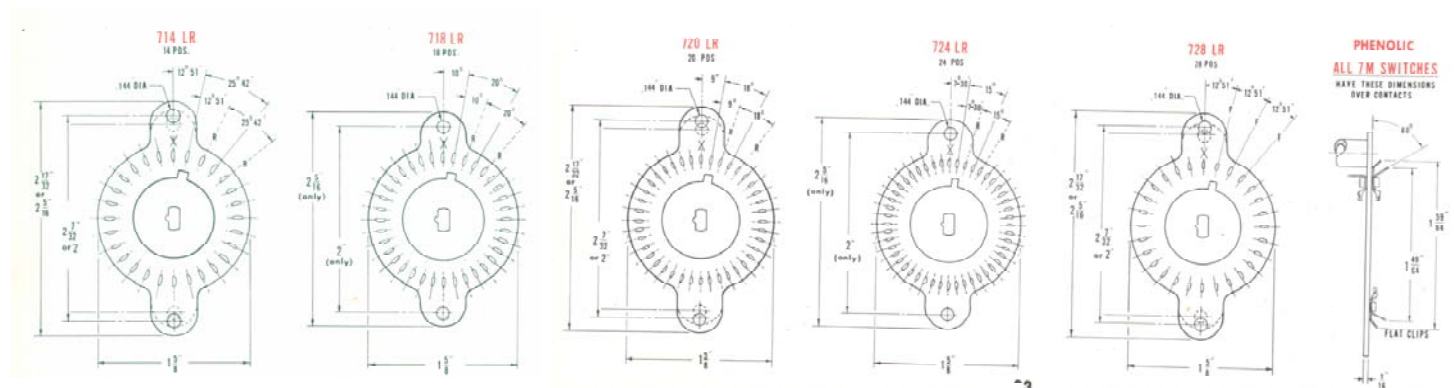
Terminal Type Construction

"T" slug or Wedglock construction

7M Type Switch Assemblies

MAXIMUM SWITCHING PER SECTION					
Type	714 LR	718 LR	720 LR	724 LR	728 LR
	25.7° Index 14 positions	20° Index 18 positions	18° Index 20 positions	15° Index 24 positions	12.85° Index 28 pos.
Poles	2 to 14 Pos.	2 to 18 Pos.	2 to 20 Pos.	2 to 24 Pos.	27 Active Plus 1 (off)
1	2 to 14 Pos.	2 to 18 Pos.	2 to 19 Pos.	2 to 23 Pos.	2 to 13 Pos.
2	2 to 13 Pos.	2 to 17 Pos.	2 to 9 Pos.	2 to 11 Pos.	2 to 8 Pos.
3	2 to 6 Pos.	2 to 8 Pos.	2 to 9 Pos.	2 to 11 Pos.	2 to 6 Pos.
4	2 to 6 Pos.	2 to 8 Pos.	2 to 5 Pos.	2 to 7 Pos.	2 to 4 Pos.
5	2 to 3 Pos.	2 to 5 Pos.	2 to 5 Pos.	2 to 7 Pos.	2 to 3 Pos.
6	2 to 3 Pos.	2 to 5 Pos.	2 to 5 Pos.	2 to 7 Pos.	2 to 3 Pos.

7M Type Section



LK/RK Type

Type LK provides a 1.875" diameter switch over 75° terminals for 18 position, 20° throw switching. Type RK provides 20 position, 18° throw switching in the same size.

Specifications

Size

1.875" diameter nominal

Mounting

Shaft

.250 diameter (+000 -.003)

Stator Insulation

Glass epoxy or Phenolic

Rotor Insulation

Glass epoxy or Phenolic

Section Thickness

.062

Contacts

Silver-plated brass or silver alloy.

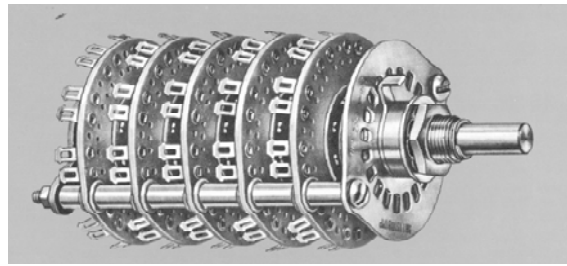
Contact Resistance

.003 TO .015 ohms between adjacent clips

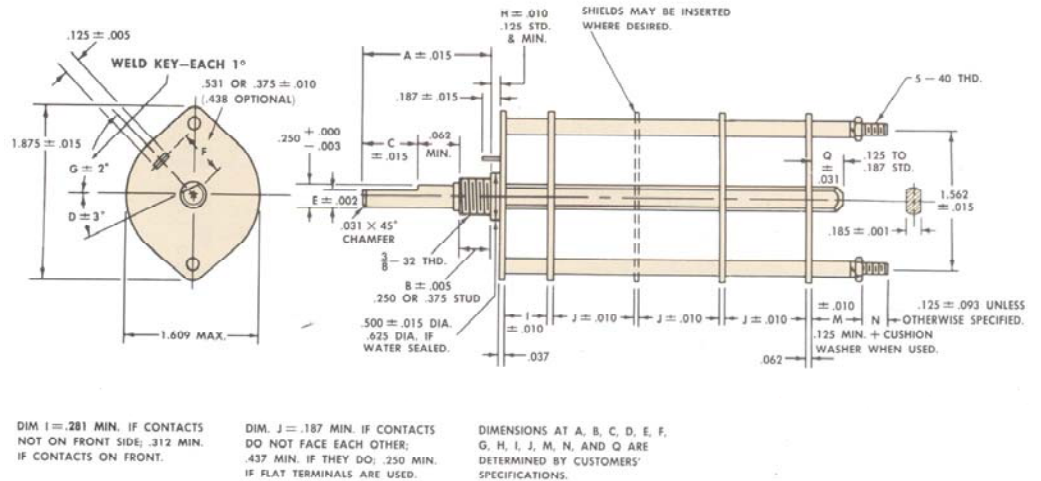
Electrical Rating

.5A @ 110 VAC

1.0A @ 28 VDC



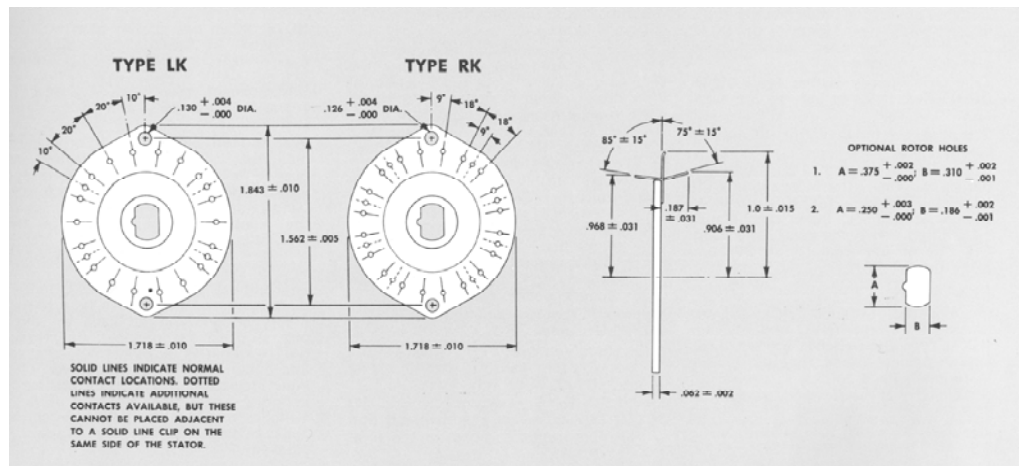
LK/RK Type Drawing



LK/RK Type Switch Assemblies

MAXIMUM SWITCHING PER SECTION				
Poles	18° Throw (RK) (positions)	20° Throw (LK) (positions)	36° Throw (RK) (positions)	40° Throw (LK) (positions)
1	2 to 20	2 to 18	2 to 10	2 to 10
2	2 to 10	2 to 9	2 to 9	2 to 9
3	2 to 5	2 to 5	2 to 5	2 to 5
4	2 to 4	2 to 4	2 to 4	2 to 4
5	2 to 3	2 to 3	2 to 3	2 to 3
6	2	2	2	2

LK/RK Type Section



SMLR Type

SMLR switches are the smallest and most compact of all lever type switches available. They are classed in the sub-miniature category and were designed for multi-circuit applications where space is an important factor. In spite of their smallness in size the design in this series ensures a rugged and accurate construction. They are available as either 2, 3 or 4 position switches and employ standard 8SM or 12SM stators in their construction. Electrical contacts are available in all but a few locations on the rear side of the wafer section making available a greater selection of electrical circuits. SMLR switches can also be assembled with multi-wafer sections per switch driven by a common shaft. They are adaptable for commercial or government applications and can be furnished to either specification.

Specifications

Size

1.469

Mounting

Lever

.187 or .125

Stator Insulation

Glass epoxy or Phenolic

Rotor Insulation

Glass epoxy or Phenolic

Section Thickness

.062

Contacts

Silver-plated brass or silver alloy

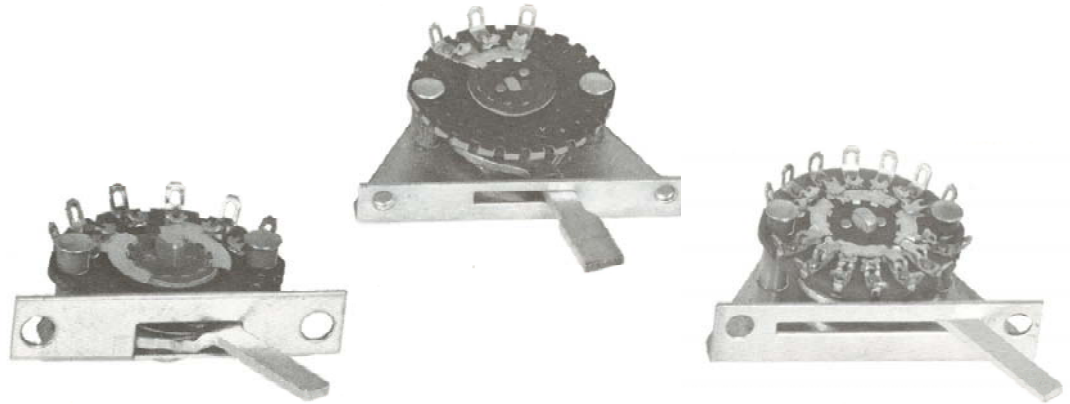
Contact Resistance

.002 ohms between adjacent clips

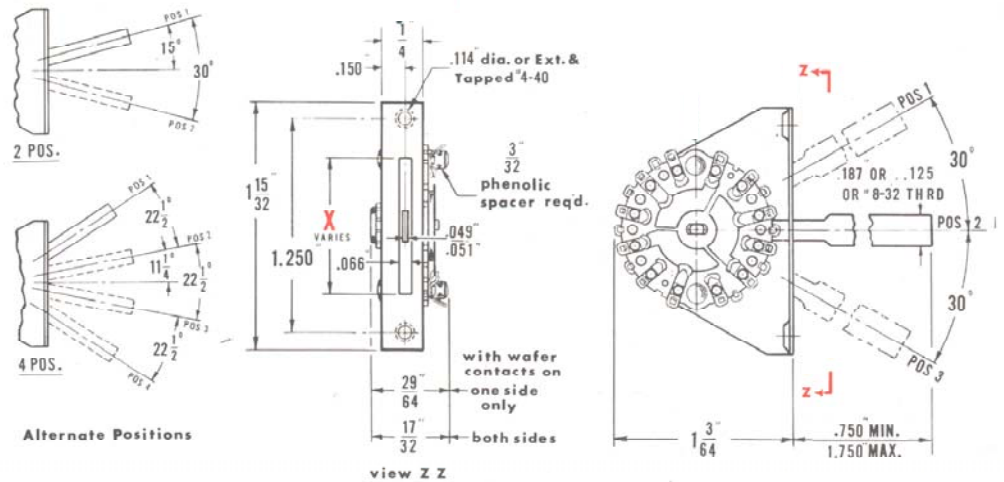
Electrical Rating

.17A @ 115 VAC

.550A @ 28 VDC



SMLR Type Drawing



SMLR Type Switch Assemblies

Positions	MAXIMUM SWITCHING PER SECTION		Type 1300LR	
	Type 328LR and Type 250LR 30° Index	22-1/2° Index	30° Index	22-1/2° Index
2	6 Poles	-	4 Poles	-
3	4 Poles	-	3 Poles	-
4	-	2 Poles	-	1 Pole

SMLR Type

