

Manual Switches

Sealed Rocker Switches

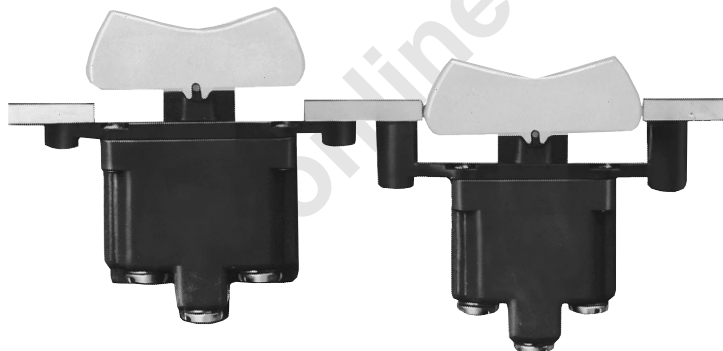
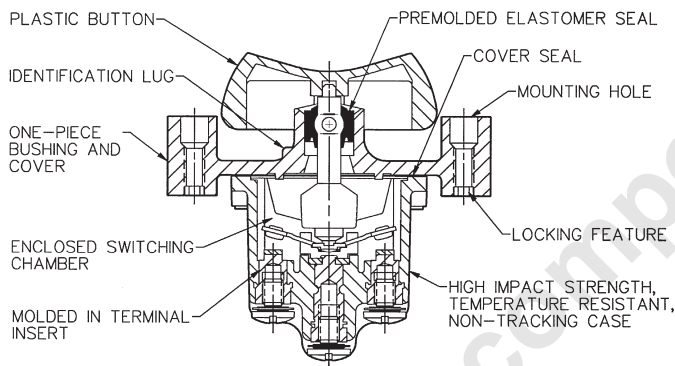


GENERAL INFORMATION

MICRO SWITCH NR Series Rocker Switches meet severe environment application needs for a rugged, cost-effective manual switch. They combine the advantages of toggle switch circuit versatility with pushbutton control.

Quality construction features include a premolded elastomer seal between the actuator and bushing and an elastomer cover/case gasket seal. Also, the terminal inserts are molded into the high impact strength thermoplastic case.

Complete sealing of the switching chamber enables compliance with UL 508, paragraph 13.3 hosedown test. These switches can be used where panels are subjected to periodic splash and washdowns, such as are common to food and beverage equipment. They will also withstand exposure to heavy accumulations of early morning dew that may condense on the control panel in cabs of vehicles left outdoors overnight.



Above Panel Mount

Flush Panel Mount

FEATURES

- Completely sealed switching chamber
- Colored removable rockers
- Choice of flush-panel or above-panel mounting
- Step-design case provides added space between terminals to help prevent shorting
- 1, 2 or 4-pole circuitry
- 2 or 3 positions, maintained and momentary action
- Spring-loaded actuating mechanism provides excellent tactile feedback
- High impact strength, non-tracking case enhances electrical stability
- Temperature range: -40 to 71°C (-40 to 160°F)
- UL recognized, File E12252, Vol. 1, Section 44
- CSA certified, File LR4442
- CE approved

HOW TO ORDER

1. To order flush panel mount switches **without rockers**, specify the listings in the NR order guides.
2. To specify above-panel mount switches, change the 1 (after "NR") in 1NR1, 11NR1, 2NR1, 12NR1, 4NR1, and 14NR1 listings in the NR order guides to 4. Example: 1NR1-2W converts to 1NR4-2, 11NR1-2 to 11NR4-2.

For 1NR91, 2NR91, and 14NR91 listings add 4 (after the "NR") to specify the above panel mount version. Example: 1NR91-2 becomes 1NR491-2.

3. To order rockers, specify listings in the 12PA rocker order guide.

ELECTRICAL RATINGS

- L191: 15 amps, 125, 250, 277 VAC; ½ Hp, 125 VAC; 1 Hp, 250, 277 VAC; 5 amps, 125 VAC "L"
- L192: 10 amps, 125, 250, 277 VAC; ¼ Hp, 125 VAC; ½ Hp, 250, 277 VAC; 3 amps, 125 VAC "L"

12PA ROCKER ORDER GUIDE

Note: These listings are used to specify rockers only.

Rocker Color	Catalog Listing
White	12PA12-W
Red	12PA12-R
Yellow	12PA12-Y
Black	12PA12-BK
Green	12PA12-G
Blue	12PA12-BL

ELECTRICAL RATINGS

In Amperes (See Application Note on next page)

Elect. Rating Code	28 Volts DC			115 VDC	250 VDC	115 Volts AC 60 & 400 Hz			230 VAC
	Ind.	Res.	Lamp	Res.	Res.	Ind.	Res.	Lamp	Res.
1	12	20	5	0.75	0.5	10	15	3	6
2	10	15	4	0.75	0.5	7	15	2	6
3	15	20	7	0.75	0.5	15	15	4	6
4	10	18	5	0.75	0.5	8	11	2	6
5	12	20	5	0.75	0.5	15	15	4	6
6	10	18	4	0.75	0.5	8	11	2	6

Toggle/Rockers

Manual Switches

Sealed Rocker Switches

NOTE: Catalog listings in the order guides below do not include rocker operators. See "How to Order."

Application Note: Honeywell MICRO SWITCH does *not* recommend the use of silver cadmium oxide switch contacts in non-arcing loads. Non-arcing loads are generally loads less than 12 volts and/or 0.5 amp. NR switches use silver cadmium oxide contacts. For other options, contact the MICRO SWITCH Application Center at 1-800-537-6945.

NR 2-POSITION FLUSH-PANEL MOUNT ROCKERS ORDER GUIDE

No. of Poles	Circuits Made With Rocker At:				Termination Style		
	Ident. Lug Position	Opposite Lug Position	UL Rating Code	Elect. Rating Code	Screw	Solder	Q-C
1	OFF	2-3	L191	1	1NR1-2	11NR1-2	1NR91-2
	1-2	2-3	L191	1	1NR1-3	11NR1-3	1NR91-3
	OFF*	2-3	L192	2	1NR1-4	11NR1-4	1NR91-4
	1-2*	OFF	L192	2	1NR1-6	11NR1-6	1NR91-6
	1-2*	2-3	L192	2	1NR1-8	11NR1-8	1NR91-8
2	OFF	2-3, 5-6	L191	3	2NR1-2	12NR1-2	2NR91-2
	1-2, 4-5	2-3, 5-6	L191	3	2NR1-3	12NR1-3	2NR91-3
	OFF*	2-3, 4-6	L192	4	2NR1-4	12NR1-4	2NR91-4
	1-2, 4-5*	OFF	L192	4	2NR1-6	12NR1-6	2NR91-6
	1-2, 4-5*	2-3, 4-6	L192	4	2NR1-8	12NR1-8	2NR91-8
4	OFF	2-3, 5-6, 8-9, 11-12	L191	5	4NR1-2	14NR1-2	4NR91-2
	1-2, 4-5, 7-8, 10-11	2-3, 5-6, 8-9, 11-12	L191	5	4NR1-3	14NR1-3	4NR91-3
	OFF*	2-3, 5-6, 8-9, 11-12	L192	6	4NR1-4	14NR1-4	4NR91-4
	1-2, 4-5, 7-8, 10-11*	OFF	L192	6	4NR1-6	14NR1-6	4NR91-6
	1-2, 4-5, 7-8, 10-11*	2-3, 5-6, 8-9, 11-12	L192	6	4NR1-8	14NR1-8	4NR91-8

NR 3-POSITION FLUSH-PANEL MOUNT ROCKERS ORDER GUIDE

No. of Poles	Circuits Made With Toggle At:					Termination Style		
	Ident. Lug Position	Center Position	Opposite Lug Position	UL Rating Code	Elect. Rating Code	Screw	Solder	Q-C
1	1-2	OFF	2-3	L191	1	1NR1-1	11NR1-1	1NR91-1
	1-2*	OFF	2-3	L192	2	1NR1-5	11NR1-5	1NR91-5
	1-2*	OFF	2-3*	L192	2	1NR1-7	11NR1-7	1NR91-7
	NONE**	OFF	2-3	L191	1	1NR1-21	11NR1-21	1NR91-21
	NONE**	1-2	2-3	L191	1	1NR1-31	11NR1-31	1NR91-31
	NONE**	1-2	2-3*	L192	2	1NR1-51	11NR1-51	1NR91-51
	1-2*	OFF	NONE**	L192	2	1NR1-61	11NR1-61	1NR91-61
2	1-2, 4-5	OFF	2-3, 5-6	L191	3	2NR1-1	12NR1-1	2NR91-1
	1-2, 4-5*	OFF	2-3, 5-6	L192	4	2NR1-5	12NR1-5	2NR91-5
	1-2, 4-5*	OFF	2-3, 5-6*	L192	4	2NR1-7	12NR1-7	2NR91-7
	NONE*	OFF	2-3, 5-6	L191	3	2NR1-21	12NR1-21	2NR91-21
	NONE**	1-2, 4-5	2-3, 5-6	L191	3	2NR1-31	12NR1-31	2NR91-31
	NONE**	1-2, 4-5	2-3, 5-6*	L192	4	2NR1-51	12NR1-51	2NR91-51
	1-2, 4-5*	OFF	NONE**	L192	4	2NR1-61	12NR1-61	2NR91-61
	1-2, 4-5	2-3, 4-5	2-3, 5-6	L191	3	2NR1-12	12NR1-12	2NR91-12
	1-2, 4-5*	1-2, 5-6	2-3, 5-6	L192	4	2NR1-50	12NR1-50	2NR91-50
	1-2, 4-5*	1-2, 5-6	2-3, 5-6*	L192	4	2NR1-70	12NR1-70	2NR91-70
4	1-2, 4-5, 7-8, 10-11	OFF	2-3, 5-6, 8-9, 11-12	L191	5	4NR1-1	14NR1-1	4NR91-1
	1-2, 4-5, 7-8, 10-11*	OFF	2-3, 5-6, 8-9, 11-12	L192	6	4NR1-5	14NR1-5	4NR91-5
	1-2, 4-5, 7-8, 10-11*	OFF	2-3, 5-6, 8-9, 11-12*	L192	6	4NR1-7	14NR1-7	4NR91-7
	NONE*	OFF	2-3, 5-6, 8-9, 11-12	L191	5	4NR1-21	14NR1-21	4NR91-21
	NONE**	1-2, 4-5, 7-8, 10-11	2-3, 5-6, 8-9, 11-12	L191	5	4NR1-31	14NR1-31	4NR91-31
	NONE**	1-2, 4-5, 7-8, 10-11	2-3, 5-6, 8-9, 11-12*	L192	6	4NR1-51	14NR1-51	4NR91-51
	1-2, 4-5, 7-8, 10-11*	OFF	NONE**	L192	6	4NR1-61	14NR1-61	4NR91-61
	1-2, 4-5, 7-8, 10-11	2-3, 4-5, 7-8, 11-12	2-3, 5-6, 8-9, 11-12	L191	5	4NR1-12	14NR1-12	4NR91-12
	1-2, 4-5, 7-8, 10-11*	2-3, 4-5, 7-8, 11-12	2-3, 5-6, 8-9, 11-12	L192	6	4NR1-50	14NR1-50	4NR91-50
	1-2, 4-5, 7-8, 10-11*	2-3, 4-5	2-3, 5-6, 8-9, 11-12*	L192	6	4NR1-70	14NR1-70	4NR91-70

* These positions are momentary. All others are maintained.

** Toggle lever is blocked from these products. Toggle becomes 2-position, with center being one extreme position.

TERMINAL CIRCUIT IDENTIFICATION

Terminal identification numbers referenced in the order guides are molded into the switch base.

These numbers indicate which circuits are made in each rocker position (e.g. "1-2" refers to circuit closure through terminals 1 and 2).

Manual Switches

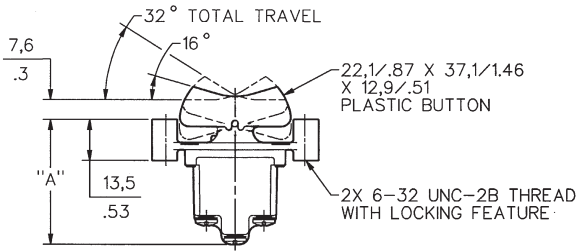
Seated Rocker Switches

MOUNTING DIMENSIONS

(For reference only)

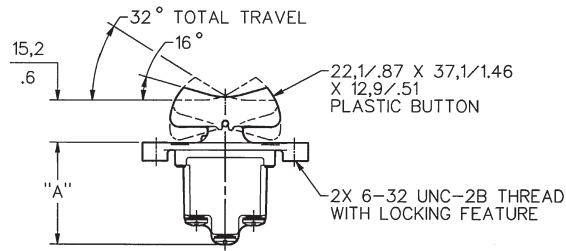
Key: $0,0 = \text{mm}$
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Flush Panel



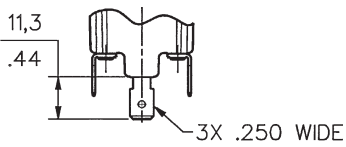
DIM "A"	
1-POLE	36,8/1.45
2 & 4-POLE	41,7/1.64

Above Panel

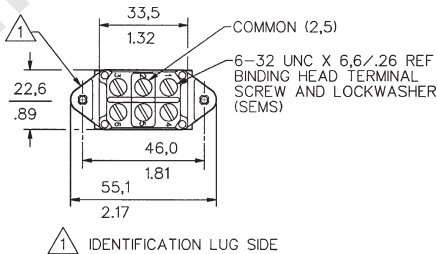
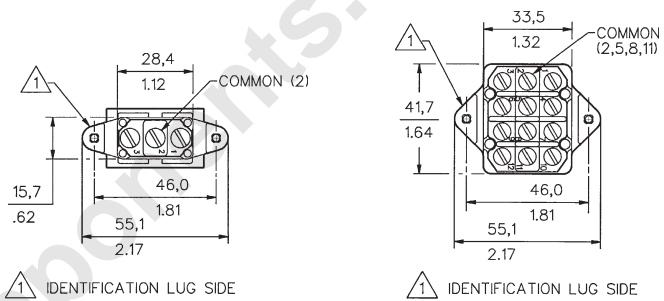


DIM "A"	
1-POLE	29,5/1.16
2 & 4-POLE	34,4/1.35

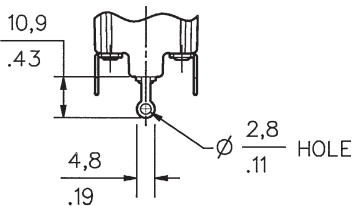
Quick Connect Terminals



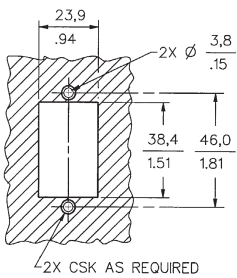
Terminal Circuit Identification



Solder Terminals



Panel Cutout

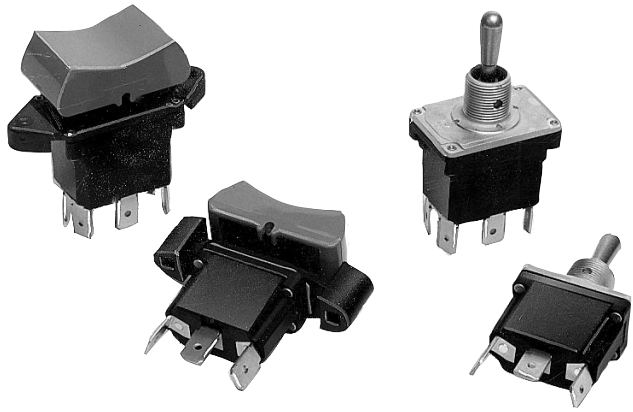


Flange mounting torque is 10-12 in./lbs.
Terminal screw mounting torque is 5 in./lbs. max.

Toggle/Rockers

Manual Switches

Flat Base Sealed Toggles and Rockers



FEATURES

- Sealed switching chamber
- 1 or 2-pole circuitry
- 2 or 3 position maintained and momentary action
- Flat base with quick-connect terminals – mating connectors are available
- Brightly colored removable rockers
- Spring-loaded actuating mechanism provides tactile feedback
- High impact strength, non-tracking case enhances electrical stability
- Temperature range: -40 to 71°C (-40 to 160°F)
- UL Recognized, File E12252, vol. 1, section 44
- CSA Certified, File LR4442
- CE approved

UL AND CSA ELECTRICAL RATINGS

Rating Code*	Electrical Rating
L192	10 amps, 125, 250, 277 VAC; ¼ Hp, 125 VAC; ½ Hp, 250, 277 VAC; 3 amps, 125 VAC “L”
L191	15 amps, 125, 250, 277 VAC; ½ Hp, 125 VAC; 1 Hp, 250, 277 VAC; 5 amps, 125 VAC “L”

GENERAL INFORMATION

MICRO SWITCH NT Series toggle switches and NR Series rocker switches are designed to meet severe environment application needs for rugged, cost-effective manual switches. These flat base style products are identical to the stepped base style in construction and features. The flat base allows for PC board or connector use for easy wiring/connection. The flat base NT toggle switches and NR rocker switches are provided with quick-connect (spade) termination. Mating connectors are available.

ELECTRICAL RATINGS

In Amperes

Rating Code	28 Volts DC			115 VDC	250 VDC	115 Volts AC 60 & 400 Hz			230 VAC
	Ind.	Res.	Lamp	Res.	Res.	Ind.	Res.	Lamp	Res.
1	12	20	5	0.75	0.5	10	15	3	6
2	10	15	4	0.75	0.5	7	15	2	6
3	15	20	7	0.75	0.5	15	15	4	6
4	10	18	5	0.75	0.5	8	11	2	6

TERMINAL CIRCUIT IDENTIFICATION

Terminal identifications are referenced in the order guides to indicate which circuits are made in each toggle position (e.g. “1-2” refers to circuit closure through terminals 1 and 2).

Application Note: Honeywell MICRO SWITCH does *not* recommend the use of silver cadmium oxide switch contacts in non-arcing loads. Non-arcing loads are generally loads less than 12 volts and/or 0.5 amp. NT/NR switches use silver cadmium oxide contacts. For other options, contact the MICRO SWITCH Application Center at 1-800-537-6945.

Manual Switches

Flat Base Sealed Toggles

NT 2-POSITION ORDER GUIDE

No. of Poles	Circuits Made At:		UL Rating Code	Electrical Rating Code	Catalog Listing Toggle Q-C
	Keyway Position	Opposite Keyway			
1	OFF	2-3	L191	1	31NT91-2
	1-2	2-3	L191	1	31NT91-3
	OFF**	2-3	L192	2	31NT91-4
	1-2**	OFF	L192	2	31NT91-6
	1-2**	2-3	L192	2	31NT91-8
2	OFF	2-3, 5-6	L191	3	32NT91-2
	1-2, 4-5	2-3, 5-6	L191	3	32NT91-3
	OFF**	2-3, 4-6	L192	4	32NT91-4
	1-2, 4-5**	OFF	L192	4	32NT91-6
	1-2, 4-5**	2-3, 4-6	L192	4	32NT91-8

NT 3-POSITION ORDER GUIDE














No. of Poles	Circuits Made At:			UL Rating Code	Electrical Rating Code	Catalog Listing Toggle Q-C
	Keyway Position	Center Position	Opposite Keyway			
1	1-2	OFF	2-3	L191	1	31NT91-1
	1-2**	OFF	2-3	L192	2	31NT91-5
	1-2**	OFF	2-3**	L192	2	31NT91-7
	NONE***	OFF	2-3	L191	1	31NT91-21
	NONE***	1-2	2-3	L191	1	31NT91-31
	NONE***	1-2	2-3**	L192	2	31NT91-51
	1-2**	OFF	NONE***	L192	2	31NT91-61
2	1-2, 4-5	OFF	2-3, 5-6	L191	3	32NT91-1
	1-2, 4-5**	OFF	2-3, 5-6	L192	4	32NT91-5
	1-2, 4-5**	OFF	2-3, 5-6**	L192	4	32NT91-7
	NONE***	OFF	2-3, 5-6	L191	3	32NT91-21
	NONE***	1-2, 4-5	2-3, 5-6	L191	3	32NT91-31
	NONE***	1-2, 4-5	2-3, 5-6**	L192	4	32NT91-51
	1-2, 4-5**	OFF	NONE***	L192	4	32NT91-61
	1-2, 4-5	2-3, 4-5	2-3, 5-6	L191	3	32NT91-12
	1-2, 4-5	1-2, 5-6	2-3, 5-6	L191	3	32NT91-10
	1-2, 4-5**	1-2, 5-6	2-3, 5-6	L192	4	32NT91-50
	1-2, 4-5**	1-2, 5-6	2-3, 5-6**	L192	4	32NT91-70

** These positions are momentary. All others are maintained.
*** Toggle lever is blocked from these positions. Toggle becomes 2-position, with center being one extreme position.

MATING CONNECTORS ORDER GUIDE

Description	Catalog Listing
2-pole connector	19PA168-NT
1-pole connector, same package size as 2-pole connector	19PA169-NT

LOCKING CONFIGURATIONS

 A Locked In Three Positions	 B Locked In Center and Extreme Position (Keyway Side)	 D Locked Out Of Center Position	 E Locked In Center Position	 F Locked In Extreme Position (Opposite Keyway)	 G Locked In Extreme Position (Keyway Side)	 H Locked Out Of Center And Extreme Position (Keyway Side)
 J Locked Out Of Center And Extreme Position (Opposite Keyway)	 K Locked In Center And Extreme Position (Opposite Keyway)	 L Locked Out Of Extreme Position (Keyway Side)	 M Locked Out Of And Into Extreme Position (Opposite Keyway)	 N Locked Out Of Extreme Position (Opposite Keyway)	 P Locked Out Of And Into Extreme Position (Keyway Side)	

Toggle/Rockers

Manual Switches

Flat Base Sealed Rockers

NR 2-POSITION ORDER GUIDE

No. of Poles	Circuits Made At:		UL Rating Code	Electrical Rating Code	Catalog Listing Rocker* Q-C
	Keyway Position	Opposite Keyway			
1	OFF	2-3	L191	1	31NT91-2
	1-2	2-3	L191	1	31NR91-3
	OFF**	2-3	L192	2	31NR91-4
	1-2**	OFF	L192	2	31NR91-6
	1-2**	2-3	L192	2	31NR91-8
2	OFF	2-3, 5-6	L191	3	32NR91-2
	1-2, 4-5	2-3, 5-6	L191	3	32NR91-3
	OFF**	2-3, 4-6	L192	4	32NR91-4
	1-2, 4-5**	OFF	L192	4	32NR91-6
	1-2, 4-5**	2-3, 4-6	L192	4	32NR91-8

ELECTRICAL RATING

L191: 15 amps, 125, 250, 277 VAC; ½ Hp, 125 VAC; 1 Hp, 250, 277 VAC; 3 amps, 125 VAC "L"

L192: 10 amps, 125, 250, 277 VAC; ¼ Hp, 125 VAC; ½ Hp, 250, 277 VAC; 3 amps, 125 VAC "L"

TERMINAL CIRCUIT IDENTIFICATION

Terminal identifications are referenced in the order guides to indicate which circuits are made in each toggle position (e.g., "1-2" refers to circuit closure through terminals 1 and 2).

NT 3-POSITION ORDER GUIDE

No. of Poles	Circuits Made At:			UL Rating Code	Electrical Rating Code	Catalog Listing Rocker* Q-C
	Keyway Position	Center Position	Opposite Keyway			
1	1-2	OFF	2-3	L191	1	31NR91-1
	1-2**	OFF	2-3	L192	2	31NR91-5
	1-2**	OFF	2-3**	L192	2	31NR91-7
	NONE***	OFF	2-3	L191	1	31NR91-21
	NONE***	1-2	2-3	L191	1	31NR91-31
	NONE***	1-2	2-3**	L192	2	31NR91-51
	1-2**	OFF	NONE***	L192	2	31NR91-61
2	1-2, 4-5	OFF	2-3, 5-6	L191	3	32NR91-1
	1-2, 4-5**	OFF	2-3, 5-6	L192	4	32NR91-5
	1-2, 4-5**	OFF	2-3, 5-6**	L192	4	32NR91-7
	NONE***	OFF	2-3, 5-6	L191	3	32NR91-21
	NONE***	1-2, 4-5	2-3, 5-6	L191	3	32NR91-31
	NONE***	1-2, 4-5	2-3, 5-6**	L192	4	32NR91-51
	1-2, 4-5**	OFF	NONE***	L192	4	32NR91-61
	1-2, 4-5	2-3, 4-5	2-3, 5-6	L191	3	32NR91-12
	1-2, 4-5	1-2, 5-6	2-3, 5-6	L191	3	32NR91-10
	1-2, 4-5**	1-2, 5-6	2-3, 5-6	L192	4	32NR91-50
	1-2, 4-5**	1-2, 5-6	2-3, 5-6**	L192	4	32NR91-70

Top specify above-panel mount rockers: add 4 (after the "NR") to specify the above panel version. Example: 31NR91-5 becomes 31NR491-5.

ROCKER BUTTONS ORDER GUIDE

Rocker Color	Catalog Listing
White	12PA12-W
Red	12PA12-R
Yellow	12PA12-Y
Black	12PA12-BK
Green	12PA12-G
Blue	12PA12-BL

* Does not include rocker button. Order separately from chart.
** These positions are momentary. All others are maintained.
*** Toggle lever is blocked from these positions. Toggle becomes 2-position, with center being one extreme position.

MATING CONNECTORS ORDER GUIDE

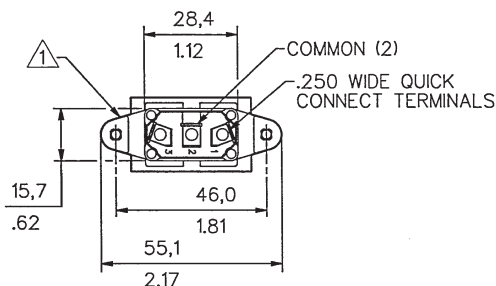
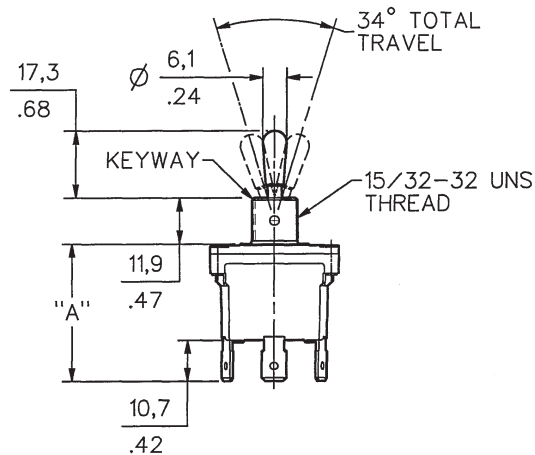
Description	Catalog Listing
2-pole connector	19PA168-NT
1-pole connector, same package size as 2-pole connector	19PA169-NT

Manual Switches

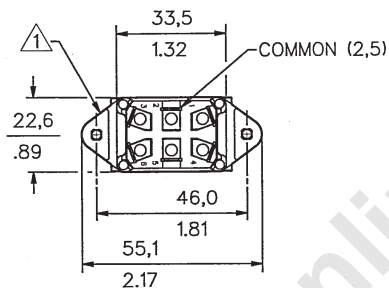
Flat Base Sealed Toggles and Rockers

MOUNTING DIMENSIONS (For reference only)

Toggle Switches



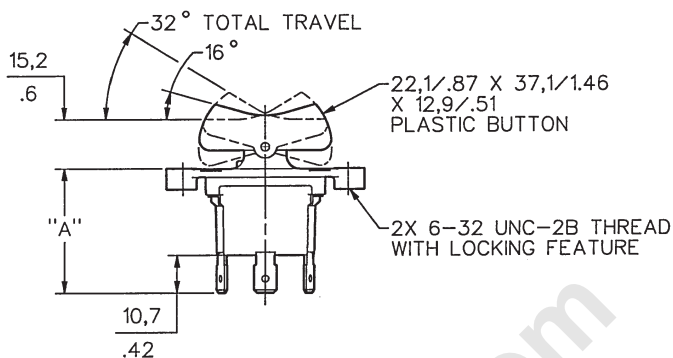
IDENTIFICATION LUG SIDE



IDENTIFICATION LUG SIDE

Rocker Switches, Above Panel

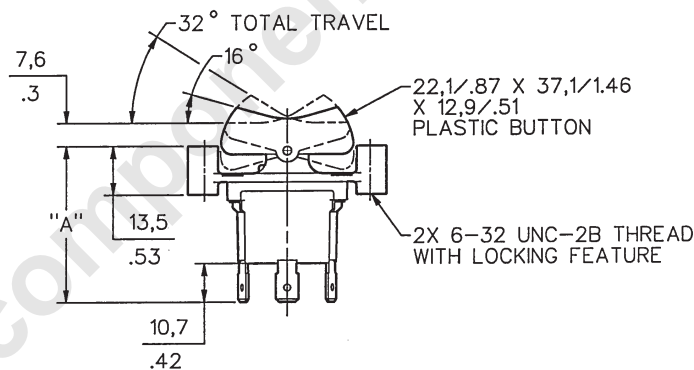
ABOVE PANEL



	DIM "A"
1-POLE	31,1/1.23
2-POLE	36,0/1.42

Rocker Switches, Flush Panel

FLUSH PANEL



	DIM "A"
1-POLE	38,4/1.52
2-POLE	43,3/1.71

Flange mounting torque is 10-12 in./lbs.

Bushing mounting torque is 10-15 in./lbs.

Toggle/Rockers

Mouser Electronics

Authorized Distributor

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