

# NT SERIES

005429

Issue 6

## MICRO SWITCH Commercial-Grade Toggle Switches



### DESCRIPTION

MICRO SWITCH NT Series toggle switches meet the need for a rugged, cost-effective toggle switch. Quality construction features include a seal between the toggle lever and bushing and between the cover and case. These switches are suitable for applications in many demanding outdoor environments, where the panels are subjected to vibration from equipment, temperature extremes, dust, splashing water and/or hose directed water.

They are capable of withstanding exposure to heavy accumulations of early morning dew that may condense on the control panel in cabs of vehicles left outdoors overnight. The NT toggle switches with larger standard metal or plastic levers are well suited for gloved-hand operation.

Available in both step-base and flat-base styles, the NT Series offers three popular styles of termination: 6-32 screws, solder lugs with 3,0 mm [0.12 in] diameter hole, or 6,35 mm [0.25 in] quick connect terminals.

The optional "Easy Start" threaded bushing enables quick alignment of the mounting nut to minimize any cross threading. The panel stand-off with O-ring feature available on some listings eliminates the need for behind-the-panel hardware, provides a uniform panel height and a panel-to-cover seal.

### FEATURES

- Sealed to NEMA 3, 3R, 4, 13 and IP67/IP68 for global use
- Suitable for applications in many demanding outdoor environments, where the panels are subjected to vibration from equipment, temperature extremes, dust, splashing water, and/or hose directed water
- UL recognized, File E12252, Vol. 1, Section 44, CSA certified, UKCA and CE certified for global use
- Spring-loaded actuating mechanism provides excellent tactile feedback
- Optional flat base case design with a quick connect terminal pattern mates to a commercial-type connector for plug-and-play connectivity
- 2- and 3-position, maintained and momentary toggle action
- Delivers high performance in a wide range of temperatures: -40°C to 71°C [-40°F to 160°F]
- Choice of silver alloy or gold-plated contacts
- Optional engineered step-design case provides added space between terminals to prevent shorting
- Optional panel stand-off with O-ring panel seal eliminates behind-the-panel hardware

### DIFFERENTIATION

- NEMA 3, 3R, 4, 13 and IP67/68 environmental sealing for demanding applications
- UL recognized, CSA certified, UKCA and CE certified for global use
- 1-, 2- and 4-pole options to meet a variety of circuitry requirements
- 2- or 3-position maintained and momentary action to meet circuit and actuator requirements
- Optional step-case design provides added space between terminals to prevent shorting

### APPLICATIONS

- Aerial platform lifts
- Platform lifts for trucks
- Industrial equipment
- Railroad locomotives and maintenance equipment
- Construction equipment
- Agricultural machinery
- Syringes (end of travel)

### PORTFOLIO



The MICRO SWITCH NT joins Honeywell's Toggle Switch Series offering a variety of electrical, position and load choices, with options for MIL qualifications, momentary and/or maintained action and poles. To view the entire product portfolio, [click here](#).

**Honeywell**

# MICRO SWITCH COMMERCIAL-GRADE TOGGLE SWITCHES NT SERIES

**TABLE 1. SPECIFICATIONS**

CHARACTERISTIC	PARAMETER
<b>Description</b>	Commercial-grade toggle switch (step base and flat base options)
<b>Sealing</b>	IP67/IP68; NEMA 3, 3R, 4 and 13
<b>Operating temperature</b>	-40°C to 71°C [-40°F to 160°F]
<b>Actuators</b>	Standard, locking, special design, tab
<b>Action</b>	2- or 3- position; momentary and maintained
<b>Mounting</b>	Bushing 15/32 in (0.47 in) Ø
<b>Circuitry</b>	SPST, SPDT, DPST, DPDT, 4PST, 4PDT
<b>Terminations</b>	Screw, solder, quick connect
<b>Contacts</b>	Silver alloy, gold plated
<b>Amp Rating</b>	Up to 20 A (resistive)
<b>Approvals</b>	UL, CSA, CE, UKCA
<b>Measurement</b>	26,7 mm H x 33,5 mm W x 22,6 mm D [1.05 in H x 1.32 in W x 0.89 in D]

**TABLE 2. UL AND CSA ELECTRICAL RATINGS**

Rating Code	Electrical Rating
<b>L192</b>	10 amps, 125, 250, 277 Vac; 1/4 Hp, 125 Vac; 1/2 Hp, 250, 277 Vac; 3 amps, 125 Vac "L"
<b>L192</b>	15 amps, 125, 250, 277 Vac; 1/2 Hp, 125 Vac; 1 Hp, 250, 277 Vac; 5 amps, 125 Vac "L"

**TABLE 3. ELECTRICAL RATINGS (IN AMPERES)**

Electrical Rating Code	28 Vdc			115 Vdc	250 Vdc	115 Vac, 60 Hz & 400 Hz max.			230 Vac
	Ind.	Res.	Lamp	Res.	Res.	Ind.	Res.	Lamp	Res.
<b>1</b>	12	20	5	0.75	0.5	10	15	3	6
<b>2</b>	10	15	4	0.75	0.5	7	15	2	6
<b>3</b>	15	20	7	0.75	0.5	15	15	4	6
<b>4</b>	10	18	5	0.75	0.5	8	11	2	6
<b>5</b>	12	20	5	0.75	0.5	15	15	4	6
<b>6</b>	10	18	4	0.75	0.5	8	11	2	6

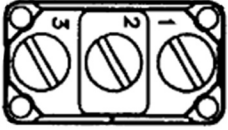
# MICRO SWITCH COMMERCIAL-GRADE TOGGLE SWITCHES NT SERIES

## TERMINAL CIRCUIT IDENTIFICATION

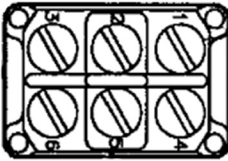
Terminal identifications are referred to in the order guides to indicate which circuits are made in each toggle position (i.e., 1-2 refers to circuit closure through terminals 1 and 2).

**NOTE: Keyside is on #3 terminal side.**

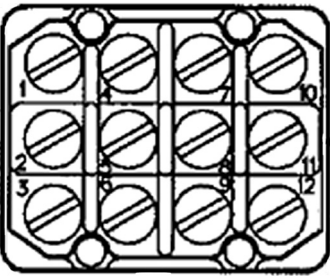
### Step Base - One Pole



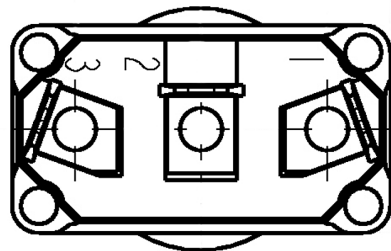
### Step Base - Two Pole



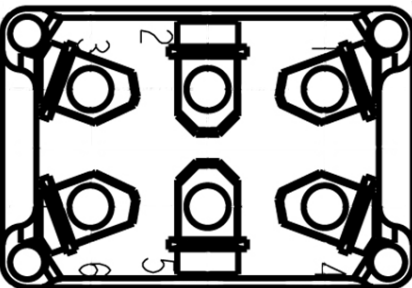
### Step Base - Four Pole



### Flat Base - One Pole



### Flat Base - Two Pole



## SPECIAL CIRCUITRIES

Catalog listings with -10, -50 and -70 suffix numbers, as shown in the order guides, have special "on-on-on" circuits, as illustrated below. NTs with -12 suffix are the same as -50 except the keyway position is maintained and the center position circuits 2-3 and 4-5 are made.

-10 CIRCUITRY			
NO OF POLES	KEYWAY SIDE MAINT. POSITION	CENTER MAINT. POSITION	OPPOSITE KEYWAY MAINT. POSITION
2			
4			

-50 CIRCUITRY			
NO OF POLES	KEYWAY SIDE MAINT. POSITION	CENTER MAINT. POSITION	OPPOSITE KEYWAY MAINT. POSITION
2			
4			

-70 CIRCUITRY			
NO OF POLES	KEYWAY SIDE MAINT. POSITION	CENTER MAINT. POSITION	OPPOSITE KEYWAY MAINT. POSITION
2			
4			

# MICRO SWITCH SUBMINIATURE BASIC SWITCHES

## ZX SERIES

**TABLE 4. NT (STEP BASE) 2-POSITION ORDER GUIDE**

NO. OF POLES	CIRCUITS MADE WITH TOGGLE AT:		UL RATING CODE	ELECT. RATING CODE	CATALOG SCREW
	KEYWAY POSITION	OPPOSITE KEYWAY			
<b>1</b>	OFF	2-3	L191	1	1NT1-2
	1-2	2-3	L191	1	1NT1-3
	OFF*	2-3	L192	2	1NT1-4
	1-2*	OFF	L192	2	1NT1-6
	1-2*	2-3	L192	2	1NT1-8
<b>2</b>	OFF	2-3, 5-6	L191	3	2NT1-2
	1-2, 4-5	2-3, 5-6	L191	3	2NT1-3
	OFF*	2-3, 5-6	L192	4	2NT1-4
	1-2, 4-5*	OFF	L192	4	2NT1-6
	1-2, 4-5*	2-3, 5-6	L192	4	2NT1-8
<b>4</b>	OFF	2-3, 5-6, 8-9, 11-12	L191	5	4NT1-2
	1-2, 4-5, 7-8, 10-11	2-3, 5-6, 8-9, 11-12	L191	5	4NT1-3
	OFF*	2-3, 5-6, 8-9, 11-12	L192	6	4NT1-4
	1-2, 4-5, 7-8, 10-11*	OFF	L192	6	4NT1-6
	1-2, 4-5, 7-8, 10-11*	2-3, 5-6, 8-9, 11-12	L192	6	4NT1-8

\* These positions are momentary. All others are maintained.

\*\* See page 17 for locking configurations.

**TABLE 5. NT (STEP BASE) 2-POSITION ORDER GUIDE • PANEL STAND-OFF FEATURE**

NO. OF POLES	CIRCUITS MADE WITH TOGGLE AT:		UL RATING CODE	ELECT. RATING CODE	CATALOG SCREW
	KEYWAY POSITION	OPPOSITE KEYWAY			
<b>1</b>	OFF	2-3	L191	1	61NT1-2
	1-2	2-3	L191	1	61NT1-3
	1-2*	OFF	L192	2	61NT1-6
	1-2*	2-3	L192	2	61NT1-8
<b>2</b>	OFF	2-3, 5-6	L191	3	62NT1-2
	1-2, 4-5	2-3, 5-6	L191	3	62NT1-3
	1-2, 4-5*	OFF	L192	4	62NT1-6
	1-2, 4-5*	2-3, 5-6	L192	4	62NT1-8

\* These positions are momentary. All others are maintained.

**TABLE 6. NT (STEP BASE) 3-POSITION ORDER GUIDE • PANEL STAND-OFF FEATURE**

NO. OF POLES	CIRCUITS MADE WITH TOGGLE AT:			UL RATING CODE	ELECT. RATING CODE
	KEYWAY POSITION	CENTER POSITION	OPPOSITE KEYWAY		
<b>1</b>	1-2	OFF	2-3	L191	1
	1-2*	OFF	2-3*	L192	2
<b>2</b>	1-2, 4-5	OFF	2-3, 5-6	L191	3
	1-2, 4-5*	OFF	2-3, 5-6*	L192	4

\* These positions are momentary. All others are maintained.

# MICRO SWITCH SUBMINIATURE BASIC SWITCHES

## ZX SERIES

**TABLE 7. NT (STEP BASE) 3-POSITION ORDER GUIDE**

NO. OF POLES	CIRCUITS MADE WITH TOGGLE AT:			UL RATING CODE	ELECT. RA
	KEYWAY POSITION	CENTER KEYWAY	OPPOSITE KEYWAY		
<b>1</b>	1-2	OFF	2-3	L191	1
	1-2*	OFF	2-3	L192	2
	1-2*	OFF	2-3*	L192	2
	NONE**	OFF	2-3	L191	1
	NONE**	1-2	2-3	L191	1
	NONE**	1-2	2-3*	L192	2
	1-2*	OFF	NONE**	L192	2
<b>2</b>	1-2, 4-5	OFF	2-3, 5-6	L191	3
	1-2, 4-5*	OFF	2-3, 5-6	L192	4
	1-2, 4-5*	OFF	2-3, 5-6*	L192	4
	NONE*	OFF	2-3, 5-6	L191	3
	NONE**	1-2, 4-5	2-3, 5-6	L191	3
	NONE**	1-2, 4-5	2-3, 5-6*	L192	4
	1-2, 4-5*	OFF	NONE**	L192	4
	1-2, 4-5	2-3, 4-5	2-3, 5-6	L191	3
	1-2, 4-5	1-2, 5-6	2-3, 5-6	L191	3
	1-2, 4-5*	1-2, 5-6	2-3, 5-6	L192	4
	1-2, 4-5*	1-2, 5-6	2-3, 5-6*	L192	4
<b>4</b>	1-2, 4-5, 7-8, 10-11	OFF	2-3, 5-6, 8-9, 11-12	L191	5
	1-2, 4-5, 7-8, 10-11*	OFF	2-3, 5-6, 8-9, 11-12	L192	6
	1-2, 4-5, 7-8, 10-11*	OFF	2-3, 5-6, 8-9, 11-12*	L192	6
	NONE*	OFF	2-3, 5-6, 8-9, 11-12	L191	5
	NONE**	1-2, 4-5, 7-8, 10-11	2-3, 5-6, 8-9, 11-12	L191	5
	NONE**	1-2, 4-5, 7-8, 10-11	2-3, 5-6, 8-9, 11-12*	L192	6
	1-2, 4-5, 7-8, 10-11*	OFF	NONE**	L192	6
	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
	1-2, 4-5, 7-8, 10-11	2-3, 4-5	2-3, 5-6, 8-9, 11-12	L191	5
	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
	1-2, 4-5, 7-8, 10-11*	2-3, 4-5	2-3, 5-6, 8-9, 11-12*	L192	6
	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

\* 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.

\*\*\* See page 17 for locking configurations.

# MICRO SWITCH COMMERCIAL-GRADE TOGGLE SWITCHES

## NT SERIES

**TABLE 8. NT (FLAT BASE) 2-POSITION ORDER GUIDE**

NO. OF POLES	CIRCUITS MADE WITH TOGGLE AT:		UL RATING CODE	ELECT. RATING CODE	CATALOG LISTING (STANDARD LEVER)
	KEYWAY POSITION	OPPOSITE KEYWAY			QUICK CONNECT
<b>1</b>	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
<b>2</b>	OFF	2-3, 5-6	L191	3	32NT91-2
	1-2, 4-5	2-3, 5-6	L191	3	32NT91-3
	OFF*	2-3, 5-6	L192	4	32NT91-4
	1-2, 4-5**	OFF	L192	4	32NT91-6
	1-2, 4-5**	2-3, 5-6	L192	4	32NT91-8

\*\* These positions are momentary. All others are maintained.

**TABLE 9. NT (FLAT BASE) 2-POSITION ORDER GUIDE • PANEL STAND-OFF FEATURE**

NO. OF POLES	CIRCUITS MADE WITH TOGGLE AT:		UL RATING CODE	ELECT. RATING CODE	CATALOG LISTING (STANDARD LEVER)
	KEYWAY POSITION	OPPOSITE KEYWAY			QUICK CONNECT
<b>1</b>	OFF	2-3	L191	1	631NT91-2
	1-2**	2-3	L191	1	631NT91-3
	OFF	2-3	L192	2	631NT91-4
	1-2**	OFF	L192	2	631NT91-6
	1-2**	2-3	L192	2	631NT91-8
<b>2</b>	OFF	2-3, 5-6	L191	3	632NT91-2
	1-2, 4-5	2-3, 5-6	L191	3	632NT91-3
	OFF**	2-3, 5-6	L192	4	632NT91-4
	1-2, 4-5**	OFF	L192	4	632NT91-6
	1-2, 4-5**	2-3, 5-6	L192	4	632NT91-8

\*\* These positions are momentary. All others are maintained.

**TABLE 10. NT (FLAT BASE) Z-POSITION ORDER GUIDE • PANEL STAND-OFF FEATURE**

NO. OF POLES	KEYWAY POSITION
<b>19PA168-NT</b>	2-pole connector
<b>19PA169-NT</b>	1-pole connector, same package size as 2-pole connector

# MICRO SWITCH COMMERCIAL-GRADE TOGGLE SWITCHES NT SERIES

**TABLE 11. NT (FLAT BASE) 3-POSITION ORDER GUIDE**

CIRCUITS MADE WITH TOGGLE AT:							CATALOG LISTING (STANDARD LEVER)
NO. OF POLES	KEYWAY POSITION	CENTER POSITION	OPPOSITE KEYWAY	UL RATING CODE	ELECT. RATING CODE	QUICK CONNECT	
<b>1</b>	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	
<b>2</b>	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, 5-6	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.

**TABLE 12. NT (FLAT BASE) 3-POSITION ORDER GUIDE • PANEL STAND-OFF FEATURE**

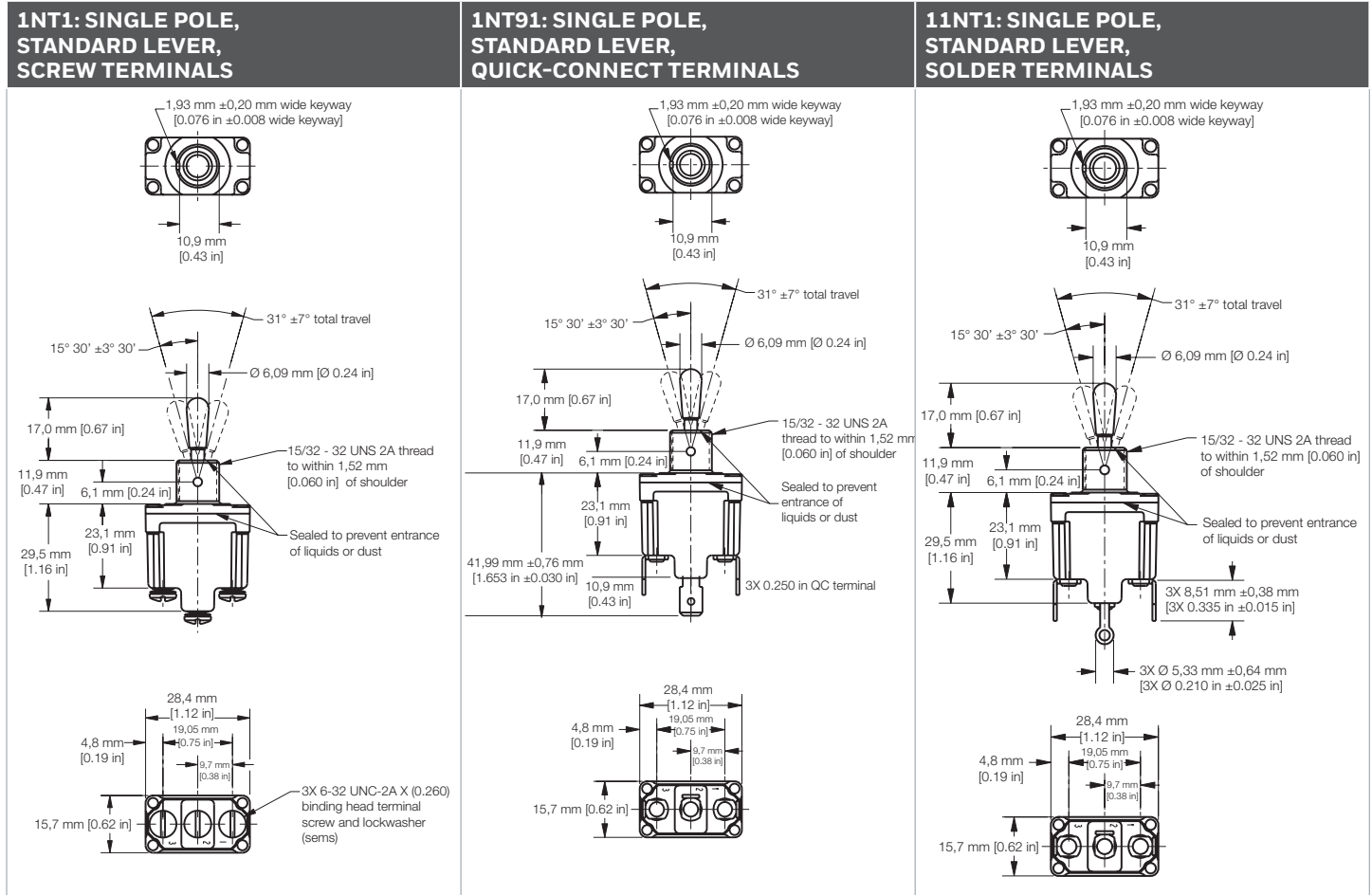
CIRCUITS MADE WITH TOGGLE AT:							CATALOG LISTING (STANDARD LEVER)
NO. OF POLES	KEYWAY POSITION	CENTER POSITION	OPPOSITE KEYWAY	UL RATING CODE	ELECT. RATING CODE	QUICK CONNECT	
<b>1</b>	1-2**	OFF	2-3**	L192	2	631NT91-7	
	1-2	OFF	2-3	L191	1	631NT91-1	
	1-2**	OFF	2-3	L191	2	631NT91-5	
<b>2</b>	1-2, 4-5	OFF	2-3, 5-6	L191	3	632NT91-1	
	1-2, 4-5**	OFF	2-3, 5-6	L192	4	632NT91-5	
	1-2, 4-5**	OFF	2-3, 5-6**	L192	4	632NT91-7	
	1-2, 4-5**	1-2, 5-6	2-3, 5-6**	L192	4	632NT91-70	

\*\* These positions are momentary. All others are maintained.

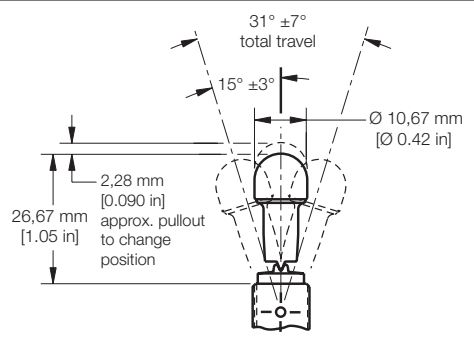
# MICRO SWITCH COMMERCIAL-GRADE TOGGLE SWITCHES NT SERIES

## STEP BASE • STANDARD ACTUATOR OPTIONS, TERMINALS, & DIMENSIONS

NOTE: Three-position switches shown.



### LOCKING LEVER DIMENSIONS FOR SINGLE POLE NT TOGGLES

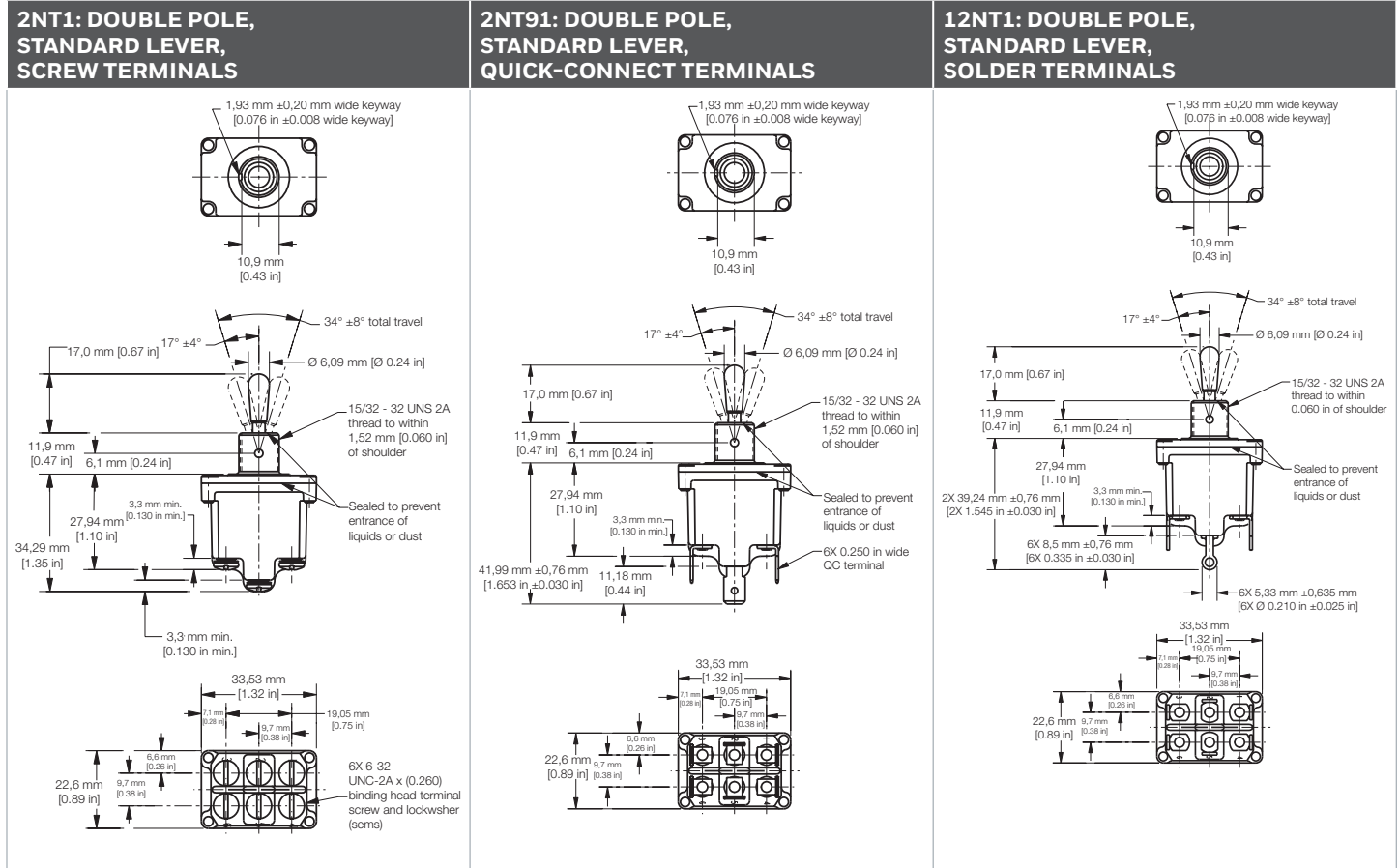




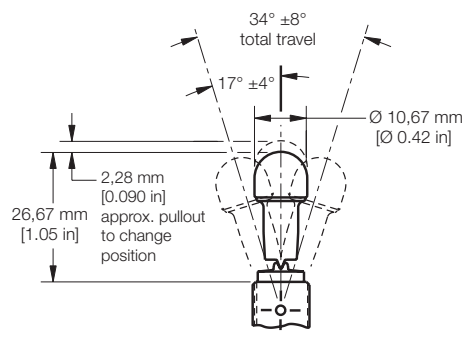
# MICRO SWITCH COMMERCIAL-GRADE TOGGLE SWITCHES NT SERIES

## STEP BASE • STANDARD ACTUATOR OPTIONS, TERMINALS, & DIMENSIONS

NOTE: Three-position switches shown.



### LOCKING LEVER DIMENSIONS FOR DOUBLE POLE NT TOGGLES

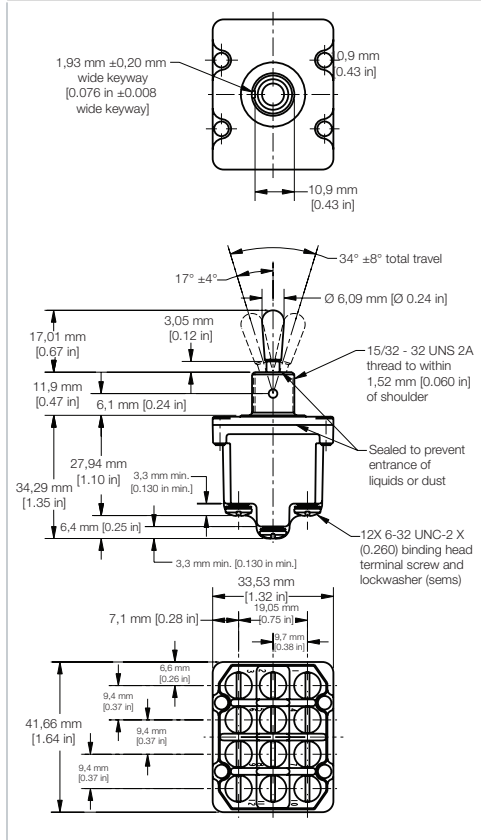


# MICRO SWITCH COMMERCIAL-GRADE TOGGLE SWITCHES NT SERIES

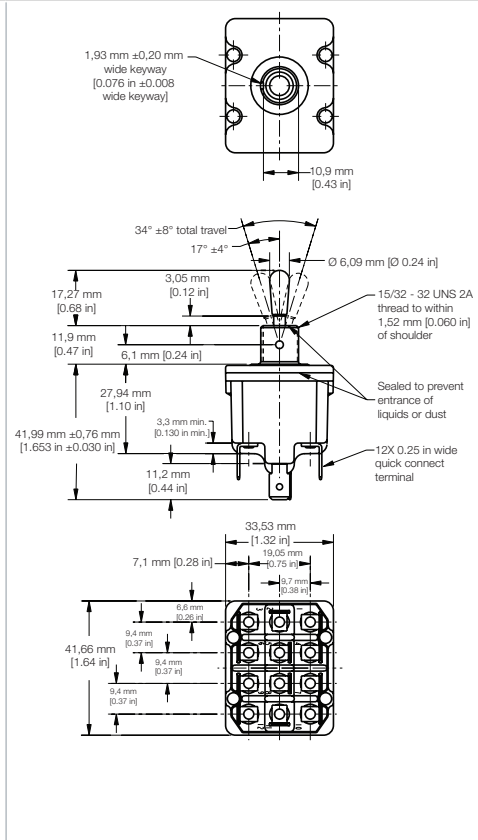
## STEP BASE • STANDARD ACTUATOR OPTIONS, TERMINALS, & DIMENSIONS

NOTE: Three-position switches shown.

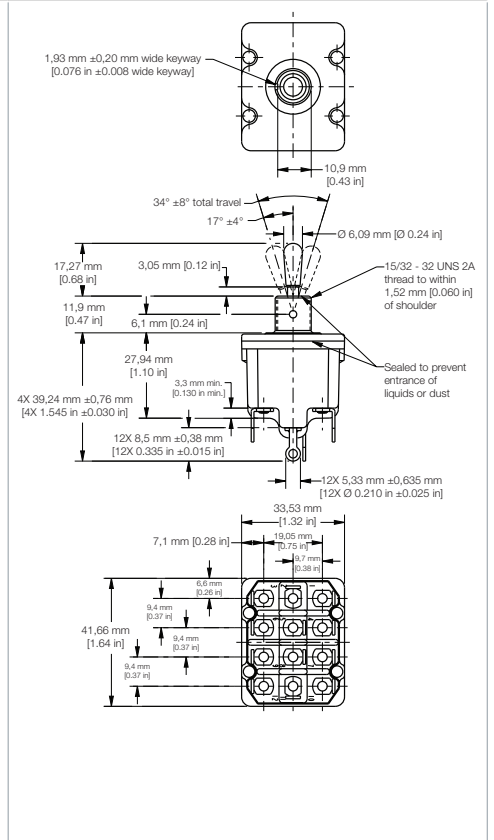
### 4NT1: FOUR-POLE, STANDARD LEVER, SCREW TERMINALS



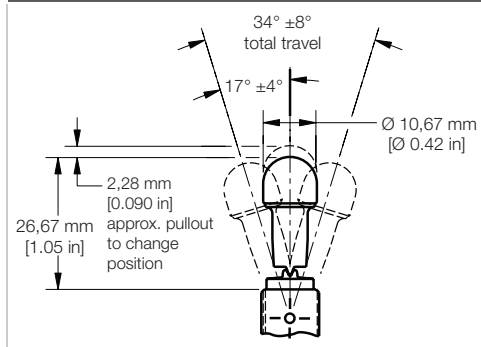
### 4NT91: FOUR-POLE, STANDARD LEVER, QUICK-CONNECT TERMINALS



### 14NT1: FOUR-POLE, STANDARD LEVER, SOLDER TERMINALS



### LOCKING LEVER DIMENSIONS FOR FOUR-POLE NT TOGGLES

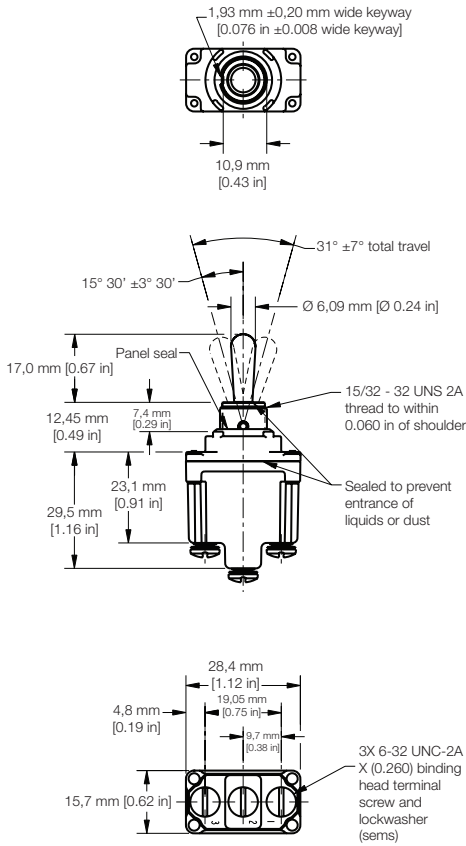


# MICRO SWITCH COMMERCIAL-GRADE TOGGLE SWITCHES NT SERIES

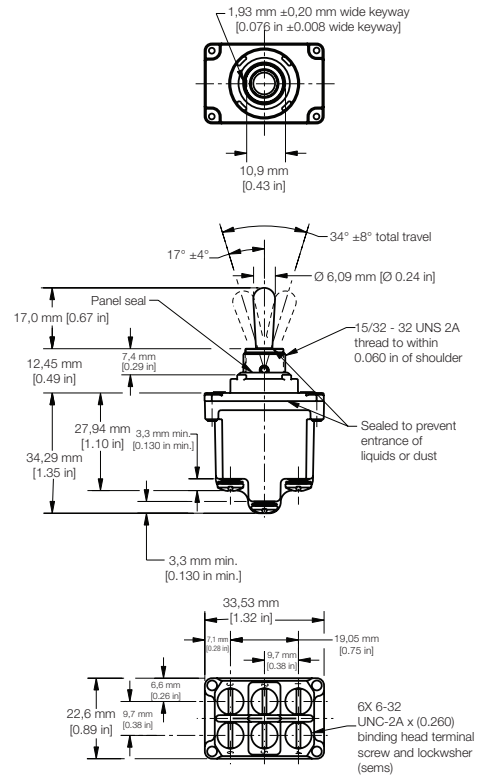
## STEP BASE • STANDARD ACTUATOR OPTIONS, TERMINALS, & DIMENSIONS

NOTE: Three-position switches shown.

### 61NT1: SINGLE POLE, STANDARD LEVER, PANEL STANDOFF, SCREW TERMINALS



### 62NT1: DOUBLE POLE, STANDARD LEVER, PANEL STANDOFF, SCREW TERMINALS

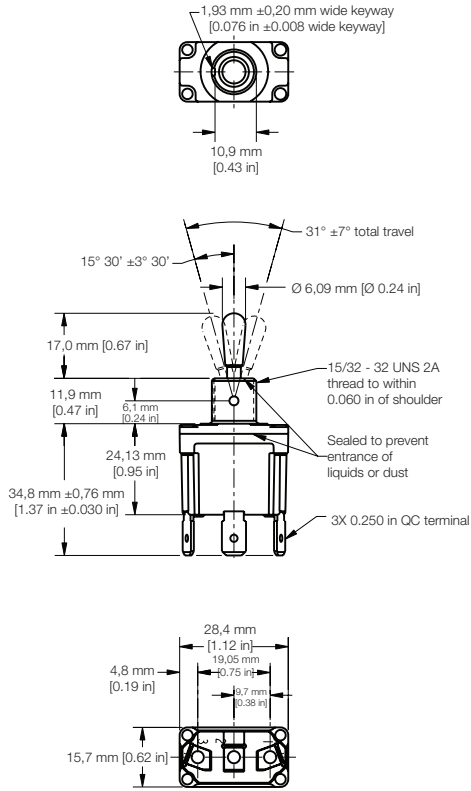


# MICRO SWITCH COMMERCIAL-GRADE TOGGLE SWITCHES NT SERIES

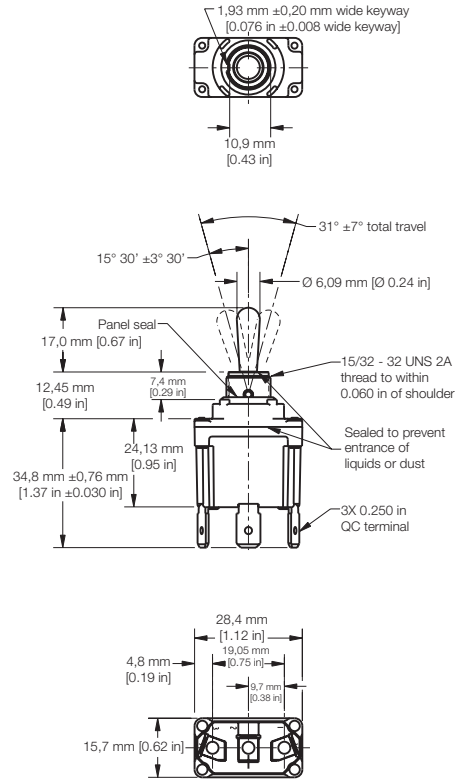
## FLAT BASE • STANDARD ACTUATOR OPTIONS, TERMINALS, & DIMENSIONS

NOTE: Three-position switches shown.

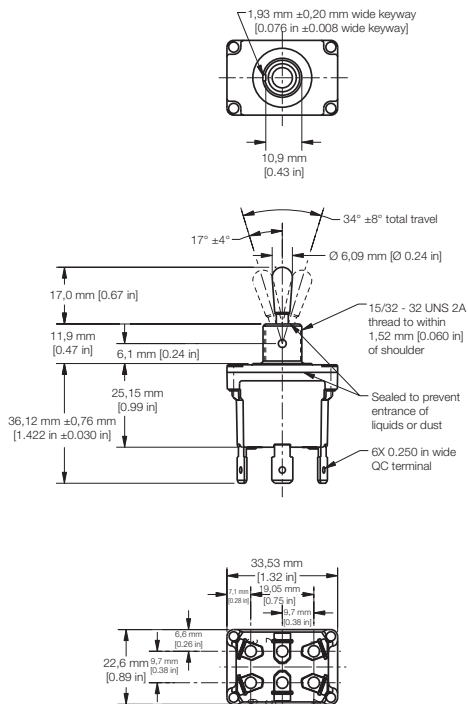
### 31NT91: SINGLE POLE, STANDARD LEVER, QUICK-CONNECT TERMINALS



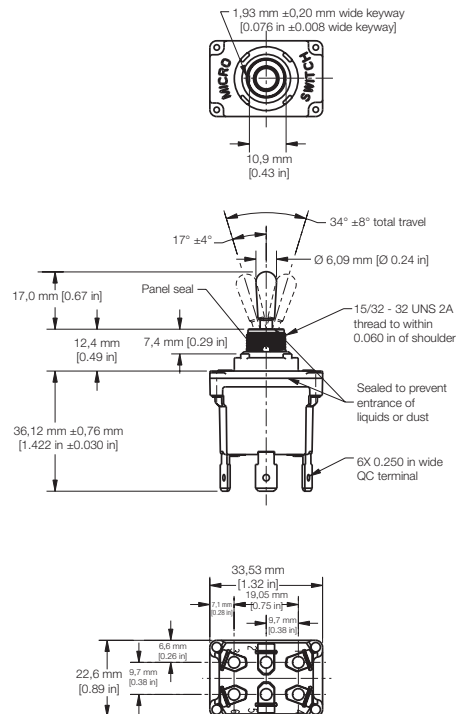
### 631NT91: SINGLE POLE, STANDARD LEVER, PANEL STANDOFF, QUICK-CONNECT TERMINALS



### 32NT91: DOUBLE POLE, STANDARD LEVER, QUICK-CONNECT TERMINALS
















### 632NT91: STANDARD LEVER, PANEL STANDOFF, QUICK-CONNECT TERMINALS



# MICRO SWITCH COMMERCIAL-GRADE TOGGLE SWITCHES NT SERIES

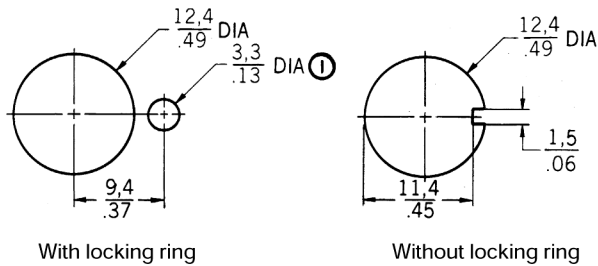
## MICRO SWITCH NT SERIES LOCKING CONFIGURATIONS

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

## PULL-TO-UNLOCK LEVERS

Pull-to-unlock toggle levers prevent accidental toggle movement. The knobbed toggle lever must be pulled out approximately 2,3 mm [0.09 in] to change positions. Thirteen different locking configurations are available. This lever style also has a non-glare matte nickel finish. See table below for specific locking configurations.

## MICRO SWITCH NT SERIES PANEL CUTOUT



Note:  
 © 1,4/.06 MIN DEEP TO ACCOMMODATE LOCKING RING. 15PA87 PANEL SEAL REQUIRES BLIND HOLE TO INSURE SEAL INTEGRITY

## WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgment or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.

While Honeywell may provide application assistance personally, through our literature and the Honeywell web site, it is buyer's sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Honeywell assumes no responsibility for its use.

## FOR MORE INFORMATION

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USA/Canada	+1 302 613 4491
Latin America	+1 305 805 8188
Europe	+44 1344 238258
Japan	+81 (0) 3-6730-7152
Singapore	+65 6355 2828
Greater China	+86 4006396841

**Honeywell**  
**Advanced Sensing Technologies**  
830 East Arapaho Road  
Richardson, TX 75081  
[sps.honeywell.com/ast](http://sps.honeywell.com/ast)

## WARNING MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**