

Datasheet

## MICRO SWITCH TL Series Toggle Switches

Honeywell MICRO SWITCH TL Series toggle switches are military qualified to MIL-DTL-3950, specifications for sealed toggle switches. Quality construction features include a bonded seal between the toggle lever and bushing, and between the cover and case.

The robust design of the TL Series toggle is well-suited for many military, aerospace and other demanding applications where reliability is essential. These applications include environments where the panels are subjected to mechanical shock, vibration, and temperature extremes as well as environments with dust, splashing or hose-directed water.

TL Series toggle switches offer a variety of circuitry and pole options to easily integrate into a number of applications. A long history in military and aerospace applications has shown the TL Series toggle provides reliable performance with long operating life under the toughest conditions.

## What makes our switches better?

- MIL-DTL-3950 qualified switches available to meet military specifications
- Environmental sealing enables switches to withstand many demanding indoor and outdoor applications
- 1-, 2-, and 4-pole options for a variety of circuitry requirements
- 2- and 3-position, maintained and momentary toggle action to meet circuit and actuator requirements
- UL recognized, CSA certified, and CE approved for global use



## MIL-QUALIFIED AND GLOBAL APPROVALS

MIL-DTL-3950 qualified switches are available to meet military/aerospace specifications. TL Series toggles' environmental sealing enables switches to withstand many demanding indoor and outdoor applications. Quality construction includes a bonded seal between the toggle lever and bushing, and between the cover and case that enables switches to withstand may demanding conditions. UL recognized, CSA certified, and CE approved for global use

## Military-qualified listings

## VARIETY OF CIRCUITRIES AND OPERATING ACTIONS <br> TL Series' 1, 2, and 4 pole options meet a variety of circuitry requirements; while <br> 2- and 3-position, maintained and momentary toggle action, for a breadth of circuitry and actuator requirements. They thrive in a wide range of temperatures: $-65^{\circ} \mathrm{C}$ to $71^{\circ} \mathrm{C}\left[-85^{\circ} \mathrm{F}\right.$ to $\left.160^{\circ} \mathrm{F}\right]$

## Locking levers reduce unintended actuation

## LOCKING LEVERS

Optional lever locks (pull-to-unlock) require two separate actions to actuate the switch in order to prevent unintended actuation

## MULTIPLE CONNECTION OPTIONS

MICRO SWITCH TL Series toggles offer three popular termination options:
screw, solder lugs, and IWTS (Integrated Wire Termination Systems)

## EASILY CONTROLS LOW-VOLTAGE DC APPLICATIONS

Toggle switches available with a choice of silver alloy or gold-plated contacts to handle a variety of electrical load requirements

## INNOVATIVE PRODUCT DESIGN

Engineered step-design case provides added space between terminals to prevent shorting

ROBUST CONSTRUCTION
Built from military-grade components to achieve MIL-DTL-3950 requirements

## Potential Applications



## MILITARY AND COMMERCIAL AIRCRAFT AND HELICOPTERS

Used in fixed wing aircraft and helicopter flight decks. Honeywell has a long history of providing TL Series toggle switches in commercial and military aircraft.

## AVIATION GROUND SUPPORT EQUIPMENT

Used to turn on and operate various components of aviation ground support equipment, such as pumps, lights, and lift platforms.


## MILITARY LAND VEHICLES (TRACK AND WHEELED VEHICLES)

Used in military land vehicles to control lights, pumps, arming equipment, and movement control of lifts/ramps, etc.

## CONSTRUCTION EQUIPMENT

Often used on road milling, road pavers, trenchers, and stump cutters to operate movement of machinery and/or turn on lights, pumps, etc.

## MICRO SWITCH ${ }^{\text {™ }}$ Military-Grade Toggle Switches

Table 1. Specifications

| Characteristic | Parameter |
| :--- | :---: |
| Description | military-grade toggle switch |
| Sealing | qualified to MIL-DTL-3950 |
| Operating temperature | $-65^{\circ} \mathrm{C}$ to $71^{\circ} \mathrm{C}\left[-85^{\circ} \mathrm{F}\right.$ to $\left.160{ }^{\circ} \mathrm{F}\right]$ |
| Actuators | standard, locking, special design, tab |
| Action | 2- or 3- position; momentary and maintained |
| Mounting | Bushing $15 / 32$ in $(0.47$ in) $\varnothing$ |
| Circuitry | SPST, SPDT, DPST, DPDT, 4PST, 4PDT |
| Terminations | IWTS, solder, screw, quick-connect, leadwire |
| Contacts | Silver alloy or gold-plated |
| Amp rating | Up to 20 A, ac and do capability |
| Approvals | UL, CSA, CE |
| Measurement | $26,7 \mathrm{~mm} \mathrm{H} \times 33,5 \mathrm{~mm} \mathrm{~W} \times 22,6 \mathrm{~mm} \mathrm{D}[1.05$ in $\mathrm{H} \times 1.32$ in $\mathrm{W} \times 0.89$ in D$]$ |

Table 2. UL and CSA Electrical Ratings

| Rating code | Electrical rating |
| :--- | :---: |
| L 192 | $10 \mathrm{amps}, 125,250,277 \mathrm{Vac} ; 1 / 4 \mathrm{Hp}, 125 \mathrm{Vac} ; 1 / 2 \mathrm{Hp}, 250,277 \mathrm{Vac} ; 3 \mathrm{amps}, 125 \mathrm{Vac}$ " L " |
| L 191 | $15 \mathrm{amps}, 125,250,277 \mathrm{Vac} ; 1 / 2 \mathrm{Hp}, 125 \mathrm{Vac} ; 1 \mathrm{Hp}, 250,277 \mathrm{Vac} ; 5 \mathrm{amps}, 125 \mathrm{Vac}$ "L" |

Table 3. Electrical Ratings (in amperes)

| Electrical rating code | 28 Vdc |  |  | 115 Vdc <br> Res. | 250 Vdc <br> Res. | $115 \mathrm{Vac}, 60 \mathrm{~Hz}$ \& 400 Hz Max. |  |  | 230 Vac |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Ind. | Res. | Lamp |  |  | Ind. | Res. | Lamp | Res. |
| 1 | 15 | 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 |

## TL 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 ).

One Pole


Two Pole
KEYWAY


COMMON (2, 5)
Four Pole

${ }^{C}$ COMMON (2, 5, 8, 11)

## TERMINALS

In addition to the screw terminal listings in the order guides, IWTS (Integrated Wire Termination Systems) versions and solder turrent terminals are available.

IWTS provides a reliable, completely serviceable unit which meets MIL-DTL-3950 requirements. IWTS improves maintainability since wiring bundles need not be disturbed. Leads are quickly and easily assembled or removed with an insert-extract tool.

A unique three-rib (grommet style) elastomer seal protects the lead connections without potting. There are no exposed metal terminals.

Versions available that will accept No. 16 wire with M39029/1-102 contact pins or No. 20 wire with MS39029/1-101 contact pins. Connections are resistant to shock, vibration, and high pull-out force.

## 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. TLs 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. -72 is the same as -50 except that the opposite keyway position is momentary, and in the center position circuits 2-3 and 4-5 are made.

## -10 CIRCUITRY

$\left.\begin{array}{l|l|l|l|}\hline \text { No of } \\ \text { poles }\end{array} \quad \begin{array}{c}\text { Keyway Side } \\ \text { Maint. Position }\end{array} \quad \begin{array}{c}\text { Center Maint. } \\ \text { Position }\end{array} \quad \begin{array}{c}\text { Opposite } \\ \text { Keyway Maint. } \\ \text { Position }\end{array}\right]$

## -50 CIRCUITRY

| No of |
| :--- | :--- | :--- | :--- | :--- |
| poles | | Keyway Side |
| :---: |
| Maint. Position | \left\lvert\, | Center Maint. |
| :---: |
| Position | | Opposite <br> Keyway Maint. <br> Position |
| :---: |
| 2 |\right.

## -70 CIRCUITRY

$\left.\begin{array}{l|l|l|l|l}\text { No of } \\ \text { poles }\end{array} \begin{array}{c}\text { Keyway Side } \\ \text { Maint. Position }\end{array} \left\lvert\, \begin{array}{c}\text { Center Maint. } \\ \text { Position }\end{array} \begin{array}{c}\text { Opposite } \\ \text { Keyway Maint. } \\ \text { Position }\end{array}\right.\right]$

## MICRO SWITCH ${ }^{\text {™ }}$ Military-Grade Toggle Switches

TL (SCREW TERMINAL) 2-POSITION ORDER GUIDE

|  | Circuits Made with Toggle At: |  |  |  | Standard Toggle |  | Pull-to-Unlock Toggle |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of poles | Keyway Position | Opposite Keyway | Elect. <br> Rating <br> Code | UL Rating Code | Catalog Listing | Military <br> Number | Add <br> Suffix to Standard Toggle Listing ${ }^{\Delta}$ | Military Number** |
| 1 | OFF | 2-3 | 1 | L191 | 1TL1-2 | MS24523-22 | D, F, G | MS24658-22 |
|  | OFF* | 2-3 | 2 | L192 | 1TL1-4 | MS24523-29 | F | MS24658-29 |
|  | 1-2* | OFF | 2 | L192 | 1TL1-6 | MS24523-30 | F | MS24658-30 |
|  | 1-2 | 2-3 | 1 | L191 | 1TL1-3 | MS24523-23 | D, F, G | MS24658-23 |
|  | 1-2* | 2-3 | 2 | L192 | 1TL1-8 | MS24523-26 | F | MS24658-26 |
| 2 | OFF | 2-3, 5-6 | 3 | L191 | 2TL1-2 | MS24524-22 | D, F, G | MS24659-22 |
|  | OFF* | 2-3, 5-6 | 4 | L192 | 2TL1-4 | MS24524-29 | F | MS24659-29 |
|  | 1-2, 4-5* | OFF | 4 | L192 | 2TL1-6 | MS24524-30 | F | MS24659-30 |
|  | 1-2, 4-5 | 2-3, 5-6 | 3 | L191 | 2TL1-3 | MS24524-23 | D, F, G | MS24659-23 |
|  | 1-2, 4-5* | 2-3, 5-6 | 4 | L192 | 2TL1-8 | MS24524-26 | F | MS24659-26 |
| 4 | OFF | 2-3, 5-6, 8-9, 11-12 | 5 | L191 | 4TL1-2 | MS24525-22 | D, F, G | MS24660-22 |
|  | OFF* | 2-3, 5-6, 8-9, 11-12 | 6 | L192 | 4TL1-4 | MS24525-29 | F | MS24660-29 |
|  | $\begin{aligned} & 1-2,4-5,7-8,10- \\ & 11^{*} \end{aligned}$ | OFF | 6 | L192 | 4TL1-6 | MS24525-30 | F | MS24660-30 |
|  | 1-2, 4-5, 7-8, 10-11 | 2-3, 5-6, 8-9, 11-12 | 5 | L191 | 4TL1-3 | MS24525-23 | D, F, G | MS24660-23 |
|  | $\begin{aligned} & 1-2,4-5^{*}, 7-8, \\ & 10-11 \end{aligned}$ | 2-3, 5-6, 8-9, 11-12 | 6 | L192 | 4TL1-8 | MS24525-26 | F | MS24660-26 |

* These positions are momentary. All others are maintained.
** Also add the appropriate suffix to the military number.
${ }^{\Delta}$ See page 12 for locking configurations.


## PULL-TO-UNLOCK OPTION

When ordering pull-to-unlock toggle listings (see page 12 for configurations), add the suffix letter shown in the chart on page $X X X$ to the standard toggle listing or the MS part number. For example, to order a 1TL1-1 pull-to-unlock toggle switch with the lever locked in the center position, add the letter E (i.e., 1TL1-1E, MS24658-21E)


## SOLDER TURRET TERMINAL VERSION

11TL, 12TL, and 14TL type switches with solder turrent terminals are qualified to MIL-DTL-3950. They have the same circuitry and electrical ratings as their 1TL, 2TL, and 4TL counterparts, For example, an 11TL1-2 is the same as a 1TL1-2, except it has solder turret terminals instead of screw terminals.

| Circuitry | Type | Standard Lever | Lever Lock |
| :--- | :---: | :---: | :---: |
| One pole | 11 TL | MS27734 | MS27737 |
| Two pole | $12 T \mathrm{~L}$ | MS27735 | MS27738 |
| Four pole | 14 TL | MS27736 | MS27739 |

## TL Series

## TL (SCREW TERMINAL) 3-POSITION ORDER GUIDE

|  | Circuits Made with Toggle At: |  |  |  |  | Standard Toggle |  | Pull-to-Unlock Toggle |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of poles | Keyway Position | Center Position | Opposite Keyway |  |  | Catalog Listing | Military <br> Number | Add <br> Suffix to <br> Standard <br> Toggle <br> Listing ${ }^{\triangle}$ | Military <br> Number*** |
| 1 | 1-2 | OFF | 2-3 | 1 | L191 | 1TL1-1 | MS24523-21 | ALL TYPES | MS24658-21 |
|  | 1-2* | OFF | 2-3 | 2 | L192 | 1TL1-5 | MS24523-31 | E, F, K, L <br> M, N | MS24658-31 |
|  | 1-2* | OFF | 2-3* | 2 | L192 | 1TL1-7 | MS24523-27 | E, L, N | MS24658-27 |
|  | NONE** | OFF | 2-3 | 1 | L191 | 1TL1-21 | MS24523-24 | E, F, K, M | MS24658-24 |
|  | NONE** | 1-2 | 2-3 | 1 | L192 | 1TL1-31 | MS24523-33 | E, F, K, M | MS24658-33 |
|  | NONE** | 1-2 | 2-3* | 2 | L192 | 1TL1-51 | MS24523-32 | E | MS24658-32 |
|  | 1-2* | OFF | NONE** | 2 | L192 | 1TL1-61 | MS24523-28 | E | MS24658-28 |
| 2 | 1-2, 4-5 | OFF | 2-3, 5-6 | 3 | L191 | 2TL1-1 | MS24524-21 | ALL TYPES | MS24659-21 |
|  | 1-2, 4-5* | OFF | 2-3, 5-6 | 4 | L192 | 2TL1-5 | MS24524-31 | $\begin{aligned} & E, F, K, L, \\ & M, N \end{aligned}$ | MS24659-31 |
|  | 1-2, 4-5* | OFF | 2-3, 5-6* | 4 | L192 | 2TL1-7 | MS24524-27 | E, L, N | MS24659-27 |
|  | NONE** | OFF | 2-3, 5-6 | 3 | L191 | 2TL1-21 | MS24524-24 | E, F, K, M | MS24659-24 |
|  | NONE** | 1-2, 4-5 | 2-3, 5-6 | 3 | L191 | 2TL1-31 | MS24524-33 | E, F, K, M | MS24659-33 |
|  | NONE** | 1-2, 4-5 | 2-3, 5-6* | 4 | L192 | 2TL1-51 | MS24524-32 | E | MS24659-32 |
|  | 1-2, 4-5* | OFF | NONE** | 4 | L192 | 2TL1-61 | MS24524-28 | E | MS24659-28 |
|  | 1-2, 4-5 | 1-2, 5-6 | 2-3, 5-6 | 3 | L191 | 2TL1-10 | MS27407-4 | ALL TYPES | MS27408-4 |
|  | 1-2, 4-5* | 1-2, 5-6 | 2-3, 5-6 | 4 | L192 | 2TL1-50 | MS27407-5 | $\begin{aligned} & \mathrm{E}, \mathrm{~F}, \mathrm{~K}, \mathrm{~L}, \\ & \mathrm{M}, \mathrm{~N} \end{aligned}$ | MS27408-5 |
|  | 1-2, 4-5* | 1-2, 5-6 | 2-3, 5-6* | 4 | L192 | 2TL1-70 | MS27407-6 | E, L, N | MS27408-6 |
| 4 | 1-2, 4-5, 7-8, 10-11 | OFF | 2-3, 5-6, 8-9, 11-12 | 5 | L191 | 4TL1-1 | MS24525-21 | ALL TYPES | MS24660-21 |
|  | 1-2, 4-5, 7-8, 10-11* | OFF | 2-3, 5-6, 8-9, 11-12 | 6 | L192 | 4TL1-5 | MS24525-31 | $\begin{aligned} & \mathrm{E}, \mathrm{~F}, \mathrm{~K}, \mathrm{~L}, \\ & \mathrm{M}, \mathrm{~N} \end{aligned}$ | MS24660-31 |
|  | 1-2, 4-5, 7-8, 10-11* | OFF | 2-3, 5-6, 8-9, 11-12* | 6 | L192 | 4TL1-7 | MS24525-27 | E, L, N | MS24660-27 |
|  | NONE** | OFF | 2-3, 5-6, 8-9, 11-12 | 5 | L191 | 4TL1-21 | MS24525-24 | E, F, K, M | MS24660-24 |
|  | NONE** | 1-2, 4-5, 7-8, 10-11 | 2-3, 5-6, 8-9, 11-12 | 5 | L191 | 4TL1-31 | MS24525-33 | E, F, K, M | MS24660-33 |
|  | NONE** | 1-2, 4-5, 7-8, 10-11 | 2-3, 5-6, 8-9, 11-12* | 6 | L192 | 4TL1-51 | MS24525-32 | E | MS24660-32 |
|  | 1-2, 4-5, 7-8, 10-11* | OFF | NONE** | 6 | L192 | 4TL1-61 | MS24525-38 | E | MS24660-28 |
|  | 1-2, 4-5, 7-8, 10-11 | 2-3, 4-5 | 2-3, 5-6, 8-9, 11-12 | 5 | L191 | 4TL1-10 | - | ALL TYPES | - |
|  | 1-2, 4-5, 7-8, 10-11* | 2-3, 4-5, 7-8, 11-12 | 2-3, 5-6, 8-9, 11-12 | 6 | L192 | 4TL1-50 | MS27406-2 | $\begin{aligned} & \mathrm{E}, \mathrm{~F}, \mathrm{~K}, \mathrm{~L}, \\ & \mathrm{M}, \mathrm{~N} \end{aligned}$ | MS27409-2 |
|  | 1-2, 4-5, 7-8, 10-11* | 2-3, 4-5 | 2-3, 5-6, 8-9, 11-12* | 6 | L192 | 4TL1-70 | - | E, L, N | - |
|  | 1-2, 4-5, 7-8, 10-11 | 2-3, 4-5, 7-8, 11-12 | 2-3, 5-6, 8-9, 11-12 | 5 | L191 | 4TL1-12 | MS27406-1 | ALL TYPES | MS27409-1 |
|  | 1-2, 4-5, 7-8, 10-11* | 2-3, 4-5, 7-8, 11-12 | 2-3, 5-6, 8-9, 11-12* | 6 | L192 | 4TL1-72 | MS27406-3 | E, L, N | MS27409-3 |

[^0]
## MICRO SWITCH ${ }^{\text {™ }}$ Military-Grade Toggle Switches

## TL (IWTS TERMINATION) 2-POSITION ORDER GUIDE

|  | Circuits Made with Toggle At: |  |  |  | No. 16 Termination |  | No. 20 Termination |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of poles | Keyway Position | Opposite Keyway | Elect. <br> Rating Code | UL Rating Code | Catalog Listing | Military Number | Catalog Listing | Military <br> Number |
| 1 | OFF | 2-3 | 1 | L191 | 101TL1-2 | MS27722-22 | 101TL2-2 | MS27784-22 |
|  | OFF* | 2-3 | 2 | L192 | 101TL1-4 | MS27722-29 | 101TL2-4 | MS27784-29 |
|  | 1-2* | OFF | 2 | L192 | 101TL1-6 | MS27722-30 | 101TL2-6 | MS27784-30 |
|  | 1-2 | 2-3 | 1 | L191 | 101TL1-3 | MS27722-23 | 101TL2-3 | MS27784-23 |
|  | 1-2* | 2-3 | 2 | L192 | 101TL1-8 | MS27722-26 | 101TL2-8 | MS27784-26 |
| 2 | OFF | 2-3, 5-6 | 3 | L191 | 102TL1-2 | MS27723-22 | 102TL2-2 | MS27785-22 |
|  | OFF* | 2-3, 5-6 | 4 | L192 | 102TL1-4 | MS27723-29 | 102TL2-4 | MS27785-29 |
|  | 1-2, 4-5* | OFF | 4 | L192 | 102TL1-6 | MS27723-30 | 102TL2-6 | MS27785-30 |
|  | 1-2, 4-5 | 2-3, 5-6 | 3 | L191 | 102TL1-3 | MS27723-23 | 102TL2-3 | MS27785-23 |
|  | 1-2, 4-5* | 2-3, 5-6 | 4 | L192 | 102TL1-8 | MS27723-26 | 102TL2-8 | MS27785-26 |
| 4 | OFF | 2-3, 5-6, 8-9, 11-12 | 5 | L191 | 104TL1-2 | MS27724-22 | 104TL2-2 | MS27786-22 |
|  | OFF* | 2-3, 5-6, 8-9, 11-12 | 6 | L192 | 104TL1-4 | MS27724-29 | 104TL2-4 | MS27786-29 |
|  | $\begin{aligned} & 1-2,4-5,7-8,10- \\ & 11^{*} \end{aligned}$ | OFF | 6 | L192 | 104TL1-6 | MS27724-30 | 104TL2-6 | MS27786-30 |
|  | 1-2, 4-5, 7-8, 10-11 | 2-3, 5-6, 8-9, 11-12 | 5 | L191 | 104TL1-3 | MS27724-23 | 104TL2-3 | MS27786-23 |
|  | $\begin{aligned} & \begin{array}{l} 1-2,4-5,7-8,10- \\ 11^{*} \end{array} \end{aligned}$ | 2-3, 5-6, 8-9, 11-12 | 6 | L192 | 104TL1-8 | MS27724-26 | 104TL2-8 | MS27786-26 |

## TL (IWTS TERMINATION) 3-POSITION ORDER GUIDE

|  | Circuits Made with Toggle At: |  |  |  |  | No. 16 Termination |  | No. 20 Termination |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of poles | Keyway Position | Center Position | Opposite Keyway |  |  | Catalog <br> Listing | Military <br> Number | Catalog Listing | Military <br> Number |
| 1 | 1-2 | OFF | 2-3 | 1 | L191 | 101TL1-1 | MS27722-21 | 101TL2-1 | MS27784-21 |
|  | 1-2* | OFF | 2-3 | 2 | L192 | 101TL1-5 | MS27722-31 | 101TL2-5 | MS27784-31 |
|  | 1-2* | OFF | 2-3* | 2 | L192 | 101TL1-7 | MS27722-27 | 101TL2-7 | MS27784-27 |
| 2 | 1-2, 4-5 | OFF | 2-3, 5-6 | 3 | L191 | 102TL1-1 | MS27723-21 | 102TL2-1 | MS27785-21 |
|  | 1-2, 4-5* | OFF | 2-3, 5-6 | 4 | L192 | 102TL1-5 | MS27723-31 | 102TL2-5 | MS27785-31 |
|  | 1-2, 4-5* | OFF | 2-3, 5-6* | 4 | L192 | 102TL1-7 | MS27723-6 | 102TL2-7 | MS27785-27 |
| 4 | $\begin{aligned} & 1-2,4-5,7-8, \\ & 10-11 \end{aligned}$ | OFF | $\begin{aligned} & 2-3,5-6,8-9, \\ & 11-12 \end{aligned}$ | 5 | L191 | 104TL1-1 | MS27724-21 | 104TL2-1 | MS27786-21 |
|  | $\begin{aligned} & 1-2,4-5,7-8, \\ & 10-11^{*} \end{aligned}$ | OFF | $\begin{aligned} & 2-3,5-6,8-9, \\ & 11-12 \end{aligned}$ | 6 | L192 | 104TL1-5 | MS27724-31 | 104TL2-5 | MS27786-31 |
|  | $\begin{aligned} & 1-2,4-5,7-8, \\ & 10-11^{*} \end{aligned}$ | OFF | $\begin{aligned} & 2-3,5-6,8-9, \\ & 11-12^{*} \end{aligned}$ | 6 | L192 | 104TL1-7 | MS27724-27 | 104TL2-7 | MS27786-27 |

[^1]NOTE: For TL switches featuring IWTS termination and a "pull-to-unlock" lever option, contact a Honeywell Sensing and Control representative at 1-800-537-6945.

## TL Series

TL SERIES 1-POLE STANDARD ACTUATOR OPTIONS, TERMINALS, \& DIMENSIONS
Note: Three-position switches shown


Locking lever dimensions for single pole TL toggles


## MICRO SWITCH ${ }^{\text {™ }}$ Military-Grade Toggle Switches

TL SERIES 2-POLE STANDARD ACTUATOR OPTIONS, TERMINALS, \& DIMENSIONS
Note: Three-position switches shown


## TL Series

TL SERIES 4-POLE STANDARD ACTUATOR OPTIONS, TERMINALS, \& DIMENSIONS
Note: Three-position switches shown


## MICRO SWITCH ${ }^{\text {TM }}$ Military-Grade Toggle Switches

MICRO SWITCH TL™ SERIES LOCKING CONFIGURATIONS


## ADDITIONAL INFORMATION

The following associated literature is available on the Web (sensing.honeywell.com):

- Product installation instructions
- Product range guide
- Product application-specific information
- Flight deck toggle switches
- Sensors and switches in front loaders
- Sensors and switches in mobile cranes
- Sensors and switches in oil rig applications


## For more information

Honeywell Sensing and Internet of Things services its customers through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing or the nearest Authorized Distributor, visit sensing. honeywell.com or call:

| Asia Pacific | $+656355-2828$ |
| :--- | :--- |
| Europe | $+44(0) 1698481481$ |
| USA/Canada | $+1-800-537-6945$ |

## A WARNING <br> PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.
Failure to comply with these instructions could result in death or serious injury.

## AWARNING 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.


## WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement 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 it 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 we provide application assistance personally, through our literature and the Honeywell website, it is up to the customer 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 printing. However, we assume no responsibility for its use.

## Honeywell Sensing and Internet of Things

9680 Old Bailes Road

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components
Click to view similar products for Toggle Switches category:
Click to view products by Honeywell manufacturer:
Other Similar products are found below :
A19HV 8A1-C-222 60012L 6006L 6663 7101MD9V30GE 7101SPDV30BE 7103SDV30BE 7105D 7108P3YAV2BE 71YY50282 7201MD9AVBE 7301 K 38 7306K36 7310 K 367314 K 367506 K 4 7592K6 7691 K 14 7700K1 8396 K 1088824 K 148828 K 13 G2VX G3VX PS83-121G A101MD9AB04 A101SD9AB04 A101SDCQ04 A103SD9AQ04 A107TZB04 A123P32YZQ A123S1YZG A127S1YCQ 1-1825192-0 A131S1YZQ A201SCWZB04 A207SYCB04 A208J61ZQ0004 A221K12KAG A221S1YZQ A221T1TCQ A232K12KZQ A232M1YCQ A323S1CWZQ A423S1CWZG-M8 A423S1YZQ 12149A-3V 12156AX408 12147AGKX679


[^0]:    * 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.
    *** Also add appropriate suffix letter to military number
    ${ }^{\Delta}$ See page 12 for locking configurations.

[^1]:    * These positions are momentary. All others are maintained.

