

## ENVIRONMENTALLY SEALED TOGGLE

The T9 Toggle Switch is an ideal switch for demanding applications, compliant to MIL-DTL-3950, this high performance switch is a logical choice for use in environments where sealing and resistance to shock and vibration are required. The T9 is particularly suitable for applications in off-highway, aviation, commercial and industrial equipment. This compact, environmentally sealed switch is available in single and double pole configurations with a lever lockout option. Circuitry configurations include two or three positions with many combinations of OFF/ON in momentary and maintained action including ON-ON-ON.



### Quality Features:

- Compliant to MIL-DTL-3950
- Sealed per IP68 or per MIL-DTL-3950
- Electrical life 20,000 cycles full load
- Mechanical life 40,000 cycles
- Lever lockout option available
- Temperature range -65°C – +71°C
- UL, CSA, and CE approvals (pending)
- Maintained and momentary toggle action
- Optional panel seal

### T9 Part Number Code



\*Optional panel seal P/N 710196



## Single Pole



| OTTO PART NO. | MILITARY NO. | DASH NO. | CIRCUIT BY TOGGLE LEVER POSITION |         |                    | ELECTRICAL RATINGS - SEA LEVEL & 65,000 FT |           |           |         |           |           |
|---------------|--------------|----------|----------------------------------|---------|--------------------|--|-----------|-----------|---------|-----------|-----------|
|               |              |          | KEYWAY<br>1-2                    | CENTER  | OPP. KEYWAY<br>2-3 | 28 VDC                                     |           |           | 115 VAC |           |           |
|               |              |          |                                  |         |                    | LAMP                                       | RESISTIVE | INDUCTIVE | LAMP    | RESISTIVE | INDUCTIVE |
| T9-MS1-       | MS24523-     | 21       | ON                               | OFF     | ON                 | 5  | 20        | 15        | 3       | 15        | 10        |
|               |              | 22       | OFF                              | NONE    | ON                 |  |           |           |         |           |           |
|               |              | 23       | ON                               | NONE    | ON                 |  |           |           |         |           |           |
|               |              | 24       | NONE                             | OFF     | ON                 |  |           |           |         |           |           |
|               |              | 25       | NONE                             | MOM OFF | ON                 | 4  | 15        | 10        | 2       | 15        | 7         |
|               |              | 26       | MOM ON                           | NONE    | ON                 |  |           |           |         |           |           |
|               |              | 27       | MOM ON                           | OFF     | MOM ON             |  |           |           |         |           |           |
|               |              | 28       | MOM ON                           | OFF     | NONE               |  |           |           |         |           |           |
|               |              | 29       | MOM OFF                          | NONE    | ON                 |  |           |           |         |           |           |
|               |              | 30       | MOM ON                           | NONE    | OFF                |  |           |           |         |           |           |
| 31            | MOM ON       | OFF      | ON                               | 4       | 15                 | 10   | 2         | 15        | 7       |           |           |
| 32            | NONE         | ON       | MOM ON                           |         |                    |  |           |           |         |           |           |
| T9-MS1-       | MS24523-     | 33       | NONE                             | ON      | ON                 | 5  | 20        | 15        | 3       | 15        | 10        |

## Lever/Lock Single Pole



| OTTO BASE PART NO. | MILITARY NO. | DASH NO. | AVAILABLE LOCKOUTS (SEE CHART) | CIRCUIT BY TOGGLE LEVER POSITION |         |                    | ELECTRICAL RATINGS - SEA LEVEL & 65,000 FT |           |           |         |           |           |
|--------------------|--------------|----------|--------------------------------|----------------------------------|---------|--------------------|--|-----------|-----------|---------|-----------|-----------|
|                    |              |          |                                | KEYWAY<br>1-2                    | CENTER  | OPP. KEYWAY<br>2-3 | 28 VDC                                     |           |           | 115 VAC |           |           |
|                    |              |          |                                |                                  |         |                    | LAMP                                       | RESISTIVE | INDUCTIVE | LAMP    | RESISTIVE | INDUCTIVE |
| T9-MS1-            | MS24658-     | 21       | ALL                            | ON                               | OFF     | ON                 | 5  | 20        | 15        | 3       | 15        | 10        |
|                    |              | 22       | D F G                          | OFF                              | NONE    | ON                 |  |           |           |         |           |           |
|                    |              | 23       | D F G                          | ON                               | NONE    | ON                 |  |           |           |         |           |           |
|                    |              | 24       | E F K M                        | NONE                             | OFF (M) | ON                 |  |           |           |         |           |           |
|                    |              | 25       | F                              | NONE                             | OFF (M) | ON                 | 4  | 15        | 10        | 2       | 15        | 7         |
|                    |              | 26       | F                              | MOM ON                           | NONE    | ON                 |  |           |           |         |           |           |
|                    |              | 27       | E L N                          | MOM ON                           | OFF     | MOM ON             |  |           |           |         |           |           |
|                    |              | 28       | E                              | MOM ON                           | OFF     | NONE               |  |           |           |         |           |           |
|                    |              | 29       | F                              | MOM OFF                          | NONE    | ON                 |  |           |           |         |           |           |
|                    |              | 30       | F                              | MOM ON                           | NONE    | OFF                |  |           |           |         |           |           |
|                    |              | 31       | E F K L M N                    | MOM ON                           | OFF     | ON                 | 4  | 15        | 10        | 2       | 15        | 7         |
| 32                 | E            | NONE     | ON                             | MOM ON                           |         |                    |  |           |           |         |           |           |
| T9-MS1-            | MS24658-     | 33       | E F K M                        | NONE                             | ON      | ON                 | 5  | 20        | 15        | 3       | 15        | 10        |



# TOGGLE SWITCHES

T9  
TOGGLE

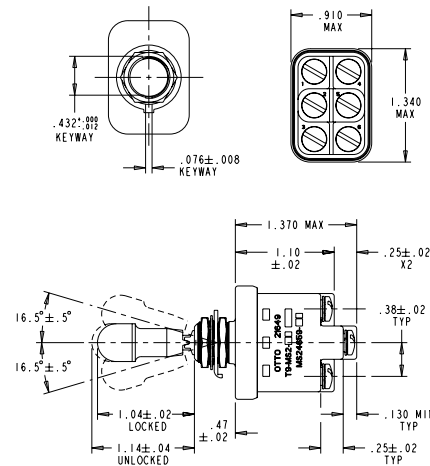
## Double Pole



| OTTO BASE PART NO. | MILITARY STANDARD | DASH NO. | CIRCUIT CONFIGURATION |         |                          | ELECTRICAL CURRENT RATINGS (AMPS) - SEA LEVEL & 65,000 FT                                       |   |           |   |                              |           |
|--------------------|-------------------|----------|-----------------------|---------|--------------------------|---|---|-----------|---|------------------------------|-----------|
|                    |                   |          | KEYWAY<br>1-2 / 4-5   | CENTER  | OPP. KEYWAY<br>2-3 / 5-6 | 28 VDC  |   |           | 115 VAC, 60Hz & 400Hz                       |                              |           |
|                    |                   |          |                       |         |                          | LAMP  | RESISTIVE   | INDUCTIVE | LAMP  | RESISTIVE                    | INDUCTIVE |
| T9-MS2-            | MS24524-          | 21       | ON                    | OFF     | ON                       | 7   | 20  | 15        | 4   | 15                           | 10        |
|                    |                   | 22       | OFF                   | NONE    | ON                       |   |   |           |   |                              |           |
|                    |                   | 23       | ON                    | NONE    | ON                       |   |   |           |   |                              |           |
|                    |                   | 24       | NONE                  | OFF     | ON                       |   |   |           |   |                              |           |
|                    |                   | 25       | NONE                  | MOM OFF | ON                       |   |   |           |   |                              |           |
|                    |                   | 26       | MOM ON                | NONE    | ON                       | 5   | 18  | 10        | 2   | 11                           | 8         |
|                    |                   | 27       | MOM ON                | OFF     | MOM ON                   |   |   |           |   |                              |           |
|                    |                   | 28       | MOM ON                | OFF     | NONE                     |   |   |           |   |                              |           |
|                    |                   | 29       | MOM OFF               | NONE    | ON                       |   |   |           |   |                              |           |
|                    |                   | 30       | MOM ON                | NONE    | OFF                      |   |   |           |   |                              |           |
| 31                 | MOM ON            | OFF      | ON                    |         |                          |   |   |           |   |                              |           |
| OTTO BASE PART NO. | MILITARY STANDARD | DASH NO. | KEYWAY                | CENTER  | OPP. KEYWAY              | 28 VDC  |   |           | 115 VAC                                     |                              |           |
| T9-MS2-            | MS24524-          | 32       | NONE                  | ON      | MOM ON                   | LAMP <td>RESISTIVE <td>INDUCTIVE</td> <td>LAMP <td>RESISTIVE <td>INDUCTIVE</td> </td></td></td> | RESISTIVE <td>INDUCTIVE</td> <td>LAMP <td>RESISTIVE <td>INDUCTIVE</td> </td></td> | INDUCTIVE | LAMP <td>RESISTIVE <td>INDUCTIVE</td> </td> | RESISTIVE <td>INDUCTIVE</td> | INDUCTIVE |
|                    |                   | 33       | NONE                  | ON      | ON                       | 5   | 18  | 10        | 2   | 11                           | 8         |
|                    |                   |          |                       |         |                          | 7   | 20  | 15        | 4   | 15                           | 15        |



## Lever/Lock Double Pole



| OTTO BASE PART NO. | MILITARY STANDARD | DASH NO. | AVAILABLE LOCKOUTS (SEE CHART) | CIRCUIT CONFIGURATION |         |                          | ELECTRICAL CURRENT RATINGS (AMPS) - SEA LEVEL & 65,000 FT                                       |   |  |   |                              |           |
|--------------------|-------------------|----------|--------------------------------|-----------------------|---------|--------------------------|---|---|--|---|------------------------------|-----------|
|                    |                   |          |                                | KEYWAY<br>1-2 / 4-5   | CENTER  | OPP. KEYWAY<br>2-3 / 5-6 | 28 VDC  |   |  | 115 VAC, 60Hz & 400Hz                       |                              |           |
|                    |                   |          |                                |                       |         |                          | LAMP  | RESISTIVE   | INDUCTIVE  | LAMP  | RESISTIVE                    | INDUCTIVE |
| T9-MS2-            | MS24659-          | 21       | ALL                            | ON                    | OFF     | ON                       | 7   | 20  | 15   | 4   | 15                           | 10        |
|                    |                   | 22       | D, F, G                        | OFF                   | NONE    | ON                       |   |   |  |   |                              |           |
|                    |                   | 23       | D, F, G                        | ON                    | NONE    | ON                       |   |   |  |   |                              |           |
|                    |                   | 24       | E, F, K, M                     | NONE                  | OFF     | ON                       |   |   |  |   |                              |           |
|                    |                   | 25       | F                              | NONE                  | MOM OFF | ON                       |   |   |  |   |                              |           |
|                    |                   | 26       | F                              | MOM ON                | NONE    | ON                       | 5   | 18  | 10   | 2   | 11                           | 8         |
|                    |                   | 27       | E, L, N                        | MOM ON                | OFF     | MOM ON                   |   |   |  |   |                              |           |
|                    |                   | 28       | E                              | MOM ON                | OFF     | NONE                     |   |   |  |   |                              |           |
|                    |                   | 29       | F                              | MOM OFF               | NONE    | ON                       |   |   |  |   |                              |           |
|                    |                   | 30       | F                              | MOM ON                | NONE    | OFF                      |   |   |  |   |                              |           |
|                    |                   | 31       | E, F, K, L, M, N               | MOM ON                | OFF     | ON                       |   |   |  |   |                              |           |
| OTTO BASE PART NO. | MILITARY STANDARD | DASH NO. | E                              | KEYWAY                | CENTER  | OPP. KEYWAY              | 28 VDC  |   |  | 115 VAC                                     |                              |           |
| T9-MS2-            | MS24659-          | 32       | E                              | NONE                  | ON      | MOM ON                   | LAMP <td>RESISTIVE <td>INDUCTIVE <td>LAMP <td>RESISTIVE <td>INDUCTIVE</td> </td></td></td></td> | RESISTIVE <td>INDUCTIVE <td>LAMP <td>RESISTIVE <td>INDUCTIVE</td> </td></td></td> | INDUCTIVE <td>LAMP <td>RESISTIVE <td>INDUCTIVE</td> </td></td> | LAMP <td>RESISTIVE <td>INDUCTIVE</td> </td> | RESISTIVE <td>INDUCTIVE</td> | INDUCTIVE |
|                    |                   | 33       | E, F, K, M                     | NONE                  | ON      | ON                       | 5   | 18  | 10   | 2   | 11                           | 8         |
|                    |                   |          |                                |                       |         |                          | 7   | 20  | 15   | 4   | 15                           | 15        |

TG SERIES

The TG series toggle guards are offered for two & three position switches with 15/32 -32 threaded bushings and slotted or flat keyways. All models feature spring loaded covers that lock in either the open or closed positions. In the open position the switch actuator operates on all positions freely, in the closed position, the switch actuator is locked in the desired position.

The toggle guard is easily installed on the switch from the front panel with two mounting hex nuts and an optional panel seal provided with each switch.

MS approved and QPL'd per MIL-DTL-7703 and MS25224-1



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- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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