



# Switches for the Industrial Market

Product Training Module



Service ◆ Selection ◆ Speed



# Introduction

## Purpose

- Introduce designers, engineers and customers to E-Switch's most frequently used switches suitable for industrial applications.

## Objective

- Define industrial fields along with devices and equipment used in those fields where electro-mechanical switches are required.
- Provide features and advantages of switch series.
- Review top selling switch series used in various industrial applications.

## Content

- 15 pages

# Overview

## Industrial Fields That Use Electro-mechanical Switches

- Manufacturing
- Construction
- Mining (Mineral, Oil, Gas)
- Energy
- Waste Management
- Wildlife Conservation
- Fishing
- Transportation (Railroad, cargo planes, cargo ships, trucking)
- Forestry
- Agriculture (Dairy, Farming, Ranching)



# Frequently Requested Switches for Industrial Solutions

Switches frequently used for industrial applications, but not limited to, are as follows:

- Anti-vandal
- Pushbutton
- Rocker
- Tact





# Anti-vandal Features and Advantages

## Anti-vandal Switches

- E-Switch's anti-vandal PV series and ULV series are rated IP65 or IP67 to withstand rugged use and harsh environmental elements such as moisture and debris
- Option of dot, ring or power symbol illumination offers aesthetic design control
- Option of non-illuminated or illuminated in many color choices for design and function flexibility
- Switch diameters range from 12mm to 28mm to fit any size equipment panel with the exception of the PVL Series pilot lamp indicator, which ranges from 6mm – 19mm

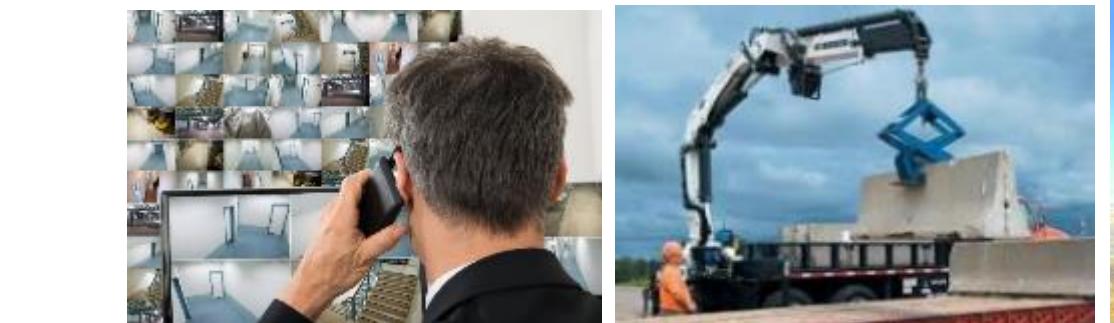




# Anti-vandal Switch Applications

## Applications

- Intercom Boxes
- Security Doors & Gate Code Boxes
- Video Surveillance Control Panels
- Fire Alarm Systems
- Vehicle Charging Stations
- Manufacturing Equipment
- Mining and Excavating Equipment
- Construction Equipment
- Cargo Shipping Cranes
- Fishing Boats
- Transportation
- And Related Equipment





# Pushbutton Features and Advantages

## Pushbutton Switches

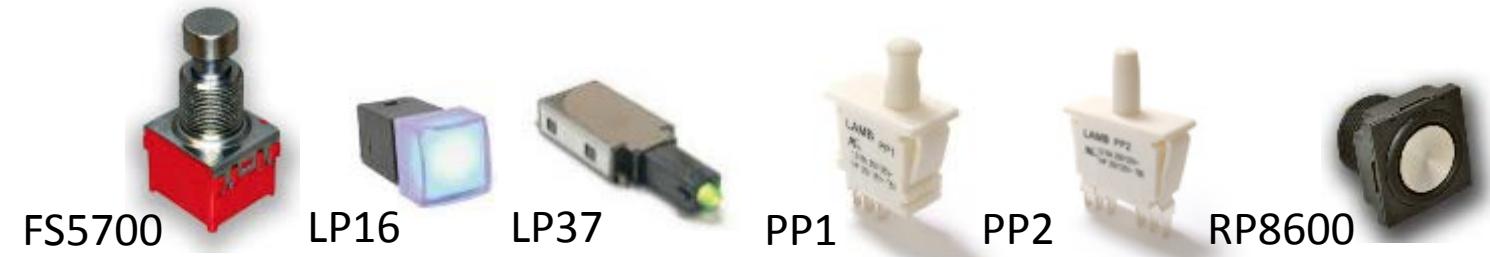
- Offers termination options such as through hole and surface mount
- Wide range of cut-out panel sizes from 4.5mm to 30.5mm in diameter
- Non-illuminated and illuminated options in many color choices for design and function flexibility
- Many pushbuttons are IP certified



# Pushbutton Switch Applications

## Applications

- Lighting Control Systems
- Foot Switch Control on Equipment
- HVAC Equipment
- Motion Detector Control Panels
- Battery Charging Devices
- Programmable Power Supplies
- Air Traffic Communication Systems





# Rocker Features and Advantages

## Rocker Switches

- Offer several termination options such through hole, panel mount, surface mount, solder lugs, screw terminals and quick connect tabs
- Available in many shapes, sizes and colors, plus the option of standard or custom symbols on the actuator
- Non-illuminated and illuminated options in several color choices for design and function flexibility





# Rocker Switch Applications

## Applications

- Surge Protectors
- Power Distribution Control Panels
- Safety Utility Switches
- Battery Charging Devices
- Equipment Dashboards
- Agricultural Equipment Controls
- Utility Vehicle Controls



RSC



R5



RR5



RB1



R7



RRG3





# Tact Switch Features and Advantages

## Tact Switches

- Offer several termination options such through hole, right angle and dual stacked actuators
- Provide a range of profile heights from .55mm to 17.0mm
- Come in a wide range of sizes, from micro-miniature measurement of 3mm x 2mm to a large tactile surface of 12mm x 12mm
- Non-illuminated and illuminated options in many color choices for design and function flexibility
- Numerous tact switches offer multiple gram force options





# Tact Switch Applications

## Applications

- Remote Control Devices
- Programmable Lighting Systems
- Thermostats
- Intrusion Detectors and Alarm Systems
- Video Surveillance Control Panels
- Instrumentation Interface Control Panels



TL1220



TL1105



TL3301



TL3303



TL3360



TL6100



TL6105

# Resources

**www.e-switch.com**



The screenshot shows the E-SWITCH website homepage. At the top, there is a navigation bar with links for Contact Us, Catalog Request, Sample/Quote Request, and Distributor Stock Check. Below the navigation bar is the E-SWITCH logo and an Extranet Login link. To the right is a search bar with a 'GO' button. The main menu bar includes links for Product Catalog, Training, Where to Buy, Technical Information, and About E-Switch, with the 'Product Catalog' link highlighted in red. A pink arrow points to the 'Catalog by Type' link under the Product Catalog menu. The central content area features a green banner for an 'Illuminated Slide Switch' with a blue LED. To the left of the banner, there is a list of unique features: 2.0mm travel, Multiple LED colors, Compact SMT design, LED illuminated actuator, and DPDT circuit with two positions. To the right of the banner, there is a 'CLICK HERE For More Information!' button. On the right side of the page, there are links for 3D Models (with an STP file icon) and Request 3D Model (with a document icon). At the bottom right is a 'Product Matrix' link.

https://www.e-switch.com

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Extranet Login

**E-SWITCH®**

Search Part No, Drawing, Series GO

Product Catalog Training Where to Buy Technical Information About E-Switch 800.867.2717

Catalog by Type

Catalog by Features

Cap Options

**Illuminated Slide Switch**

Unique features:

- 2.0mm travel
- Multiple LED colors
- Compact SMT design
- LED illuminated actuator
- DPDT circuit with two positions

CLICK HERE For More Information!

3D Models

Request 3D Model

Product Matrix

# Resources

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**800.867.2717**

**INTRODUCING... E-Switch Virtual Solutions**

Our complete array of anti-vandal switches... at your fingertips!

CLICK HERE to interact with our virtual solutions

**E-SWITCH®**

**3D Drawings**

Request 3D Drawings

**Product Matrix**

# Resources

## Data Sheet

**TL3750 SERIES TACT SWITCH**

**APPLICATIONS / MARKETS**

- Wearable
- Computer
- Industrial
- Automotive
- Medical
- Telecommunications
- Instrumentation
- Automotive
- Medical

**RoHS**

**SPECIFICATIONS**

- Electrical Rating: 50mA @ 12VDC
- Electrical Life: 300,000 Cycles
- Operational Life: 300,000 Cycles
- Contact Resistance: 50mΩ Max. Initial
- Insulation Resistance: 100MΩ at 100VDC
- Dielectric Strength: 1000VAC for 1 min.
- Operating Temperature: -40°C to 80°C
- Storage Temperature: -40°C to 90°C
- Operational Force: 100, 180, 340 g
- Travel: 0.1mm
- Contact Arrangement: SPST

**FEATURES & BENEFITS**

- Ultraminiature - 3.0mm x 3.0mm
- Surface mount termination
- Very low profile - 0.6mm

**PART NUMBER CONFIGURATOR**

Series	Model	Activator Option	Activator Force	Contact Material	Termination
<input type="checkbox"/>	TL3750	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	A-4.0mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				Q-Silver	Q-DuoWing

Specifications subject to change without notice

**E-SWITCH®** [www.e-switch.com](http://www.e-switch.com) 800.897.2717

## 3D Models. jpg



## Switch Samples



## Summary

- In summary, E-Switch provided an overview of solutions and switch series which are suitable for industrial applications.
- E-Switch provided features and advantages for switches that are in high demand for the industrial market. Those switches include anti-vandal, pushbutton, rocker and tactile.
- The advantages of anti-vandal switches include IP certification and multiple options such as non-illuminated and illuminated, termination, gram force and wide selection in size and profile height.
- Pushbutton features offer termination options of through hole and surface mount; offer various cut-out panel sizes from 4.5mm to 30.5mm in diameter; and provide non-illuminated and illuminated options in many color choices.
- Rocker switches feature termination options, offer many shapes, sizes and colors, plus the option of standard or custom symbols on the actuator and non-illuminated and illuminated options in many color choices
- The advantages of tact switches include several termination options, provide a range of profile heights from .55mm to 17.0mm, come in a wide range of sizes and are available non-illuminated and illuminated with many color choices.