



E-SWITCH®

# 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

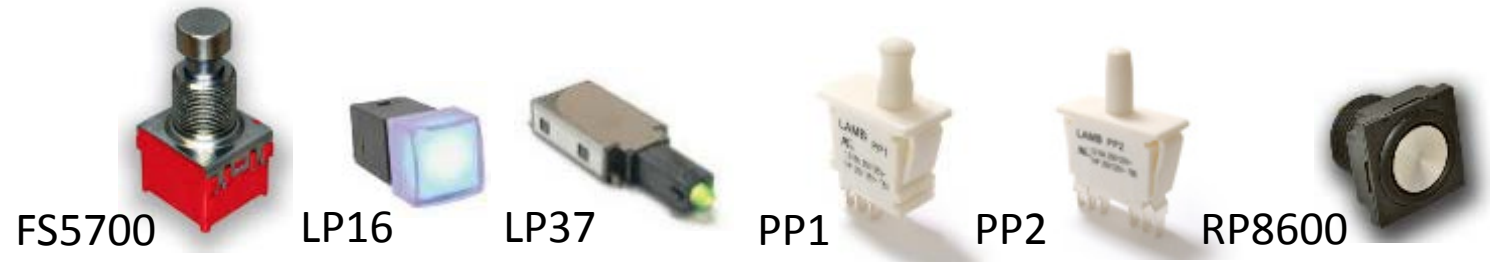
- Offers termination options such as through hole and surface mount
- Wide range of cut-out panel sizes from 4.5mm to 30.5mm in diameter
- Non-illuminated and illuminated options in many color choices for design and function flexibility
- Many pushbuttons are IP certified



# 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](http://www.e-switch.com)

The screenshot shows the E-Switch website interface. At the top, there's a browser tab labeled 'Electronic Switches - Pus' and the URL 'https://www.e-switch.com'. Below the URL bar, there are four navigation links: 'Contact Us', 'Catalog Request', 'Sample/Quote Request', and 'Distributor Stock Check'. The main header features the 'E-SWITCH' logo, an 'Extranet Login' link, and a search bar with the text 'Part No, Drawing, Series' and a 'GO' button. A horizontal navigation bar contains links for 'Product Catalog', 'Training', 'Where to Buy', 'Technical Information', 'About E-Switch', and a phone number '800.867.2717'. A purple arrow points to the 'Product Catalog' dropdown menu, which lists 'Catalog by Type', 'Catalog by Features', and 'Cap Options'. The main content area features a large banner for 'LED Illuminated Slide Switch' with a list of 'Unique features: 2.0mm travel, Multiple LED colors, Compact SMT design, LED illuminated actuator, DPDT circuit with two positions'. To the right of the banner is a '3D Models' section with a 'Request 3D Model' button and a 'Product Matrix' link at the bottom right.

Electronic Switches - Pus X

https://www.e-switch.com

Contact Us Catalog Request Sample/Quote Request Distributor Stock Check

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

LED 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

www.e-switch.com

The screenshot shows the E-Switch website homepage. At the top, a navigation bar contains links: [Contact Us](#), [Catalog Request](#), [Sample/Quote Request](#) (circled in purple), and [Distributor Stock Check](#). Below this is an [Extranet Login](#) link. The E-Switch logo is prominently displayed. To the right of the logo is a search bar with the placeholder text "Part No, Drawing, Series" and a red "GO" button. Below the search bar is a horizontal menu with links: [Product Catalog](#), [E-Cross™](#), [Where to Buy](#), [Technical Information](#), and [About E-Switch](#). The phone number **800.867.2717** is displayed below the menu. The main content area features a large orange banner titled "INTRODUCING... E-Switch Virtual Solutions". The banner includes the text "Our complete array of anti-vandal switches... at your fingertips!" on the left, a grid of 24 small images of various switches in the center, and the text "CLICK HERE to interact with our virtual solutions" on the right. The E-Switch logo is at the bottom right of the banner. To the right of the banner is a sidebar with two sections. The top section is titled "3D Drawings" and contains a button with a 3D model icon and the text "Request 3D Drawings" (circled in purple). The bottom section is titled "Product Matrix" and features a small image of an E-Switch component.

Contact Us Catalog Request **Sample/Quote Request** Distributor Stock Check

Extranet Login

**E-SWITCH®**

Search Part No, Drawing, Series **GO**

Product Catalog E-Cross™ Where to Buy Technical Information About E-Switch

**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**

**E-SWITCH®**



# Resources

## Data Sheet

TL3750 SERIES TACT SWITCH

APPLICATIONS / MARKETS

RoHS

**SPECIFICATIONS**

Electrical Rating: 50mA @ 12VDC  
Electrical Life: 300,000 Cycles  
Mechanical Life: 300,000 Cycles  
Contact Resistance: 50mΩ Max. initial  
Insulation Resistance: 100MΩ (1 at 100VDC)  
Dielectric Strength: 100VAC for 1 min.  
Operating Temperature: -30°C to 85°C  
Storage Temperature: -40°C to 165°C  
Operating Force: 13N, 18N, 24N gf  
Travel: 0.13mm  
Contact Arrangement: SPST

**FEATURES & BENEFITS**

- Ultra-miniature - 3.8mm x 3.8mm
- Surface mount termination
- Very low profile - 0.58mm

**PART NUMBER CONFIGURATOR**

Series	Model	Actuator Option	Actuation Force	Contact Material	Termination
<input type="checkbox"/> TL	<input type="checkbox"/> 3750	<input type="checkbox"/> A - 8.9mm	<input type="checkbox"/> F100 - 100 gf <input type="checkbox"/> F130 - 130 gf <input type="checkbox"/> F240 - 240 gf	<input type="checkbox"/> 0 - Silver	<input type="checkbox"/> 0 - Gullwing

Specifications subject to change without notice

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[www.e-switch.com](http://www.e-switch.com) 800.867.2317

## 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.