Toggles A

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

Series TL Fully Illuminated Toggles

General Specifications

Electrical Capacity (Resistive Load)

Power Level (silver): 6A @ 125V AC or 3A @ 250V AC or 6A @ 12V DC for silver

Logic Level (gold): 0.4VA maximum @ 28V AC/DC maximum for gold
(Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)
Note: See Supplement Index for explanation of operating range.

Other Ratings

Contact Resistance: 10 milliohms maximum for silver; 20 milliohms maximum for gold

Insulation Resistance: 1,000 megohms minimum @ 500V DC

Dielectric Strength: 1,000V AC minimum between contacts for 1 minute minimum;
1,500V AC minimum between contacts & case for 1 minute minimum

Mechanical Life: 50,000 operations minimum

Electrical Life: 25,000 operations minimum for silver; 50,000 operations minimum for gold

Static Capability: Withstands 20 kilovolts ESD minimum

Nominal Operating Force: 1.9N for .689" (17.5mm) toggle; 2.5N for .433" (11.0mm) toggle

Angle of Throw: 25°

Materials & Finishes

Toggle: Polycarbonate

Housing: Glass fiber reinforced polyamide

Sealing Ring: Nitrile butadiene rubber

Base: Diallyl phthalate (UL94V-0)

Movable Contactor: Phosphor bronze with silver or gold plating

Movable Contacts: Silver alloy or copper with gold plating

Stationary Contact: Silver plus copper with silver plating or copper with gold plating

Lamp Contacts: Beryllium copper with silver plating

Power Terminals: Copper with silver or gold plating

Lamp Terminals: Brass with silver plating

Environmental Data

Operating Temperature Range: −10°C through +55°C (+14°F through +131°F)

Humidity: 90 ~ 95% humidity for 240 hours @ 40°C (104°F)

Vibration: 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 1.75 hours

Shock: 50G (490m/s^2) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

Installation

Mounting Torque: .98Nm (8.67 lb•in) maximum

Soldering Time & Temperature: Manual Soldering: See Profile B in Supplement section.
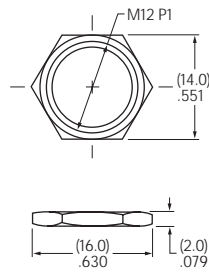
Standards & Certifications

Flammability Standards: UL94V-0 base

NKK SWITCHES

A Toggles

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STANDARD HARDWARE

OPTIONAL HARDWARE

AT527MA Black Hex Nut

Use as Face Nut
Chrome/Steel

M12 P1
(14.0)
.551
(16.0)
.630
(2.0)
.079

AT527M Hex Nut

Use as Backup Nut
Nickel/Steel

M12 P1
(14.0)
.551
(16.0)
.630
(2.0)
.079
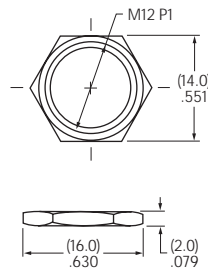
AT508 Lockwasher

Not to use with Panel Seal
Steel with Chromate/Zinc

(12.1)
.476
(15.8) Dia
.622
(13.8) Dia
.543
(1.0)
.039
(0.5)
.020
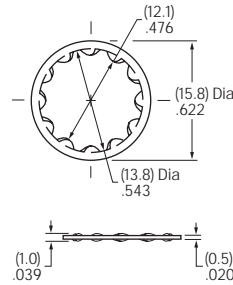
AT401P O-ring

Use for Panel Seal
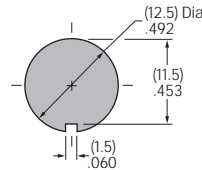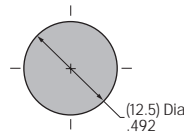Nitrile butadiene rubber

(12.1) Dia
.476
(17.5) Dia
.689
(1.5)
.059
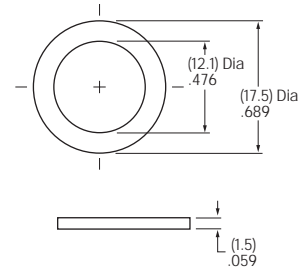
Hardware details in Accessories & Hardware section.

Panel Cutouts

Maximum Panel Thickness
with Standard Hardware:

.157" (4.0mm)

(12.5) Dia
.492

(12.5) Dia
.492
(11.5)
.453
(1.5)
.060

Maximum Panel Thickness
with Standard Hardware
& AT401P O-ring:

.236" (6.0mm)

NKK SWITCHES