General Specifications

Electrical Capacity

Power Level: 5A @ 125V AC, 3A @ 250V AC, & 3A @ 30V DC

Other Ratings

Contact Resistance: 10 milliohms maximum
Insulation Resistance: 200 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: 30,000 operations minimum
Electrical Life: 10,000 operations minimum
Nominal Operating Force: 9.94N for rockers & 4.41N for paddles
Angle of Throw: 24° for On-None-(On); 28° for all other circuits

Materials & Finishes

Housing: Stainless steel
Movable Contacts: Silver alloy
Stationary Contacts: Silver
Base: Phenolic resin
Common Terminal: Copper with silver plating
End Terminals: Copper with silver plating
Lamp Terminals: Phosphor bronze with nickel plating

Environmental Data

Operating Temperature Range: –10°C through +50°C (+14°F through +122°F)
Humidity: 90 ~ 95% humidity for 96 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 2 hours
Shock: 50G (490m/s^2) acceleration (tested in 3 right angled directions, with 3 shocks in each direction)

Installation

Cap Installation Force: 9.80N (2.2 lbf) for rockers;
19.61N (4.4 lbf) for paddle
Soldering Time & Temperature: Manual Soldering: See Profile A in Supplement section.

Standards & Certifications

UL: **File No. E44145 - Recognized only when ordered with marking on switch.**
Add "/U" or "/CUL" before first dash in part number to order UL recognized switch.
All models recognized at 5A @ 125V AC & 3A @ 250V AC.

Distinctive Characteristics

Industry's first miniature snap-in, lighted rocker switch.

Actuators in various styles operate with firm, well-defined movements.

Interlocking actuator prevents switch failure due to jamming or window locking.

Two bezel sizes adapt to varied panel cutouts.

Unique stainless steel retaining clips securely hold switches over a range of panel thicknesses, even when exposed to vibration.

Space conserving front panel mounting with minimum behind panel dimension of .902" (22.9mm).

Durable stainless steel housing prevents corrosion.

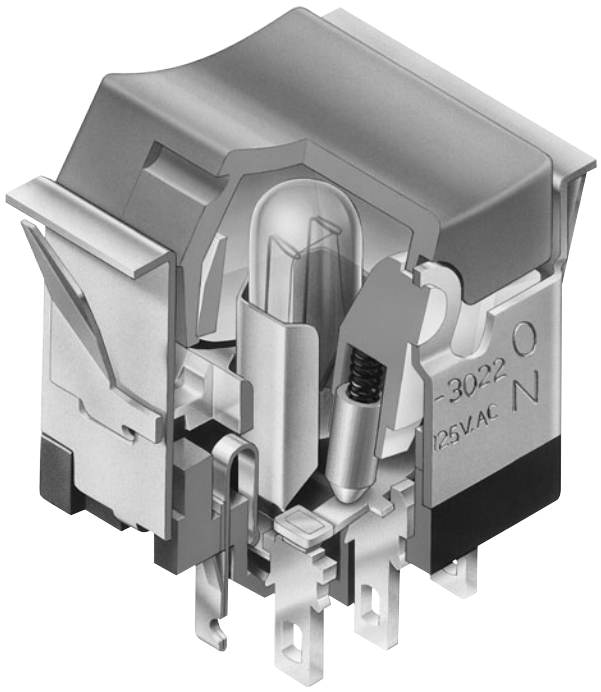
Isolated lamp circuit for incandescent, LED, and neon lamps. Front panel relamping.

Built-in protective cover shields contacts from dust.

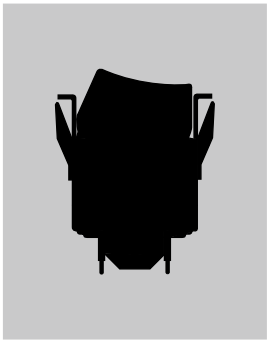
Epoxy sealed solder lug terminals lock out flux, dust, and other contaminants.

Extended lamp terminal for ease of wiring.

Matching indicators available.



Actual Size



TYPICAL SWITCH ORDERING EXAMPLE

MLW30 [2] [5] – [12] – [DC] – [1A]

Poles

1	SPDT
2	SP3T DPDT

Circuits

2	ON	NONE	ON
3	ON	OFF	ON
5	ON	NONE	(ON)
8	(ON)	OFF	(ON)
9	ON	OFF	(ON)
0	ON	ON	ON

( ) = Momentary

Lamps

Incandescent & Neon Lamps

00	No Lamp
06	6-volt
12	12-volt
18	18-volt
24	24-volt
28	28-volt
N	110-volt (not suitable with green & blue)

Single Element LED Colors

C	Red
E	Yellow
F	Green

Cap Types & Colors

Rocker	
RA	Black
RB	White
RC	Red
RD	Orange
RE	Yellow
RF	Green
RG	Blue
Paddle	
PA	Black
PB	White
PC	Red
PD	Orange
PE	Yellow
PF	Green
PG	Blue
Design Rocker	
DB	White
DC	Red
DD	Orange
DF	Green
DG	Blue
LED Rocker	
LB	White
LC	Red
LE	Yellow
LF	Green
Sculptured Rocker	
SB	White
SC	Red
SE	Yellow
SF	Green

Bezels/Colors

Standard	
1A	Black
1B	White
1C	Red
1D	Orange
1E	Yellow
1F	Green
1G	Blue
1H	Gray
Large	
2A	Black
2B	White
2C	Red
2D	Orange
2E	Yellow
2F	Green
2G	Blue
2H	Gray

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

MLW3025-12-DC-1A

IMPORTANT:

Switches are supplied without UL & cULus markings unless specified. **UL & cULus recognized only when ordered with marking on the switch.** Specific models & ratings noted on General Specifications page.

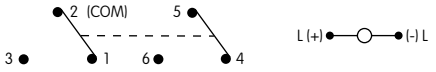
Note: Wire harness & cable assemblies offered only in Americas

POLES & CIRCUITS

Pole	Model	Rocker Position ( ) = Momentary: Up	Center	Down	Connected Terminals: Up	Center	Down	Throw & Power/Lamp Schematics
SP	**MLW3012**	ON	NONE	ON	2-1	OPEN	2-3	Notes: Terminal numbers are not actually on switch. Lamp circuit is isolated and requires an external power source.
	MLW3013	ON	OFF	ON				
	MLW3015	ON	NONE	(ON)				
	MLW3018	(ON)	OFF	(ON)				
	MLW3019	ON	OFF	(ON)				
DP	**MLW3022**	ON	NONE	ON	2-1 5-4	OPEN	2-3 5-6	
	MLW3023	ON	OFF	ON				
	MLW3025	ON	NONE	(ON)				
	MLW3028	(ON)	OFF	(ON)				
	MLW3029	ON	OFF	(ON)				

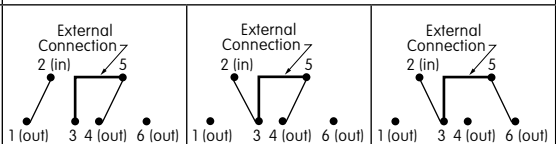
SPDT

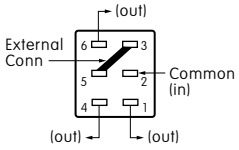
DPDT



For 3 Throw (3-On)

Pole	Model	Up	Center	Down	Connected Terminals & Schematics	External Connection
SP	**MLW3020**	ON	ON	ON		**The SP3T model utilizes a double pole base.**
With External Connection					2-1	2-4	2-6	External connection must be made during field installation.
Without External Connection					2-1 5-4	2-3 5-4	2-3 5-6	

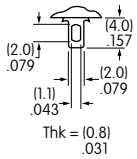




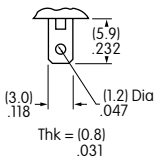
TERMINALS

Switch Terminals.

Center terminal is .020" (0.5mm) longer



Lamp Terminals



LAMP CODES & SPECIFICATIONS

Electrical specifications are determined at a basic temperature of 25°C. Lamp circuit is independent of switch operation.
For dimension drawings of lamps see Accessories & Hardware section.
For neon, if the source voltage is greater than rated voltage, a ballast resistor is required.
The ballast resistor calculation and more lamp detail are shown in the Supplement.

Incandescent & Neon Lamps for Solid & Design Caps

AT602 Incandescent **AT602N Neon**

T-1½ Pilot Slide Base

L(+) L(-)

		06	12	18	24	28	N
Voltage	V	6V AC	12V AC	18V AC	24V AC	28V AC	110V AC
Current	I	80mA	50mA	35mA	25mA	22mA	1.5mA
MSCP		.159	.215	.398	.215	.247	NA
Endurance	Hours	2,000 Average					15,000 Average
Ambient Temperature Range		−10°C ~ +50°C					−10°C ~ +50°C

Recommended Resistor for Neon: 33K ohms for 110V AC; 100K ohms for 220V AC

00 **No Lamp** Code 00 indicates that no lamp is used.

LED COLOR CODES & SPECIFICATIONS

Single Element LED

AT622 LED

T-1¾ Pilot Slide Base

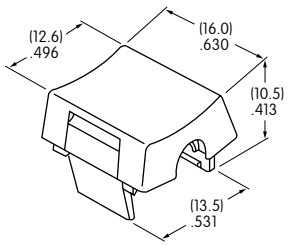
Resistor value calculation is shown in the Supplement.	Color	C Red	E Yellow	F Green
Forward Peak Current	I_{FM}	30mA	30mA	30mA
Typical Forward Current	I_F	20mA	20mA	20mA
Forward Voltage	V_F	1.85V	2.0V	2.1V
Reverse Peak Voltage	V_{RM}	5V	5V	5V
Current Reduction Rate Above 25°C	ΔI_F	0.40mA/°C	0.40mA/°C	0.40mA/°C
Ambient Temperature Range		−10°C ~ +50°C		

CAP TYPES & COLORS

For Incandescent or Neon Lamps

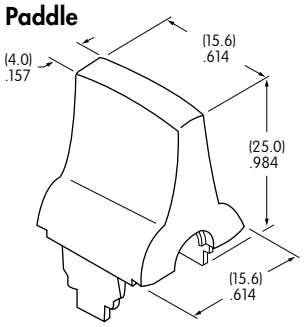
RA **AT405 Rocker**

RB **RE**
RC **RF**
RD **RG**



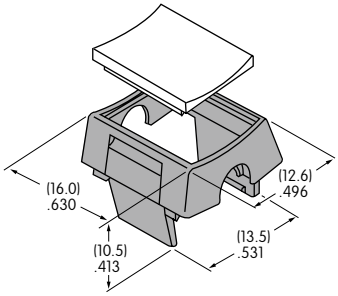
PA **AT426 Paddle**

PB **PE**
PC **PF**
PD **PG**



DB **AT438 Design Rocker**

DC
DD
DF
DG



Material: Translucent Polycarbonate Standard Finish: Glossy
Black Rocker/Paddle not for use with lamp

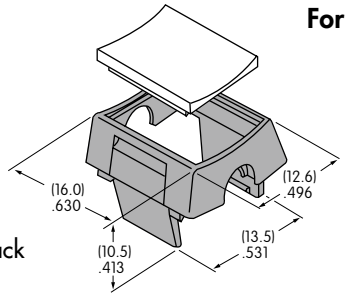
Translucent Colored Filter
Opaque Black Rocker Base

For LED

LB **AT4125 LED Rocker**

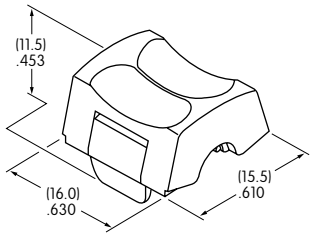
LC
LE
LF

Translucent Colored Diffuser and Opaque Black Rocker Base



SB **AT4127 Sculptured Rocker**

SC
SE
SF



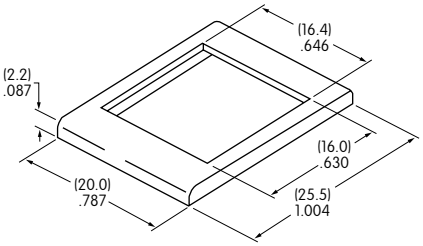
Material: Translucent Polycarbonate Standard Finish: Glossy

Color Codes: A Black B White C Red D Orange E Yellow F Green G Blue

OPTIONAL BEZELS

AT204 Standard Bezel .787" (20.0mm) Wide

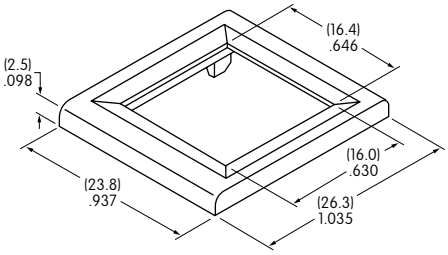
1A **1E**
1B **1F**
1C **1G**
1D **1H**



Material: Polycarbonate Standard Finish: Glossy

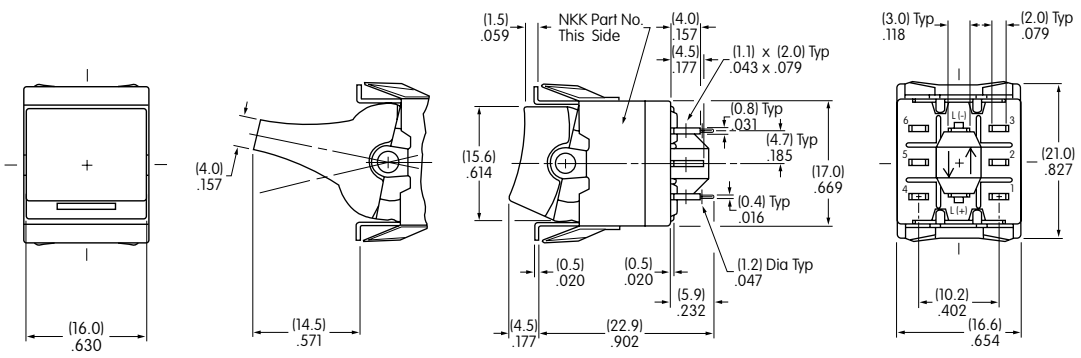
AT9201 Large Bezel .937" (23.8mm) Wide

2A **2E**
2B **2F**
2C **2G**
2D **2H**



Material: Polycarbonate Standard Finish: Glossy

TYPICAL SWITCH DIMENSIONS

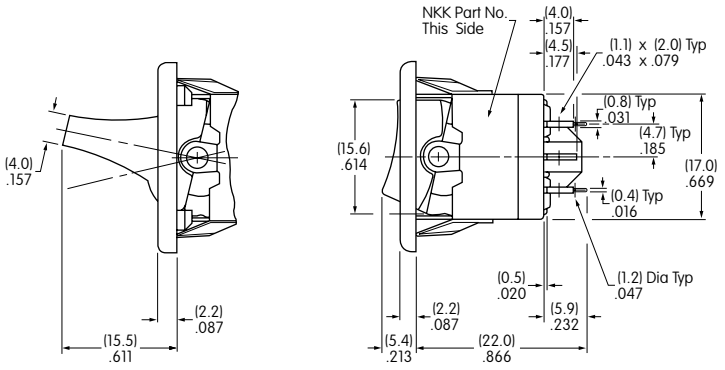


Without Bezel
Single & Double Pole

Actuator in UP position

Terminals 4, 5, & 6 are not on single pole models

MLW3022-12-PC

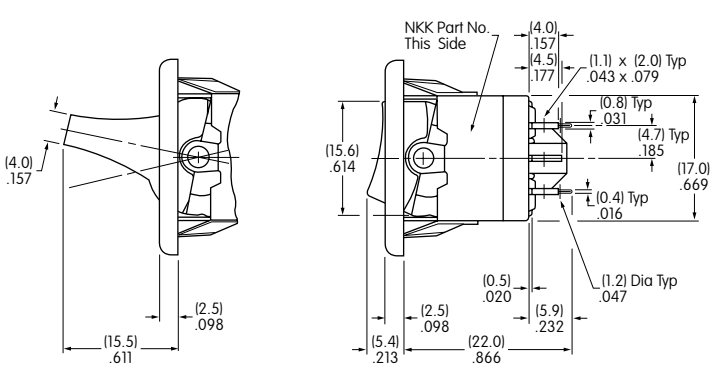


Standard Bezel
Single & Double Pole

Actuator in UP position

Terminals 4, 5, & 6 are not on single pole models

MLW3022-12-RC-1A

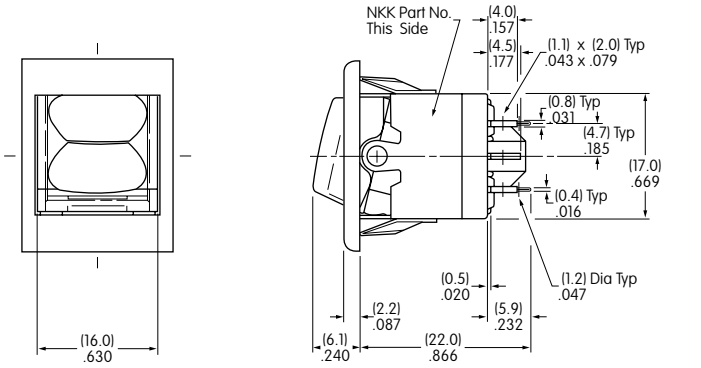


Large Bezel
Single & Double Pole

Actuator in UP position

Terminals 4, 5, & 6 are not on single pole models

MLW3022-12-PC-2A



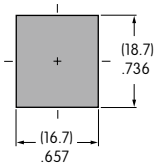
Sculptured Cap
Single & Double Pole

Actuator in UP position

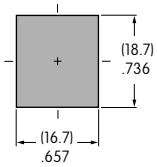
Terminals 4, 5, & 6 are not on single pole models

MLW3022-C-SC-1A

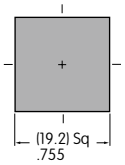
PANEL CUTOUTS & THICKNESSES



Without Bezel
.039″ ~ .157″ (1.0mm ~ 4.0mm)



With Standard Bezel AT204
.039″ ~ .118″ (1.0mm ~ 3.0mm)

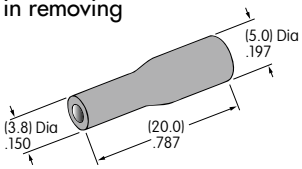


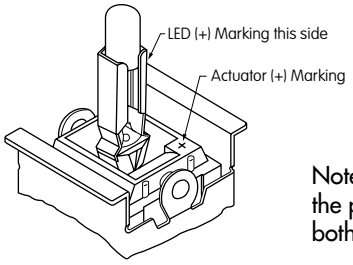
With Large Bezel AT9201
.039″ ~ .118″ (1.0mm ~ 3.0mm)

INSTALLATION & MAINTENANCE

Lamps and LEDs can be changed without removing the switch from the panel. The lamp extractor AT107 assists in removing lamps and LEDs.

AT107
Lamp Extractor

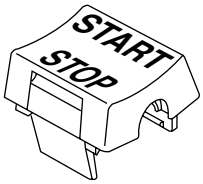




Note: When changing LEDs, match the positive polarity markings on both lamp base and actuator block.

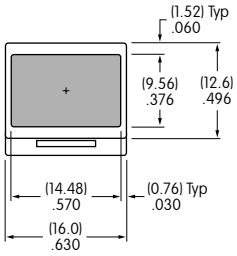
LEGENDS

NKK Switches can provide custom legends for caps. Contact factory for more information.

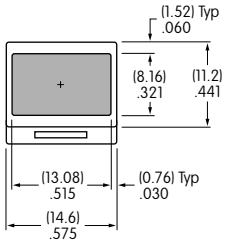


Recommended Print Method:
Pad Print
Epoxy based ink is recommended

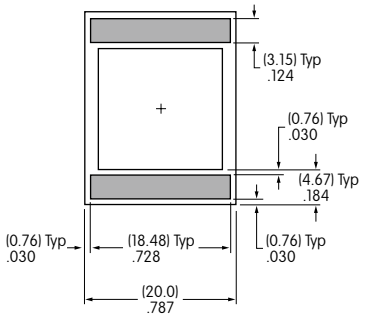
Rocker



Design Rocker & LED Rocker



Bezel



Shaded areas are printable areas.

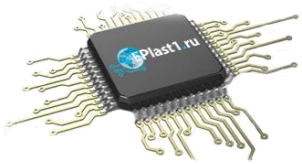
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)
Факс: 8 (812) 320-02-42
Электронная почта: org@eplast1.ru
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.