

# SPLASHPROOF SWITCHES

SOLUTIONS FOR HARSH ENVIRONMENTS  
IP65 AND IP67

INCLUDING  
NEW YB2  
SERIES



**NKK**<sup>®</sup>  
SWITCHES



## Maximum Protection for Harsh Environments

Although many switch applications reside in an environment where temperature and humidity are rigidly controlled, other applications such as medical devices, industrial controls, mining/construction machinery and marine equipment require protection from oil, dust, mist and often direct sprays of water. Environmentally sealed switches are specifically designed and manufactured to function in adverse conditions. NKK offers several environmentally sealed switch models that are ideally suited to the challenges of heat, humidity and exposure to the elements. Whenever an application requires water, oil or dust protection combined with harsh temperature and humidity conditions, NKK has the products, the customer support and the technical expertise needed to help engineers choose the right switch for their application.

### IP Ratings

NKK offers an array of switches that conform to the protection ratings specified by the IEC60529 standard. The IEC60529 standard classifies the degrees of protection of-

ferred by switches and similar electronic components against the ingress of foreign objects and water. These degrees of protection are expressed using IP (ingress protection) ratings. IP65-rated switches protect against dust and direct high-pressure sprays of water, and IP67-rated switches protect against temporary immersion in up to one meter of water. NKK's sealed switches meet IP65/67 standards at the front panel, and in some cases even behind the panel.






### NKK Offers Variety

NKK's sealed switches are available in a wide range of actuator types, including toggle, rocker, pushbutton, and rotary. Illuminated toggle and pushbutton styles are also available in a panel seal option.



### Boots for Additional Protection

In addition to its sealed switches, NKK also offers a variety of splashproof boots that are compatible with a number of its toggle and pushbutton switches. When installed, these boots protect to a rating of IP65 at the front panel.





## Toggles (See NKK's Switch Guide or web site for complete part descriptions)

Switch Series	IP Rating	Electrical Capacity	Insulation Resistance	Dielectric Strength	Terminal Options	Operating Temperature	Mounting Type/ Panel Cutout	
<b>B Toggles</b> All Models with A1 Panel Seal Bushing	IP65	<b>Logic Level:</b> 0.4VA max. @ 28V AC/DC max.	500 megohms min. @ 500V DC	500V AC min. for 1 minute min.	PC	-30 ~ +85°C -22 ~ +185°F	6mm Bushing  Cutout: 6mm with Double Flat	
<b>M Toggles</b> All Models with Splashproof Bushings D3 D8 B3 L3 L8	IP67	<b>Logic Level:</b> 0.4VA max. @ 28V AC/DC max. <b>Power Level:</b> 6A @ 125V AC; 3A @ 250V AC; 3~4A @ 30V DC	1,000 megohms min. @ 500V DC	1,000V AC min. for 1 minute min.	Solder Lug Quick Connect PC Wirewrap	-30 ~ +85°C -22 ~ +185°F	6mm, 1/4-40 Thd or 12mm Bushing  Cutout: 6.5mm or 12.5mm with D Flat	
<b>S Toggles</b> All Panel Seal Models with Code AW	IP67	<b>Power Level:</b> 15~20A @ 125V AC or 30V DC; 6~15A @ 250V AC	1,000 megohms min. @ 500V DC	2,000V AC min. for 1 minute min.	Solder Lug	-30 ~ +70°C -22 ~ +158°F	12mm Bushing  Cutout: 12.5mm with D-flat	
<b>S Toggles</b> All Panel Seal Models with Code AL for Locking Lever	IP67	<b>Power Level:</b> 15~20A @ 125V AC or 30V DC; 6~15A @ 250V AC	1,000 megohms min. @ 500V DC	2,000V AC min. for 1 minute min.	Solder Lug	-30 ~ +70°C -22 ~ +158°F	12mm Bushing  Cutout: 12.5mm with D-flat	
<b>WT Series</b> All Models	Front Panel IP67 Behind Panel IP60 for Solder, Screw IP67 for Wire	<b>Power Level:</b> 10A @ 125V AC; 6A @ 250V AC; 10A @ 30V DC	200 megohms min. @ 500V DC	1,500V AC min. for 1 minute min.	Solder Lug Screw Wire Lead	-30 ~ +70°C -22 ~ +158°F	12mm Bushing  Cutout: 12.5mm with D-flat	


## Rockers (See NKK's Switch Guide or web site for complete part descriptions)

	Switch Series	IP Rating	Electrical Capacity	Insulation Resistance	Dielectric Strength	Terminal Options	Operating Temperature	Mounting Type/ Panel Cutout
	<b>JMW Series</b> All Models	IP67	10A @ 125/250V AC or 30V DC	1,000 megohms min. @ 500V DC	2,000V AC min. for 1 minute min.	Solder Lug .110" (2.8mm) Quick Con- nect	-25 ~ +85°C -13 ~ +185°F	Snap-in  Cutout: .984" x .606" (25.0 x 15.4mm)
	<b>WR Series</b> All Models	Front Panel IP67  Behind Panel IP60 for Solder, Screw, QC IP67 for Wire	<b>Power Level:</b> 15A @ 125/250V AC or 30V DC	200 meg- ohms min. @ 500V DC	1,250V AC min. for 1 minute min.	Solder Lug Screw Lug .250" (6.35mm) Quick Con- nect Wire Lead	-25 ~ +85°C -13 ~ +185°F	Snap-in  Cutout: 1.346" x .677" (34.2 x 17.2mm)




## Pushbuttons (Nonilluminated) (See NKK's Switch Guide or web site for complete part descriptions)

	<b>LB Series</b> All Models with Code W Panel Seal Mounting	IP65	<b>Logic Level:</b> 0.4VA max. @ 28V AC/DC max. <b>Power Level:</b> 3A @ 125/250V AC	200 meg- ohms min. @ 500V DC	1,000V AC min. for 1 minute min.	Solder Lug .110" (2.8mm) Quick Con- nect PCB Adap- tor available	-25 ~ +70°C -13 ~ +158°F	Bushing  Cutout: 22mm with Keyway
	<b>MB2000 Series</b> All Models with Splashproof D3 Bushing	IP67	<b>Logic Level:</b> 0.4VA max. @ 28V AC/DC max. <b>Power Level:</b> 6A @ 125V AC; 3A @ 250V AC; 3A @ 30V DC	1,000 megohms min. @ 500V DC	1,000V AC min. for 1 minute min.	Solder Lug .062" (1.57mm) Quick Con- nect PC Wirewrap	-30 ~ +85°C -22 ~ +185°F	6mm Bushing  Cutout: 6.5mm
	<b>WB Series</b> All Models	Front Panel IP67  Behind Panel IP60 for Solder, Screw IP67 for Wire	<b>Power Level:</b> 6A @ 125V AC; 3A @ 250V AC; 6A @ 30V DC	200 meg- ohms min. @ 500V DC	1,500V AC min. for 1 minute min.	Solder Lug Screw Lug Wire Lead	-30 ~ +70°C -22 ~ +158°F	12mm Bushing  Cutout: 12.5mm with D-flat
	<b>YB Series</b> All Models with Code W Panel Seal Mounting	IP65	<b>Logic Level:</b> 0.4VA max. @ 28V AC/DC max. <b>Power Level:</b> 3A @ 125/250V AC or 30V DC	200 meg- ohms min. @ 500V DC	1,000V AC min. for 1 minute min.	Solder Lug .110" (2.8mm) Quick Con- nect PC	-25 ~ +70°C -13 ~ +158°F	Bushing  Cutout: 16mm


## Pushbuttons (Nonilluminated) (See NKK's Switch Guide or web site for complete part descriptions)

Switch Series	IP Rating	Electrical Capacity	Insulation Resistance	Dielectric Strength	Terminal Options	Operating Temperature	Mounting Type/ Panel Cutout	
<b>YB2 Series</b>  All Models Flush Mount Panel Seal Only 1.8mm Above Panel Dimension	IP65	<b>Logic Level:</b> 0.4VA max. @ 28V AC/DC max. <b>Power Level:</b> 3A @ 125/250V AC or 30V DC	200 meg-ohms min. @ 500V DC	1,000V AC min. for 1 minute min.	Solder Lug .110" (2.8mm) Quick Connect PC	-25 ~ +70°C -13 ~ +158°F	Bushing  22mm with Keyway	


## Illuminated Pushbuttons (See NKK's Switch Guide or web site for complete part descriptions)

<b>LB Series</b>  All Models with Code W Panel Seal Mounting	IP65	<b>Logic Level:</b> 0.4VA max. @ 28V AC/DC max. <b>Power Level:</b> 3A @ 125/250V AC or 30V DC	200 meg-ohms min. @ 500V DC	1,000V AC min. for 1 minute min.	Solder Lug .110" (2.8mm) Quick Connect PCB Adaptor available	-25 ~ +50°C -13 ~ +122°F	Bushing  Cutout: 22mm with Keyway	
<b>YB Series</b>  All Models with Code W Panel Seal Mounting	IP65	<b>Logic Level:</b> 0.4VA max. @ 28V AC/DC max. <b>Power Level:</b> 3A @ 125/250V AC or 30V DC	200 meg-ohms min. @ 500V DC	1,000V AC min. for 1 minute min.	Solder Lug .110" (2.8mm) Quick Connect PC	-25 ~ +50°C -13 ~ +122°F	Bushing  Cutout: 16mm	
<b>YB2 Series</b>  All Models Flush Mount Panel Seal Only 1.8mm Above Panel Dimension	IP65	<b>Logic Level:</b> 0.4VA max. @ 28V AC/DC max. <b>Power Level:</b> 3A @ 125/250V AC or 30V DC	200 meg-ohms min. @ 500V DC	1,000V AC min. for 1 minute min.	Solder Lug .110" (2.8mm) Quick Connect PC	-25 ~ +50°C -13 ~ +122°F	Bushing  Cutout: 22mm with Keyway	

## Illuminated Toggles (See NKK's Switch Guide or web site for complete part descriptions)

	<p><b>TL Series</b> All Models</p>	<p>IP65 with optional o-ring AT401P</p>	<p><b>Logic Level:</b> 0.4VA max. @ 28V AC/DC max. <b>Power Level:</b> 6A @ 125V AC; 3A @ 250V AC; 6A @ 12V DC</p>	<p>1,000 megohms min. @ 500V DC</p>	<p>1,000V AC min. for 1 minute min.</p>	<p>Solder Lug</p>	<p>-10 ~ +55°C +14 ~ +131°F</p>	<p>12mm Bushing Cutout: 12.5mm</p>
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## Rotaries (See NKK's Switch Guide or web site for complete part descriptions)

	<p><b>MRB Series</b> All Models</p>	<p>IP67 with optional o-ring AT535</p>	<p><b>Logic Level:</b> 0.4VA max. @ 28V AC/DC max.</p>	<p>100 meg- ohms min. @ 500V DC</p>	<p>500V AC min. for 1 minute min.</p>	<p>PC with Bracket</p>	<p>-10 ~ +70°C +14 ~ +158°F</p>	<p>6mm Bushing Cutout: 6.2mm with Double Flat</p>
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## Wide Selection of Splashproof Boots

NKK offers a variety of splashproof boots that are compatible with a number of our toggle and pushbutton switches. These assemblies achieve IP65 of IEC60529 at the front panel.



PN	AT401	AT402	AT428	AT4041, 4042	AT4043	AT4181
<b>Material</b>	AT401A: Nitrile butadiene rubber AT401H: Ethylene propylene rubber AT401S: Silicone rubber	Silicone rubber for Black, Red, Yellow, Green Ethylene propylene rubber for Gray	Silicone rubber	Silicone rubber	Silicone rubber	Silicone rubber
<b>Color</b>	Black for AT401A Gray for AT401H Black for AT401S	Black, Red, Yellow, Green, Gray	Black	Black	Black	Black
<b>Bushing</b>	12mm	12mm	M6 or 1/4-40 Thd	M6 or 1/4-40 Thd	12mm	12mm

## Applicable Switch Series for Splashproof Boots

	AT401	AT402	AT428	AT4041	AT4042	AT4043	AT4181
	M12	M12	M6 or 1/4-40 Thd	M6 or 1/4-40 Thd	M6 or 1/4-40 Thd	M12	M12
M Toggles with standard bat	•	•	•				•
MB2000 with 6mm or 1/4-40 bushing and "S" plunger				•	•		
MB2000 with 12mm "B1" bushing						•	
P Toggles with code "B" large bat and 12mm bushing	•	•	•				•
S114; S116	•	•					•
S1A~S7A; S1F~S7F; S21A; S21F	•	•					•
S1AW~S9AW; S21AW; S25AW~S29AW	•						•
S31~S39; S31F~S33F; S31T~S33T; S41~S49; S41F~S43F; S41T~S43T	•	•					•
S301~S309; S301F; S301T~S309T; S331~S339; S331T~S339T; S331F~S335F; S421~S429; S421T~S429T	•	•					•
S821~S823; S831~S833	•						
SB61A; SB61B; SB221NC; SB221NO						•	
WB all models						•	
WT all models	•						•

# THE WORLD'S SOURCE FOR SWITCHES – FOR MORE THAN 50 YEARS

With decades of industry leadership, NKK is continually revolutionizing the switch industry by engineering and manufacturing some of the most inventive switch products available on the market today. In our efforts to lead the competition, we endeavor to develop new products and technologies that meet and exceed our clients' expectations.

Superior service is paramount to NKK. As a result, we make every effort to ensure complete satisfaction. To meet our customer's needs, our products are available through a network of strategically located distributors throughout the world. Our experience and knowledgeable service support teams are available to respond and help, whatever the challenge.

NKK is committed to not only providing high quality products and services but also providing environmentally safe products for its valued customers. Our manufacturing facilities have been ISO 14001 certified since 1998. NKK continues to lead the industry in responding to the needs of the marketplace with innovation, high reliability and a commitment to excellence.

