

# BLU $\Xi$ WATER $\Xi$ R

## ENTERPRISES, LLC

### Smart Switch Behavior

Did you know that the 9060 series electronic switches provide many assurances to the user above that of a typical mechanical switch. Not only are they IP69K they are intelligent; akin to that of a precision instrument and they have visual indicators to alert the user that attention may be required. They incorporate back lighting, switch on-off indication along with providing **Over Current** and **In- Rush** fault protection with indication. Each switch has a preset internal amp rating from 0,3,5,7,10,15 or 20 Amps purposefully for the circuit it is controlling so there is no need for an inline circuit breaker, greatly reducing integration. The AMP setting determines the trip curve like in kind to a traditional circuit breaker but there is more.

As noted above and in understanding that the electronic switch is a precision instrument it is extremely important that wire sizing on the application is appropriate to handle the electrical load of the entire switch panel as "IF" a high voltage loss is present leading to the switch (s) @ PIN 3 is undersized the switches will indicate this to the user with an erratic flashing behavior. It is not uncommon to find this in an application. IF you have verified appropriate conductor sizing and this behavior occurs one would then need to verify that any daisy chained jumpers are adequately sized. We recommend no less than 12 AWG input wire to PIN 3 or jumpers be utilized If a 10 amp or higher circuit protection is chosen.

There is a simple method one can utilize to recognize this by simply adding up the circuit protection Amp rating you have chosen for all of the switches in the panel; then ensure that the AWG/.ga (Gauge) of the wire/cable based upon its length leading into the switch (s) has been appropriately chosen. Example if your application has 10 switches and the Amperage protection chosen of each switch is 10 amps; the sum of all of the switches would be 100 amps and one should ensure that the wire/cable (s) leading to the switch panel is capable (has the ampacity) to adequately carry 100 amps indefinitely. A useful guide for choosing the appropriate conductor size by the total sum of amperage and conductor lengths (one way) can be found at [Tables \(boathowto.com\)](http://Tables(boathowto.com)) in accordance to ABYC recommendations.

### The Fault Indicators of the Electronic Switch

When exposed to **Over Current** the switch will display a **PURPLE** slow on-off blink. Indicating that it has been exposed to amperage load in excess of 120% of the amp setting of the switch or the output has a ground fault. Example: switch has 10 Amp setting. If more than 12 Amps is required by the load-device; the switch will recognize this and indicate the fault with a ***slow purple on-off blink*** and the load will be turned OFF.



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Simply press to RESET. Should this occur there is something that needs to be attended to between the switch and the load/device it is controlling (the amperage requirement is more than the Amp setting of the switch) If this occurs the device the switch is controlling could have a fault and should be attended to or could be grounded. If in doubt always measure the amperage consumption of the device while it is on and operating with a DC Clamp on ammeter or review the manufacturers product specifications to confirm normal amperage consumption should be. But be aware it could be a natural behavior of a device or pair of devices chosen and we will cover that a bit later in this document.

**In-Rush protection:** This has to do with instantaneous current being drawn by a load-device upon being switched on. Depending on the device and its environment the amperage requirement at turn on can be many times that of the continuous amperage requirement of the load/device in normal operation. This is natural of all devices but can be damaging to electronic components when it occurs over a short time span of milliseconds. The electronics within the switch recognize this and protect the switch and application from potential harm due to the magnitude of EFT (electrical fast transients) over a duration of time or a magnitude in excess of 120 Amps. When exposed to **In-Rush** exceeding this the switch will indicate the fault with a **slow WHITE on-off blink**. simply press to reset.



If one sees this indication an underlying concern should be addressed as continued exposure could result in damage to other electronic components on the application or switch failure.

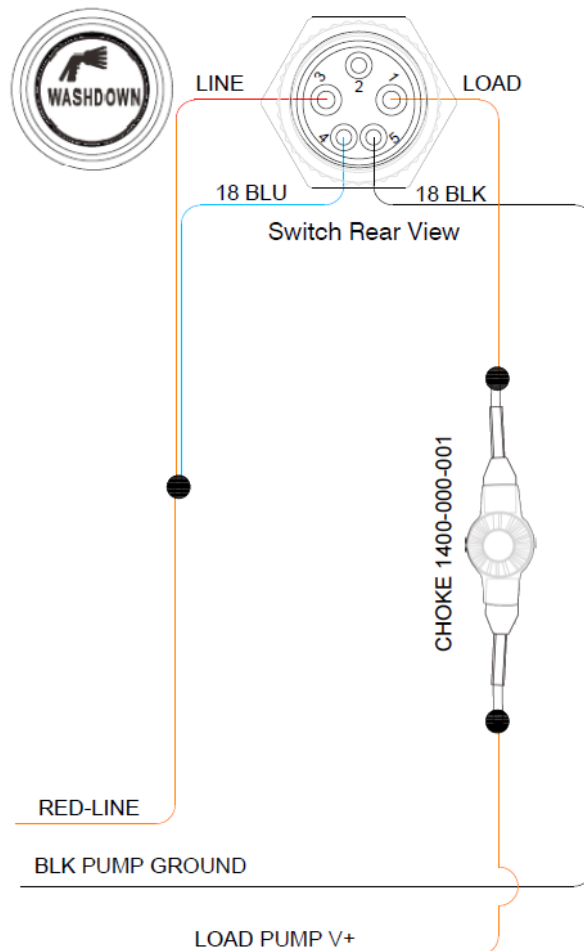
In understanding the above there are a few nuances or unique behaviors of electrical devices when being controlled by an electronic switch that could create one of the above faults. **In-Rush** indication can likely be present on multiple switches in a panel at one time and it is important to understand what device is attributing to the fault (typically at turn on). Knowing that quickly enables you to resolve it. Should it occur once it will occur again. But no worries as it can be easily corrected.

Example A: **Wash down pump.** Most have a pressure switch internal to the pump. When pressure is relieved from the head of the pump a set of electrical contacts either open or close to activate the pump enabling it to run to maintain a certain flow and or achieve a certain pressure by design. In doing so high inductive switching occurs that produces a significant magnitude of noise and can result in an Overcurrent and or In-Rush fault. We recommend that an in-line choke part ID: **1400-000-001** be installed that will suppress the resulting noise. It is installed into wire in between the output of the switch and the load/device. Any pump and or electric motor that triggers an Over Current fault routinely can be resolved by installing this choke. See **Figure 1**

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Figure 1

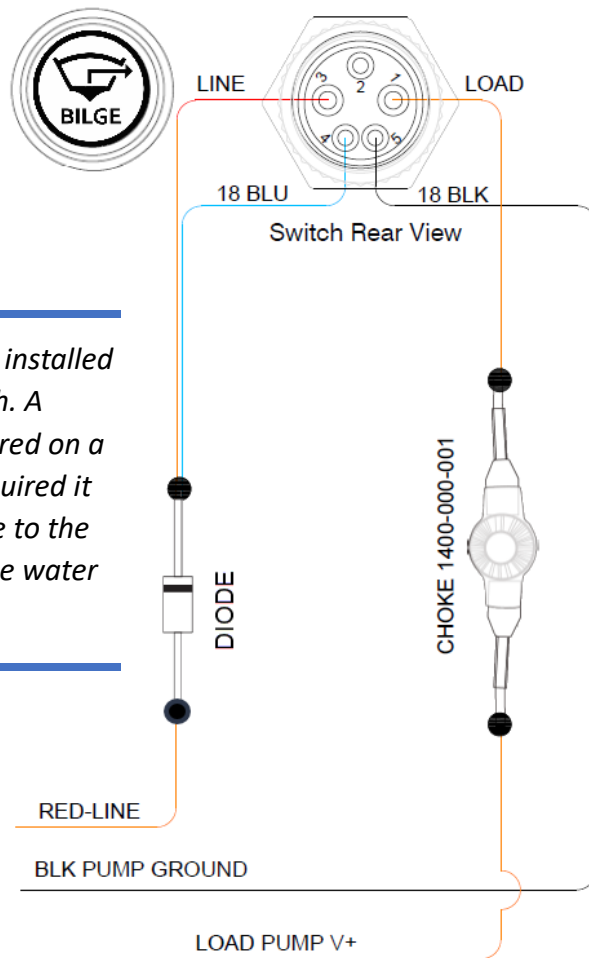


Example B: **Bilge Pump.** Most have a primary float switch that is wired into 24 hour circuit which is direct to the battery. In some cases with water movement the float switch could turn on and off when the switch is ON. In such a scenario "IF" the switch is being utilized for auto bilge indication... the 24 hour circuit will have a higher voltage than the switched circuit; this could cause an inrush or overcurrent fault. Due to this it is recommended that a choke be installed as close to the pump as possible above the water line to suppress noise that can be generated as a result. \* IF one is utilizing an electronic ON/OFF switch to manually control the bilge a Diode equivalent to part ID: DST2045AX- DIODE SCHOTTKY 45V 20A P600 must be installed into conductor leading into PIN 3 input to the switch with the cathode facing the switch to prevent the 24 hour auto bilge from back feeding and powering other devices on the boat IF the battery switch is OFF. See **Figure 2**

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FIGURE 2



A diode is **REQUIRED** to be installed on every bilge pump switch. A choke is not typically required on a bilge pump however **IF** required it should be installed as close to the pump as possible above the water line.

Example C: **Relays and Bi-Stable relays** such as a Remote Battery Switch or Charge Control Relay exhibit similar behavior as above only have low amperage requirements in some cases less than 250 milliamps not even 1 Ampere required by the device. But the bounce or magnitude of the resulting EFT (electrical fast transient) when being switched can be excessively high.

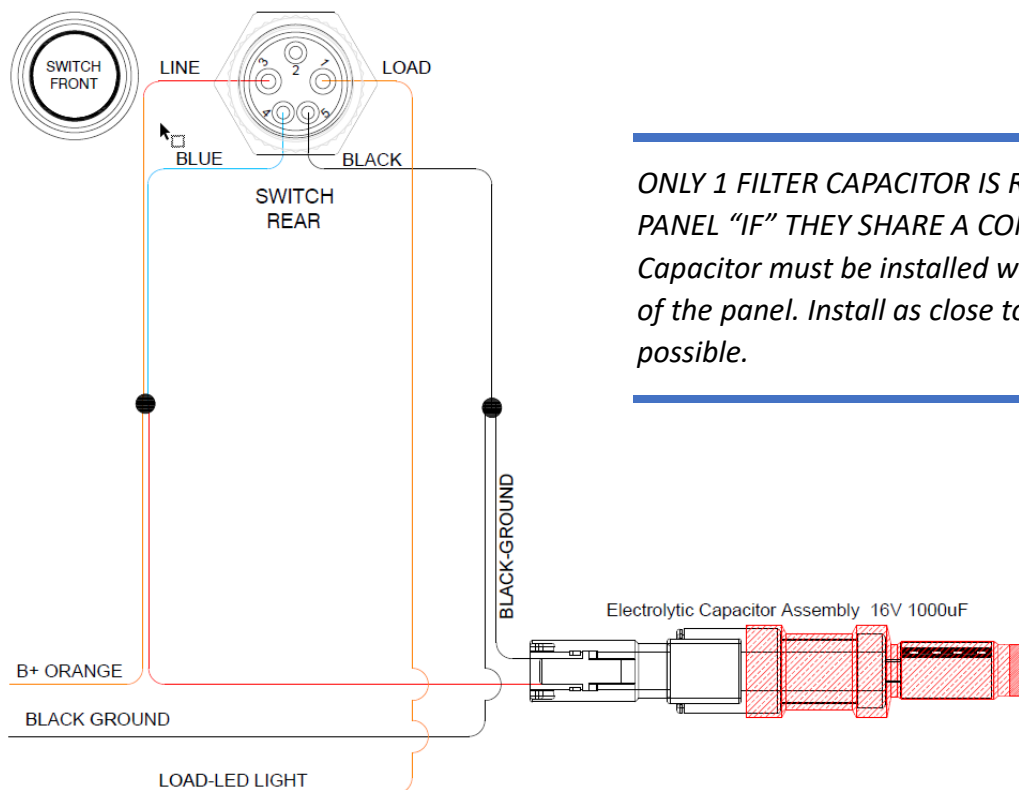
Example D: **LED Lights** not all but some have internal power controllers. Others have basic switching drivers and have high noise or EFT (electrical fast transients) present while operating and when being switched on of a high magnitude and are expected; some are harsher than others. Could be very small LED's or large spreader LED lights; either could have similar negative electronic behavioral effects. Again, even ones that consume less than 1 amp could be a significant contributor to faults.

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None of the above has to do with the quality of a particular manufacture it simply is an inherent characteristic of the referenced devices. However, there is a simple solution. Again, typically there is one switch or device when being turned on or operating that is attributing to the In-Rush fault indication and can be easily identified. Typically, when being turned on or off however in the LED light example it may not occur until after a long period of operation when voltage is depleted or temperature increases. In both examples C & D a 16V 1000uF electrolytic capacitor Part ID: **1406-000-001** can be installed across the Line V+ and Ground near the switch to correct the issue creating the fault. See **Figure 3** below.

**Figure 3**



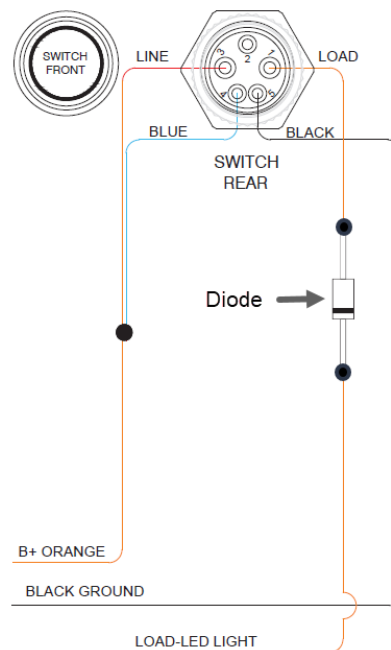
*ONLY 1 FILTER CAPACITOR IS REQUIRED PER PANEL "IF" THEY SHARE A COMMON B+ LINE. Capacitor must be installed within 36 inches of the panel. Install as close to the panel as possible.*

Example E: Some devices could have high impedance such as an LED with an internal driver or could have residual magnetism such as engine bay evacuation **Blowers** could have a no turn on symptom. Meaning that when one presses the switch to turn the device ON the device will not turn ON however the switch will flash white or purple immediately upon pressing the switch. To resolve this one can simply install a diode between the output of the switch and the device with the cathode facing the device. A part equivalent to manufacture part ID: DST2045AX- DIODE SCHOTTKY 45V 20A P600 See **Figure 4**

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Figure 4



Momentary Electronic Switches: They too can experience all the above outlined discoveries however it is important to note that WE DO NOT RECOMMEND utilizing our electronic momentary switch for PUSH to START applications unless a smart controller is being utilized. This is due to the natural poling within the starting motor, its armature and or specific soft start mechanisms within the starter. The switch will recognize this intrinsic and an immediate fault will occur. Bluewater does offer a plethora of mechanical switches for this purpose that do have the external esthetics of the many electronic switches we offer for this application.

As today applications are vast and new discoveries are presented daily, we encourage you to utilize our engineering services for design review, technical assistance and our recommendations.

					
Blue indicates Back Lighting only if utilized	Green Indicates ON with first Press relative to OFF-ON-ON variants	RED indicates ON with OFF-ON First press and ON with Second press in OFF-ON-ON variants	Yellow indicates Auto mode in timer and auto Nav/Anch variants	Purple indicates OVER CURRENT FAULT	White indicates IN-RUSH Fault

\* If multiple switches are in one switch panel and they begin to randomly flash and or automatically change color... It typically indicates that low voltage is present. Check state of battery charge and or voltage loss in primary B+ supply circuit leading to switch panel

## Programmable Inrush Breaker Switch

IP 69K / 20A / 120A Inrush / 8 prg Amp

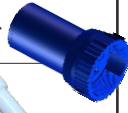

### Features

- ▶ Electrical Rating 1 Channel 20A, 2 Channels 10A max.
- ▶ 8 programmable Amp positions : 3,5,6,7.5,10,15,20,0.
- ▶ Easy setup the breaker current by press and hold the button.
- ▶ Inrush Protection, our switch hold 120Amp Inrush for 120us before fault mode trips !
- ▶ Stainless Steel SS316 Body and IP69K Waterproof Rating.
- ▶ Protection from Salt Spray (Fog) Test (EN ISO 9227-17).
- ▶ 20g Bump Shock Test Approved.
- ▶ Switch meet Flammability Rating UL 94V2 and All material will be non-flammable or will be 105°C spec.
- ▶ When the pump is running, the LED turns red automatically

### Specification

8 programmable Amp Trips current	3, 5, 6, 7.5, 10, 15, 20, 0
Illuminated	Blue, Green, Red, Yellow, Purple, White LED
Voltage Rating	9VDC ~ 24 VDC
Current Rating	20A 12VDC, 80A Surge (200 ms)
Reverse Polarity Protection	24 VDC
Initial Contact Resistance	≤ 10 mΩ
Overload Protection	≥ 120A, Flashing white LED Outputs do not function Switch is reset by press button
Mechanical Life	50,000 Cycles
Electrical Life Contact	10,000 Cycles
Resistance Insulation	50 MΩ Maximum
Resistance	1000 MΩ Mimumum
Dielectric Strength	2,000 VAC
Operate Storage Temp	-20°C ~ +55°C
Travel	1.50mm
Moisture Protection	IP69K
Contact Material	Silver Alloy
Actuation Force	4 N
Panel Thickness	1-6mm
Mounting Nut Torque	5-14Nm
<b>Construction Material</b>	
Body Material	Stainless Steel SS316
Lens Material	PC material rated to 105°C
Switch Plug & Dongle	Nylon 6 rated to 105°C
<b>Deutsch Recommended Part#</b>	
Large socket	0462-203-12141
Small socket	0462-209-16141
Dummy Plug	14017-ZZ

### Part No.

Function	Parts No.	Off	1st On	2nd On	3rd On	Rear Mark	Page	
Off-On	9060-1113	(Blue)	Red	X	X	3	Red dot	
Off-(On)	9060-2113	(Blue)	Red	X	X	3	Green dot	
Nav/Anc	9060-3114	(Blue)	Green	Red	X	4	White dot	
Off-On-On	9060-3113	(Blue)	Green	Red	X	4	Blue dot	
Off-On-On-Both	9060-3115	(Blue)	Green	Red	Yellow	5	Yellow dot	
Off-(On)-(On)	9060-2123	(Blue)	Green	Red	X	5	Green dot	
BW DT Connector	9053-3914	5 pin Deutsch Connector						
Dummy Plug	114017-ZZ	for DT Connector						

### Replaceable Push Button Actuator

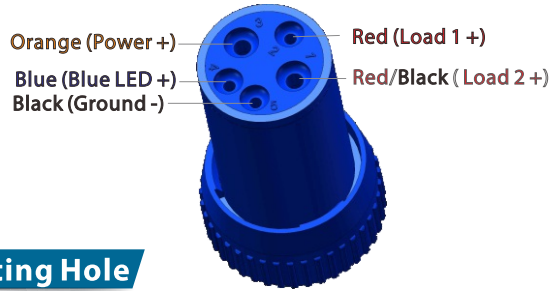
Style	Parts No.
Full Translucent	9451-1001 
SS Ring	9451-1002 
SS Ring (Black)	9451-1003 
SS Ring (Titanium)	9451-1004 
Laser Logo(Blank)	9451-1005 
Laser Logo (Red)	9451-1019 
Laser Logo(Cust) Custom Text	9451-0001~ -0220 

Standard Legend Imprinting Code: 6 7

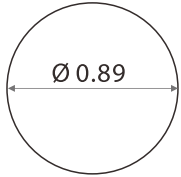
## Programmable Inrush Breaker Switch

IP 69K / 20A / 120A Inrush / 8 prg Amp

### Recommended Wiring

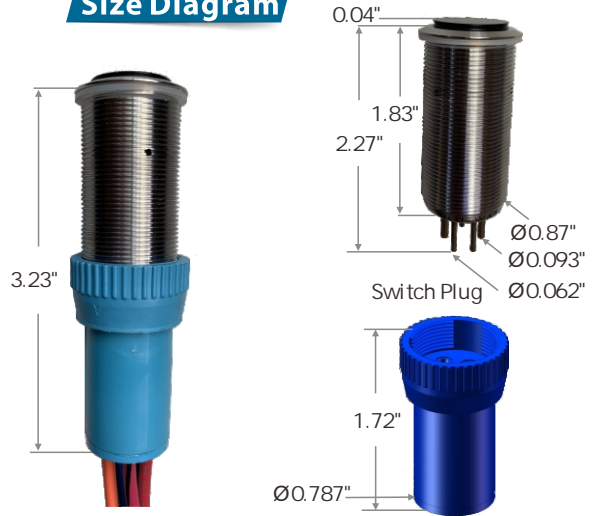


### Mounting Hole



Black	16awg	Ground -
Blue	16awg	Blue LED +12Vdc
Red	14awg	Load1 +12Vdc
Orange	14awg	Power +12Vdc
Red/Black	14awg	Load2 +12Vdc

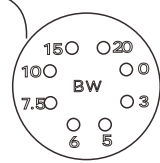
### Size Diagram



### WARNING

- ▶ Dummy plugs required in Bluewater DT connectors for all non-wired (empty) pin locations.
- ▶ Failure to include dummy plug in non-wired (empty) pin locations in Bluewater DT Connector voids water tight rating and warranty.
- ▶ See part number for dummy plugs on page one.
- ▶ Wire sizes must meet minimum OD requirements listed on page one. Failure to meet the OD requirements voids water-tight rating and warranty.
- ▶ Only use Bluewater DT connector, other connector will cause damage & void warranty.

### Program the switch



#### Program Actuator

- ▶ 8 programmable Amperage positions
- ▶ Set breaker : 3,5,6,7.5,10,15,20 Amps
- ▶ Set breaker to "0" : non breaker

- ▶ Suitable for: 9060-1113, 9060-3114, 9060-3113 and 9060-3115

At OFF position, push and hold the button in about 3 or 4 seconds it will flash once and then in a few more seconds it will flash twice, release the button and you are in program mode.

- ▶ Suitable for: 9060-2113 and 9060-2123

At OFF position, short push the button for 7 times, at 8th times push and hold the button in about 3 or 4 seconds, it will flash once and then in a few more seconds it will flash twice, release the button and you are in program mode.

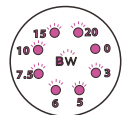
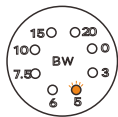
- ▶ Program Mode: Amp Setting

When in program mode it will show the amperage setting of the switch,

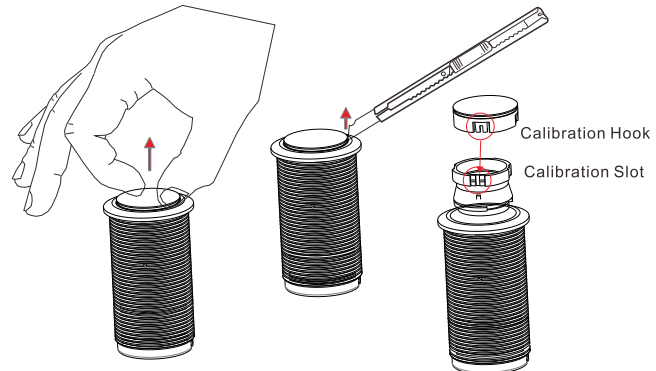
To change the amperage, push the switch in and it switches to the next highest amp setting.

When you reach the desired amp setting, push in the button and hold it in until it flashes blue and you are now set at the new amperage

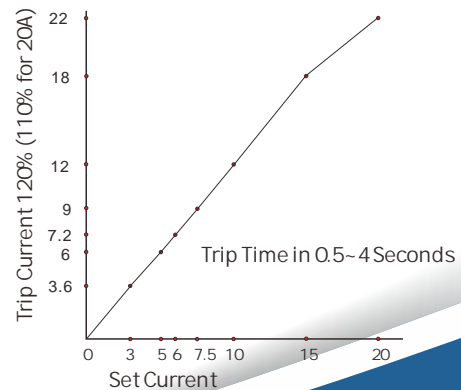
If you want to change this amp setting just repeat this process to program mode and change the amperage setting of the switch



### Replacing Actuator



- ▶ TRIP : The load current greater than set current 120% (110% for 20A set current), the breaker switch will trip in 0.5 to 4 seconds.
  - ▶ Switch flash PURPLE showing it has been tripped.
- ▶ RESET : Switch is reset by cycling through OFF position..





9060-1113

Off - On

Blue LED (Off) Red LED (On)

## Operation

- ▶ Press turns on the device (LED turns Red) .
- ▶ Press turns off the device (LED turns Blue)



Laser Etched Actuator in **Daytime Mode**  
LED light is off.



Laser Etched Actuator in **Nighttime Mode**  
The Blue LED provides great visibility of the function switches and lets you know that the swithes are in off position .



Laser Etched Actuator in **On Mode**  
The Red LED lets you know that the device is on .



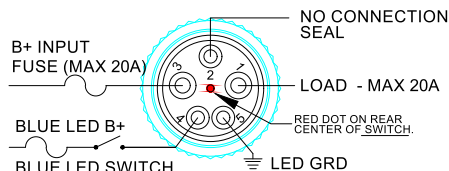
Laser Etched Actuator in **Inrush Protection Mode**  
LED Flashing White.  
Inrush Load Upto 120Amp, LED Flashing White, output does not funstion, Switch is reset by Press Button .



Laser Etched Actuator in **Breaker Mode**  
LED Flashing Purple.  
Switch Trip while Load Current greater than 120% (110% 20Amp) set current, Switch is reset by Press Button .

## REAR PLUG VIEW

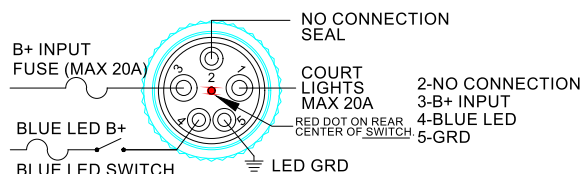
OFF CAN BE BLUE BACKLIT - APPLY B+ TO TERM 4.  
1ST PUSH - LIGHTS RED [ LOAD 1 ON ]  
2ND PUSH - OFF



POS 1 & 3 ARE DEUTCH DTP [ LARGE ] FEM TERM  
POS 2, 4, 5 ARE DEUTCH DP [ SMALL ] FEM TERM

## COURTESY LIGHTS EXAMPLE

OFF CAN BE BLUE BACKLIT - APPLY B+ TO 4.  
1ST PUSH - LIGHTS RED [ COURT LTS ON ]  
2ND PUSH - OFF



POS 1 & 3 ARE DEUTCH DTP [ LARGE ] FEM TERM  
POS 2, 4, 5 ARE DEUTCH DP [ SMALL ] FEM TERM

9060-2113

Off - (On)

OFF-[1 M ON ON] - [OFF] BLU/RED

## Operation

- ▶ Press and hold the button to turns on the device (LED turns Red) .
- ▶ Release the button to turns off the device (LED turns Blue)



Laser Etched Actuator in **Daytime Mode**  
LED light is off.



Laser Etched Actuator in **Nighttime Mode**  
The Blue LED provides great visibility of the function switches and lets you know that the swithes are in off position .



Laser Etched Actuator in **On Mode**  
The Red LED lets you know that the device is on .



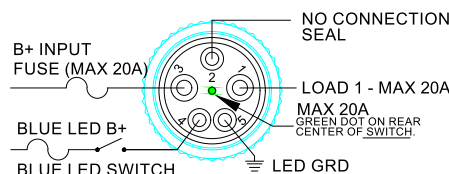
Laser Etched Actuator in **Inrush Protection Mode**  
LED Flashing White.  
Inrush Load Upto 120Amp, LED Flashing White, output does not funstion, Switch is reset by Press Button .



Laser Etched Actuator in **Breaker Mode**  
LED Flashing Purple.  
Switch Trip while Load Current greater than 120% (110% 20Amp) set current, Switch is reset by Press Button .

## REAR PLUG VIEW

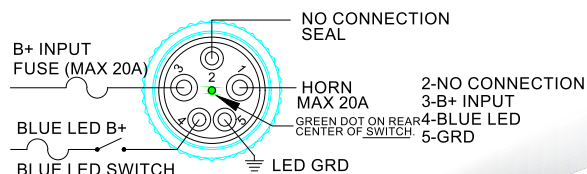
OFF CAN BE BLUE BACKLIT - APPLY B+ TO TERM 4.  
MOM PUSH - LIGHTS RED [ LOAD 1 MOM ON ]  
RELEASE - OFF



POS 1 & 3 ARE DEUTCH DTP [ LARGE ] FEM TERM  
POS 4, 5 ARE DEUTCH DP [ SMALL ] FEM TERM  
POS 2 SEAL

## HORN EXAMPLE

OFF CAN BE BLUE BACKLIT - APPLY B+ TO 4.  
MOM PUSH - LIGHTS RED [ HORN ON ]  
RELEASE OFF



POS 1 & 3 ARE DEUTCH DTP [ LARGE ] FEM TERM  
POS 2, 4, 5 ARE DEUTCH DP [ SMALL ] FEM TERM

## 9060-3114 Nav/Anc Switch

OFF-[1 & 2 ON]-[2 ON & 1 OFF]

### Operation

- ▶ Press turns on the Navigation & Anchor lights (LED turns Green).
- ▶ Press leaves Anchor light on and turns off Navigation light (LED turns Red)
- ▶ Press turns off Anchor light (LED turns Blue)



Laser Etched Actuator in **Daytime Mode**  
LED light is off.



Laser Etched Actuator in **Nighttime Mode**  
The Blue LED provides great visibility of the function switches and lets you know that the switches are in off position.



Laser Etched Actuator in **Nav/Anc Mode**  
The Green LED lets you know that the Nav and Anchor switches are in on position.



Laser Etched Actuator in **Anchor Mode**  
The Red LED lets you know that the Anchor switch is on.



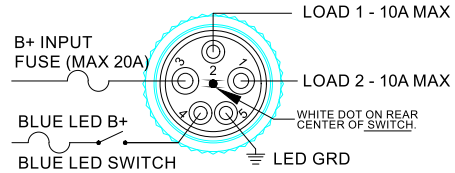
Laser Etched Actuator in **Inrush Protection Mode**  
LED Flashing White.  
Inrush Load Upto 120Amp, LED Flashing White, outputs do not function, Switch is reset by Press Button.



Laser Etched Actuator in **Breaker Mode**  
LED Flashing Purple.  
Switch Trip while Load Current greater than 120% (110% 20Amp) set current, Switch is reset by Press Button.

### REAR PLUG VIEW

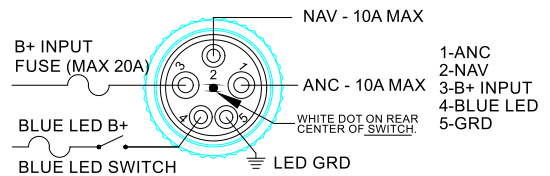
OFF CAN BE BLUE BACKLIT - APPLY B+ TO TERM 4.  
1ST PUSH - LIGHTS GREEN [ BOTH 1 & 2 LOADS ON ]  
2ND PUSH - LIGHTS RED [ ONLY LOAD 2 ON ]  
3RD PUSH - OFF



POS 1 & 3 ARE DEUTCH DTP [ LARGE ] FEM TERM  
POS 2, 4, 5 ARE DEUTCH DP [ SMALL ] FEM TERM

### NAV/ANC EXAMPLE

OFF CAN BE BLUE BACKLIT - APPLY B+ TO 4.  
1ST PUSH - LIGHTS GREEN [ BOTH NAV & ANC LOADS ON ]  
2ND PUSH LIGHTS RED [ ONLY ANC LOAD ON ]



POS 1 & 3 ARE DEUTCH DTP [ LARGE ] FEM TERM  
POS 2, 4, 5 ARE DEUTCH DP [ SMALL ] FEM TERM

## 9060-3113 Off-On-On Switch

OFF-[1 ON & 2 OFF]-[2 ON & 1 OFF]

### Operation

- ▶ Press turns on Load 1 (LED turns Green).
- ▶ Press turns on Load 2 (LED turns Red)
- ▶ Press turns off Load 2 & 1 (LED turns Blue)



Laser Etched Actuator in **Daytime Mode**  
LED light is off.



Laser Etched Actuator in **Nighttime Mode**  
The Blue LED provides great visibility of the function switches and lets you know that the switches are in off position.



Laser Etched Actuator in **Load 1 Mode**  
The Green LED lets you know that the Load 1 device is in on position.



Laser Etched Actuator in **Load 2 Mode**  
The Red LED lets you know that the Load 2 device is on position.



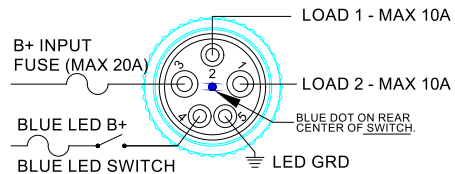
Laser Etched Actuator in **Inrush Protection Mode**  
LED Flashing White.  
Inrush Load Upto 120Amp, LED Flashing White, outputs do not function, Switch is reset by Press Button.



Laser Etched Actuator in **Breaker Mode**  
LED Flashing Purple.  
Switch Trip while Load Current greater than 120% (110% 20Amp) set current, Switch is reset by Press Button.

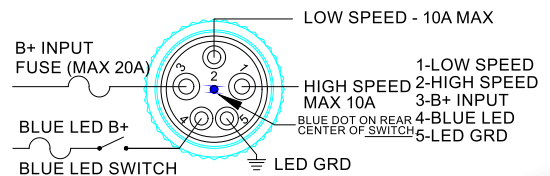
### REAR PLUG VIEW

OFF CAN BE BLUE BACKLIT - APPLY B+ TO TERM 4.  
1ST PUSH - LIGHTS GREEN [ LOAD 1 ON 2 OFF ]  
2ND PUSH - LIGHTS RED [ LOAD 2 ON 1 OFF ]  
3RD PUSH - OFF



### 2 SPEED WIPER EXAMPLE

OFF CAN BE BLUE BACKLIT - APPLY B+ TO 4.  
1ST PUSH - LIGHTS GREEN [ LOW ON, HIGH OFF ]  
2ND PUSH - LIGHTS RED [ HIGH ON, LOW OFF ]  
3RD PUSH - OFF



POS 1 & 3 ARE DEUTCH DTP [ LARGE ] FEM TERM  
POS 2, 4, 5 ARE DEUTCH DP [ SMALL ] FEM TERM

## 9060-3115 OFF-1-2-BOTH

OFF-[1 ON & 2 OFF] - [2 ON & 1 OFF]

### Operation

- ▶ Press turns on Load 1 (LED turns Green).
- ▶ Press turns on Load 2 (LED turns Red)
- ▶ Press turns on both Load 1 & Load 2 (LED turns Yellow)
- ▶ Press turns off Load 2 & 1 (LED turns Blue)



Laser Etched Actuator in **Daytime Mode**  
LED light is off.



Laser Etched Actuator in **Nighttime Mode**  
The Blue LED provides great visibility of the function switches and lets you know that the switches are in off position.



Laser Etched Actuator in **Load 1 Mode**  
The Green LED lets you know that the Load 1 device is in on position.



Laser Etched Actuator in **Load 2 Mode**  
The Red LED lets you know that the Load 2 device is in on position.



Laser Etched Actuator in **Both Mode**  
The Yellow LED lets you know that the Load 1 & Load 2 devices are both on position.



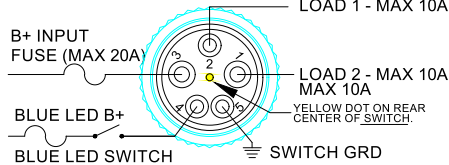
Laser Etched Actuator in **Inrush Protection Mode**  
LED Flashing White.  
Inrush Load Upto 120Amp, LED Flashing White, outputs do not function, Switch is reset by Press Button.



Laser Etched Actuator in **Breaker Mode**  
LED Flashing Purple.  
Switch Trip while Load Current greater than 120% (110% 20Amp) set current, Switch is reset by Press Button.

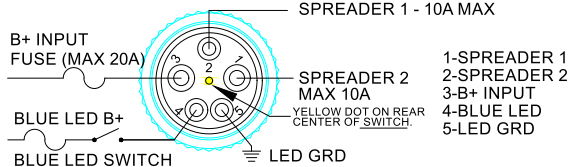
### REAR PLUG VIEW

OFF CAN BE BLUE BACKLIT - APPLY B+ TO TERM 4.  
1ST PUSH - LIGHTS GREEN [ LOAD 1 ON, LOAD 2 OFF ]  
2ND PUSH - LIGHTS RED [ LOAD 2 ON, LOAD 1 OFF ]  
3RD PUSH - LIGHTS YELLOW [ LOAD 1 & 2 ON ]  
LOAD 1 - MAX 10A



### 2 LIVEWELL EXAMPLE

OFF CAN BE BLUE BACKLIT - APPLY B+ TO 4.  
1ST PUSH - LIGHTS GREEN [ LIVEWELL 1 ON, LIVEWELL 2 OFF ]  
2ND PUSH LIGHTS RED [ LIVEWELL 2 ON, LIVEWELL1 OFF ]  
3RD PUSH LIGHTS YELLOW [ LIVEWELL 1 & 2 ON ]  
SPREADER 1 - 10A MAX



1-SPREADER 1  
2-SPREADER 2  
3-B+ INPUT  
4-BLUE LED  
5-LED GRD

POS 1 & 3 ARE DEUTCH DTP [ LARGE ] FEM TERM  
POS 2, 4, 5 ARE DEUTCH DP [ SMALL ] FEM TERM

## 9060-2123 Dual Momentary

OFF-[1 M ON] - [2 MON] GRE/RED

### Operation

- ▶ Press and hold the button turns on Load 1 (LED turns Green).
- ▶ Press and hold the button turns on Load 2 (LED turns Red).
- ▶ Release the button to turns off Load 1 & 2 (LED turns Blue)



Laser Etched Actuator in **Daytime Mode**  
LED light is off.



Laser Etched Actuator in **Nighttime Mode**  
The Blue LED provides great visibility of the function switches and lets you know that the switches are in off position.



Laser Etched Actuator in **Load 1 Mode**  
The Green LED lets you know that the Load 1 device is in on position.



Laser Etched Actuator in **Load 2 Mode**  
The Red LED lets you know that the Load 2 device is in on position.



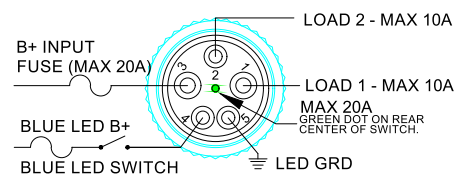
Laser Etched Actuator in **Inrush Protection Mode**  
LED Flashing White.  
Inrush Load Upto 120Amp, LED Flashing White, outputs do not function, Switch is reset by Press Button.



Laser Etched Actuator in **Breaker Mode**  
LED Flashing Purple.  
Switch Trip while Load Current greater than 120% (110% 20Amp) set current, Switch is reset by Press Button.

### REAR PLUG VIEW

OFF CAN BE BLUE BACKLIT - APPLY B+ TO TERM 4.  
MOM 1ST PUSH - LIGHTS GREEN [ LOAD 1 MOM ON ]  
MOM 2ND PUSH - LIGHTS RED [ LOAD 2 MOM ON ]  
RELEASE - OFF



POS 1 & 3 ARE DEUTCH DTP [ LARGE ] FEM TERM  
POS 4, 5 ARE DEUTCH DP [ SMALL ] FEM TERM  
POS 2 SEAL







## 9451-0001 ~0192 Legend Code

Custom Text Available

0001	0002	0003	0004	0005	0006	0007	0008	0009	0010	0011	0012
0013	0014	0015	0016	0017	0018	0019	0020	0021	0022	0023	0024
0025	0026	0027	0028	0029	0030	0031	0032	0033	0034	0035	0036
0037	0038	0039	0040	0041	0042	0043	0044	0045	0046	0047	0048
0049	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	0060
0061	0062	0063	0064	0065	0066	0067	0068	0069	0070	0071	0072
0073	0074	0075	0076	0077	0078	0079	0080	0081	0082	0083	0084
0085	0086	0087	0088	0089	0090	0091	0092	0093	0094	0095	0096
0097	0098	0099	0100	0101	0102	0103	0104	0105	0106	0107	0108
0109	0110	0111	0112	0113	0114	0115	0116	0117	0118	0119	0120
0121	0122	0123	0124	0125	0126	0127	0128	0129	0130	0131	0132
0133	0134	0135	0136	0137	0138	0139	0140	0141	0142	0143	0144
0145	0146	0147	0148	0149	0150	0151	0152	0153	0154	0155	0156
0157	0158	0159	0160	0161	0162	0163	0164	0165	0166	0167	0168
0169	0170	0171	0172	0173	0174	0175	0176	0177	0178	0179	0180
0181	0182	0183	0184	0185	0186	0187	0188	0189	0190	0191	0192

## 9451-0193~0220 Legend Code

Custom Text Available

 LT BARS 0193	 PORT BILGE 0194	 STBD BILGE 0195	 COURT/ COURTESY 0196	MAIN LIVEWELL 0197	MAIN LIVEWELL RECIRC 0198	AFT BILGE 0199	FWD BILGE 0200	FLOOR LIVEWELL 0201	FLOOR LIVEWELL RECIRC 0202	RAW WATER PUMP 0203	FRESH WATER PUMP 0204
FLOOR DISCHRG 0205	TUNA TUBE 0206	25 QT BAITWELL 0207	SPARE 0208	NAVI/ANC 0209	DOWN LIGHTS 0210	BOX LIGHTS 0211	LIVEWELL LIGHTS 0212	FWD SPREADER LIGHTS 0213	AFT SPREADER LIGHTS 0214	PORT SPREADER LIGHTS 0215	STBD SPREADER LIGHTS 0216
UNDER GUNNEL LIGHTS 0217	LIGHT BAR 0218	MODE 0219	 WIPER WASH 0220								
 HORN											