

22mm Inrush Protection Switch

IP 69K 20Amp 120A Surge

Features

- ▶ One channel 20 Amp max. Electrical Rating.
- ▶ Two channels 10 Amp max. /Channel Electrical Rating.
- ▶ At night every switch is backlit with Blue LED light for great visibility. Turn on a particular function and the LED turns Red letting you know the function is turned on.
- ▶ Stainless Steel SS316 Body and IP69K Waterproof Rating.
- ▶ Protection from Salt Spray (Fog) Test (EN ISO 9227-17).
- ▶ 20g Bump Shock Test Approved.
- ▶ Wires/Switch meet Flammability Rating UL 94 V2 and
- ▶ All material will be non-flammable or will be 105°C spec. When the pump is running, the LED turns red automatically
- ▶ **With Ultra Bright LEDs**

Specification

Illuminated	Ultra Bright LEDs Blue, Green, Red, Yellow, 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	1000mΩ Minimum
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
Construction Material	
Body Material	Stainless Steel SS316
Lens Material	PC material rated to 105°C
Switch Plug & Dongle	Nylon 6 rated to 105°C
Deutsch Recommended Part#	
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	9059-1113	(Blue) Red	X X	3 Red dot
Off-(On)	9059-2113	(Blue) Red	X X	3 Green dot
Nav/Anc	9059-3114	(Blue) Green	Red X	4 White dot
Off-On-On	9059-3113	(Blue) Green	Red X	4 Blue dot
Off-On-On-Both	9059-3115	(Blue) Green	Red Yellow	5 Yellow dot
Off-(On)-(On)	9059-2123	(Blue) Green	Red X	5 Green dot
Off-(On)	9059-2213	(Red) Red	X X	6 Green dot
Auto Nav Photo Sensor	9059-3734	(Blue) Green	Red Yellow	6 White dot
Timer ON(1min G) OFF(2min Y)	9059-1555	(Blue) Red	Green Yellow	7 Red dot
Timer ON(2min Red) --> OFF	9059-1555F	(Blue) Red	X X	7 Red dot
Dimmer	9059-3116	(Blue) Red	X X	8 Green dot
3-way Switch	9059-5113	(Blue) Red	X X	9 Red dot
Off-(On) Ground	9059-2713	(Blue) Red	Purple X	10 Purple dot
Off-On Ground	9059-1713	(Blue) Red	Purple X	10 Purple dot
Off-(On) Signal	9059-2118	(Blue) Red	Purple X	11 Green dot
On-(Off)	9059-2913	Red (Blue)	X X	11 Green dot

Replaceable Push Button Actuator

Style	Parts No.
Full Translucent	9451-1001
SS Ring	9451-1002
Laser Logo(Blank)	9451-1005
BW DT Connector	9053-3914
Dummy Plug	114017-ZZ
Laser Logo(Cust) Custom Text	9451-0001~ -0324

Standard Legend Imprinting Code: 12 13

* We reserve the right to change specifications at any time without incurring any obligations!

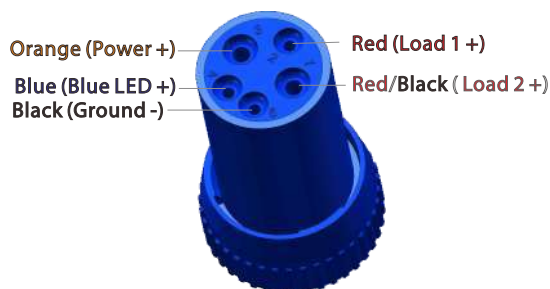
22mm Inrush Protection Switch

IP 69K 20Amp 120A Surge

WARNING

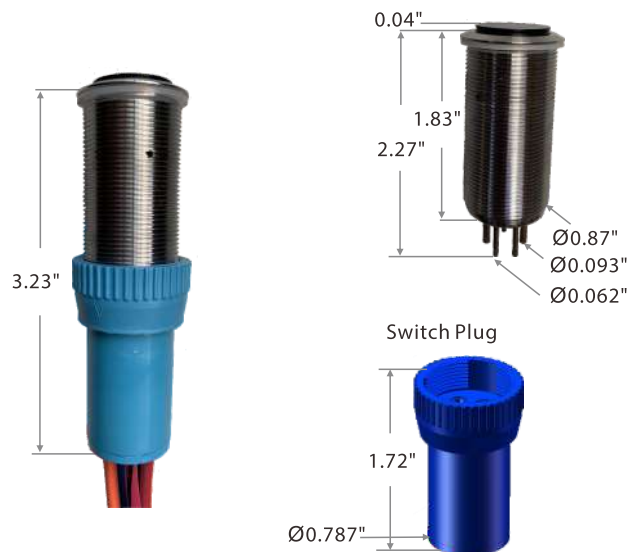
- ▶ Dummy plugs required in Bluewater DT connectors for all non-wired (empty) pin locations.
- ▶ Failure to include dummy plug in non-wired (empty) pin locations in Bluewater DT Connector voids water tight rating and warranty.
- ▶ See part number for dummy plugs on page one.
- ▶ Wire sizes must meet 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.

Recommended Wiring

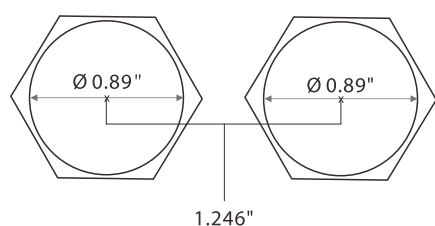


Black 16awg	Ground -
Blue 16awg	Blue LED +12Vdc
Red 14awg	Load1 +12Vdc
Orange 14awg	Power +12Vdc
Red/Black 14awg	Load2 +12Vdc

Size Diagram

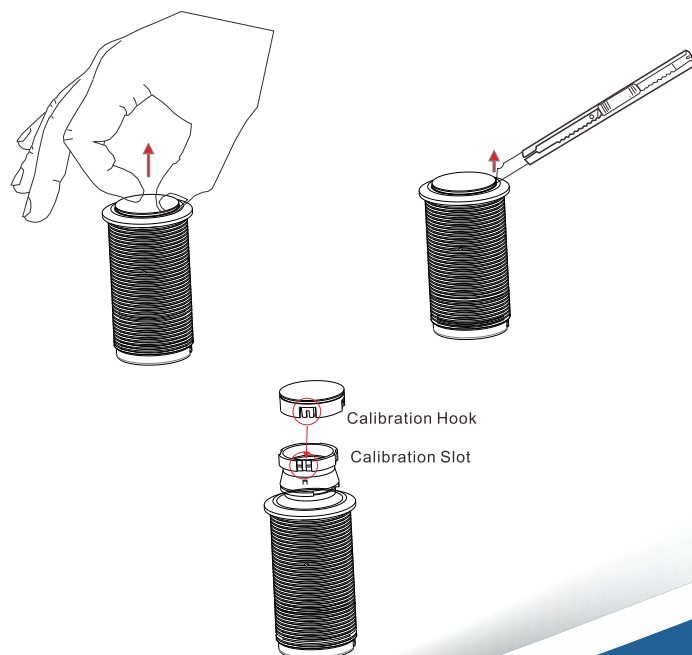


Mounting Hole



Recommended Minimum Center Spacing to allow for point-to-point mounting nut with center removal tool clearance

Replacing Actuator



9059-1113

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 switches are in off position .



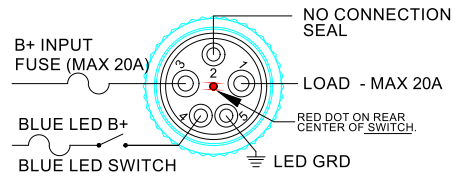
Laser Etched Actuator in **On Mode**
The Red LED lets you know that the device is on .



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

REAR PLUG VIEW

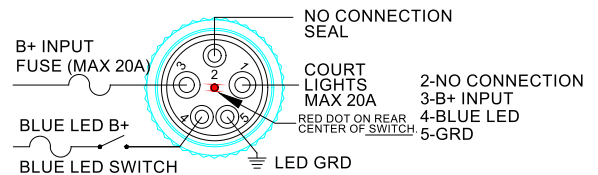
OFF CAN BE BLUE BACKLIT - APPLY B+ TO TERM 4.
1ST PUSH - LIGHTS RED [LOAD 1 ON]
2ND PUSH - OFF



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

9059-2113

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 switches are in off position .



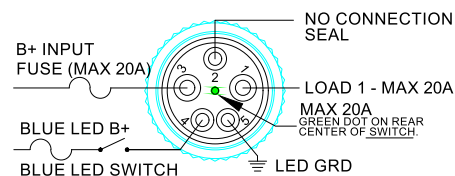
Laser Etched Actuator in **On Mode**
The Red LED lets you know that the device is on .



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

REAR PLUG VIEW

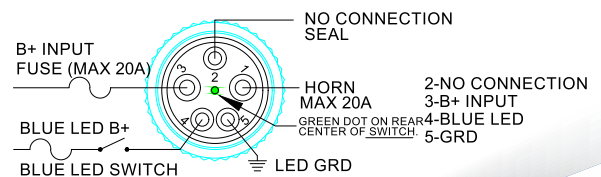
OFF CAN BE BLUE BACKLIT - APPLY B+ TO TERM 4.
MOM PUSH - LIGHTS RED [LOAD 1 MOM ON]
RELEASE - OFF



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

9059-3114

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.



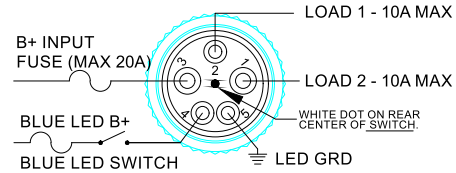
Laser Etched Actuator in **Anchor Mode**
The Red LED lets you know that the Anchor switch is on.



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.

REAR PLUG VIEW

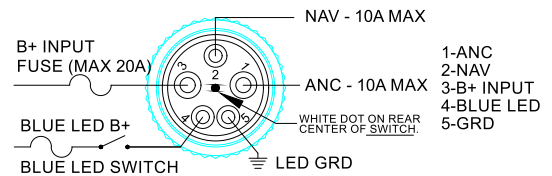
OFF CAN BE BLUE BACKLIT - APPLY B+ TO TERM 4.
1ST PUSH - LIGHTS GREEN [BOTH 1 & 2 LOADS ON]
2ND PUSH - LIGHTS RED [ONLY LOAD 2 ON]
3RD PUSH - OFF



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

9059-3113

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.



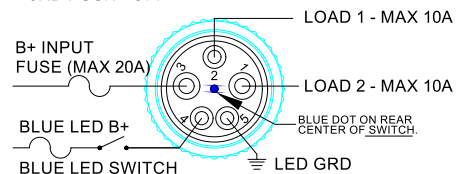
Laser Etched Actuator in **Load 2 Mode**
The Red LED lets you know that the Load 2 device is on position.



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.

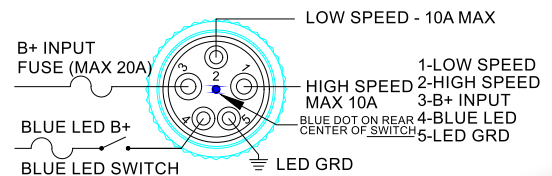
REAR PLUG VIEW

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

9059-3115 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 on position.



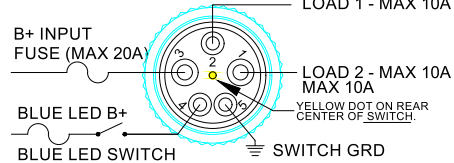
Laser Etched Actuator in **Both Mode**
The Yellow LED lets you know that the Load 1 & Load 2 devices are both on position.



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.

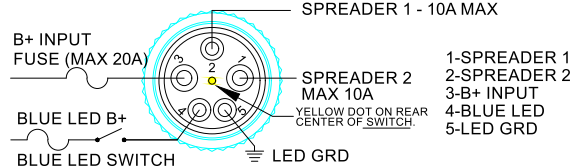
REAR PLUG VIEW

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 LIVWELL EXAMPLE

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



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

9059-2123 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.



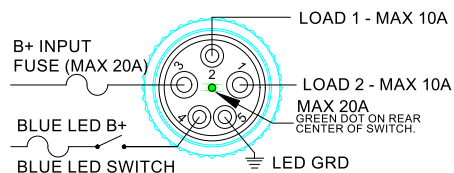
Laser Etched Actuator in **Load 2 Mode**
The Red LED lets you know that the Load 2 device is on position.



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.

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

9059-2213

HORN Switch

OFF-[1 MOM ON] - [OFF] Non/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 Off or Red (unchange))



LED light is off in **OFF position** !.
While the Terminal 4 (RED LED Switch) not connect to the Battery + !



The Red LED in **OFF position** !
While the Terminal 4 (RED LED Switch) connect to the Battery + !



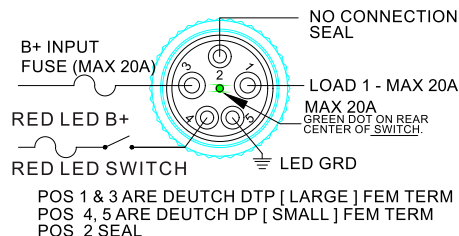
Laser Etched Actuator in **On Mode**
The Red LED keep Light on !



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

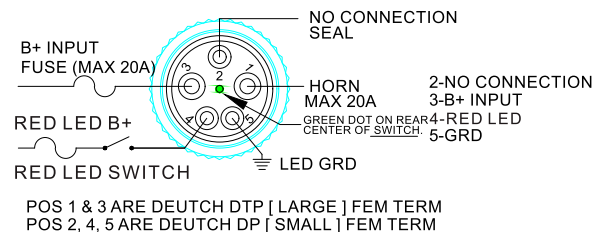
REAR PLUG VIEW

OFF CAN BE RED BACKLIT - APPLY B+ TO TERM 4.
MOM PUSH - LIGHTS RED [LOAD 1 MOM ON]
RELEASE - OFF (LED OFF OR KEEP LIGHTS RED)



HORN EXAMPLE

OFF CAN BE RED BACKLIT - APPLY B+ TO TERM 4.
MOM PUSH - LIGHTS RED [HORN ON]
RELEASE - OFF (LED OFF OR KEEP LIGHTS RED)

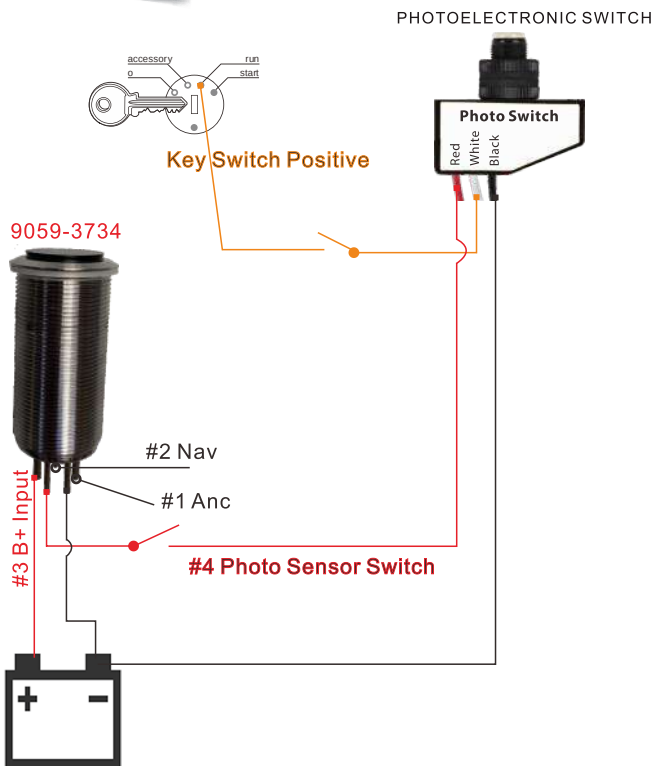


Wiring

9059-3734

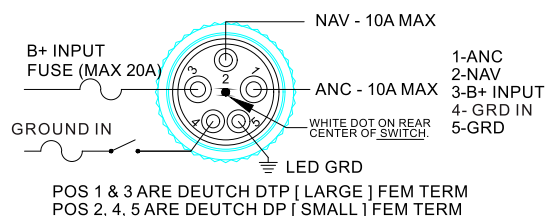
Auto Nav Switch

Nav/Anc w/ Photoelectric switch



NAV/ANC EXAMPLE

RED (LOAD) FROM PHOTOELECTRIC SWITCH -
APPLY GROUND IN TO #4
1ST PUSH - LIGHTS GREEN [BOTH NAV & ANC LOADS ON]
2ND PUSH LIGHTS RED [ONLY ANC LOAD ON]
3RD PUSH LIGHTS TURN YELLOW (AUTO MODE)
OR TURN BLUE (NO OUTPUT)



Operation

2. Nighttime

- (1) 9059- : Yellow (Auto Mode)
 - Turn on both Nav and Anc light automatically
 - Key Switch Off, no power to #4, 9059- Flash Yellow 10 seconds then turn off Nav/Anc, and 9059- turn Blue
- (2) Override Auto Mode
 - 1st Press :
9059- turn Green (Nav/Anc both Still on)
 - 2nd Press :
9059- turn Red (Anc On, Nav Off)
 - 3rd Press
 - #4 +12 in or no input (Photo sensor not active)
9059 turn Blue , No output
 - #4 Ground in (Photo sensor active)
9059- turn yellow (Nav/Anc both on)
back to Auto mode

Operation

Engine is running the Sensor is active (Auto Mode)

#4 Photo Sensor ON

1. Daytime

9059- : blue led on, no output

* We reserve the right to change specifications at any time without incurring any obligations !

9059-1555

Timer Switch

ON(1min G) OFF(2min Y)

9059-1555 Operation

- ▶ Press turns on the device , LED lights Red.
- ▶ Press activate the timer function. Cycle on-off below turns on the device for 1 min then cycle off , LED lights Green turns off the device for 2 min then cycle On, LED lights Yellow
- ▶ Press the button to disable the timer function, turn LED to Blue color



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 **Timer On Mode**
The Green LED lets you know that the device is on for 1min. then cycle to Timer Off



Laser Etched Actuator in **Timer Off Mode**
The Yellow LED lets you know that the device is off for 2min. then cycle to Timer On

REAR PLUG VIEW

BLUE BACK LIGHT - APPLY B+ TO TERM 4.

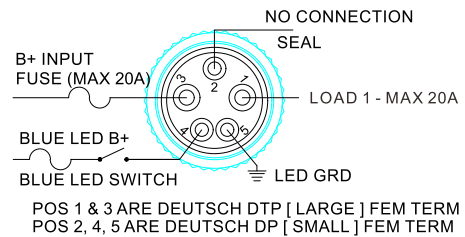
Press - turns ON the device, LED lights Red

Press 2nd - Activate the timer function, Cycle On-Off below

Turns ON the device for 1 min, LED lights Green then cycle Off

Turns OFF the device for 2 min, LED lights Yellow then cycle On

Press 3rd - Disable the timer function, LED lights Off or Blue bac klight



9059-1555F

Timer Switch

ON(2min Red) --> OFF

9059-1555-2F Operation

- ▶ Press turns on the device , turn LED to Red color , and will automatically turn off the device after 2 minutes , No Cycle !
- ▶ Press the button during 2 minutes timer on period will turn off the device .



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 .



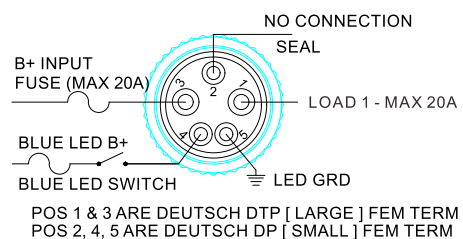
Laser Etched Actuator in **Timer On Mode**
The Red LED lets you know that the device is on . after 2 mins will turn off automatically

REAR PLUG VIEW

BLUE BACK LIGHT - APPLY B+ TO TERM 4.

Press - turns ON the device, LED lights Red and will automatically turns Off the device after 2 minutes, No Cycle!

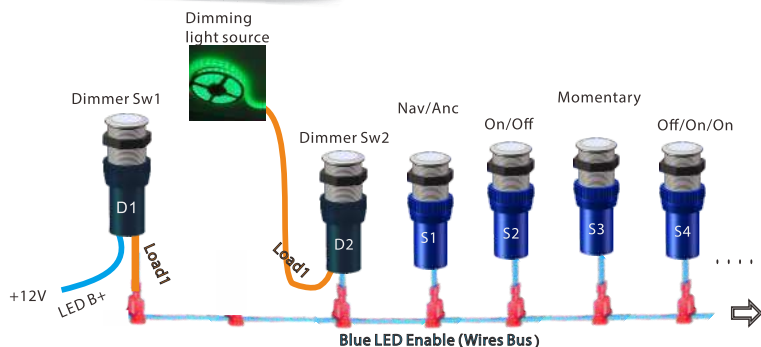
Press the button during 2 minutes timer on period will turns off the device.



9059-3116 Dimmer Switch

Back light / On Dimming

Dimming Backlight 1



Dimmer Sw1 (D1) : **Backlight Dimmer Switch**

1. Load1 : Connect to Blue Wires Bus
2. LED B+ : Connect to +12VDC

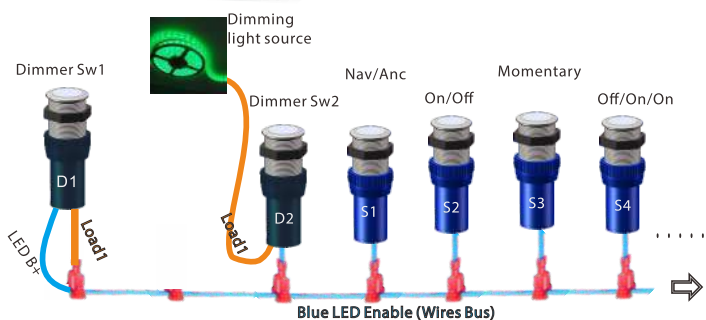
Dimmer Sw2 (D2) : **Lighting Dimmer Switch**

1. Load1: Connect to light source (**8Amp max**), ex. LED light strip (except some high inrush current light source, ex. Gas-Filled Lamps, will damage the sw)
2. LED B+ : connect to Blue Wires Bus

S1 ~ S4... : Normal E Switch : Blue back light can be controlled by Dimmer Sw1 (D1)

1. D1 Off (D1 Blue LED on) : S1~S4 no backlight turn on
2. D1 On (D1 Red LED on) : S1~S4 All Blue LED turn on AT OFF POSITION and its back light level can be controlled by D1 (PWM)

Dimming Backlight 2



Dimmer Sw1 (D1) : **Backlight Dimmer Switch**

1. Load1 : Connect to Blue Wires Bus
2. LED B+ : Connect to Blue Wires Bus also
3. D1 Dimming: D1 Red light dim same light level as S1~S4

Dimmer Sw2 (D2) : **Lighting Dimmer Switch**

1. Load1: Connect to light source (**8Amp max**), ex. LED light strip (except some high inrush current light source, ex. Gas-Filled Lamps, will damage the sw)
2. LED B+ : connect to Blue Wires Bus

S1 ~ S4... : Normal E Switch : Blue back light can be controlled by Dimmer Sw1 (D1)

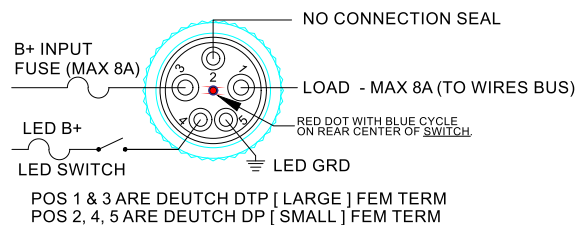
1. D1 Off (D1 Blue LED **off**) : S1~S4 no backlight turn on
2. D1 On (D1 Red LED on) : S1~S4 All Blue LED turn on AT OFF POSITION and its back light level can be controlled by D1 (PWM)

REAR PLUG VIEW (D1)

OFF CAN BE BLUE BACKLIT } - APPLY LED B+ TO TERM 4.
ON CAN BE RED LIGHT

TERM 4. NO POWER INPUT, D1 WILL BE NO LIGHT AT OFF NOR ON

- 1ST PUSH (Red) - TURN ON ALL LAST BLUE BACK LIGHTS LEVEL (WIRES BUS)
- 2ND PRESS & HOLD (Red) - DIMMING ALL BACK LIGHTS LEVEL
- 3RD PUSH (Blue) - TURN OFF ALL BLUE BACK LIGHTS (NO LIGHT AT OFF) **AND KEEP LAST LIGHT LEVEL IN D1 MEMOERY**

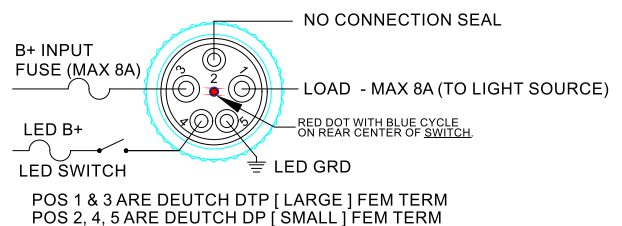


REAR PLUG VIEW (D2)

OFF CAN BE BLUE BACKLIT } - APPLY LED B+ TO WIRES BUS
ON CAN BE RED LIGHT

D1 IS OFF, D2 WILL BE NO LIGHT AT OFF NOR ON

- 1ST PUSH (Red) - TURN ON LIGHT SOURCE ON LAST LIGHT LEVEL
- 2ND PRESS & HOLD (Red) - DIMMING LIGHT SOURCE LIGHT LEVEL
- 3RD PUSH (Blue) - TURN OFF LIGHT SOURCE **AND KEEP LAST LIGHT LEVEL IN D2 MEMORY**

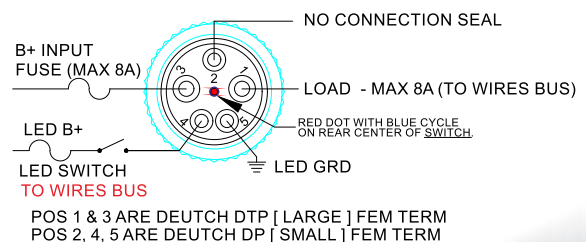


REAR PLUG VIEW (D1)

OFF **NO BLUE BACKLIT** } - APPLY LED B+ TO WIRES BUS
ON CAN BE RED LIGHT

D1 OFF (D1 LOAD1 NO POWER), D1 WILL BE NO LIGHT AT OFF

- 1ST PUSH (Red) - TURN ON ALL LAST BLUE BACK LIGHTS LEVEL (WIRES BUS) **ALSO D1 RED LIGHT ON LAST LIGHT LEVEL**
- 2ND PRESS & HOLD (Red) - DIMMING ALL BACK LIGHTS LEVEL **INCLUDING DIMMING D1 RED LIGHT LEVEL**
- 3RD PUSH (NO LIGHT) - TURN OFF ALL BLUE BACK LIGHTS (NO LIGHT AT OFF) **ALSO TURN OFF D1 RED LIGHT (NO LIGHT), AND KEEP BLUE AND D1 RED LIGHT LEVEL IN D1 MEMORY,**



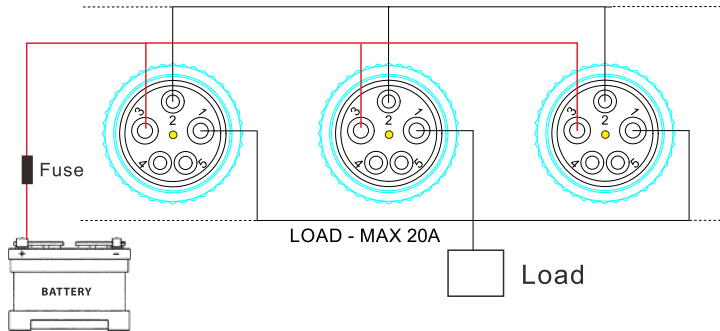
9059-5113 3-Way Inrush Switch

IP 69K 20Amp 600 feet

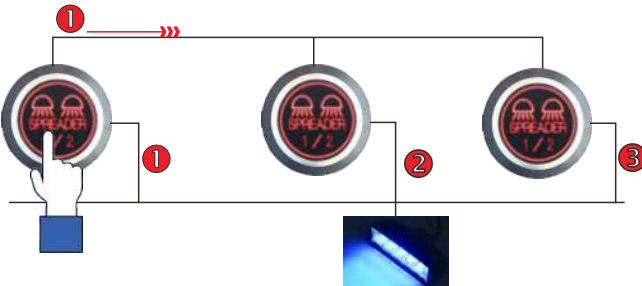
3-Way Switch System Diagram

WIRING DIAGRAM

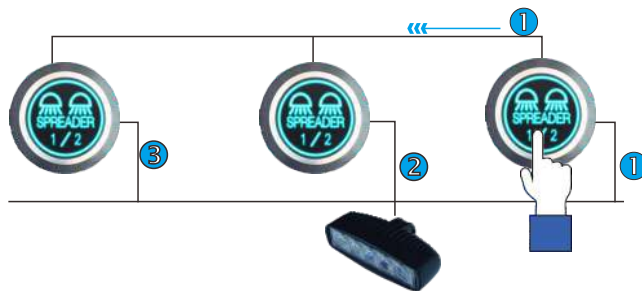
Ground and Blue LED B+ connections are not shown in these diagram
Synchronize Line (Max. 600 feet)



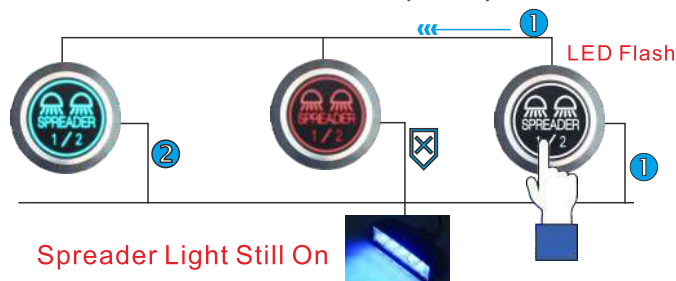
SYNCHRONIZE ON



SYNCHRONIZE OFF



SYNCHRONIZE OFF (FAULT)



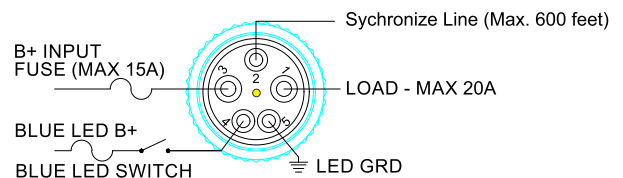
Features

- Turn On or Off from one switch among the network will Synchronize On or Off to the other switches.
- Synchronize Network up to 6 switches (300 feet max) .
- Synchronize Line up to 600 feet max. (600' at 2 switches)
- 20 Amp Electrical Rating. 12VDC
- At night every switch is backlit with Blue LED light for great visibility. Turn on a particular function and the LED turns Red letting you know the function is turned on.
- Stainless Steel SS316 Body and IP69K Waterproof Rating.
- Protection from Salt Spray.
- 20g Bump Shock Test Approved.
- Wires/Switch meet Flammability Rating UL 94 V2 and All material will be non flammable or will be 105C spec.

Wiring

REAR PLUG VIEW

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



- LED Keep Flashing while Turn Off the switch :
Indicate that one switch not received the Synchronize Off signal
- Turn On and Turn Off the Switch again to Synchronize switches .

9059-2713 Ground Switch

Momentary / 7.5Amp

Operation

- ▶ Press and hold the button to turns on the device .
- ▶ Release the button to turns off the device .
- ▶ Pin #4 (Blue LED+) from +12VDC to 24VDC , turn LED to Blue color
- ▶ Pin #2 (Red LED+) from +12VDC to 24VDC , turn LED to Red color
- ▶ Pin #2 & Pin #4 both from +12VDC to 24VDC , turn LED to Purple color



Pin#2 & Pin#4 without power, **LED is Off**



Pin #4 (Blue LED+) from +12VDC to 24VDC, LED color turn to **Blue**

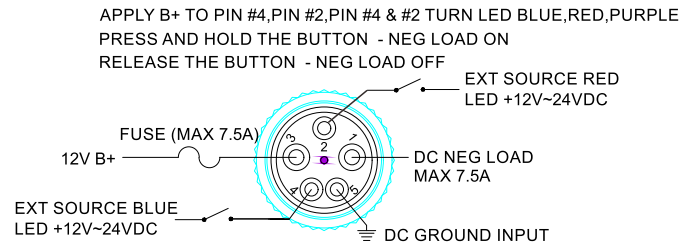


Pin #2 (Red LED+) from +12VDC to 24VDC, color turn to **Red**.



Pin #2 & Pin #4 from +12VDC to 24VDC, color turn to **Purple**.

REAR PLUG VIEW



9059-1713 Ground Switch

Latching

Operation

- ▶ First push to turn on the device , (LED no change).
- ▶ Second push to turn off the device , (LED no change)
- ▶ Pin #4 (Blue LED+) from +12VDC to 24VDC , turn LED to Blue color
- ▶ Pin #2 (Red LED+) from +12VDC to 24VDC , turn LED to Red color
- ▶ Pin #2 & Pin #4 both from +12VDC to 24VDC , turn LED to Purple color



Pin#2 & Pin#4 without power, **LED is Off**



Pin #4 (Blue LED+) from +3VDC to 24VDC, LED color turn to **Blue**

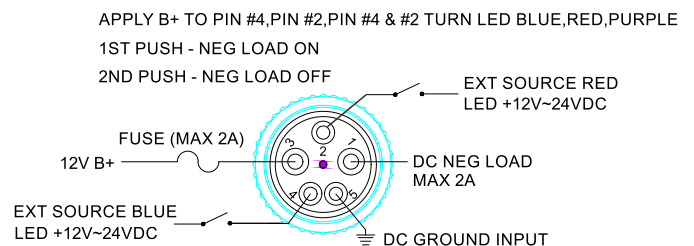


Pin #2 (Red LED+) from +3VDC to 24VDC, color turn to **Red**.



Pin #2 & Pin #4 from +3VDC to 24VDC, color turn to **Purple**.

REAR PLUG VIEW



9059-2118

Signal Switch

OFF - MOM ON

Operation

- ▶ Press and hold the button to Close Contact A (Pin1) & Contact B(Pin3), (LED no change).
- ▶ Release the button to Open Contact A(Pin1) & Contact B(Pin3), (LED no change)
- ▶ Pin #4 (Blue LED+) from +3VDC to 24VDC , turn LED to Blue color
- ▶ Pin #2 (Red LED+) from +3VDC to 24VDC , turn LED to Red color
- ▶ Pin #2 & Pin #4 both from +3VDC to 24VDC, turn LED to Purple color



Pin#2 & Pin#4 without power, **LED is Off**



Pin #4 (Blue LED+) from +3VDC to 24VDC, LED color turn to **Blue**



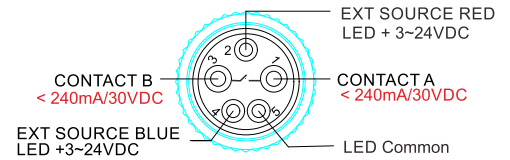
Pin #2 (Red LED+) from +3VDC to 24VDC, color turn to **Red**.



Pin #2 & Pin #4 from +3VDC to 24VDC, color turn to **Purple**.

REAR PLUG VIEW

MOM PUSH - LIGHTS PUR [SIGNAL OUTPUT]
RELEASE - OFF



9059-2913

Momentary N/C

Red LED On Blue LED (Off)

Operation

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



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



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 .
Momentary Push



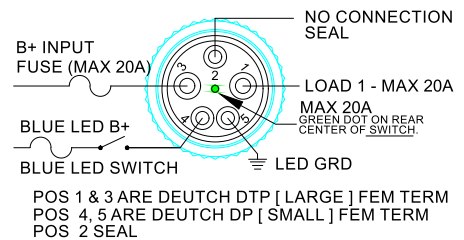
Laser Etched Actuator in Daytime Mode
LED light is off. Momentary Push



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

REAR PLUG VIEW

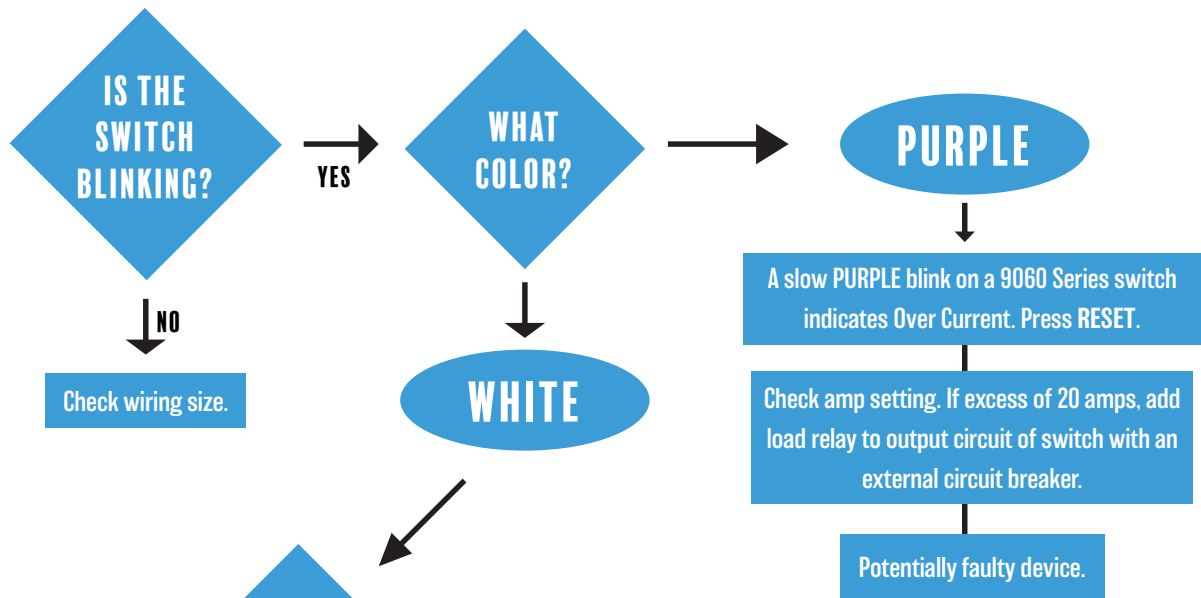
OFF CAN BE BLUE BACKLIT - APPLY B+ TO TERM 4.
MOM PUSH - LIGHTS BLUE [LOAD 1 MOM OFF]
RELEASE - ON



 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

 0193	 0194	 0195	 0196	 0197	 0198	 0199	 0200	 0201	 0202	 0203	 0204
 0205	 0206	 0207	 0208	 0209	 0210	 0211	 0212	 0213	 0214	 0215	 0216
 0217	 0218	 0219	 0220	 0221	 0222	 0223	 0224	 0225	 0226	 0227	 0228
 0229	 0230	 0231	 0232	 0233	 0234	 0235	 0236	 0237	 0238	 0239	 0240
 0241	 0242	 0243	 0244	 0245	 0246	 0247	 0248	 0249	 0250	 0251	 0252
 0253	 0254	 0255	 9451-1019	 9060-1001	 0258	 0259	 0260	 0261	 0262	 0263	 0264
 0265	 0266	 0267	 0268	 0269	 0270	 0271	 0272	 0273	 0274	 0275	 0276
 0277	 0278	 0279	 0280	 0281	 0282	 0283	 0284	 0285	 0286	 0287	 0288
 0289	 0290	 0291	 0292	 0293	 0294	 0295	 0296	 0297	 0298	 0299	 0300
 0301	 0302	 0303	 0304	 9060-1001	 0305	 0306	 0307	 0308	 0309	 0310	 0311
 0312	 0313	 0314	 0315	 0316	 0317	 0318	 0319	 0320	 0321	 0322	 0323
 0324											

SMART SWITCH FLOW CHART



TROUBLESHOOTING PARTS

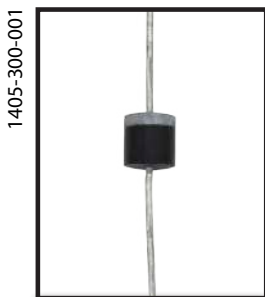
Capacitor



Choke



Diode



Install an in-line choke (Part ID: 1400-000-001) in the wire between the switch output and the pump, as close to the pump as possible (above the waterline). This will suppress electrical noise and typically correct any pump or motor that repeatedly triggers an Over Current fault. [See Figure 1.](#)

Install an in-line choke (Part ID: 1400-000-001) in the wire between the switch output and the pump, as close to the pump as possible (above the waterline). This will suppress electrical noise and typically correct any pump or motor that repeatedly triggers an Over Current fault. [See Figure 1.](#)

Install a diode (Part ID: 1405-300-100) between the switch output and the device, with the cathode (grey part) facing the device. [See Figure 3.](#)

Install a diode (Part ID: 1405-300-100) with the cathode facing the switch to prevent back-feeding from the 24-hour auto bilge circuit. [See Figure 2.](#)

FIGURE 1

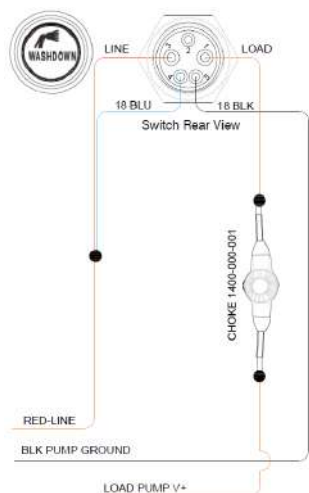


FIGURE 2

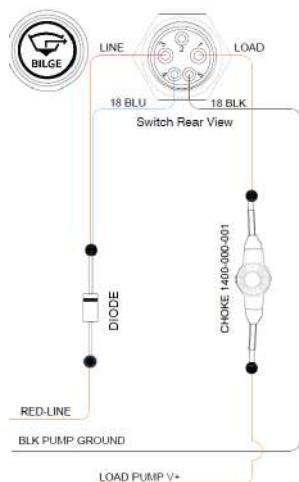
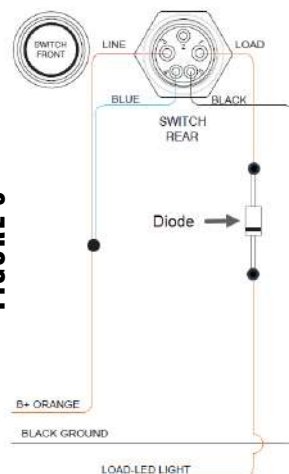


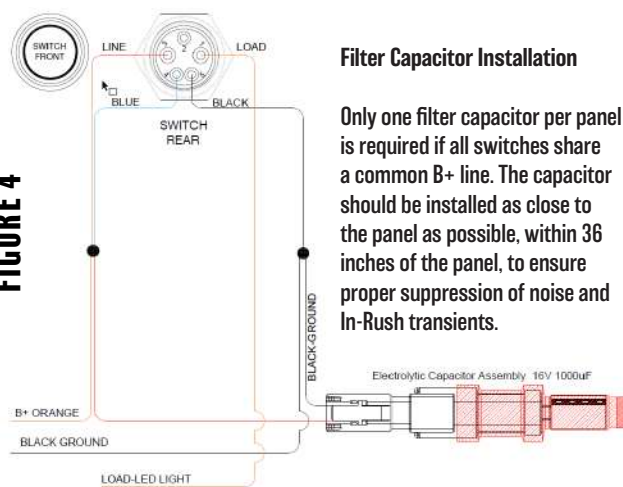
FIGURE 3



Bilge Pump Switch Installation

A diode is required on every bilge pump switch to prevent back-feeding and ensure proper operation. A choke is not typically necessary; however, if a choke is required, it should be installed as close to the pump as possible, above the waterline, to effectively suppress noise.

FIGURE 4



Filter Capacitor Installation

Only one filter capacitor per panel is required if all switches share a common B+ line. The capacitor should be installed as close to the panel as possible, within 36 inches of the panel, to ensure proper suppression of noise and In-Rush transients.

GARMIN/
MFDS

Install a diode (Part ID: 1405-300-100) between the switch output and the device, with the cathode (grey part) facing the device.
See [Figure 3](#).

LED
LIGHTS

Install a diode (Part ID: 1405-300-100) between the switch output and the device, with the cathode (grey part) facing the device.
See [Figure 3](#).

STILL
BLINKING

Install a 16V 1000uF electrolytic capacitor (Part ID: 1406-000-001) across Line B+ and Ground near the LED switch. This stabilizes voltage and prevents In-Rush or Over Current faults. Note that faults may not appear until after extended operation, when voltage drops or temperature rises.
See [Figure 4](#).

RELAY / RELAY
STYLE
BATTERY SWITCH

Install a diode (Part ID: 1405-300-100) between the switch output and the device, with the cathode (grey part) facing the device.
See [Figure 3](#).

STILL
BLINKING

Install a 16V 1000uF electrolytic capacitor (Part ID: 1406-000-001) across Line B+ and Ground near the switch. This stabilizes voltage and corrects the issue creating the fault.
See [Figure 4](#).

EVACUATION
BLOWER/FAN

Install a diode (Part ID: 1405-300-100) between the switch output and the device, with the cathode (grey part) facing the device.
See [Figure 3](#).

STILL
BLINKING

Install a 16V 1000uF electrolytic capacitor (Part ID: 1406-000-001) across Line B+ and Ground near the switch. This stabilizes voltage and corrects the issue creating the fault.
See [Figure 4](#).