IOM

TopWorx engineers are happy to provide technical assistance on GO™ Switch products. However, it is the customer's responsibility to determine the safety and suitability of the product in their application. It is also the customer's responsibility to install the switch using the current electrical codes in their region.

80 Series

GO SWITCH™

The GO™ Switch Proximity Principle

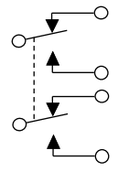
Single-magnet 80 Series GO Switches are designed for use with two independent circuits. A ferrous armature is positioned off-center, creating dominance and placing the contacts for both circuits in a Normally Closed (N/C) position (Figure 1).

When a ferrous actuator enters the sensing area of the switch (Figure 2), it deflects magnetic flux from the N/C side of the armature and the Normally Open (N/O) side becomes dominant. The armature then snaps to its alternate position, closing the N/O contacts. When the actuator is removed, the magnet again becomes dominant on the N/C side and the armature returns to its N/C position.

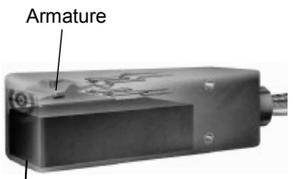
SPECIFICATIONS - DPDT

Contacts: Double Pole, Double Throw, 2 Form C., Silver cadmium oxide, gold flashed
Rating: 1250 watts @ 120, 240, 480 or 600 VAC. Maximum cycle rate of 10 cycles per minute resistive load at 10 amps.
Housing: Environmentally sealed 316L stainless steel or standard enclosure
Conduit Outlet: 1/2" -14NPT
Repeatability: 0.002" (0.05mm) typical
Sensing Distance: Approx. 1/4" (7mm) end sensing. (NOTE: Sensing distance may be affected by surrounding ferrous materials and actuator size)
Differential: Approx.1/4" (72mm)
Response time: 8 milliseconds
Temperature Rating: -40°F. (-40°C) to 221°F (105°C)

Dual Form C



DPDT



Inactivated

Activated

Standard GO™ Switch Actuators

The part to be sensed can approach or pass across the sensing area from any direction. This permits unlimited over-travel and a wide variety of operating conditions.

CAUTION: To assure optimum switch operation, the actuator speed should exceed 2 FPS (feet per second).

Switch Sensing

Target should be either ferrous metal the size of the sensing face and 1/4" thick or a TopWorx Target Magnet. Maximum sensing with the recommended ferrous target is 5/16" . TopWorx recommends that the target be set at 50% of that distance if possible, to compensate for actuator wear and repeatability over time. Target magnets are available from TopWorx to extend the sensing range of the switch.

NOTE: Actuator size effects sensing distance.

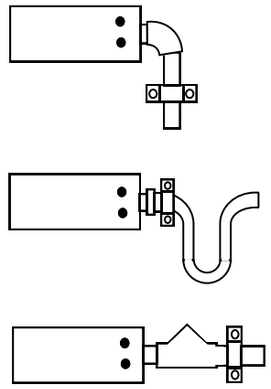
Mounting

- Determine the desired operating point.
- Locate switch and/or actuator to assure that actuator comes well within switch's sensing area.
- Use a ferrous actuator of sufficient size.
- Recommended sensing is one half the published sensing range for trouble free operation with a repeatable target. If target sensing area needed is greater, there are multiple target magnets available from TopWorx to extend the range of the switch.
- Avoid contact between switch and actuator, which may damage switch.
- For best results, mount switch on non-ferrous materials.
- Steel placed outside the switch's differential area will not affect functionality.
- We do not recommend that GO Switches be mounted to ferrous metal. If a ferrous mount is the only option consult factory. The switch must be centered on the bracket to avoid latching and the maximum sensing distance will be reduced by approximately 50%. A target magnet is highly suggested in that case.
- Ferrous brackets or surrounding ferrous metal should NOT be applied to the top of the switch above the sensing area...Latching may occur.
- Switch must be centered on ferrous mounting bracket so that effects on the magnet are uniform.

Attachment of Conduit or Cable

Attach conduit or cable correctly.

- When using long runs of conduit or cable, place supports close to the switch to avoid pulling switch out of position.
- If switch is mounted on a moving part, be sure flexible conduit is long enough to allow for movement, and positioned to eliminate binding or pulling.
- For installation in hazardous locations, check local electrical codes.
- All conduit connected electrical devices, including GO Switches, must be sealed against water ingression through the conduit system. In figure 1, something common has occurred, the conduit system has filled with water. Over a period of time this may cause the switch to fail prematurely. In figure 2, the termination of the switch has been carefully filled with electronics grade RTV to prevent water ingression and to prevent premature switch failure. A drip loop with provision for water to escape has also been installed.



- Contact Chamber is potted to resist contaminants. Please see notes on conduit installation. Optional connectors available for excessive moisture and submersed conditions.
- Multiple termination options: Lead wires, Cable, Quick Disconnects

EU Declaration of Conformity

The products described herein, conform to the provisions of the following Union Directives, including the latest amendments:

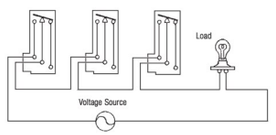
Low Voltage Directive (2014/35/EU)
EMD Directive (2014/30/EU)
ATEX Directive (2014/34/EU)

有毒或有害物質 (Hazardous Substance)						
零件名称 (Part Name)	铅 (Lead) (Pb)	汞 (Mercury) (Hg)	镉 (Cadmium) (Cd)	六价铬 (Hexavalent Chromium) (Cr+6)	多溴联苯 (Polybrominated biphenyls) (PBB)	多溴二苯醚 (Polybrominated diphenyl ethers) (PBDE)
接触组件 (Contact Assembly)	X	O	X	O	O	O
磁铁 (Magnets)	O	O	O	O	O	O
壳体 (Enclosure)	O	O	O	O	O	O
塑料 (Plastic)	O	O	O	O	O	O
接线 (Wiring)	X	O	O	O	X	X

O：表示该有毒有害物质在该部件所有物质材料中的含量均低于GB/T26572规定的限量要求以下
×：表示该有毒有害物质至少在该部件的某一物质材料中的含量超出GB/T26572规定的限量

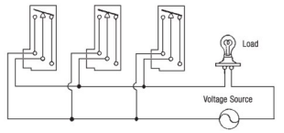
All GO Switches are "pure" contact switches, meaning they have no voltage drop when closed, nor do they have any leakage current when open. For multi-unit installation, switches may be wired in series or parallel, as shown.

Series Wiring



Any number of GO Switches may be wired in series, without voltage drop. By contrast, solid state switches have about two volts drop across the switch when operated. In a 12 volt solid state system with four switches in series, 8 volts is dropped across the switches. Only 4V is left to operate the load. When using GO Switches, 12V is still available to operate the load. (Except 7L - approx. 5V drop)

Parallel Wiring



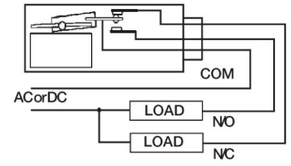
When solid state switches are placed in parallel, there is about 100 microamps leakage through each switch. If ten solid state switches were wired in parallel, the total leakage current would be 1000 microamps or one milliamp - sufficient current to indicate an "ON" condition to a programmable logic controller (PLC).

Any number of GO Switches may be wired in parallel, with no current leakage and without drawing operating current. (Except 7L - approx. 5V drop)

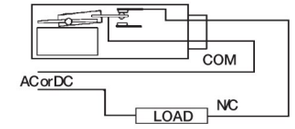
NOTE: Occasionally the 80 Series DPDT is used for its end sensing, when only a SPDT switch is required. If this is the case in your advantage to parallel the lead wires (red to red/white stripe, blue to blue/white stripe and black to black/white stripe, essentially converting a DPDT switch to a SPDT configuration) so that both individual circuits see the same load and therefore wear equally to give long contact life and the reliable service you expect with GO™ Switch.

GO™ Switch Hook-up Diagrams

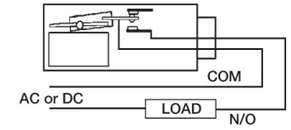
Form "C"
Typ. Dual Load
Hook-up



Form "B"
Normally Closed Typ. Overtravel
or Limits, Hook-up



Form "A"
Normally Open Typ. Alarm or
Limits Warning Hook-up



IOM

80 Series

Wiring Diagrams

SPDT, FORM C

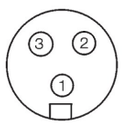
4 Wire PVC & HiTemp Leads	
N/C	Red
N/O	Blue
COM	Black
GND	Green

Terminations A & F

SPDT, FORM C

Mini-Change QDC - 3 Pin	
Pin 1	COM (Green)
Pin 2	N/C (Black)
Pin 3	N/O (White)

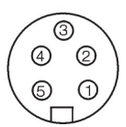
Termination DCA



SPDT, FORM C

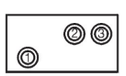
Mini-Change QDC - 5 Pin	
Pin 1	N/O (White)
Pin 2	N/C (Red)
Pin 3	GND (Green)
Pin 4	Inactive (Orange)
Pin 5	COM (Black)

Termination DCG



SubSea - 3 Pin - Right Angle	
Pin 1	COM (Black)
Pin 2	N/O (White)
Pin 3	N/C (Green)

Termination 3DE



SPDT, FORM C

SubSea - 4 Pin - Lock Sleeve	
Pin 1	COM (Black)
Pin 2	N/O (White)
Pin 3	N/C (Red)
Pin 4	GND (Green)

Termination 4DD

SPDT, FORM C

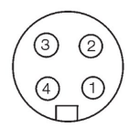
SO Cable	
N/C	Red
N/O	White
COM	Black
GND	Green

Termination B

SPDT, FORM C

Mini-Change QDC - 4 Pin	
Pin 1	COM (Black)
Pin 2	N/O (White)
Pin 3	N/C (Red)
Pin 4	GND (Green)

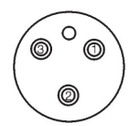
Termination DCD



SPDT, FORM C

SubSea - 3 Pin - Lock Sleeve	
Pin 1	N/C (Black)
Pin 2	COM (White)
Pin 3	N/O (Green)

Termination 3DD



SubSea - 8 Pin - Lock Sleeve	
Pin 1	COM_1 (Black)
Pin 2	N/O1 - (White)
Pin 3	N/C_1 - (Red)
Pin 4	GND - (Green)
Pin 5	N/C_2 - (Orange)
Pin 6	N/O_2 - (Blue)
Pin 7	COM_2 - (White/Black)
Pin 8	Inactive (Red/Black)

Termination 8DD

DPDT, TWO FORM C

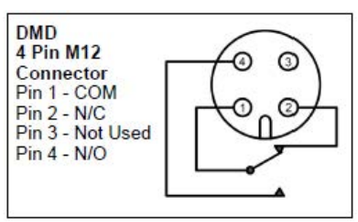
PVC Leads, Cable & Hi-Temp Teflon Leads	
N/C1 - Red	N/C2 - Red/White Stripe
N/O1 - Blue	N/C2 - Blue/White Stripe
COM1 - Black	COM2 - Black/White Stripe
	GND - Green

Termination A & F

DPDT, TWO FORM C

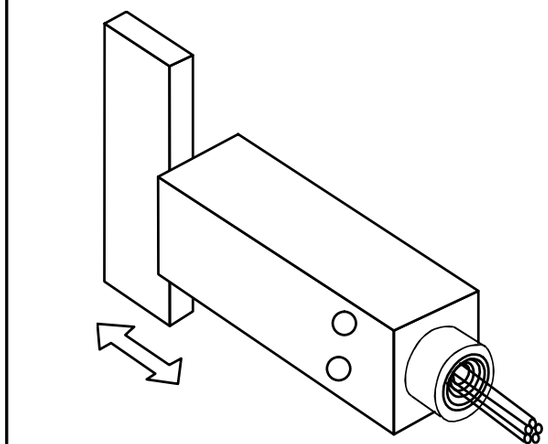
Mini-Change QDC - 7 Pin	
Pin 1	N/O 2 - Black/White
Pin 2	COM 1 - Black
Pin 3	N/C 2- White
Pin 4	N/C 1 - Red
Pin 5	COM 2 - Orange
Pin 6	N/O 1 - Blue
Pin 7	GND - Green

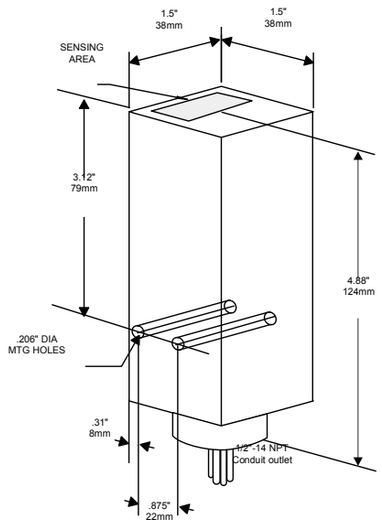
Termination DCH

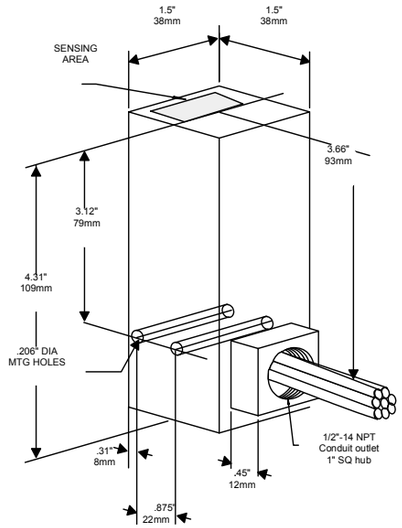


DMD 4 Pin M12 Connector

External ground must be used with 120VAC and voltages greater then 60VDC when using the DMD connector







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