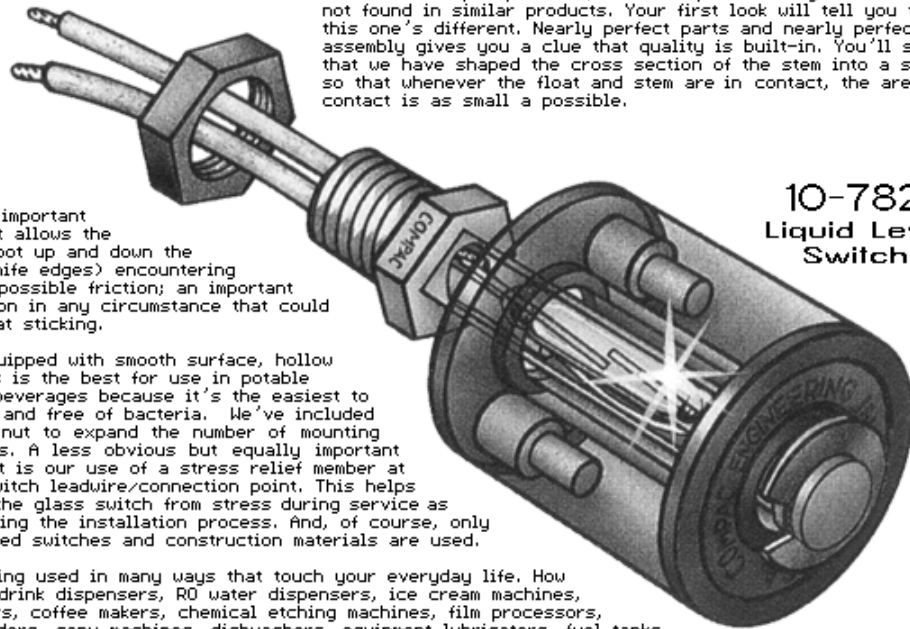




This ubiquitous switch is the *key switching element of the Series 10 ERECTA SWITCH product group*. It can be used alone or as the switching component of a larger ERECTA SWITCH instrument construction. It's a simple product based on a simple idea. A magnetic float rising or falling in response to liquid level change actuates a hermetically sealed magnetic reed switch. This straight forward method of converting motion into an electrical signal is so uncomplicated that many years of reliable service can be expected.

Like other Compac products, 10s incorporate design enhancements not found in similar products. Your first look will tell you that this one's different. Nearly perfect parts and nearly perfect assembly gives you a clue that quality is built-in. You'll see that we have shaped the cross section of the stem into a square so that whenever the float and stem are in contact, the area in contact is as small as possible.



This is an important feature that allows the float to scoot up and down the stem (on knife edges) encountering the lowest possible friction; an important consideration in any circumstance that could lead to float sticking.

10s are equipped with smooth surface, hollow floats. This is the best for use in potable water and beverages because it's the easiest to keep clean and free of bacteria. We've included a mounting nut to expand the number of mounting possibilities. A less obvious but equally important enhancement is our use of a stress relief member at the reed switch leadwire/connection point. This helps to isolate the glass switch from stress during service as well as during the installation process. And, of course, only the best reed switches and construction materials are used.

10s are being used in many ways that touch your everyday life. How about soft drink dispensers, RO water dispensers, ice cream machines, food warmers, coffee makers, chemical etching machines, film processors, poultry feeders, copy machines, dishwashers, equipment lubricators, fuel tanks . . .

**10-782
Liquid Level
Switch**

G782-1A

MODES OF OPERATION

The switch action of the 10-782 can be configured for either normally open or normally closed switch action depending upon the orientation of the float on the stem. The product is shipped with the float in the "magnets up" normally closed condition. To reverse this action, remove the float and retaining ring, turn the float over and reassemble the float and retaining ring.

Float	FLOAT BUOYANCY IN SPECIFIC GRAVITY 1.0						Medium
	Inches			MM			
	PP	AC	KR	PP	AC	KR	
Exposed	.4	.35	.2	10.16	8.89	5.08	air
Submerged	.6	.65	.8	15.24	16.51	20.32	Water
Height	1.0	1.0	1.0	25.4	25.4	25.4	---

ELECTRICAL RATING	
 OKI Sensor Device Corporation	
Contact life	Complete OKI Reed Switch Databook available at http://www.osdc.co.jp/
Contact rating	70 VA*, 50W* *Resistive
UL file E70063	 OKI Sensor Device Corporation Reed Switch Model ORD229 Tokyo 193-8550, Japan
Max Switching Voltage	300AC, 350DC
Max Switching Current	AC 0.5AMP*, DC 0.7AMP*

APPLICATION ENVIRONMENT		
Pressure (Hollow float)	100 PSI MAX @ 20°C	Derate, Zero @ 90°C
Temperature	90°C MAX	---
Specific Gravity	.8 MIN	Clear Liquid
Position Extreme	30° Cant MAX	Off Vertical

* UL component recognition applies to the OKI switch Model ORD229. Observe applicable electrical codes when using this product.

TRIP POINT (DRY STATE BEHAVIOR)

NORMALLY CLOSED - Legend toward retaining ring. Switch opens as float approaches the hex and closes as float approaches the retaining ring at the opposite end.

Contacts open when the gap between float and retaining ring is increased to not more than .250/6.35 and recloses when gap is not less than .125/3.18. The characteristic differential between open and closed states is .030/.762

NORMALLY OPEN - Legend toward hex. Switch opens as float approaches the retaining ring and closes as the float approaches the hex at the opposite end.

Contact closes when gap between float and hex is not less than .125/3.18 and reopens when gap is increased to not more than .250/6.35. The characteristic differential between open and closed states is .030/.762.

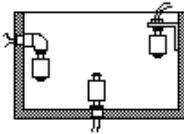
MATERIALS OF CONSTRUCTION	
10-782-PP	(Gray & black) Polypropylene
10-782-AC	(Red) Acetal
10-782-KR	(Natural) Kynar PUDF

MODES OF FAILURE

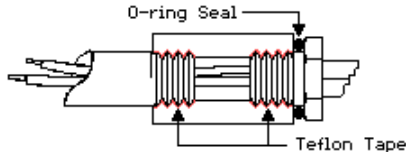
Stuck closed contacts are symptomatic of welded contacts. Contacts will weld and then stick whenever the power switched is greater than the reed's ability to handle the load. Any stick is indicative of a catastrophically damaged, over-loaded reed contact. Reed switch contacts are vulnerable to such damage when subjected to reactive loads. When switching solenoid and relay coils, include arc suppression in your circuit. See "Is Arcing Present" in Tech Note section in this catalog.

Stuck open contacts are symptomatic of a stressed or otherwise broken switch. Avoid dropping the switch or bending it during the installation process.

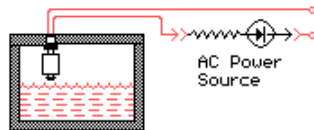
10s can be mounted in drilled and tapped bulkheads, ERECTA SWITCH accessories, 1/8 NPT pipe fittings or fasten to brackets using the jam nut provided. Whatever the method, reliable operation will require space be available for float movement, the stem be free of stress and moisture be prevented from entering the leadwire egress.



Installations must include provisions to keep moisture out of the product. Unless you are using redundant O-ring sealed ERECTA SWITCH accessories, wetted threaded connections should be sealed with Teflon tape. The use of an O-ring face seal is a redundant measure that will enhance reliability.

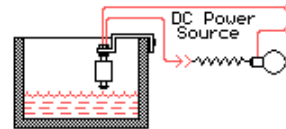


PVC, Polypropylene or fiberglass lids and bulkheads are easily drilled and tapped using common hand tools. ERECTA SWITCH accessories permit hole saw, poke-in and flange mounting as well. This installation shows a 10 controlling an LED indicator at line voltage. The resistor limits the current through the LED.

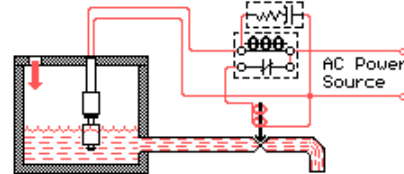


06-30-98
6782-4

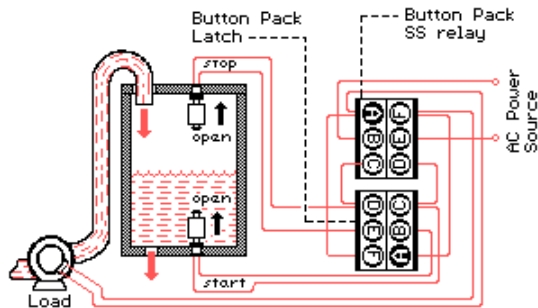
Incandescent bulb controlled by level switch. Current limiting resistor subdues the high in-rush current normal to tungsten bulbs.



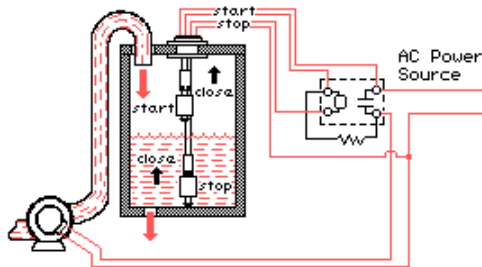
ERECTA SWITCH component sets make it possible to position 10s anywhere in a tank. Here an arc suppressed switch is controlling a solenoid valve.



Two 10s and a BP SS relay offer an inexpensive method to achieve wide differential control. Here's a start low - stop high application.



Our ERECTA SWITCH part sets make multi-level switch applications quick and easy. Here, two 10s are combined with our ERECTA SWITCH wiring receptacle, flange nut, extended stem sets and AC Solid State relay. The single circuit AC Solid State relay is latched "on" through the resistor after the start circuit is completed.



WHAT YOU GET

Series 10 ERECTA SWITCH products are packaged in tenpacks. In many instances the box is an essential part of the product's production tooling. It is the source for lot identification, approval agency marks as well as providing protection against shipping abuses. (We do not authorize out of the box sales or shipment of these products.) The smallest unit offered for sale is one box/package containing ten pieces. I.E., when you purchase six of our 10-782-PP tenpacks you receive six boxes containing sixty switches.

ERECTA CONSTRUCTION COMPONENTS

ERECTA SWITCH parts and sets are described on the pages that follow. Parts and part set application ratings are usually the same as that stated for the Series 10 switching device. However, when ratings do differ, applicable information is included in the dimensional graphic.

PARADOX?

You bet, *You can pay more but you can't get better.* Exploiting this benefit is a "cinch" if you do these things:

- Make sure our product's construction is compatible with your chemistry and environment.
- Check your electrical load/circuit. Do what's necessary to prevent zapping the reed switch. Consider contact protection or an appropriate interface load handling relay.
- If this is your first experience using a reed switch device . . . do your homework. Learn a little about how they work, their characteristic advantages and limitations. Used correctly, "reeds" are a marvel of reliability.

FEATURES:

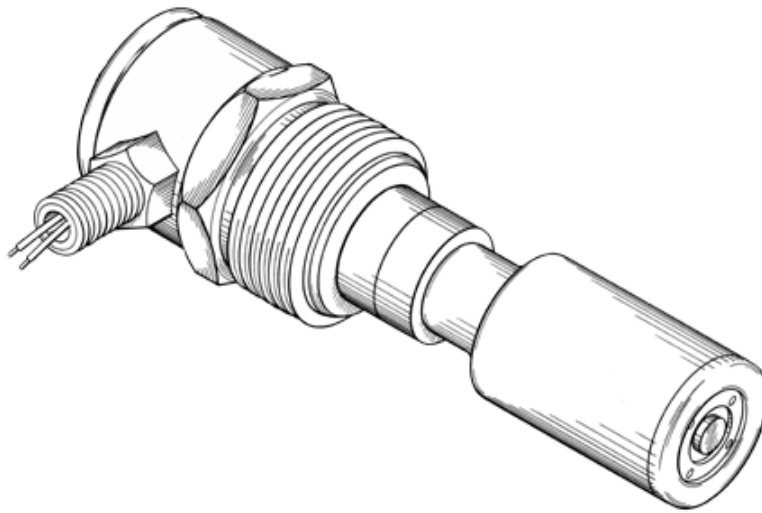
- Unbeatable cost/function ratio.
- Precision components throughout.
- Manufactured under "smart system" controls.
- Reliable, "sealed-in glass" contacts.
- Very small size.
- Can be mounted in any plane.
- Switches small solenoid valves, lamps and relays.

SCHEMES

Scheme graphics show schemes to use ERECTA SWITCH construction components rather than a purchasable product. In other words, Schemes show ways to use and combine components to satisfy a particular operational or mounting situation. Schemes present logical instrument construction possibilities and their dimensional and installation characteristics. Constituent construction elements are stated in the lower lefthand corner of the graphic. *The reader must extract the appropriate set and subset information from the Scheme and then order the parts or sets required to implement the scheme.*

SIDE MTD, LOW PROFILE RECEPT, SWITCH SET

10-786-RM



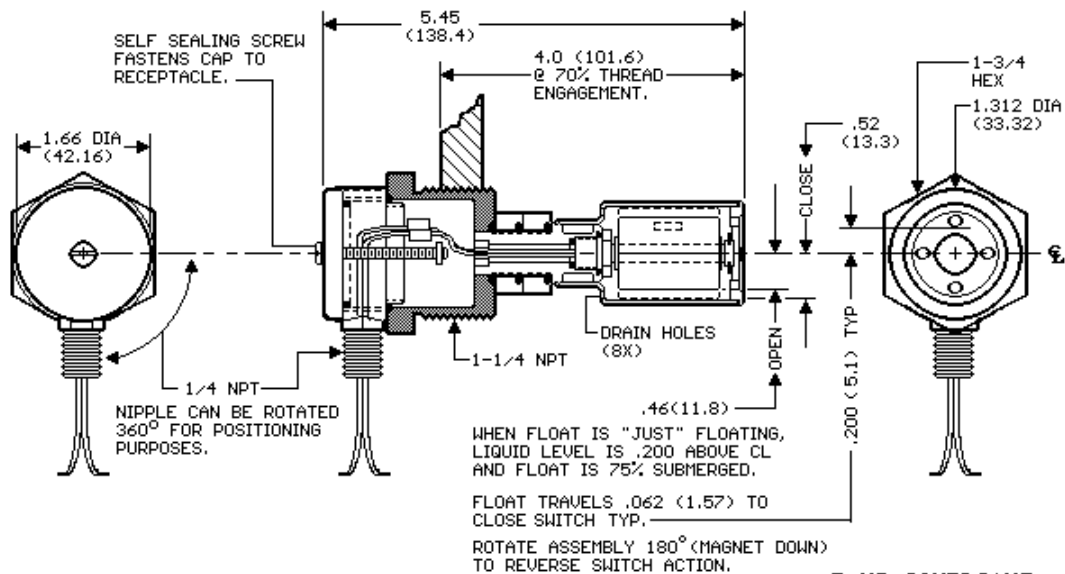
ORDER
FAX CLUMP # 219 & 250



SIDE MTD, LOW PROFILE RECEPT, SWITCH SET

10-786-RM

INSTALLS FROM OUTSIDE ---->



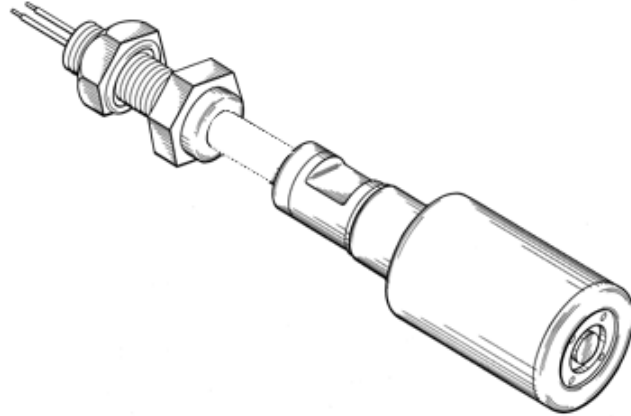
- 10-786-RM-PP COMPONENTS**
- 10-786 SIDE MTD SWITCH SET
 - 10-705-RM-PP BRACKET RECEPT
 - 10-700-SP-PP SPACER
 - 10-703-CM-PP CAP AND SCREW
 - 10-700-MS-PP MID SECTION

LEVEL SWITCH EQUIPPED WITH SLOSH SHIELD AND LOW PROFILE, RAIN TIGHT, WIRING RECEPTACLE ACCOMMODATES WIRE SPLICE WITH AWG 20 STRANDED WIRE. SEE 10-785 PAGE FOR SWITCH DETAILS.



BULKHEAD, VERT MTD, SWITCH SET

10-101-□□-□□

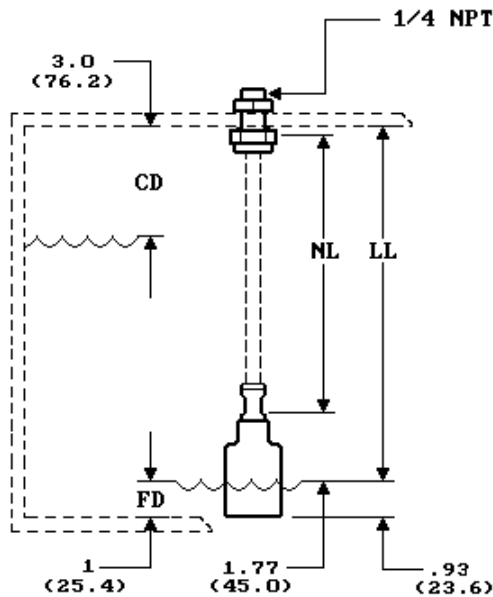


*ORDER
FAX CLUMP # 220 & 251*



BULKHEAD, VERT MTD, SWITCH SET

10-101-□□



NL = NIPPLE LENGTH. STD NIPPLES
1 TO 70 INCHES IN 1 INCH
INCREMENT LENGTHS

$$NL = LL - (1.77 + .12)$$

$$(45.0) (3.05)$$

(10-715-□□-□□ PRECISION
NIPPLE SOLD SEPARATELY)

CD = APPROX MIN DISTANCE CEILING
TO SWITCHING LEVEL

FD = MIN POSSIBLE DISTANCE
FLOOR TO SWITCHING LEVEL

LL = APPROX LIQUID LEVEL
AT SWITCH ACTUATION

SET COMPONENTS

10-782-□□	SWITCH
10-700-CS-□□	STR CONNECTOR
10-700-SS-□□	SLOSH SHIELD
10-702-BH-□□	BKHD FITTING

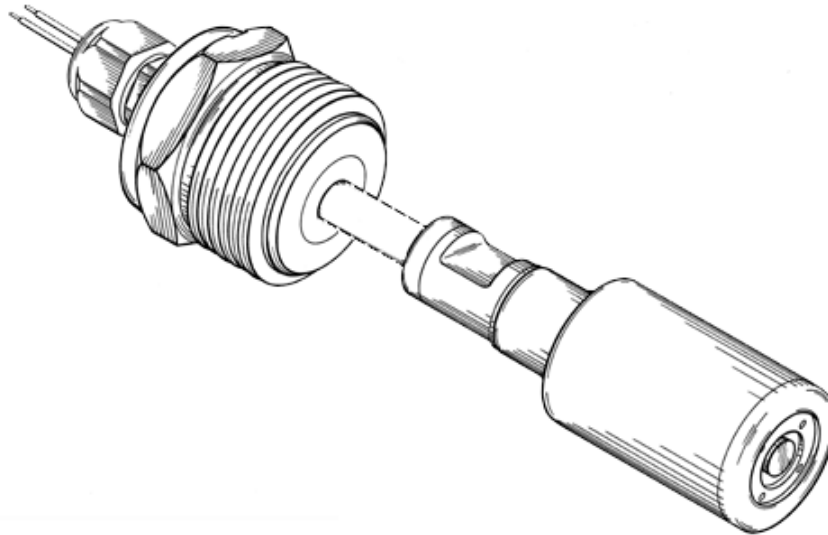
*INSTALLED "INSIDE --> OUT".
INTERNAL ACCESS REQUIRED.*

RoHS COMPLIANT



1-1/4 VERT MTD, ONE LEVEL, SWITCH SET

10-102-

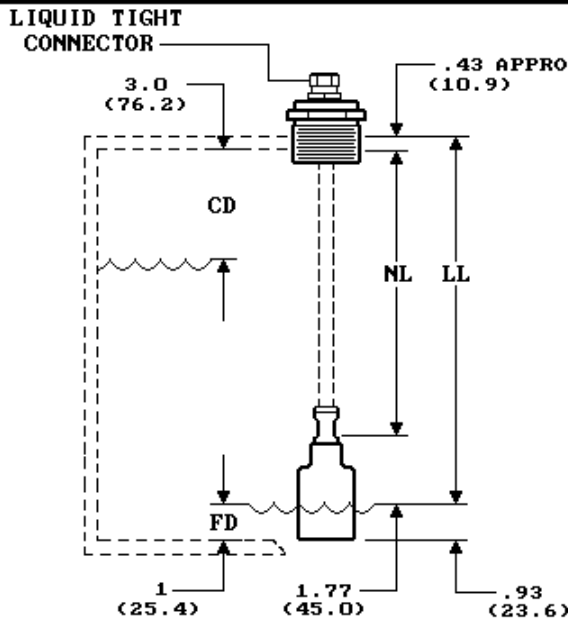


*ORDER
FAX CLUMP # 221 & 252*



1-1/4 VERT MTD, ONE LEVEL, SWITCH SET

10-102-



NL = NIPPLE LENGTH. STD NIPPLES
1 TO 70 INCHES IN 1 INCH
INCREMENT LENGTHS
NL = LL - (1.77+.43)
(45.0) (10.9)
(10-715-- PRECISION
NIPPLE SOLD SEPARATELY)

CD = APPROX MIN DISTANCE CEILING
TO SWITCHING LEVEL

FD = MIN POSSIBLE DISTANCE
FLOOR TO SWITCHING LEVEL

LL = APPROX LIQUID LEVEL
AT SWITCH ACTUATION

SET COMPONENTS

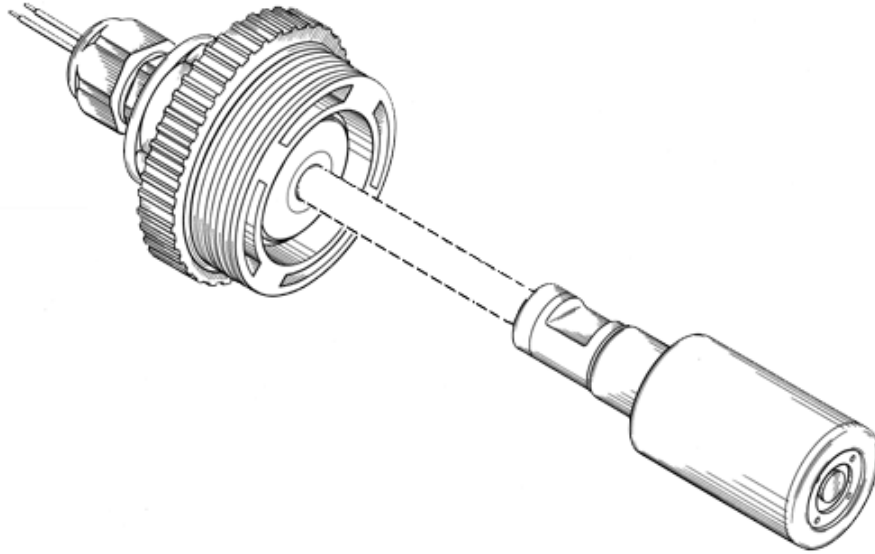
10-782- <input type="checkbox"/>	SWITCH
10-700-CS- <input type="checkbox"/>	STR CONNECTOR
10-700-SS- <input type="checkbox"/>	SLOSH SHIELD
10-700-R1- <input type="checkbox"/>	RECEPTACLE
10-700-WC-NY	LT CONNECTOR

INSTALLED "OUTSIDE --> IN".
INTERNAL ACCESS NOT REQUIRED.



2 VERT MTD, ONE LEVEL, SWITCH SET

10-103-



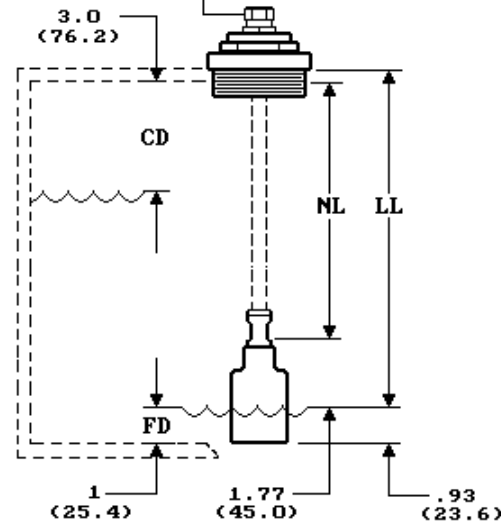
ORDER
FAX CLUMP # 222 & 253



2 VERT MTD, ONE LEVEL, SWITCH SET

10-103-

LIQUID TIGHT
CONNECTOR



NL = NIPPLE LENGTH. STD NIPPLES
1 TO 70 INCHES IN 1 INCH
INCREMENT LENGTHS

$$NL = LL - (1.77 + .43)$$

$$(45.0) (10.9)$$

(10-715- PRECISION
NIPPLE SOLD SEPARATELY)

CD = APPROX MIN DISTANCE CEILING
TO SWITCHING LEVEL

FD = MIN POSSIBLE DISTANCE
FLOOR TO SWITCHING LEVEL

LL = APPROX LIQUID LEVEL
AT SWITCH ACTUATION

SET COMPONENTS

10-782- <input type="checkbox"/> <input type="checkbox"/>	SWITCH
10-700-CS- <input type="checkbox"/> <input type="checkbox"/>	STR CONNECTOR
10-700-SS- <input type="checkbox"/> <input type="checkbox"/>	SLOSH SHIELD
10-700-R1- <input type="checkbox"/> <input type="checkbox"/>	RECEPTACLE
10-700-AS- <input type="checkbox"/> <input type="checkbox"/>	ADAP W/SEAL
10-700-WC-NY	LT CONNECTOR

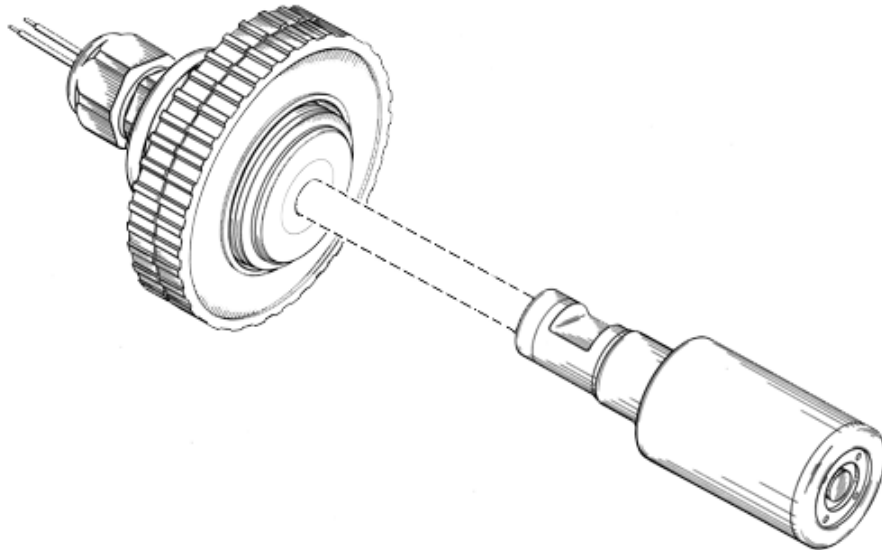
INSTALLED "OUTSIDE --> IN".
INTERNAL ACCESS NOT REQUIRED.

RoHS COMPLIANT



FLANGE MTD, ONE LEVEL, SWITCH SET

10-104-

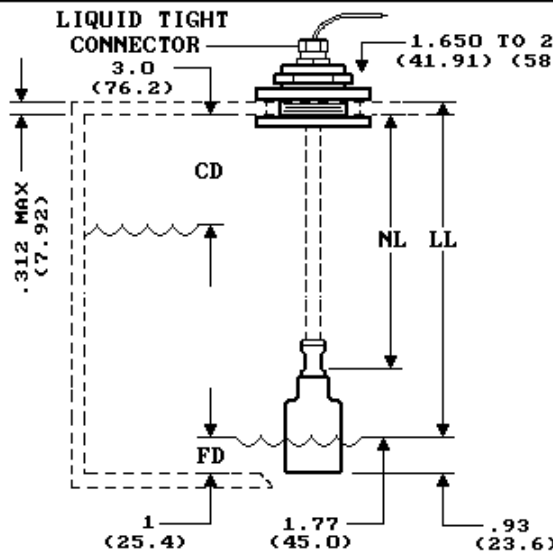


*ORDER
FAX CLUMP # 223 & 254*



FLANGE MTD, ONE LEVEL, SWITCH SET

10-104-



NL = NIPPLE LENGTH. STD NIPPLES
1 TO 70 INCHES IN 1 INCH
INCREMENT LENGTHS
NL = LL - (1.77+.43)
(45.0) (10.9)
(10-715-- PRECISION
NIPPLE SOLD SEPARATELY)

CD = APPROX MIN DISTANCE CEILING
TO SWITCHING LEVEL

FD = MIN POSSIBLE DISTANCE
FLOOR TO SWITCHING LEVEL

LL = APPROX LIQUID LEVEL
AT SWITCH ACTUATION

SET COMPONENTS

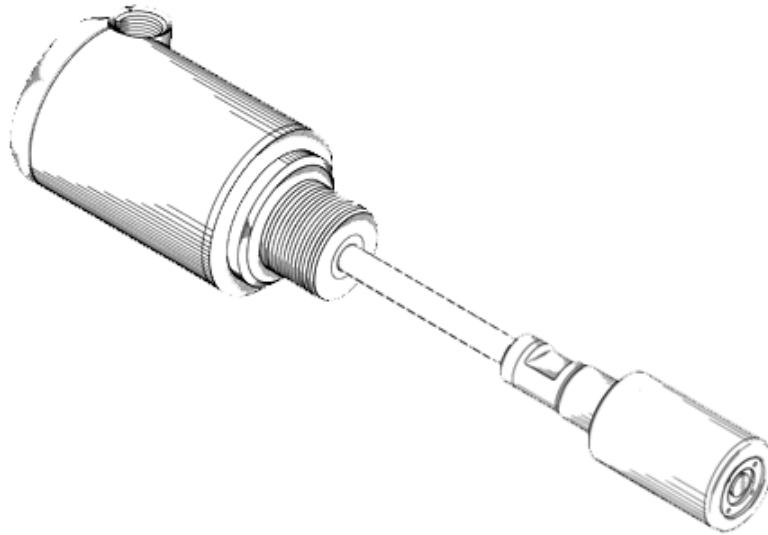
10-782- <input type="checkbox"/>	SWITCH
10-700-CS- <input type="checkbox"/>	STR CONNECTOR
10-700-SS- <input type="checkbox"/>	SLOSH SHIELD
10-700-R1- <input type="checkbox"/>	RECEPTACLE
10-700-FS- <input type="checkbox"/>	FLG NUT W/SEAL
10-700-FN- <input type="checkbox"/>	FLG NUT
10-700-WC-NY	LT CONNECTOR

INSTALLED "OUTSIDE --> IN".
INTERNAL ACCESS REQUIRED.



1-1/4 VERT MTD, ONE LEVEL, SWITCH SET

10-105-

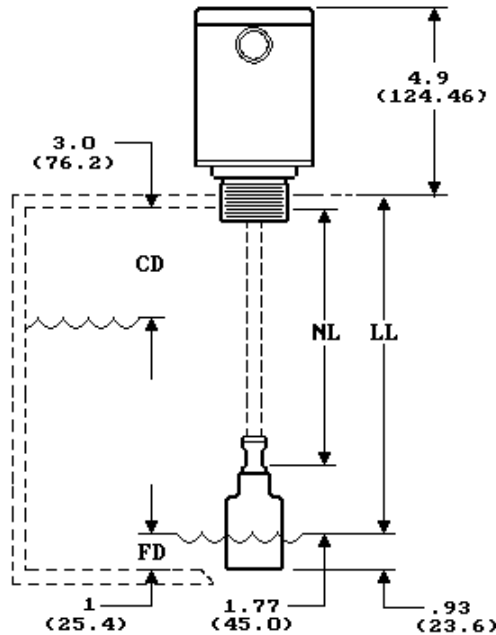


ORDER
FAX CLUMP # 222 & 255



1-1/4 VERT MTD, ONE LEVEL, SWITCH SET

10-105-



NL = NIPPLE LENGTH. STD NIPPLES
1 TO 70 INCHES IN 1 INCH
INCREMENT LENGTHS

$$NL = LL - (1.77 + .43)$$

$$(45.0) (10.9)$$

(10-715-- PRECISION
NIPPLE SOLD SEPARATELY)

CD = APPROX MIN DISTANCE CEILING
TO SWITCHING LEVEL

FD = MIN POSSIBLE DISTANCE
FLOOR TO SWITCHING LEVEL

LL = APPROX LIQUID LEVEL
AT SWITCH ACTUATION

SET COMPONENTS

10-782- <input type="checkbox"/>	SWITCH
10-700-CS- <input type="checkbox"/>	STR CONNECTOR
10-700-SS- <input type="checkbox"/>	SLOSH SHIELD
10-700-H1	RELAY HSG

INSTALLED "OUTSIDE --> IN".
INTERNAL ACCESS NOT REQUIRED.

