



# Model L6 FLOTECT® Float Switch

## Specifications - Installation and Operating Instructions

Explosion-Proof; UL and CSA Listed -

Class I, Groups \*A, B, C, & D

Class II, Groups E, F & G

Directive 2014/34/EU (ATEX) Compliant for

CE 2813 II 2 G Ex db IIC T6 Gb Process Temp≤75°C

IECEX Compliant for Ex db IIC T6 Gb Process Temp≤75°C

\*(Group A, stainless steel body only)



### SPECIFICATIONS

**Service:** Liquids compatible with wetted materials.

**Wetted Materials:** Float: Solid polypropylene or 304 SS; Lower Body: Brass or 303 SS; Magnet: Ceramic; External Float Chamber (Tee): Matches lower body choice of brass or 303 SS; Other: Lever Arm, Spring, Pin, etc.: 301 SS.

**Temperature Limit:** -4 to 220°F (-20 to 105°C) Standard, MT high temperature option 400°F (205°C)(MT not UL, CSA, ATEX, IECEX and KC). ATEX compliant AT, IECEX IEC and KC option ambient temperature -4 to 167°F (-20 to 75°C) process temperature: -4 to 220°F (-20 to 105°C).

**Pressure Limits:** See next page.

**Enclosure Rating:** Weatherproof and Explosion-proof. Listed with UL and CSA for Class I, Groups A, B, C and D; Class II, Groups E, F, and G. (Group A on stainless steel body models only).

CE 2813 II 2 G Ex db IIC T6 Gb Process Temp≤75°C.

EU-Type Certificate No.: KEMA 04ATEX2128.

ATEX Standards: EN 60079-0: 2012 + A11: 2013; EN60079-1: 2014.

IECEX Certified: For Ex db IIC T6 Gb Process Temp≤75°C.

IECEX Certificate of Conformity: IECEX DEK II.0039.

IECEX Standards: IEC 60079-00: 2011; IEC 60079-1: 2014.

Korean Certified (KC) for Ex d IIC T6 Gb Process Temp≤75°C.

KTL Certificate Number: 12-KB4BO-0091.

**Switch Type:** SPDT snap switch standard, DPDT snap switch optional.

**Electrical Rating:** UL models: 5 A @ 125/250 VAC (V~). CSA, ATEX and IECEX models: 5 A @ 125/250 VAC (V~); 5A res., 3 A ind. @ 30 VDC (V=). MV option: 0.1 A @ 125 VAC (V~). MT option: 5 A @ 125/250 VAC (V~). [MT option not UL, CSA, ATEX or IECEX].

**Electrical Connections:** UL models: 18 AWG, 18" (460 mm) long.

ATEX/CSA/IECEX models: terminal block.

**Upper Body:** Brass or 303 SS.

**Conduit Connection:** 3/4" male NPT standard, 3/4" female NPT on junction box models. M25 x 1.5 with - BSPT option.

**Process Connection:** 1" male NPT on models without external float chamber, 1" female NPT on models with external float chamber.

**Mounting Orientation:** Horizontal with index arrow pointing down.

**Weight:** Approximately 1 lb (.5 kg) without external float chamber, 1.75 lb (.8 kg) with external float chamber.

**Specific Gravity:** See next page.

<b>Example</b>	L6	EP	BB	D	3	0	CSA	B0HB	Series L6EPB-B-D-3-0-CSA-B0HB Flotect® Liquid Level Switch, brass body, DPDT, spherical polypropylene float, side wall mount, CSA approval, with 1-1/2" hex type brass bushing.
<b>Series</b>	L6								Flotect® Liquid Level Switch
<b>Construction</b>		EP							Explosion Proof
<b>Body</b>			BB						Brass Stainless Steel
<b>Switch Type</b>				D					DPDT
<b>Process</b>				S					SPDT
<b>Connection</b>					3	4			1" NPT 1" BSPT, M25 x 1.5 Conduit Connection ++
<b>Float Type and Installation</b>									Spherical Polypropylene, Side Wall Mount* Cylindrical 304SS, Side Wall Mount Spherical Polypropylene, Brass External Float Chamber* Spherical 304SS, Side Wall Mount Spherical 304SS, Brass External Float Chamber Spherical 304SS, 304SS External Float Chamber Spherical Polypropylene, 304SS External Float Chamber*
<b>Options</b>							AT CSA GL IEC KC MT MV ST TBC TOP		ATEX Approval CSA Approval* Ground Leads* IECEX Approval Korean Certified* High Temperature* Gold Contacts Stainless Steel Tag Terminal Block Connector Top Mounted Float*
<b>Bushing/Tees and Bushings*</b>								B0HB B0H4 B1HB B1H4 TB2BS TB2S B0HBE B0H4E B1HBE B1H4E TB2BSE TB2SE	1-1/2" NPT Hex Type Brass Bushing 1-1/2" NPT Hex Type 304SS Bushing 2" NPT Hex Type Brass Bushing 2" NPT Hex Type 304SS Bushing 2" NPT Brass 250# Tee & Bushing 2" NPT 316SS Tee & Bushing 1-1/2" BSPT Hex Type Brass Bushing ++ 1-1/2" BSPT Hex Type 304SS Bushing ++ 2" BSPT Hex Type Brass Bushing ++ 2" BSPT Hex Type 304SS Bushing ++ 2" BSPT Brass 250# Tee and Bushing ++ 2" BSPT 316SS Tee and Bushing ++

**Attention:** Units without the "AT" suffix are not Directive 2014/34/EU (ATEX) compliant. These units are not intended for use in potentially hazardous atmospheres in the EU. These units may be CE marked for other Directives of the EU.

\*Options that do not have ATEX, IECEX or KC  
++ BSPT options not compatible with KC option

**MAXIMUM PRESSURE CHART**

Model Number	Float	Pressure Rating psig (kg/cm <sup>2</sup> )
L6EPB-B-S-3-A	Cylindrical SS	200 (13.8)
L6EPB-B-S-3-B	Polypropylene	250 (17.2)
L6EPB-B-S-3-C	Round SS	350 (24.1)
L6EPB-B-S-3-H	Round SS	250 (17.2)
L6EPB-B-S-3-O	Polypropylene	1000 (69)
L6EPB-S-S-3-A	Cylindrical SS	200 (13.8)
L6EPB-S-S-3-C	Round SS	350 (24.1)
L6EPB-S-S-3-L	Round SS	350 (24.1)
L6EPB-S-S-3-O	Polypropylene	2000 (138)
L6EPB-S-S-3-S	Polypropylene	2000 (138)

**INSTALLATION**

Unpack switch and remove any packing material found inside lower housing or float chamber.

Switch must be installed with body in a horizontal plane and arrow on side pointing down.

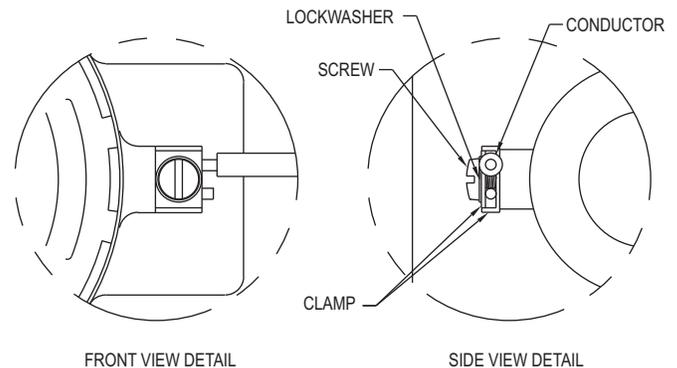
If switch has an external float chamber (tee), connect it to vertical sections of 1" NPT pipe installed outside vessel walls at appropriate levels. If unit has no external float chamber, it must be mounted in a 1" NPT half coupling welded to the vessel wall. The coupling must extend through the wall.

Inspect and clean wetted parts at regular intervals.

**ELECTRICAL CONNECTIONS**

Connect wire leads in accordance with local electrical codes and switch action required. N.O. contacts will close and N.C. contacts will open when liquid level causes float to rise. They will return to "normal" condition on decreasing liquid level. Black = common, Blue = N.O. and Red = N.C.

For units supplied with both internal ground and external bonding terminals, the ground screw inside the housing must be used to ground the control. The external bonding screw is for supplementary bonding when allowed or required by local code. When external bonding conductor is required, conductor must be wrapped a minimum of 180° about the external bonding screw. See below. Some CSA listed models are furnished with a separate green ground wire. Such units must be equipped with a junction box, not supplied but available on special order.



**EU-Type Certificate IECEX and KC Installation Instructions:**

**Cable Connection**

The cable entry device shall be certified in type of explosion protection flameproof enclosure "d", suitable for conditions of use and correctly installed. For Ta ≥ 65°C cable and cable gland rated ≥ 90°C shall be used.

**Conduit Connection**

An Ex d certified sealing device such as a conduit seal with setting compound shall be provided immediately to the entrance of the valve housing. For Ta ≥ 65°C wiring and setting compound, in the conduit seal, rated ≥ 90°C shall be used.

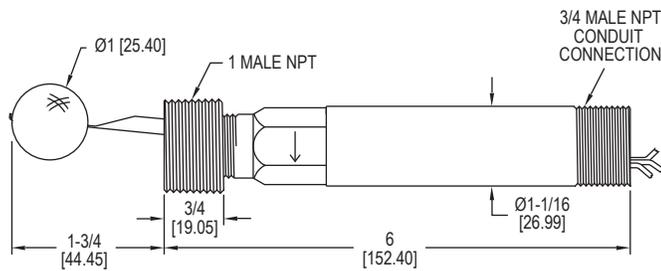
**WETTED MATERIALS CHART**

Model	Brass	Bronze	Ceramic	Polypropylene	301SS	303SS	304SS
B-S-3-A	X		X		X		X
B-S-3-B	X	X	X	X	X		
B-S-3-C	X		X		X		X
B-S-3-H	X	X	X		X		
B-S-3-O	X			X	X		
S-S-3-A			X	X	X		X
S-S-3-C			X		X	X	X
S-S-3-L			X		X	X	X
S-S-3-O			X	X	X	X	
S-S-3-S			X	X	X	X	

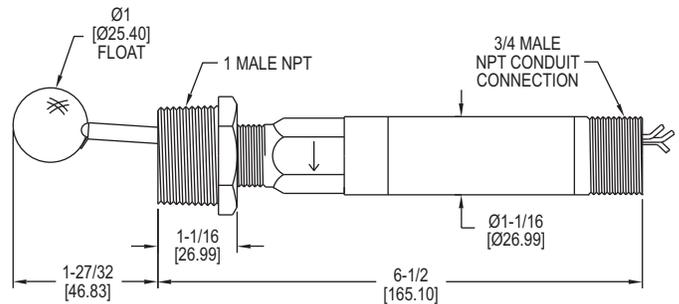
**Note:** ATEX, IECEx and KC units only: The temperature class is determined by the maximum ambient and or process temperature. Units are intended to be used in ambient of  $-20^{\circ}\text{C} \leq T_{amb} \leq 75^{\circ}\text{C}$ . Units may be used in process temperatures up to  $105^{\circ}\text{C}$  providing the enclosure and switch body temperatures do not exceed  $75^{\circ}\text{C}$ . The standard Temperature Class is T6 Process Temp  $\leq 75^{\circ}\text{C}$ .

**DIMENSIONS**

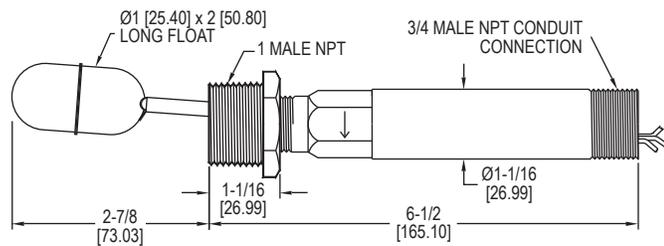
**Model L6 FLOTECT® Float Switch**



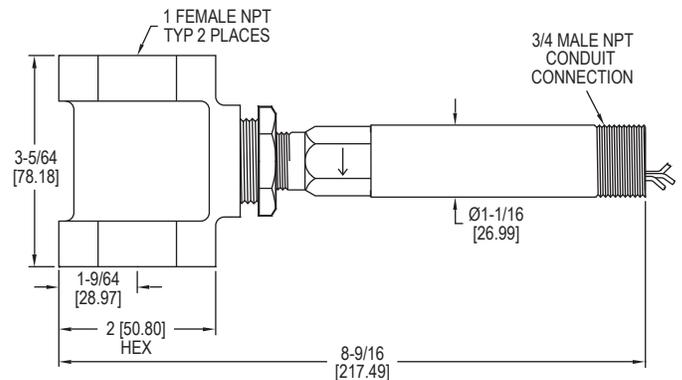
**Polypropylene Float**



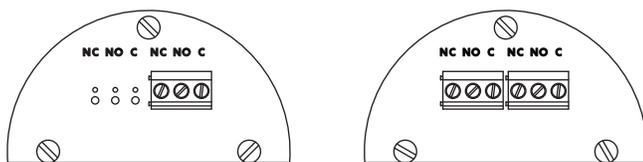
**Round Stainless Steel Float**



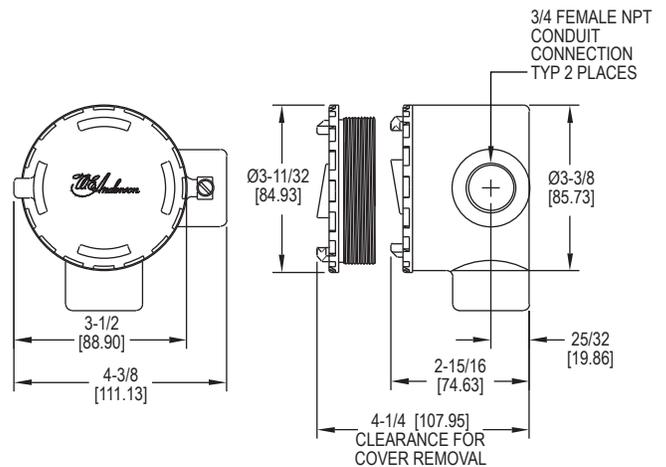
**Cylindrical Stainless Steel Float**



**With External Chamber (Tee)**



**Terminal Connections CSA, IECEx, ATEX Enclosures**



**CSA, IECEx, ATEX Conduit Enclosure**

Refer to Certificate No: IECEx DEK 11.0039 for conditions of safe use for IECEx compliant units.

All wiring, conduit and enclosures must meet applicable codes for hazardous areas. Conduits and enclosures must be properly sealed. For outdoor or other locations where temperatures vary widely, precautions should be taken to prevent condensation inside switch or enclosure. Electrical components must be kept dry at all times.

**CAUTION:** To prevent ignition of hazardous atmospheres, disconnect the device from the supply circuit before opening. Keep assembly tightly closed when in use.

**MAINTENANCE**

Inspect and clean wetted parts at regular intervals. The cover should be in place at all times to protect, the internal components from dirt, dust and weather and to maintain hazardous location ratings. Disconnect device from the supply circuit before opening to prevent ignition of hazardous atmosphere. Repairs to be conducted by Dwyer Instruments, Inc. Units in need of repair should be returned to the factory prepaid.

**Limited Warranty:** The Seller warrants all Dwyer instruments and equipment to be free from defects in workmanship or material under normal use and service for a period of one year from date of shipment. Liability under this warranty is limited to repair or replacement F.O.B. factory of any parts which prove to be defective within that time or repayment of the purchase price at the Seller's option provided the instruments have been returned, transportation prepaid, within one year from the date of purchase. All technical advice, recommendations and services are based on technical data and information which the Seller believes to be reliable and are intended for use by persons having skill and knowledge of the business, at their own discretion. In no case is Seller liable beyond replacement of equipment F.O.B. factory or the full purchase price. This warranty does not apply if the maximum ratings label is removed or if the instrument or equipment is abused, altered, used at ratings above the maximum specified, or otherwise misused in any way.

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