

Reed Switch Protection:

INDUCTIVE LOADS

When using reed switches for inductive loads such as motors, relay coil, solenoids, etc., the contacts will be subjected to high induced voltages during opening of the contacts (load circuit). Such high induced voltages (transients) may cause damage to the reed switch or significantly reduce its life.

Therefore, protective circuits such as: RC (snubber), varistor or clamping diodes are recommended. (see Fig.4a, Fig.4b, Fig.4c)

* It is prohibited to drive directly solenoid valve, motor or magnetic switch.

$$C = \frac{I^2}{10} (\mu F)$$

$$R = \frac{E}{101(1 + \frac{E}{50})}$$

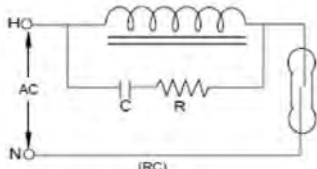


Fig 4 (a)

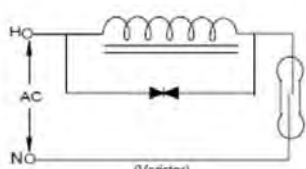


Fig 4 (b)

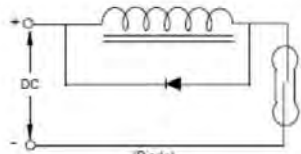


Fig 4 (c)

CAPACITIVE LOADS

When using reed switches for capacitive loads such as capacitors, incandescent lamps or long cables, the contacts will be subject to high surge (inrush) current. Therefore, protective circuits such as: surge suppressors or current limiting resistors are recommended. (see Fig. 5a, Fig. 5b)

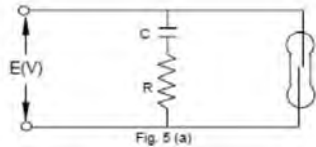


Fig 5 (a)

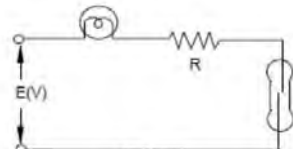


Fig 5 (b)



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Liquid Float Level Switch

Operating and maintenance instructions:

The liquid level switches work on the principle of reed switches activated by a permanent magnet inside the float.

The reed switches are rated for use at 32 V AC/DC 500mA (Larger voltages available as special order).

The reed switch is located inside the tube in a fixed position and the movement of the float changes the location of the magnetic field and the contacts of the reed switch are closed or opened.

The operation of the reed switch can be checked by using the continuity function of a multi-meter.

There are no serviceable components and any repairs should be returned to Control Components Pty Ltd.

The appropriate float should be selected to ensure that the float will work in the liquids specific gravity - your float should not have a specific gravity rating higher than or equal to the liquid (refer Engineering Drawing).

Float Types:

- L** = Large Float - 316SS, 12.7mm stem (S4 - spherical, Ø52mm, min S.G 0.55). Min dist. between floats = 75mm
- L2** = Large Float - 316SS, 12.7mm stem (S3 - cylindrical, Ø 45mm x 55mm, min S.G 0.65). Min dist. between floats = 75mm
- S** = Small Float - 316SS, 8mm stem (S1 - cylindrical Ø 29mm x 29mm, min S.G 0.8). Min dist. between floats = 50mm
- SP** = Small Float - Buna N; exposed magnet & brass collars (NBR - cylindrical Ø18.5mm x 26mm, min S.G 0.5). Min dist. between floats = 50mm
- T** = Large Float - 316SS, 12.7mm stem (S3 - cylindrical, Ø45mm x 55mm, min S.G 0.65). Min dist. between floats = 75mm

Please refer further details (back page) of what protection should be used when switching loads other than resistive types.



Model Numbering System

CC Level - Vertical Mount Level Switches and Transmitters



- L** = Large Float - 316SS, 12.7mm stem (S4 - spherical, 52mm dia, min 0.55 sg)
- L2** = Large Float - 316SS, 12.7mm stem (S3 - cylindrical, 45mm dia x 55mm, min 0.65 sg)
- S** = Small Float - 316SS, 8mm stem (S1 - cylindrical 29mm dia x 29mm, min 0.8 sg)
- SP** = Small Float - Buna N; exposed magnet & brass collars (NBR - cyl 18.5mm dia x 26mm, min 0.5 sg)
- T** = Large Float - 316SS, 12.7mm stem (S3 - cylindrical, 45mm dia x 55mm, min 0.65 sg)

- Min between switches = 75mm
- Min between switches = 78mm
- Min between switches = 50mm
- Min between switches = 50mm
- Level Transmitter, single float only; 4 - 20mA output

- 1** = # of Switches
- 2** = # of Switches
- 3** = # of Switches
- 4** = # of Switches
- 5** = # of Switches

- FL** = Flying Leads; 1m PVC standard; longer & PTFE available on request.
- DIN15** = Mini DIN 43650A 15mm plug & base; IP65
- DIN25** = DIN 43650A 25mm plug & base; IP65
- JB-PPL** = Junction box, Polypropylene large, M20 cable entry; IP65
- JB-BLL** = Junction box, glass reinforced Bakelite, large, M20 cable entry, IP65
- JB-ALM** = Junction box, aluminium, medium, M20 cable entry; < 32V only; IP65

IMPORTANT NOTES:

SPST switches: standard, 500mA (resistive) 32V AC/DC.

Each to be specified as NC or NO - when tank empty.

Optional: *

- * **C:** Common wiring:
 - single supply to all switches:
 - optional for 1 - 3 floats
 - standard for 4+ floats
- * **250:** line voltage (250V) wiring
- * **D:** SPDT (Changeover) switches 250mA @ 32V max only
- * **MA xx:** 4-20mA analogue output
 - specify (xx) 10 or 18mm resolution
 - loop powered
- * **P:** powder fill stem (high vibration applications)

Small junction boxes cannot be used for 250V or units with 3 or more switches.

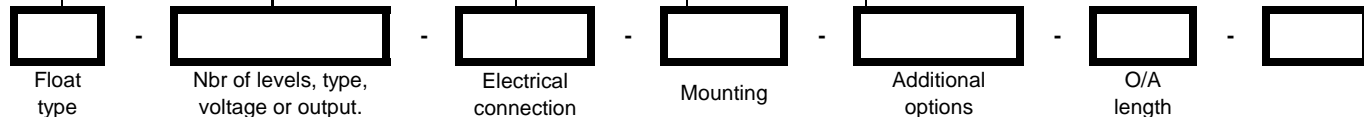
- JB-ALL** = Junction box, aluminium, large, with earth screw & cover lock for line voltage. M20 cable entry; IP65
- JB-SSM** = Junction box, stainless steel, medium, M20 cable entry with EPDM seal & SS gland; < 32V only; IP65
- JB-SSL** = Junction box, stainless steel, large, with earth and cover lock for line voltage. M20 cable entry, EPDM seal & SS gland; IP65
- JB-ALS** = Junction box, aluminium, small, M16 cable entry; < 32V only; IP65
- JB-SSS** = Junction box, stainless steel, small, M16 cable entry; < 32V only; IP65
- JB-ALH** = Junction box, aluminium, HiTop, M20 cable entry; < 32V only; IP65
- ES** = Electrical special on request

- 1/8T** = 1/8" BSPT Thread Fitting **3/8T** = 3/8" BSPM Thread Fitting] Single Switch only
- 1/8T90** = 1/8" BSPT, right angle stem. **3/8T90** = 3/8" BSPM, right angle stem.

- 0.75T** = 3/4" BSPT Thread Fitting * CCSP only **x/xBH** = x/x Bulhead fitting - specify both threads
- 1T** = 1" BSPT Thread Fitting * CCSP and CCS only; **2T** = 2" BSPT Thread Fitting
- 1G** = 1" BSPP Thread Fitting * CCSP and CCS only; **2G** = 2" BSPP Thread Fitting
- 1A** = 1" ANSI 150# flange * CCSP and CCS only; **xxTN** = mounting thread is NPT
- 2A** = 2" ANSI 150# Flange; **1.5A** = 1 1/2" ANSI 150# Flange
- 1D** = 1" Table D Flange * CCSP and CCS only; **3A** = 3" ANSI 150# RF
- 1CF** = 1" BSPM & SS compression fitting, minor adjustment only. **2D** = 2" Table D Flange
- MS** = Mounting special **2CF** = 2" BSPM & SS compression fitting.

- TSxxN*yyy** = Temp switch, temp setting, NO or NC, function - Open On Rise, e.g. TS80NCOOR
- TC** = Thermocouple 4 - 20mA output
- RTD** = PT 100 standard, others available
- RTDV** = RTD with analogue voltage output (0-10V)
- ST** = Stilling tube, CCL only: 50mm OD 304SS pipe, perforated bottom plate with locknut

CC



XXX = Serial Number or coding to identify: special features, customer reference, etc Assigned by Control Components