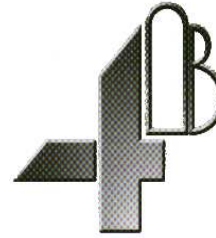




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## **RLI ROTO LEVEL INDICATOR**

### **Liability and Indemnity**

- 1) In respect of installation or applications of the goods as parts or components of other goods or machinery the buyer shall be solely responsible for the compliance and the installation with safety regulations issued by competent authorities and in force at the place of operation and/or for its compliance with any terms of insurance notified by the Buyer's insurance for personal injury or damage to property or loss of profit through fire, explosion, gas or otherwise.
- 2) Neither the Company nor its suppliers shall in any circumstances whatsoever be liable for any loss or damage suffered by the Buyer or by any third party howsoever caused involving any person, property or interest, suffered by the Buyer or any third party directly or indirectly in connection with the use, functioning or state of the goods, unless the same shall arise out of the Company's negligence.
- 3) The Buyer shall indemnify the Company against all actions, claims or demands by third parties, whether in tort or otherwise, howsoever arising, directly or indirectly, in connection with the use, functioning or state of the goods or in connection with the performance of service.

### **Limitation of Liability**

Without prejudice to the foregoing, the Company shall in no circumstances be liable: -

- a) For any incidental or consequential loss or damage suffered by the buyer, including, without limitation, delay, detention, loss of production, loss of profit or liability to third parties except liability for personal injury or death arising out of negligence by the Company.
- b) For any loss or damage covered by insurance or which would ordinarily be covered by insurance.

### **Warranty**

The equipment is covered by a 12 month warranty from the date of despatch. Any faults arising due to faulty materials or workmanship in the original equipment within the warranty period will be corrected free of charge providing the equipment is returned to us freight paid.

## **RLI ROTARY LEVEL INDICATOR**



### **PART NOS.**

**RLI1V6FCA  
 RLI1V34FCA  
 RLI2V6FCA  
 RLI2V34FCA**

## **INSTALLATION INSTRUCTIONS**

### **TECHNICAL INFORMATION**

## **RLI ROTO-LEVEL INDICATOR**

The RLI Roto Level Indicator is designed to detect the presence or absence of bulk materials such as chemicals, grain, chips, granules and powders. It is ideal for indicating levels in bins and silos and as blockage detectors in spouts.

The detection of material is achieved by a rotating paddle. If the rotation of the paddle is impeded, the relay changes position and the paddle motor circuit is switched off, which will cause the motor for any inlet or outlet to close down or start up.

### **POWER FAIL-SAFE**

The RLI has a power fail safe feature. When the electrical power to the RLI fails, the fail safe relay will open and:

- 1) Provide a signal to the control room or sound a hooter which indicates that the unit is not working.
- 2) Will stop, through the control circuit, any motor filling or emptying the silo.

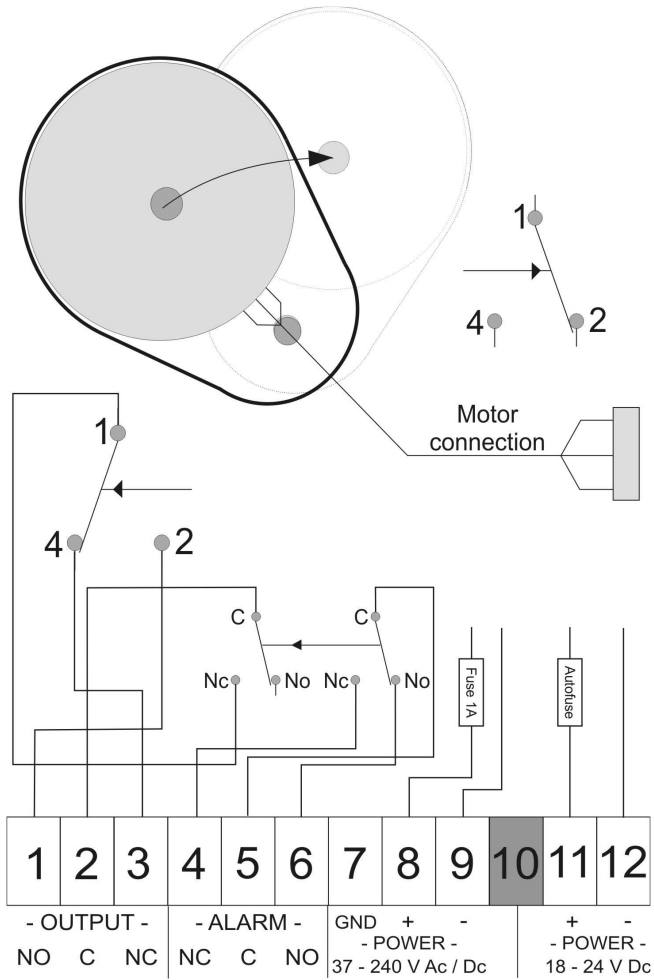
## **GENERAL SPECIFICATION**

<b>Supply:</b>	18-24 Volt Dc Terminal connection 11 & 12 37- 240 Volt Dc / Volt Ac 50/60 Hz Terminal connection 8 & 9, Common GND Terminal connection 7 (Pt Nos. RLI1V6FCA & RLI2V6FCA) 12 Volt Dc (Pt Nos. RLI2V34FCA)
<b>Temperature:</b>	-25°C to + 80°C (-13°F to + 176°F)
<b>Output:</b>	1 single pole, double throw switches rated at 5 Amps 250 Volts
<b>Alarm Relay:</b>	1 at max. 5 Amps 250 Volts
<b>Enclosure:</b>	Flame retardant, glass fibre, reinforced nylon
<b>Protection:</b>	IP65 Nema 4, ATEX and CSA applied for
<b>Conduit Entry:</b>	2 conduit entries ½" NPT or M20x1,5 option
<b>Motor:</b>	1 RPM 12 VDC
<b>Draw:</b>	50 HZ = 400 mA, 60 HZ = 320 mA
<b>Weight:</b>	0.95 kg (2.1 lbs)

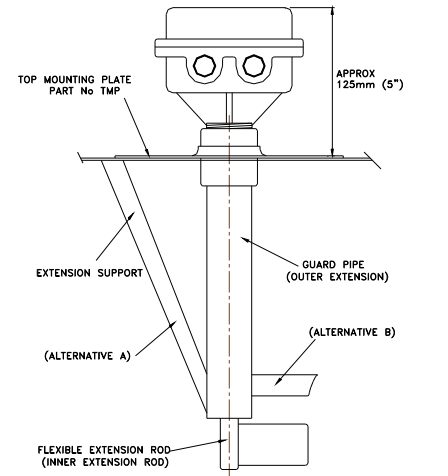
## **PADDLE SELECTION**

<b>Type RLISP1</b>	Single vane paddle. For coal, stones and very high density materials over 1T/M <sup>3</sup> . Can be inserted through the 1 ¼" NPT half coupling (over 70 PCF)
<b>Type RLISP2</b>	Single vane paddle "Scimitar". For light materials such as powders, light grain or seed 0.4 to 0.8 T/M <sup>3</sup> . Can be inserted through the 1 ¼" NPT half coupling (30-70 PCF)
<b>Type RLISP3</b>	3 vane paddle. For grain, beans, oil seeds and meals 0.4 T/M <sup>3</sup> to 0.8 T/M <sup>3</sup> (30-70 PCF)
<b>Type RLISP4</b>	Large 3 vane paddle. For flour screening and very light materials 0.3 T/M <sup>3</sup> to 0.5 T/M <sup>3</sup> (under 30 PCF)

## ELECTRICAL CONNECTIONS



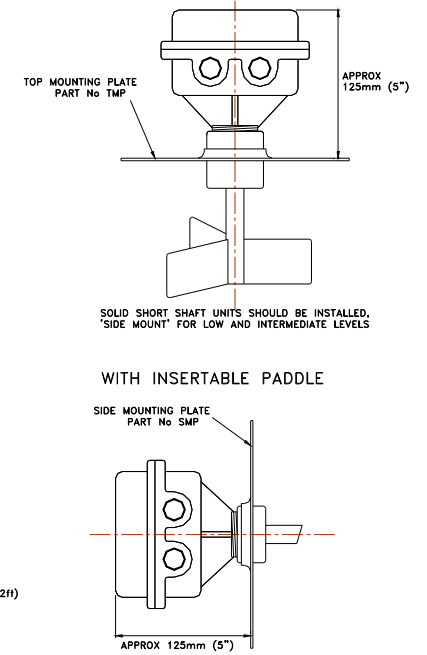
## FLEXIBLE EXTENSION ROD & GUARD PIPE



EXTENSION RODS AND GUARD PIPES CAN BE PROVIDED FOR LOW LEVEL OR WHEN RL'S ARE MOUNTED HIGH IN THE BIN/SILO ROOF

EXTENSIONS CAN BE PROVIDED TO A MAX LENGTH OF 3.5 METRS (12ft)

## FLEXIBLE PADDLE ONLY OR SHAFT COUPLER, FLEXIBLE EXTENSION ROD & PADDLE



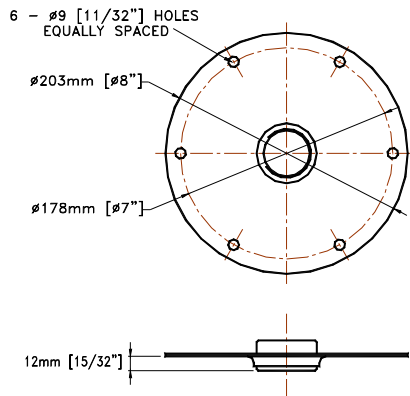
**Warning:** All wiring must be in accordance with local and national electrical codes and should be undertaken by a qualified electrician.

## **MOUNTING AND INSTALLATION**

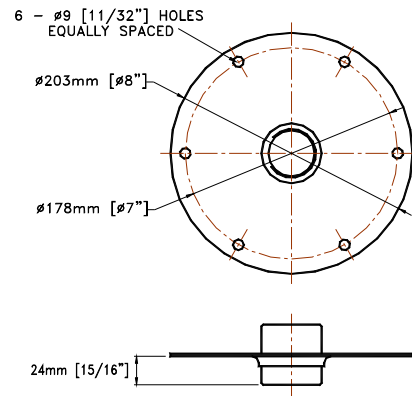
- 1) Install the RLI where there is free flow of material both to and from the paddle, but out of the direct line of incoming material.
- 2) Install mounting plate or weld in 1 ¼" NPT coupling.
- 3) Fit a baffle above a side mounted paddle unit where the material bulk density exceeds 1000 kg/cu mtr (60 lbs/cu.ft) or where the material tends to pack, bridge or has other detrimental flow characteristics.
- 4) When using extension pipes in excess of 2.5 mtrs (8 ft) support the guard pipe from the top or side of the bin.
- 5) If the bin is subject to frequent shock or vibration, select the area of least interference.
- 6) Do not congest the interior of the power pack with wiring. Ensure the motor assembly moves freely.
- 7) If fitting a RLI facing upwards (in paddle direction) towards the inlet, then it would be advisable to fit a deflector plate over the paddle - drawing available on request.
- 8) When installing the RLI, please remember to remove the protective polystyrene packings from the gearbox.
- 9) Please also remember to remove the red plastic thread protection cap and plug the entry with an appropriate conduit plug for the area.

## **MOUNTING PLATES**

THIS STYLE SHOULD BE USED FOR 'SIDE MOUNT'  
PT No SMP



THIS STYLE SHOULD BE USED FOR 'TOP MOUNT'  
PT No TMP



## **TOP MOUNT WITHOUT MOUNTING PLATE**

- 1) Locate and cut hole in top of bin to fit outside diameter of 1 ¼" pipe coupling.
- 2) Position coupling halfway into bin and weld.
- 3) Screw RLI unit into 1 ¼" coupling until conduit opening is in desired position.
- 4) Cut a 10mm (3/8" dia.) shaft extension to the desired length and drill a 3mm (1/8" dia.) hole for the pin in each end.
- 5) Fit shaft coupler (RLISC1) and extension rod (RLIEX11-15) using stainless steel pins (RLISCP1) or screws with Nylock nuts.
- 6) Cut a 1 ¼" standard pipe shaft guard tube (RLIEX21-25) approximately 100mm (4") shorter than the overall length of the 10mm (3/8" dia.) rod extension.
- 7) Insert the shaft guard tube into the pipe coupling and tighten.
- 8) Pin the paddle to the shaft extension.

Extended paddle RLI's can be provided pre-assembled.

## **SIDE MOUNTING WITHOUT MOUNTING PLATE**

- 1) Locate and cut hole into side of the bin to fit outside diameter 1 ¼" pipe coupling.
- 2) Weld one half of standard 1 ¼" pipe coupling to bin wall flush with inside of bin.
- 3) Screw RLI unit into coupling and turn to desired conduit position.
- 4) Pin paddle onto the shaft.
- 5) Shaft and paddle should be shielded with a baffle in low and intermediate level positions.
- 6) A short shaft is recommended for side mounting, and if material is extremely heavy, only top mountings are recommended.

## **FLEXIBLE MOUNTING PLATE**

Flexible mounting plates are necessary when a completely assembled unit is mounted on a curved or flat bin wall or roof from the outside. Cut a 140mm (6" dia.) hole in the bin then drill 6 holes around this to match the mounting plate. Bolt the plate in place with the unit attached. Plates are available in mild and stainless steel.