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ROTO-BIN-DICATOR® FAIL-SAFE "PLUS" MODELS

HOUSING PARTS LIST			SIDE OF BIN MOUNTING		TOP OF BIN MOUNTING																																		
			<input type="checkbox"/> TYPE 1 FLEXIBLE SHAFT AND FOUR VANE PADDLE MOUNTING PLATE <input type="checkbox"/> H-19 <input type="checkbox"/> H-19SS 		<input type="checkbox"/> TYPE 5 FLEXIBLE SHAFT AND FOUR VANE PADDLE MOUNTING PLATE <input type="checkbox"/> H-19 <input type="checkbox"/> H-19SS 																																		
<table border="1"> <thead> <tr> <th>PART NO.</th> <th>DESCRIPTION</th> <th>QTY</th> </tr> </thead> <tbody> <tr> <td>LAR110940</td> <td>Frame Assembly Aluminum Includes shaft seal, clutch, drive shaft, bearings and stub shaft.</td> <td>1</td> </tr> <tr> <td>WP110015</td> <td>Cover Aluminum, with Lenses</td> <td>1</td> </tr> <tr> <td>LAR111054</td> <td>(120V) Motor Assembly - Includes Bracket.</td> <td>1</td> </tr> <tr> <td>LAR111055</td> <td>(240V) Micro Switch and Wiring Harness.</td> <td>1</td> </tr> <tr> <td>LAR111090</td> <td>(120V) Printed circuit assembly includes control relay, display board.</td> <td>1</td> </tr> <tr> <td>LAR111091</td> <td></td> <td>1</td> </tr> <tr> <td>LAM930003</td> <td>Mounting Spring</td> <td>1</td> </tr> <tr> <td>LAR131385</td> <td>Return Spring</td> <td>1</td> </tr> <tr> <td>LAR122138</td> <td>Motor Support Bracket</td> <td>1</td> </tr> <tr> <td>LAR131220</td> <td>Cover Gasket</td> <td>1</td> </tr> </tbody> </table>			PART NO.	DESCRIPTION	QTY	LAR110940	Frame Assembly Aluminum Includes shaft seal, clutch, drive shaft, bearings and stub shaft.	1	WP110015	Cover Aluminum, with Lenses	1	LAR111054	(120V) Motor Assembly - Includes Bracket.	1	LAR111055	(240V) Micro Switch and Wiring Harness.	1	LAR111090	(120V) Printed circuit assembly includes control relay, display board.	1	LAR111091		1	LAM930003	Mounting Spring	1	LAR131385	Return Spring	1	LAR122138	Motor Support Bracket	1	LAR131220	Cover Gasket	1	<input type="checkbox"/> TYPE 2 FLEXIBLE SHAFT AND FOUR VANE PADDLE MOUNTING PLATE <input type="checkbox"/> H-19 <input type="checkbox"/> H-19SS 		<input type="checkbox"/> TYPE 6 MOUNTING PLATE <input type="checkbox"/> H-192 <input type="checkbox"/> H-192SS FLEXIBLE SHAFT <input type="checkbox"/> H-36 (OPTIONAL) COUPLING H-38 SHAFT EXTENSION <input type="checkbox"/> Galv. <input type="checkbox"/> S.S. SHAFT GUARD <input type="checkbox"/> Galv. <input type="checkbox"/> S.S. PADDLE H-370 1 1/2" x 5" OVERALL SHAFT LENGTH 20" LENGTHS NOT UNCOMMON	
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<p>NOTE: 304 Stainless Steel is standard for metal parts of all Shafts and Paddles</p>			<input type="checkbox"/> TYPE 3 FLEXIBLE SHAFT AND FOUR VANE PADDLE MOUNTING PLATE <input type="checkbox"/> H-19 <input type="checkbox"/> H-19SS 		<input type="checkbox"/> TYPE 7 MOUNTING PLATE <input type="checkbox"/> H-192 <input type="checkbox"/> H-192SS FLEXIBLE SHAFT <input type="checkbox"/> H-36 (OPTIONAL) COUPLING H-38 SHAFT EXTENSION <input type="checkbox"/> Galv. <input type="checkbox"/> S.S. SHAFT GUARD <input type="checkbox"/> Galv. <input type="checkbox"/> S.S. PADDLE H-370 1 1/2" x 5" OVERALL SHAFT LENGTH 20" LENGTHS NOT UNCOMMON																																		
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<p>DESCRIPTION</p> <p>MODEL "RAF+" WEA. PRF. 110vac</p> <p>MODEL "RCF+" WEA. PRF. 220vac</p>			<input type="checkbox"/> TYPE 4 FLEXIBLE SHAFT AND FOUR VANE PADDLE MOUNTING PLATE <input type="checkbox"/> H-19 <input type="checkbox"/> H-19SS 																																				

OPERATION-INSTALLATION & WIRING INSTRUCTIONS

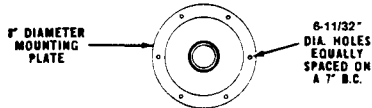
Normal Operation: During normal operation (no material present) a synchronous motor rotates the paddle at 1 RPM. When this paddle rotation is impeded by material surrounding the paddle, the motor will stall and cause the 20 AMP relay to change state indicating an alarm.

In the event of electrical failure (power loss, open or shorted motor circuit, or failure of a protected component), the FAIL-SAFE feature will generate the desired control response from the relay and provide notification of the failure. The solid state electronics will allow you to set the fail-safe condition for either **fail-safe high** or **fail-safe low**. The status light can be located remotely in addition to the built in "Green LED".

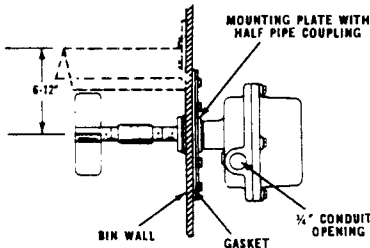
The Roto-Bin-Dicator® Plus has two LEDs located on the cover which is visible up to 50 feet away. The **GREEN LED**, if illuminated, tells the operator that: 1) the motor is running, 2) power is at the sensor, and 3) nothing has failed. The **RED LED** also located on the cover tells the operator that the unit is in the level alarm condition when the LED is illuminated.

Mounting Location: There must be free flow of material both to and away from the paddle and shaft. Keep the paddle and shaft out of the direct flow of material. Protective baffles or offset mounting may be required.

Mounting Surface Preparation:



- On a 7" bolt circle, drill and tap or drill 6 equally spaced holes in bin wall for 1/4" bolts or cap screws. Bolt heads should be tack welded to bin inner wall.
- Cut 5" diameter hole to pass paddle.
- If required, fabricate & weld or bolt protective baffle to inner wall.



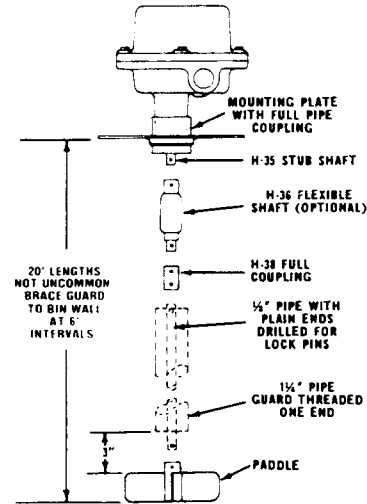
Mounting on Side of Bin:

- Conduit opening must be down or to the left.

- Assemble gasket between mounting plate and bin wall.
- Use a pair of rubber and steel washers beneath the attaching hardware.

Mounting on Top of Bin:

- Cut shaft extension pipe to required length and drill a 1/8" hole through the pipe 7/16" from each end.
 - Assemble shaft extension to H-38 coupling and pin securely.
 - Cut pipe guard 5" shorter than overall extended shaft & paddle length. Thread one end 1 1/4" N. P. T.
 - Assemble guard over extension and screw securely into mounting plate.
 - Assemble paddle to shaft extension and pin securely.
- Note:** Shaft extension must be free to turn inside of shaft guard pipe. Drive all lock pins in flush to lock securely.



NOTE: If separate couplings are used in place of conventional mounting plates with integral couplings, be sure they are welded in the bin wall or top so that the coupling protrudes inside the bin. Use only *half* couplings for side of bin mounting.

NORMAL MODE

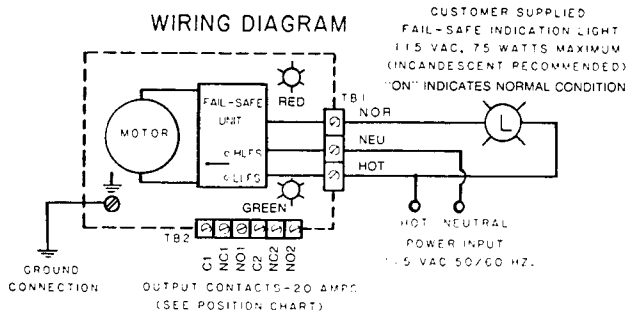
NON-ALARM STATE • RELAY ENERGIZED • RED LED OFF GREEN LED ON	LEVEL BELOW PADDLE	NO2 9 C2 7 NC2 8 NO1 5 C1 4 NC1 6	LEVEL ABOVE PADDLE	NO2 C2 NC2 NO1 C1 NC1
	LEVEL AT PADDLE	NO2 9 C2 7 NC2 8 NO1 5 C1 4 NC1 6	LEVEL BELOW PADDLE	NO2 C2 NC2 NO1 C1 NC1
ALARM STATE • RELAY NOT ENERGIZED • RED LED ON GREEN LED ON	LEVEL AT PADDLE	NO2 9 C2 7 NC2 8 NO1 5 C1 4 NC1 6	LEVEL BELOW PADDLE	NO2 C2 NC2 NO1 C1 NC1
	HIGH LEVEL FAIL-SAFE		LOW LEVEL FAIL-SAFE	

FAIL MODE

ALARM STATE • RELAY NOT ENERGIZED • RED LED OFF GREEN LED OFF	LEVEL BELOW PADDLE	NO2 C2 NC2 NO1 C1 NC1	LEVEL ABOVE PADDLE	NO2 C2 NC2 NO1 C1 NC1
	LEVEL AT PADDLE	NO2 C2 NC2 NO1 C1 NC1	LEVEL BELOW PADDLE	NO2 C2 NC2 NO1 C1 NC1
	HIGH LEVEL FAIL-SAFE		LOW LEVEL FAIL-SAFE	

Wiring Instructions:

In order to insure proper fail-safe operation, the power source to the Roto-Bin-Dicator must be independent of the source to the equipment being controlled.



- Connect power and "FAIL-SAFE" light to terminals 1-3 per wiring diagram.
- Connect alarm contacts (terminals 4-9) per contact position chart.
- Apply power to Roto-Bin-Dicator, observing paddle for proper rotation.
- Fasten housing cover securely to prevent damage from dust and moisture.

Fail-Safe Selection:

Failure to program the desired fail-safe mode will result in improper control operation. Therefore, the fail-safe mode must be selected as follows:

A. High Level Fail-Safe

To select high level fail-safe, clip the wire link labeled "LO" from the printed circuit board, leaving the link labeled "HI" in place. The fail-safe links are located in the upper right hand corner of the circuit board.

B. Low Level Fail-Safe

To select low level fail-safe, clip the wire link labeled "HI" from the printed circuit board, leaving the link labeled "LO" in place. The fail-safe links are located in the upper right hand corner of the circuit board.