



Super-Safe-Plus Roto-Bin-Dicator®

POINT LEVEL SENSOR

Super-Safe-Plus Roto-Bin-Dicator®...

for your most demanding applications...

Offers both mechanical and electronic sensing in one reliable Point Level Sensor...

Level control with added confidence

Under normal conditions, the Super-Safe-Plus roto paddle rotates freely. When material covers the paddle, it creates resistance to the paddle movement. This torques the drive motor, which actuates the optical motor position sensor, and operates the output relay. The optical pulse sensor inside the housing insures all the internal components such as the motor and clutch assembly are functioning correctly. This combination of mechanical and electronic sensing provides a premium fail-safe level sensor that you can rely on for your most demanding applications.

Typical applications are for protection from bin high level overflow, bin low level empty run out, choked bucket elevators, and clogged conveyors. The Super-Safe-Plus Roto-Bin-Dicator can be found in many industries including, chemical, food, mining, plastics, ceramics, pulp and paper, grain, foundry and cement.

The unique features of the Super-Safe-Plus Roto-Bin-Dicator give you added confidence and security. These include:

- **True Fail-Safe Operation:** In the event of power loss, open or shorted motor circuit, component failure, mechanical failure of the motor or clutch (output shaft stops rotating) in either high or low level applications, the Super-Safe-Plus will generate the desired control response from the output relay and provide notification of a failure.



- **Lexan Light Guides on Enclosure Cover:** The green light indicates power and operation status. The red light indicates alarm and failure status.

- **External Function Test:** This standard feature tests the Super-Safe-Plus Roto-Bin-Dicator while it is installed and operating, by simulating material stopping the paddle's rotation. The test is initiated by placing a magnetic fob over the LEDs on the cover. This actuates a reed switch which initiates output relay operation.

- **Optical Pulse Sensing:** For added reliability, the Super-Safe-Plus Roto-Bin-Dicator uses an optical transmitter and receiver circuit to detect the rotation of a multi-toothed pulse wheel known as an opto-reflector. These pulses guarantee that the shaft is being driven by the motor.
- **Fail-Safe Selection:** For added security, either high-level or low-level failsafe mode is selected by switch position.



Function Test Fob

With high-level selection, if electrical power fails, the relay de-energizes – simulating the vessel is full of product. With low-level selection, if electrical power fails, the relay de-energizes – simulating the vessel is empty.

- **Adjustable Time Delay:** The time delay can be field selected for DELAY ON START or DELAY ON STOP.

In addition, a

potentiometer allows the time delay to be set to 30 seconds.

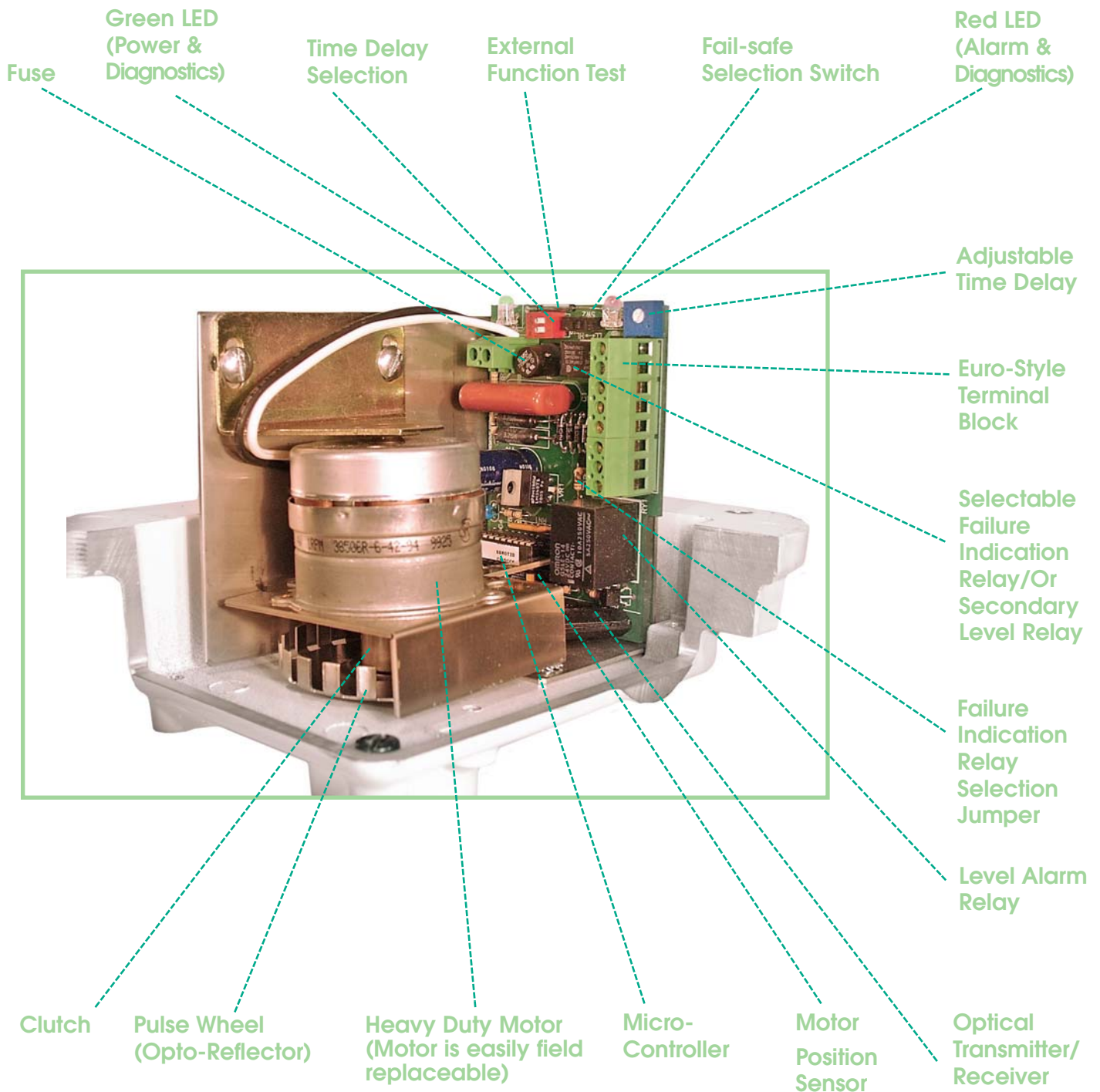
- **Failure Indication Relay Selection- Field Selectable:** Any failure, electrical or mechanical can initiate a separate "failure indication". If user elects this option instead of a DPDT level output, the level output becomes SPDT.

- **2 Year Warranty**

- **Optical Motor Position Sensor:** Results in greater sensitivity to lighter materials. This indicates resistance to paddle movement (cavitation). The paddle does not have to be stalled.

- **Micro-Controller Operation:** Provides self diagnostics and indicates problems by turning the external lights on/off in specific combinations and by activation of the Failure Indication Relay.

Features

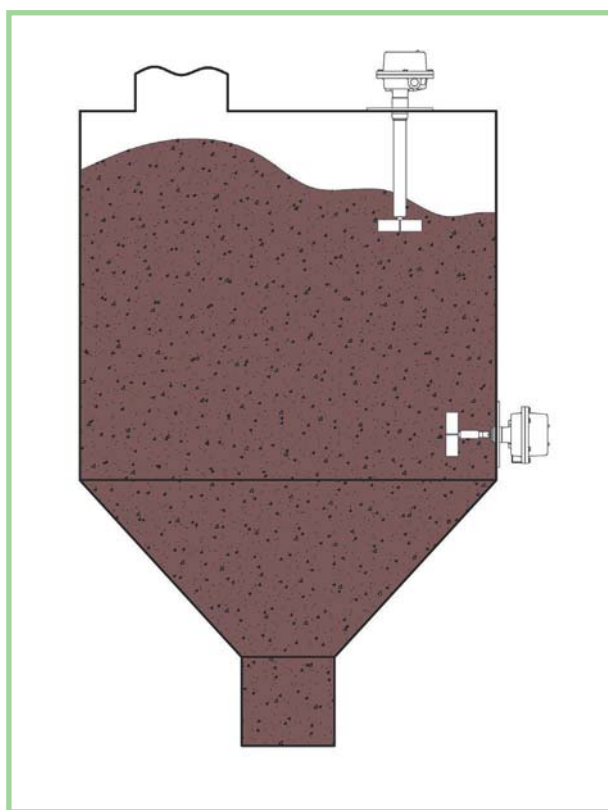


Mounting

Selecting the right mounting location

General

- A.** Material must flow freely both to and from the paddle and shaft.
- B.** The paddle and shaft must be kept out of the direct flow of bulk materials while the bin is being filled. Protective shields or an offset mounting procedure may be required.



High Level Controls

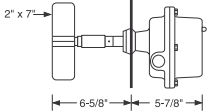
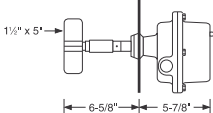
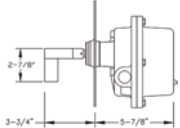
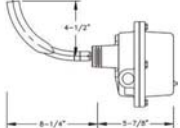
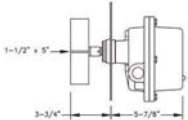
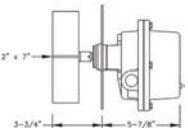
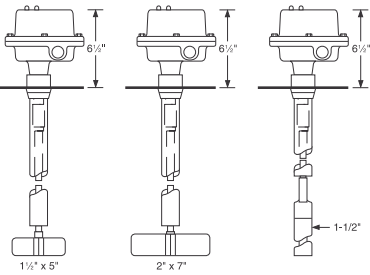
- A.** Top-of-bin mounting is recommended. The length of the shaft may be extended in the field to suit the application. Protective shaft guards are necessary on all shaft extensions of 12" or more. Lengths in excess of 20' are common. The shaft guard should be adequately braced in most installations where the shaft lengths are 2' or longer. Top mounting usually provides a more positive high-level signal on light materials, easier installation and removal, simple adjustment of shaft length, and ease and economy of wiring. It also permits use of multiflex paddles which are recommended for large-lump materials.
- B.** The paddle must be located low enough to insure complete coverage when the product angle of repose is at its maximum.

Low or Intermediate Level Controls

- A.** Side-of-bin mounting is customary, but top-of-bin mounting in small and medium size bins is sometimes advantageous.
- B.** Protective shields are recommended if heavy product surges are anticipated at the paddle.

How to order:

Versatile Roto-Bin-Dicator controls are recommended for the majority of dry material level control applications. Here is a general guide to selection:

			Units with 120VAC INPUT (50/60 cycle 5 watts)		Units with 240VAC INPUT (50/60 cycle 5 watts)	
			Weather-proof NEMA 4x	Explosion-proof NEMA(7-9)	Weather-proof NEMA 4x	Explosion-proof NEMA(7-9)
Mounting Side of Bin with mount- ing plate. High, Intermediate and Low Level Indication	 Molded Neoprene flexible shaft. Large 4-vane paddle. Type 1: For most applications with temperatures below 160° F (71° C). For materials weighing less than 30 lbs./cu. ft.		RSSP1G-1	RSSP1X-1	RSSP2G-1	RSSP2X-1
	 Molded Neoprene flexible shaft. Standard 4-vane paddle. Type 2: For most applications with temperatures below 160° F (71° C). For materials weighing 30 to 75 lbs./cu. ft.		RSSP1G-2	RSSP1X-2	RSSP2G-2	RSSP2X-2
	 Single vane paddle. Type 3: For heavy (approx. 75 lbs./cu. ft. or more), medium-size materials (sand, gravel, etc.)		RSSP1G-3	RSSP1X-3	RSSP2G-3	RSSP2X-3
	 Single vane paddle - insertable thru 1 1/4" mounting coupling. Type 3i: Curved 9" diameter for materials weighing over 20 lbs/cu. ft. No mounting plate included		RSSP1G-3i	RSSP1X-3i	RSSP2G-3i	RSSP2X-3i
	 Standard 4-vane paddle. Type 4: Common configuration for most materials, where short shaft is preferred.		RSSP1G-4	RSSP1X-4	RSSP2G-4	RSSP2X-4
	 Large 4-vane paddle. Type 5: Same as type 4 except large paddle for materials weighing less than 30 lbs./cu. ft.		RSSP1G-5	RSSP1X-5	RSSP2G-5	RSSP2X-5
Mounting Top of Bin with mount- ing plate to receive shaft guard. (Preferred high-level mounting.)	Type 6 Type 7 Type 8  Shaft coupling to receive shaft extension. Standard 4-vane paddle. Type 6: Common configuration for most top-mounted applications.		RSSP1G-6	RSSP1X-6	RSSP2G-6	RSSP2X-6
	Shaft coupling to receive shaft extension. Large 4-vane paddle. Type 7: Same as type 6 except large H-371 paddle for light or aerated materials less than 30 lbs./cu. ft.		RSSP1G-7	RSSP1X-7	RSSP2G-7	RSSP2X-7
	Shaft coupling to receive shaft extension. Neoprene or stainless steel multiflex paddle. Type 8: For heavy, large lump materials. Control should be located so product pins paddle to bin wall. H-374 long, stainless steel multiflex paddle for heavy and/or sticky materials. both paddles approx. 50 lbs./cu. ft. or more.		RSSP1G-8	RSSP1X-8	RSSP2G-8	RSSP2X-8

IMPORTANT:

Consult factory on applications where housing ambient temperature is above 200° F (93° C).

Shaft extensions and guards are available in galvanized, T-303 stainless steel, and T-316 stainless steel.

The Roto-Bin-Dicator is also available without the Super-Safe-Plus option. Ask for brochure LAR180010 for more details.

Specify Options —

- A. Stainless steel mounting plate in place of mild steel.
- B. Addition of flexible shaft to top-of-bin types.
- C. Paddles, motor, mounting plates and flex-shafts are available individually.
- D. NEMA 4X, 304 S.S. enclosures available. Consult factory.

Super-Safe-Plus Roto-Bin-Dicator® specifications

Construction Specifications:

A. Housing and Cover:

Standard: Dust-tight and weatherproof (NEMA 4,5), polyester-coated aluminum castings. Explosion-proof (NEMA 7,9), polyester-coated aluminum castings.

B. Drive Shaft Assembly:

Precision machined shaft with two shielded ball bearings.

C. Teflon®/Viton® Shaft Seal:

Rated 1/2 micron at 30 psi at 400° F (204°C), though the unit is only rated to 200° F (93°C) without external cooling.

D. Motor:

Motor rating: 4 watts, 1 rpm, Input $\pm 10\%$, 50/60Hz on AC versions. Heavy duty synchronous motor is rated to operate continuously under stalled conditions. Heat generated by the motor's continuous running eliminates moisture, preventing internal corrosion and unit failure. Conduit connection: Drilled and tapped for 3/4" NPT pipe conduit.

E. Mounting Plate:

Flexible, 8" outside diameter with 1 1/4" NPT coupling; standard painted mild steel; optional 302 stainless steel.

F. Fail-Safe Circuitry:

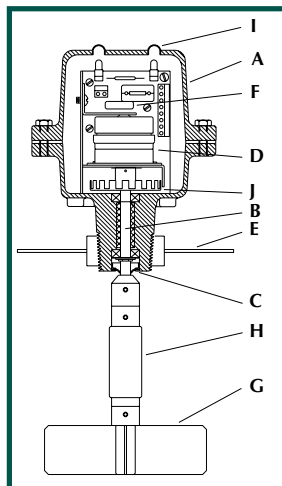
Field selectable high or low level fail-safe.

G. Rigid Shaft and Paddle:

Metal parts of all designs are 304 stainless steel. Machined, unthreaded and pre-drilled connections permit field interchangeability.

H. Flex Shaft:

Strong, flexible shaft will not take permanent set due to frequent or severe flexing. The flexible shaft is available in either neoprene, 160°F (71°C) or silicone, 400°F (204°C) coatings.



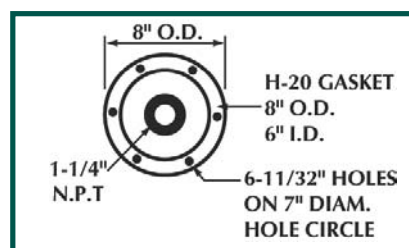
I. External Lights:

Green (power and diagnostics) and red (alarm and diagnostics) lights.

J. Pulse Wheel:

A multi-toothed pulse wheel, combined with an opto-reflective circuit, provides continuous monitoring of shaft rotation.

Mounting Plate Dimensions:



Electrical Specifications:

Relay:

"Level Alarm" relay contacts: SPDT, 1 Form C, 10 Amps at 125 VAC, 6 Amps at 277 VAC, 5 Amps at 30 VDC, 1/8 HP at 125/277 VAC.

"Failure Indication" relay contacts: SPDT, 1 Form C, 0.6 Amps at 125 VAC, 2 Amps at 30 VDC.

Power Supply:

120 V and 240 V available
(see how to order chart).

Power Consumption:

7 watts; 1/8 amp internally fused.

Shipping Weight:

*Power PAK only
Aluminum Housing: 10 lb

Bindicator offers a complete range of Level and Material Handling Controls

Electro-Mechanical

Level Controls

Roto-Bin-Dicator®
Mini-Roto-Bin-Dicator®
Super-Safe-Plus-Roto-Bin-Dicator®
Model A Bin-Dicator®
Auto Bin-Dicator®
Bantam Bin-Dicator®
Liquid Level Bin-Dicator®

Tuning Fork Level Controls

Pulse Point™

RF Capacitance Level Controls

RF-4000
RF-6000
RF-8000
RF-8200
RF-9000
RF-9100
RF-9200

RF Capacitance Remote Level Controls

RF-10000
RF-11000
RF-12000
RF-17000
RF-18000

DRY FLOW

Bin-Flo®
Flo-Guard™
Flo-Commander™

Plumb-Bob

Bindicator Yo-Yo®

Capacitance

Cap-Level® II & IIA
Super-Safe-Plus-Roto-Bin-Dicator®

Continuous Level

MS 2000 Series

Liquid Level Controls

Leveldata
Mach One™

Celtek Phase Tracking

Phase Tracker™
i-Level Inventory Manager Software



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