



ACTIVELY PROTECTING VALUABLE INVENTORY

The Roto-Bin-Dicator® PRO is a paddlewheel type level device that outperforms others in its class. This simple device monitors the level of dry bulk material and indicates when there has been a change. The fail-safe PRO model is unique in that it comes standard with functional diagnostics that detect a unit fault even when the paddle is buried in material; unlike other paddlewheel devices.

The PRO provides added reliability by employing redundant methods of detection. These methods monitor shaft rotation as well as motor behavior, making it more reliable with regards to not missing a reading or creating a false positive.

FEATURES AND BENEFITS

- **Diagnostics** – While the paddle is in or out of material self-checks are performed to detect unit faults which are differentiated and alerted through LED flash codes
- **High/Low Level Failsafe** – user selectable
- **Motor Pause** – optional setting, motor function will pause after a prolonged period of time where no change in material state is detected, saving power and extending the life of the unit
- **Time Delay** – delay the activation and deactivation of the alarm relay
- **Sensitivity Adjustments** - motor torque can be adjusted +/- 30% to match materials of varying bulk densities
- **Test FOB** – check the functionality of the unit without removing the cover and while the paddle is in or out of material
- **Universal Input Power** provides flexibility to match power availability
- **Fault Option** - optional setting, critical faults trigger an alarm, eliminates need to jumper relays to obtain genuine fail-safe operation
- **Unique Frame Design** to enable connection flexibility
 - Imperial or Metric conduit thread options
 - Process Fitting can be made to fit any connection
 - Extension and lag configurations available for added shaft length or high temperature applications

DETECT & DIFFERENTIATE FAULTS

FUNCTIONAL DIAGNOSTICS

| | |
|-------------------------------|--|
| Supply Voltage Fault | The power supply voltage is too low. |
| Motor Not Connected | The motor has become disconnected from the power supply. |
| Electronics Temperature Range | The electronic boards have gone outside the accepted temperature range. |
| Motor Failure | The motor has stopped functioning normally. |
| Gear Train Failure | Internal rotation mechanics are bound. |
| Electronics Fault | Communication error between the LED (top) and power supply (bottom) electronic boards. |

Roto-Bin-Dicator® PRO

ROTO-BIN-DICATOR PRO - PART ONE

COMPLETE CONFIGURATION

POWER PACK OPTIONS

PRO-A - - -

Shaft Coupling

- A = None
- B = Neoprene 3" Flexible Shaft; 170° F (77° C) Max Temp (H-36)
- C = Molded Silicone 3" Flexible Shaft; 400° F (204° C) Max Temp (H-365)

Paddles

- A = Standard 4-vane paddle - 1-1/2" x 5" (H-370) (Note 5)
- B = Large 4-vane paddle - 2" x 7" (H-371) (Note 5)
- C = Collapsible 2-vane SS paddle (H-380)
- D = Single vane paddle, curved (H-379)
- E = Single vane paddle with 45° cut - 1" x 2-7/8" (H-372A)
- F = Multi-Flex, stainless steel - 1-1/2" x 17" (H-374) (Note 5)
- G = Multi-Flex, solid neoprene - 1-1/2" x 24" (H-373) (Note 5)
- H = None

Mounting Plate (Note 4)

- 0 = None
- 1 = 304 Stainless Steel 8" Mounting plate - Top Mounting, Full Coupling (H-192SS)
- 2 = 304 Stainless Steel 8" Mounting plate - Side Mounting, Half Coupling (H-195S)
- 3 = Powder Coated Steel 8" Mounting Plate - Top Mounting, Full Coupling (H-192)
- 4 = Powder Coated Steel 8" Mounting Plate - Side Mounting, Half Coupling (H-19)

Process Fitting

- X1 = Aluminum Frame Neck, NPT 1-1/4"
- X2 = 304 Stainless Steel Frame Neck, NPT 1-1/4" (Note 12)
- C2 = 316 Stainless Steel NPT 1-1/4"
- D2 = 316 Stainless Steel NPT 1-1/2"
- E2 = 316 Stainless Steel BSP Tapered R 1-1/4"
- F2 = 316 Stainless Steel BSP Tapered R 1-1/2"
- J2 = 316 Stainless Steel BSP Straight G 1-1/4" (Note 11)
- K2 = 316 Stainless Steel BSP Straight G 1-1/2" (Note 11)
- M2 = 316 Stainless Steel Tri-Clamp 1-1/2" (Note 13)
- N2 = 316 Stainless Steel Tri-Clamp 2" (Note 13)

Housing Finish

- A = Powder Coated Aluminum
- B = 304 stainless steel (Notes 2, 3, 12)
- C = Epoxy Painted Aluminum
- D = Nickel Plated Aluminum

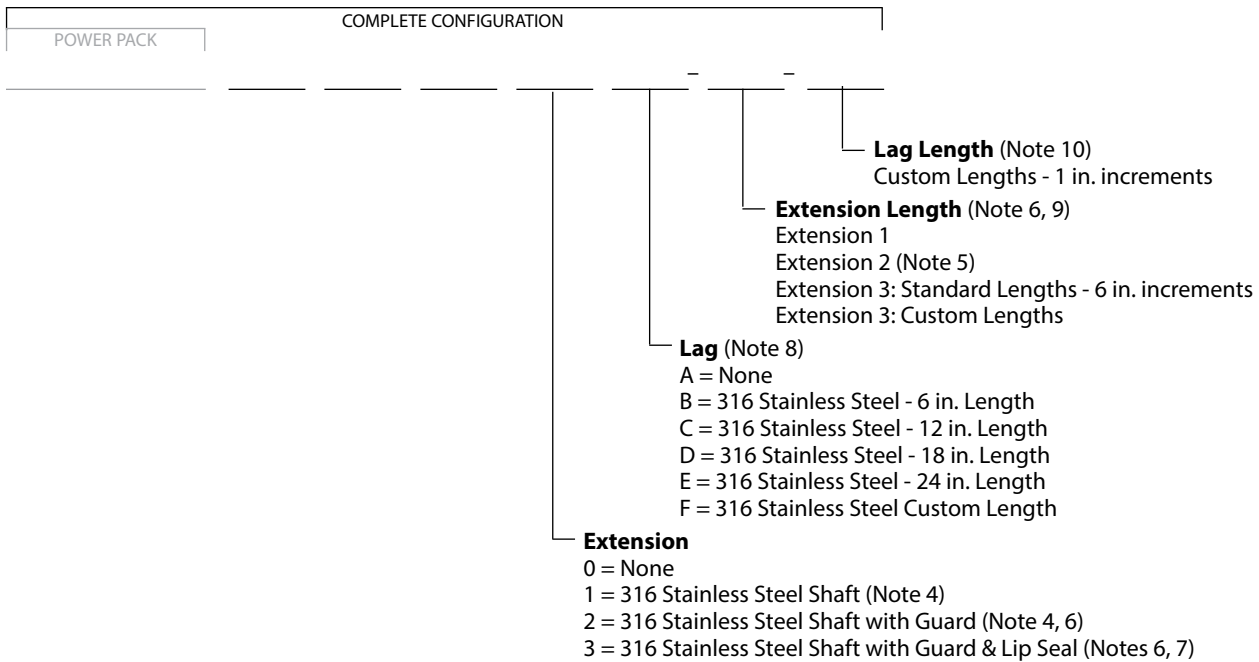
Base Unit

- G = 3/4" NPT Conduit Entry with Ordinary Location Approval
- GM = M20 x 1.5" Conduit Entry with Ordinary Location Approval
- X = 3/4" NPT Conduit Entry with Hazardous Location Approval (Note 2)
- XM = M20 x 1.5" Conduit Entry with Hazardous Location Approval (Note 2)
- XT = 3/4" NPT Conduit Entry with Hazardous Location Approval - Extended Temperature Range (Note 2, 14)
- XMT = M20 x 1.5" Conduit Entry with Hazardous Location Approval - Extended Temperature Range (Note 2, 14)

Model (Note 1)

Roto-Bin-Dicator PRO

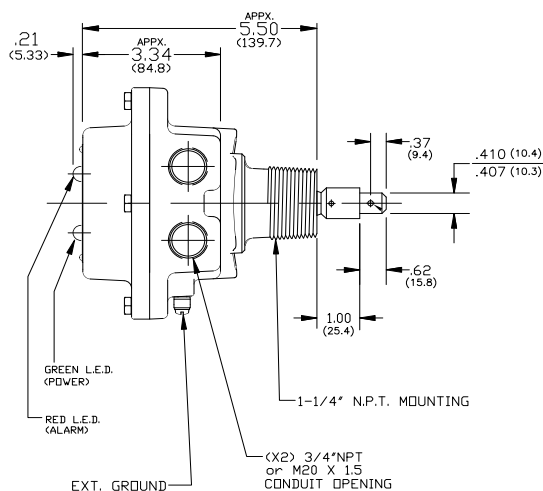
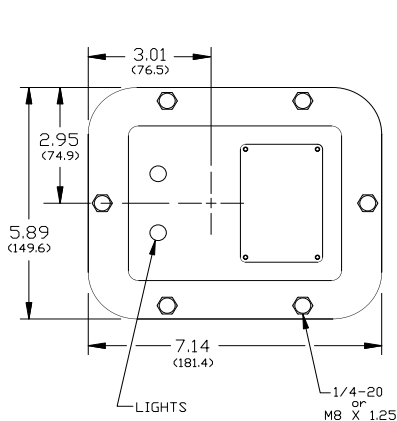
ROTO-BIN-DICATOR PRO - PART TWO



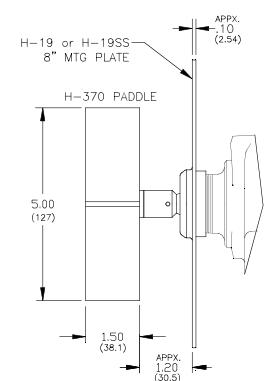
Notes:

1. For PowerPack ordering, stop the part number after the Process Fitting selection.
2. Hazardous location approval not available with stainless steel Housing Finish
3. Function Test FOB not available with stainless steel Housing Finish
4. For Mounting Plates Process Fitting must be X1, X2, or C2. Extensions 1 and 2 must use Mounting Plate 1 or 3 (Top Mounted)
5. Mounting plate is required.
6. Shaft guard length will be 2 in. (5 cm) shorter than extension length unless otherwise noted
7. Process Fitting cannot be X1 or X2 and maximum length is 36 in. (91 cm) and if used with Extension, the maximum total length is 48 in. (122 cm)
8. Lag not available with process fitting X1 or X2, and if used with Extension, the maximum total length is 48 in. (122 cm)
9. Maximum extension length is 180 in. (4.6 m), minimum length is 3 in. (7.6 cm); leave blank if not used.
10. Maximum lag length is 24 inches, minimum length 1 in. (2.5 cm); leave blank if not used
11. EPDM Flat gasket is included for Process Fittings with straight threads.
12. X2 Process Fitting and Stainless Steel Housing Finish can only be ordered together.
13. M2 and N2 Process Fitting only available with C, D, E, F and G Paddles.
14. Extended ambient temperature range is -40° to 140 °F (-40° to 60° C).

Housing Dimensions



Standard 4-Vane Paddle



SPECIFICATIONS

| FUNCTIONAL | |
|-------------------------|--|
| Operating Power | Universal, 120-240 VAC, 50/60 Hz or 24-48 VDC |
| Power Consumption | 3 watts (1.8 watts in Pause Mode) |
| Ambient Temperature | Ordinary Location: -40° to 158° F (-40° to 70° C) Hazardous Location: -4° to 140° F (-20° to 60° C) Hazardous Location, Extended: -40° to 140° F (-40° to 60° C) |
| Process Temperature | -20° to 302° F (-29° to 150° C) Standard Up to 500° F (Up to 260° C) with Extension 3 and Lag |
| Outputs | Main Relay: 8A DPDT @ 240 VAC or 30 VDC (resistive) Auxiliary Relay: 0.46A SPDT @ 150 VAC or 30 VDC |
| PERFORMANCE | |
| Time Delay | Field Selectable; up to 25 seconds |
| Fail Safe | Field Selectable; high/low level |
| Sensitivity | Minimum 3.4 lbs/ft ³ (54 kg/m ³); Field Adjustable; Paddle Dependent |
| Diagnostics | LED Indicators with blink codes; see IOM for code interpretation |
| PHYSICAL | |
| Enclosure Material | Aluminum, Epoxy Coated Aluminum, Stainless Steel or Nickel Plated Aluminum |
| Dual Conduit Entry | 3/4" NPT or M20 x 1.5 |
| Mounting Plate Material | Mild Steel or 304 Stainless Steel |
| Rigid Shaft and Paddle | Metal parts of all designs are 316 stainless steel |
| Flex Shaft | Available in neoprene, 155° F (68° C) or silicone, 400° F (204° C) coatings |
| Shipping Weight | Aluminum housing 10 lbs (4.5 kg) Stainless steel housing 16 lbs (7.3 kg) |

AGENCY APPROVALS

UL (US and Canada)

- Ordinary Location, Type 4X; IP66
- Hazardous Locations, Type 4X
Explosion Proof, Class I, Div 1, Groups C, D
Dust Ignition Proof, Class II, Div 1, Groups E, F, G



ATEX/IEC/IECex (Pending)

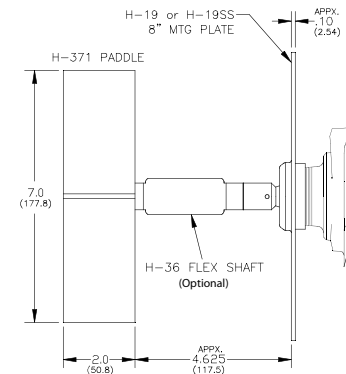
- Dust and Gas Categories

CE

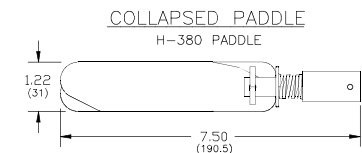
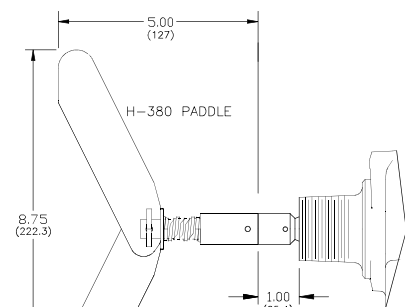
- Electromagnetic Compatibility Directive
- Low Voltage Directive



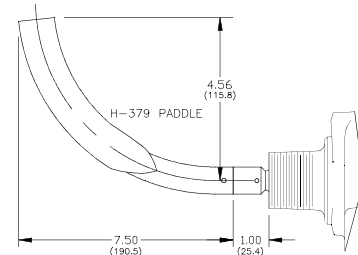
Large 4-Vane Paddle



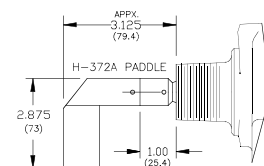
Collapsible Paddle



Single Vane Paddle Curved



Single Vane Paddle 45° Cut



150 Venture Boulevard · Spartanburg, SC 29306
Tel: (800) 778-9242 · (864) 574-8060
Fax: (864) 574-8063
E-mail: sales@bindicator.com
www.bindicator.com

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MEASUREMENT

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