

### Installation and Operation

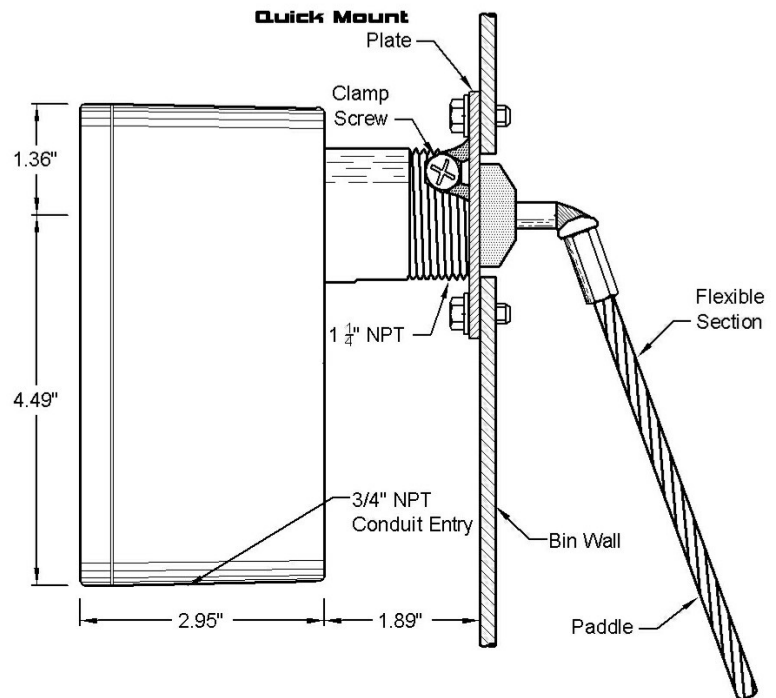
#### A. Location (please read this section)

- **Mount** the material sensor anywhere on the side of a bin, chute, cyclone, etc. The standard mounting plate can be mounted on curved surfaces if the diameter is greater than 36". However, it is not designed to be top mounted.
- The level indicator will work well when placed at a **low level**. No protective baffle is needed to prevent damage to the unit by the weight of the bulk material moving down in the bin.
- In most cases, the model SPM material sensor will work well when placed in the path of **falling material**. The material will likely slide past the paddle without triggering a false signal.
- **Orient the level indicator** so that a vertical line through it, is in line with the flow of the material. On a bin wall this line would be vertical, but mounted to the cone of a cyclone it would be at least 60 degrees from vertical.
- The model SPM does not have a lip type **seal on the shaft**, nor is the attachment gland air tight. It should not be used where it is important that no material at all escape the vessel.
- Having no rubber seals or ball bearings, makes the model SPM a **very rugged unit**. The actual amount of leakage for ordinary materials such as sawdust, grain, or feed is very small. On negative draft systems there is no leakage. Any leakage will fall out the purge opening under the shaft housing and will not contaminate the motor enclosure.
- Locate the level indicator, so that the **paddle does not contact** any part of the vessel structure.
- If the mounting surface is subject to **severe vibration**, the p/n QM46AV anti-vibration mount must be used.

#### B. Quick Mount Installation

Select the exact location of the unit. The following is a recommended way to attach the **optional Quick Mount** plate to a steel container wall that is 1/8" to 1/4" thick. Any 1/4" dia. fasteners suitable for your application will work.

1. Locate and attach the included template to the wall of the bin or container.
2. Carefully center punch each of the five hole locations.
3. Drill a 1/8" pilot hole at each mark.
4. Drill the center hole with an 1 1/2" hole saw. Milwaukee p/n 49-56-0082 is recommended. Clean edges of the hole with a half round file.
5. The **optional Quick Mount** plate (p/n QM44) may be attached with the included 1/4" self-drilling/self-taping screws and a 3/8" socket wrench.



Note: It is recommended that the vessel wall be drilled and taped either with self tapping screws or by using a hand tap. This will allow you to install and adjust the **Quick Mount** plate without having to enter the vessel to secure the retaining nuts.

#### 1 1/4" NPT Installation

The **Quick Mount** plate should be used in new installations, as it has significant advantages over the 1 1/4" NPT mounting. These advantages are explained in the model SPM brochure which can be found online at the Hensortech.com website. However, the model SPM may be mounted in the conventional way where there is an existing 1 1/4" NPT half coupling. There must be clearance for the paddle to move 360 degrees inside the vessel during mounting.

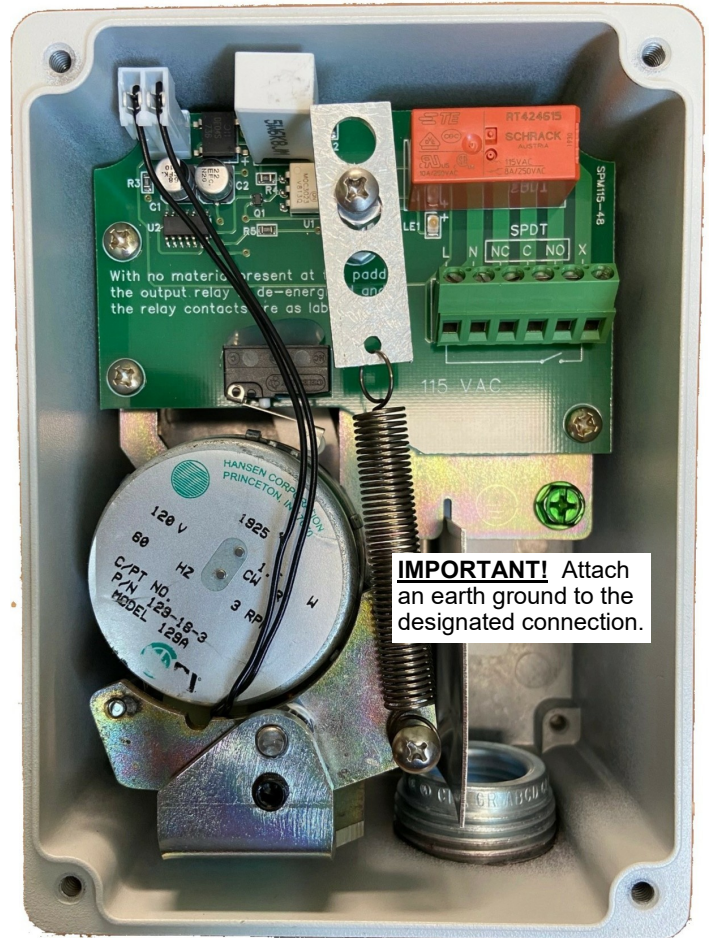
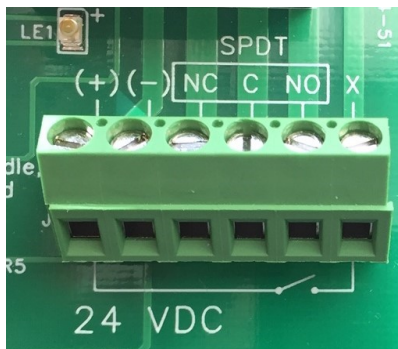
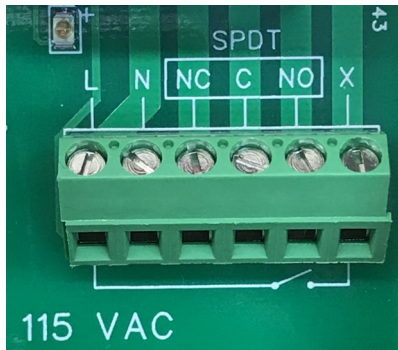
### C. Electrical Installation

- The field connection terminal block is clearly labeled on the printed circuit board.
- With no material present at the paddle, the output relay is de-energized and the relay contacts are as labeled.
- SPDT output contact rating: 8 amp, 125/250 VAC
- Power requirements: 115 VAC, 60 Hz @ 4 watt      23-24 VDC @ 95 ma
- Keep field wiring to the right side of the enclosure, away from the mechanism and switches.
- There is a one second time delay on the relay output, thus ignoring material just bumping the paddle.

#### Ground



Attach an earth ground of the proper wire size to the designated connection. Follow all local electrical codes.



### D. Sensitivity Setting

- The model SPM can be adjusted to three different sensitivity settings by changing spring tension. The default factory setting is the (mid position) and will work well with medium to high density materials.
- At the most reliable setting (maximum spring tension), it is less likely the unit will be adversely affected by buildup on the paddle and shaft. For applications sensing moderate to high density material, the higher settings are best.
- At the most sensitive setting (minimum spring tension), it is more likely the unit will sense the presence of low density material. Very low density materials are likely to be very dry and therefore not present a buildup problem which would reduce reliability
- To change this setting, first remove all power from the unit and then remove the cover. Lift the spring anchor from the anchor pin and place in the new setting.

There are no user replaceable parts. Please return the unit to the factor for repairs. Hensortech LLC reserves the right to change the design and/or specifications without prior notice.