K-TEK

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ISO9001:2000

CE 0036
PED

VIBRATING LEVEL SWITCH FOR POWDERS & GRANULAR SOLIDS

Model SF50

FEATURES

- Accepts Universal Input Voltage
- Acceptable for Most Bulk Materials
- Modular & Simple Design
- Maintenance Free
- No Calibration Required
- Self-Cleaning
- Robust Fork Design with Patented Piezo Crystal Sensing Element

OPTIONS

- Mounting Plate / Flange
- Extensions to 156 in. / 3962 mm
- General Purpose Indicator Light

APPLICATIONS

The Model SF50 can be used in products that do not have heavy build up on forks. The Model SF50 can handle dense materials such as cement (80 pcf) to extremely light products like styrene (2 pcf). A wide range of applications are also found in dry food processing.

Standard

Extended

DESCRIPTION

The Model SF50 is a vibrating level switch that detects the absence or presence of dry bulk solids in bins, silos or hoppers. The SF50 provides a contact output indicating a high or low level alarm. Typical Products include lime, styrofoam, flour and plastic pellets. The SF50 can detect products with densities as low as 1.3 pcf (20 kg/m^3).

The SF50 is a compact and robust design, suitable for top or side mounting. The constant vibration of the fork tines provides self-cleaning characteristics for products that do not coat or cake. The unique design of the fork and crystal assembly eliminates false level readings.

The SF50 sends a signal from the electronic circuitry to excite a patented piezo element in the probe. This causes the fork to vibrate at a frequency of 125 Hz. If the fork is covered by material, the change in vibration is detected by the circuitry which causes the relay to change state after a one second delay. When the fork is free from material, full vibration resumes and the relay reverts to its normal condition.

SPECIFICATIONS

Enclosure	Single Compartment Cast Aluminum, Powder Coated
Electrical Connection	3/4 in. FNPT
Power Supply	Universal Input Voltage: 19 - 253 VAC, 50/60 Hz 19 - 60 VDC
Fork Material	316 Stainless Steel
Material Specification	Granular bulk solids and powders that do not cake or coat; Minimum density 1.3 pcf (20 kg/m^3); maximum grain size 0.40 in (10mm)
Process Connection	1-1/2 in MNPT
Temperature Range	Sensor: -13 to 302°F / -25 to 150°C Electronics: -13 to 140°F / -25 to 60°C
Output	1 ea SPDT Relay, Maximum Contact Ratings: AC: 253 VAC, 4 A, 500 VA, Resistive DC: 253 VDC, 4 A, 60 W Switch Status Display via Integral LED Signal Delay: Probe free to covered: 1 second; Probe covered to free: 1 to 2 seconds Sensitivity: Adjustable in 2 levels
Pressure	Maximum 145 psi / 10 bar
Classification	General Purpose

CE

ORDERING INFORMATION:

Ordering Notes:
1) Accessories must be ordered separately.

SF50 / a / b / c / d:

/a   Insertion Length

    X   Standard length 9 in. / 229 mm

    Lxxx   Custom Length; xxx from 10 - 156 in. / 254 to 3962 mm

/b   Process Connection

    P   1.5 MNPT (Standard)

    WP   Welded Flange, 2" minimum;
            (Specify Type & Size from FLNG-0202-1 Flange Guide)

    FL   Flange Shipped Loose with 1-1/2" FNPT Process
            Connection Drilled & Tapped; 2" minimum; (Specify Type &
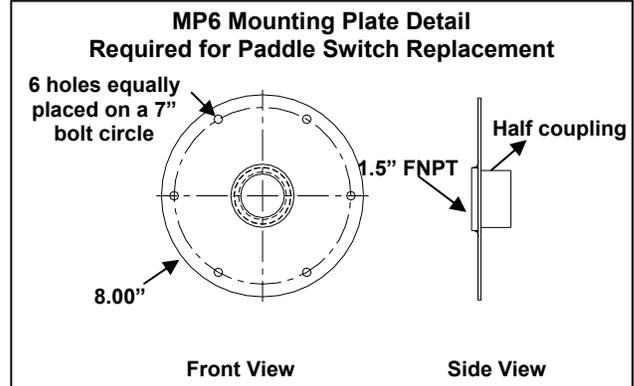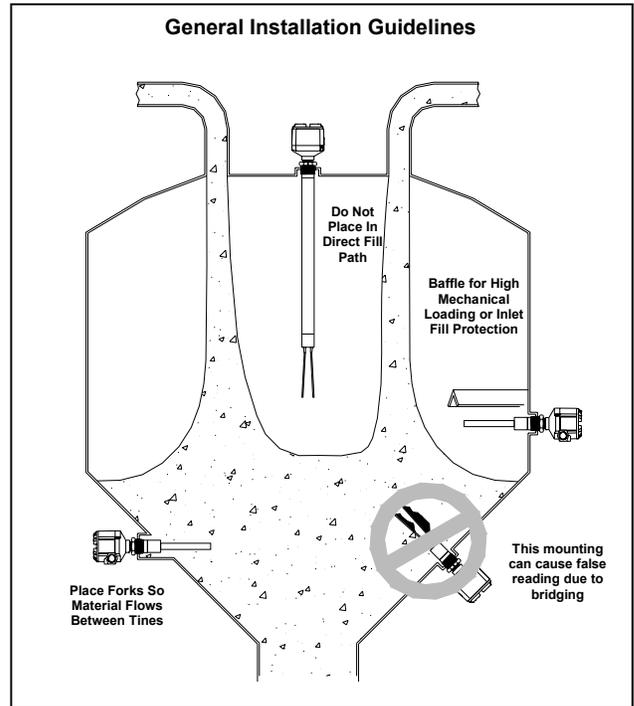   Size from FLNG-0202-1 Flange Guide)

/c   Approvals

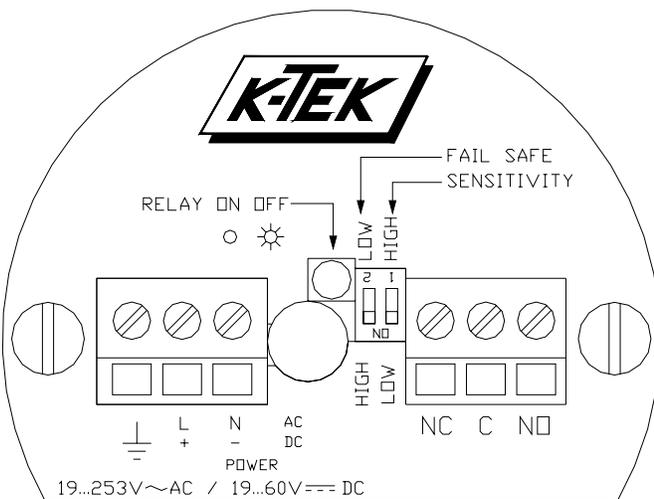   X   None (Housing is FM Approved)

/d   Options

    X   None

    L2   120 VAC - Indicating Lamp (General Purposes Only)

    L3   240 VAC - Indicating Lamp (General Purposes Only)

AVAILABLE ACCESSORIES

SF/MP6 304SS Mounting Plate with 1-1/2 in. NPT half coupling (to
            replace existing paddle switch)

General Installation Guidelines

Do Not Place In Direct Fill Path

Baffle for High Mechanical Loading or Inlet Fill Protection

Place Forks So Material Flows Between Tines

This mounting can cause false reading due to bridging

MP6 Mounting Plate Detail
Required for Paddle Switch Replacement

6 holes equally placed on a 7" bolt circle

1.5" FNPT

Half coupling

8.00"

Front View   Side View

WIRING CONNECTIONS

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RELAY ON OFF

FAIL SAFE
SENSITIVITY

LOW HIGH

HIGH LOW

NC C NO

⏚   L   N   AC
    +   −   DC
        POWER

19...253V∼AC / 19...60V DC

DIMENSIONS

3/4"FNPT CONDUIT ENTRY

4.8in. (121.9mm)

1-1/2" MNPT

1.66in.(42.2mm)

15.6in. (396.2mm)

9in. (228.6mm)

1.58in.(40mm)