

# GM-17

## Gamma-detecting Point Level Switch



### Application Area

The GM-17 Level Switch uses Geiger-Mueller tube technology to provide point level measurement in difficult applications including:

- High and low point level indication of a variety of vessels, bins, and silos
- Plugged chutes

### Advantages

Recognizable benefits of the GM-17 include:

- Single point or dual point calibration
- Up to six Geiger-Mueller tubes for maximum sensitivity
- Polyester powder coating and o-ring seal for use in harsh environments

### Function

The GM-17 uses multiple Geiger-Mueller tubes to monitor radiation passing through a vessel. When the process material in the vessel blocks the gamma radiation, the detection drop is used to energize or (de-energize) a relay. A second relay may be used as a redundant process indicator or for alarm purposes.

### Technical Data

#### Power Requirements

- AC 110 or 220 VAC,  $\pm 10\%$ , 50 ... 60 Hz., 4 VA max. power consumption
- DC 10 ... 30 VDC ( $< 100$  mV, 1 ... 1000 Hz ripple), 4 VA max. power consumption
- Wire size 1.63 ... 0.64 mm (14 ... 22 AWG) per local electrical code

#### Ambient Conditions

- Temperature -40 ... +70 °C (-40 ... 158 °F)
- Humidity 0-95% non-condensing
- Vibration Tested to IEC 68-2-6, IEC 68-2-27, and IEC 68-2-36

#### Relay Output

- Process Alarm 6A at 240 VAC, 6A at 24 VDC, ¼ HP at 120 VAC (SPDT Form C)
- Failsafe/Process Alarm 6A at 240 VAC, 6A at 24 VDC, ¼ HP at 12VAC (SPDT Form C)

#### Sensor

Geiger Mueller Tubes (2 standard, up to 6 total)

#### Weight

3.2 kg (7 lbs.)

### Materials

**Housing** Cast Aluminum ASTM A359

**Housing Coating** Polyester powder coating (Standard) or PVC coating

### Housing Versions

The housing carries a NEMA 4X (IP 66) rating and features two ¾" NPT conduit entries. Options for ½" NPT or M20 conduit entry adapters are available.

### Electronic Versions

#### Relay Output

- Process Alarm 6A at 240 VAC, 6A at 24 VDC, ¼ HP at 120 VAC (SPDT Form C)
- Failsafe/Process Alarm 6A at 240 VAC, 6A at 24 VDC, ¼ HP at 12VAC (SPDT Form C)
- Wire Size 1.63 ... 0.64 mm (14 ... 22 AWG)

## Approvals

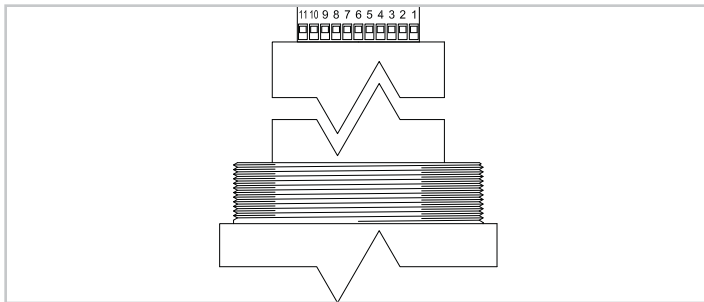
**CSA, FM, GOST-R** Class I, Div I, GR. B, C, D; Class II, Div I, GR. E, F, G; Class III; T6; Ta= -40°C to +70°C

**ATEX** 11 2 G EEx d IIB+Hz T6, Ta= -40°C to +70°C  
11 2 D, T80°C, IP66

## Operation

The relay operation can be energized by a radiation level above or below a given amount. The radiation switch point level is determined by two rotary switches located at the top of the PC board. The relay operation is determined by a jumper near the center of the PC board. There is also a second relay which can be configured as a second process relay, or a "fail safe" relay in order to provide an indication of proper operation.

## Electrical Connection

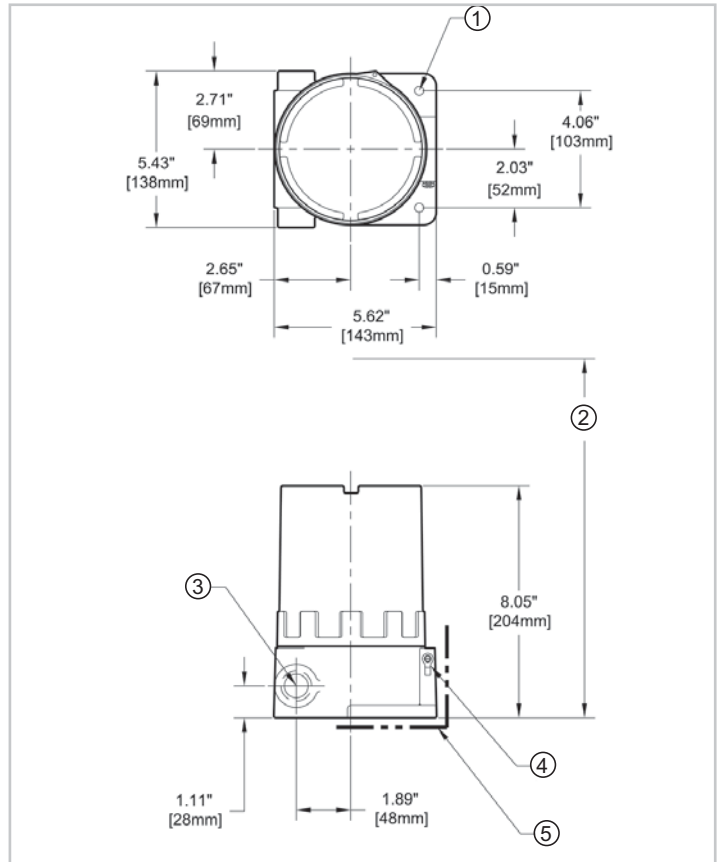


### Terminals

- 1 L1 (AC input power)
- 2 L2/N (AC input power)
- 3 DC+ (DC input power)
- 4 DC- (DC input power)
- 5 Relay 1: N/O
- 6 Relay 1: COM
- 7 Relay 1: N/C
- 8 Relay 2: N/O
- 9 Relay 2: COM
- 10 Relay 2: N/C
- 11 Not used

Relay 2 can be configured as process or diagnostic

## Dimensions



### Dimensions

- 1 8 mm (0.31") through 2 places
- 2 Clearance for Servicing 14.0" (356 mm) minimum
- 3 3/4" NPT 2 places
- 4 External Ground Terminal
- 5 Sensing Surfaces

## Information

You can find additional information about VEGA product offerings from our home page, [www.vega-americas.com](http://www.vega-americas.com). Brochures, operating instructions, quick reference guides, specification sheets, and drawings are also available from the Downloads section of our homepage.

## Device Selection

The Downloads section of our home page, [www.vega-americas.com](http://www.vega-americas.com) provides application data sheets so you can select the measuring principle or product for your particular application.

## Contact

Please call 1-513-272-0131, Monday through Friday, 8:00 A.M.-5:00 P.M., EST (Eastern Standard Time) if you have any questions. For emergencies after hours, call the number above and follow the voice mail instructions.

*All information is subject to change without notice.*