

# KSONIK MICRO

## Ultrasonic Level Transmitter

### Ultrasonic level measurement with GAP technology K-TEK Products



#### Introduction

The KSONIK MICRO Ultrasonic Level Transmitter and Switch is designed to measure liquid (32 ft. / 10 m) and bulk solids (10 ft. / 3 m) levels. The range can be configured by the keyboard and display. The KMICRO is mounted on top of the vessel or tank. The microprocessor in the KMICRO fires an electronic pulse that the transducer converts into an acoustic pulse. The pulse travels to the level that is being measured and is reflected back to the transducer. The transducer then converts the energy back into an electronic signal and stops the counter in the microprocessor, which then knowing the speed of sound through the air, can accurately determine the distance. The powerful software removes false echoes and the electronic filter removes ambient noise.

#### Features

- Up to 32 ft. / 10 m Measuring Range
- Low Cost, Compact Level Transmitter with Integral Transducer
- 128 x 64 Dot Matrix Display
- Ease of Installation & Configuration
- Continuous Level Transmitter and Level Switch
- Auto Variable Power Control for Difficult Applications
- Temperature Compensation
- Password Protection
- No Maintenance
- Integrated KSCOPE Analytical Software
- Open Channel Flow Measurement for the following:
  - V-Notch
  - Flumes
  - Weirs
- PVDF Wetted Parts for Corrosive Applications

#### Applications

Liquids and Solids

- Slurries
- Sumps
- Diesel
- Raw Water
- Waste Water
- Solids
- Coal
- Rock

#### Options

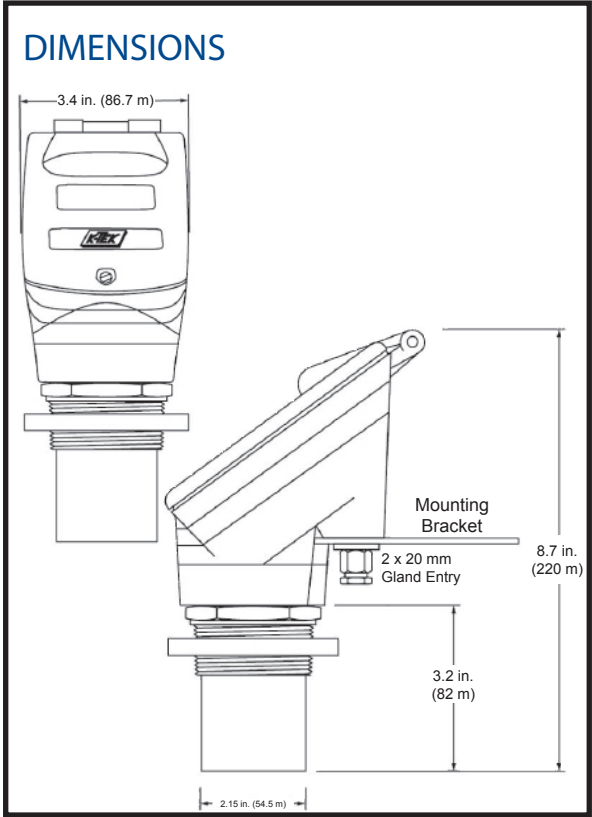
- Flange mounting (ANSI or DIN)

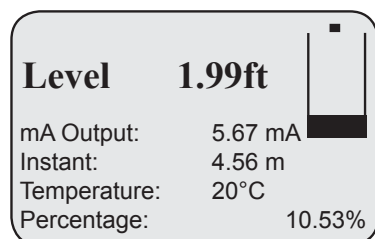
SPECIFICATIONS

|                       |   |                      |    |
|-----------------------|---|----------------------|----|
| Enclosure             | Enclosure: Polycarbonate, IP65<br>Transducer: IP68, PVDF (KYNAR®)   |                      |    |
| Power Supply          | 24 VDC (20 to 30 VDC)   |                      |    |
| Power Consumption     | 60 mA at 24 VDC   |                      |    |
| Electrical Connection | 20 mm   |                      |    |
| Operating Frequency   | 53kHz   |                      |    |
| Beam Angle            | 10°   |                      |    |
| Dimensions            | Electronics: 8.6 in x 3.4 in / 220 mm x 86 mm<br>Transducer: 3.2 in x 2.2 in / 82 mm x 56 mm,<br>2 in / 50.8 mm BSP or NPT thread |                      |    |
| Weight                | 2.6 lb. / 1.2 kgs   |                      |    |
| Process Connection    | 2" MNPT; PVC retainer nut included for open top tank installations  |                      |    |
| Temperature Range     | -22 to 149°F / -30 to 65°C Temperature Compensated  |                      |    |
| Output:               | Transmitter: 4-20 mADC 16 bit (max impedance 750 ohms)<br>Switch: 1 ea. SPDT, 5 amp relay (for high or low level)                 |                      |    |
| Range                 | Liquids: 32 ft. / 10 m; Solids: 10 ft. / 3 m  |                      |    |
| Accuracy              | 0.25% full span with temperature compensation   |                      |    |
| Local Indication      | 128 x 64 Dot Matrix Display   |                      |    |
| Configuration         | 5 touch button keys   |                      |    |
| Blanking Distance     | 1 ft. / 0.3 m   |                      |    |
| Rate of Change        | 0.3 to 66 ft. / minute; 0.1 to 20 m / minute  |                      |    |
| Classification        | General Purpose   |                      |    |
| CE Compliance         | EN 50082-2<br>EN 50081  | Immunity<br>Emission | CE |

ORDERING INFORMATION

| KMICRO/a/b/c/d |  |  |
|----------------|--|--|
| /a             | Device Type  |  |
| 4W             | 3 & 4 Wire Transmitter <b>Standard</b>                                       |  |
| /b             | Transducer Material / Application  |  |
| PVDF           | Liquids to 32 ft. / 10 m<br><b>Standard</b> Including Corrosive Applications |  |
| /c             | Power Supply   |  |
| 1              | 20-30 VDC <b>Standard</b>  |  |
| /d             | Mounting Options   |  |
| X              | No Mounting option Required (2" MNPT) <b>Standard</b>                        |  |
| BSP            | 2" BSP thread  |  |
| 3              | 3" ANSI flange connection, PVC   |  |
| 4              | 4" ANSI flange connection, PVC   |  |
| 6              | 6" ANSI flange connection, PVC   |  |
| D80            | 80 mm flange connection, PVC   |  |
| D100           | 100 mm flange connection, PVC  |  |
| D150           | 150 mm flange connection, PVC  |  |
| CF             | Custom Flange (Consult factory for available sizes and materials)            |  |





With the new improved KMICRO display, more information is available.

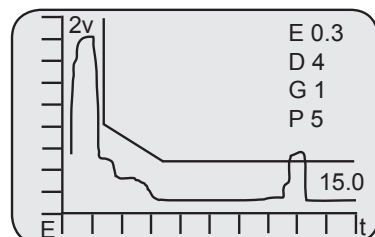
**Dist/Level:** Is the reading from the face of the transducer if Distance is selected, or if Level has been selected it is the distance from the bottom of the vessel to the height of the material.

**mA Output:** Is the corresponding mA output on the KSONIK based on level.

**Instant:** This is always the distance from the face to the actual medium.

**Temperature:** Read the air temperature at the transducer.

**Percentage:** Indicates the percentage full.



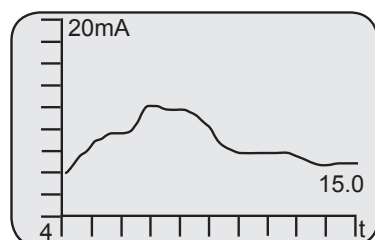
This page indicates the echo profile.

E is the echo height in Volts.

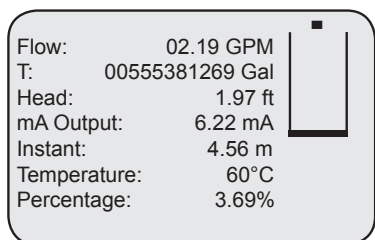
D is the distance.

G is the gain used. (Efficiency of amplifier)

P is the power used. (Cycles per pulse)



This page indicates a 4-20mA output over 2 minutes time period.



This is the display in the open channel mode.

**Flow:** This is the instantaneous flow rate.

**T:** This is the total flow that has flowed through the flume or weir.

**HEAD:** This is the height from the bottom of the flume or weir to the top of the liquid.

**mA Output:** This is the corresponding mA output on the KSONIK.

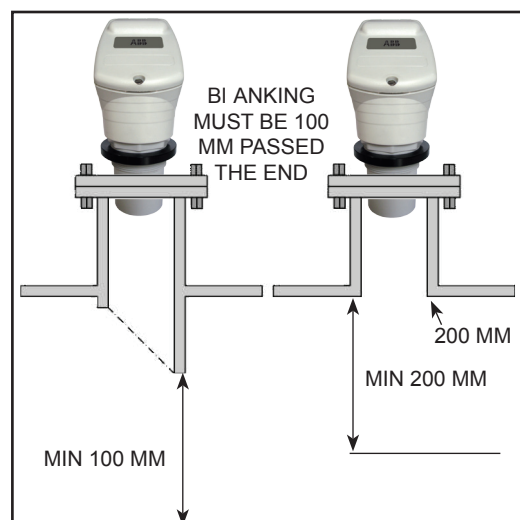
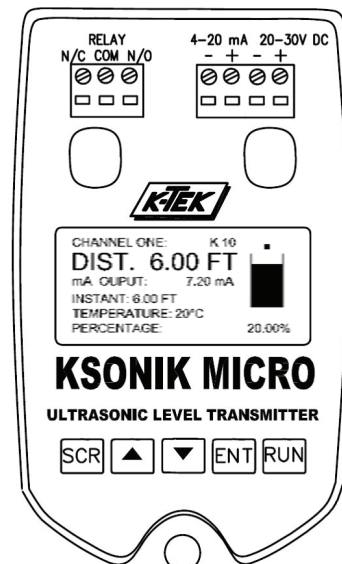
**Instant:** This is always the distance from the face to the actual medium.

**Temperature:** There is a high accuracy temperature reading device in the Transducer that can read the air temperature.

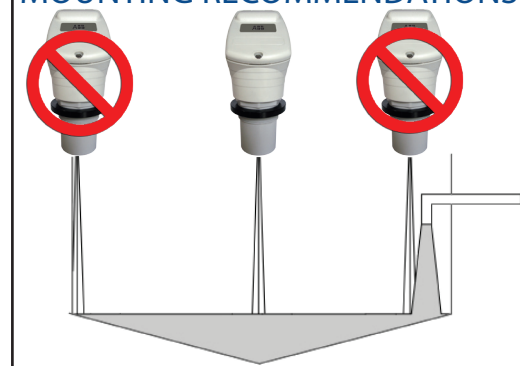
**Percentage:** This is the percentage fill vessel.

# KSONIK™

## FACEPLATE



## MOUNTING RECOMMENDATIONS



# Contact us

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