Data sheet DS/KMICRO-EN Rev. M

KSONIK MICRO
Ultrasonic level transmitter
K-TEK products

Ultrasonic level measurement with GAP technology

Measurement made easy

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)

Power and productivity for a better world™

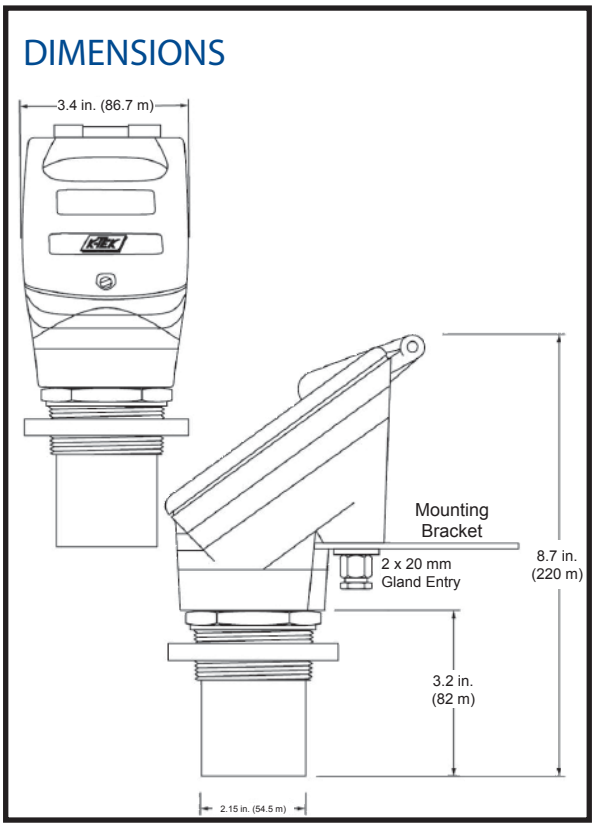
SPECIFICATIONS

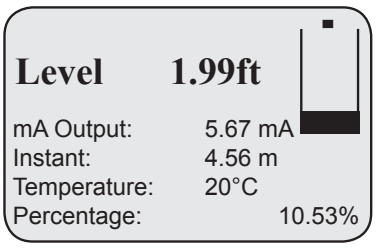
Enclosure	Enclosure: Polycarbonate, IP65 Transducer: IP68, PVDF (KYNAR®)
Power Supply	24 VDC (20 to 30 VDC)
Power Consumption	60 mA at 24 VDC
Electrical Connection	20 mm
Operating Frequency	53kHz
Beam Angle	10°
Dimensions	Electronics: 8.6 in x 3.4 in / 220 mm x 86 mm Transducer: 3.2 in x 2.2 in / 82 mm x 56 mm, 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) 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	1.15 ft. / 0.35 m
Rate of Change	0.3 to 66 ft. / minute; 0.1 to 20 m / minute
Classification	General Purpose
CE Compliance	EN 50082-2 Immunity EN 50081 Emission CE

ORDERING INFORMATION

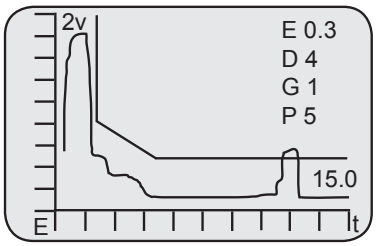
KMICRO/a/b/c/d		
/a	Device Type	
	4W	3 & 4 Wire Transmitter **Standard**
/b	Transducer Material / Application	
	PVDF	Liquids to 32 ft. / 10 m **Standard** Including Corrosive Applications
/c	Power Supply	
	1	20-30 VDC **Standard**
/d	Mounting Options	
	X	No Mounting option Required (2" MNPT) **Standard**
	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)

DIMENSIONS

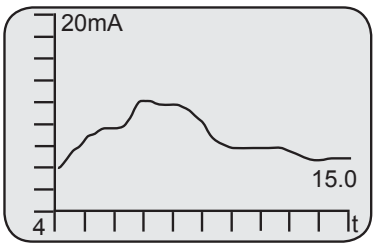




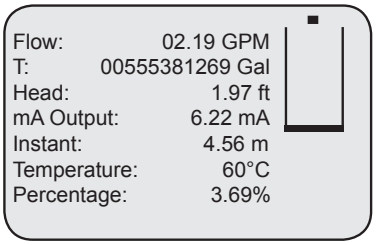
With the new improved KMICRO display, more information is available.
Dist/Level: Is the reading from the face of the transducer if Distance is selected, or if Level has been selected it is the distance from the bottom of the vessel to the height of the material.
mA Output: Is the corresponding mA output 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)



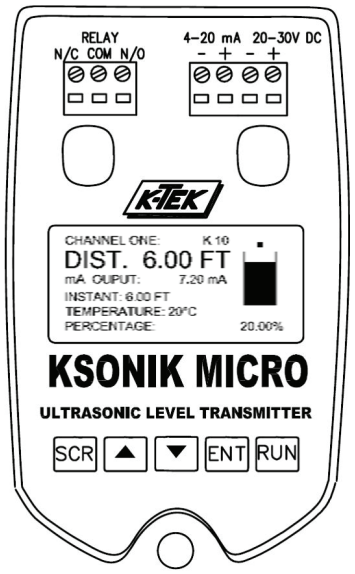
This page indicates a 4-20mA output over 2 minutes time period.

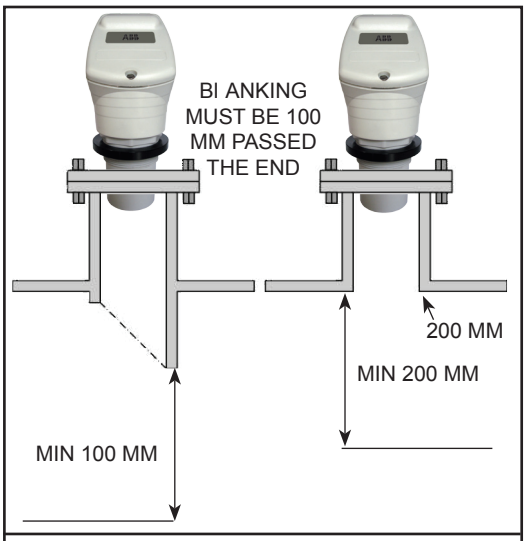


This is the display in the open channel mode.
Flow: This is the instantaneous flow rate.
T: This is the total flow that has flowed through the flume or weir.
HEAD: This is the height from the bottom of the flume or weir to the top of the liquid.
mA Output: This is the corresponding mA output on the KSONIK.
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

ABB Engineering (Shanghai) Ltd.
No.5, Lane 369, Chuangye Road,
KangQiao Town, Pudong District,
Shanghai, 201319, P. R. China
Phone: (86) 21 6105 6666
Fax: (86) 21 6105 6992

www.abb.com/level

Note
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