K-TEK

KSONIK™
KSONIK I

General Purpose Ultrasonic Level / Flow Transmitter

The KSONIK I is an Ultrasonic Level Transmitter capable of measuring liquid level or solid applications up to 50 ft. / 15 meters or flow rates in all types of open channel flow applications. The transmitter has a single 4-20 mADC analog output and three (3) relay outputs. A transducer is fitted to the top of a silo or tank, facing down towards the material being measured.

The transmitter's microprocessor simultaneously fires an electronic pulse to the transducer and starts a timer. The transducer converts this electronic pulse to an acoustic pulse, which is directed toward the surface of the material being measured. When the acoustic pulse contacts the surface of the material, energy is reflected back to the transducer, which converts this reflected energy back to an electronic pulse. This pulse is sent back to the microprocessor, which stops the timer and determines the "time of flight" of the signal. By combining the speed of sound through air and the "time of flight" of the pulse, the microprocessor accurately determines the level of the product. Powerful software removes false echoes from the signal and electronic filters remove ambient noise.

FEATURES

- Range to 50 ft. / 15 m
- Isolated 4 - 20 mA Output
- Graphic LCD Display
- Integrated KSCOPE Analytical Software
- 3 Configurable Relays / 8 Amp
- Configurable as Open Channel Flow Meter
- Pump Cycling and Pump Monitoring
- Remote Totalizer Count Outputs
- Automatic Variable Gain & Power for Difficult Applications

SPECIFICATIONS

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Enclosure	Polycarbonate, IP65 / NEMA 4
Power Supply	110 VAC or 240 VAC; ±15% 50/60 Hz, 5VA Standard 24 VDC, 4 VA (Optional)
Dimensions	7.1 x 7.1 x 2.4 inches / 180 x 180 x 60 mm
Weight	3 lbs / 1.37 kg
Temperature Range	-22 to 149°F / -30 to 65°C
Output	Analog: 4-20 mADC Isolated (max impedance 750 ohms) with 16 bit resolution Relay: 3 ea. SPDT, 8 amp, 240 VAC; Fully Configurable
Range	50 ft. / 15 m
Accuracy	0.25% full span with temperature compensation
Local Indication	128 x 64 dot graphic display
Configuration	5 touch button keys or optional KSCOPE Software
Blanking Distance	Refer to Ultrasonic Transducer & Accessories ACS-0003-1
Rate of Change	0.03 to 65 ft / minute; 0.01 to 20 m / minute
Classification	General Purpose
CE Mark	EN 80081 EN 50081 EN 610104 Safety

APPLICATIONS

- Various Liquids Including Water Storage Tanks
- Moderate Range Solids Such as Loading & Bagging Hoppers
- Mineral Oil
- Open Channel Flow Measurement in the following configurations:
  - V-Notch   •Flumes   •Weirs

OPTIONS

- Transducers for Liquids, Solids & Corrosive Liquids
- Windows Based Configuration Software
- Aiming Kit

DIMENSIONS
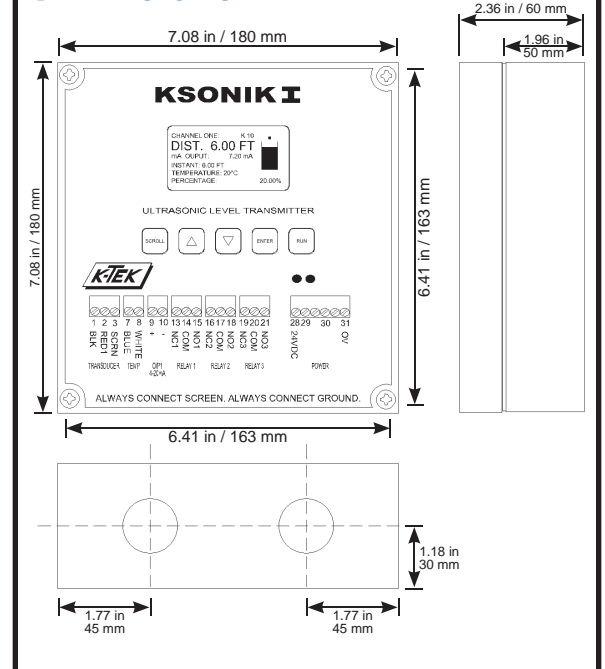
ORDERING INFORMATION

KSONIKI/a

/a	Power Supply	
	1	24 VDC
	2	120 and 220 VAC

Ordering Notes:

1. Transmitter, Transducer(s) & Accessories must be ordered separately.
2. The listed transducers below are compatible with the KSONIK I transmitter.

TRANSDUCERS
(order separately; refer to Transducer Data Sheet ACS-0003-1 for complete details)

Model	Measuring Range
K10	Liquids (50 ft. / 15 m max) or Solids (16 ft. / 5m max)
K10F	Solids (50 ft. / 15 m max)
K10T3	Corrosive Liquids (50 ft. / 15 m max) with 3" PTFE Lined Flange
K10T4	Corrosive Liquids (50 ft. / 15 m max) w/ 4" PTFE lined flange

Note: All transducers are supplied with 16 ft. (5m) cable lengths. For temperature compensation add "C".

AVAILABLE ACCESSORIES

AKIT	Aiming Kit (304 SS Mounting & Clamping Plates)
KSCOPE	KSONIK Scope Software
EXT-CABxxx	Transducer cable length is available up to 330 ft (100m). If customer requirement is greater than 16 ft (5m) standard length, then specify total cable length in feet (xxx).

AC WIRING CONNECTIONS
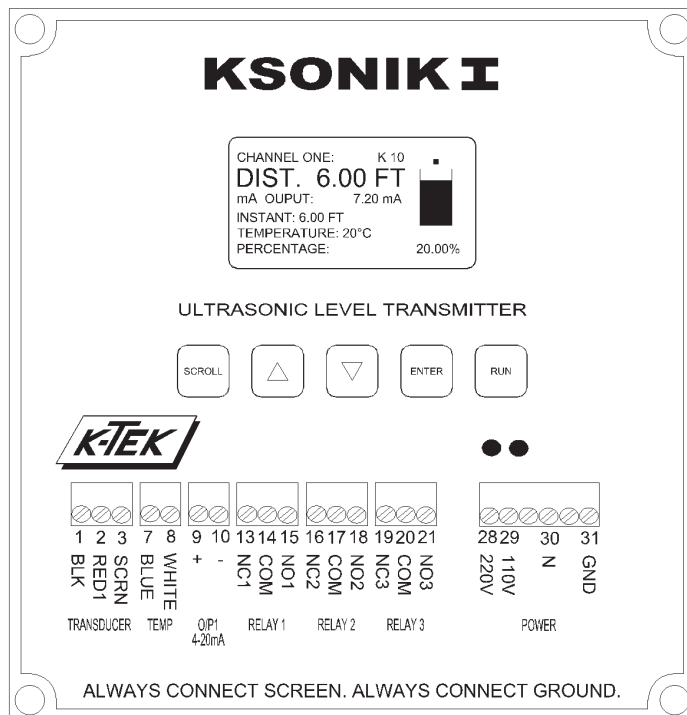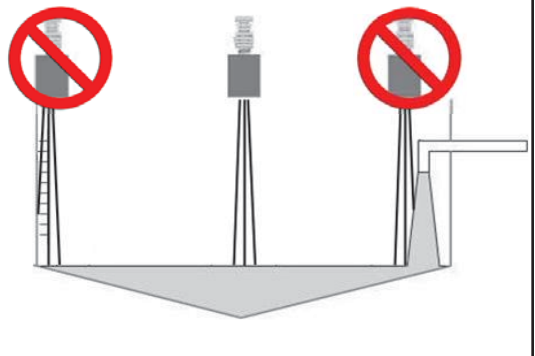

MOUNTING RECOMMENDATIONS

Solids Installation Recommendations
Aiming Kit is recommended to aim at middle of silo. This helps to get the maximum return echo.

Liquids Installation Recommendations
Avoid installations where vessel obstructions or fill lines interfere with beam path.