

QUICK START FOR KSONIK III

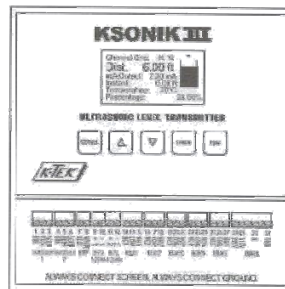
INTRODUCTION

KSONIK III works on the non-contact principle of ultrasonics. A pulse of energy emits from the transducer at the speed of sound and is detected upon its return. The transmitter can distinguish the difference between a correct echo and other ambient noise. When the signal returns, KSONIK III measures the time period and then knowing the speed of sound, it can accurately calculate the distance from the material to the transducer. The KSONIK III can measure distance, level, open channel flow and differential.

- In level mode the KSONIK III measures level in a tank. This means at the furthest point or when the tank is empty, the instrument will read 4mA. At the closest point the tank will be full and the instrument will read 20mA.
- In distance mode the KSONIK III measures distance from the transducer. This means the 20mA will be the furthest point and the 4mA will be the closest point.
- The Open Channel flow meter uses a level measurement from the KSONIK III and converts the reading into a flow measurement.
- The Differential Level uses the dual functionality of the KSONIK III to obtain a differential level reading. The KSONIK III uses both transducer inputs, which take a level measurement. The KSONIK III then compares the two level measurements to get the difference in levels. The output is then proportional to the differential between these two levels.

A microprocessor then controls the output functions of the relays, display and the analogue output signals.

TERMINAL CONNECTIONS for AC KSONIK III



- | | | |
|--------------------------------------|--------------------------------|-----------------------------|
| 1. Transducer wire black channel 1 | 9. Channel 1 + 4-20 mA Output | 21. Relay 3 normally open |
| 2. Transducer wire red channel 1 | 10. Channel 1 - 4-20 mA Output | 22. Relay 4 normally closed |
| 3. Transducer screen channel 1 | 11. Channel 2 + 4-20 mA Output | 23. Relay 4 common |
| 4. Transducer wire black channel 2 | 12. Channel 2 - 4-20 mA Output | 24. Relay 4 normally open |
| 5. Transducer wire red channel 2 | 13. Relay 1 normally closed | 25. Relay 5 normally closed |
| 6. Transducer screen channel 2 | 14. Relay 1 common | 26. Relay 5 common |
| 7. Blue wire temperature transducer | 15. Relay 1 normally open | 27. Relay 5 normally open |
| 8. White wire temperature transducer | 16. Relay 2 normally closed | 28. 220V AC |
| | 17. Relay 2 common | 29. 110V AC |
| | 18. Relay 2 normally open | 30. NEUTRAL |
| | 19. Relay 3 normally closed | 31. GROUND |
| | 20. Relay 3 common | |

Please see page 40 in the KSONIK III Installation and Operation manual if extension Cable is used.

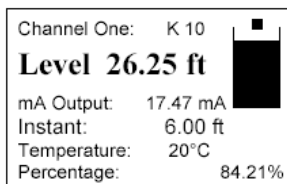
QUICK START FOR LEVEL

1. Connect up the power and the transducer connections to Channel One and if a dual unit was purchased connect Channel Two as described on the KSONIK III board or in the KSONIK III manual under terminal connections on page 33.

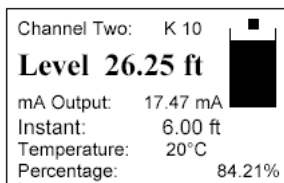
PLEASE NOTE, ALL CONNECTORS ARE CAPABLE OF BEING UNPLUGGED FROM THE PCB.

2. Press
3. Use to get to the default security code 5159 and then press
4. If a dual unit was purchased select which channel is to be set up to be level and which transducer type is used by using and to select choice.
5. Select transducer Type which is being used either a K10, K20 or K60 using the and to select choice.
6. Press to scroll through the menus until the section MODE appears.
7. Press and to select LEVEL
8. Press

Aim the transducer at a wall about 6 ft away and check the display. It should read the following for a K10 transducer.



Connect the second transducer if a dual unit was purchased



If the Level reading is below 26.25 ft / 8.00 m then move the transducer closer to the wall.
If the Level reading is above 26.25 ft / 8.000 m then move the transducer away from the wall.

You may now proceed and check other parameters.

- . Please note if no transducer is connected to Channel Two there will be no reading and the channel will go to the loss of echo routine.

INSTALLATION

Transmitter

The transmitter is weather proof so it can be mounted outside. Although KSONIK III is protected to IP65 it is recommended that it be installed inside another suitable enclosure. The LCD display should not be facing direct sunlight as this can cause the display to fail. KSONIK III should be fixed to a wall or chassis plate using the four holes provided.

REMOVE PLASTIC END CAP

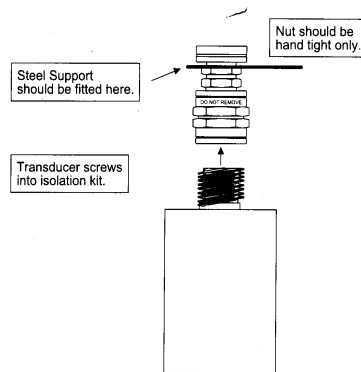
Do not install KSONIK III in areas of high vibration as this may cause failure.

Do not install KSONIK III in the close vicinity of electrical cable, SCR's or variable speed drives.

Transducer

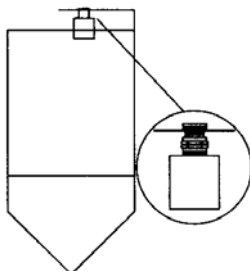
The installation of the transducer is the most important section of this manual and has been divided into 7 sub sections.

1. The transducer must be fitted at 1.64 ft / 0.50 m above the highest point of level.
2. Always use the plastic isolation kit. This kit must be fitted to a rigid support and must not be allowed to swing. Use mild steel or a suitable plastic. Do not use stainless steel as this can cause ringing and may increase the blanking distance.



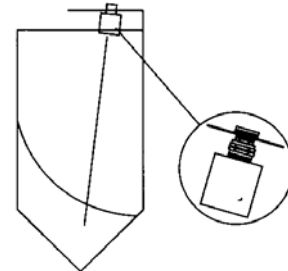
3. The transducer must be perpendicular to the material it is measuring with a clear line of sight and not above beams or filling points.

Liquid level measurement.



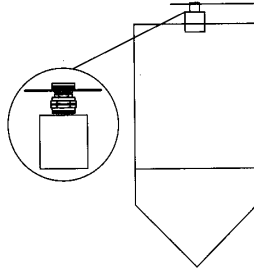
Transducer at 90 deg to surface.

Solid level measurement.

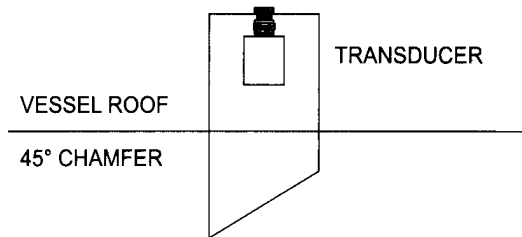


Transducer at 90 deg to surface.

4. If the transducer is in a coned vessel, it must be positioned over the middle of the cone. This ensures that the transducer receives the true echo and not one from the sides of the cone.



5. When a standpipe is being used it must be as wide as possible and preferably be made of plastic. The base MUST have a 45 degree chamfer to reduce the echo size from the bottom of the standpipe. No welding should be present on the inside of the pipe as this causes false echoes. Always increase the blanking 150 mm past the end of the standpipe.



6. If any large electrical equipment is installed in the vicinity, then earthed steel conduit must be used.
7. An extension of up to 100 m using RG62U cable is possible. All connections must be soldered together. It is advisable to install the transducer cable inside steel conduit, especially if large electrical spikes (interference) are present.

SECURITY CODE

To advance to the programming mode the correct security code must be entered. The factory default code is 5159. This code can be changed in the programming mode. If you forget the security code please contact your local K-Tek agent for the override code.

Please see manual on CD for FULL installation instructions

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