

QUICK START FOR KSONIK I

INTRODUCTION

KSONIK I 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 I 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 I can measure distance, level and open channel flow.

In level mode the KSONIK I 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 I 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 I and converts the reading into a flow measurement.

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

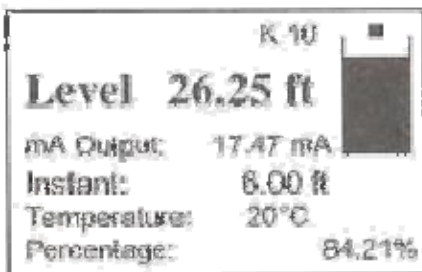
QUICK START FOR LEVEL

1. Connect up the power to the instrument and the transducer connections as described on the KSONIK I board or in the KSONIK I manual under terminal connections on page 29.

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. Use to select level and then press
5. Press

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



If the Level reading is below 8.000 m then move the transducer closer to the wall.

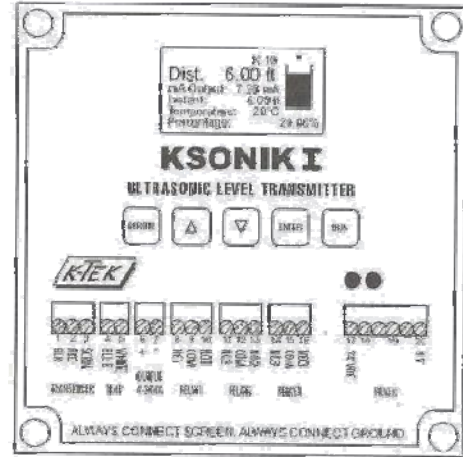
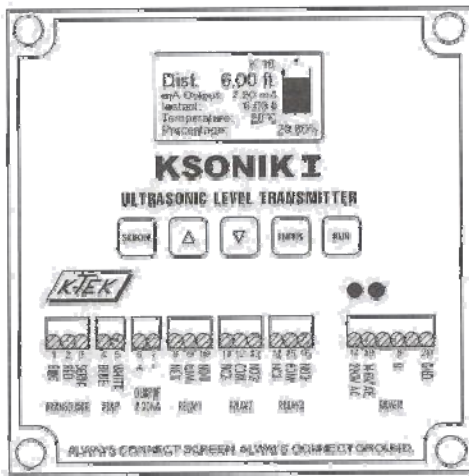
If the Level reading is above 8.000 m then move the transducer away from the wall.

You may now change the rest of the program to suit your application. The most important is the Empty distance and the span. The rate of change should stay on 1 m/min.



TERMINAL CONNECTIONS for KSONIK I/2

TERMINAL CONNECTIONS for KSONIK I/1



- | | | |
|-----------------------------------|-----------|-----------------------------------|
| Transducer wire black | 1 | Transducer wire black |
| Transducer wire red | 2 | Transducer wire red |
| Transducer screen | 3 | Transducer screen |
| Blue wire temperature transducer | 4 | Blue wire temperature transducer |
| White wire temperature transducer | 5 | White wire temperature transducer |
| + 4-20 mA Output | 6 | + 4-20 mA Output |
| - 4-20 mA Output | 7 | 4-20 mA Output |
| Relay 1 normally closed | 8 | Relay 1 normally closed |
| Relay 1 common | 9 | Relay 1 common |
| Relay 1 normally open | 10 | Relay 1 normally open |
| Relay 2 normally closed | 11 | Relay 2 normally closed |
| Relay 2 common | 12 | Relay 2 common |
| Relay 2 normally open | 13 | Relay 2 normally open |
| Relay 3 normally closed | 14 | Relay 3 normally closed |
| Relay 3 common | 15 | Relay 3 common |
| Relay 3 normally open | 16 | Relay 3 normally open |
| 220V live | 17 | 24VDC |
| 110V live | 18 | |
| Neutral | 19 | |
| Ground | 20 | Ground |

Please see page 36 in the KSONIK I Installation and Operation Manual if extension Cable is used.



INSTALLATION

Transmitter

The transmitter is weather proof so it can be mounted outside. Although KSONIK I 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 I should be fixed to a wall or chassis plate using the four holes provided.

REMOVE PLASTIC END CAP

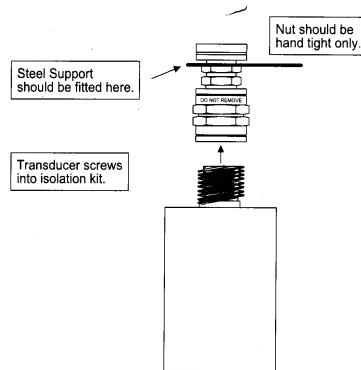
Do not install KSONIK I in areas of high vibration as this may cause failure.

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

Transducer

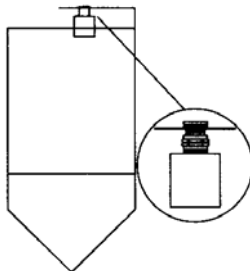
The installation of the transducer is the most important section of this manual and has been divided into 7 sub sections.

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.



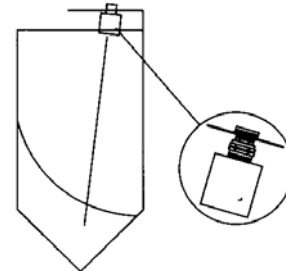
3. The transducer must be perpendicular to the material it is measuring with a clear line of sight and not above beams or filling points.

Liquid level measurement.



Transducer at 90 deg to surface.

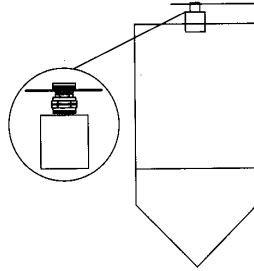
Solid level measurement.



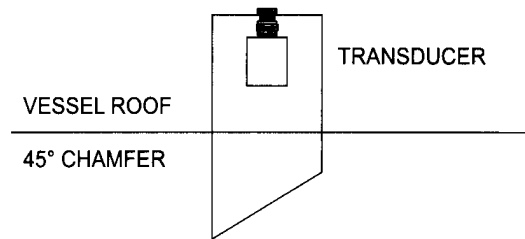
Transducer at 90 deg to surface.



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 328 ft / 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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