

E-ULT25IS

Intrinsically Safe Ultrasonic Level Transmitter, 25' Range



Guide for Installation with an ENVIROMUX Server Environment Monitoring System

E-ULT25IS is a general purpose non-contact ultrasonic level switch, controller and transmitter for large tanks (up to 25 feet for liquids, 10 feet for solids) The rugged PVDF enclosure is well suited for a wide range of corrosive, waste or slurry type media. The E-ULT25IS can be used for atmospheric day tank, process vessel or dispenser, pump lift station and waste sump applications to name a few. Level indication can be monitored via connection to an NTI Server Environment Monitoring System.

The E-ULT25IS may be connected to the terminal block of an NTI E-S420MA-24V 4-20mA Sensor Converter. The E-S420MA-24V can then be connected to an RJ45 Sensor port on an E-2D, E-5D, or E-16D Server Environment Monitoring System (SYSTEM). Using a SYSTEM, the E-ULT25IS can be monitored automatically and the SYSTEM can be configured to alert users of variations in levels sensed by the E-ULT25IS.

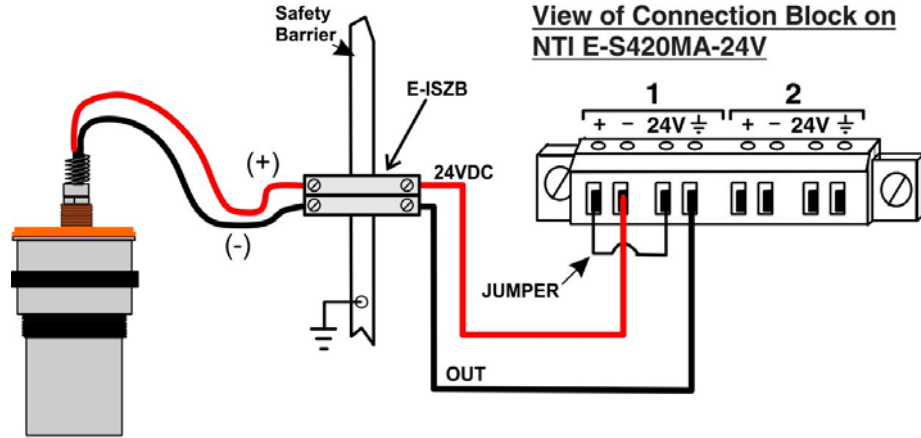
Features:

- Calculates distance, level, flow, and volume in linear and non-linear tanks.
- Suitable for use in hazardous areas - Class 1 Division 1, intrinsically safe rating
- Operating Range:
 - 1 to 25 ft for liquids
 - 1 to 10 ft. for solids
- Provides two-wire 4-20 mA analog output.
- IP65 rated housing
- Requires the [E-S420MA-24V](#) to operate with E-2D/5D/16D.
 - Maximum cable length: 1000 ft (305m)
- Requires an [E-ISZB](#) Intrinsically Safe Barrier when used in hazardous locations.
- Powered by E-2D/5D/16D.

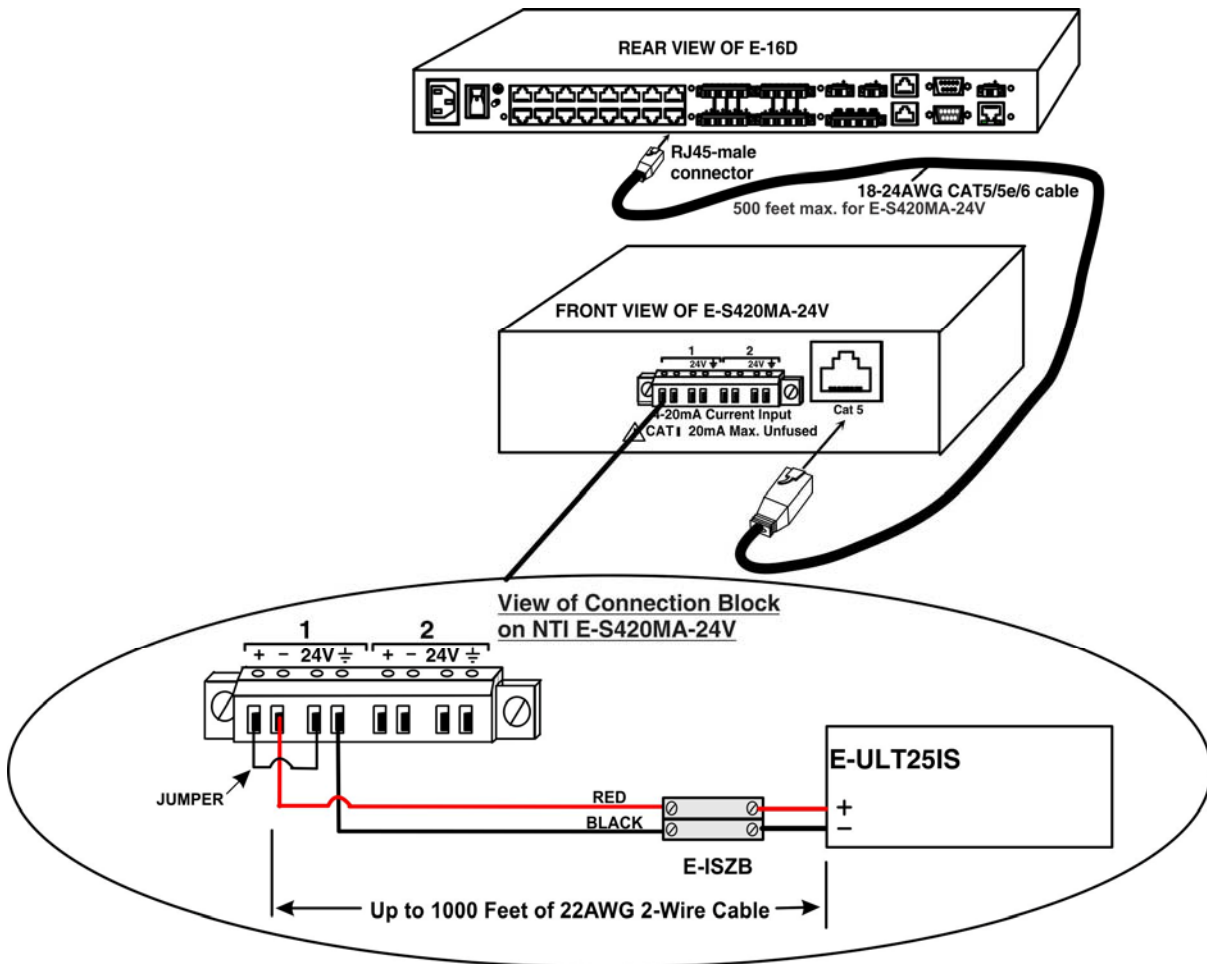
Wiring Instruction

Follow the wiring diagram below to connect the E-ULT25IS to a 4-20MA Sensor Converter and then configure the SYSTEM to provide users with alert messages as defined in the sensor configuration within the SYSTEM. An example of that configuration can be found on page 2. For hazardous locations, include the E-ISZB Intrinsic Safe Barrier as shown.

Wiring to E-S420MA-24V



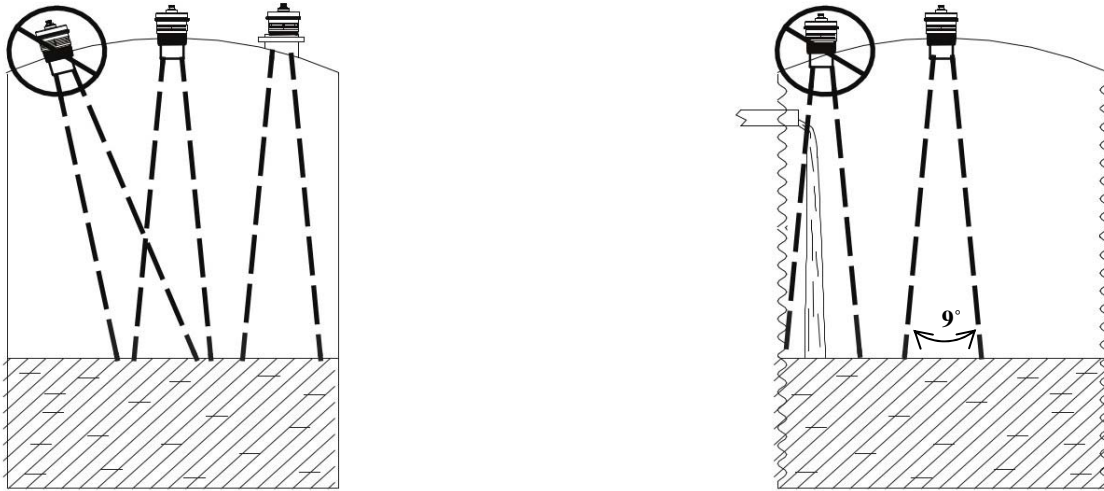
E-ULT25IS



Installation Notes

Mount your sensor so that it has a clear, perpendicular sound path to the surface being monitored. Your sensor should be mounted away from tank or vessel walls and inlets. See figure below.

The sound path should be free from obstructions and as open as possible for the 9° off axis beam pattern.



NOTE: Do not mount the sensor where the beam will intersect objects such as fill streams, pipes, ladder rungs, wall seams, or corrugated tank walls.

Mounting Instructions

For normal operation, connect the provided cable to the ENVIROMUX Sensor Converter and SYSTEM as shown on page 2.

- Never over-tighten the sensor.
- Always screw in your sensor by hand to avoid cross-threading. Thread failure can be a problem if you damage threads by over-tightening them or by crossing threads.

IMPORTANT: Do not over tighten! The sensor should be threaded in only hand tight.

General Care and Maintenance

Your ultrasonic sensor is very low maintenance and will need little care as long as it was installed correctly. However, in general, you should:

- Avoid applications for which the sensor was not designed, such as extreme temperatures, contact with incompatible corrosive chemicals and fumes, or other damaging environments.
- Inspect the threads whenever you remove the sensor from duty or change its location.

Sensor Configuration in the Web Interface of the E-xD

Sensor 10 Configuration

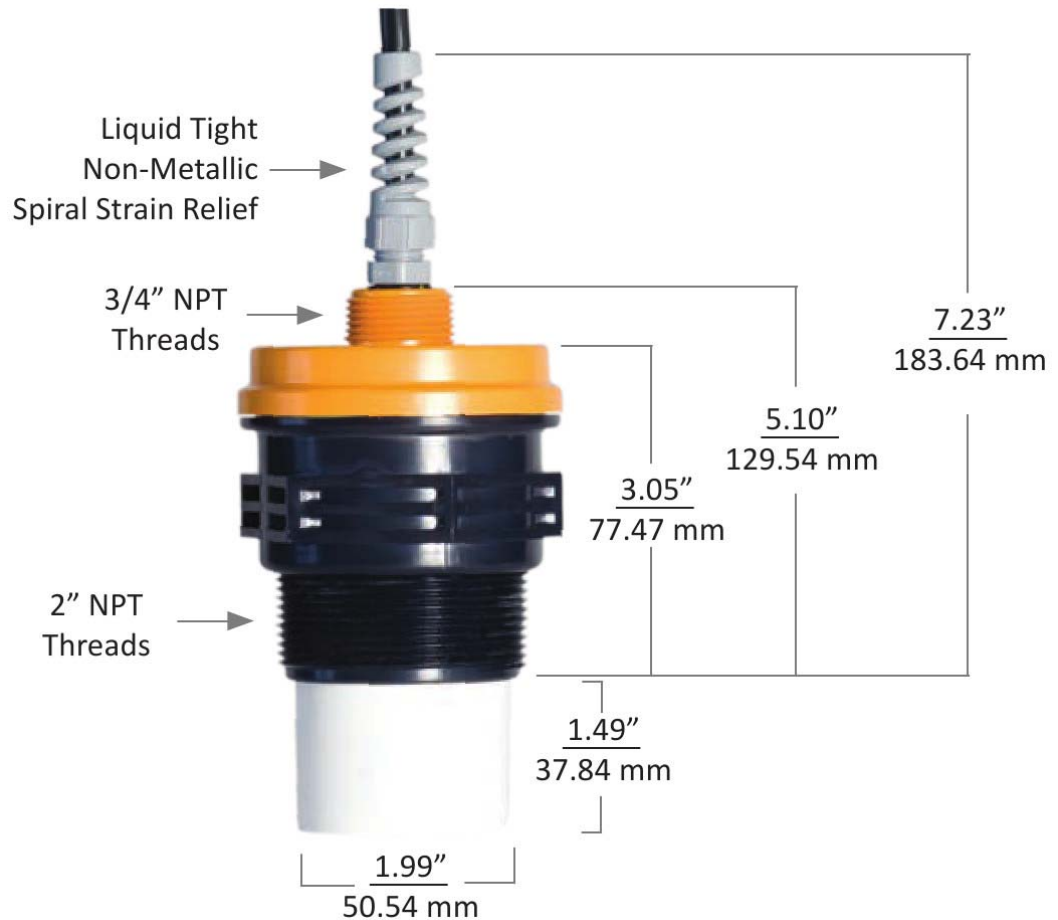
[-] Sensor Settings	
Description	<input type="text" value="Sensor 10"/> <small>Descriptive name for the sensor</small>
Group	<input type="text" value="1"/> ▾ <small>Select which group the sensor belongs to</small>
Min. Level	<input type="text" value="4.0"/> <small>Min. supported value for the sensor</small>
Max. Level	<input type="text" value="20.0"/> <small>Max. supported value for the sensor</small>
Associate Sensor	<input checked="" type="checkbox"/> <small>Associate sensor to a customized sensor type</small>
Associated Sensor Type	<input type="text" value="Fluid Level"/> <small>Type of the associated sensor</small>
Associated Sensor Unit	<input type="text" value="Feet"/> <small>Measurement unit for the associated sensor</small>
SNMP Associated Type ID	<input type="text" value="32767"/> <small>ID value for SNMP type of associated sensor</small>
Min. Associated Level	<input type="text" value="1.000000"/> <small>Sensor expected value corresponding to 4mA</small>
Max. Associated Level	<input type="text" value="25.000000"/> <small>Sensor expected value corresponding to 20mA</small>
Min. Non-Critical Threshold	<input type="text"/> <small>Min. threshold below which indicates a non-critical alert condition</small>
Max. Non-Critical Threshold	<input type="text"/> <small>Max. threshold above which indicates a non-critical alert condition</small>
Min. Critical Threshold	<input type="text"/> <small>Min. threshold below which indicates an alert condition</small>
Max. Critical Threshold	<input type="text"/> <small>Max. threshold above which indicates an alert condition</small>
Refresh Rate	<input type="text" value="10"/> <input type="text" value="Sec"/> ▾ <small>The refresh rate at which the sensor view is updated</small>
[+] Non-Critical Alert Settings	
[+] Critical Alert Settings	
[+] Data Logging	

(Example of possible E-ULT25IS sensor configuration in the E-16D)

In the above example, we assume the tank used has the sensor mounted 25 feet from the bottom of the tank. The sensor has a minimum measurable level of 1 foot. Therefore a 20mA output from the sensor would be equal to an empty tank. A full tank ("minimum associated level") or 1 foot of distance to liquid would be equal to a 4mA output.

Specifications

Performance	
Operating Range	1 - 25 ft. (0.3 - 7.6 m) on liquids and hard, flat surfaces 1 - 10 ft. (0.3 - 3 m) on bulk solids
Analog Output	4-20 mA
Beam Pattern	9° off axis
Frequency	69 kHz
Response Time	0.6 - 3 seconds (dependent on output range)
Sample Rate	3 seconds @ 4 mA 0.6 seconds @ 20 mA
Accuracy	
Accuracy	±0.25% of detected range
Resolution	0.1 inch (2.54 mm)
Environmental	
Operating Temperature	-40 to 60°C (-40 to 140°F)
Internal Temperature Compensation	Yes
Enclosure Protection	IP65
NEMA rating	4X
Electrical	
Supply Voltage	12-28 VDC
Current Draw	22 mA max
Output Signal	3-30 mA max
Load Resistance	600Ω max @ 24 VDC
Cable Connection	2-wire cable, maximum 1000 ft (305m) using 22AWG wire
Materials	
Transducer Housing	PVDF (Kynar®)
Upper Housing	PC/PBT



WARRANTY INFORMATION

The warranty period on this product (parts and labor) is two (2) years from the date of purchase. Please contact Network Technologies Inc at **(800) 742-8324** (800-RGB-TECH) or **(330) 562-7070** or visit our website at <http://www.networktechinc.com> for information regarding repairs and/or returns. A return authorization number is required for all repairs/returns.

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