Quick Start Guide

Tek-Sound 4200A

Ultrasonic Level Transmitter

796 Tek Drive, Crystal Lake, IL 60014 USA +1 847 857 6076 | +1 847 655 7428 +1 847 655 6147 www.tek-trol.com

Quick Start Guide

1. Before You Begin

This guide provides basic guidelines to assist you in quickly getting started. Go to our website to download the full User Guide for detailed installation, maintenance, troubleshooting and safety precautions.

Failure to follow these installation guidelines could result in death or serious injury.

- Make sure only qualified personnel perform the installation.
- Use the equipment only as specified in this manual. Failure to do so may impair the protection provided by the equipment.

Explosions could result in death or serious injury.

- Verify that the operating environment of the transmitter is consistent with the appropriate hazardous locations certifications.

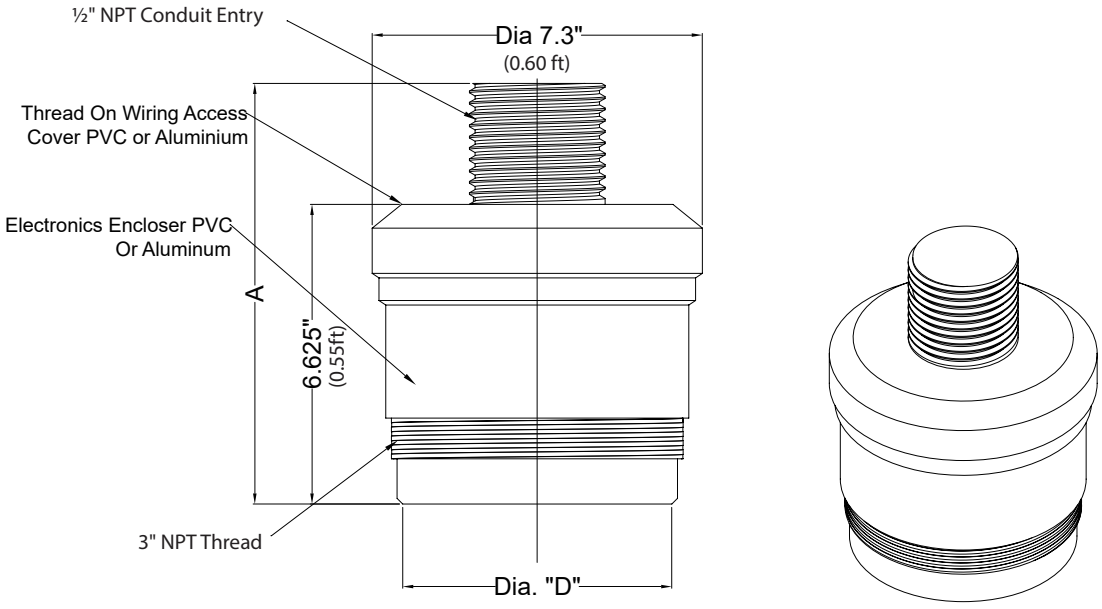
Electrical shock could cause death or serious injury.

- Use extreme caution when making contact with the leads and terminals.

2. Unpack

One Tek-Sound 4200 Ultrasonic Level Transmitter

3. Dimensional Drawings



3 and 4 wire Ultrasonic Transmitter

Model	Operating Range	Operating Frequency	Mounting Thread	Dimension "A"	Dimension "B"	Dimension "D"
4200A-052ULCX	600" (50 ft)	52 KHz	3"	9.3" (0.775 ft)	3.05" (0.25 ft)	2.2" (0.18 ft)

4. Power Supply

For AC Sensor —

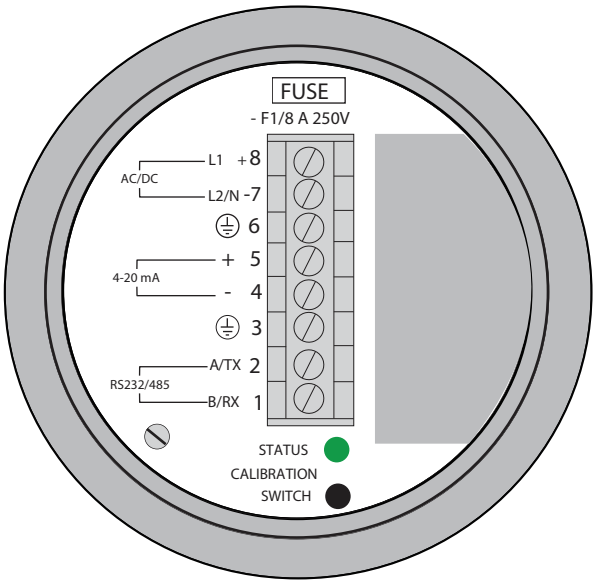
- Power: 3 Wire unshielded 22 AWG, 300 V Hook-up Wire
- Current Output: 1 Pair shielded 24 AWG, 300 V Hook-up Wire
- Communication: 1 Pair shielded 24 AWG, 300 V Hook-up Wire

For DC Sensor —

- Power & Current output 3 Wire shielded 24 AWG, 300 V
- Communication 1 Pair shielded 24 AWG, 300 V

Note:

- Ground shield at one end only
- All terminal block wiring must be rated for 250V
- Power input wiring must be protected by a 15A double pole circuit breaker



Top View of Sensor (Access Cover Removed)

3 & 4 wire Ultrasonic Level devices provide the power (voltage) to the current loop, so use passive resistive load at PLC (controller) input.

Before connecting power in an explosive atmosphere, ensure the instrument is installed in accordance with intrinsically safe or non-incendive field wiring practices. Verify that the operating atmosphere of the transmitter is consistent with the appropriate hazardous locations certifications.

Note: Use only ½" NPT Conduit

Note: TB # 7 is connected to TB # 4 where TB is Terminal Block

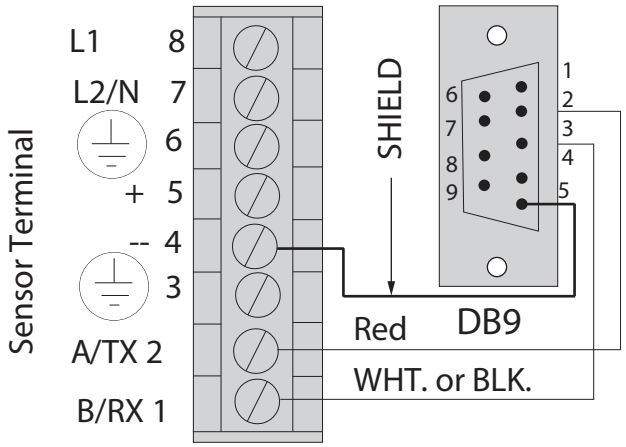
Note: 12-30 VDC power is supplied to TB # 7 and TB # 8

Note: For TB # 1 to TB # 5

- Terminal is to be used only be equipment which has no live part that are accessible.
- Terminal is to be used only be equipment which maintains basic insulation from hazardous voltage under normal and single fault conditions.
- Connection is to be used at the remote end of external circuit.

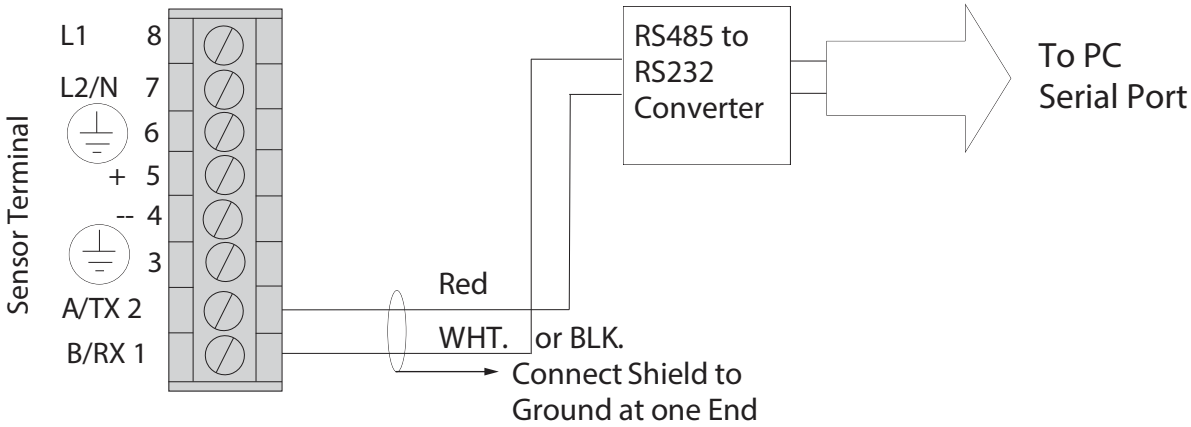
5. Communication

RS232 Communication



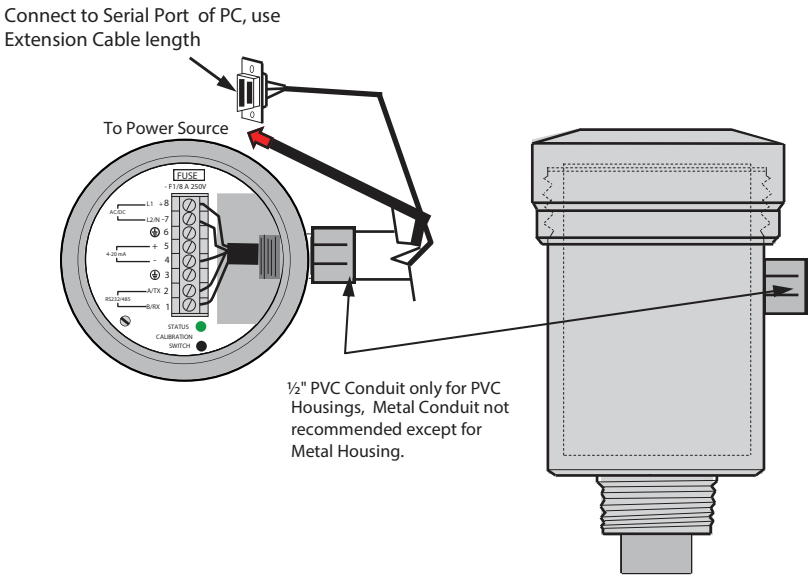
Note: Connect the Shield to terminal #4

RS485 Communication



Note: Connect the Shield to terminal #3

Connection of communication port with PC



- Load "Tek-PG PC Software" into your PC.
  (Select SETUP.EXE from installation CD and follow instructions on the screen.)
- Click on START and under PROGRAMS select "Probe Gateway PC".
- Follow instruction in help file.

Note: RS232 & RS485 Communication is only applicable for 3 & 4 Wire Ultrasonic sensors

6. Configuration

Calibration — 4 -20 or 20 - 4 mA Output

FULL — Calibrate 20 mA or 4mA (Set Near Target)

- Calibration mode LED color is Blinking Green.
- Push button and hold until LED turns Yellow (20 mA) or push button and hold until LED turns Red (4 mA)
- Release button at Yellow or Red and observe LED flashes to acknowledge the calibration.

EMPTY— Calibrate 4 mA or 20 mA (Set Far Target)

- Calibration mode LED color is Blinking Green
- Push button and hold until LED turns Red (4 mA) or push button and hold until LED turns Yellow (20 mA)
- Release button at Yellow or Red and observe LED flashes to acknowledge the calibration

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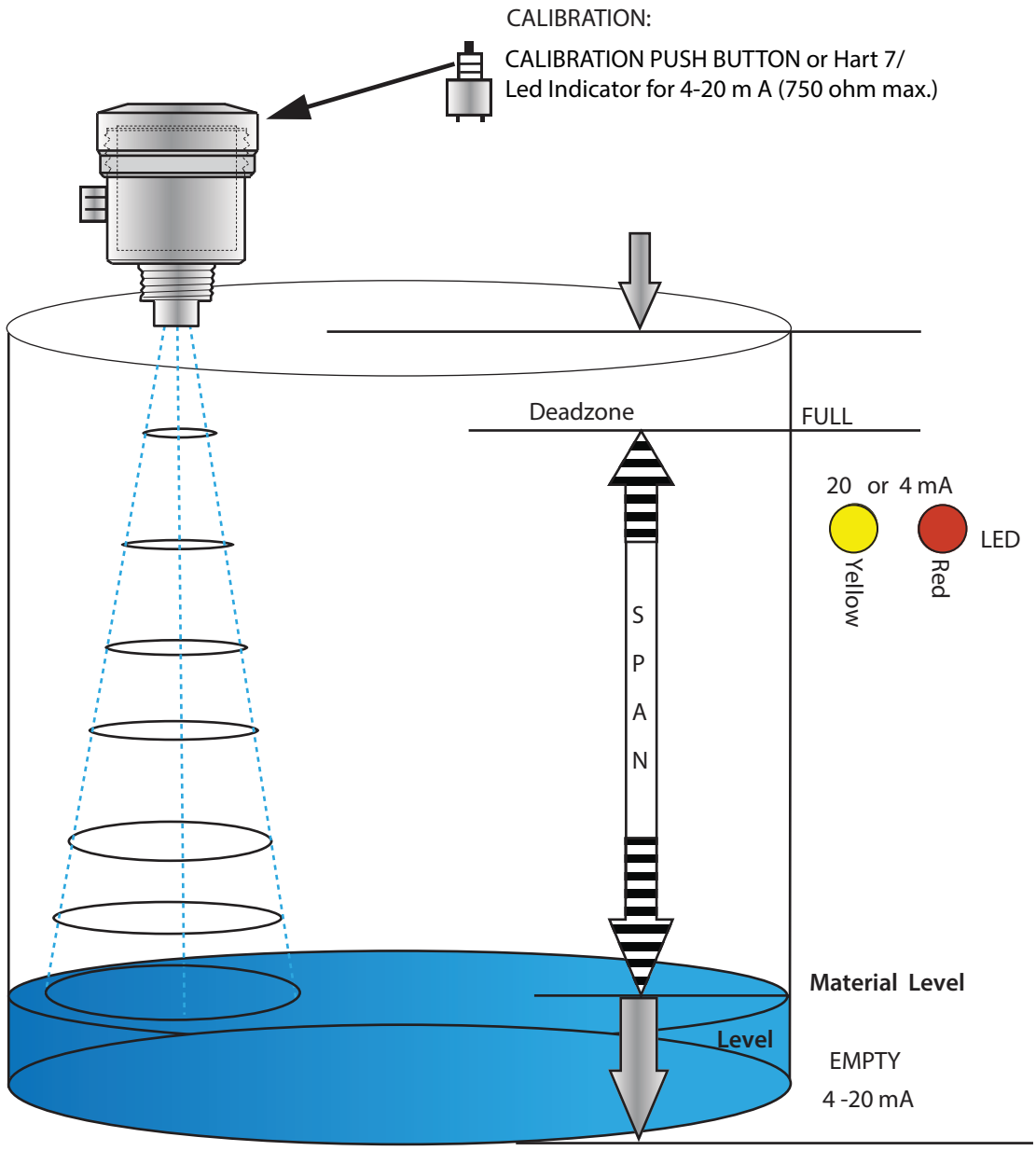
LOSS OF ECHO—22 mA or 3.5 mA

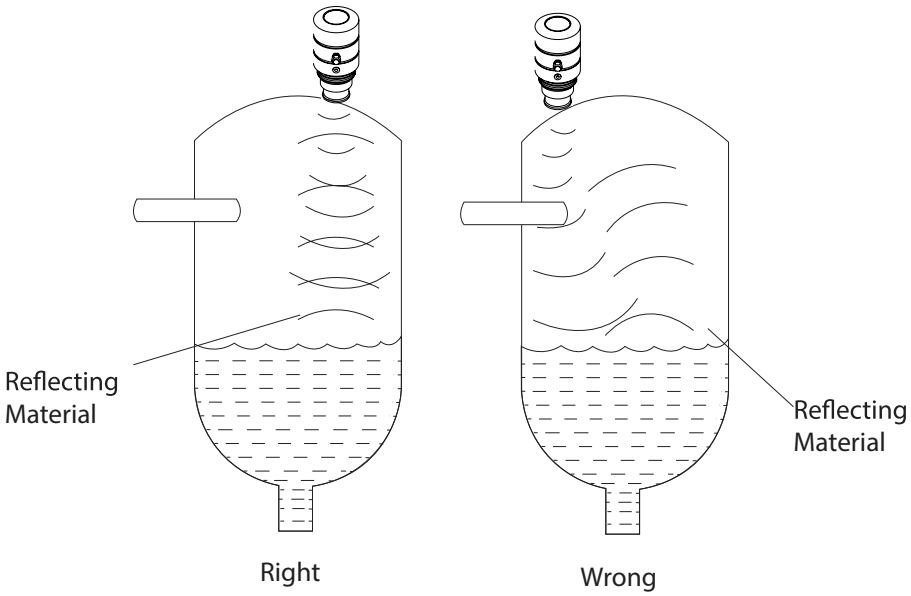
- To choose 22mA press and hold button until the light goes off—2 flashes
- To choose 3.5mA press and hold button until the light goes off—1 flash



7. Installation

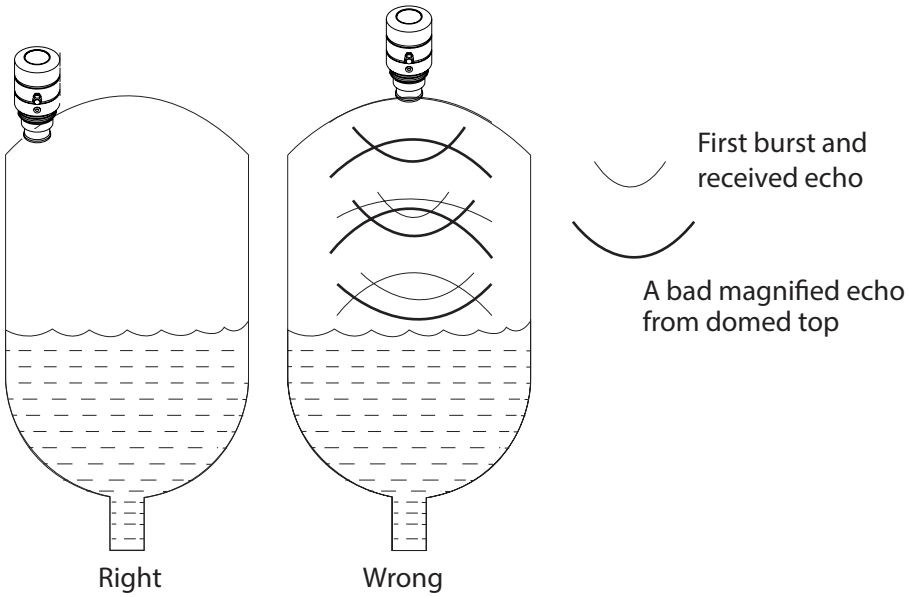
Installation on tanks with obstruction

During installation make sure that you do not have any large objects in front of transducer or antenna.



Installation on tanks with domed top

When mounting a Level device in a tank that has a domed top, the mounting cannot be in the centre.



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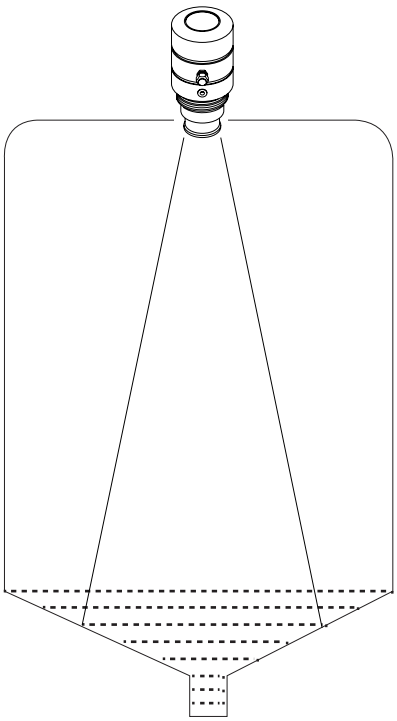
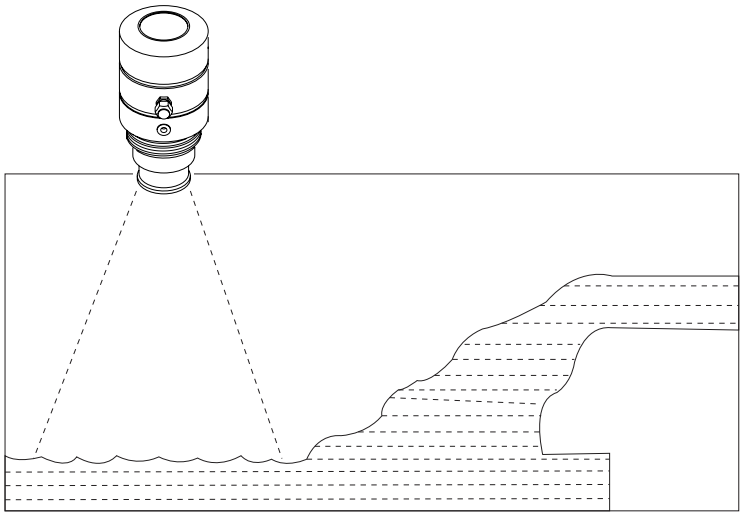
Installation on vessels with conical bottom

In vessels with conical bottom, it can be advantageous to mount the sensor in the centre of the vessel, as measurement is then possible down to the lowest point of the vessel bottom.



Installation on vessels with inflowing medium

Do not mount instruments in or above the filling stream. Make sure that you detect the product surface, not the inflowing product.



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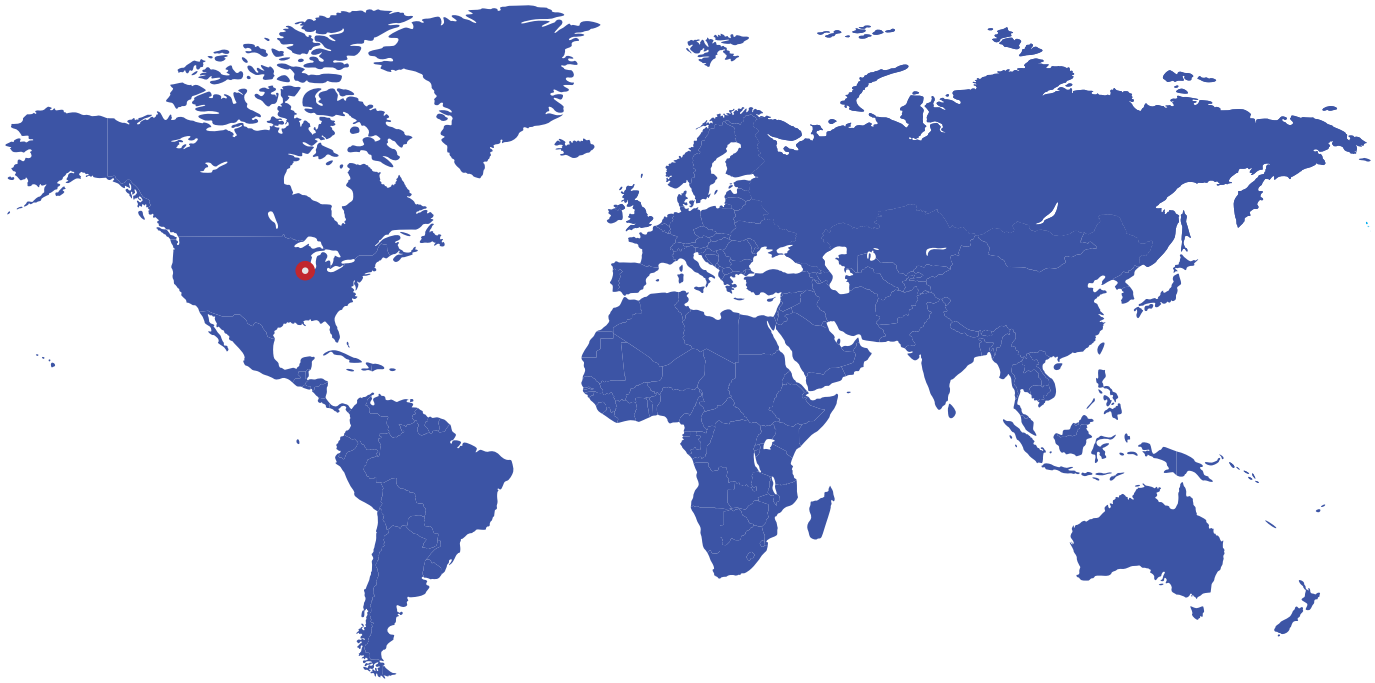

796 Tek Drive
Crystal Lake, IL 60014
USA
Fax: +1 847 655 6147
Email: tektrol@tek-trol.com
www.tek-trol.com

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