

TRAXALL

Configurator® Transmitter Configuration System

QUICK-START GUIDE



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WARNING



Any operation involving work on pipelines containing gases or liquids under pressure is potentially hazardous. It is necessary, therefore, to follow correct procedures in the use of this equipment to maintain a safe working environment.

No person should use this equipment unless fully aware of potential hazards of working with pressurized pipelines and trained in the procedures stated in this manual.

The purchaser of this equipment is responsible for the training and competence of operators and the manner in which it is used.

Contact CDI immediately should any difficulty arise in the use of this equipment.



WARNING



Always use caution when opening any CDI transmitter that has been in a pressurized environment.

It is possible for pressurized liquid or gas to leak into a transmitter and remain there even after the transmitter has been removed from the pipeline.

Always point the transmitter away from yourself or others when opening a cover or end cap.

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INTRODUCTION

The TRAXALL Configurator is a Windows application that will let you customize the behavior of CDI TRAXALL X-Series family of transmitters via FieldLink wireless communication.

Requirements:

PC or laptop computer with Windows® 7 or 8 (32-bit or 64-bit)

Configurator software*

FieldLink USB device*

Adobe® Reader® is required to access PDF files (see pg. 7, *Help* menu)

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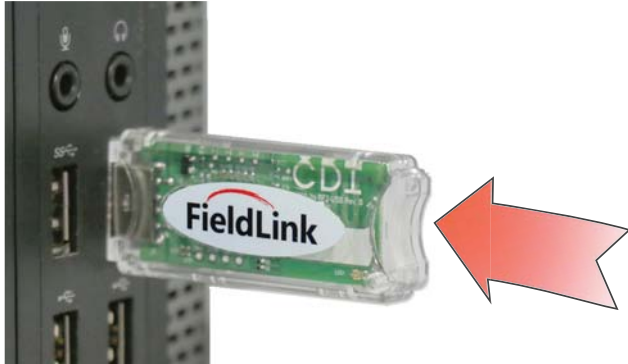
* Supplied by CDI

1. ACTIVATE FIELDLINK

FieldLink is CDI's proprietary wireless PC-to-transmitter communications network you will use to program your transmitter.

Insert the FieldLink device* into a USB port on your pc.

* also known as a *flash drive, memory stick, or "dongle"*



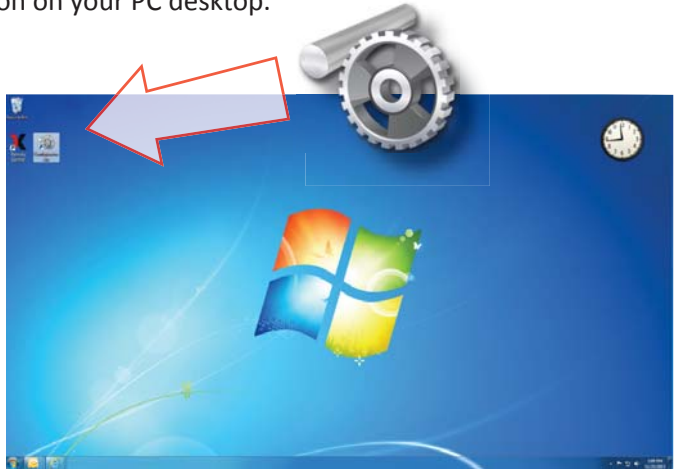
A red LED on the device will flash every three seconds, indicating Configurator is seeking to establish a communication link with a transmitter.*



Link will not be established until transmitter is powered and transmitter configuration antenna is prepared (Steps 3 and 4).

2. LAUNCH CONFIGURATOR

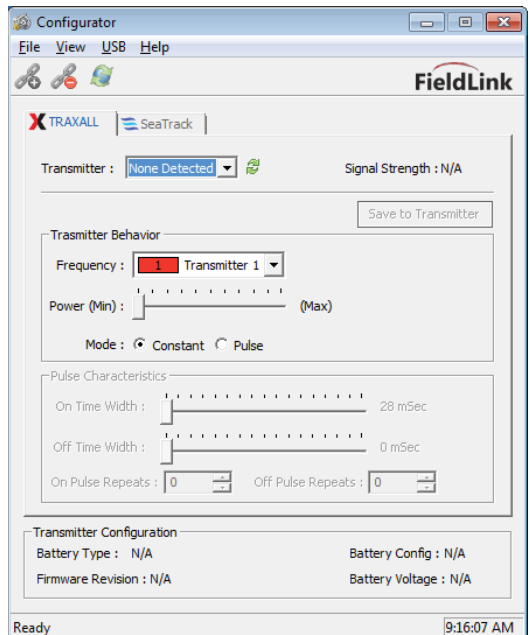
Launch Configurator software application by clicking the icon on your PC desktop.



The initial Configurator window will appear as shown here. This is where all menu options, commands, and settings are for configuring your transmitter.

Transmitter, Transmitter Family, Signal Strength, and other fields will be blank or indicate “N/A” until communication with a transmitter is established.

You will need to have your transmitter powered and antenna cap removed to run Configurator (continue to following steps).



3. ACTIVATE TRANSMITTER

End Caps

All CDI X-Series transmitters have a knurled threaded cap on each end. To prepare your transmitter for operation you will need to momentarily remove these caps to access the batteries and configuration antenna.

⚠ WARNING: Transmitter end caps are NOT interchangeable. Attempting to install a battery cap onto the antenna end may damage the configuration antenna or transmitter case.



WARNING



Always use caution when opening any CDI transmitter that has been in a pressurized environment.

It is possible for pressurized liquid or gas to leak into a transmitter and remain there even after the transmitter has been removed from the pipeline.

Always point the transmitter away from yourself or others when opening a cover or end cap.



Threaded caps on ATEX-IECEx

certified transmitter models have an additional set screw which must be loosened.

It is not necessary to completely remove the set screw. However, set screw must be backed off far enough to avoid binding against transmitter case threads when cap is unscrewed.



Always consult your *Multifrequency Transmitter User Guide* for details specific to your transmitter.

Power

! **NOTE:** Transmitters have no “ON/OFF” switch, but are activated when batteries are installed and battery cap is replaced. Therefore, install batteries only when you are about to configure transmitter or beginning a pig run.

! **NOTE:** It is good practice to always install fresh batteries before deploying any pipeline pigging device.

Battery loading procedures are similar for all models.



WARNING



When installing batteries, replace all batteries at the same time.

When replacing batteries, use batteries from the same package or manufacturing batch whenever possible.

Do not mix alkaline and lithium batteries in the same device.

Always observe correct polarity when installing batteries.
(Polarity is provided on each transmitter case.)



NOTE for ATEX/IECEx applications: DURACELL® PROCELL alkaline batteries or Electrochem lithium batteries are required by ATEX and/or IECEx standards to maintain system certification.

Depending on model, X-Series transmitters are powered by N, AA, C, or D-cell batteries.



Install Batteries

Unscrew battery cap by turning counter-clockwise (CCW).



Battery quantity and polarity (loading direction) is marked on each transmitter case.

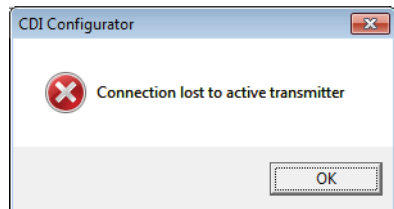
Once batteries and battery cap are in place

- The transmitter itself will be activated and will stay active for the life of the battery. Removal of battery cap will terminate all transmitter function.
- FieldLink will be activated and for the next five minutes will seek to establish a communication link.*

*If FieldLink communication is not established within five (5) minutes, FieldLink will “time out” and it will be necessary to cycle battery power.

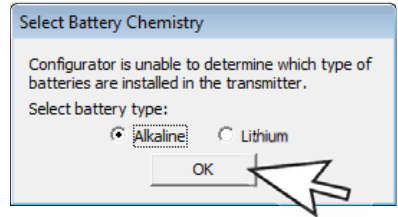
Should this occur, restart transmitter by momentarily removing and replacing battery cap to cycle transmitter power.

If you are still unable to establish communication, you may need to replace batteries.



Select Battery Chemistry

When a transmitter is detected, you may see this prompt. Click the appropriate button and then “OK” to confirm.



4. PREPARE TRANSMITTER FOR CONFIGURATION

Expose Antenna

Unscrew antenna cap. Most antenna caps are left-hand threaded (see note) and must be turned clockwise (CW) to remove.

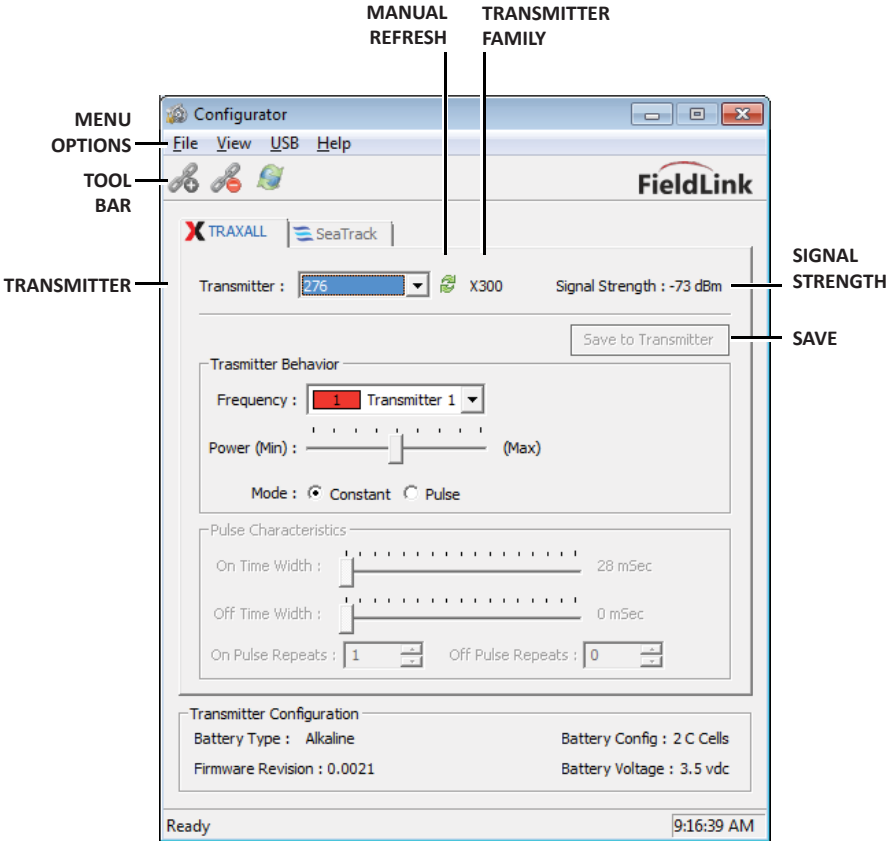
! **NOTE:** Transmitter antenna end caps marked as shown have **LEFT-HAND** threads. Turn **CLOCKWISE** to remove.



! **WARNING:** Do not attempt to unfold or otherwise handle the flexible antenna.



5. RUN CONFIGURATOR



MENU OPTIONS

File

Exit

Closes the Configurator application

View

Status Bar

Check/uncheck to show

Tool Bar

Check/uncheck to show

USB

Connect/Disconnect

Controls communication with FieldLink flash drive

Update Firmware*

Places FieldLink device into update mode

Reset USB Device

Returns FieldLink device to normal operation

Help

Configurator Help

Opens a PDF version of this Quick-Start Guide

About Configurator

Software Version and Build information

TOOL BAR

Connect/Disconnect

Controls communication from FieldLink flash drive

Update Firmware*

Places FieldLink flash drive into update mode

TRANSMITTER INDICATOR

Auto-populated with transmitter information

TRANSMITTER FAMILY

Indicates X100, X200, X300, or X400

MANUAL REFRESH

Configurator automatically refreshes every four seconds

SIGNAL STRENGTH

Indicates current transmitter signal strength

SAVE

Saves configuration settings to transmitter

* Firmware updates are to be performed only at the direction of CDI Technical Support

5. RUN CONFIGURATOR (CONT.)

The screenshot shows the FieldLink Configurator window. The interface includes a menu bar (File, View, USB, Help), a toolbar with icons for file operations, and a main configuration area. The main area is divided into several sections:

- Transmitter Behavior:** Includes a dropdown for Transmitter (set to 276*), a signal strength indicator (-63 dBm), a "Save to Transmitter" button, a Frequency dropdown (set to 3 Transmitter 3), a Power slider (Min to Max), and a Mode selector (Constant or Pulse).
- Pulse Programming:** Includes sliders for On Time Width (set to 21 mSec) and Off Time Width (set to 21 mSec), and spinners for On Pulse Repeats (set to 1) and Off Pulse Repeats (set to 0).
- Transmitter Configuration:** Displays Battery Type (Alkaline), Battery Config (2 C Cells), Firmware Revision (0.0021), and Battery Voltage (3.5 vdc).
- Status Bar:** Shows the status "Ready" and the time "9:17:52 AM".

Annotations on the left side of the window identify these sections:

- TRANSMITTER BEHAVIOR:** Points to the Transmitter dropdown, Frequency dropdown, Power slider, and Mode selector.
- PULSE PROGRAMMING:** Points to the On Time Width and Off Time Width sliders, and the On Pulse Repeats and Off Pulse Repeats spinners.
- TRANSMITTER CONFIGURATION:** Points to the Battery Type, Battery Config, Firmware Revision, and Battery Voltage fields.
- STATUS BAR:** Points to the "Ready" status and the time display.

An arrow labeled **SAVE** points to the "Save to Transmitter" button.

TRANSMITTER BEHAVIOR

Frequency

Use the drop-down menu to select specific transmitter

Transmitter 1–7

Legacy

Power

Duty Cycle

Sliding scale to adjust Battery Life vs Effective Range. For example, on a long run with a relatively shallow pipe, battery life is likely to be more important than signal strength. Conversely, signal strength would likely be more important where the pipe is deep pipe and the run relatively short.

Mode

Constant

Pulse

PULSE PROGRAMMING

On Time Width

Off Time Width

Selectable duration of on and off cycles

On Pulse Repeat

Off Pulse Repeat

Selectable number of on and off cycles to repeat

TRANSMITTER CONFIGURATION

Battery Type

Indicates Alkaline or Lithium batteries in transmitter

Battery Config

Indicates battery quantity and type (AA, C, D, etc)

Battery Voltage

Indicates current battery voltage

Firmware Revision

Indicates transmitter firmware

STATUS BAR

Application Status

Displays current state of Configurator application

Time

Local time-of-day

5. RUN CONFIGURATOR (CONT.)

Save Settings

When transmitter has been configured, select Save to Transmitter button to retain your transmitter settings. These configuration settings are stored in the transmitter flash memory and you may power down by removing batteries until you are ready to place the transmitter into service.

Replace Antenna Cap

Inspect cap threads, transmitter case threads, O-ring groove, and O-ring (see your specific *Transmitter User Guide*). If threads and O-ring are serviceable, carefully lower the end cap over the flexible antenna circuitry until cap and transmitter screw threads meet.



WARNING: Do not attempt to bend, tuck, fold, or otherwise handle the flexible antenna.



NOTE: Transmitter antenna end caps marked as shown have LEFT-HAND threads. Turn COUNTER-CLOCKWISE to replace.



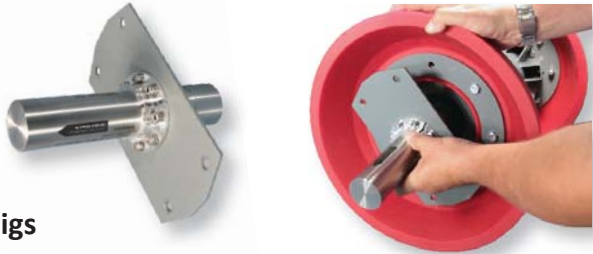
Screw antenna end cap onto transmitter. Do not over torque. Hand tightening is sufficient as long as cap is sufficiently tightened against rubber O-ring to maintain a seal.

6. PLACE TRANSMITTER INTO SERVICE

Metal-bodied Pigs

Transmitters must be mounted outside the metal casing. A transmitter flange must be installed.

- Mount the flange kit to the transmitter
- Mount the transmitter to the mounting plate
- Mount plate securely to the pig with transmission coil facing outward



Foam and Plastic Pigs

- Remove plug or bolt
- Place transmitter in cavity (either direction)
- Replace plug or bolt



Checklist

Before placing a transmitter into service, always ensure that:

- Batteries are fresh and of proper size and type
- Battery polarity is properly observed
- Serviceable O-rings are installed.
- Transmitter case, caps, and cap threads are clean and free of dents, ruptures, or other damage which could compromise the transmitter components.

ABOUT CDI

CDI is a family-owned and operated business located in Broken Arrow, Oklahoma, just 12 miles from downtown Tulsa. Incorporated in 1982, CDI has proudly been manufacturing products in the United States for more than 32 years. CDI currently employs 45 people in the areas of electronics and mechanical design, software and firmware programming, electronics manufacture, machining, and more.

All CDI products are designed and built completely in-house utilizing an on-premises machine shop boasting six fully-automated CNC machines as well as full-time electronics assembly personnel.

