Logicbus CLS-1 UltraSonic Clear LabelSensor Instruction Manual

**CLS-1 UltraSonic Clear LabelSensor
Instruction Manual**

Contents

Specifications

SUPPLY VOLTAGE

- 12 to 30 VDC
- Polarity Protected
  Note: For use in Class 2 Circuits

CURRENT REQUIREMENTS

- 95mA @ 12 VDC, 45mA @ 30 VDC

DIGITAL OUTPUTS

- (1) NPN and (1) PNP open collector output 150mA Max; <2V Residual Voltage
  (**Note:** On CLSC-1M8, NPN & PNP are software selectable).
- All outputs are continuously short circuit protected

REMOTE AUTOSET INPUT

- Momentary sinking or sourcing input; 1.2mA max; Software Selectable

DIAGNOSTIC INDICATORS

- OLED Graphic Display – Includes Contrast Indicator, Numerical Display, Set Point and Trigger Point, and all sensor options and modes.
- Red LED Output Indicator– Illuminates when the sensor's output transistors are "ON".
  Note: If output LED flashes on power up, a short circuit condition exists.

PUSHBUTTON CONTROL

- Three (3) push button controls
- Gap (for Gap AUTOSET)

- Label (for multi-layered labels)
- Menu (for accessing Options)

HYSTERESIS

- Dynamic – adjusted by AUTOSET

RESPONSE TIME

- 200µs

REPEATABILITY

- 125µs

AMBIENT TEMPERATURE

- 4°C to 50°C (39°F to 122°F)

RUGGED CONSTRUCTION

- Chemical resistant, high impact Aluminum housing
- Waterproof ratings: NEMA 4X, 6P and IP65
- Conforms to heavy industry grade CE requirements

THRESHOLD SET

- 1-Point, 2-Point, or Dynamic AUTOSET; manually or remotely.

THRESHOLD ADJUST

- Manual or AUTO Adjust

OUTPUT TIMERS

- On Delay, Off Delay, One Shot, or Debounce (Advanced Option, software selectable).
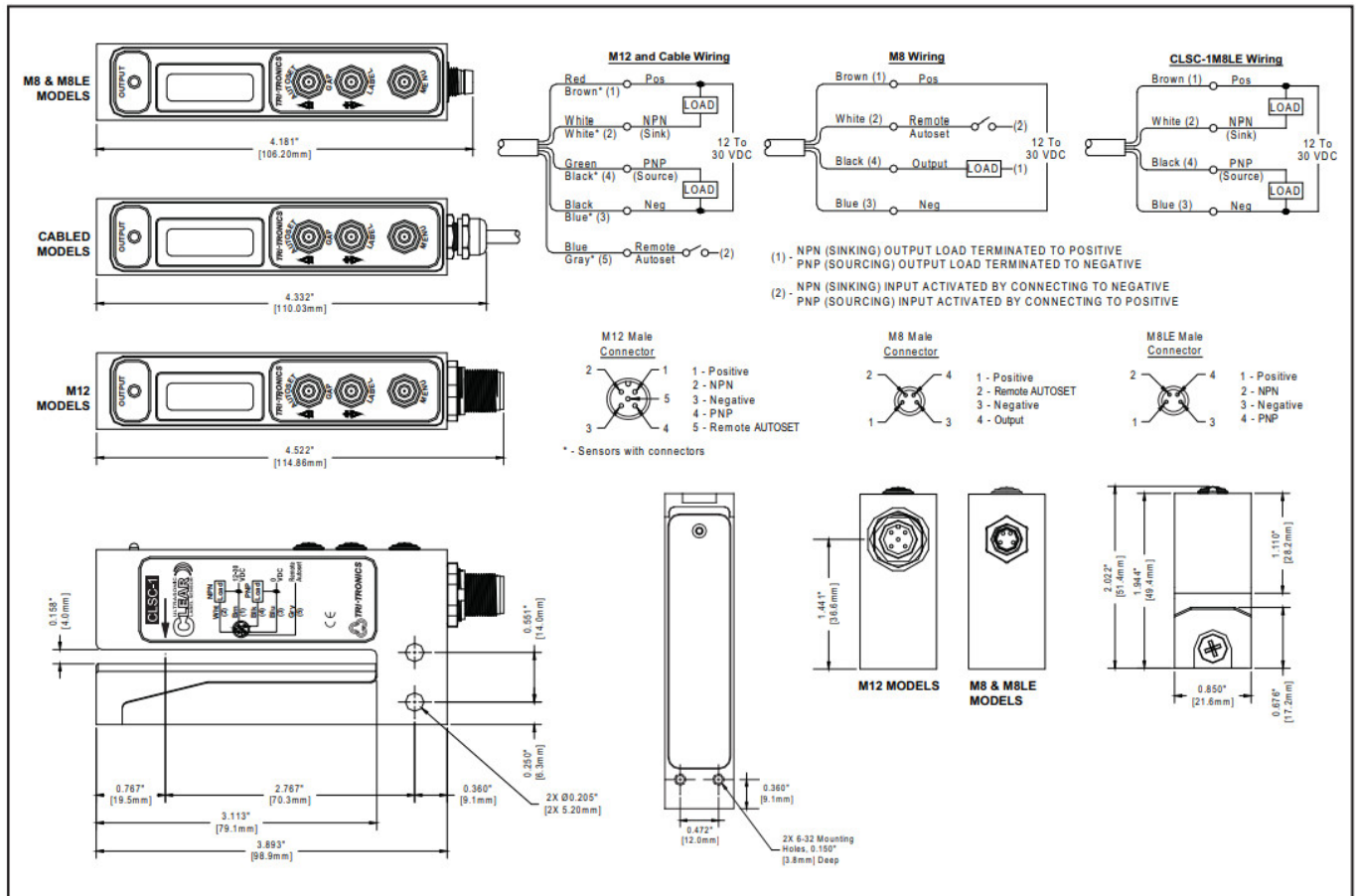
CONNECTOR

- M12 5-Pin, M8 4-Pin, or 6' (1.8m) Shielded Cable

RoHS Compliant
Product subject to change without notice

Connections and Dimensions

Ultrasonic Clear Label Sensor

070-0210 Rev. 2

Setup Instructions

Contrast Indicator

1234   567   AUTO

Signal Strength

Threshold Number

AUTO Adjust Mode

Locked

Output ON Gap / Label
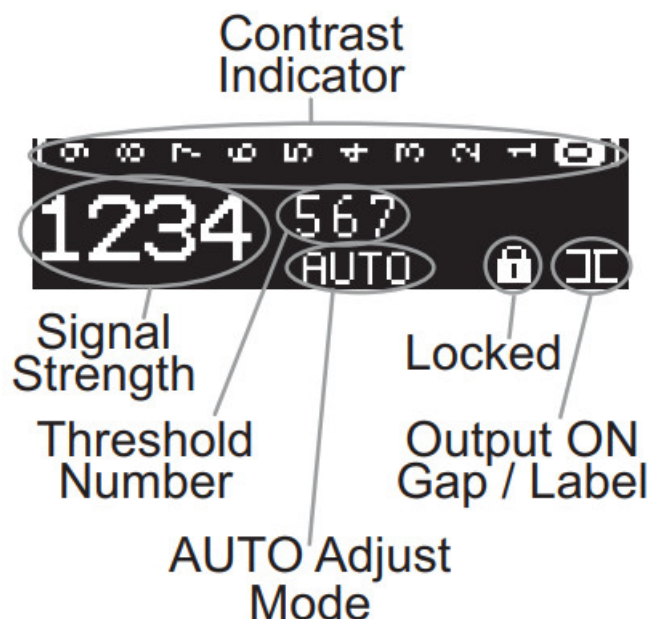
Simple Setup Start ⇨ Put the Gap in view, press and hold the AUTOSET/GAP button for two seconds, "Gap Set" will be displayed when complete. This will result in a perfect setup 99% of the time. If you have any false triggers, put the Label in view, push and hold the AUTOSET/LABEL button for two seconds, "Label Set" will be

displayed when complete. This two-point setup will create a new threshold setting resulting in a more consistent signal span between web and label.

Note: Sensor is shipped with a protective plastic covering for the display. Remove protective covering for clearer viewing.

Label Position
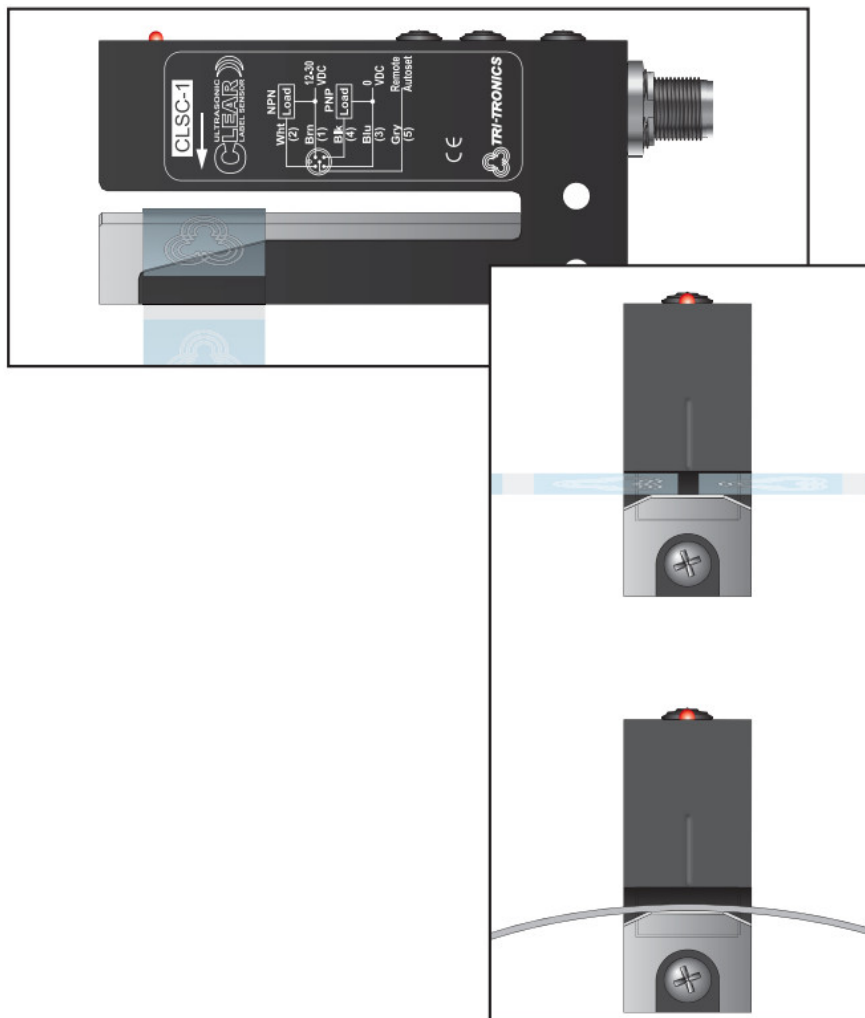
Align Label to Arrow (above) Place the label web so that it is centered on the arrow. The arrow is where the transducers are aligned.

Align Gap to Line (right top) Place label gap in center of the sensor using the alignment line as shown on right. When viewing from the top of the sensor, use the output LED to center label gap.

Gentle Tension (right bottom) Place label webbing so that it slides along the bottom of the sensor gap plate. This will ensure a more consistent setup and performance.

OUTPUT INDICATORS
Red LED illuminates when when outputs are ON

Flashes when short circuit or overload detected

AUTOSET/GAP △ BUTTON
1. Push and Hold with gap in view for 2 seconds for AUTOSET.
2. Tap for UP on Contrast Indicator, or reduce threshold.
3. Change settings in MENU options

AUTOSET/LABEL ▽ BUTTON
1. Push and Hold with label in view after GAP AUTOSET on rare occasions when labels have multiple layers.
2. Tap DOWN on Contrast Indicator, or increase threshold.
3. Change settings in MENU options

OLED NUMERICAL DISPLAY
1. 1 to 10 bar Contrast Indicator
2. Numerical display for threshold and feedback number
3. Options Status Display: Button Lock or Unlock (🔒); auto adjust on/off (AUTO); output in Gap(ⅠⅠ) or on Label (ⅠⅠ).
4. View Menu Options

MENU BUTTON
1. Scroll through MENU options
2. Hold during power up for additional Menu Options; Timer and Factory Diagnostics (sensor scope)

Press Menu for Detailed Setup

1. **Initiate Dynamic Set**

Press either the △ or ▽ button to start a Dynamic Set; pull labels and gaps through sensor; press either the △ or ▽ button to complete.

Sensor exits to run mode and should be setup and ready for operation.

2. **Auto Adjust**

Change from off to on by momentarily pressing either the △ or ▽ button. The Auto adjust evaluates signal levels and makes automatic adjustments to keep the sensor in optimum response levels.

3. **Output Mode**

Change from GAP (ⅠⅠ) to LABEL (ⅠⅠ) by momentarily pressing either the △ or ▽ button.

Output will toggle back and forth in this mode.

ⅠⅠ = Output on the Label

ⅠⅠ = Output in the Gap

4. **Display Orientation**

Momentarily press either the △ or ▽ button to toggle orientation.

5. **Timer Mode** (**Advanced Option)

```
Timer Mode:
Enabled
```

←—— PRESS the ▽ button	
`Timer Mode:` `Off Delay`	`Timer Mode:` `On Delay`
Off Delay: Outputs stay on for set time after duration of input.	On Delay: Outputs turn on when input exceeds set time"
PRESS the △ button ——→	
`Timer Mode:` `One Shot`	`Timer Mode:` `Debounce`
One Shot: Outputs turn on for set time when triggered by input	Debounce: Outputs are stabilized and held in current state for duration of time setting

6. **Button Lockout**

```
Button Lockout:      Button Lockout:
Off                  On (🔒)
```
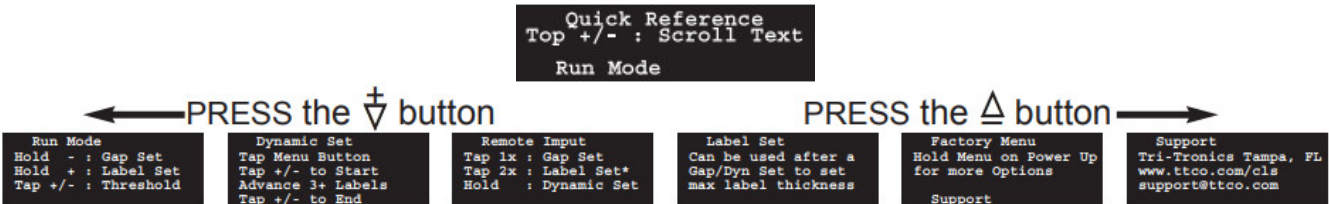
Momentarily press either the △ or ▽ button to toggle from Lock (🔒) to Unlock (no symbol). Useful for tamper-free operation.

7. **Quick Reference**

```
        Quick Reference
Top +/- : Scroll Text
        Run Mode
```

←——PRESS the ▽ button   PRESS the △ button——→

Run Mode	Dynamic Set	Remote Imput	Label Set	Factory Menu	Support
Hold - : Gap Set Hold + : Label Set Tap +/- : Threshold	Tap Menu Button Tap +/- to Start Advance 3+ Labels Tap +/- to End	Tap 1x : Gap Set Tap 2x : Label Set* Hold : Dynamic Set	Can be used after a Gap/Dyn Set to set max label thickness	Hold Menu on Power Up for more Options Support	Tri-Tronics Tampa, FL www.ttco.com/cls support@ttco.com

Press the the A button to scroll down through simple setup and options instructions. Press the the • button to scroll up.

8. **Sensor Scope** (**Advanced Option)

This option allows the operator to visually inspect the current setup for repeatability. The sensor scope will also reveal any nominal setup issues or sensitivies to label or gap thickness changes.

Momentarily press the △ button to shorten the time between signals. Momentarily press the ▽ button to lengthen the time between signals.

How to Specify

1. **Select Sensor:**
Ultrasonic Clear Label Sensor

2. **Select Cable:**

    Blank = 6' (1.8m) Cable

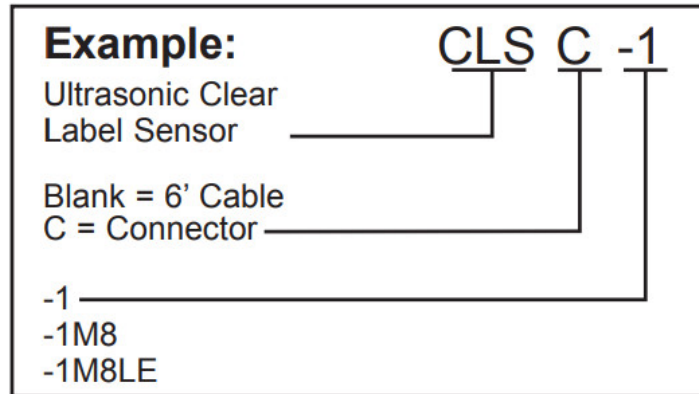   C = Connector M12, 5-Pin

    (Standard)

3. **Select Connector:**

    -1 = Standard M12 Connector, see #2 Includes both NPN and PNP

    -1M8 = M8, 4-Pin Connector NPN/PNP Software Selectable
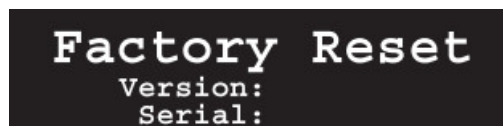
    -1M8LE = Wired like LER

Advanced Options

To access Advance Options, press and hold the Menu button during power up.
Press the Menu button to move from screen to screen.

Press either the △ or ▽ button to select.

1. **Factory Reset**

Press either the △ or ▽ button to initiate factory reset.

Note: Advanced Option screen will time out in 5 minutes.

2. **Input Mode** (-1, -1M8 models only)

```
Input Mode:
NPN / Sink
```

Press either the △ or ∇ button to toggle to PNP / Source or NPN / Sink.

3. **Timer Features**

```
Timer Features:
Disabled
```

Press either the △ or ∇ button to toggle to Enable or Disable.

4. **Factory Diagnostics/Sensor Scope**

```
Factory Diag:
Disabled
```

Press either the △ or ∇ button to toggle to Enable or Disable.
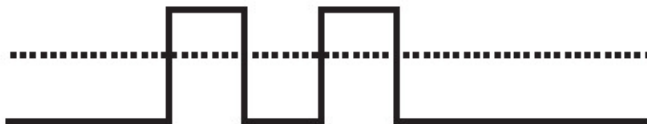

Returns to Main Screen

Remote Input Signals

Gap Set: Pulse once, 40ms to 400ms.

Label Set: Pulse twice, 40ms to 400ms, with 40ms to 400ms idle time between pulses.

Dynamic Set: Hold Remote Input on for more than 750ms, pull labels and gaps through sensor, release Remote Input line and sensor returns to Run mode.

Note: Waveforms shown correspond to PNP input mode.

Logicbus Inc.

863 BOWSPRIT ROAD, CHULA VISTA, CA 91914, U.S.A.
PHONES: (619) 616 7350, **WWW.LOGICBUS.COM**

TRI-TRONICS®

P.O. BOX 25135, TAMPA, FL 33622-5135
813-886-4000 / 800-237-0946
ttco.com / **info@ttco.com**

Documents / Resources

Logicbus CLS-1 UltraSonic Clear LabelSensor [pdf] Instruction Manual
CLS-1 UltraSonic Clear LabelSensor, CLS-1, UltraSonic Clear LabelSensor, Clear
LabelSensor, LabelSensor

References

- ♻ **You are being redirected...**
- ♻ **You are being redirected...**