

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

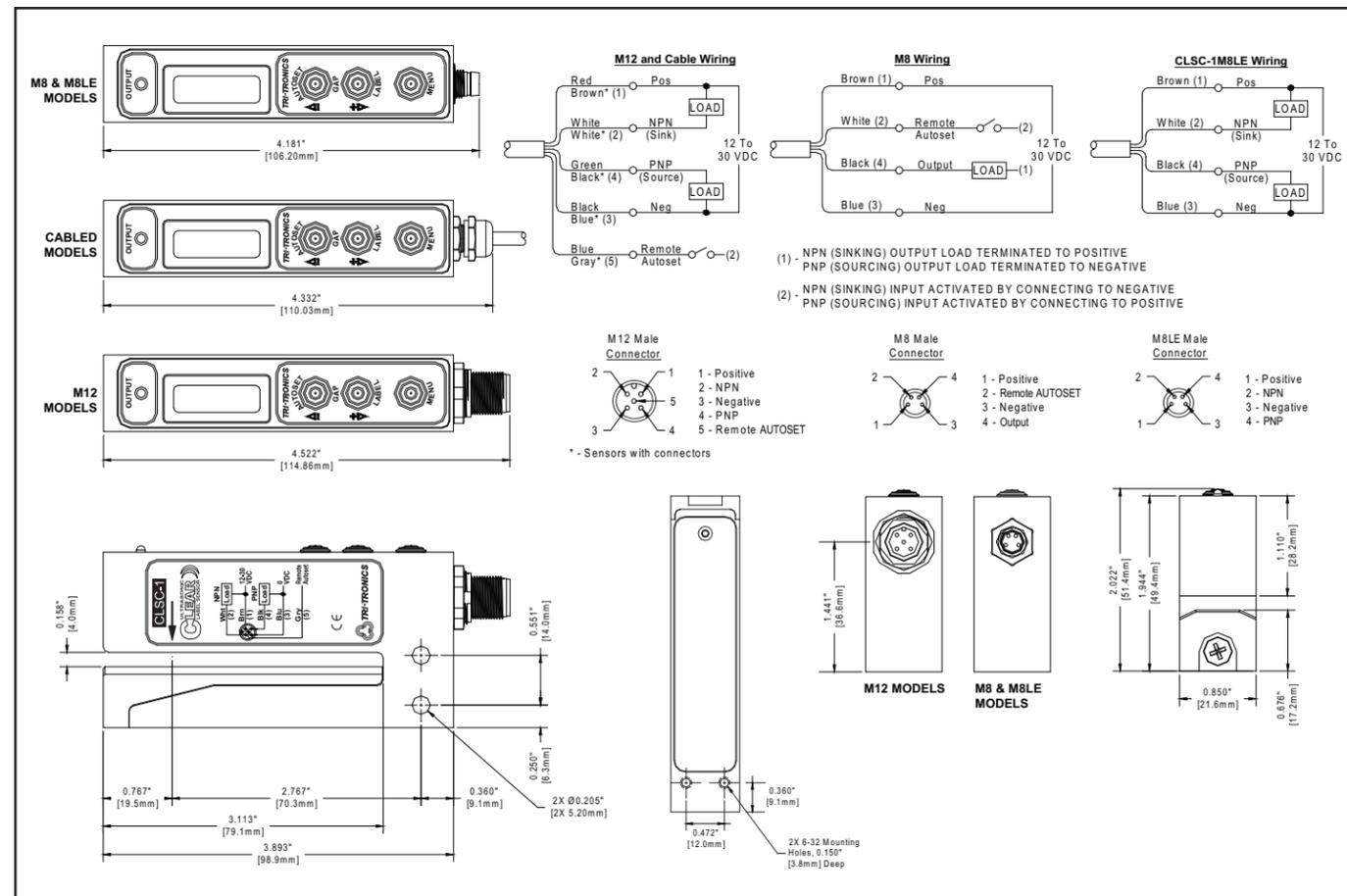
- On Delay, Off Delay, One Shot, or Debounce (Advanced Option, software selectable).

CONNECTOR

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

RoHS Compliant
Product subject to change without notice

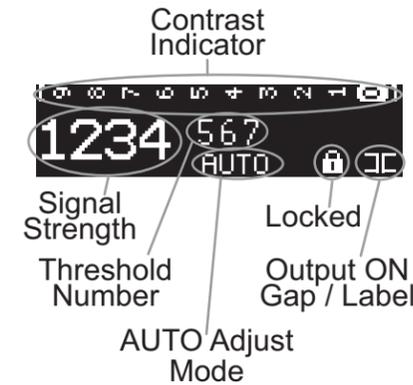
Connections and Dimensions



Ultrasonic Clear Label Sensor



Setup Instructions

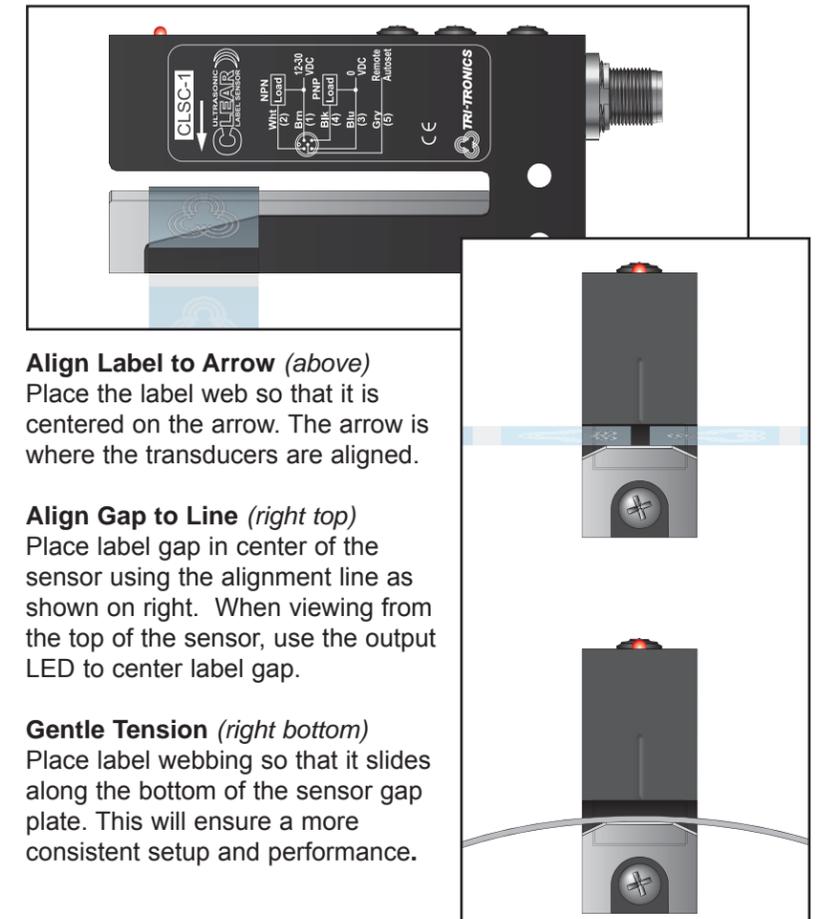


Simple Setup Start ➡ Put the Gap in view, press and hold the AUTOSET/GAP button for two seconds, "Gap Set" will be displayed when complete. This will result in a perfect setup 99% of the time. If you have any false triggers, put the Label in view, push and hold the AUTOSET/LABEL button for two seconds,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

Installation Manual

Label Position



OUTPUT INDICATORS

Red LED illuminates when outputs are ON

Flashes when short circuit or overload detected

AUTOSET/GAP Δ 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(☐) or on Label (▣).
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)



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Press Menu for Detailed Setup

1 Initiate Dynamic Set

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

Dynamic Set
 Tap +/- to End
 Sensor exits to run mode and should be setup and ready for operation.

2 Auto Adjust

Auto Adjust: On (AUTO)
 Change from off to on by momentarily pressing either the Δ or ∇ button. The Auto adjust evaluates signal levels and makes automatic adjustments to keep the sensor in optimum response levels.

Auto Adjust: Off

3 Output Mode

Output Mode: Label (LO)
 Change from GAP (GO) to LABEL (LO) by momentarily pressing either the Δ or ∇ button. Output will toggle back and forth in this mode.

Output Mode: Gap (GO)
 LO = Output on the Label
 GO = Output in the Gap

4 Display Orientation

Toggle Display Orientation
 Momentarily press either the Δ or ∇ button to toggle orientation.

Toggle Display Orientation

5 Timer Mode (Advanced Option)**

Timer Mode: Enabled

← PRESS the ∇ button → PRESS the Δ button →

Timer Mode: Off Delay	Timer Mode: On Delay	Timer Mode: One Shot	Timer Mode: Debounce
Off Delay: Outputs stay on for set time after duration of input.	On Delay: Outputs turn on when input exceeds set time	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: Off **Button Lockout: On (L)**

Momentarily press either the Δ or ∇ button to toggle from Lock (L) to Unlock (no symbol). Useful for tamper-free operation.

7 Quick Reference

← PRESS the ∇ button → PRESS the Δ button →

Quick Reference Top +/- : Scroll Text Run Mode	Run Mode Hold +/- : Gap Set Hold +/- : Label Set Tap +/- : Threshold	Dynamic Set Tap Menu Button Tap +/- to Start Advance +/- Labels Tap +/- to End	Remote Input Tap ix : Gap Set Tap rx : Label Set Hold : Dynamic Set	Label Set Can be used after a Gap/Txn Set to set max label thickness	Factory Menu Hold Menu on Power Up for more Options Support	Support Tri-Tronics Tampa, FL www.ttrco.com/cls support@ttrco.com
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Press the the Δ button to scroll down through simple setup and options instructions.
 Press the the ∇ button to scroll up.

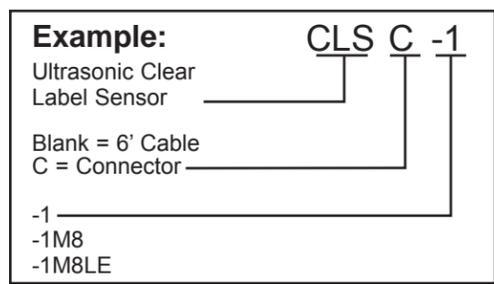
8 Sensor Scope (Advanced Option)**

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

Momentarily press the Δ 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.

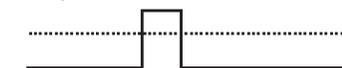
Press either the Δ or ∇ button to select.



- 1 Factory Reset**
 - 2 Input Mode (-1, -1M8 models only)**
 - 3 Timer Features**
 - 4 Factory Diagnostics/Sensor Scope**
- Returns to Main Screen

Remote Input Signals

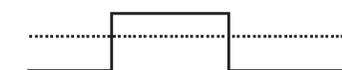
Gap Set: Pulse once, 40ms to 400ms.



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.