



# RoadTrax BL TRAFFIC SENSOR

PIEZOELECTRIC AXLE SENSOR  
PRODUCT GUIDE

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TE Connectivity's (TE) RoadTrax Brass Linguini (BL) traffic sensor is designed for permanent or temporary installation into or onto the road surface for the collection of traffic data. The unique construction of the sensor allows direct installation into the road in a flexible format so that it can conform to the profile of the road. The flat construction of the sensor gives an inherent rejection of road noise due to road bending, adjacent lanes, and bow waves of approaching vehicles. The small cut in the road minimizes the damage done to the road, speeds up the installation and reduces the amount of grout used for the installation. The RoadTrax BL sensor is available both as a class I sensor for the highest level of uniformity needed for weigh in motion applications and as a class II sensor which is more cost effective for counting, classifying, high speed toll booths, speed detection, and red light cameras.

### Great Signal

- Positive signal as tires pass over the sensor
- Good dynamic range - works with large to small vehicles
- Reduced road flexing noise
- High signal to noise ratio for ease of signal processing
- High capacitance - can drive long cables
- Works even for slow speeds

### Easy to Handle

- Conforms to any road profile
- Coils in a 2'x2' (600x600mm) box
- Rugged so that it does not break with handling

### Easy Installation

- Installs in a 3/4" x 1" (19 x 25mm) cut in the road to minimize damage to the road
- Deeper installation possible, please contact us
- Installs with fast curing epoxy, acrylic, or appropriate polyurethane
- Smaller cut means less encapsulation material

### Quality

- All sensors are 100% tested for capacitance, insulation resistance, piezo activity and uniformity
- Computerized process controls the extrusion and polarization of the cable
- All sensors are serial numbered for traceability

### Durability

- Triple sealed coax splice between the sensor and the passive cable
- The sensor will not be damaged by bending to a radius of > 1' (300mm)
- Will withstand normal handling
- Tested to 40 million equivalent single axle loadings

### Great Passive Cable

- Super tough High Density Poly Ethylene (HDPE)
- Rated as waterproof for direct burial

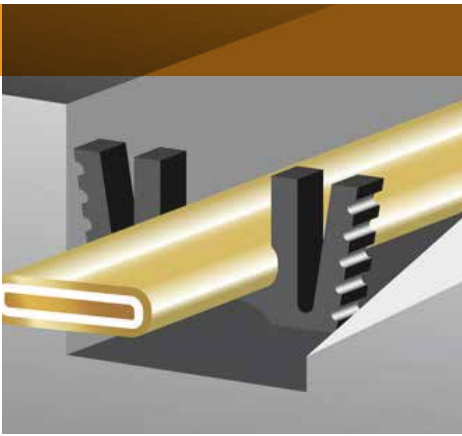
### Versatility

- Same sensor for over and in the road applications
- Surface sensors can be mounted permanently or temporarily
- Can be used in portland cement or asphalt
- Available in many lengths - both english and metric - with cable lengths from 100' to 300' (35m to 100m). Longer lengths available on custom basis

### Customer Support

- Fast delivery - units in stock
- Installation clips included with all sensors
- Installation instructions included with all sensors
- Available internationally
- Onsite installation training available





## Characteristics for Permanent Road Installation

Output Uniformity	±20% for Class II (Classification), ±7% for Class I (Weigh in Motion)
Operating Temperature Range	- 40 to 160°F (-40 to 70°C)
Typical Output Level	A wheel load of 400 pounds will produce a minimum output signal of 250 mV, at 70°F and 55 mph for a proper installation
Passive Signal Cable	RG 58C/U with a High Density Polyethylene Outer jacket that is rated for direct burial; 3/16" (4.75mm) OD.
Product Life	40 Million ESAL's; dependent on the installation
Capacitance (12' class II with 100' cable) <sup>1</sup>	8.50 nF ≤ C ≤ 14.50 nF
Weight (12' class II with 100' cable) <sup>2</sup>	3.00 lbs (1.36 kg)
Insulation Resistance	>500 MΩ
Packaging	All sensors are packaged two per each 24"x20"x3" (600x550x75mm) cardboard box
Installation Brackets	Included. One bracket is used every 6" (150mm)

## Specifications<sup>3</sup>

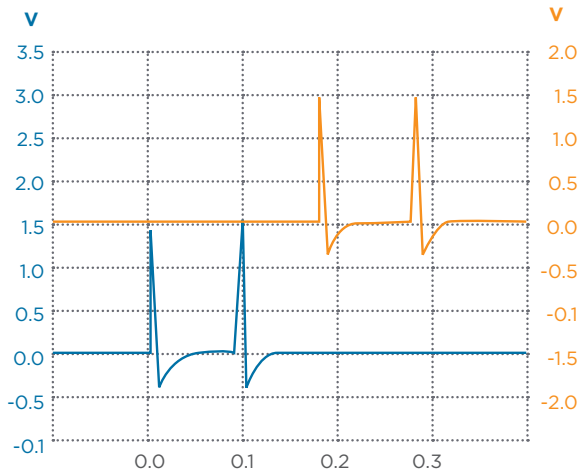
The TE BL Traffic sensor has the following specifications:

- Center Core: 16 gage, flat, braided, silver plated copper wire.
- Piezoelectric Material: Spiral-wrapped PVDF Piezoelectric film with a nominal Piezoelectric Coefficient of 34 pC/N.
- Outer Sheath: 0.016" thick brass, CDA-260, ASTM B587-88
- Final Dimensions: 0.260" wide x 0.063" thick; 0.005"
- Passive Signal Cable: RG 58 type with an underground/direct burial rated outer jacket. The OD of the cable is 0.187" (4.75mm). The nominal capacitance of the cable is 27 pF/ft (89pF/m).
- Two sizes of installation brackets are included with the sensors, 3/4" (small) brackets and 1" (large) brackets. There is one small and one large bracket per 6" (150mm) of sensor length.

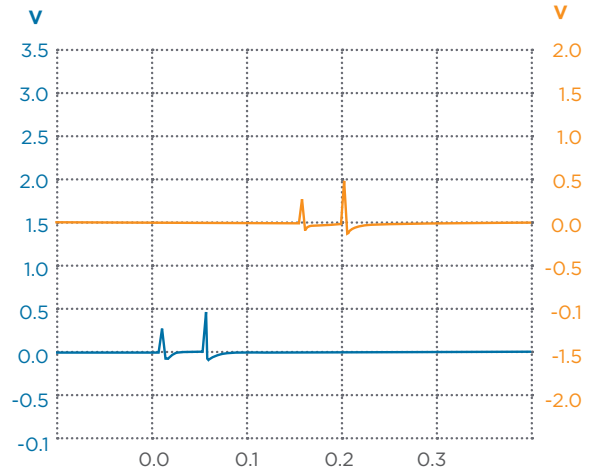
### Notes:

1. Capacitance value will change with the length of the sensor and the length of the passive cable. Provided with each sensor is a test certificate with the actual tested value for the sensor.
2. All sensors are packaged 2 per box. The box weighs 1.5 lbs (0.7 kg). Sensors with cable longer than 200 ft. are packaged 1 per box
3. Although TE makes every effort to ensure the accuracy of the specifications at the time of publication, specifications for this product are subject to change without notice.

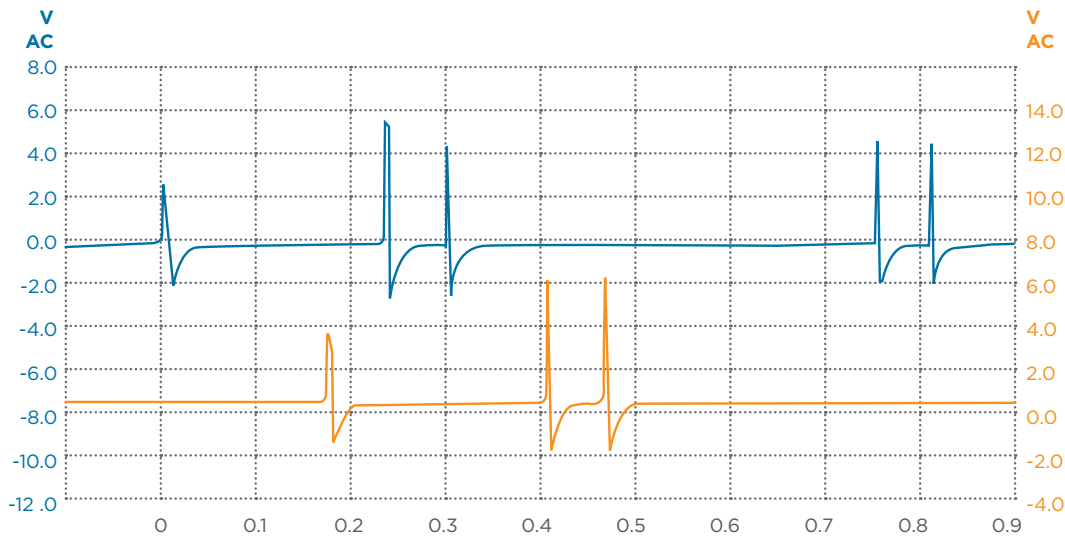
## Output Waveforms



Car at Highway Speed



Motorcycle at Highway Speed



Class 9 Vehicle at Highway Speed

### [te.com/sensorsolutions](http://te.com/sensorsolutions)

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### TE SENSOR SOLUTIONS

For More Information Contact  
TE Connectivity

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