



## DESCRIPTION

The TC-CK1-SBE **INTERSECTOR™** is a microwave-based motion and presence sensor used for intersection control. The unit interfaces with a traffic-control cabinet, and outputs signals when vehicles are present in user-defined zones. Zones are created using an X-Y coordinate system, and operation is verified and optimized using a laptop with Internet Explorer 6.0 or greater as part of the installation process.

The TC-CK1-SBE allows users to create up to 8 detection zones and assign vehicle presence in these zones to up to 4 outputs to the control cabinet (e.g. left turn, straight through, right turn). Detection zones can be created to a maximum distance of 400 feet from the sensor itself. Unlike previous microwave sensors, the **INTERSECTOR™** will track the presence of a vehicle in a detection zone for a predetermined time.

Interface boards are available for the **INTERSECTOR™** which are compatible with both NEMA, 170, 179, and 2070 cabinets. For each sensor, one interface board is required in order to communicate with the control cabinet. Three interface boards are available. The TCIB-2.1 provides 2 outputs and uses a single slot in the cabinet. The TCIB-4.1 provides 4 outputs and uses a single slot, and TCIB-4.2 provides 4 outputs and utilizes two slots in the cabinet.

## BENEFITS

The **INTERSECTOR™** brings the advantages of microwave detection together with presence-tracking capabilities in an easy-to-understand visual image. The **INTERSECTOR™** offers these advantages when compared to cameras or loops:

- Detection not affected by weather
- Immune to sunrise/sunset or post-rain glare
- Not susceptible to in-road breakage
- Multiple lanes covered by a single unit
- Advanced and stop bar detection in a single unit
- Easily installs to corner pole
- Successfully detects bicycles/motorcycles
- Significant cost savings when compared to camera mounting requirements or multiple loops
- No privacy concerns

The **INTERSECTOR™** allows users to:

- Graphically track vehicles as they approach the intersection
- Easily set up detection zones to provide programmable inputs to a control cabinet
- Verify that the system is functioning correctly and troubleshoot

**SENSOR SPECIFICATIONS****PHYSICAL:**

- ☑ Size: 11x8.5x7 (LxWxH)
- ☑ Weight: 5 pounds
- ☑ Color: Blue body with gray endcaps
- ☑ Universal Mounting Bracket included

**OPERATING:**

- ☑ Temperature range: -40°C to +85°C
- ☑ Power requirements: 24VDC at 250mA

**RADAR:**

- ☑ Five channels selectable: 24.075, 24.100, 24.125, 24.150, and 24.175 GHz
- ☑ Beam angle: Azimuth 25 degrees to 100' and then reduces to 20 degrees out to 400 feet
- ☑ Elevation: 12 degrees
- ☑ Operates with FSK-4 mode

**PERFORMANCE:**

- ☑ Track multiple moving and stationary vehicles
- ☑ Tracking of X and Y location of each vehicle
- ☑ Updates 20 times per second
- ☑ Speed of each vehicle is shown for reference
- ☑ Detection range typical 50 feet minimum to 400 feet maximum
- ☑ Mounting height 14 to 19 feet—Mounting outside this range may reduce performance
- ☑ Mounting location—typically corner signal pole—maximum 30 degrees offset from traffic direction
- ☑ Ethernet interface with power supplied over the Ethernet (POE)
- ☑ Eight programmable independent zones
- ☑ Four Opto-isolated outputs
- ☑ Grid tracking with live interactive zones
- ☑ Simulated mode for diagnostics and demonstration
- ☑ Adjustable hold time on stationary objects from 0 to 960 seconds
- ☑ Provides histograms to verify setup of zones
- ☑ Selectable standard (English) or metric units
- ☑ User-defined delay and extension time for each zone

- ☑ Operational from cold start in 20 seconds—Full performance in 2 minutes
- ☑ Automatically recovers from power failure
- ☑ FCC approved

**TCIB CARD SPECIFICATIONS:**

- ☑ Physical: Dimensions per TS2 standard
- ☑ Color: Anodized bright blue  
Edge pins gold plated

**OPERATING:**

- ☑ Temperature range: -40C to +85C
- ☑ Power requirements: 24VDC at 400mA

**PERFORMANCE:**

- ☑ Two output or four output
- ☑ Four LEDs to indicate each zone active
- ☑ Four Opto-isolated outputs each with LED indicator and Status Indicator
- ☑ Fault mode (no Ethernet connection) all LEDs and Opto-isolators on (constant call to control cabinet)
- ☑ Ethernet setup port (bridge from PC to Intersector) and operational port
- ☑ RS232 port for diagnostics and data
- ☑ Supplies power for Intersector; short circuit protected
- ☑ Operational from cold start in 20 seconds
- ☑ Automatically recovers from power failure