**THE INFRA-RED TRAFFIC LOGGER (TIRTL)**

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|  |  **Name of the equipment:** The Infra-Red Traffic Logger (TIRTL)**Make & Model:**CEOS International, RX1223F**I-Stem Registration ID-** **…………………..** **Category of Instrument**Characterization and Testing**Types of Analysis / Testing**Multi-purpose traffic sensor**Application:** Traffic Data Collection and Analysis Real-Time Traffic Management and Enforcement**Description of Instrument**The TIRTL (The Infra-Red Traffic Logger) is a non-invasive, multi-purpose traffic sensor that utilizes infrared light beam technology to detect and analyze vehicles. |

**Booking Details**

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| **Book through I-STEM:**<https://www.istem.gov.in/>**Slot Booking Link**I-STEM Slot Booking link for External User | **Booking available for**Internal and External Both**Requisition form for**[Internals](https://randc.nitc.ac.in/pdf/instruments/civil/CED-REQUISITION_FORM_Internal.pdf)[Externals](https://randc.nitc.ac.in/pdf/instruments/civil/CED-REQUISITION_FORM_Internal.pdf) |

**Contact Details**

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**Features, Working Principle and Specifications**

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| **Features of the equipment*** **Non-invasive:** Infrared beam detection, no road cutting.
* **Multi-purpose:** Counts, classifies, measures speed, identifies lanes, and more (red light, heavy vehicle, etc.).
* **Precise:** Uses overlapping infrared beams and accurate timing.
* **Smart:** On-board processing with configurable classification.
* **Real-time & Logging:** Streams and stores data.
 | **Unique features/Measurement capabilities, if any*** **Dual IR Beams for Detailed Wheel Analysis:** Provides more data than single-beam systems.
* **Precise Trajectory Analysis:** Can infer wheel width and lateral position.
* **Robust Lane Identification:** Uses parallel and crossed beams.
* **High Accuracy:** Reliable counting, classification, and speed measurement in diverse conditions.
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| **Instrument Technical Description and Major Specifications (This Specifications Limited to Major 5)****Detection:** Dual IR beams forming 4 pathways.**Measurements:*** Speed: 5-250 km/h, ±0.5% accuracy.
* Classification: Axle-based, >98% accuracy (20+ classes in India).
* Volume: >99.9% accuracy

 **Data & Communication:*** Output: Plain text.
* Interfaces: RS-232, Ethernet.
* Remote (Optional): GSM, etc.

**Environment & Physical:*** Temp: -20°C to +70°C (typical).
* Power: Low voltage DC.
* Enclosure: Weatherproof (IP65+).

**Installation:** Pole-mounted, straightforward alignment. | **Measurement/Sample specifications:** * **Speed:** km/h, 5-250 range, ±0.5% accuracy. Handles low speeds well.
* **Classification:** IRC-aligned scheme (2-wheelers, 3-wheelers, cars, buses, trucks, etc.), 10-20+ classes, >95% accuracy, adapted for local vehicles.
* **Volume:** Vehicles/time, >99% accuracy, by class.
* **Lane ID:** For multi-lane roads.
* **Time:** IST timestamp with milliseconds.

**Sample Data:** Includes date, time, lane, speed (km/h), class code, and description. |

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| **Type of Sample Required for Analysis / Testing (Quantity, Pre-Preparation, State etc.) Guidelines for Sample Submission – User Instructions**Classified Traffic Volume Count/Speed* Minimum No of Days Required for Analysis – 1 week
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**User Charges Rs. (GST Extra)**

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| **Internal** | **External Academic Institutes** | **National R&D Lab** | **Industry** |
| 2500/- per test | 4000/- per test | 5000/- per test | 10000/- per test |