**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. | |
| **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 |

**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 |