

HI-TRAC[®]
CMU
&
TMU4

LEADING THE WAY
IN INTELLIGENT
TRANSPORT
SYSTEMS

TRAKBLAZE

ABOUT TRAKBLAZE PTY LTD

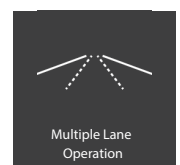
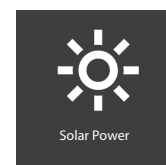
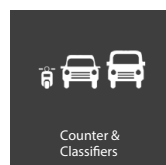
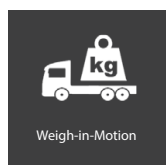
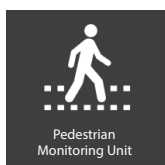
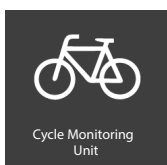
LEADING THE WAY IN INTELLIGENT TRANSPORT MONITORING SYSTEMS

Trakblaze Pty Ltd is a Rail, Mining, Road & Aircraft weighing systems company with over 88 years experience in research, development, design, manufacturing, servicing of train weighing, off road mining haul truck, transport truck and vehicle scales worldwide. 'Static and In-Motion Train, Truck and Vehicle Weighing & Monitoring' is a very specialised field, and Trakblaze is unique in having the most comprehensive range of weighing and monitoring equipment including, high speed in motion systems. In addition, Trakblaze offer a wide range of technologically advanced off road mining scales and mining weighbridges. Our mining products have resonated from the success of our proven truck & transport weighing systems.

Today, Trakblaze has further expanded it's weighing and monitoring solutions capabilities. In conjunction with Q-Free; a leading supplier of products specifically designed for 'Weigh In Motion' traffic, cycling & pedestrian data collection within the Intelligent Transport Systems (ITS) market; Trakblaze and Q-Free provide class-leading Traffic Management, Infomobility and Connected ITS (C-ITS) / Connected Vehicle solutions and presence in all major ITS technology areas. These solutions, together with a broad and unique range of sensors for infrastructure, vulnerable road user and enviromental monitoring; enable Trakblaze and Q-Free to supply ITS which address all road infrastructure operating and condition-monitoring needs. In addition, Trakblaze provides managed solutions which allow our customers greater flexibility in capital and operating costs.

Trakblaze Pty Ltd in partnership with Q-Free specialise in the supply and installation:

- High and Low Speed Weigh-in-Motion
- Traffic Count & Classification
- Cycle and Pedestrian Monitoring



OUR TECHNOLOGY IS NOW THE HEART OF A CYCLING REVOLUTION

With a cycling revolution growing in strength across Australia, it is clear a smarter infrastructure is required that can accommodate different modes of transport. Our range of intelligent solutions supports this movement by making travelling in mixed traffic safer.

HI-TRAC® CMU

The HI-TRAC® CMU is a small, low-power, low-cost electronic system capable of monitoring up to 4 cycle lanes and 4 pedestrian lanes.

The CMU uses established piezoelectric sensor technology to detect bicycles in either dedicated cycle ways or mixed traffic lanes as well as pyroelectric infra red sensors to detect pedestrians. Unique algorithms developed by Q-Free measure the axle count, speed and wheelbase to distinguishing true bicycles from other traffic including child scooters, prams, trolleys motorbikes and mopeds.

The CMU can be powered by a small 3W solar panel mounted on top of a small pillar and supported by two rechargeable 6V 8Ah batteries to form a fully standalone permanent solution. The CMU unit is sealed to IP68 and can be installed into a small pillar or post. The CMU can be configured to automatically transmit traffic data to a web server for secure data storage or to a database.

HI-TRAC® CMU Key Points

- Monitors cyclists and pedestrians simultaneously
- Automatically transmits data via GPRS/2G/3G/4G
- Integrates with cycle active information display
- Triggers for Cycle Signal Priority
- Pedestrian detection using pyroelectric infra-red sensors
- Loop detection

Cycle Monitoring Products & Solutions include:

- HI-TRAC® CMU
- HI-TRAC® Cycle Active Information Display
- Cluster Detection
- Cycle Safety
- Mixed Traffic Classification



Product Key Features



Additional Features

- Detects: Bicycles, Bicycle Clusters, Bicycles in two directions, Bicycles with Pedestrian walking and Bicycles made of non-metal materials including Carbon-Fibre.
- Measures: Speed, Direction and Gap/Headway
- Vehicle-by-Vehicle (VBV) data storage
- Triggers for Cycle Signal Priority
- Installed into dedicated cycle ways or mixed traffic lanes
- GPRS/GSM Telemetry Option, Ethernet
- Bluetooth™ Option
- Pedestrian detection using pyroelectric infra red sensors

Installation

- Two Piezo Electric Sensors per cycle lane or mixed traffic lane.
- One Pyroelectric Infra Red Sensor per walkway.
- CMU electronics housed in above ground pillar or post.
- Typical installation time – 2 hours.

Software

- HI-COMM 100 Compatible
- Data Download, Analysis, Real Time VBV View, Report Generation & Diagnostics
- Data hosting and reporting service
- App for Android for easy set up and download

Technical Specifications

- Storage Capacity
- 8GB microSD Non-Volatile 365 Day VBV Capacity
- Inputs / Outputs Ports
- 8 Nos. Piezo Electric Sensors
 - 4 Nos. Pyroelectric Infra Red Sensors
 - 2 Nos. GPRS/GSM/2G/3G/4G Modem
 - 1 No. Bluetooth™
 - 4 No. Triggered Outputs
- Dimensions & Weight
- W-120mm D-60mm H-110mm Weight: 1 kg
- Power Supply
- 6 v 10 AH Lead Acid Rechargeable
 - Optional integrated 3W solar panel mounted on Pillar Cabinet
- Detector
- HI-TRAC Cycle Monitoring Unit (CMU)
 - Loops



HIGH & LOW SPEED SYSTEMS

As roads break down and traffic levels continue to rise, it's important to monitor heavy vehicles and enforce vehicle weight limits. With Trakblaze Weigh-in-Motion systems, you can detect, count and classify vehicles traveling from 1kph-200kph.

Trakblaze high speed Weigh-in-Motion systems can achieve COST 323 Class A(5) +/-5% Gross Weight to COST 323 Class C(15) +/- 15% Gross Weight at 95% confidence depending on specific requirements. The high end equipment can connect to eight lanes of WIM sensors and has a long and excellent track record.

Whether dealing with high-speed or low-speed traffic, we can guarantee outstanding accuracy, varied functionality, and a range of connectivity that allows for a great deal of flexibility in configuration, installation, and data collection.



HI-TRAC® TMU4

The HI-TRAC® TMU4 is a high speed Classification & Weigh-in-Motion Traffic Data Collection System recording Vehicle Classification and Axle Load Data without interruption to traffic flow.

The HI-TRAC® TMU4 incorporates embedded Ethernet with TCP/IP stack, VPN and FTP as well as extensive 8GB data storage, and thus provides high-end functionality at a reasonable cost.

The standard configuration of two Class 1 piezoelectric sensors and one inductive loop installed in the highway per lane provides axle weight data to COST 323 Class B(10) accuracy in addition to inter-axle spacing and vehicle speed data. The system can be used as a statistical data device to record highway traffic loading or it can also be used as a screening weighbridge to identify overload vehicles in traffic stream.

The HI-TRAC® TMU4 can be interfaced to traffic signals or diversion signs to intercept overloaded vehicles and to ANPR or CCTV camera systems. The HI-TRAC® TMU4 uses Q-Free advanced loop profiling techniques to improve vehicle classification accuracy, and weight data is significantly improved with advanced automatic temperature compensation algorithms incorporated as standard.



HI-TRAC® TMU4 Key Points

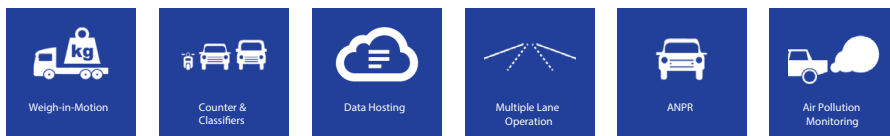
- Automatic Temperature Compensation
- COST 323 Accuracies from A(5) to C(15) depending on Sensor Configuration
- Multiple Sensor Arrays for Higher WIM Accuracy
- ANPR Cameras and Diversion Sign Interface
- Environmental and Air Quality Module Upgrade

Weigh-in-Motion Products & Solutions include:

- HI-TRAC® TMU4
- HI-TRAC® EMU3
- HI-TRAC® WIM
- LO-TRAC® 300
- WB40L



Product Key Features



Benefits

- Weigh-in-Motion (WIM) and Automatic Vehicle Counter/Classifying (AVC) operation
- Classification of over 100 unique vehicle types
- Vehicle-by-Vehicle (VBV) data storage
- Advanced temperature compensation algorithm ensuring accuracy of weight data
- Two to Sixteen Lane configuration options
- Ethernet 10/100 Mb Supports TCP/IP and DHCP Protocols
- Telemetry output module for data download via mobile telephone network (GSM/GPRS)
- Environmental monitoring interfaces
- Air Quality Monitoring Interface (includes NO2, CO, PM10)
- Automatic Number Plate Recognition (ANPR) and CCTV camera interface

Installation

- Piezo electric sensors and inductive loop sensors permanently installed in highway.

Software

- HI-COMM 100 Compatible
- Data Download, Analysis, Real Time VBV View, Report Generation & Diagnostics
- Data hosting and reporting service

Technical Specifications

- WIM Accuracy Data**
- PLP COST323 C(15), +/-15% GVW
 - qLq COST323 B(10), +/-10% GVW
 - QLQ COST323 A(5), +/-5% GVW
- P = Piezo Polymer Sensor
 Q = Full Axle Strip Piezo Quartz Sensor
 q = Half Strip Wheel Piezo Quartz Sensor
 L = Inductive Loop
- WIM Accuracy Data**
- Length ±8 %
 - Headway ±7 %
 - Speed ±1.5 %
 - AVC Speed Range 1–240 kph, 1-150mph
- WIM Lane Configurations**
- Piezo - Loop - Piezo (PLP, QLQ, qLq) - 8 Lanes
 - Loop - Piezo - Loop (LPL, LQL) - 8 Lanes
 - Loop - Piezo - Piezo - Loop (LPLP, LQLQ, LqLq) - 8 Lanes
 - Piezo - Piezo (PP) - 8 Lanes
 - Piezo - Piezo - Loop (PPL, QQL, qqL) - 8 Lanes
 - Loop-Piezo-Loop-Piezo-Loop (LPLPL, LQLQL) - 8 Lanes
 - Piezo-Loop-Piezo-Piezo-Loop-Piezo (PLPPLP) - 4 Lanes
- *Note: Piezo Polymer WIM sensor arrays require as inroad Temperature probe to compensate for sensor output variations with temperature change.

Classification Accuracy

- Motorbike >95%
- Cars & Vans >97%
- Cars & Vans + Trailer >97%
- Rigid HGV >98%
- Articulated HGV >99%
- Draw-Bar Trailers >99%
- Buses & Coaches >97%

Input/Output Ports

- USB2 Laptop
- RS232 Modem
- RS232 Printer, ANPR/CCTV Control
- RS485 Data Transmission
- Ethernet 10/100 Mb
- Dry Contact 6 N.O.
- Switch Inputs 2

Power Supply

- 85–264 VAC @ 47-440 Hz
- 12 V Battery – Rechargeable
- Solar Panel, Battery & Charge Regulator

Temperature Range

- 40°C to +85°C (-40°F to +185°F)

Dimensions & Weight

- W-430mm D-280mm H-180mm Weight: 7 kg
- W-485mm D-325mm Once mounts / handles added

Storage Capacity

- Standard 8Gb MicroSD data storage circa.



Production Key Facts You Need To Know:

- CMU & TMU4 systems are manufactured under ISO9001:2008 Quality Control, which is your guarantee in ensuring high-quality manufacturing & assembling.
- Written product assembly instructions are provided when appropriate.
- The product warranty period begins after successful completion of a site installation.

Implementation Key Facts You Need To Know:

- Trakblaze Pty Ltd are able to supply trained engineers to assist with any on-site issues or training needs.
- Communication on the installation and maintenance side of our business is of vital importance.
- Q-Free & Trakblaze Pty Ltd have built a reputation in the industry for providing the highest possible standards of customer service.
- Trakblaze Pty Ltd has been providing high quality innovative products to Australian and International customers for over 88 years.

“Our success is driven by our people and their commitment in applying innovative technologies and capturing those new opportunities that focus on improving the efficiency within the roads and transport industries”

CEO Trakblaze Pty Ltd



MINING, RAIL, ROAD & AVIATION WEIGHING SYSTEMS

Over 88 Years of Innovation

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