PEEK Data

ADR 6000

Advanced Traffic Data Counter/Classifier

Data Collection

Traffic in the United States has increased 30 percent in the past ten years, and the number of cars on the road is projected to increase by 50% in the next decade. As vehicular traffic increases, it has become increasingly difficult to collect traffic data accurately in congestion using traditional sensors such as piezos, road-tube or standard inductive loops. As freeways and urban areas become more congested, data quality deteriorates. Traditional sensors do not count accurately at low speeds, with bumper-to-bumper or with stop-and-go traffic. Traditional Inductive Loop technology can join vehicles resulting in lower counts. Piezos and road tube sensors miss axles or miscalculate spacing at low or irregular speeds resulting in inaccurate vehicle classification. States have not been able to provide accurate data to the FHWA from major arterials and urban freeways, especially at peak times because traditional sensors are unable to cope with recurring congestion due to sensor saturation.

Peek Traffic responded to this critical problem by combining 40 years of expertise in both data collection and inductive loops with advanced inductive loop detection algorithms (called Idris® Smart Loops) developed by Diamond Consulting Services Ltd (DCS).

By combining the Idris algorithms with special Peek inductive loop detectors, Peek Traffic and DCS developed the first urban data collection device to collect accurate axle classification and volume data in heavily congested areas (95% accuracy in congestion or free-flow), using inductive loop technology. The ADR-6000 utilizes sophisticated signal processing techniques to extract minute changes in inductance from standard loops. This provides intelligent profiling classification and wide area tracking of vehicles under conditions ranging from free-flow to stop-and-go traffic, ideal for demanding ITS and urban data collection requirements.

The ADR-6000 allows Transportation Engineers to better understand traffic characteristics in urban environments, during peak hours, or anywhere accurate data historically has been unobtainable.

Features

- High accuracy classification in congestion
- Accurate in stop-and-go, lane changing, straddling, and tailgating traffic conditions
- Axle classification using only loops (i.e. loop-based intelligent detection)
- Supports single or multi-lane configurations, including bi-directional lanes & separated 9median or barrier) lanes
- Permanent rack mounted traffic counter/classifier
  - Up to 24 loop inputs (6 lanes)
  - FHWA Scheme “F” or custom classification
  - Long sensor life (10+ years on loops)
  - High-speed communications and telemetry
  - Increased storage capacity
  - US standard or metric units
  - Enhanced by Idris® technology
  - Low total cost of ownership (TCO)
- High return on investment (ROI)
- All weather capability

ADR-6000 10” Unit

www.peektraffic.com

How It Operates

The ADR-6000 is a modular single or multilane data collection system that offers accurate vehicle count and axle based classification in traffic conditions ranging from free flow to stop-and-go congestion. The system can be set up and operated by remote telemetry or directly in the field with a computer using simple communications software. The remote telemetry link can be via modem, direct connection, or 10/100 Base-T Ethernet.

Support Software

Of importance to the user of modern counters/classifiers is the operating and reporting software, which supports, controls and formats the resultant data. A user-friendly Windows software package is available to complement the Peek ADR-6000. This software is the Traffic Operations Processing Software (TOPS) program, which is available from Peek. The ADR-6000 is designed so that it will function with current and pending Peek data retrieval & processing software packages.

The TOPS program provides multi-file processing, stores data files into a single database for easy file sharing among TOPS users, allows for edit and preview of reports before printing, provides for the ADR data processing protocol, enables remote or local setup of Peek ADR units and collection of data by direct manual connection or by the added functionality of automatic telemetry polling of field sites via modem connection (auto polling support is an add-in option.) The TOPS program reads all files and generates a suite of daily, weekly and monthly reports.

Physical Description

The ADR-6000 is an instrument rack-based unit expandable by plug-in modules. The ADR-6000 can be shelf or panel mounted, and is available in a 10" wide form factor (supporting up to 4 lanes using 4 detectors) or a 19" wide chassis (supporting up to 6 lanes using 6 detectors.) To inquire about additional lane support, contact Peek for the latest product information. Electrical connections (external) are via rear-mounted plugs and sockets for loop inputs and serial communications. Optional plug in modules are available for additional detectors. All modules are Eurocard in size with DIN standard connectors.

Two Year Limited Warranty

Peek Traffic warrants the hardware against manufacturing defects in materials and workmanship for two years from date of shipment from Peek Traffic. The Idris software has a one year warranty provided by DCS. Specific contracts and regional laws may vary or alter these terms. Idris is a registered trademark of Diamond Consulting Services Ltd. The Idris Technology is protected by one or more of the following patents: EP0879457, USA6345228, 6337640 and 6483443. Further patents pending.

Specifications

Property	Description
Power Supply	115 VAC
Weight	Less than 12 pounds
Dimensions (4 detector unit)	5.75"H × 9.25"D × 10.0"W (146mm × 235mm × 254mm)
(6 detector unit)	5.75"H × 9.25"D × 18.5"W (146mm × 235mm × 470mm) *Rack mounting hardware is not included in the above dimensions*
Detector Temperature Range	-40°F to +158°F (-40°C to +70°C)
Temperature Range	-40°F to +158°F (-40°C to +70°C)
Inputs	Up to 24 inductive loops - standard (consult factory for higher capacity)
Microprocessor	Pentium-class processor
Storage Capacity	• 64 MB CompactFlash • 64 MB SDRAM
Operating System	Linux® (POSIX compliant)
Communications	• Two RS232 ports support serial baud rates between 300 and 38,400 • One port dedicated for local/direct connection • One port for user system interface configurable for modem or direct connection • One 10/100 Base-T Ethernet port
Options	• Up to 6 lanes from one unit (contact factory for additional capacity) • Lightning Surge Suppression Panel (Recommended)
Accuracy	Overall axle class accuracy in a standard vehicle population: 95% minimum

Control Methods	**Setup**	**Operate**
Laptop Connection	Yes	Yes
Remote Telemetry	Yes	Yes

PEEK
A Signal Group Company
Peek Traffic Corporation
2906 Corporate Way, Palmetto, FL 34221
Phone: (941) 845-1200 • Fax: (941) 365-0837

www.peektraffic.com

96-073-8