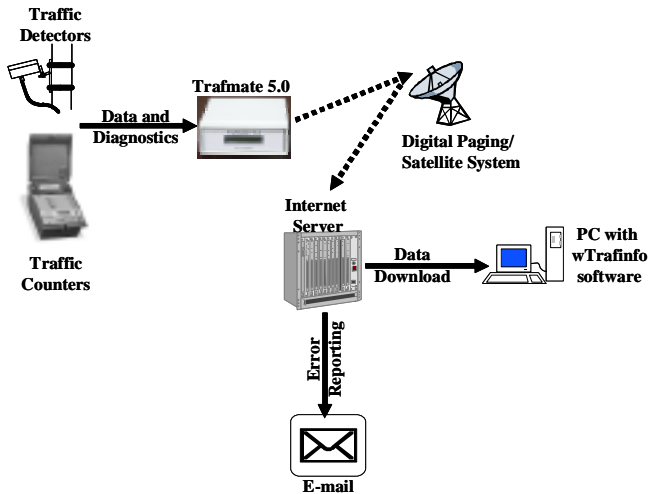


Trafmate™ 5.0

Wireless Telemetry For Traffic Monitoring



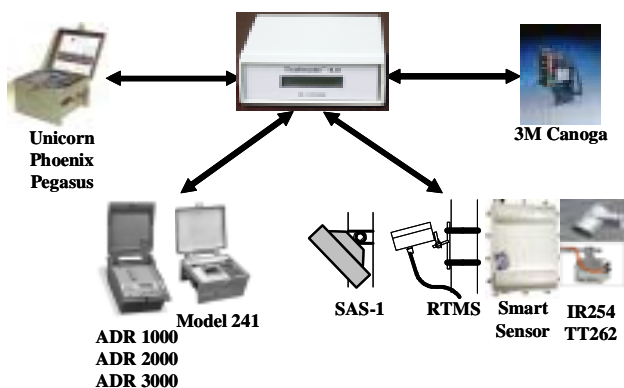
Trafinfo's wireless telemetry system is a unique blend of wireless communication technology and the Internet. Central to the system is **Trafmate - Transceiver** for **monitoring and telemetry**.

Trafmate is designed for extremely simple operation. Simply connect the Trafmate to the traffic counter or detector and turn it on. Trafmate downloads daily files from the traffic counter. In case of traffic detectors, it polls every 30 seconds and accumulates the data into a daily file.

This daily file is transmitted wirelessly to a secure Internet server that can be accessed at any time using the wTrafinfo software. The software allows data to be saved either in the Peek's PRN format or in an Excel-compatible CSV format. Binary daily files are transmitted and stored as such.



Trafmate also detects any equipment problems such as counter malfunction or battery problems, and will immediately notify via e-mail. Trafinfo's wireless telemetry system allows two-way communication using standard e-mail software. Using a simple Trafmate command set, the status of the counter or detector can be obtained; the battery voltage over the past 7 days can be extracted; and the time clock within the Trafmate as well as the counter can be updated.



Trafmate interfaces with most counters, sensors and a traffic signal loop detector. Two types of wireless communication technologies are utilized. Digital two-way paging is used in and around population centers. For areas outside of the population centers, the satellite-based communication technology is used to provide a seamless coverage across the entire United States.



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Trafmate™ 5.0 Specifications

Power Requirements

| | |
|----------------------|--|
| Input Voltage: | 9-20 VDC (see note below) |
| Current Consumption: | 135mA – normal |
| @ 12VDC | 30mA – power save mode (between 5PM and 9AM) |
| | 1.5A – transmit burst |

NOTE: It is important to note that when input voltage goes below 11.5V, the Trafmate firmware places the unit in the power save mode, and remains in this mode until the input voltage rises beyond 12.5V. While in power save mode, communication with the counter/ sensor is halted and the internal wireless transceiver is powered-down.

Interface

DB9 (male) RS-232 serial port (with pre-set baud rate based upon counter or sensor interfaced)
2.5mm center positive DC plug
SMSA antenna connector

Micro-controller

| | |
|-------------------|------------|
| Processing Speed: | 29.4 MHz |
| SRAM: | 512K bytes |
| Flash EPROM: | 512K bytes |

Wireless Transceiver:

| | |
|------------------------|---------------------|
| Transit Frequency | 901-902 MHz |
| Receive Frequency | 940-941 MHz |
| Transit databit rate | 9600 bps |
| Receive databit rate | 6400 bps |
| Communication Protocol | ReFLEX 50/ReFLEX 25 |
| Antenna | Low profile |

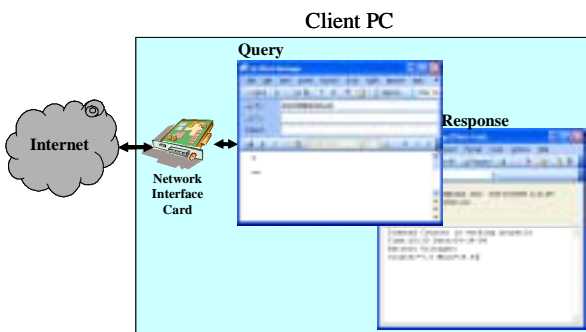
Environmental

| | |
|-----------------|--------------------|
| Operating Temp: | -40°C to +85°C |
| Humidity: | 95% non-condensing |

Mechanical:

| | |
|-------------|--------------------------------|
| Dimensions: | 6 inches x 7 inches x 2 inches |
| Weight: | 1 lbs. |

Internet-based Two-way Communication



Trafmate 5.0 is capable of two-way communication. It is a Query-Response type communication, where a query is sent to the Trafmate which then sends back a message in response to the query. The query is sent to the Trafmate using standard email client software such as Microsoft® Outlook®. Each Trafmate has a unique email address to which the query is sent to. Trafmate sends back the response to the same email address from where the query was initiated. Each Trafmate query is essentially a character command. For example, to check the status of the counter/sensor, the character 'S' is used. This query character is simply entered in the body of the email and sent to the Trafmate email address. There is no need to enter anything in the subject line.

The following query commands are supported by Trafmate 5.0:

- S – to obtain the status of the counter/sensor that is interfaced to the Trafmate
- B – to obtain the minimum and maximum voltages of the main power source (such as a battery) over the last 7 days
- T – to update the Trafmate clock as well as the counter/sensor that the Trafmate is connected to
- D – to download the daily file for a specific date

(please refer to the Trafmate user's guide for more details on the above query commands as well as any additional commands supported for specific counters and sensors).



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