Product Range:

XL-5700 Remote location
vehicle logger/classifier

Applications:

- Predictive road maintenance
- Traffic planning
- Vehicle data collection.

The XL-5700 provides remote location and temporary-roadside vehicle counting and classifying. Designed for low-power consumption and high-accuracy, the XL-5700 allows for flexible installation to suit historical data analysis requirements in remote or temporary locations.

Key Features:

- Detection for up to 4 lanes
- Multiple input configurations (LL, PP, LPL, PLP, LPPL)
- Logging of up to 600 million vehicle transactions
- On-board event storage capacity
- Customisable class categorisation
- On-board 4G and Bluetooth
- SiteMonitor software for configuration, log extraction and real-time vehicle event streaming
- Low power consumption (12 Vdc input)
- IP67 rated
- Robust and reliable.

Portable, low-powered vehicle logger, housed in a robust IP-rated enclosure. It is capable of monitoring up to 4 lanes of traffic using in-pavement inductive loops and piezo electric sensors. The XL-5700 can classify vehicles based on length and axle configuration according to Austroads 4 and 12 bin schemes, respectively. The XL-5700 comes with 4G and Bluetooth connectivity for configuring the device and retrieving vehicle logs. For remote installations, the XL-5700 can be powered via 12 Vdc battery systems or solar (not included). The firmware is also capable of detecting failed loop sensors and will continue to provide traffic volume information when vehicle speed and classification can no longer be achieved.

Loop Specification
Self-tuning range: 50 µH – 700 µH, within 1 second of power up
Operates with loops of the specified inductance range and Q of >=10 at typical resonant frequency
Operating frequency: 20 kHz – 150 kHz
Response time: the circuitry detects a vehicle in less than 10 ms of a departing vehicle (recovery time)
Total response time < 20 ms
Sensitivity: 0.02% ΔL/L for a period of 10 ms (minimum). 10% ΔL/L for a period of 50 ms (maximum)
Drift compensation: temperature change 15ºC/hr between –10ºC and 50ºC @ 90% humidity
Failure Mode: open circuit/short circuit loop and low resistance output when power is removed
Lightning protection: loop interface input – transorb 400 W peak power dissipation at 10/1000 µs, 50 A peak forward surge current for single half-sine wave cycle

Piezo Specification
Optimal capacitance range: 6 nF to 7 nF with a dissipation of 0.1 %
Correlation to length uniformity: < ±5 %

Functional Performance Specification
User configurable sensor arrays: Loop-Loop, Loop-Piezo-Loop, Piezo-Loop-Piezo, Loop-Piezo-Piezo-Loop, and Piezo-Piezo
Speed Range: 4 km/hr to 210 km/hr, +/-1.7% @ 100 km/hr
Vehicle Length Error: +/- 1.0% @ 20 meters vehicle length
Volume/Count and Occupancy Error: +/-2.0%
Headway resolution: 0.1 seconds
Loop Vehicle classification: 4-Bin Austroads & Euro 6
Loop/Piezo Vehicle classification: 12-Bin Austroads / user configurable 32+ class definitions
Typical power consumption: 250 mW to 900 mW

Communications and Storage
Data Storage: Non-volatile micro-SD card, 16 GB SDHC
Data Communications: LTE/HSPA+/GSM module for APAC; Cat 4; B1, B3, B5, B7, B8, B28 (standard SIM required); Bluetooth v5.0, SPP data streaming

Environmental, Power Supply and Physical Specification
Operating temperature: -10ºC to +65ºC (@95% RH)
Power Requirements: 12-16 Vdc, 200 mA
Connections: Loop feeder connection cables (custom length on order); 4G SMA antenna (150mm cable); IP67 DC power cable (custom length on order); BNC panel jacks for piezo connection
Dimensions: 300 mm (w) x 220 mm (d) x 80 mm (h)

Legislative and Regulatory Compliance
RoHS - EU Directive 2002/95/EC per Category 9/Annex IA – Exempt provision
Ctick/CE compliant IEC/EN61000-4- 4, 5, 11, 2