

## Loop and Piezo Specification:

- Self tuning in the range of 50 $\mu$ H to 800 $\mu$ H within 15ms of power up
- The detector typically resonates between 20kHz and 50kHz, dependent on loop inductance
- Operate with loops of the specified inductance range and Q of  $\geq 6$  at typical resonant frequency
- Detection latency - <25ms
- Detection trigger actuation (Minimum)  $\Delta$  inductance of 0.02% for a period of 10ms
- Detection trigger actuation (Maximum)  $\Delta$  inductance of 10% for a period of 50ms
- Detection sensitivity setting of  $\Delta L/L \leq 0.04\%$  the threshold is +/- 10% - 10 step setting.
- Automatic drift compensation; Temperature change 15 $^{\circ}$ C/h between -10 $^{\circ}$  C and 50 $^{\circ}$  C @ 90% relative humidity
- Failure Mode; open circuit/short circuit loop and low resistance output when power is removed
- Detection Hold time is typically 10 minutes and open/short circuit loop detection timer initiated within 0.5 seconds

## Series Range:

XL-1000-W	High-Speed WiM
XL-1000-C	Classification
XL-1000-I	Incident Detection
XL-1000-P	Presence Detection

## Functional Performance:

- User configurable sensor arrays; Loop-Loop, Loop-Piezo-Loop, Piezo-Loop-Piezo, Loop-Piezo-Piezo-Loop and Piezo-Piezo
- Speed Range: 4 km/h - 210 km/h, Error:  $\pm 1\%$  or  $\pm 1$ kmhr in 100 km/h (State Police verified)
- Vehicle Length Error: not exceeding 20cm in 20m (State Transport Authority verified)
- Volume/Count and Occupancy error not exceeding  $\pm 2\%$
- Headway resolution 0.1s or 100ms/ maximum 99.9seconds
- Vehicle classification 4 Bin Austroads, Euro 6, 12 Bin Austroads & user configurable vehicle types
- Data Storage: Non-volatile flash memory, 16GB capacity
- Data Communications: Serial RS-232, Ethernet TCP and FTP server
- User configurable HiOCC Alarms.

#### General Electrical Specification:

- Comms - Ethernet, RS-232C and RS-422 IEEE electrical signal level compatible and user configurable protocol
- Digital Output - MOSFET Photovoltaic Relay 500mA @ 60V
- Loop Input Line isolation transformer and TRANSORB
- Piezo Input Signal TRANSORB
- DB-series Current rating 1A, Contact Resistance 20mΩ (max.) @ Vdc 100mA
- DIN41612 Current rating 2A, Contact Resistance 30mΩ (max.) @ Vdc 100mA
- MATE-N-LOK Current rating 3A per pin, Contact Resistance 30mΩ (max.) @ Vdc 100mA
- PCB Modular Terminal 'Phoenix style' 10A Rated Voltage 300Vac
- IDC Style Connectors Withstanding Voltage 500v RMS for 1 minute, 0.5A current rating.

#### Environmental, Power Supply and Physical Specification\*:

- Circuitry implemented on all cards is rated from -10°C to +65°C operation with a relative humidity of 95%. Circuit cards are conformal coated and will operate within ISO and Australian Standard Guidelines for Traffic Control Devices
- The conformal coating material has a dielectric strength of 90KV/mm and an operational temperature range of -70°C to +200°C and is self extinguishing when exposed to a flame
- Power Supply Options include; 110Vac, 240Vac, 12Vdc, 24Vdc and 48Vdc supplies
- Plug-in 3U 19" chassis: 8 - 32 channels / 8 channel cards 440mm x 130mm x 300mm (WxHxD), Weight 4.0 - 5.25kg
- Plug-in 3U 10" chassis: 8 - 16 channels / 8 channel cards 225mm x 130mm x 300mm (WxHxD), Weight 4.0 - 4.5kg

#### Legislative and Regulatory Compliance:

- RoHS - EU Directive 2002/95/EC per Category 9 / Annex IA - Exempt provision
- C-tick/CE compliant IEC/ EN61000-4- 4, 5, 11, 2.

#### MTBF:

- Statistical MTBF individual component extrapolation (MIL-STD-217-E)
- Using chi-squared test, >180,000hrs @ 90% CI.

\*Note: Some degree of variation in current consumption and weight will occur due to operational state and number of cards.