

V2 I-Loop Duo

2 Channel Advanced Loop Signature
Detector and Classifier Card



Features and Specifications

The V2 I-Loop Duo card is an advanced inductive loop detector card for use with 170/2070 and NEMA TS-1/TS-2 style traffic controllers. With the added functionality of providing loop signature and identification functionality, the I-loop Duo surpasses the function of normal detector cards.

Loop signature data is captured and can be processed in real time with the I-loop Duo. Data Output is provided through the on board USB, Ethernet, BUS UART, or Bluetooth wireless connections. With a powerful ARM processor and large flash memory storage, it can provide added value and functionality not available in other detector products.

Complete Cal-Trans TEES 2009 and NEMA compliance and compatibility means the I-loop Duo is a drop in replacement to existing detectors or as a stand-alone detector in ramps, signals, and main line detector applications.



Features

- **Simple Operation**
Standard push button controls allow for setting the unit up in seconds. The front panel LED indicators and seven segment display make unit programming via the front panel easy and quick.
- **AutoTune Operation**
Both channels provide tuning to loops from 20 to 1,500 microhenries with sensitivity and frequency adjustments.
- **Ultra-High Sensitivity**
Unit provides 8 sensitivity settings via front panel and complete control over sensitivity range via the communication protocol to set the unit to account for detection and drop-out threshold settings as well as filtering for noise and false detection methods.
- **Fast Sampling Rate**
Loop channel sample rate can be set from 100Hz to 5000Hz for high resolution data sets for signature waveform analysis.
- **Dual 170/2070 and NEMA TS-1/TS-2 Compatibility**
Flexible design allows for the I-loop Duo card to be used in either 170/2070 or NEMA control cabinets with just a simple jumper operation.
- **Stand Alone Operation**
With an on board Power connector and direct loop connect options, the Duo card can be used in a stand-alone installation without the need for a rack or controller to be present.
- **Onboard Ethernet, USB, Bluetooth, and UART**
Front panel connections for Ethernet 10/100 and USB with on board Bluetooth radio. Additional UART connection to BUS. Dual channel Ethernet (Commands/Data) plus web page interface.
- **Powerful ARM "Safety" Processor**
Utilizing ultra-robust ARM processor with dual lockstep safety operation, the I-loop duo is designed to be solid and to work without faults.
- **Onboard Data Storage**
Flash memory of 512MB (optional to 2GB) allows for data storage and advanced signal processing to be performed onboard in real time. With high speed access the memory provides complete flexibility of data storage and usefulness.
- **Solid Pull Handle**
Front panel has a sure grip solid pull handle for easy insertion and removal in rack installation. Unit is hot swappable.
- **Bicycle Detection**
Advanced signal analysis for detection of bicycles crossing loops. Optional controls to limit signal output to bicycles only.

Specifications:

- **Display**
Tri-color channel status (Red-Error, Green-Loop Activation, Yellow-Bicycle) indicators with 9 loop and mode selection indicators including a 7 Segment LED with Bluetooth com indicator.
- **Front Panel Sensitivity Adjustment**

Sens	-ΔL/L	Sens	-ΔL/L
0	0.64%	4	0.04%
1	0.32%	5	0.02%
2	0.16%	6	0.01%
3	0.08%	7	OFF
- **Frequency Adjustment**
16 selectable frequency settings per channel.
- **Communication**
Ethernet 10/100 RJ45 port on front panel
USB Standard B port for serial com and firmware programming
Bluetooth Class 2 radio with serial com operation
Serial UART for NEMA BUS UART compatibility
- **Power**
10-32VDC Input. Edge card Pin A/B & standalone power connector.
Typical < 100mA @ 24VDC
Peak < 180mA @ 24VDC
- **Physical**
 - Size – 4.5”H x 1.1”W x 8”L (11.43cm x 2.79cm x 20.32cm)
 - Weight – 12oz (0.34kg)
- **Environmental:**
Operating Range: -40°F (-40°C) to 165°F (72°C)
Humidity: 5% to 95% (non-condensing)

Diamond Traffic Products
76433 Alder Street
Oakridge, Oregon 97463
ph (866) 782-3903
fax (541) 782-2053
email: sales@diamondtraffic.com



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