

# MetroCount®

## traffic data specialists

# MC5805 Loop Counter

## MC5800 Series RSUs

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# MC5805 Loop Counter

## MC5805 Roadside Unit

The MetroCount 5805 RSU is a four input, binned vehicle counter, utilising inductive loops as the vehicle sensor. The MC5805 expands and complements the MetroCount family of RSUs, using the familiar MetroCount RSU enclosure, and MetroCount Traffic Executive's comprehensive setup, diagnostic and analysis software.



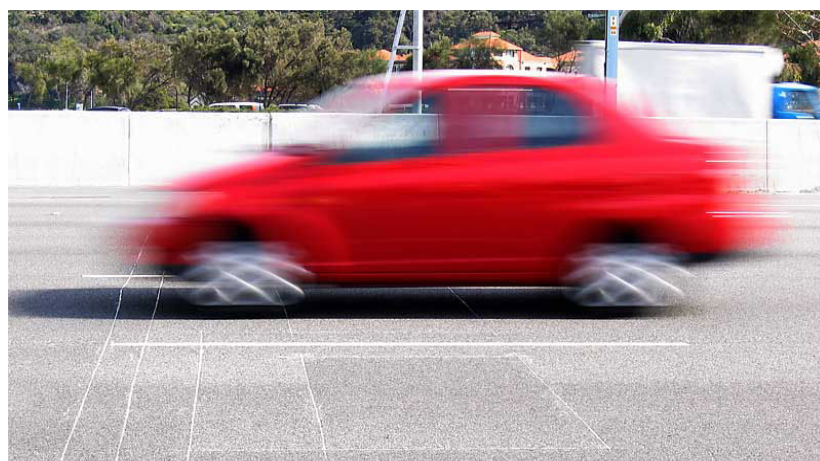
**MC5805 Loop RSU**

Key features of the MC5805:

- Dedicated, ultra-efficient loop oscillator per input.
- Multiple levels of transient protection.
- Robust, high-reliability loop input connector.
- 32-bit RISC core for ultra-low power consumption.
- Dataflash storage ensuring data integrity.
- External power capability, such as solar.
- Built-in loop monitoring and diagnostic tools.
- Adjustable bin size from five to 60 minutes.
- Configurable thresholds and lockout times.

## MC5805 Specifications

Loop Inductance Range	50 - 500 $\mu$ H (150 $\mu$ H optimum)
Loop Oscillator Range	45 - 65kHz
Power Consumption	<10mW (4 loops)
Power Requirements	6V internal alkaline battery, with optional 6-24V external
Internal Battery Life	180 days continuous use, or 5 years as backup for external
Operating Temperature Range	-10 to 60°C, 14 to 140°F
Storage Capacity	>4 years



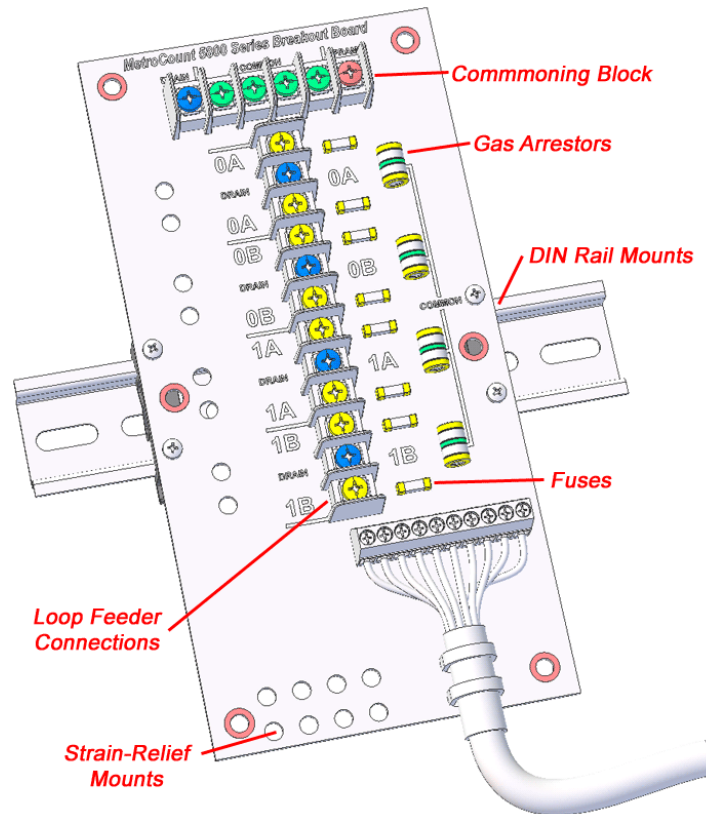
**Typical loop installation**

## MC5800 Series Accessories

A range of accessories is available for the MC5805, to provide flexibility in installation, and maintain reliable loop connections.

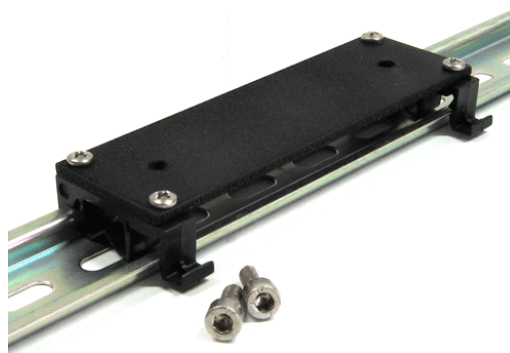
The MC5800 Series Breakout Board provides the interface between the MC5805's loop input connector, and the loop feeder cables. Features include:

- Integrated, flexible cable for connection to MC5805.
- Robust screw terminals, providing easy inspection of connections.
- Gas discharge tubes, providing an extra level of protection.
- Convenient commoning bar.
- Holes for cable-tie strain relief of all cables.
- Multiple mounting points, and optional DIN rail mount.



**MC5800 Series Breakout Board**

The optional DIN rail mount for the MC5805 eases installation and removal.



**MC5805 DIN rail mount**

The MC5805 RSU and accessories allow simple and neat cabinet layout using commonly available "C" and DIN rail hardware and cable trays.



**MC5805 Example Installation**

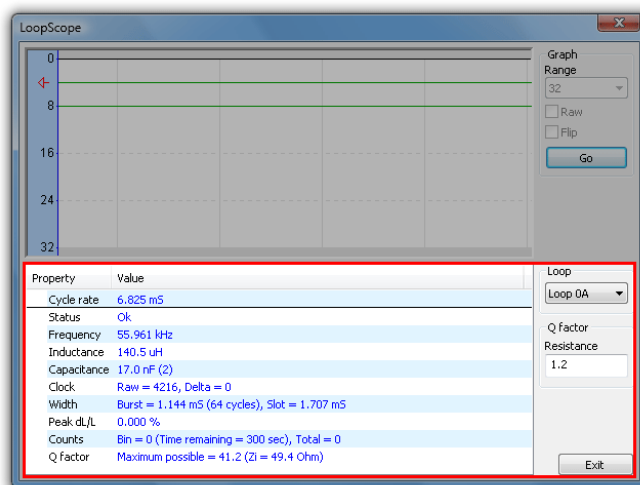
The MC5800 Series Loop Simulator is a small, spiral test loop, with the inductance of a typical full-size loop, for testing and verification of RSUs.



**MC5800 Series Loop Simulator**

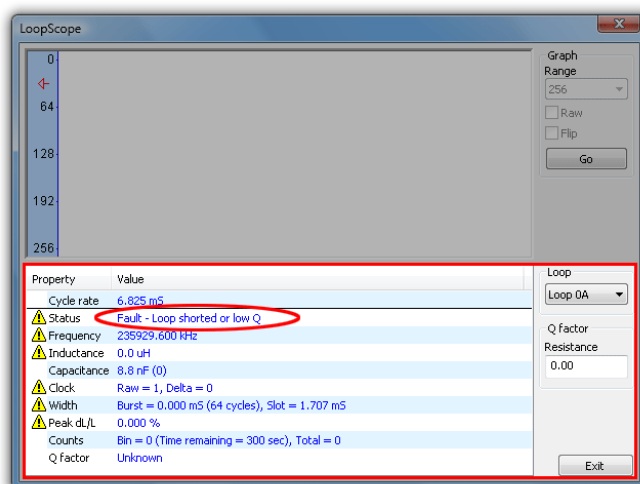
# LoopScope

MetroCount Traffic Executive's unique **LoopScope** provides crucial feedback about the properties and condition of a loop. Loop properties such as inductance, operating frequency and peak percentage deviation for the last vehicle, are automatically updated for the currently selected loop. An approximate Q-factor will also be calculated if the resistance of the loop is known.



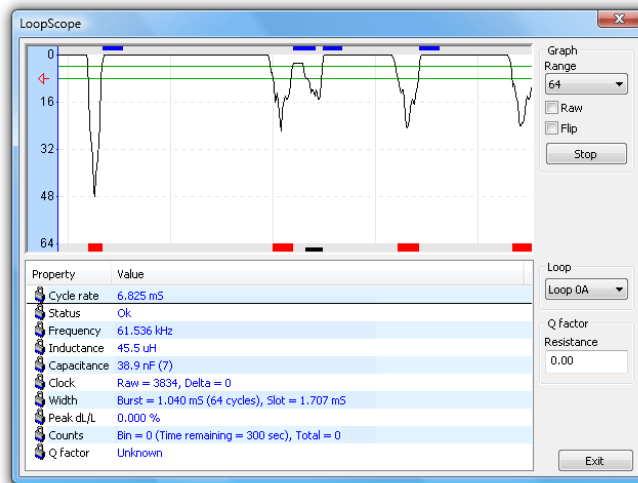
## Loop Properties

If any fault condition exists, such as the loop connection being open or shorted, or any of the loop properties are outside reasonable operating values, these conditions can be immediately identified, without the need for additional test equipment.



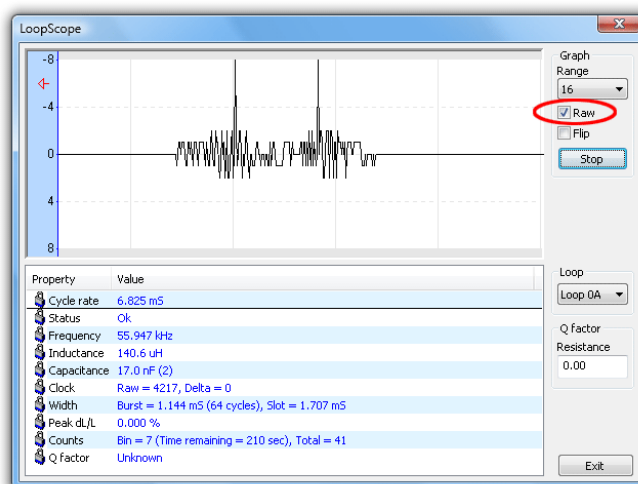
## Loop properties indicating a potential fault

The LoopScope also has a real-time rolling view of loop deviation caused by passing vehicles. The chart shows the relative drop in inductance as a vehicle passes the loop, as well as the trigger levels used to register a count. This gives a clear indication of how reliably differing types of vehicles are triggering the MC5805.



**Real-time view of passing vehicles**

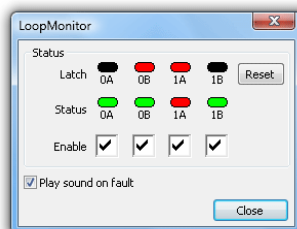
The LoopScope's Raw mode shows an unprocessed view of changes in inductance, useful for checking the loop is stable in between vehicles, and for identifying possible sources of interference as shown in the example below.



**Checking loops for stability and interference**

## LoopMonitor

MetroCount Traffic Executive's **LoopMonitor** is an extremely useful tool for testing the correct installation and reliability of all loop connections, such as screw terminals and crimp terminals. The **Status** lights indicate whether each loop is operating correctly (green), or has a fault condition such as an open or short (red). There is also the option to play a tone if a fault condition is detected.



**LoopMonitor for testing loop connector reliability**

By gently shaking cables and connections, any intermittent or faulty connections can be identified. The **Latch** lights indicate if any fault has occurred since the **Reset** button was pushed, highlighting even the shortest break or short in the connection.



## MC5805 Setup

The MC5805 is setup using MetroCount Traffic Executive's MTExec, which has been expanded to support multiple lanes. Each of the MC5805's four inputs can be assigned a lane number and direction.

The screenshot shows the 'Roadside Unit Setup' dialog box. It contains fields for Site (Leach 001), Attribute ([32.046204 +115.831782]), Operator (GC), and Start time (Immediately). The Site description is 'Leach Hwy west of Risely <70km/h>'. The Sensor layout is 'Vehicle sensors - Separate (Count)' with a Lockout (ms) of 400. The Direction and Lane settings are as follows:

Direction	Lane
0A 4 - West bound.	1
0B 4 - West bound.	2
1A 4 - West bound.	3
1B 2 - East bound.	4

The Spacing is set to 1000 mm - 3 ft 3.4 in. The dialog box has 'Cancel' and 'OK' buttons.

### MC5805 Setup

The MC5805's View mode displays the current bin totals, and the peak percentage deviation of the loop for the last vehicle.

The screenshot shows the 'Loop counts' dialog box. It displays the following data:

Input	Count	Peak dl/L
Input A	9	4.865 % (101)
Input B	15	4.668 % (97)

The dialog box has a 'Close' button.

### View of current bin totals

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