



Road Traffic Equipment Manufacturers

Home of the versatile SP4 intelligent loop detector platform



Bus & SCOOT Detection using RTEM SP4

The SP4 is a 3U mounted detector card suitable for installation in standard 19" rack systems. A direct development of the proven SP4 boxed classifier platform, the SP4 card provides all the functionality of the standalone signature-profiling classifier in a more standard format for use in signal controller cabinets.

NEW functionality brings greater flexibility

The boxed SP4 always offered the option of producing SCOOT output or Selective Vehicle Detection (SVDS) output – most commonly used for bus detection – for a single channel. The increased number of outputs designed into the SP4 card allows for both SCOOT and SVDS outputs to be produced for up to 4 channels from a single card.

Ease of use

Without any configuration, the SP4 will provide 4 SCOOT outputs, making it an easy choice for replacement of existing detector cards and minimising time spent at the roadside. SVDS operation (such as bus detection) can then be configured if/when it is required. These factory default settings also mean that in the event of a reset – either by an engineer or as a result of power failure – SCOOT outputs will resume automatically.

Bus Priority “Lite”

The ability to detect buses in mixed traffic lanes allows bus priority to be implemented at junctions where dedicated bus lanes are not practicable or affordable. Installing SP4s will be viewed positively by all bus operators (as it doesn't discriminate between operators) and can help meet targets on improving bus journey reliability with minimal expenditure. Where some junctions already have bus priority measures, the SP4 can be used to fill-in gaps, or easily expand the area covered.

Totally Loopy

Yes, we still use inductive loops for detection – because interpreting the signals they produce gives us so much more information on the type of vehicle causing the activation – allowing us to distinguish buses in mixed traffic.

The SP4 will work with existing SCOOT loops or with new arrays of 1 or 2 loops per traffic lane. With 2-loop arrays, the SP4 card benefits from the same fail-safe system as other SP4 models: if one loop is damaged, the SP4 automatically defaults to single-loop classification in that lane, to maintain uninterrupted operation. Where long loop feeders have to be avoided, the SP4 can be sited at the loop end of a wireless link, significantly reducing the likelihood of future damage.

Multi-functional – getting the most from infrastructure

The SP4 can be used for other SVDS applications – wherever an external device needs to be activated by a particular type of vehicle, vehicle speed, lane or combination thereof.

Whether being used for SCOOT, SVDS or both, the SP4 continually records and stores data on all passing vehicles. This information can be used by local authority Transport Monitoring / Traffic Data teams for historical analysis, reducing the number of separate traffic count sites which need to be maintained. The SP4 can store up to 50 million vehicle records. Data can be collected manually by removing and replacing the on-board CF memory card, via GSM/GPRS telemetry or using other any other existing comms. Data is compatible with all standard analysis packages.

Training & Support

RTEM provide commissioning, maintenance and technical support packages tailored to the customer's requirements. The SP4-C is covered by a 2-year warranty, extendable up to 10 years on request. RTEM's MicroDial engineer's terminal software is easy to use and is supplied free of charge. Practical training for engineers is available.



Technical Overview:

Inputs

- Power – in the range 6v to 24v DC.
- 4 inductive loop inputs.

Power consumption

Typically 11mA (can be powered by solar/wind where mains power not available).

Loop Scanning Frequency

Default 1 millisecond.

Outputs

The SP4-C provides 8 open collector outputs rated 40v. These are passive outputs, effectively pulling to ground when active.

- Outputs 1-4 are allocated to lanes 1 to 4 for SVDS switching (inc bus detection output). These outputs require configuration using MicroDial.
- Outputs 5-8 are assigned to loops 1 to 4 as SCOOT outputs. These are active irrespective of the unit configuration.

A 10-way screw-terminal connector at the rear of the board provides access to the outputs, ensuring the SP4-C can be used in any type of controller.

Memory

Configuration settings and traffic data are stored on a removable non-volatile 4GB Compact Flash (CF) memory card.

Interfaces

The SP4-C has 3 interfaces: a USB interface accessible from the front panel, a network interface accessible from the rear and a serial interface accessible from the middle.

- USB – link to engineer's terminal PC for configuration, monitoring, data retrieval.
- Serial RS232 – link to optional peripheral (GPRS/GSM modem, Ethernet interface).
- RS485 - network interface will allow multiple cards, other SP4 or GP8 units or 3rd party equipment to be connected.



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