

Heimdall installation 'Quick Reference' Guide for a Single Lane VA detector

Electrical Connections

Important Notes:

- When connecting this detector to a 24V AC source, please ensure that the 24V AC source is derived from an earthed secondary transformer (as used in standard traffic installations).
- Particular attention should be paid to the correct termination of the power supply wires. The RED wire should be used for the 24V AC/DC supply feed and the Black wire for the EARTHED supply return.
- When using a 24V AC supply, only use battery powered interface equipment (e.g. laptop, PDA). Do not connect mains powered/connected equipment to the Heimdall series of detectors, as this will cause the detectors to fail.

All Heimdall detectors are equipped with a captive lead and a standard 9 pin 'Buccaneer' connector. The pin out for this connector is as specified in the Highways Agency Specifications: TR2505, TR2506 & TR2507. The Heimdall series of detectors provide additional facilities, to that specified in the HA documents, using the spare connections within the 9 way connector.

For the Helios Signal Head the Heimdall bulkhead connector cable is generally fitted to the topmost indent on the red Aspect (either side). The hole should be drilled using the rear drill start point. For other signal head suppliers, please refer to the relevant documentation supplied with their products.

The wires from this connector should be terminated in accordance with the details shown in the table below.

Output Cable (Standard)

Output Cable (Standard) configuration – for variants: 667/1/31900/xx0 & /xx2.

Connector Pin No.	Comment	Colour Code
1	Detector Supply (24V AC/DC)	Red
2	Detector Supply Common (0v)	Black
3	Screen	Green
4	Detector O/P #1&2 (Common)	White
5	Detector O/P #1 (Normally Open)*	Yellow
6	Detector O/P #1 (Normally Closed)*	Blue
7	Not Used	Violet
8	Not Used	Orange
9	Not Used	Brown

Note: * This signal condition refers to the state when the detector is un-powered (detect state).

For pinout and wiring details of the output cable for either the SiTOS or 2nd output detector options, please refer to **section 2.1.3 & 2.1.4** of this installation guide.

DIP Switch Settings

All Heimdall detectors are equipped with switches that enable the unit to be installed, for the majority of applications, without the need for any special terminal (handset) equipment.

Access to these switches is gained by removal of the side cover. Before removal, note the cover's orientation and ensure it is replaced the same way round.

The switches on the first PCB (Digital Processor) control the basic functions of this detector and are as listed in the following table:

DIP Switch Number (PCB 1) – Digital Processor									
1	2	3	4	5	6	7	8		
SW 1, 2: Detection Direction 0, 0 = Detects vehicles moving towards unit (default) * 0, 1 = Detects vehicles moving away from unit * 1, 0 = Detects vehicles moving in both directions (single o/p) ** 1, 1 = Detects vehicles moving in both directions (dual o/p) ** 1		SW 3, 4: Detector LED 0, 0 = Normal Detector O/P 0, 1 = Permanently Off 1, 0 = Detector O/P for 20 mins. after power applied 1, 1 = Normal Detector O/P		SW 5: Detection Threshold 0 = 5.3 mph (8.5 km/h) 1 = 2.5 mph (4km/h)		SW 6: Detection Range 0 = Full 1 = Reduced		SW 7: DFM 0 = Default monitor time (20hours inactive) 1 = 'fault monitor time' is set by the Engineer's Terminal	
						SW 8: Remote Configuration 0 = Disabled 1 = Enabled			

¹ = This option requires a special I/O board to be fitted. In this dual output mode, detector o/p 1 will detect vehicles moving towards the unit and detector o/p 2 will detect vehicles moving away.

Key:

0	OFF
1	ON
*	Unidirectional detection
**	Bidirectional detection

Note: The switches provided on PCB 2 (Special Serial Interface card) control the operation of the Siemens Serial Interface (SiTOS), details of the switch settings for this PCB are shown in **Section 2.3** of this installation guide.

Detector Mounting Methods

1. When mounting to a Siemens Helios Signal Head, the Heimdall Above Ground Detector can be mounted in the slot on the top bracket, as shown in **Figure 1**, below.
2. Alternatively, a side mounting bracket can be fitted on top of the head fixing bracket, thus providing a slot and two holes for attaching the detector to, as shown in **Figure 2**, below.
3. Existing signal heads from a range of manufacturers may employ a mounting position which causes the detector to be 'masked' by the head's 'backing board'. In this situation a Heimdall Spacer Bracket Kit (667/1/31942/000) must be used. A typical installation of this kind is shown in **Figure 3**, below.



Figure 1

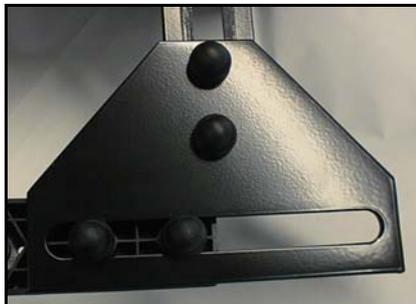


Figure 2



Figure 3

Detector Alignment

When aligning the detector always ensure the following:

1. There is a good line of site between the detector and point of detection with no obstructions such as signs, trees, etc.
2. There is sufficient strain relief and no risk of entrapment or pinching of the detector cables when installing or aligning the detector on a pole.
3. The detectors are located:
 - a. On the nearside primary signal pole (detector #1) for a 'nearside lane' detection.
 - b. On the offside primary signal (detector #2) for an 'outside lane' detection.
1. The detectors are 'aimed' at a position approximately 25 metres from the associated 'stop line', as shown in the diagram below.

