

Heimdall installation 'Quick Reference' Guide for a Volumetric Kerbside 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 and pedestrian 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.
- When installing this detector with a Siemens ELV controller or a Siemens ELV controller additional supply, please ensure the RED wire of the interface cable is connected to the POSITIVE (common) connector, the BLACK wire is connected to the NEGATIVE (-24VDC) source and the GREEN (screen) is connected to the POSITIVE (common) connector.

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. 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 variant: 667/1/31900/065

The Volumetric Detector must be used with the correct 9 Way 'Buccaneer' Bulkhead connector and lead, part numbers:

Detector 9Way Bulkhead 1.8m Cable Assy (used when Kerbside Volumetric Analysis required) 667/1/31961/101

Detector 9Way Bulkhead 5.0m Cable Assy (used when Kerbside Volumetric Analysis required) 667/1/31961/151

Detector 9Way Bulkhead 10m Cable Assy (used when Kerbside Volumetric Analysis required) 667/1/31961/111

These cable variants may also be described as SiTos variants

Connector Pin No.	Comment	Colour Code
1	Detector Supply (Positive) AC/DC	Red
2	Detector Supply (Negative) AC/DC	Black
3	Screen	Green
4	Volumetric Detector Common	White
5	Volumetric Indicator <i>lsb</i> (Closed for Low, Open for High*)	Yellow
6	Kerbside Detect (Normally Closed)*	Blue
7	Volumetric Indicator <i>msb</i> (Closed for Low, Open for High*)	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).

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. The initial calibration of the kerbside detector is carried out using the Dip Switches.

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 (Led window should face forward)

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

Note: Default settings are with all DIP switches set to '0'/ OFF.

DIP Switch Number							
1	2	3	4	5	6	7	8
Vehicle Filter 0 = Enabled 1 = Disabled	Not Used	Detector LED 0,0 = Normal Detector O/P 0,1 = Permanently Off 1,0 = Detector O/P for 20 minutes after power applied 1,1 = Normal Detector O/P		Recalibrate Toggle switch (0-1-0).	Detection Length 0 = Normal 1 = Reduced Controls the effective range of the detector.	DFM 0 = Default monitor time (20 hours inactivity) 1 = 'fault monitor time' is set by the Engineer's Terminal	Remote Config. 0 = Disabled 1 = Enabled

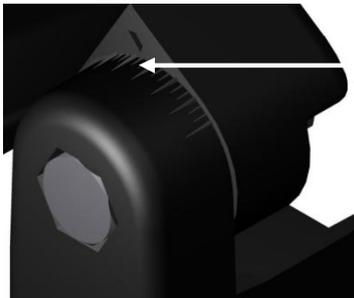
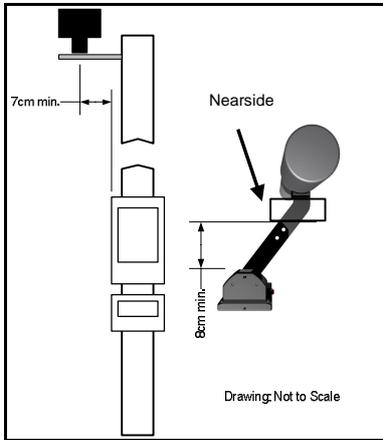
Key:

0	OFF
1	ON

Detector Mounting Methods

This detector is normally mounted on a traffic signal pole above a pedestrian demand unit with the detection zone covering the tactile paving on the pavement. The detectors position is very important as high levels of reflection can cause dead spots in the detection zone, so the alignment instructions should be followed and the zone tested.

When using the Kerbside Detector Extension Bracket two bolts must be used to secure this bracket.



60 degrees
(Four Large
Notches)

Detector Alignment

When aligning the detector always ensure the following:

1. The detector is mounted at an angle of 60° from horizontal (4 Large notches from back)
2. The centre of the detector should be a minimum of 7cm to the side of the Nearside/ Demand unit, and at least 8cm in front.
3. The detector should point in parallel to the kerb.
4. All parts of the required zone are in direct line of site of the detector and are not masked by cables, brackets or any other street furniture.

Several types of brackets are available to aid the installation of detectors (please see manual for more information)

Site Calibration

Once installed and aligned the following steps need to be carried out for the initial site calibration:

1. In order to allow for single person installation, or where there is no switch to turn off the detector supply from the controller; connect the 'inline installation cable' (see section 9.1 of the manual).
2. Remove the side door and toggle switch 5 (off – on – off), replace side door (detect LED will be flashing)
3. Move all equipment (Ladders etc.) away from zone and pole.
4. Ensure that the zone is clear of pedestrians and that no vehicles are passing (Use of push buttons to stop traffic is recommended).
5. Cycle the power to the detector using the inline installation Assistance cable, or by other means if not used.
6. Calibration will take approximately 10 seconds, during which time both the detect LED and the output LED on the 'inline installation cable' will flash several times.
7. If the zone has been empty during this time the detectors calibration will be complete and the Zone needs to be tested.

Zone Testing

Once the initial calibration has been carried out the zone needs to be tested.

1. If you are using the 'Inline Installation Assistance Cable', position it so you can view the LED from anywhere in the zone. If you have a second person to assist, ensure that they are positioned outside the detection zone.
2. Standing sideways to the detector (facing the road), move along the kerb stopping on every other tactile paving slab for approximately 10 seconds ensuring that the detector holds. Repeat this test throughout the required zone. *Brief moments of non- detect are quite normal but the detector should predominantly hold on while you are in the zone.*
3. When you're happy with the performance of the detector, remove the 'Inline Installation Assistance Cable' if fitted and plug the detector back in. The detector will use the previously calibrated values when it starts back up.
4. In cases where the detector is not performing as required, check alignment and make adjustments before performing the Site calibration and zone testing again.

Note: In cases where the alignment and calibration is not returning expected results please refer to the Heimdall Detector General Handbook (667/HB/31900/000) or the Volumetric Kerbside Installation Guide (667/HB/31900/365)

