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Radar detectors of the Heimdall family

High detection rate, easy installation

Heimdall radar detectors from Siemens: A family that provides valuable benefits, ...

“Heimdall” is the watchman of the Gods in Norse mythology. He requires less sleep than a bird and can see a hundred miles around him, by night as well as by day. A very fitting name for such a versatile radar-based detection system that offers so many benefits, we think

Wherever overhead detectors with high detection rates are required, the detectors of the Heimdall family are the solution of choice. Depending on the model chosen, they detect vehicles, pedestrians or traffic data and pass the information on to the associated traffic control systems. Their compact design ensures that unnecessary street clutter is minimized.

Easy configuration – typical applications don’t even require a PC

The Heimdall detectors are pre-configured for a direct start of the basic functions that are needed for the majority of typical applications. Simple DIP switches allow the on-site adaptation of the devices, completely without expensive and failure-prone configuration tools running on PC or PDA.

Interface to mobile devices requires no special software

For configuration and operation of detailed fault logs and advanced settings, a mobile PC or PDA is used. There is no need to buy expensive proprietary software, however. Heimdall detectors can be supplied with (optional) Bluetooth functionality, allowing these functions to be accessed via PC or PDA from ground level, without cabling.

Excellent performance in all environmental conditions

The performance of vision-based detection systems can be strongly compromised by extreme lighting conditions, fog, rain etc. In contrast, the radar technology that the Heimdall detectors use makes them completely immune to adverse optical effects or shadows and guarantees optimum detection reliability around the clock, in the brightest light as well as in the dark or in any weather conditions that limit visibility.

Extended lifetime, low maintenance

Heimdall detectors have a long useful life while requiring minimum maintenance. There is no need for regular front cleaning because the robust radar technology is not affected by dust or dirt deposits. An occasional check of the device’s alignment and operability (indicator LED on the housing side) is all that it takes.



... covers a wide range of applications ...

The Heimdall family is a complete range of overhead detectors for numerous applications in modern traffic and pedestrian management. The heart of every detector is a technologically advanced planar radar antenna system and a sophisticated digital signal processing engine. Each of the five "family members" has been designed for a specific type of application:

Vehicle detection at stop lines:

Heimdall Stopline detector

Wherever effective detection and monitoring of vehicles at signalized junctions or the detection of stationary vehicles is required, the Heimdall Stopline detector from Siemens is the preferred solution. User-selectable switches allow easy definition of presence time in set durations of five to thirty minutes. The detector has been designed specifically for stopline and vehicle counting applications.

Single-lane vehicle approach detector for distances of up to 30 m:

Heimdall Remote detector

Single-lane vehicle detection based on CW Doppler technology is generally used for monitoring approaching vehicles at signalized intersections. The data recorded is usually the basis for green time apportionment. The narrow radar beam makes it possible to restrict object resolution to a single lane at distances of up to 30 m. The detector is able to discriminate between approaching and receding traffic to prevent interference from vehicles on neighboring lanes.

For complex applications:

Heimdall Traffic Data detector

When not only the presence of vehicles, but also individual vehicle data is to be recorded, this detector type is at its best. It counts the vehicles and provides data on their speed as well as their length and class. The data can then be transmitted via a serial interface to an outstation or traffic controller.

For optimized pedestrian green phases:

Heimdall On-Crossing detector ...

Designed to be used in pairs, this CW Doppler solution provides reliable detection of pedestrians on signalized crossings. At Heimdall-monitored crossings, the time for pedestrian green "invitation to cross" periods can be set to a minimum and prolonged as required. This will significantly enhance the signaling quality and efficiency at the crossing compared to traditional fixed-period signalization.

... and Heimdall Curbside detector

With its unique "dual antenna" design, the Heimdall Curbside detector from Siemens dependably senses pedestrians waiting to cross the street at signalized crossings. The use of two integrated antennas allows the detector to provide excellent performance at a wide range of crossing types without the need to use complex and expensive set-up software.

... and offers interesting options

Bluetooth technology makes communication easier

All Heimdall detectors can be fitted with a Bluetooth option, enabling wireless communication with any PC and PDA right from ground level, eliminating the need for a man lift.

Additional outputs for further output data

As a standard, every Heimdall detector is equipped with an output to indicate detection events regarding vehicles or pedestrians. As an option, the detector can be fitted with an additional data output or a dedicated detector fault output, as required.

Serial data transmission for complex applications

For advanced applications, you can specify a serial communication interface for your Heimdall detector, enabling remote access to detector status and configuration parameters as well as to vehicle data such as speed, occupancy and class (if recorded by the detector).

An industry-standard two-wire RS485 communication link makes it possible to attach several detectors to a common pair of lines for individual interrogation using the widely used SiTos communication protocol from Siemens.

Pedestrian green phases exactly as required? No problem for Heimdall detectors because they reliably detect pedestrians on the crossing or waiting at the curbside



**Heimdall radar detectors:
So many benefits ...**

- Easy configuration
- Minimum maintenance
- Immunity to changing light conditions
- Simple replacement of existing devices
- Advanced 24-GHz technology

... and so many applications

- Vehicle detection at stop lines
- Vehicle approach detection
- Traffic data recording
- Detection of pedestrians on crossing
- Detection of pedestrians at curbside

Wherever overhead detectors with high detection rates are required, the members of the Siemens Heimdall family are the detectors of choice



Technical specification

All Heimdall detectors

Approval	EMV acc. to EN50293, radio approval acc. to EN300440
Supply voltage	24 V AC \pm 20% (48 bis 63 Hz) or 24 V DC \pm 20%
Supply current (typical)	143 mA (AC) or 113 mA (DC)
Microwave frequency	24.05 GHz to 24.25 GHz; 13.4 GHz to 14.0 GHz (pedestrian detection)
Dimensions	150 mm (h) \times 135 mm (w) \times 90 mm (d), to the bottom of mounting bracket
Weight	Less than 1.6 kg

Specific detectors

Stopline detector

Detection zone	Approx. 3 m from stopline
Vehicle approach speed	Not applicable (stationary vehicle detection system)
Maximum presence time	30 min, configurable via DIP switch settings or terminal
Detector location	Either on lateral signal pole or above the lane; angle to the horizontal line $>$ 45°
Detector mounting height	3 to 8 m

Single Lane Vehicle Actuation

Detection zone	10 to 35 m from the stopline
Vehicle approach speed	At least 8 km/h; configurable detection direction: approaching, receding, or both
Detector location	Either on lateral signal pole or above the lane
Detector mounting height	3 to 10 m

Traffic Data detector

Detection zone	Detection of individual vehicles below the detector; detection zone approx. 3 \times 3 m
Individual vehicle data	Speed, length, vehicle class
Detector location	Above the lane, e.g. on sign gantry
Detector mounting height	5 to 8 m

On-Crossing detector

Detection zone	Up to 12 m
Crossing width	Typically up to at least 4 m
Pedestrian minimum threshold speed	$<$ 0.5 m/s
Detector location	Either side of the crossing – no interference between units (no special adjustments needed)
Detector mounting height	3.3 to 4.5 m

Curbside detector

Detection zone	Wait areas up to 4.5 m wide (DIP switch setting for short and long wait areas)
Wait area width	Typically 1.0 m (when adjacent to pedestrian push button, typically 2.0 m)
Detection of pedestrians even when fully static	Yes
Detector location	On the same pole as associated pedestrian push button
Detector mounting height	3.3 to 4.0 m

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The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.