



SICK's NAV-LOC Localisation Sets AGVs Free from Reflectors

SICK has set Automated Guided Vehicles free from the need for reflectors or other physical markers with the all-in-one NAV-LOC localisation solution, enabling them to navigate more reliably and efficiently around shop floor and warehouse environments.

The SICK NAV-LOC (**L**ocalisation **O**n **C**ontour) is an easy-to-set up solution based on a SICK NAV 360° LiDAR scanner that can be integrated into new or existing AGVs. By recognising the pre-mapped contours of a factory or warehouse interior, the system eliminates the need for time-consuming and costly installation of reflectors, special paints, tracks, magnetic strips or coloured tapes.

“The introduction of the SICK NAV-LOC is an important step forward in the availability of contour-based localisation systems from SICK that promise more flexibility, lower cost of installation and maintenance for automated transport, stacking, and loading processes using AGVs,” says Neil Sandhu, SICK’s UK Product Manager for Imaging, Measurement and Ranging.

“Especially suited to medium and large AGVs, automated forklifts, shuttle systems and mobile robots, the beauty of the SICK NAV-LOC system is that it is straightforward to set up, and it is easy to adapt the navigation path when the surroundings are altered, or the AGV needs to be redeployed to another area.”

The SICK NAV-LOC system uses precise 2D data from the SICK NAV310 LiDAR scanner to match its position to a reference map stored on a SICK SIM2000 Sensor Integration Machine, which is also mounted on the AGV. As the data is processed, a SICK algorithm continually compares the distances retrieved from the scan data with the reference map to provide position and orientation information to the AGV controller.

Setting up the NAV-LOC system begins by simply 'teaching' the on-board SICK LiDAR scanner prominent contour features, such as walls, large static machinery, racking or bays, as the AGV is driven manually around its working environment.

Then, this data is used by SICK Service to create a precise reference map on behalf of the customer or machine builder, before being uploaded on the SIM2000, and easily commissioned on-site using SICK's SOPAS engineering tool.

Unlike conventional systems, the SICK NAV-LOC does not require numerous reflectors to be positioned in groups of threes along a route, to enable a laser scanner to triangulate its position. Tracks or magnetic strips installed in the floor or adhered to fittings, or special coloured or reflective lines, are also redundant. There is no risk of reflectors or paint being dirtied or obscured and there is no routine maintenance or route inspection needed to minimise possible AGV disruption.

Designed for robust operation in tough industrial conditions, the SICK NAV-LOC scans its contours 8 times a second. With a working range of up to 250m, it does not need special lighting and can even operate reliably with surfaces down to 10% remission at up to 35m distance.

For more information on the SICK NAV-LOC Scanner, please contact Andrea Hornby on 01727 831121 or email andrea.hornby@sick.co.uk.

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