Product Information

Stay on course.

The Laser Positioning System NAV 200

SICK

AGVs – automated guided vehicles

Reach your destination safely. On the route to improved cost-effectiveness: with NAV.

The demands made on modern goods transport and the optimum navigation of automated guided vehicles (AGVs) are rising. Commonly used conventional positioning systems, such as guide wire systems or magnetic track guidance, mainly operate within an unchanging layout of routes. The requirement for flexible systems is, however, clearly on the rise. Thus in semi-automatic operation, for example, AGVs are temporarily taken off set routes to carry out loading or unloading processes manually. Subsequently, AGVs are returned to automatic operation. Modern positioning systems such as the NAV 200 offer considerable advantages here. The system provides maximum flexibility as a result of its unrestricted determination of position, via reflectors outside the work area. Even vehicles taken off track temporarily can find their own way back to their fixed route independently.

Performance features					
Reflector Memory	40 layouts of 32 reflectors each		min. of 3 reflectors per layout		
	Accuracy for a layout with 6 reflectors with a smoothing depth of 4				
Average reflector distance	3 m	5 m	10 m	20 m	28.5 m
Typ. positioning accuracy	4 mm	8 mm	12 mm	15 mm	25 mm
Typ. angular accuracy	0.1°	0.1°	0.1°	0.1°	0.1°
Measurement area	360°				
Range to reflector marks	28.5 m				
W ≥ 10 cm; H ≥ 50 cm					
Rotational frequency	8 Hz ± 10 %		Positional data is calculated back		
			to the time of transfer		
Software Interface	Command Interface with XOR block check				

Far-reaching advantages.

Safe arrival – even under harsh ambient conditions

The NAV 200 laser-supported positioning system from SICK has a range of up to 28.5 m. Accurate position measurements can be achieved even under harsh ambient conditions.

Measurably more accurate: The NAV 200's measurement principle

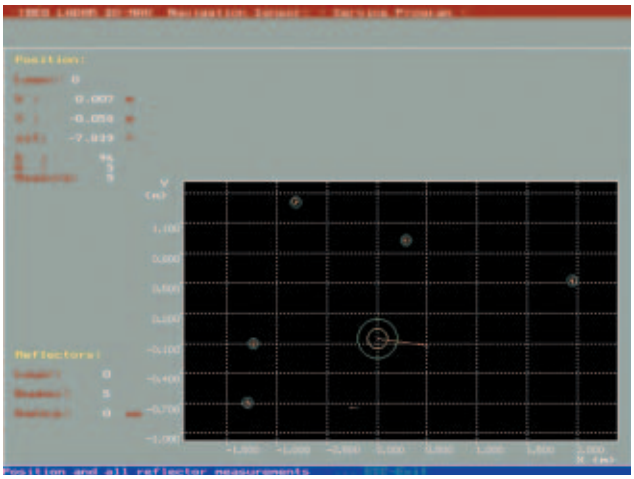
The NAV 200 operates on the same principle as optical radar. The scanning angle of 360° provides an all-round view and thus ensures detection of all reflectors within the particular operating environment. Unlike conventional laser measurement systems, the NAV 200 also measures the distance to the reflectors. The system is based on tried-and-tested time-of-flight measurement that is highly immune to interference. The NAV 200 supplies the on-board computer with information on the absolute vehicle position and orientation in relation to the absolute coordinate system of the surrounding area. Combination of distance values and the angle of detection of the reflectors ensures maximum accuracy.

Measurably rational: NAV 200 applications

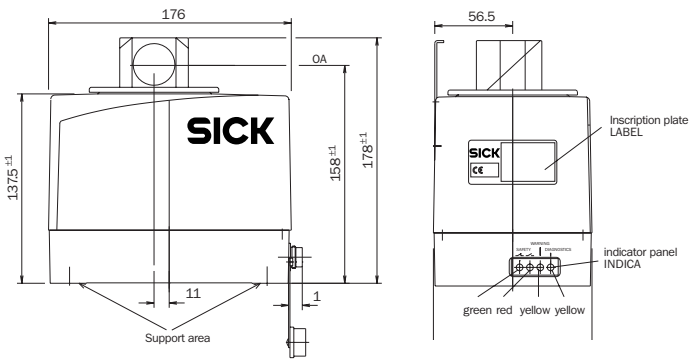
The NAV 200 can be employed for the support and control of docking processes without the need for supplementary auxiliary measures. The system operates completely autonomously.

Minimum costs

The NAV 200's positioning computer handles the evaluation of raw scanner data. Only the necessary positional data is transferred to the vehicle. Costly evaluation software is not required by the vehicle's computer. The system can thus be simply integrated into existing vehicle architectures.



User software for set-up and visualization. Actual display: NAV 200 and reflectors



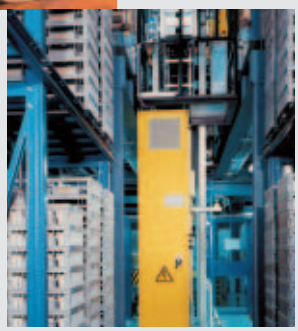
NAV 200 dimensions (in mm)

NAV 200 used on an automated guided vehicle (AGV).
Below: S 3000 Safety Laser Scanner

Our complete range of sensors provides answers to suit any application in the field of automation. Even under rugged ambient conditions objects are reliably detected, counted and positioned in respect of their form, location and surface finish, as well as their distances established with pin-point accuracy.

Comprehensive safeguarding of both personnel and machinery! As specialists in Sensor Technology, SICK develops and manufactures pioneering products for providing protection in hazardous zones, dangerous locations and for safeguarding access points. By providing services, which encompass all aspects of machine safety and security, SICK is setting new standards in Safety Technology.

System control, maintaining setpoints, optimising process control and monitoring the flow of materials – the instruments and services for Analysis and Process Measurement, supplied by SICK-MAIHAK, are setting the standards for these applications in terms of Technology and Quality.



Whether the tasks involve identification, handling, classification or volume measurement, innovative Auto Ident systems and laser measuring systems function extremely reliably, even under rapid cycle times. They conform to the latest Standards and can be simply and speedily integrated in all industrial environments and external applications.

SICK
Sensor Intelligence.

Contact:

Australia
Phone +61 3 9497 4100
1800 33 48 02 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg
Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil
Phone +55 11 5091-4900
E-Mail sac@sick.com.br

Ceská Republika
Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China
Phone +852-2763 6966
E-Mail ghk@sick.com.hk

Danmark
Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland
Phone +49 (0)2 11 53 01-270
E-Mail vzdinfo@sick.de

España
Phone +34 93 480 31 00
E-Mail info@sick.es

France
Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain
Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

Italia
Phone +39 02 27 40 93 19
E-Mail ced@sick.it

Japan
Phone +81 (0)3 3358 1341
E-Mail info@sick.jp

Korea
Phone +82-2 786 6321/4
E-Mail kang@sickkorea.net

Nederlands
Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge
Phone +47 67 81 50 00
E-Mail austefjord@sick.no

Österreich
Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska
Phone +48 22 837 40 50
E-Mail info@sick.pl

Schweiz
Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore
Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg

Suomi
Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige
Phone +46 8 680 64 50
E-Mail info@sick.se

Taiwan
Phone +886 2 2365-6292
E-Mail sickgrc@ms6.hinet.net

USA/Canada/México
Phone +1(952) 941-6780
1800-325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies in all major industrial nations at www.sick.com

8 009 327/03-04 · MRH/FD · Printed in Germany (03-04) · Subject to change without notice · 05 WB int46

SICK

SICK AG · Auto Ident · Waldkirch/Reute · Germany · www.sick.com