

Truck position measurement

Industries: Transportation
Application type: Position measurement

Description

In times of increasing traffic and ever more demanding tasks where time is of the essence, a system has been developed to speed up customs checks on HGV vehicles. Our device helps to significantly reduce time-consuming check-ups on vehicles with the positioning of the trucks done with sensors.



Fig 1: HGV vehicle being checked

Customs uses mobile X-Ray scanners to check the contents of trucks and containers. During this scanning process the movement of the scanner must be accurately determined.

Three sensors measure the position of the moving scanning device. With these three distance measurements the exact position of the scanner is determined. These Laser Distance Sensors are used in outdoor application. Therefore, the sensors need to be robust, while fulfilling the precise measurement requirements at all times. Due to their extended temperature range Dimetix Laser Distance Sensors are the best solution for this application.

Customer advantage

- Easy installation thanks to visible laser beam
- Easy configuration thanks to the free software
- Operation in the largest temperature range (-40°C to+60°C) possible
- Measuring ranges up to 100 m on natural surfaces
- Measuring ranges up to 500 m on reflective foil
- Accuracy $\pm 1\text{mm}$
- Repeatability $\pm 0.3\text{ mm}$
- Maintenance-free operation



DIMETIX APPLICATION EXAMPLE

AE-0401

Dimetix Sensors – the solution for applications with high precision requirements

Thanks to the clearly arranged product portfolio the evaluation of a suitable Dimetix distance laser sensor is simple and uncomplicated.

Dimetix sensors offer numerous features, which are integrated in each and every device as standard, including, among others, various interfaces like SSI, RS-422/485, RS-232 and 2 digital outputs.

Optionally, the Industrial Ethernet interfaces PROFINET, EtherNET/IP and EtherCAT are also available. Furthermore, all devices are IP65-protected and impress with a weight of less than 500 grams!

Particularly noteworthy, however, is the accurate measurement of 1 millimeter over distances of up to 500 meters, even under the most extreme conditions. This is possible with the sensors of the types DPE, DEN and DEH.

No less interesting are sensors of types DAE, DAN and DBN. Preferably, they can be used for projects which do not require a range over 500 meters or are cost-sensitive.

	DPE-10-500	DPE-30-500	DEN-10-500	DEH-30-500
PARTNUMBER	500630	500636	500637	500638
SPECIFICATION				
Typical accuracy $\cong \pm 2\sigma$	± 1 mm	± 3 mm	± 1 mm	± 3 mm
Mensurierung range on natural surfaces	0.05...~100 m	0.05...~100 m	0.05...~100 m	0.05...~100 m
Measuring range on reflective foil	~0.5...500 m	~0.5...500 m	~0.5...500 m	~0.5...500 m
Max. measuring rate	250 Hz	250 Hz	100 Hz	100 Hz
Operating temperature	-40...+60°C	-40...+60°C	-10...+50°C	-10... +60°C

	DAE-10-050	DAN-10-150	DAN-30-150	DBN-50-050
PARTNUMBER	500633	500632	500634	500635
SPECIFICATION				
Typical accuracy $\cong \pm 2\sigma$	± 1 mm	± 1 mm	± 3 mm	± 5 mm
Mensurierung range on natural surfaces	0.05...~50 m	0.05...~100 m	0.05...~100 m	0.05...~50m
Measuring range on reflective foil	~40...50 m	~40...150 m	~40...150 m	
Max. measuring rate	100 Hz	100 Hz	100 Hz	10 Hz
Operating temperature	-40...+60°C	-10...+50°C	-10...+50°C	-10...+50°C

