

Diameter of coils

Industries: Steel industry
Application type: Diameter of coils

Description

In the production of steel coils, precise diameter measurement is crucial to ensure that the coil reaches the desired diameter and that the material is utilised optimally. Accurate diameter control makes a significant contribution to reducing material loss and improving product quality. Dimetix Laser Distance Sensors offer reliable and robust solutions, especially in steel processing plants with demanding environmental conditions such as vibrations, heat and contamination. These sensors measure the diameter of steel coils in a non-contact and highly precise manner, enabling seamless control of the winding and decoating process. Dimetix Laser Sensors offer measurement accuracy of up to ± 1 mm, even over long distances. For installation, the sensors can be mounted at a safe distance from the coil to protect them from oil, dust and other contaminants. Mounting at a safe distance ensures that the sensors neither interfere with work processes nor are affected by the working environment. This ensures that the measuring performance remains consistently high, even under difficult conditions.



These sensors measure the diameter of steel coils in a non-contact and highly precise manner, enabling seamless control of the winding and decoating process. Dimetix Laser Sensors offer measurement accuracy of up to ± 1 mm, even over long distances. For installation, the sensors can be mounted at a safe distance from the coil to protect them from oil, dust and other contaminants. Mounting at a safe distance ensures that the sensors neither interfere with work processes nor are

Benefits of our Laser Distance Sensor:

- **Robust and non-contact:** Dimetix Sensors work reliably in harsh industrial environments, withstand strong vibrations and environmental influences without losing accuracy.
- **Precise measurements from a safe distance:** With a measurement accuracy of up to ± 1 mm even at long distances, Dimetix sensors guarantee precise monitoring and control of the coil diameter, which helps to reduce waste and maximise material utilisation.
- **Safe and practical installation:** The sensors can be placed away from the coil and therefore do not interfere with the operating personnel or the machines. This enables trouble-free integration into the production process.
- **Connectivity and integration:** Dimetix sensors offer a wide range of interfaces such as RS-485 or PROFINET and can be easily integrated into existing control systems. This enables real-time transmission of measurement data and improves control of the production process through continuous measurement values.



DIMETIX APPLICATION EXAMPLE

AE-0215

Dimetix Sensors – the solution for applications with high precision requirements

Thanks to the clearly arranged product portfolio the evaluation of a suitable Dimetix Laser Distance 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 $\cong \pm 2\sigma$	$\pm 1 \text{ mm}$	$\pm 3 \text{ mm}$	$\pm 1 \text{ mm}$	$\pm 3 \text{ mm}$
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 $\cong \pm 2\sigma$	$\pm 1 \text{ mm}$	$\pm 1 \text{ mm}$	$\pm 3 \text{ mm}$	$\pm 5 \text{ mm}$
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