

Laser controlled cut off solution

Industries: Wood / metal machines
Application type: Position measurement

Description

Traditional contact measurement methods are vulnerable to mechanical failure of parts, strings, and cables that wear, break, or stretch. They also have the potential to damage the surface being measured. Increasing operational demands, maintenance requirements, and the growing importance of efficiency, however, are factors in metals production. Range, accuracy and durability are the factors setting laser sensors apart from other measurement technologies. Dimetix Laser Distance Sensors can provide an economical approach to improving quality, as well as an affordable technological advantage for increasing efficiency, reducing waste, and eliminating production outages related to mechanical failure.



Fig 1: Behringer Saw

One of our partners recently played a leading role, on a team of integration partners, in the design and implementation of a laser-controlled cut-off system as part of an expansion project for a new steel production facility. The new facility is open-ended and subject to the harsh operating conditions typical in steel production, in addition to the massive Behringer saw at the heart of the steel bar cut-off solution.

The system includes the following components: 1 Dimetix FLS-C laser distance sensor, a variable linear motor drive and a monitor interface with integrated PLC control. All these findings, along with your lines and connections, have been linked in various housings together. The project also includes the design and manufacture of an adjustable, heavy-steel mounting bracket to withstand the harsh operating conditions.



Fig 2: Built-in Dimetix Laser Sensor

Customer advantage

- Easy installation thanks to visible laser beam
- 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 ± 1 mm
- Maintenance-free operation



DIMETIX APPLICATION EXAMPLE

AE-0509

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

