



DIAMEX

Non-contact diameter gauges

DIAMEX series gauges are instruments for non-contact and non-destructive measurement, control and regulation of the diameter and ovality of wires, cables and pipes of different sizes; the real-time continuous reading allows for the compliance check with product specifications, instantly detecting the appearance of defects and thus reducing the scraps.

OPERATING PRINCIPLE

The LED source emits a collimated beam across the central area so that the passing cable projects a shadow: the linear high-resolution CCD on the other side reads the trough-beam with very high frequency and continuously evaluates the entity of the shadow, which is equivalent to the diameter in that plane, while the cable travels.

By measuring the diameter in up to 3 different axes the entire circumference of the cable is covered and the ovality can also be evaluated both in magnitude and orientation.



MAIN FEATURES

ABSOLUTE PERFORMANCE

Due to the nature of the CCD, no calibration is required and the signal will always be the absolute measure of the diameter independently on the cable, wire or pipe nature, material or geometry.

FAST READINGS

With its newest generation processor DIAMEX can produce up to 30.000 readings per second, ensuring close and point-like measurements even in the fastest lines.

POWERFUL ANALYSIS SOFTWARE

DIAMEX not only is capable of ultra-fast reading but also data analysis at the same speed, therefore it can evaluate even the smallest variations along the length of the cable without missing any points. The software also saves the position of the defects, allowing for the unwinding of the cable to the various faults' positions.

LONG-LIFE RELIABILITY

DIAMEX is designed with solid-state devices and no moving parts, so that the absence of wear and drift allows for long-life performance without maintenance needed.

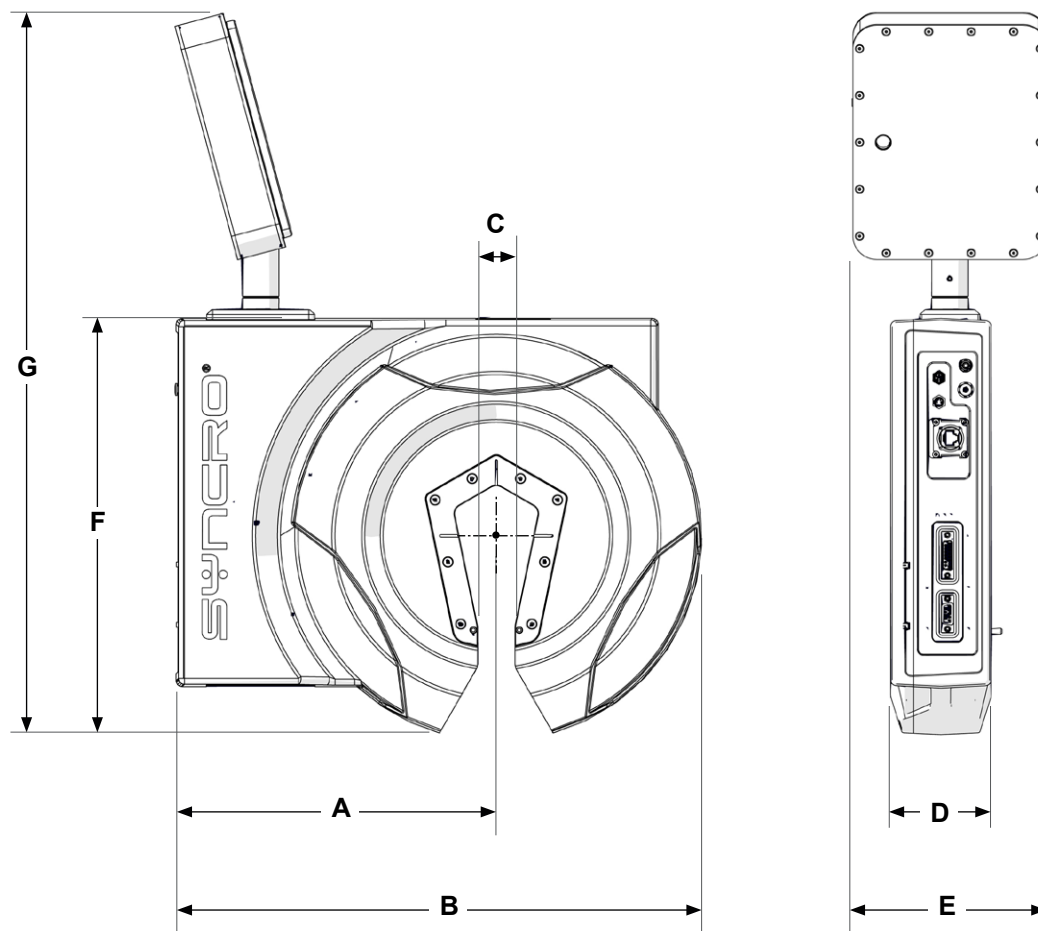
FUNCTIONAL DESIGN

The lower aperture allows for easy installation in the production line together with other operations such as product changes, and ensures that condensation, dirt and dust fall away instead of accumulating in the reading zone.

INDUSTRY 4.0 & IoT

DIAMEX is equipped with an integrated interface so that it can work as a stand-alone device, but due to its TCP/IP protocol it can also easily communicate with any PLC or supervisor through a simple software package, making it ready for remoting and Industry 4.0.

TECHNICAL DATA



	A	B	C	D	E	F	G
Dimension	265 mm	435 mm	30 mm	85 mm	160 mm	345 mm	600 mm
Minimum Diameter	0,2 mm						
Maximum Diameter	30 mm						
Accuracy	1 µm						
Resolution	0,01 µm						
Max scan speed	30,000 Scans/sec						
Measurement Mode	Solid, Glass, Helix (Twisted, Multicore, Envelope Diameter)						
Power requirement	18-30 vdc, 30 W max						
Protection rating	IP65						
Temperature range	5°C - 45°C (41°F - 113°F)						