

Accurate In-line Thickness Measurement for Steel/Metal Profiles by Dynamic Double Scan (DDS) from Zumbach Electronics

Zumbach Electronics enhanced and extended its line of systems for accurate, non-contact measuring systems for precision profiles made of steel, copper or any metal. The Dynamic Double Scan (DDS) method is the solution.

The Problem

Accurate thickness measurement of precision profiles in the production line, e.g. cold rolling or drawing, has always been a difficult task.

While tactile systems are subject to wear or damage on the contact points, all optical systems have the problem of large errors, as soon as there is slightest torsion of the profile relative to the optical sensor. A forced mechanical guiding is often prohibitive because of damage to the product.

Vision systems based on the light cut principle can be an alternative but are often too expensive.

The New Solution

Zumbach, who has a long record with ODAC[®] laser scanners for diameter control of wires, cables and steel products, offers now a new and elegant and efficient solution at moderate cost.

With a high-speed laser head, mounted on a new pivoting device, the relevant thickness is **detected and measured by Dynamic Minimum Value Detection. This method delivers highly accurate readings, fully independent of the product orientation or variable torsion.** High measuring rates of up to 2000/s and sophisticated processor software are an essential part of the system.

The system is basically composed of an ODAC F laser head, a DVW pivoting device for the dynamic scanning and an USYS processing/display unit. If the width is also of interest, ODAC-XY heads with 2 axes capture thickness and width simultaneously. Various laser head models and DVW devices are available to cover each particular application and size.

Key Data

Profile sizes:	1 to approx. 50 mm
Profile speed:	Unlimited
Measured parameters:	Thickness or thickness/width
Laser scanning:	Up to 2000/s
Repeatability:	Within +/- 0.001mm
Accuracy:	Typ. within +/- 0.002...0.003 mm

...see page 2 for pictures

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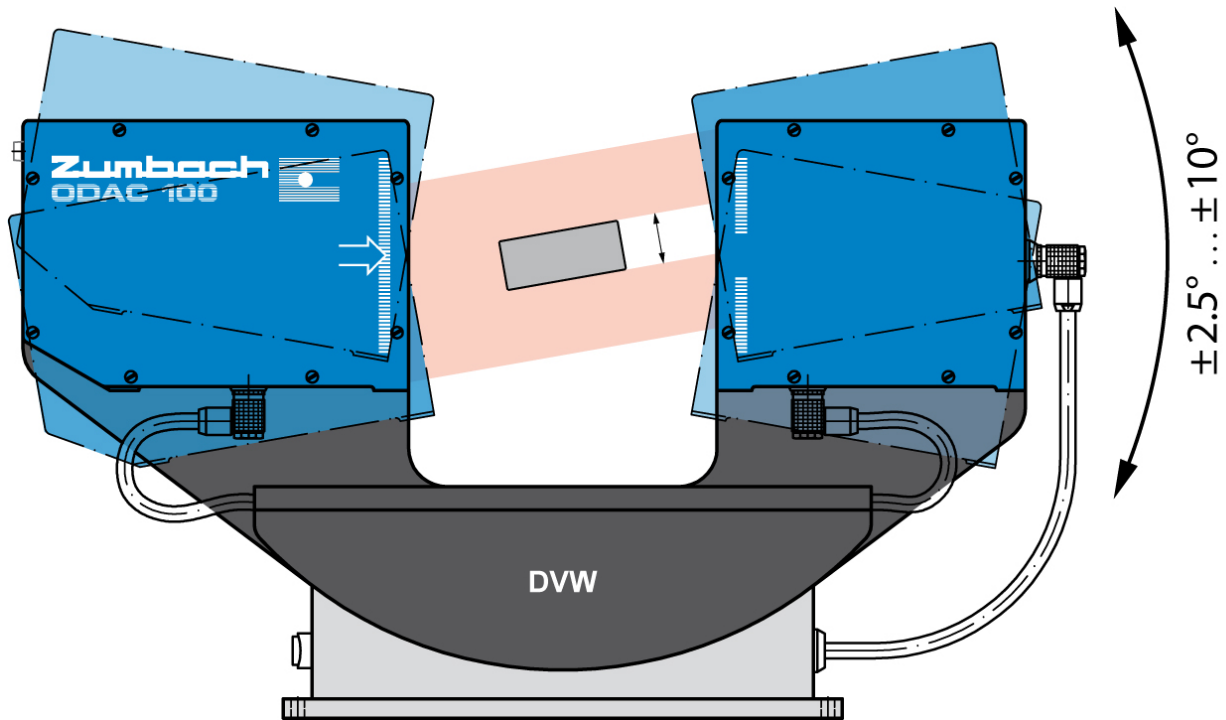
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Pivoting device DVW with single axis ODAC laser head
(A selection of single and dual plane ODAC heads is available at choice)

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