Diameter Scanner and Flaw Detector in One Unit
ZUMBAH, pioneer of on-line measurement and its triple-axis ODAC TRIO laser diameter gauges belong to the market leaders of super fast diameter measuring devices. 3 synchronized measurement axis in 1 single plane provide comprehensive measurement coverage, peak-precision diameter and ovality measurement as well as precise and super-fast flaw detection capabilities. Such combinations will help to reduce system costs due to the combination of diameter measurement and flaw detection into one single measuring device. Thanks to the compact design, the ODAC® 63TRIO measuring heads can be used in virtually every manufacturing process in the wire and cable industry, the plastics and rubber industry as well as the steel and metal industry. Known for precision, quality and ease of use the laser measuring heads from ZUMBAH are among the best of their class. The technological basis considered for these measuring heads is always of the latest cutting edge technology, with laser diodes as light sources combined with intelligent and powerful measured-value processors which facilitate a simple and flexible integration. Our long-standing experience as a pioneer of in-line measuring technology, combined with high production figures result in a product with an excellent price-performance ratio.
Amongst the outstanding features are features such as single scan calibration (CSS), single scan monitoring and high data rate output of up to 200* data packages per second. The measuring heads can be used with all line speeds. Vibrations during production have no noticeable influence on measurements.

Adaptive signal processing in the measuring units increase accuracy
All the measuring heads of the ODAC® series have adaptive signal processing (patent DE3111356), which makes subsequent regular re-calibrations superfluous. Only in instances of component exchange or compliance to calibration regulations ISO 9001 etc. would re-calibration be required. All the relevant parameters for accuracy are continuously monitored by the measuring system and automatically compensated. This is valid in particular also for possible long-term changes of the behaviour of the scanner motor or the measuring electronics.

* Depending on the measuring head model, the number of transmitted measured values as well as the baud rate of the interface.

Main Advantages
- 9000 measurements per second (FF version)
- 3 synchronized measurement axes on 1 single plane
- Single scan monitoring – up to 9000 scans/second
- Reliable detection of the ovality
- Detects any deviation from roundness of oval and out-of-round with polygonal shape (multi-lobe)
- Yields highly accurate mean value, regardless of the orientation of the product ovality
- Computes accurate values of circumference and cross section (important for fittings of tubes and hoses)
- Increased measurement accuracy and reliability
- High dirt and dust tolerance
System Overviews

**ODAC® 63TRIO-EN-RS (serial interface)**

The built-in processor allows the acquisition and monitoring of the measured values, as well as statistic functions, parameter selection and many other functions. The RS version communicates via the integrated RS interface with a higher level system, like USYS from Zumbach, Host computer (or PLC). The Zumbach protocols ODAC or Host are selectable according to choice. The service interface (Ethernet TCP/IP) is used for configuring the measuring system.

**ODAC® 63TRIO-EN-DP (Profibus DP), -EN-PN (Profinet IO) or -EN-EI (EtherNet/IP)**

The built-in processor allows the acquisition and monitoring of the measured values, as well as statistic functions, parameter selection and many other functions. These versions communicate via the integrated Profibus DP, Profinet IO or EtherNet/IP interface with a higher level system. These interfaces are designed for high speed data transfer at the sensor actuator level. At this level, controllers such as programmable logic controllers (PLC’s) exchange data via a fast serial (Profibus DP) or Ethernet (Profinet IO) connection with their distributed peripherals such as drivers, valves or intelligent slaves like ODAC measuring heads from Zumbach.

**ODAC® 63TRIO-EN-EN (Ethernet)**

The built-in processor allows the acquisition and monitoring of the measured values, as well as statistic functions, parameter selection and many other functions. The EN version communicates via the integrated EN interface with a higher level system. The measured values and parameters are integrated and transferred using a selectable Zumbach protocol (ODAC or Host protocol) in standardized packages of the TCP/IP. TCP/IP allows the data transfer through existing networks such as LANs and others.

**ODAC® 63TRIO-J with the corresponding external ZUMBACH processors**
**Accessories**

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor stand ST2-ODAC 63TRIO</td>
<td>ST02.103.75750</td>
</tr>
<tr>
<td>Vertically adjustable. Line height (H): 900…1200 mm (35.43...47.25 in.)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swivel floor stand ST2-ODAC 63TRIO</td>
<td>ST06.150.63000</td>
</tr>
<tr>
<td>Vertically adjustable. Line height (H): 860…1150 mm (33.86...45.28 in.) Swivel angle: 90° (upward)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mountable support for ST2</td>
<td>ST02.060.190</td>
</tr>
<tr>
<td>Lateral support, including rotary holder (USY.0002.910) for table top version of the USYS 20 processor.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limiting socket VF63-ODAC63</td>
<td>ODAC.631.420</td>
</tr>
<tr>
<td>The ceramic limiting socket is only a device to delimit the measuring field. It has no guiding function.</td>
<td></td>
</tr>
</tbody>
</table>

**Set of calibration standards**

ODAC.9500.89000
Delivered in a protection box, comprising:
- Calibration standard holder
- Calibration standard ø 2 and 50 mm
- Certificate
Other calibration standards on request.

**Local display LOC 01**

LOC.011.01000
Is mounted directly on the measuring head. Requires connection cable # ODAC.9167.00004 between LOC 01 and the measuring head. Not for ODAC J versions.

**Analogue interface AI 4-ODAC**

ODAC.000.100
Interface with 4 analogue and 5 digital outputs.
Direct connection of the digital input (proximity switch). Not for ODAC J versions.

**Connector**

A10 125 0070
Counter connector for digital input "I/F". Connection of a proximity switch. It is not required, if the analogue interface AI 4-ODAC is already used. Not for ODAC J versions.

**Proximity switch**

A16 100 0110
The proximity switch is used for the length detection. Main data:
- Standard: EN 60947-5-6 (NAMUR, NC)
- Switching distance max. 2 mm (0.08 in.), flush mounting
- Ambient temperature: -25...100° C (-13...212° F)
- Protection: IP 67, Connection: PVC cable 2 m (6.5 ft.)

**Dimensions**

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**Signal cable L2 Bus 1DR22 x 02R**

A13 252 0150
For the connection between the Profinet interface and the customer's data acquisition system. Only for ODAC DP version.

**LED**

Dimensions in mm (inch)
Measuring field M

M stands for measuring field height. In practice, the largest object of surface defects, such as lumps and neckdowns, can be measured in the measuring plane, incl. lateral jitter of the scans.

Min. object ø 3.5 mm (0.14 in.) (standard); xN (Narrow beam version) 0.5 mm (0.02 in.)

Width of laser beam

Repeatability (3σ)

The connection between ODAC 63TRIO-EN-RS/-DP/-EN/-PN/-EI and the higher level system is to be provided by the customer (via serial interface).

ODAC 63TRIO-J

Available lengths: 1, 2, 5, 10, 15, 20, 25 and 30 m (3.3, 6.6, 16.4, 32.8, 49.2, 65.6, 82 and 98.5 ft.); Longer cables on request.

Available lengths: 1, 2, 5, 10, 15, 20, 25 and 30 m (3.3, 6.6, 16.4, 32.8, 49.2, 65.6, 82 and 98.5 ft.); Longer cables on request.

Ordering Information

When ordering, please specify the following:

1. Measuring head models: ODAC 63TRIO-EN-RS/-DP/-EN/-PN/-EI, ODAC 63TRIO-J
2. Connection cable
3. Processor model (Data acquisition system), only for ODAC 63TRIO-J: USYS 20, USYS 200, USYS IPC 1e, USYS IPC 2e, CI 1J/EN-RS, CI 1J/EN-DP, CI 1J/EN-EN, CI 1J/EN-PN, CI 1J/EN-EI. Please ask for corresponding data sheets.

Technical Data

Available lengths: 1, 2, 5, 10, 15, 20, 25 and 30 m (3.3, 6.6, 16.4, 32.8, 49.2, 65.6, 82 and 98.5 ft.); Longer cables on request.

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