Modern two axis measuring head from the ODAC® laser measuring unit series. Highest accuracy, robustness, reliability and functionality distinguish all the laser measuring heads from ZUMBACH. Thanks to the compact design, the ODAC® 14XY 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 ZUMBACH 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 125* 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.

Specially suited for:

Fine and extra fine wires, enamelled wires, cables, steel cords, fibres, medical tubing, extruded plastic or rubber products.

Available for 2 measuring ranges:

- Standard version from ø 0.06 mm (.0024 in.)
- Micro version from ø 0.015 mm (.0006 in.)

Thanks to the use of a blue laser at the micro versions, smallest diameters within the micrometer range can be measured.

Flexible communication integration

- RS (-232/-422/-485)
- DP (Profibus DP)
- EN (Ethernet TCP/IP)
- PN (Profinet IO V2.3)
- EI (EtherNet/IP)
- J/J-M (digital, for connection to USYS processors)

Dimensions

Dimensions in mm (inch)
System Overviews

**ODAC® 14XY-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® 14XY-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 (or 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® 14XY-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® 14XY-J with the corresponding external ZUMBACH processors**
Accessories

**Description** | **Order Number**
---|---
Floor stand ST2-ODAC 14XY | ST02.061.14000
Floor stand ST2-ODAC 14XY 45° | ST02.061.14010

Vertically adjustable. Line height (H): 900...1200 mm (35.4...47.25 in.)

> Special lateral supports with rotary holder are available for USYS 20 processors (corresponding data sheets are available on request).

Swivel floor stand ST6-ODAC 14XY | ST06.139.14000

Vertically adjustable. Line height (H): 860...1150 mm (33.86...45.28 in.)

Pressurized dust guard. Recommended for wire drawing applications.

> Metal bushing with ceramic inserts.

For the air curtain it’s essential to select the corresponding bushing pair:

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Bushing Ø</th>
<th>Max. Product Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.ODAC.151.1440</td>
<td>1.5 mm (.06 in.)</td>
<td>1.000 mm (.04 in.)</td>
</tr>
<tr>
<td>B.ODAC.151.1450</td>
<td>2.5 mm (.10 in.)</td>
<td>2.000 mm (.08 in.)</td>
</tr>
<tr>
<td>B.ODAC.151.1460</td>
<td>3.5 mm (.14 in.)</td>
<td>3.000 mm (.12 in.)</td>
</tr>
<tr>
<td>B.ODAC.151.1470</td>
<td>4.5 mm (.18 in.)</td>
<td>4.000 mm (.16 in.)</td>
</tr>
<tr>
<td>B.ODAC.151.1480</td>
<td>5.5 mm (.22 in.)</td>
<td>5.000 mm (.20 in.)</td>
</tr>
<tr>
<td>B.ODAC.151.1500</td>
<td>6.5 mm (.26 in.)</td>
<td>5.500 mm (.22 in.)</td>
</tr>
<tr>
<td>B.ODAC.151.1510</td>
<td>8.0 mm (.32 in.)</td>
<td>7.000 mm (.28 in.)</td>
</tr>
<tr>
<td>B.ODAC.151.1530</td>
<td>10.0 mm (.40 in.)</td>
<td>9.000 mm (.35 in.)</td>
</tr>
<tr>
<td>B.ODAC.151.1530</td>
<td>11.0 mm (.43 in.)</td>
<td>10.000 mm (.40 in.)</td>
</tr>
<tr>
<td>B.ODAC.151.1540</td>
<td>12.0 mm (.47 in.)</td>
<td>11.000 mm (.43 in.)</td>
</tr>
</tbody>
</table>

> Suitable maintenance kit see below.

Hose assembly for air curtain

Compressed air hose assembly with connection nipples for the air supply of the standard mounted air curtains/splash guards.

Maintenance kit

<| A34 200 0050 |

Blower unit GE 6

Order number: GE.601.06000 (230V/50Hz/0.2kW)
Order number: GE.601.06010 (115V/60Hz/0.2kW)

Blower unit LV.G-ODAC 15 ODAC 15/18XY

Protective device for wire drawing application. It is supplied with filtered air by the GE 6 blower unit. The air curtain is supplied with 2.0 m (6.5 ft.) hose and two hose clamps.

Air curtain LV.G-ODAC 15 ODAC 15/18XY | ODAC.151.140

Horizontal: 45° tilt

Opening angle: 90°

> Vertical: 90° tilt

Air curtain LV.G-ODAC 15 ODAC 15/18XY | ODAC.151.400

Vertical: 90° tilt

Opening angle: 90°

Local display LOC 01 | LOC.011.01000

Not 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.

VISU-Touch

The VISU-Touch is a rugged and compact 7" touch screen. This universal PoE (Power over Ethernet) powered touch screen enables display of the integrated web interface of the connected ODAC measuring head. It is supplied with a holder for fixing on the ODAC measuring head.

Not for ODAC J versions.

Ethernet cable

Ethernet network cable cat. 6 S/FTP with RJ45 connectors.

XXX in the order number stands for: x 0.1 m, e.g. A15 608 8025 stands for 25 x 0.1 m and thus a cable that is 2.5 m long).

Ethernet network cable A15 608 80XX | A15 608 80XXX

Power over Ethernet supply for devices that do not support PoE

Power over Ethernet supply for devices that do not support PoE or a long Ethernet cable.

A09 502 0070

PoE Injector 48V, 24W | A09 502 0070

PoE Injector 48V, 24W

Power over Ethernet supply for devices that do not support PoE or a long Ethernet cable.

Analogue interface AI4-R

Interface with 4 analogue, 5 digital and 2 relay outputs.

Direct connection of the digital input (proximity switch).

Not for ODAC J versions.

Connector

Counter connector for digital input "1/1/F".

Connection of a proximity switch. It is not required, if the analogue interface is already used.

Not for ODAC J versions.

Signal cable L2 Bus 10DR2 2 x 02R

For the connection between the Profibus DP interface and the customer's data acquisition system. Only for DP version.

A13 252 0150
Technical Data

Model ODAC 14XY-

<table>
<thead>
<tr>
<th>Version</th>
<th>Standard</th>
<th>Micro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring field M (m)</td>
<td>16 x 16 mm (0.64 x 0.64 in.)</td>
<td>3 x 3 mm (0.12 x 0.12 in.)</td>
</tr>
<tr>
<td>Min. object ø</td>
<td>0.06 mm (0.0024 in.)</td>
<td>0.015 mm (0.0006 in.)</td>
</tr>
<tr>
<td>Scanning frequency</td>
<td>2 x 500 scans/s</td>
<td>2 x 500 scans/s</td>
</tr>
<tr>
<td>Scanning speed</td>
<td>65.8 m/s (215.9 ft./s)</td>
<td>65.8 m/s (215.9 ft./s)</td>
</tr>
<tr>
<td>Width of laser beam (m)</td>
<td>0.5 mm (0.02 in.)</td>
<td>0.5 mm (0.02 in.)</td>
</tr>
<tr>
<td>Repeatability (3σ)</td>
<td>0.16 µm (0.000062 in.) (Averaging time 0.1 s)</td>
<td>0.07 µm (0.000027 in.) (Averaging time 1 s)</td>
</tr>
<tr>
<td>Measurement error</td>
<td>±0.8 µm (0.000032 in.)</td>
<td>±0.3 µm (0.000012 in.) range up to 0.5 mm (0.02 in.)</td>
</tr>
<tr>
<td>Resolution (m)</td>
<td>0.1 µm (0.000005 in.)</td>
<td></td>
</tr>
</tbody>
</table>

Light source:
- VLD (Visible Laser Diode) 650 nm, class 2 (device)
- VLD (Visible Laser Diode) 405 nm, class 2 (device)

Ordering Information
When ordering, please specify the following:

1. Measuring head models: ODAC 14XY-EN/-RS/-DP/-EN/-PN/-EI (-M), ODAC 14XY-J/J-M
2. Connection cable
   - For the ODAC 14XY-EN-DS versions, the connection to a higher level system is made with the signal cable # A13 252 0150.
   - For the ODAC 14XY-EN/-PN/-EI versions, the connection from the measuring head to the customer’s Ethernet port must be provided by the customer.
   - Length of the connection cable between ODAC 14XY-J/J-M and the processor.

3. Processor model (Data acquisition system), only for ODAC 14XY-J/J-M: WIREMASTER, 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.

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All devices equipped with lasers have been built in accordance with the requirements of IEC/EN 60825-1:2014 and CDRH (USA) and carry the prescribed warning labels according to IEC/EN 60825-1:2014.

• Technical specifications are subject to change without notice.