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® 18XY 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 300* 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 9000/9001 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.
System Overviews

**ODAC® 18XY-EN-RS (serial interface)**

The built-in processor allows the acquisition and filtering 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, ASCII or the network capable ANSI software protocols are selectable according to choice.

**ODAC® 18XY-EN-DP (Profibus DP) or -EN-PN (Profinet IO)**

The built-in processor allows the acquisition and filtering of the measured values, as well as statistic functions, parameter selection and many other functions. These versions communicate via the integrated Profibus DP or Profinet IO 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® 18XY-EN-EN (Ethernet)**

The built-in processor allows the acquisition and filtering 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 selectable Zumbach protocols (ODAC or ASCII) are integrated and transmitted in the well known TCP/IP protocol. TCP/IP allows the data transfer through existing networks such as LANs and others.

**ODAC® 18XY-J with the corresponding external ZUMBACH processors**

- WIREMASTER
- USYS 20
- USYS 200
- USYS IPC 1e
- USYS IPC 2e
**Accessories**

**Description**

- **Pivoting support, DVW 1-ODAC 18XY/4-4-F**
  - Mechanical device which pivots the measuring head continuously around the normal measuring axis within +/– 2.5°, 3°, 1.5° or 1° (selectable). With this method, the height and width of the profile can be measured accurately, regardless of its angular position (twist).
  - Part number: DVW.101.01800

- **Adjustment device, DW 1 +67.5°/-22.5°**
  - For a continuous adjustment of the inclination of both measuring axes according to the horizontal and vertical axis.
  - Use only with pivoting device DVW.101.01800
  - Part number: DW.101.900

- **Adjustment device, DW 1 ± 45°**
  - For a continuous adjustment of the inclination of both measuring axes according to the horizontal and vertical axis.
  - Use only with pivoting device DWV.101.01800
  - Part number: DW.101.920

- **Adjustment device, DW 1-ODAC18XYfix +67.5°/-22.5°**
  - For a continuous adjustment of the inclination of both measuring axes according to the horizontal and vertical axis.
  - Part number: DW.101.930

**Floor stand ST1-DVW 1 (horizontal)**

- **Floor height (H):** 900...1200 mm, (35.4...47.25 in.)

**Floor stand ST1-DWV 1 45°**

- **Floor height (H):** Vertically adjustable.

**Floor stand ST2-DVW 18XY**

- **Floor height (H):** Vertically adjustable.

**Floor stand ST2-DVW 18XY 45°**

- **Floor height (H):** Vertically adjustable.

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

- **Swivel floor stand ST6-ODAC 18XY**
  - **Floor height (H):** 880...1150 mm (33.86...45.28 in.)
  - Swivel angle: 90° (upward)

- **Levelling feet mounting set**
  - To be mounted on the existing base plate of the stand.

- **Limiting socket VF15-ODAC15**
  - Used as a device to delimit the measuring field.
  - It has no guiding function!

- **V-Guide VF6-ODAC15**
  - V-guide for measured object diameter up to 6 mm (.24 in.).

- **Flat Guide FF1-ODAC15**
  - The guide is used for measured object diameters up to 0.25 mm (.01 in.), where the measured object must be guided exactly through the middle of the measuring field.

- **VR-Guide VR1M-ODAC15**
  - VR-guide for measured object diameter smaller than 1 mm (.04 in.). The measured object must be guided exactly through the middle of the measuring field.

- **VR-Guide VR10-ODAC15**
  - VR-guide for measured object diameter up to 10 mm (.4 in.).

- **Guide DF4-ODAC15**
  - The ceramic guide is used for the positioning of products such as monofilaments up to a diameter of 4 mm (.16 in.).

- **Flat Roller Guide FR13B-ODAC18**
  - The ceramic flat roller guide made is used for the exact guiding of flat profiles, having a border length of up to max. 13 mm (.51 in.).

**Up AirLift LV.D-ODAC 15-18**

- **Air curtain LV.D-ODAC 15-18**
  - For the connection between the Profibus DP interface and the customer's data acquisition system. Only for DP version.
  - Part number: ODAC.950.38000

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

- **Local display LOC 01**
  - 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.
  - Part number: LOC.011.01000

**Connectors**

- **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.
  - Part number: A10 125 0070

**Proximity switch**

- **The proximity switch is used for the length detection. Main data:**
  - **Standard: EN 60947-5-6 (NAMUR, NC)**
  - **Switching distance max. 2 mm (.08 in.), flush mounting**
  - **Ambient temperature: -25...100°C (-13...212°F)**
  - **Protection: IP 67, Connection: PVC cable 2 m (6.5 ft.)**

**Accessories**

- **Order Number**

- **V-Guide VF16-ODAC18**
  - Continuously adjustable ceramic guide. It is suitable for the centric guidance of products with diameter of up to 16 mm (.63 in.).
  - Part number: ODAC.181.440

- **Flat roller guide FRG6B-ODAC18**
  - The ceramic flat roller guide is used for the exact guiding of flat profiles, having a border length of up to max. 6 mm (.24 in.). It is equipped with ceramic counter rollers.
  - Part number: ODAC.181.460

- **VR-Guide VR16-ODAC18**
  - Continuously adjustable steel roller guide. It is suitable for the centric guidance of products with diameter of up to 16 mm (.63 in.).
  - Part number: ODAC.181.470

- **Flat roller Guide FRG18/6B-ODAC18**
  - The steel flat roller guide is used for the exact centric guiding of round products up to a diameter of 18 mm (.71 in.) as well as for flat profiles having a border length of up to max. 6 mm (.24 in.).
  - Part number: ODAC.181.490

**Air curtain LV.D-ODAC 18XY**

- **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:**

  - **Wire diameter range**
    - 1.000 mm (- .04 in.)
    - 2.0001 - 2.000 mm (.04 - .08 in.)
    - 2.001 - 3.000 mm (.08 - .12 in.)
    - 3.001 - 4.000 mm (.12 - .16 in.)
    - 4.001 - 5.000 mm (.16 - .20 in.)
    - 5.001 - 6.000 mm (.20 - .24 in.)
    - 6.001 - 8.500 mm (.24 - .34 in.)
  - **Part number**
    - B.ODAC.151.1440
    - B.ODAC.151.1450
    - B.ODAC.151.1460
    - B.ODAC.151.1470
    - B.ODAC.151.1480
    - B.ODAC.151.1500
    - B.ODAC.151.1490
  - **Suitable maintenance kit see below.**

**Set of calibration standards**

- **Delivered in a protection box, comprising:**
  - Calibration standard holder
  - Calibration standard ø 0.5 and 10 mm
  - Certificate
  - Other calibration standards on request.

**Maintenance kit**

- Cleans and keeps the compressed air free of dirt.
- Features: Filter regulators, submicrofilter, manometer, pressure difference display, automatic condensate emptying and wall fixture.

**Certificate**

- It is equipped with ceramic counter rollers.
When ordering, please specify the following:

1. Measuring head models: ODAC 18XY-EN-RS/-DP/-EN/-PN, ODAC 18XY-J
2. Connection cable
   - For the ODAC 18XY-EN-RS and higher level system is to be provided by the customer (via serial interface).
   - For the ODAC 18XY-EN-DP versions, the connection to a higher level system is made with the signal cable # A13 252 0150.
3. Processor model (Data acquisition system), only for ODAC 18XY-J: WIREMASTER, USYS 20, USYS 200, USYS IPC 1e, USYS IPC 2e, CI 1J/EN-RS/-DP/-EN/-PN.
   - Please ask for corresponding data sheets.

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All units, which are equipped with lasers, were designed to meet the regulations CDRH (USA), BS 4802, IEC/EN 60825-1-2007, and DIN / FED 0837. They hold the warning and explanatory labels prescribed by IEC/EN 60825-1-2007.