

ODAC® 110XY

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® 110XY 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.



Main Advantages

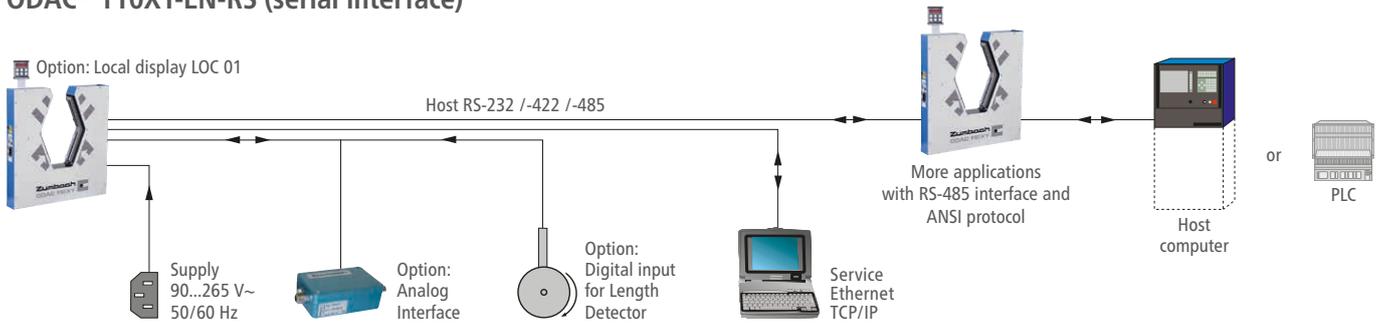
- Very high scan rate (measuring frequency)
Standard: 2 x 1200/s, Version F: 2 x 2500/s
- High precision measurement
- High insensitivity to dirt and dust
- Easily removable splash guards (snap in/out)

Flexible communication integration

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

System Overviews

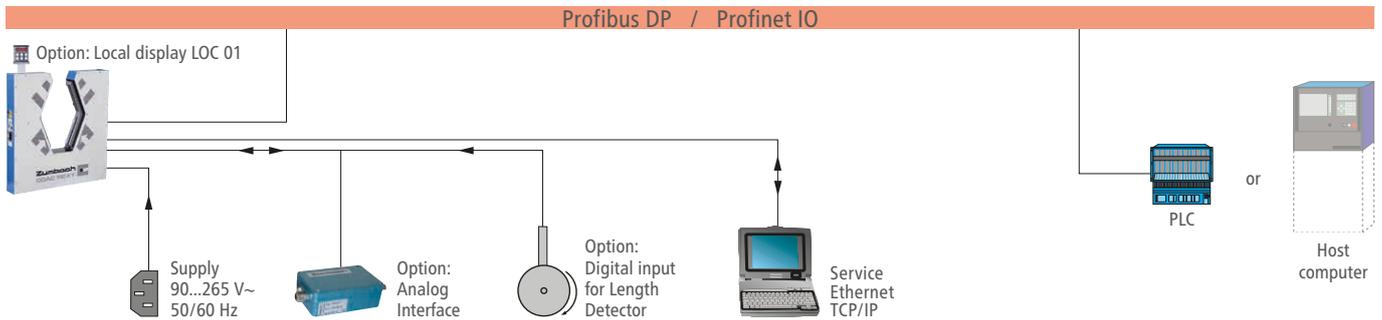
ODAC® 110XY-EN-RS (serial interface)



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.

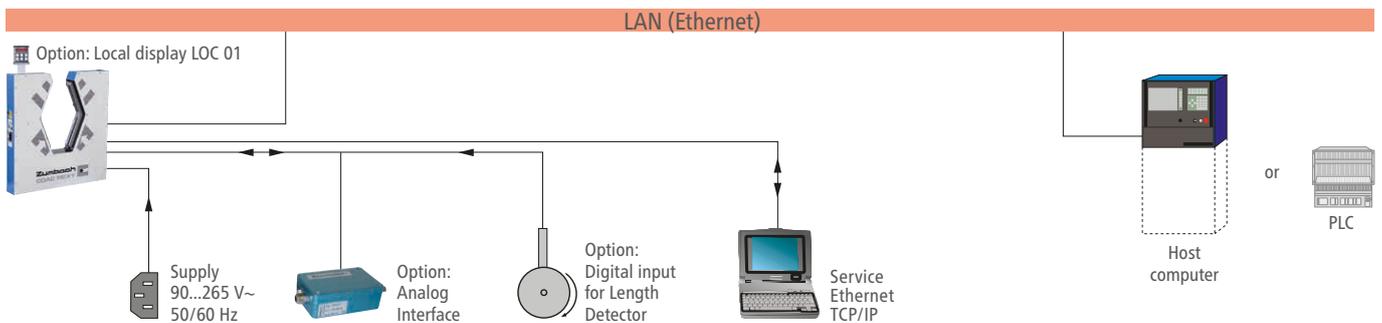
ODAC® 110XY-EN-DP (Profibus DP) or -EN-PN (Profinet IO)



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.

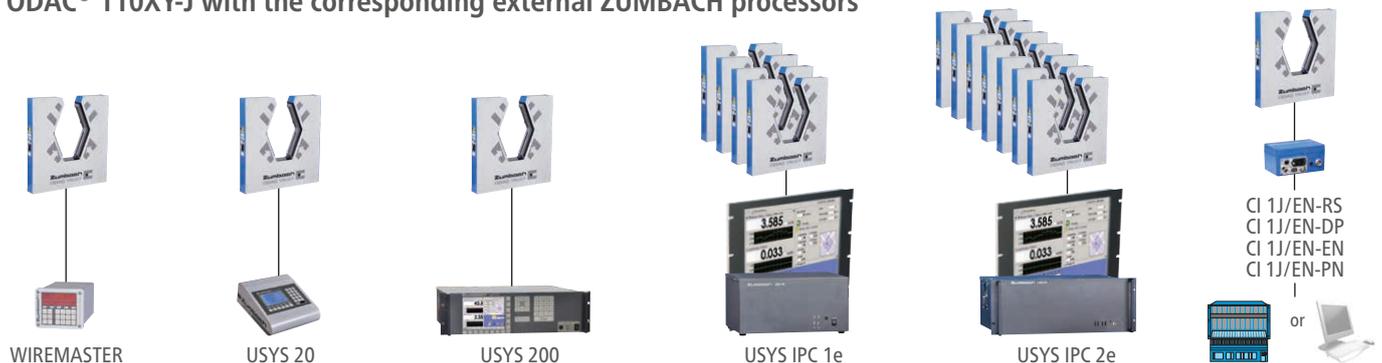
ODAC® 110XY-EN-EN (Ethernet)



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® 110XY-J with the corresponding external ZUMBACH processors



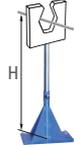
Accessories

Description Order Number

Floor stand ST1-ODAC 110.DT125 ST01.148.37000

Vertically adjustable.

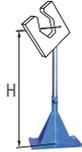
Line height (H): 900...1200 mm (35.4...47.25 in.)



Floor stand ST1-ODAC 110.DT125 45° ST01.148.37010

Vertically adjustable.

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



Mountable support for ST1 ST01.540.170

Lateral support, including rotary holder (USY.0002.910) for table top version of the USYS 20 processor.



Swivel floor stand ST6-ODAC 110XY ST06.151.11000

Vertically adjustable.

Line height (H): 860...1150 mm (33.85...45.28 in.)

Swivel angle: 90° (upward)



Fine height adjustment FHV1 ST01.040.10000

Fine height adjustment for floor stand ST1 / ST4.



Leveling feet mounting set ST02.001.1030

For ST2 and ST6 stands. To be mounted on the existing base plate of the stand.



V Roller Guide VR105-ODAC110 ODAC.1101.400

The V roller guide can be used as a guide for light products such as hoses and tubes. It can also be used as measuring field limiting device.



Set of calibration standards ODAC.9501.08000

Delivered in a protection box, comprising:

- Calibration standard holder
- Calibration standard \varnothing 2 mm
- Calibration standard \varnothing 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.9167.00005 between LOC 01 and the measuring head. Not for ODAC J versions.



Signal cable L2 Bus 1DR22 x 02R A13 252 0150

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

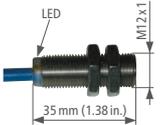
Counter connector for digital input "I/F". Connection of a proximity switch. It is not required if the analogue interface AI 4-ODAC is used already. Not for ODAC J versions.



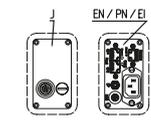
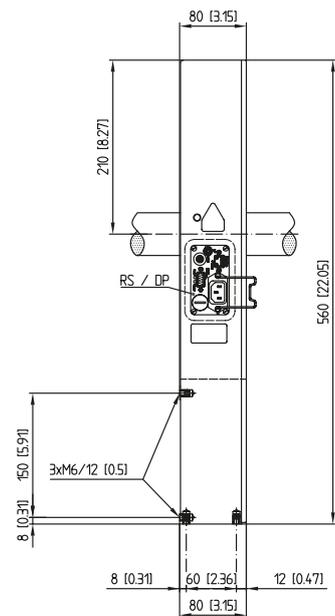
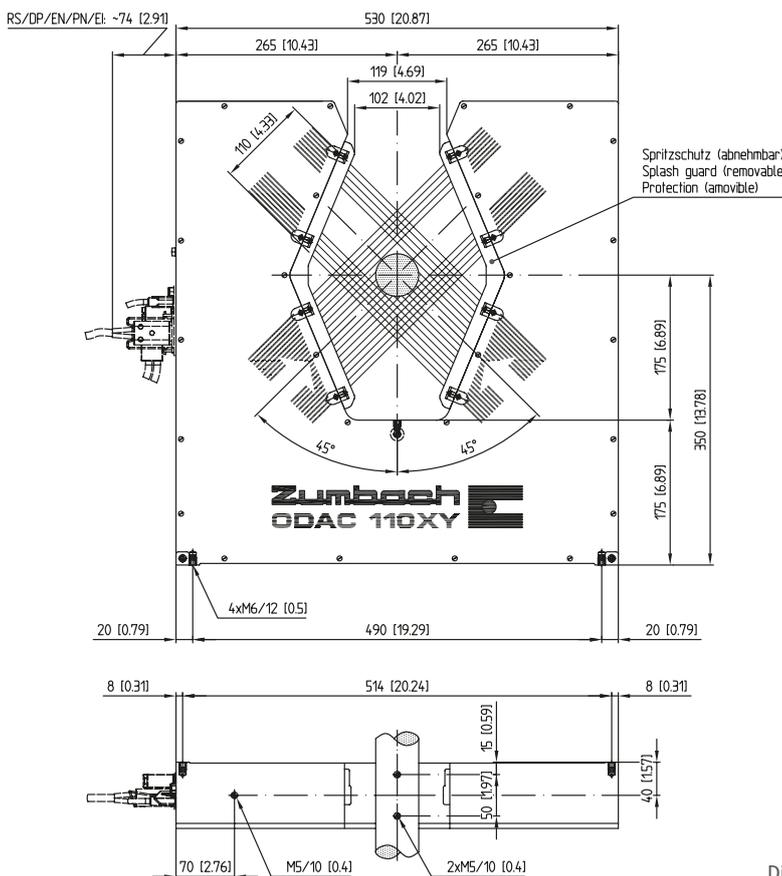
Proximity switch A16 100 0110

The proximity switch is used for the length detection. Main data:

- Standard: EN 60947-5-6 (NAMUR, NC)
- Switching distance max. 2 mm (.08 in.), flush mounting
- Ambient temperature: -25...100° C (-13...212° F)
- Protection: IP 67, Connection: PVC cable 2 m (6.5 ft.)



Dimensions



Dimensions in mm (inch)

Technical Data

Model ODAC 110XY-	EN-RS	EN-DP	EN-EN	EN-PN	J	
Measurement						
Measuring field M ¹⁾	110 x 110 mm (4.33 x 4.33 in.)					
Min. object ø	0.5 mm (.02 in.)					
Scanning frequency	2 x 1200 scans/s (standard); F version: 2 x 2500 scans/s					
Scanning speed	354.6 m/s (1163.4 ft./s) (standard); F version: 738.8 m/s (2423.8 ft./s)					
Width of laser beam ²⁾	5.7 mm (.22 in.) (standard); xxN-F version: 1 mm (.04 in.)					
Repeatability (3 σ)	0.5 μm (.00002 in.) (Averaging time 0.1 s) 0.25 μm (.00001 in.) (Averaging time 1 s)					
Measurement error	± 5 μm (.0002 in.) ± 0.05 ‰ (starting from 85 mm ± 0.25 ‰)					
Resolution ²⁾	1 μm (.00005 in.)					
Light source ⁴⁾	VLD (Visible Laser Diode) class II					
Interfaces / Connections						
Interface Service	Ethernet TCP/IP, RJ45, 10/100BaseT, isolated					
Interface Host	RS-232/-422/-485 D-sub. connectors 9p./m, isolated. Data rate: up to 300/s	Profibus DP (RS-485), D-sub. connector 9p./f, isolated. Update rate: up to 60/s (fast: 125/s)	Ethernet TCP/IP, 2 x RJ45, 10/100BaseT isolated. Data rate: up to 300/s	Profinet IO, 2 x RJ45 10/100BaseT isolated. Update rate: up to 60/s (fast: 125/s)	Only J interfaces to Zumbach processors: WIREMASTER, USYS 20, 200, IPC 1e, IPC 2e, CI 1J/EN-RS/-DP/-EN/-PN	
Interface LOC	Only for Zumbach local display LOC 01					
Interface I/F	Can be used for the connection of a remote interface (e.g. AI 4-ODAC) or as digital input for length detector (e.g. proximity switch according to EN 60947-5-6, NAMUR)					
Indicator of contamin. windows	Flashing LED on the measuring head					
LED Service interface	Indicates link and traffic					
LED Host interface	Indicates traffic	Indicates traffic and error	Indicates link and traffic	Indicates link, traffic, system error and bus error	-	
Power supply	90...265 VAC, 48...62 Hz, 20 VA					
Supplied by the processor unit (24V)						
Operation conditions / Miscellaneous						
Ambient temperature	Operating: 0...45° C (32...113° F), Transport / Storage: -20...50° C (-4...122° F)					
Max. atmospheric humidity	95% (non condensing)					
Altitude	0...2500 m (0...8200 ft.) over sea level					
Type of protection	Case IP 65, connection plate IP 40					
Weight	17.5 kg (38.58 lbs)					

• Technical specifications are subject to change without notice

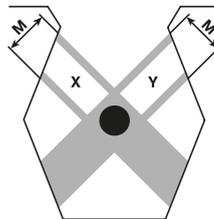
¹⁾ M stands for measuring field height. In practice, the largest object diameter corresponds to Measuring Field Height minus instability of position.

²⁾ System resolution is the smallest practical value on the last digit of the display.

³⁾ Measured in the measuring plane, incl. lateral jitter of the scans.

⁴⁾ Maximum power of the laser can be read on the warning label.

⁵⁾ The xxN-F versions (Narrow beam) is recommended in case of products with very uneven surfaces, for the contour measurement and detection of surface defects, such as lumps and neckdowns.



All units, which are equipped with lasers, were designed to meet the regulations CDRH (USA), BS 4803, IEC/EN 60825-1:2007, and DIN / FDE 0837. They hold the warning and explanatory labels prescribed by IEC/EN 60825-1:2007.



Ordering Information

When ordering, please specify the following:

- Measuring head models:** ODAC 110XY-EN-RS/-DP/-EN/-PN, ODAC 110XY-J
- Connection cable**
 - The connection between ODAC 110XY-EN-RS and the higher level system is to be provided by the customer (via serial interface).
 - For the ODAC 110XY-EN-DP versions, the connection to a higher level system is made with the signal cable # A13 252 0150.
 - For the ODAC 110XY-EN-EN/-PN 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 110XY-J and the processor.
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.
- Processor model** (Data acquisition system), only for ODAC 110XY-J: 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. Please ask for corresponding data sheets.

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