Zumbach

SWISS PRIME MEASURING SINCE 1957

Low-Cost, Super Compact VLD Laser Measuring Heads for Diameter and Width Measurement.

ODAC® 2J / 16J

The casting design and insensitivity to industrial pollution guarantee that ODAC® 2J / 16J operate trouble free even under the most hostile industrial conditions, which brings it ahead of its competitors. It is permanently calibrated for highest accuracy and stability.

ODAC® 2J / 16J are able to measure all materials and products and does not mind whether they are opaque or transparent. It is the best low-cost and technical solution for measuring on-line and off-line processes such as drawing, extruding, grinding, polishing, measuring samples (quality control) and many more.

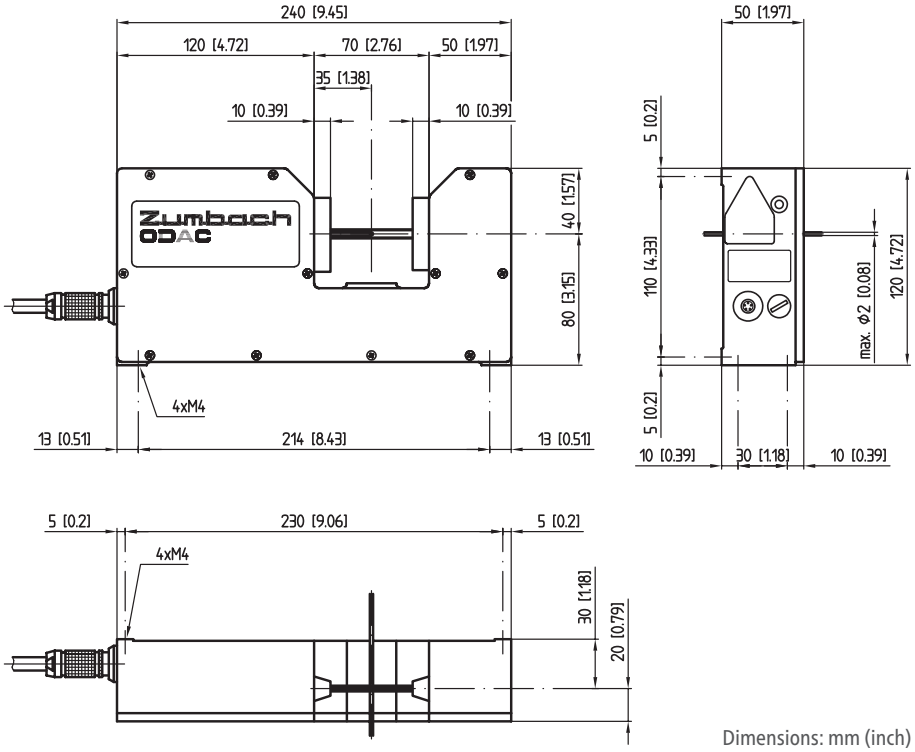
Main Advantages

- Astonishingly low-priced, achieved through High Volume Production
- Very high tolerance to hostile conditions
- All products and materials
- For fine wire and fibres from 0.012 mm (.005 in.) up
- Extremely long-lived
- Can be installed anywhere, in any position

Practically all USYS processors and CI computer interfaces can work with ODAC® 2J / 16J to fulfil numerous functions such as:

- Product parameter library
- Storage of min./max. value
- Closed loop process control
- Statistical reel report
- Real-time SPC charts
- Measurement and control of:
  - Outer diameter
  - Inner diameter
  - Wall thickness
- Ready for computer networking

Dimensions



Dimensions: mm (inch)

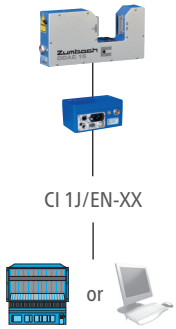
Measuring heads ODAC 2J / 16J with corresponding processors

USYS 20

USYS 200

USYS IPC 1e

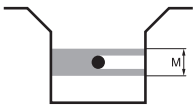
USYS IPC 2e



Technical Data

Model	ODAC 2J	ODAC 16J
Measuring field M [1]	2 mm (.079 in.)	16 mm (.64 in.)
Min. object diameter	0.012 mm (.0005 in.)	0.050 mm (.002 in.)
Scanning frequency [3]	240 scans/s	240 / 480 scans/s [4]
Scanning speed	18.8 m/s (61.68 ft./s)	24 m/s (78.74 ft./s) at 240 scans/s 48 m/s (157.48 ft./s) at 480 scans/s
Measurement error	± 0.3 µm; range 0.012...1.0 mm (± .000012 in.; range .0005 ... .04 in.)	± 0.5 µm, ± 0.1 ‰; from 8 mm ± 0.3 ‰ (± .000019 in., ± 0.1 ‰; from .3 in. ± 0.3 ‰)
Repeatability (3 σ)	0.45 µm (± .000018 in.), averaging time 0.1 s 0.15 µm (± .000006 in.), averaging time 1 s	
Resolution [2]	0.1 µm (± .000004 in.)	
Light source [4]	VLD (Visible Laser Diode) 630-680 nm, laser class 2 (device)	
Ambient temperature	Operating: 0...45 °C (0...113 °F); Transport / Storage: -20...50° C (-4...122 °F)	
Max. atmospheric humidity	95 % (non condensing)	
Altitude	0...3000 m (0...9843 ft.) over sea level	
Type of protection	IP 65, connection plate IP 40	
Power supply	Supplied by the processor unit (24 VDC / 5 W)	
Power consumption	Max. 5 W	
Weight	1.7 kg (3.7 lbs.)	
Dimensions	See page 1	
Data acquisition system (Processors)	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	

[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] Scanning frequency 480 scans/s only with measured object diameter larger than 0.1 mm (.004 in.).

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

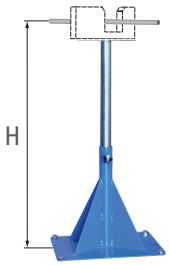
Accessories

Description | Order number

Floor stand ST2-ODAC16 — **ST02.060.65000**
Vertically adjustable.

Line height (H): 880...1220 mm
(34.7...48 in.)

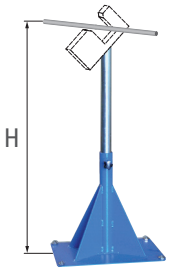
☑ ODAC 2J ☑ ODAC 16J



Floor stand ST2-ODAC16 — **ST02.060.65020**
Vertically adjustable with 45° tilt.

Line height (H): 880...1220 mm
(34.7...48 in.)

☑ ODAC 2J ☑ ODAC 16J



Mountable support for ST2 — **ST02.060.190**
Lateral support, including rotary holder (USY.0002.910) for table top version of the USYS 20 processor.

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Rotary holder USYS 20 — **USY.0002.910**

Fixation set for wall mounting (with pivot arm) — **USY.0002.920**

Fixation set for table top USYS 20 — **USY.0002.930**

Description | Order number

Set of calibration standards ODAC 2 — **ODAC.9500.10000**
For VR1M guide.
Delivered in a protection box, comprising:
– Calibration standard ø 0.05 mm
– Calibration standard ø 0.5 mm
– Certificate
Other calibration standards on request.

☑ ODAC 2J ☐ ODAC 16J

Set of calibration standards ODAC 16 — **ODAC.9500.35000**
Delivered in a protection box, comprising:
– Calibration standard holder
– Calibration standard ø 0.5 mm
– Calibration standard ø 6 mm
– Certificate
Other calibration standards on request.

☐ ODAC 2J ☑ ODAC 16J

Protective shield ODAC 2/16J — **ODAC.161.920**
To protect additionally the measuring head against severe pollution and damage.

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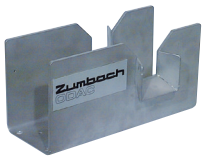

Air curtain LV16-ODAC16 — **ODAC.161.900**
Keeps the measuring area free of dust, water, talk etc. Composed of 2 compressed-air jet units.

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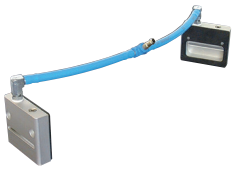

Maintenance kit — **A34 200 0080**
Cleans and keeps the compressed air free of dirt.
Features: Filter regulators, submicrofilter, manometer, pressure difference display, automatic condensate emptying and wall fixture.

☑ ODAC 2J ☑ ODAC 16J

Description	Order number

Guide VF16-ODAC16 **ODAC.161.400**

With ceramic rollers (V shape) for measured object diameter up to 16 mm (.64 in.).

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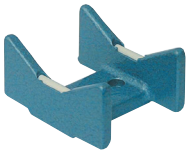
Limiting socket FF16-ODAC16 **ODAC.161.420**

Used as a device to delimit the measuring field. It has no guiding function.



☐ ODAC 2J ☑ ODAC 16J

Guide FR4B-ODAC16 4 mm **ODAC.161.440-04**
Guide FR6B-ODAC16 6 mm **ODAC.161.440-06**

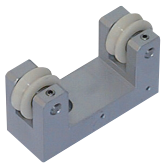
With flat ceramic rollers. Used for the precise guiding of flat profiles, having an edge width of up to 4 or 6 mm (.16 or .24 in.).

☐ ODAC 2J ☑ ODAC 16J

Description	Order number

Guide VR1M-ODAC16 **ODAC.161.460**

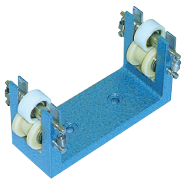
With ceramic rollers (V shape) for measured object diameters up to 1 mm (.04 in.).



☑ ODAC 2J ☑ ODAC 16J

Guide FRG6B-ODAC16 **ODAC.161.480**

With flat ceramic rollers and counter rollers. Used for the precise guiding of flat profiles, having a border length of up to max. 6 mm (.24 in.).



☐ ODAC 2J ☑ ODAC 16J

Ordering information

When ordering, specify the following (A, B, C):

A Measuring head model **ODAC 2J** / **ODAC 16J**.

B Length of the connection cable between ODAC measuring head 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.

C Processor model (data acquisition system): 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. ► Ask for corresponding data sheets.

• Specifications are subject to change without notice

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