

Universal, Modular and Compact Measuring Head for Diameter, Width, Height. Measuring Field = 32 mm (1.26 in.)

ODAC 30J operates with a semiconductor laser (laser diode in the visible red region) and patented ATP optics. High precision measurements of diameters, widths and heights can be carried out on and off line.

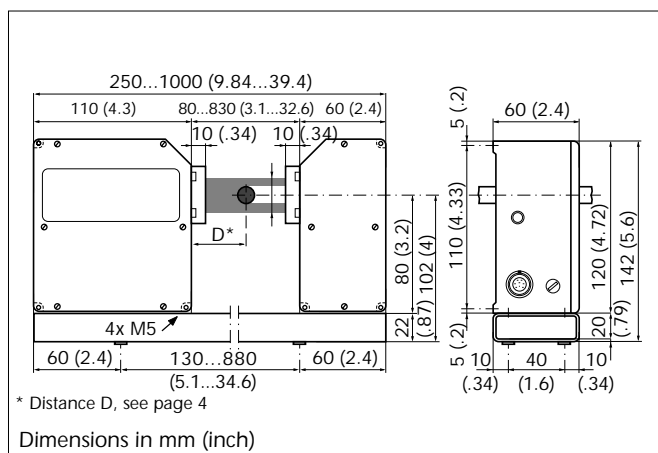
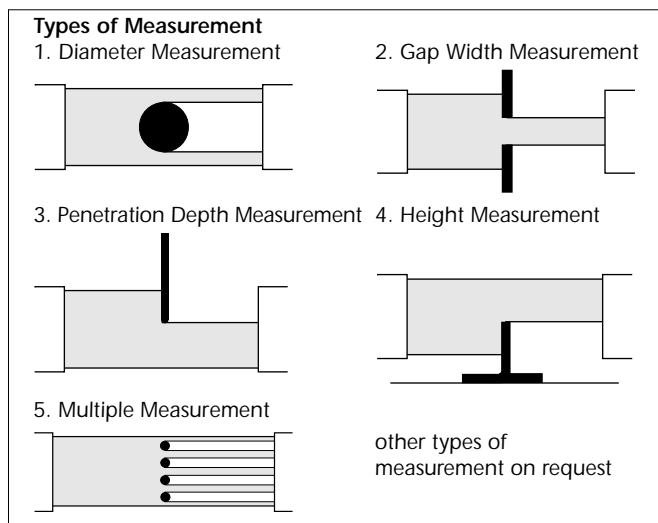
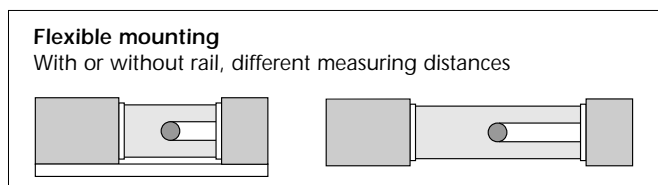
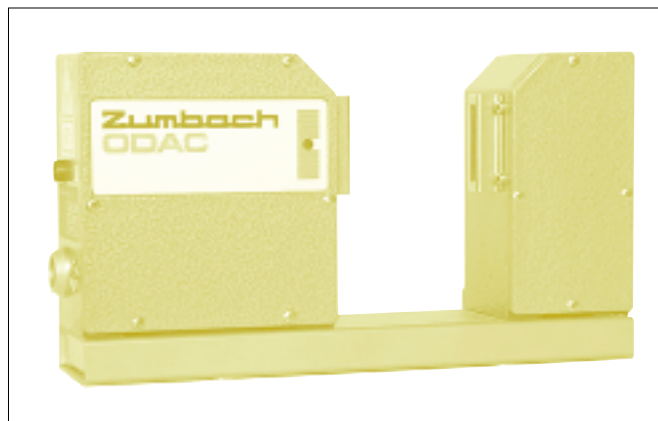
The measuring head scans the object with a laser beam. The shadow cast as a result is transmitted to the data acquisition system as a digital signal.

Contrary to CCD cameras and other common laser measuring tools with spherical lens optics, the measurement accuracy is totally independent of the object position in the measuring field, since the latter consists of strictly parallel beams (ATP optics). Thus, even objects which are subject to severe horizontal/vertical changes of position during production can be measured.

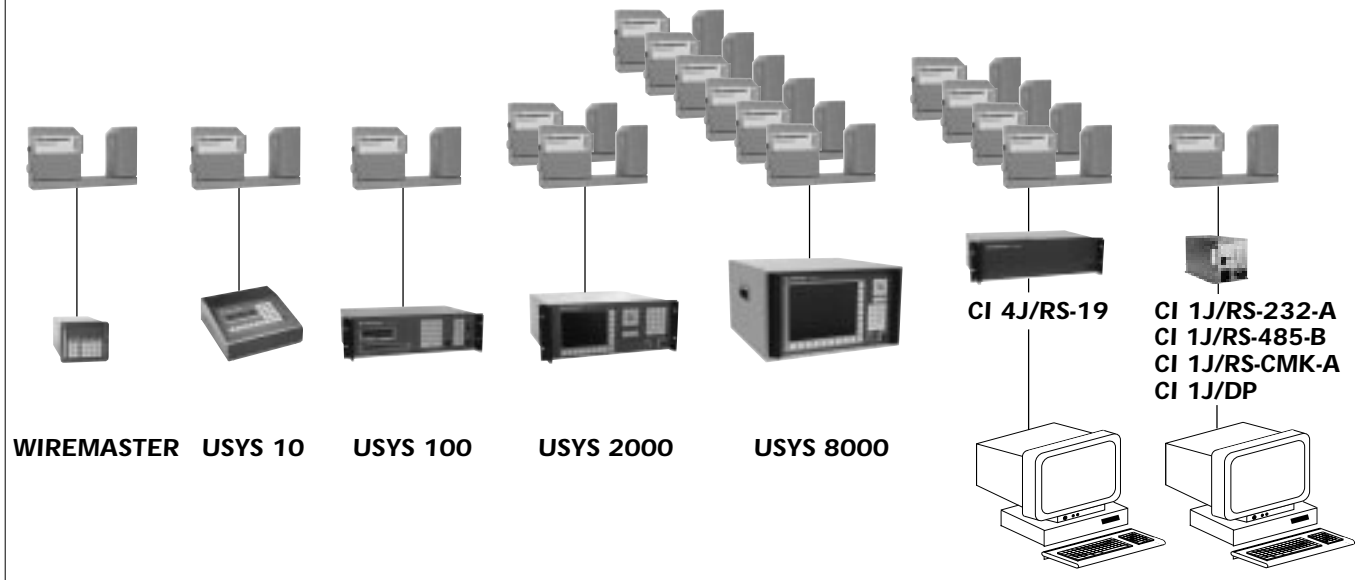
The ODAC 30J measuring head is universal in its application and is characterized by its very small dimensions. Thanks to its modular construction the measuring head can also be applied where a greater distance between emitter and receiver is required. The transmitter and receiver are, therefore, offered with connecting rails of different lengths in order to ensure greater flexibility. They may also be installed as separate components, i.e., without connecting rail (ODAC 30JK).

ODAC 30J measures all materials including transparent ones.

A major advantage of using a laser in the visible light region resides in its laser classification. The measuring head qualifies as Class 2, in contrast to common infrared lasers, which are grouped under Class 3B.



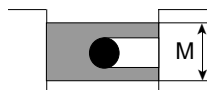
Measuring head ODAC 30J with corresponding processors



Technical Specifications	
Designation	ODAC 30J
ZUMBACH processor models	WIREMASTER, USYS 10, USYS 100, USYS 2000, USYS 8000
Computer interface models	CI 4J/RS-19, CI 1J/RS-232-A, CI 1J/RS-485-B, CI 1J/RS-CMK-A, CI 1J/DP
Measuring field M ¹⁾	32 mm (1.26 in.)
Min. object diameter	0.2 mm (.008 in.)
Repeatability ²⁾	± 0.5 µm (± .00002 in.) (Averaging time 0.1 s) ± 0.2 µm (± .000008 in.) (Averaging time 0.1 s)
Linearity	± 1.0 µm (.00005 in.) ± 0.7 ‰
Resolution ³⁾	0.0001 mm (.00005 in.)
Scanning frequency	240 scans/s
Scanning speed	30 m/s (98.4 ft/s)
Light source ⁴⁾	VLD (Visible Laser Diode) class II
Ambient temperature	Operating: 0 ... 45° C (32 ... 113° F) Transport/Storage: -20 ... 50° C (-4 ... 122° F)
Atmospheric humidity	95% (non condensing)
Altitude	0 ... 2500 m (0 ... 8200 ft.) over sea level
Typ of protection	IP 62
Power	supplied by the processor unit (24 V)
Weight	2.6 kg (5.7 lbs.) (at a rail length of 250 mm [9.8 in.]
Dimensions	see page 1

- 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⁾ Values within ± 3 Sigma (99.7%) U₉₅

³⁾ System resolution is the smallest practical value on the last digit of the display

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

Laser radiation
Do not stare into beam!
LASER CLASS 2
630 - 680 nm < 1 mW

CAUTION
LASER RADIATION
DO NOT STARE INTO BEAM
VISIBLE LASER DIODE
630 - 680 nm
1.0 MILLIWATT MAXIMUM OUTPUT
CLASS II LASER PRODUCT

All units, which are equipped with lasers, were designed to meet the regulations CDRH (USA), BS 4803, IEC 825-1, DIN/VDE 0837 and SEV TP 76/1A-D. They hold the warning and explanatory labels prescribed by IEC 825-1.

Accessories

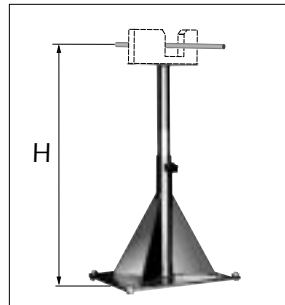
Description

(Order number)

Stand ST2-ODAC 8-30 (ST02.060.65000)

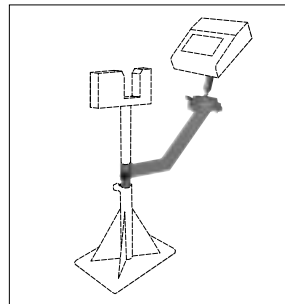
Vertically adjustable stand.

Line Height (H):
902...1242 mm
(35.5...49 in.)



Mountable support for ST2 (ST02.060.150)

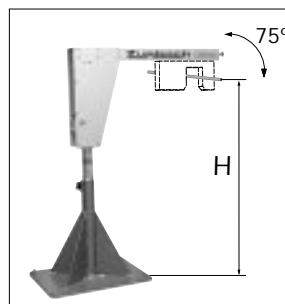
Support, including rotary holder (USY.000.900) for table version of the USYS 10 processor (retrofitable)



Stand ST6-ODAC 30 (ST06.085.21250)

Vertically adjustable swivel stand (can be swung out by 75°, upwards)

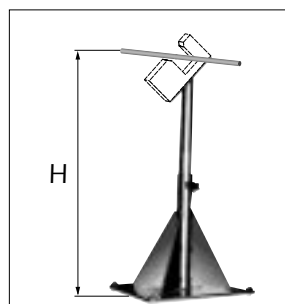
Line Height (H):
850...1150 mm
(33.5...45.3 in.)



Stand ST2-ODAC 8-30 (ST02.060.65020)

Vertically adjustable stand with 45° tilt

Line Height (H):
880...1220 mm
(34.6...48 in.)



Set of calibration standards (ODAC.9500.70200)

Set of calibration standards supplied in a case, composed of:

- Calibration standard holder
- Calibration standard, \varnothing 1 mm
- Calibration standard, \varnothing 22 mm
- Certificate

Other calibration standards on request.



Description

(Order number)

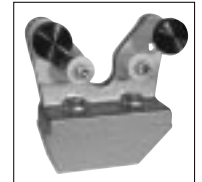
V-Guide VF15-ODAC 30 (ODAC.301.400)

V-guide for measured object diameter up to 15 mm (.6 in.)



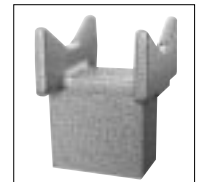
V-Guide VFG15-ODAC 30 (ODAC.301.410)

V-guide for measured object diameter up to 15 mm (.6 in.)



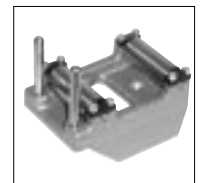
Limiting socket FF30-ODAC 30 (ODAC.301.420)

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



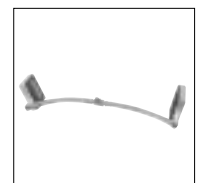
Flat roller guide FR30B.ODAC 30 (ODAC.301.430)

Flat roller guide for measured object diameter up to 30 mm (1.2 in.)



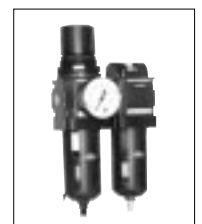
Air curtain LV16-ODAC 16 (ODAC.161.900)

An air curtain is available for keeping the measuring area free from dust, water, talcum powder etc.



Maintenance kit (A34 200 0050)

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



Additional accessories

- Bench model "QC" for the piece measurement of wires, cables, hoses a.m. (Please ask for detailed information)
- Measurement through cooling trough
- Rotating unit
- Heat proof protection

Ordering Information

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

A Measuring head models

Measuring head ODAC 30J / ODAC 30JK

Distance (D) Emitter - object		With connection rail		Without connection rail (Component version)	
mm	inch	Version	Order no.	Version	Order no.
40	1.57	ODAC 30J.D040	ODAC.0301.00301	ODAC 30JK.D040	ODAC.0301.10301
115	4.53	ODAC 30J.D115	ODAC.0301.01101	ODAC 30JK.D115	ODAC.0301.11101
190	7.5	ODAC 30J.D190	ODAC.0301.01801	ODAC 30JK.D190	ODAC.0301.11801
265	10.4	ODAC 30J.D265	ODAC.0301.02601	ODAC 30JK.D265	ODAC.0301.12601
340	13.4	ODAC 30J.D340	ODAC.0301.03301	ODAC 30JK.D340	ODAC.0301.13301
415	16.3	ODAC 30J.D415	ODAC.0301.04101	ODAC 30JK.D415	ODAC.0301.14101
490	19.3			ODAC 30JK.D490	ODAC.0301.14801

Measuring head for measurement in water trough

Distance (D) Emitter - object	Model	Order no.
63 mm (2.5 in.)	Emitter ODAC 30JK Bath	B.ODAC.301.1441
	Receiver ODAC 30JK Bath	B.ODAC.301.2100
113 mm (4.4 in.)	Emitter ODAC 30JK Bath	B.ODAC.301.1501
	Receiver ODAC 30JK Bath	B.ODAC.301.2100
213 mm (8.4 in.)	Emitter ODAC 30JK Bath	B.ODAC.301.1611
	Receiver ODAC 30JK Bath	B.ODAC.301.2100

Cable Emitter-Receiver (for ODAC 30JK only)

Calculation for minimum length: Distance between emitter and receiver (normally 2 x measuring distance) plus 0.27 m. (0.9 ft.)

Cable length	Model	Order no.
0.50 m (1.64 ft.)	Cable ODAC 30JK	B.ODAC.301.3205
0.65 m (2.13 ft.)	Cable ODAC 30JK	B.ODAC.301.3206
1.00 m (3.28 ft.)	Cable ODAC 30JK	B.ODAC.301.3210
1.50 m (4.92 ft.)	Cable ODAC 30JK	B.ODAC.301.3215
2.00 m (6.56 ft.)	Cable ODAC 30JK	B.ODAC.301.3220
3.00 m (9.84 ft.)	Cable ODAC 30JK	B.ODAC.301.3230

B Length of the connection cable between ODAC 30J (JK) and the processor unit:

Available lengths: 1, 2, 5, 10, 15, 20, 25, 30, 35 and 40 m. (3.3, 6.6, 16.4, 32.8, 49.2, 65.6, 82, 98.5, 115 and 131 ft.) Longer cables on request.

C Processor units:

WIREMASTER, USYS 10/100/2000/8000, CI 4J/RS-19, CI 1J/RS-232-A, CI 1J/RS-485-B, CI 1J/RS-CMK-A, CI 1J/DP, (Corresponding data sheets available on request).

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