

WS Position Sensors

Calibration of W(G)S Sensors



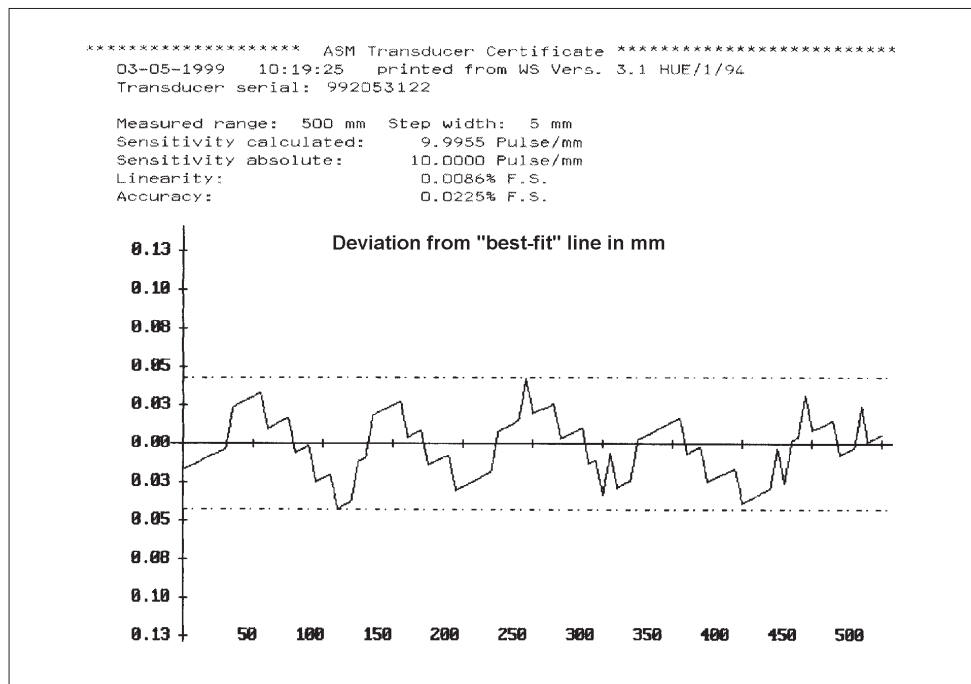
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Measurement Protocol Document and Manufacturers Test Certificate (ISO9001)

ASM carries out a full and complete calibration procedure on all new position and velocity sensors manufactured to ensure all units meet the required performance parameters and to maintain the highest quality standards. Each sensor is checked using state-of-the-art measuring equipment which is fully traceable to national standards. All test results are recorded. A Measurement Protocol Document (position sensors only) and a Manufacturers Test Certificate can be issued for each sensor supplied to a customer. Both can be ordered with a new sensor or will be supplied when the sensor is re-tested. The recommended re-test period is 1 year.

Measurement Protocol Document (Position Sensors only)

A minimum of 50 measurement values are recorded at equidistant points along the sensors measurement range. These values are then processed to show the ideal "best-fit" line. The "best-fit" line and the measured values are shown on the graph. The sensitivity and linearity results are printed above the graph.



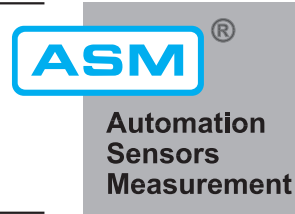
Order Code
Measurement Protocol Document

Measurement Range up to (mm)
1250 / 2500 / 5000 / 25000 / 40000

MESSPROTOKOLL - MM

Order Example: MESSPROTOKOLL-5000MM

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Manufacturers Test Certificate (Position and Velocity Sensors)

The Manufacturers Test Certificates produced by ASM meet the requirements of quality control standards ISO 9001, etc. The measurement system used and its traceability to national standards are fully described on the certificate and a record of all 50 measurement values is provided (position sensors only). A minimum of 5 measured values are taken from velocity sensors.

Calibration Certificate
ASM Velocity Transducers GS/WGS
- Protocol and Test Results -

Automation
Sensorik
Messtechnik

Type of transducer: WGS2-2000-10V-T5-L10
 Serial: 99203490
 Order No.: 628760
 Company:

Calibration Certificate
ASM Position Transducers WS
- Protocol and Test Results -

Automation
Sensorik
Messtechnik

Type of transducer: WS10-1250-25-PP530
 Serial: 99160573
 Order No.: 628631
 Company: Fa. Muster GmbH

Calibration instruments:
 Stepping motor unit with crystal controlled timebase.
 Precision linear module Accuracy: 25µ/300mm
 periodically calibrated with Laser Interferometer ZLM300
 Certificate of Calibration No.: ZB/QS/M 026/94
 Multimeter Keithley 199 with basic Accuracy of 0,003 %
 periodically calibrated with Keithley DVM 2000
 Certificate of Calibration (DKD) No.: DKD 046/95-02

Environmental:
 Temperature: (23 ± 4)°C Humidity: (60 ± 20)%

Calibration procedure:
 The transducer cable is moved over at least 90% of its measurement span. At least 50 points are measured and stored in the computer. The sensitivity of the best fitting line and the corresponding linearity error is calculated and printed. The accuracy is calculated and printed (not with R1K). A linearity diagram is also printed.

Result:

Sensitivity of best fitting line:	25,0049 pulses/mm
Specified Sensitivity: (not noted with R1K)	25,0000 pulses/mm
Linearity: (related to best fitting line)	0.0056 ‰ of F.S.
Accuracy: (not noted with R1K)	0.0248 ‰ of F.S.

1 measurement protocol is attached to this certificate

Date of issue: 22.1.99 Person responsible:

Result:
Velocity (Cable pull)

+ 50 mm/s	- 50 mm/s
+ 100 mm/s	- 100 mm/s
+ 250 mm/s	- 250 mm/s
Average sen	

Date of issue:

Order Code Manufacturers Test Certificate

Sensor Type
 WS = POSITION
 GS = VELOCITY
Measurement Range up to (mm)
 1250 / 2500 / 5000 / 25000 / 40000

ZERTIFIKAT — — MM

Order Example: ZERTIFIKAT-WS-2500MM