

CAPACITIVE DISPLACEMENT SENSOR AND MEASUREMENT SYSTEM



9437-A2



9437-B02

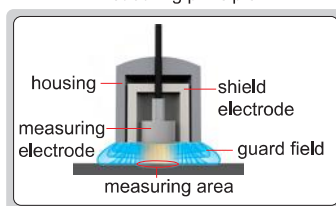
Capacitive displacement sensor:

- Suitable for measurements of micro-displacement, runout, deformation, high-frequency vibration etc.
- Three-electrode design improves anti-interference capability
- Non-contact, wear-free measurement
- Close-range high precision, nanometer-level resolution
- Wide operation temperature range
- Cable length: 1.5 m (can be customized)

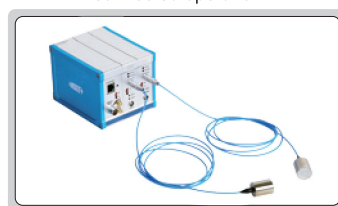
Measurement system:

- Industrial DIN-rail design, easy for installation
- Multiple interfaces for signal communication
- Standard PC software: **9437-SOFTWARE**, for real-time reading and data logging

measuring principle



connected operation



measurement of planar displacement under high-frequency vibration



measurement of deformation and deflection



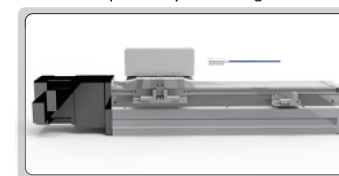
measurement of runout



measurement of thickness



precise positioning

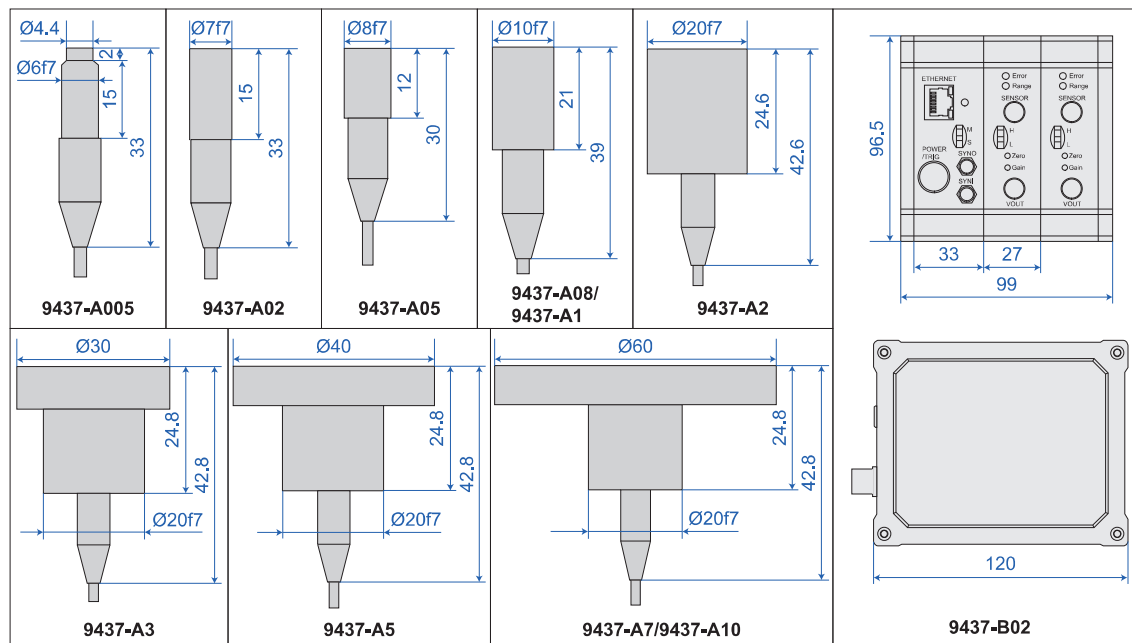


CAPACITIVE DISPLACEMENT SENSOR SPECIFICATION

Code	9437-A005	9437-A02	9437-A05	9437-A08	9437-A1	9437-A2	9437-A3	9437-A5	9437-A7	9437-A10
Range	0.05mm	0.2mm	0.5mm	0.8mm	1mm	2mm	3mm	5mm	7mm	10mm
Accuracy	0.0125μm	0.05μm	0.125μm	0.2μm	0.25μm	0.5μm	0.75μm	1.25μm	1.75μm	2.5μm
Static resolution	0.0375nm	0.15nm	0.375nm	0.6nm	0.75nm	1.5nm	2.25nm	3.75nm	5.25nm	7.5nm
Dynamic resolution	1nm	4nm	10nm	16nm	20nm	40nm	60nm	100nm	140nm	200nm
Effective measuring area	Ø1.5mm	Ø2.5mm	Ø3.9mm	Ø4.9mm	Ø5.7mm	Ø7.9mm	Ø9.8mm	Ø12.6mm	Ø15.2mm	Ø20mm
Shield-ring thickness	1mm	1.85mm	1.5mm	1.9mm	1.6mm	4.6mm	8.8mm	12.25mm	21.1mm	16.05mm
Min. diameter of measured surface	Ø4.4mm	Ø7mm	Ø8mm	Ø10mm	Ø10mm	Ø20mm	Ø30mm	Ø40mm	Ø60mm	Ø60mm
Operation environment	-50~200°C, ≤95% (non-condensing)									
Storage environment	-50~200°C, ≤95% (non-condensing)									
Housing material *	304									
Wiring method	integrated type									
Mounting method	radial clamping									
Dimensions (mm)	Ø6×15	Ø7×15	Ø8×12	Ø10×21	Ø10×21	Ø20×24.6	Ø30×24.8	Ø40×24.8	Ø60×24.8	Ø60×24.8

* Invar and titanium alloy are optional.

unit: mm



MEASUREMENT SYSTEM SPECIFICATION

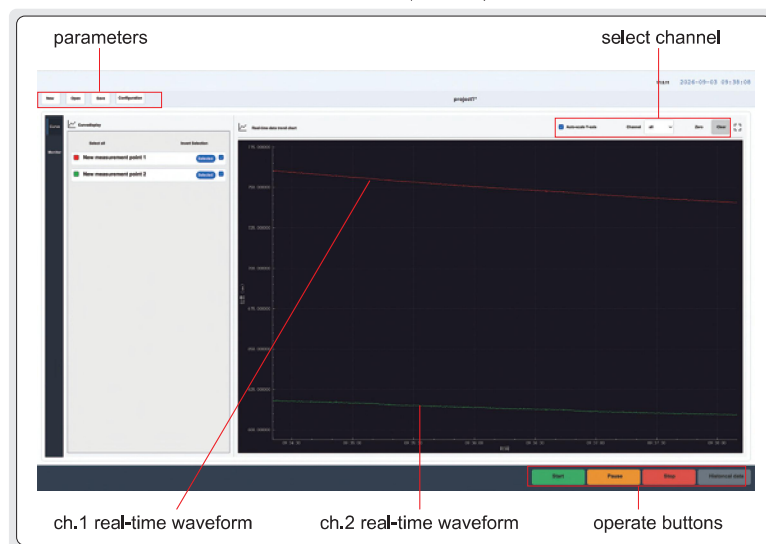
Code	9437-B02
Range *	0.05/0.2/0.5/0.8/1/2/3/5/7/10mm
No. of Channels	2 (customizable 1~6)
Accuracy **	±0.025%FSO
Repeatability	0.005%FSO
Static resolution	0.0005%FSO
Dynamic resolution	0.005%FSO (5kHz)
Adjustable bandwidth	20Hz~5kHz
Digital output data rate	6×12.5kSa/s
Temperature stability	200ppm/°C
Long-term Stability	±0.02%FSO/month
Operation environment	5~60°C, ≤85% (non-condensing)
Storage environment	-10~75°C, ≤85% (non-condensing)
Communication interface	Ethernet ***
Power supply	24V, 1A
Dimension (L×W×H)	99×120×96.5mm

* measuring range of measurement system is determined by the capacitive displacement sensor

** overall linear error is composed of measurement-system error and capacitive displacement sensor indication error, must be purchased together, need to be set in the factory

*** optional: 0~10 V analog output, 4~20 mA analog output, RS422 (5 Mbps).

PC software (included)



MEASUREMENT SYSTEM STANDARD DELIVERY

Main unit	1 pc
PC software	9437-SOFTWARE