



Accredited Africa Training Institute for Capacity Development

Unit FO409, Hatfield Plaza · 1122 Burnett St, Hatfield 0028 · Pretoria, Gauteng · South Africa

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COURSE BROCHURE

Fault Find And Repair Specialised Sensing Devices Training

Manufacturing, Engineering and Technology / Engineering and Related Design

Unit Standard 119810 · NQF Level 5 · 6 Credits · 3 Days

COURSE OVERVIEW

This course equips learners with the knowledge and practical skills to fault find and repair specialised sensing devices, including transducers, sensors, and detectors used in industrial and commercial applications. Participants will learn systematic diagnostic techniques and repair procedures to ensure operational reliability and compliance with safety standards.

Category	Manufacturing, Engineering and Technology
Subfield	Engineering and Related Design
Unit Standard	119810
Accreditation	SAQA Accredited · NQF Level 5 · 6 Credits
Duration	3 days
Training Method	Online, On-Campus, In-House
Certificate	Issued via AATICD LMS – verifiable online

LEARNING OUTCOMES

- Apply systematic fault-finding techniques to diagnose malfunctions in specialised sensing devices.
- Analyse circuit diagrams and technical specifications to identify potential causes of sensor failure.
- Evaluate the performance of sensing devices using appropriate test equipment and procedures.
- Implement repair and replacement procedures for faulty components in sensing devices.
- Demonstrate compliance with occupational health and safety regulations during fault finding and repair activities.
- Document fault-finding and repair processes according to organisational and industry standards.

WHO SHOULD ATTEND

- This course is intended for technicians, engineers, and maintenance personnel responsible for the installation, calibration, fault finding, and repair of specialised sensing devices in manufacturing, process control, and automation environments.

COURSE OUTLINE

Day 1: Fundamentals of Specialised Sensing Devices

- Introduction to specialised sensing devices: types and applications
- Operating principles: inductive, capacitive, photoelectric, ultrasonic sensors
- Sensor characteristics: range, resolution, accuracy, response time
- Reading and interpreting datasheets and manufacturer specifications
- Safety protocols: lockout/tagout, electrical safety, handling precautions

Day 2: Fault Finding Techniques and Diagnostic Tools

- Diagnostic tools: multimeter, oscilloscope, signal generators, calibrators
- Systematic fault-finding approaches: visual inspection, functional testing, signal tracing
- Common faults: cable damage, power supply issues, environmental interference
- Practical exercises: diagnosing faulty proximity, photoelectric, and ultrasonic sensors
- Documentation: fault reports, test results, and corrective actions

Day 3: Repair, Calibration, and System Integration

- Repair techniques: component replacement, soldering, connector refurbishment
- Calibration procedures: zero and span adjustments, sensitivity settings
- System integration: connecting sensors to PLCs, DCS, or SCADA systems
- Verification testing: functional tests, repeatability checks, output validation
- Quality assurance: final inspection, compliance with standards, handover documentation

ASSESSMENT & CERTIFICATION

Delegates are assessed through exercises and a final test. A mark of **50% or above** earns an **AATICD Certificate of Completion**, issued digitally with a unique verification code. This course carries **6 NQF credits** at **NQF Level 5**.

PRICING (PER DELEGATE, EX-VAT)

Delegates	Training Method	Price per Delegate	Total
1	Online	R 18,800.00	R 18,800.00
1	In-House	R 24,500.00	R 24,500.00
1	On-Campus (Pretoria)	R 28,100.00	R 28,100.00

UPCOMING SESSIONS

Start	End	Method	Venue
03 Aug 2026	05 Aug 2026	On-Campus	Dubai, UAE
03 Aug 2026	05 Aug 2026	On-Campus	Johannesburg, South Africa
04 Aug 2026	06 Aug 2026	On-Campus	Pretoria, South Africa
04 Aug 2026	06 Aug 2026	On-Campus	Mauritius
05 Aug 2026	07 Aug 2026	On-Campus	Cape Town, South Africa
05 Aug 2026	07 Aug 2026	On-Campus	Lagos, Nigeria
10 Aug 2026	12 Aug 2026	On-Campus	Pretoria, South Africa
10 Aug 2026	12 Aug 2026	On-Campus	Mauritius

Contact us if no suitable date is listed – on-demand sessions can be arranged for groups.

HOW TO GET A QUOTE OR APPLY

1. **Get an instant quotation online:** visit www.aaticd.co.za, open the page for this course (Unit Standard 119810) and click **Get A Quote / Apply**. Select your training method and number of delegates – your quotation is generated immediately and emailed to you with the course brochure attached.
2. **Apply by email:** send the course title, your preferred training method (Online, In-House or On-Campus Pretoria), the number of delegates and your preferred dates to apply@aaticd.co.za – our team will reply with a formal quotation.
3. **Apply by phone or WhatsApp:** call +27 12 004 8389 or WhatsApp +27 65 077 6310 and we will prepare your quotation and reserve your seats.
4. **Confirm your booking:** accept the quotation and settle the invoice. As soon as payment is confirmed your delegates are enrolled and receive their AATICD LMS login details by email, along with joining instructions for their chosen training method.

Group discounts apply automatically – the more delegates you enrol, the lower the price per delegate. No payment is required to request a quotation.

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