
Course Outline: Fundamentals of Actuator Sensor-Interface (AS-i)

Actuator Sensor-Interface (AS-i) is a globally recognised industrial networking solution designed for simple, cost-effective communication between sensors, actuators, and controllers. It provides reliable, real-time data exchange over a two-wire cable, enabling efficient integration, reduced wiring complexity, and enhanced flexibility in automation systems.

Course information

The Fundamentals of Actuator Sensor-Interface (AS-i) Course is a one-day, hands-on training program designed to equip individuals with the knowledge and tools necessary to maintain and optimise AS-i networks in industrial environments.

This course provides an introduction to digital communication systems, focusing on AS-i. Participants will gain a solid understanding of AS-i technology, its architecture, and how it facilitates seamless communication between sensors, actuators, and controllers in industrial automation. The training covers key concepts, including data transmission principles, topology options, network structures, and integration with other industrial communication protocols.

A major component of the course is fault finding in AS-i systems. Attendees will learn how to diagnose and troubleshoot common issues using structured fault-finding techniques and an AS-i checklist. Practical exercises will help reinforce problem-solving skills, ensuring that participants can efficiently identify and resolve communication failures. The course concludes with a tutorial, ensuring attendees can effectively build and troubleshoot AS-i networks.

Course outline

Day 1

- Introduction to digital communications systems
- Introduction to AS-i
- Fault finding in AS-i
- AS-i checklist and fault finding

Prerequisites

This course covers advanced content. Participants should have a technical qualification, experience working with digital communication systems, and strong proficiency in English.

Who should attend this course?

Installers, network engineers, project planners, industrial engineers, maintenance workers, plant employees.

Certification

Upon completion of the course, attendees will be awarded a certificate of attendance.

CPD points

Attendees can earn one ECSA-accredited CPD point for this course.

Venue

All courses are conducted at the IDX Academy in Fourways, Johannesburg, South Africa. Onsite training is available upon request, in collaboration with your Safety, Health, Environment, and Quality (SHEQ) team to ensure safe interactions.

Capacity

Given the technical nature of the course, training groups are capped at a maximum of eight participants to ensure a high pass rate.

Course date and booking

To book, complete the [application form](#) and email it to academy@idx.co.za. For additional inquiries, contact +27 (11) 548 9960 or visit <https://www.idx.co.za>.