

Actuator Sensor Interface Technology ASi-T



Key Features:

- Introduction to AS-i technology and its position in the control system hierarchy
- AS-i development technology and feature
- Build an AS-i network
- AS-i wiring and installation
- Configure and exercise your network
- AS-i Profiles and extensions
- Setting up a basic system
- Programming a simple control scheme and demonstrate parameters
- Using an analyser to fault find and advanced diagnostics
- Setting up a AS-i safe system
- Practical test and Multiple-choice theory test

The use of automation, improved methods of control and the development of Fieldbus technology are all essential learning requirements for an engineer. The ASi-T module is designed to allow the theory and practice of the Actuator Sensor Interface to be taught. The module uses a combination of practical applications and the theory.

The use of AS-i intelligent sensors, actuators and remote I/O in the most efficient and effective way and how to integrate AS-i into higher Fieldbus systems are included in the course. Students will build, configure and exercise their own AS-interface system from the beginning and the planning and installation of Fieldbus networks. No previous knowledge of AS-i or other Fieldbus systems is required.

The ASi-T module consists of a Siemens Simatic S7-300 Modular PLC complete with AS-i master, and all required I/O. The ASi-T is mounted on an aluminium board, and is supplied with a courseware manual.

Curriculum Coverage

- Introduction to AS-interface: The fieldbus concept and Position of AS-interface in the hierarchy, Brief history and development criteria, The advantages of AS-I, Main features of AS-interface, Slave devices, Master devices, Cable and connection technology, Network structures, Overview of transmission mechanism, Benefits and limitations
- AS-Interface in depth: AS-Interface transmission technique, AS-i telegrams, AS-Interface cycle timing, AS-Interface cabling, Device connection, Slave addressing, Parameters, Slave ID & I/O codes, Master operation, Gateways and couplers, Commissioning and maintenance tools, Network commissioning, Advanced diagnostics
- AS-interface Wiring and Installation: Repeaters and network expansion, Cable voltage-drop calculation, AS-i power supply and earthing, Cable routing, Wiring and commissioning tips
- AS-Interface Profiles and Extensions: Profiles, AS-i Extensions, Extended (A/B) addressing, Extended identification codes, Analogue I/O, Combined Transactions, Peripheral faults
- The AS-Interface Safety at Work Profile: Safety at work overview, Technical details, The safety monitor and configuration software, Design and implementation of functional safety systems, Words of warning
- Practical test and multiple-choice theory test

Labworks

- Practical Exercise, AS-i system 3 - Siemens Master
 - Siemens STEP 7- Micro/Win 32 software
 - Exercising slave I/O
 - Executing AS-i functions
 - Reading slave ID codes
 - Obtaining slave I/O codes
 - Hand-held test tool
 - Automatic addressing
 - Profiles and Parameters
 - The intelligent Sensor Health bit

Specification	
CPU	1 x Siemens CPU315 PLC with MMC
ASi master	1 x CP343-2 AS-i master
Sensors	1 x Intelligent inductive sensor 1 x Inductive sensor 1 x Optical sensor 1 x Ultra sound sensor
Actuator	1 x Intelligent integrated actuator (pneumatic) 1 x Safety slave with integrated emergency stop 1 x Emergency stop
Input output modules	1 x AS-i addressing and diagnostic unit. Device for active AS-i modules, intelligent sensors and actuators 1 x AS-i digital input module plus base plate (4 I/P) PNP 1 x AS-i digital input / output combination module plus base plate (2 O/P + 2 I/P) PNP 1 x Safe remote I/O module
Power supply	1 x Safety monitor - 1 channel 1 x Siemens S7-300 PS 307 power supply 1 x AS-i power supply
Software	1 x Siemens Step7 MicroWin programming software plus programming cable 1 x Safety monitor software
Cables and connectors	5 Meter x 24V flat black cable 5 Meter x yellow I/O cable 5 Meter x 2 core 1.5mm ² 4 x M12-M12 cable 4 x M8-M12 cable 6 x M12 Asi 4pin connectors

Required

A suitable PC with minimum; Pentium processor, 1GB RAM, 20GB HDD, CDROM Drive, USB Interface and Windows XP or above and a Pneumatic supply.

Ordering Information

Model Number: ASi-T

Consists of: 1 x ASi-T module mounted on aluminium board
1 x Accessory and tool box
1 x Software CD
1 x Coursework
1 x Operating manual
1 x Text book

Optional WAGO Version is also available with associated practical exercises

Weights and Dimensions

Un-Packed		Packed	
Approximate Dimensions (mm)	600W x 28D x 480H	Approximate Dimensions (mm)	800L x 500W x 500H
Approximate Weights	4.0Kg	Approximate Weights	15Kg

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