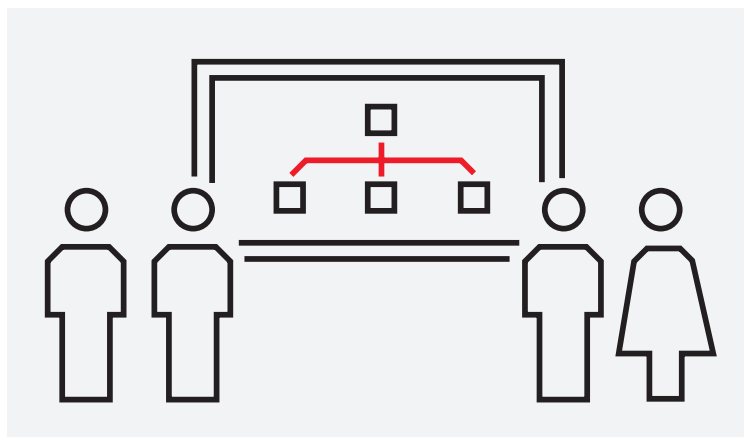


## COURSE DESCRIPTION

### S432

## S+ SD series controller communication with IEC-60870-5-104, DNP3, Modbus TCP



The goal of this course is to learn the basic configuration of SD series controllers communication with IEC60870-104, DNP3 and Modbus TCP.

#### Learning objectives

Upon completion of this course, the participants will be able to:

- Get the knowledge of IEC 60870-5-104, DNP3, Modbus TCP standards
- Describe the different architectures followed for each protocol
- Describe the features supported when each hardware is configured as Master/Slave
- Configure parameters for SCI200 & SPC700 module for Master/Slave configuration
- Configure SCI200 as IEC60870-5-104 Master and DNP3 Master
- Configure SPC700 as Modbus TCP Master
- Configure SCI200 and SPC700 module for IEC60870-5-104 and Modbus TCP Slave configuration
- Do the hardware and software integration
- Backup and restore domain controllers
- Identify hardware problem from LED indications
- Firmware upgradation procedures

#### Participant profile

This training is targeted to system and application engineers, commissioning and maintenance personnel, service engineers and system integrators.

#### Prerequisites

Students should have attended the following courses:

- S311 (SD series-Hardware Configuration)
- S312 (Symphony Plus Engineering for Harmony)

#### Topics

- Course overview
- Hardware and software requirements
- IEC60870-5-104 communication protocol
- Modbus TCP communication protocol
- DNP3 communication protocol
- Backup, Backup upgrade, Delete and Restore
- Diagnostics and troubleshooting
- Firmware upgradation

#### Course type and methods

This is an instructor led course with interactive classroom discussions and associated lab exercises. Approximately 30% of the course is hands-on lab activities.

#### Duration

The duration is 3 days.

## Course outline

Day 1	Day 2	Day 3
Course overview <ul style="list-style-type: none"> <li>Explains course goal, course topics and course agenda</li> </ul>	Modbus TCP communication protocol <ul style="list-style-type: none"> <li>Explains specifications, applications, addressing of Modbus TCP</li> <li>Explains Modbus TCP Master and Slave engineering workflow</li> <li>Hands-on lab exercise</li> </ul>	Backup, Backup upgrade, Delete and Restore <ul style="list-style-type: none"> <li>Explains procedures for Backup, Backup upgrade and Backup Restore</li> <li>Hands-on lab exercise</li> </ul>
Hardware and software requirements <ul style="list-style-type: none"> <li>Explains about SD series SPC700 and SCI200 hardware modules</li> <li>Explains about S+ Engineering</li> </ul>	DNP3 communication protocol <ul style="list-style-type: none"> <li>Explains specifications, applications, addressing of DNP3</li> <li>Explains DNP3 Master engineering workflow</li> <li>Hands-on lab exercise</li> </ul>	Diagnostics and troubleshooting <ul style="list-style-type: none"> <li>Explains about SCI200 operating error codes</li> </ul>
IEC60870-5-104 communication protocol <ul style="list-style-type: none"> <li>Explains specifications, applications, addressing of IEC60870-5-104</li> <li>Explains IEC60870-5-104 Master and Slave engineering workflow</li> <li>Hands-on lab exercise</li> </ul>		Firmware upgradation <ul style="list-style-type: none"> <li>Explains procedures for firmware upgrade of SPC700 using USB port and Symphony Plus Engineering</li> <li>Explains procedures for firmware upgrade of SCI200 using USB port and Symphony Plus Engineering</li> <li>Hands-on lab exercise</li> </ul>

## ABB

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