

Name: Introduction to the SCADA Systems.
Code: SE-SC-08
Time: 24 Hours
Objective: To provide the basic knowledge to interact with the Supervisory Control and Data Acquisition Systems (SCADA). Moreover to give an updated view about the main components of such Systems, Master Stations, Remote Terminal Units, Communication Protocols, etc.
Audience: Intended Engineers and Technicians.

Contents	
<p><i>Day 1</i></p> <ol style="list-style-type: none"> 1. Introduction to the SCADA Systems. 2. Need for a SCADA system. <ul style="list-style-type: none"> • Processes. 3. Functions of a SCADA system. 4. Differences between a SCADA and a DCS. 5. SCADA systems architecture. <ul style="list-style-type: none"> • Starting a SCADA System. • The 80's architecture. • Actual architecture. 6. Master Stations. <p><i>Day 2</i></p> <ol style="list-style-type: none"> 1. Remote Stations. <ul style="list-style-type: none"> • GE HARRIS RTU. • ScadaPACK RTU. • Differences between RTUs and PLCs. 2. Communication Protocols. <ul style="list-style-type: none"> • Seven layers ISO – OSI model. 3. IEC 870-5 <ul style="list-style-type: none"> • Architecture. • Message format. • Communication between layers. • Physical layer. • Link layer. • Application layer. 	<ol style="list-style-type: none"> 4. DNP V3.00 <ul style="list-style-type: none"> • Abilities. • Special features. <p><i>Day 3</i></p> <ol style="list-style-type: none"> 1. Comparison between the IEC 870-5 and the DNP Protocols. <ul style="list-style-type: none"> • Physical layer. • Link layer. • Application layer 2. MODBUS Protocol. <ul style="list-style-type: none"> • Features. 3. Comparison between the MODBUS and the DNP protocols. <ul style="list-style-type: none"> • Master Station. • Remote Station. • Communication protocols. • Communication Medias.

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