Robotics

**S2 and S3 Programming and Operation**

**Course Outline**
Duration 5 days
Beneficial to programmers, operators and maintenance staff

Note: Both S2 and S3 controllers share the same Asea robot language, courses run at ABB use an S3 controller and although there are differences between the S2 and S3 pendants students can adapt there knowledge to either system.

**Subject areas**

**Safety Instructions**
Safe working practices
Pinch and Trapping points
Emergency stops & enabling device
Teach velocity

**System Description**
Robot mechanical unit and control system description
Operators panel
Programming Unit

**Operations**
Start up procedures
Manually moving robot using joy stick
Co-ordinate systems
Singular points
Shut down procedures
Recovery from an emergency stop

**Error codes**
Error identification
Error recovery
Error logs

**Basic Programming Theory**
Creating a new program
Main Program
Instruction menu
Basic Move instructions
Circle & Time positions
Velocity control
Editing a move instruction
Saving and retrieving a program in a block (Floppy disc)
Saving and retrieving parameters (Floppy disc)

**Basic tool centre point definition**
Why use a tool centre point (TCP)
Importance of TCP
TCP definition manual & automatic

**Basic instructions**
Input / Output control (Set, Reset, Pulse)
Wait time / Wait input
Registers
Gripper

**Program editing**
Erasing, Deleting, inserting, modifying & copying
Sub Programs
Creating, calling & returning from Programs
Pattern Calling
Repeat Calling
Decision making
Jump IF

**Teach pendant communications**
Comment instruction

**Objectives:**
On completion participants will be able to perform:

- System start up, shut down and error recovery
- Jogging the robot and modifying positions
- ARLA programming and editing
- Save programs and parameters to disk

For further information please contact the Training department
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