Course goal

The goal of the course is to improve the ability of run the Robot cell, Program Modification and responsible for engineering, commissioning, operation and Maintenance of Robotics for Automation.

Learning objectives

Upon completion of this course, students will be able to:

- understand the use of Robot Operational
- Safety and Handling
- understand the critical elements of operation & maintenance of Robots
- Programming
- Calibration
- General Troubleshooting

Participant profile

Personnel from Production and Operations Engineering Department, Consultants responsible for engineering, commissioning, operation and Maintenance of substations

Prerequisites

Degree or diploma in engineering, basic knowledge of Automation Product

Topics

- Programme Theme, Overview

- Introduction of ABB Robot and their types, , Robot Specification : Payload ,Reachability, Robot Controller and Operation panel Manipulator Overview , Flex pendant overview ,

- Safety overview and run chain

- Jogging, Axis Mode, Linear Mode, Reorientation

- Description of Robot Coordinate system, Base, World, Tool. Work Object

- Tool Center Point and Defining the TCP

- Motion Instruction MoveJ, MoveL, Move C,

- hand-on exercise & Practices
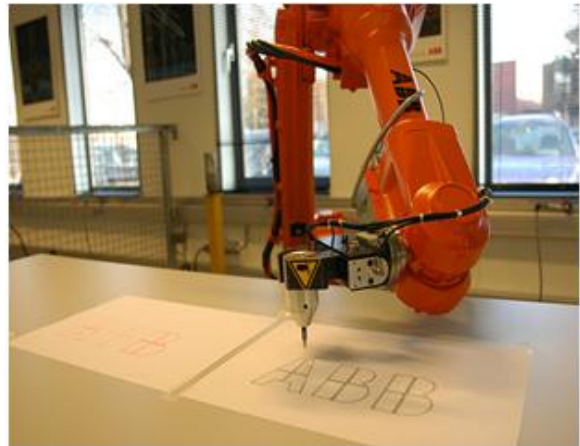
Topics

- RAPID Program structure , Routines, Modules, Program Data

- Input and Output signals

- Logical Instruction / program flow instructions COPACT IF ,IF AND THEN , PROCALL

- ModPos or teaching of program Programme EDIT by Copy /Paste

- Saving and loading of user programmes and Parameters

- Taking backup of the Robot system and restore the system, Installation

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- Calibration and revolution counter update
- Maintenance & troubleshooting , SMB Battery replacement
- Question & answer, summarizing-on exercise & practices
- FOR ,WHILE,GOTO and LABLE,   TEST Assign ,=; ,Mathematical Instruction
- Operator Communication Instructions TPErase ,TPWrite TPReadNum TPReadFK
- Clock Instructions and cycle time calculation
- Offset function, benefit of Offset programming
- Interrupt & TRAP routines
- Event Logs
- Programming Example
- hand-on exercise

Course type and methods

This is an instructor led seminar with practical exercises. The language of the course is English

Course Duration

The duration of the course is Three days.

Course Outline

Day 1	Day 2
■ Programe Theme, Overview	■ RAPID Program structure ,Routines, Modules,Program Data
■ Introduction of ABB Robot and their types, , Robot Specification : Payload ,Reachability, Robot Controller and Operation panel Manipulator Overview ,Flex Pendant Overview ,	■ Input and Output Signals
	■ Logical Instruction /Program Flow Instructions COPACT IF ,IF AND THEN , PROCALL
■ Safety Overview and Run Chain	■ ModPos or Teaching of Program Program EDIT by Copy /Paste
■ Jogging , Axis Mode, Linear Mode, Reorientation	■ Saving and loading of user programs,and Parameters
■ Description of Robot Coordinate system , Base, World, Tool. WorkObject	■ Taking Backup of the Robot system and restore the system, Installation
■ Tool Center Point and Defining the TCP	■ Calibration and Revolution Counter Update
■ Motion Instruction MoveJ, MoveL, Move C,	■ Maintenance & troubleshooting , SMB Battery replacement
■ hand-on exercise & Practices	■ Question & Answer, Summarizing

Day 3
■ FOR ,WHILE,GOTO and LABLE,   TEST Assign ,=; ,Mathematical Instruction
■ Operator Communication Instructions TPErase ,TPWrite TPReadNum TPReadFK
■ Clock Instructions and Cycle Time calculation
■ Offset Function, Benefit of Offset Programming
■ Interrupt & TRAP routines
■ Event Logs
■ Programming Examlpe
■ hand-on exercise

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