

IRC5

Advanced Programming stage 2

Course Outline

Duration 5 days

Beneficial to programmers, operators and maintenance staff

Students must have completed the IRC5 Programming and Operation & IRC5 Advanced Programming Stage 1 Courses and have ongoing IRC5 Experience

Subject areas

Dot Notation

Accessing Data type parts.
Checking robot at home

Creating Routines with arguments

Creating instructions with parameters
INOUT
Optional Arguments
Present() Function
Switches
Mutually Exclusive Arguments
Global and Local Routines
Global and Local Data
PERS/VAR
"Present()" Versus "?"
Functions with Parameters
Variables inside Routines

Arrays

Creation
Manipulation
Printing
Resetting
In combination with routines and parameters
1,2 and 3 dimensional arrays

Strings

String Concatenation and String Manipulation
String Functions
8 Bit Hexadecimal ASCII Codes

Serial Communication

Reading, Writing & Appending Files
COM Port Communication

File Handling

Copying, Renaming and Removing Files
Making, Removing and Opening Directories
Directory Listings
File Handling Functions

Socket Messaging

Client Configuration
Server Configuration

FTP Client

FTP Server Configuration
FTP Robot Client Configuration
Mounting an FTP Network Drive

MultiTasking

General Description
Creating a parallel program
System parameter setting
Task Data
Synchronising using a common variable
Synchronising using interrupt
Synchronising using a dispatcher
Common data in several tasks
Teach pendant messages from parallel tasks

NFS Client

NFS Server Configuration
NFS Robot Client Configuration
Mounting an NFS Network Drive

Objectives

On completion, participants will be able to perform:

- ☒ Demonstrate the techniques of advanced programming
- ☒ Use Dot notation
- ☒ Create instructions and functions to suit any purpose
- ☒ Create and manipulate Arrays
- ☒ Manipulate Strings
- ☒ Communicate using Serial Channels
- ☒ Handle Files and Directories
- ☒ Utilise MultiTasking to create and program Background tasks
- ☒ Socket Messaging for Client and Server configurations
- ☒ Configure the robot to communicate with an FTP Server
- ☒ Configure the robot to communicate with an NFS Server