COURSE DESCRIPTION

CHJ950 – PSR2/FUPLA2
Programming

Course goal
The goal of this course is to teach the student how to use the FUPLA2 programming tool with the help of table models with PSR hardware. Most of the time the student will work on his own by programming prepared projects.

Main learning objectives
The participants will be able to:
— Address the important device types
— Write application programs with FUPLA2
— Use the FUPLA2 debugger
— Modify existing FUPLA projects

Participant profile
This training is targeted to project design and commissioning engineers as well as testing engineers, who use a standardized PSR system.

Prerequisites
Knowledge in electronics and digital technique as well as personal computer knowledge is required.

Topics
— Introduction to PSR2 technology
— Functions and setting of the PSR2 devices, such as
  - Processing unit
  - I/O modules
  - Gate control unit
  - ARCnet devices
— Operating program language FUPLA2
  - PTS Shell
  - Editor
  - Configuration manager
  - Code generation
  - Debugger, diagnosis
  - PSRView application
  - Function block library
— Programming aspects
  - How to set up a project
  - Program structure
  - Data formats
  - Memory mapping
  - Macro technique

Course type and methods
— Lectures for introduction
— Hands-on training

Duration
The duration is 5 days.

Remarks
Custom-tailored and on-site training courses are offered on request.
## Course map

<table>
<thead>
<tr>
<th></th>
<th>DAY 1</th>
<th>DAY 2</th>
<th>DAY 3</th>
<th>DAY 4</th>
<th>DAY 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics</td>
<td>Welcome, personnel introduction</td>
<td>Review day 1</td>
<td>Review day 2</td>
<td>Review day 3</td>
<td>Review day 4</td>
</tr>
<tr>
<td></td>
<td>Course introduction</td>
<td>Setting up a project</td>
<td>Capabilities of PSR</td>
<td>Mailboxlong physical memory</td>
<td>Data transmission via Fieldbus</td>
</tr>
<tr>
<td></td>
<td>Terms used</td>
<td>Exercises</td>
<td>Memory range of BuslongIO</td>
<td>Comparison of BuslongIO and BusshortIO</td>
<td>ARCnet</td>
</tr>
<tr>
<td></td>
<td>Structure of documentation</td>
<td>Steps in the project generation</td>
<td>Devise assignment to BuslongIO</td>
<td>Knowledge of devices</td>
<td>AF C094 panel</td>
</tr>
<tr>
<td></td>
<td>PSR2 technology</td>
<td>Exercises</td>
<td>Use of the BuslongIO</td>
<td>Macro technique PSRView</td>
<td>Programming exercises using ARCnet</td>
</tr>
<tr>
<td></td>
<td>The devices</td>
<td></td>
<td></td>
<td>Parameter adjustment</td>
<td>Questions and answers</td>
</tr>
<tr>
<td></td>
<td>Mechanical construction</td>
<td></td>
<td></td>
<td>Exercises</td>
<td>Evaluation</td>
</tr>
<tr>
<td></td>
<td>Signal transition</td>
<td></td>
<td></td>
<td></td>
<td>Course close</td>
</tr>
<tr>
<td></td>
<td>Programming tool</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>9:00 am – 5:00 pm</td>
<td>9:00 am – 5:00 pm</td>
<td>9:00 am – 5:00 pm</td>
<td>9:00 am – 5:00 pm</td>
<td>9:00 am – 5:00 pm</td>
</tr>
</tbody>
</table>

Typical course layout (time or sequence may change)