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Group Configuration Tool

Application Documentation

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GCT Project File

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EUROTHERM CONTROLS			Application Documentation	
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Doc. Revision	Date	Changes
1	Nov 2,1993	Original

1 Related Documents

- GCT Product Specification [HP024674C300], GCT Team
- Draw Editor Look & Feel Issues [HP024674C305], Jenny Oliver

2 Introduction

This document is the functional specification of the Eurotherm Group Configuration Tool (GCT) Application Documentation facilities.

The features of existing products LINTools (EPA), ConfigEd (Drives Inc), and MicroCell (Controls), have been examined to incorporate positive features.

The requirements include:

- The documentation must include enough detail to allow a configuration to be reproduced.
- To include information related to version and release control.
- The user to be in control of and to be able to see what will appear on the printout (WYSIWYG).
- Clear cross page referencing.
- Assistance with navigation of the document eg through table of contents.

3 Configuration of Documentation in GCT

- Page borders

Initially a standard page border will be adequate, possibly configurable to a limited degree by specification of information in the options database. Later support for configuration of custom borders will be incorporated.

- Print Setup

There will be support for configuration of page size and aspect. Print setup will also include the ability to select print scaling options within a limited range (to ensure that fonts were always visible).

- Print Options

Options will be supported to allow the user to tailor which information should be included within a printout.

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4 Page borders

Page borders to include the following information.

- Page Numbering

Ideally, the page numbering scheme should be configurable. Initially support would be for a simple sequential numbering of pages within a document. Support for numbering schemes that might include section number, block name, sheet number within block would be introduced later and would allow components of configurations to be reprinted with less disruption of the overall numbering of the document.

If components of a configuration change during development, these can be printed out separately but the numbering may not correspond to that within the context of the full configuration printout. This will mean that the whole configuration will have to be reprinted on completion of development to provide a coherent document.

- Project / Library name
- Block name / Sub block name
- Author
- Date (creation / last modified / today ?)
- Customer company name
- Eurotherm logo / GCT product name
- Minimal version history

5 Printing Multiple Pages

5.1 Multi-Page Graphics Print

When it comes to printing a large graphical definition, some issues that will be considered are:

- Insertion of labels for cross page references.


If a wire crosses a page boundary, a label will automatically be inserted with a default name to provide a reference to a cross page connection.

- User label.

In addition to automatic cross page connectors, users will be able to explicitly create labels within or across pages.

- Display of page boundaries within editors.

Page boundaries will be displayed within edit windows. The boundary represents the available size of the drawing area on the page not including the border. It would not be desirable to show multiple page borders within a multi-page view. A print preview mode may support display of whole pages including the border.

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- Page Setup.

The print setup will allow the setting of page size and aspect. It may not be acceptable to enforce either landscape or portrait aspect for a whole configuration. It is not obvious how one would achieve a mixed presentation of eg a landscape border with portrait drawing area. In order to mix aspects it would be necessary to define a border for each aspect.

- Scaling Printout.

Sometimes when a diagram or portion of a diagram slightly exceeds the available drawing area, it is an advantage to be able to scale the diagram to fit. A minimum print scaling factor should be enforced to ensure that text is always visible.

5.2 Multi-Page Text Print

A block definition includes expanded annotation sections, sub-blocks (which may be graphical or textual) and possibly other textual sections.

- Text sections should be printed within the normal border.
- Portrait aspect is probably the most suitable for text. A landscape aspect could allow dual columns to make best use of space.


6 Document Sections

- Table of Contents.
- Cross Reference Table - to include data dictionary and indication of usage of each block.

7 Printing Block

An individual block (type) may be printed out. A block print will include the following:

- Block Declaration (Full)
Initially a textual description of the declaration of all blocks will be given regardless of which declarations editor was used. All cold starts, attributes, wiring, etc will be shown. Later this can be developed possibly to use a tabular representation for declarations and attributes.
- Block Declaration (Editor)
In addition to the full (initially textual) print out, a representation of the declarations based on the editor used will also be given (eg FBD).
- Block Body (Editor)
Each Block (or Sub-Block) body will be printed out in the form corresponding to the editor used to define it.
- Block Body (Full)
Depending on the editor used to define a block, it may be necessary to supplement the printout with addition information.

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– FBD Body

An FBD block body will be accompanied by a textual (ST) listing of the block. For an FBD declaration block, most of the FBD will be described in the full declaration description. For either an FBD declaration block or for an FBD fragment, the body (the executable statements) will also be printed.

– SFC Body

An SFC consists of a number of STEP, TRANSITION and ACTION sub-blocks. Each sub-block will be printed out using the form corresponding to the editor used to define the sub-block. Step definitions will consist of the ST that defines the action associations for the step.

- Sub Blocks

Sub blocks may be graphical or text, eg, steps, transitions, actions, etc. Each sub-block should be printed out in a separate sub-section of the block print.

- Expanded Annotation

Initially use of annotation objects could be restricted to within the graphical diagram only. ie Only text that can be seen on the diagram will be seen.

Ideally, any annotation objects that are compressed within a graphical display should be output as a sub-section of the block with the corresponding tags.

8 Printing Project or Library

An operation will be provided on a project or library to print all blocks within a project together with a table of contents and a cross-reference table.

9 Print Configuration


Print configuration (to be addressed later) will generate a print of:

- The system view of the configuration.
- Inter-Resource wiring.
- VAR REFERENCE connections between resources.
- All blocks within the project library that are used within the configuration.
- Each RESOURCE included in the configuration.

10 Print Resource

Print RESOURCE will generate a print of:

- IO description.
- All blocks within the project library that are used within the RESOURCE.
- All RESOURCE initialisations eg cold-start values, attributes, reference properties.
- The RESOURCE definition itself.

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1.1 Related Issues

Application documentation will be enhanced by the following:

- Inclusion of STEP and TRANSITION text (or portions of text) in SFC diagrams. (Note: STEP text means action association lists, action definitions would not be shown at this level).

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