


Product Guide

Control^{IT} Pulp and Paper Control Library

Version 5.1-0

Type des.			Part no.							
Prep.	PA/R / Bengt Persson	2010-11-03	Doc. kind	Product Guide	No. of p.					
Appr.	/	2010-11-03	Title	Pulp and Paper Control Library 5.1-0	18					
Resp. dept	PA/R	Approved								
 ABB AB			Doc. no.	3AST001792D0142	Lang.	en	Rev. ind.	A	Page	1

NOTICE

The information in this document is subject to change without notice and should not be construed as a commitment by ABB AB. ABB AB assumes no responsibility for any errors that may appear in this document.

In no event shall ABB AB be liable for direct, indirect, special, incidental or consequential damages of any nature or kind arising from the use of this document, nor shall ABB AB be liable for incidental or consequential damages arising from use of any software or hardware described in this document.

This document and parts thereof must not be reproduced or copied without written permission from ABB AB, and the contents thereof must not be imparted to a third party nor used for any unauthorized purpose.

The software or hardware described in this document is furnished under a license and may be used, copied, or disclosed only in accordance with the terms of such license.

Copyright © 2009 ABB AB

All rights reserved.

TABLE OF CONTENTS

1. Section Functional Description	4
1.1 Pulp and Paper AC800M Control	4
1.1.1 PP_ElementLib	4
1.1.2 PP_FunctionLib	4
1.1.3 PP_UMCLib	5
1.1.4 Version elements	5
1.2 Pulp and Paper AC800M Connect and Control.....	6
1.2.1 Process Display Elements	7
1.3 Engineering tools.....	13
2. Related documents	14
3. Section Software Components	14
4. Section Hardware Components	15
5. Section Technical Data and Performance	15
5.1 Execution Times.....	15
5.2 Memory Space Requirements	15
6. How to Report Errors	16
7. Section Environmental Immunities	16
8. Section Ordering	16
8.1 Pulp and Paper PPA AC800M Connect	17
8.2 Ordering example	17
8.3 Pulp and Paper AC800M Control	17
8.4 Ordering example	17
9. Appendix Licenses	17

1. Section Functional Description

1.1 Pulp and Paper AC800M Control

Pulp and Paper AC800M Control contains of libraries, PP_ElementLib, PP_UMCLib and PP_FunctionLib.

PP_ElementLib consists of listed elements in chapter 1.1.1. These elements are function blocks in IEC 61131 and have no process display elements, faceplates or event/alarm handling. PP_ElementLib can be used and ordered separately, but is also a support library to PP_FunctionLib.

PP_FunctionLib and PP_UMCLib consist of the listed elements in chapter 1.1.2 and 1.1.3. These elements are function blocks in IEC 61131 and have process display elements, face plates and event/alarm handling.

1.1.1 PP_ElementLib

List of elements:

ADD_MR, Alarm_Lim2, Alarm_Lim4, AnalogDelay, Avg,
Comp_I, Comp_R, Con_PU1, Conv_BI, Conv_IB, Count_L,
DeMux_MI, DERivator, Div_R,
Filt_1P, Filt_2P, Fung_1V,
INTegrator,
Lim, Lim_N, Max_R, Min_R, Mono,
Move_B, Move_IL, Move_R,
Mux_I_B, Mux_I_IL, Mux_I_R, Mux_MI_IL, Mux_MI_R,
Mux_MN_IL, Mux_MN_R, Mux_N_IL, Mux_N_R, MuxA_I,
Osc_B, PI,
Ramp, Reg_IL, Reg_R,
SR_D, SW_B, SW_C_B, SW_C_R, SW_R,
TimerPuls, Tresh_L

The documentation in English of these elements is included on the installation CD-ROM.

1.1.2 PP_FunctionLib

List of Functional Units:

		Faceplate	Object Display
AIC01	Analog Input (Calculated)	Yes	Yes
AIS01	Analog Input	Yes	Yes
AOC01	Analog Output (Calculated)	Yes	Yes
AOS01	Analog Output	Yes	Yes
Bool01	Presentation of Boolean value	No	No
Bool02	Direct entry of Boolean value	No	No
DIC01	Digital Input (Calculated)	Yes	Yes
DIS01	Digital Input	Yes	Yes

DOC01	Digital Output (Calculated)	Yes	Yes
DOS01	Digital Output	Yes	Yes
DInt01	Presentation of Integer value	No	No
Dint02	Direct entry of Integer value	No	No
Dricon_S	Variable Speed Motor AC600/800	Yes	Yes
Flow01	Temp & Press Compensated. Flow	Yes	Yes
GroupStart01	Group start	Yes	Yes
GroupStart02	Group start (Expansion)	No	No
Man01	Manual Station (HIC)	Yes	Yes
Mot01	1 Speed or Direction Motor	Yes	Yes
Mot02	2 Speed or Reversing Motor	Yes	Yes
MotFreq	Variable Speed Motor	Yes	Yes
Motval01	Motor operated Valve (Open/Close)	Yes	Yes
Motval02	Motor operated Valve (Positioning)	Yes	Yes
Seq01	Sequence Presentation	Yes	Yes
Pid01	Closed Loop Controller	Yes	Yes
Pid01A	Closed Loop Controller with Auto Tuning	Yes	Yes
Ratio01	Ratio Station	Yes	Yes
Real01	Presentation of Real value	No	No
Real02	Direct entry of Real value	No	No
Text01	Presentation of a text	No	No
Time01	Presentation of a time	Yes	No
Total01	Totalizer	Yes	Yes
Valve01	On/Off Valve	Yes	Yes

The documentation in English of these elements is included on the installation CD-ROM.

1.1.3 PP_UMCLib


List of Functional Units:

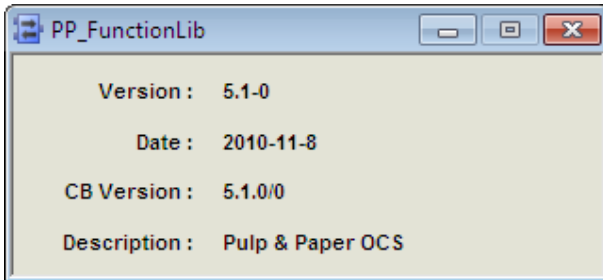
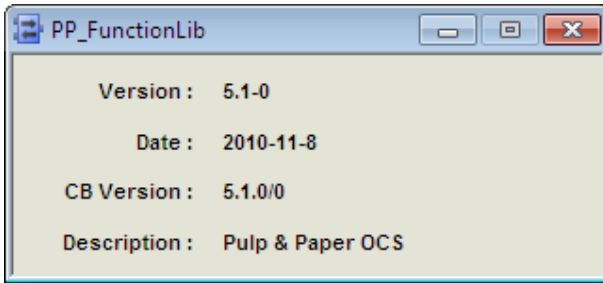
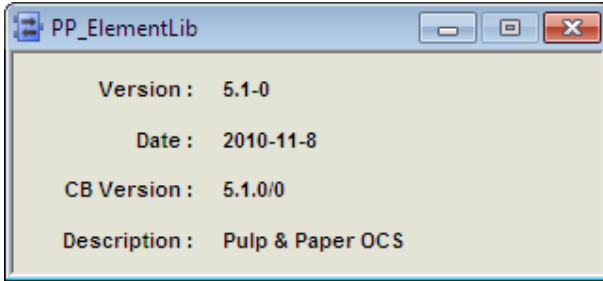
		Faceplate	Object Display
UMC22	1 Speed or Direction Motor	Yes	Yes
UMC22_Act	Non-Position Motorized Valve	Yes	Yes
UMC22_Act02	Position Motorized Valve	Yes	Yes

The documentation in English of these elements is included on the installation CD-ROM.

1.1.4 Version elements

The elements PP_ElementVersion, PP_FunctionVersion and PP_UMCVersion are elements that are used to document actual version of the PP_ElementLib, PP_FunctionLib and PP_UMCLib. By inserting these in a program and then open the Interaction window tool the following information is showed.

	ABB AB	Doc. no.	Lang.	Rev. ind.	Page
		3AST001792D0142	en	A	5



Note:

In all communication with us regarding questions or complains about the functions in the Pulp&Paper libraries please add a printout from these elements.

1.2 Pulp and Paper AC800M Connect and Control

Standard 800xA software AC800M Connect is needed to be able to integrate Pulp and Paper AC800M Control with the 800xA system.

Pulp and Paper AC800M Connect is a set of aspects for the PP Function Library mainly to be used to create an operator workplace.

The section below gives an overview of functions in P&P AC800M Connect.

- Faceplates and Object displays for the functions listed in chapter 1.1.2 and 1.1.3
- Graphic elements for process displays as listed in chapter 1.2.1
- Security:
A standard setting is done in the PP_FunctionLib and PP_UMCLib that limits the write possibilities. The user will need operate, tune, configure or administer rights to change certain properties of the functions.
- National Language Support (NLS):
The library is delivered in an English version. Translation to another language is not included in the scope of delivery.

1.2.1 Process Display Elements

List of process display elements in PP_FunctionLib

Function	Process Display Elements
AIC01	AIC01PD01
	BargraphMV01
	NumericVALUE01
	UnitVALUE01
AIS01	AIS01PD01
	BargraphMV01
	NumericVALUE01
	UnitVALUE01
AOC01	AOC01Mode
	AOC01PD01
	BargraphOUT01
	NumericVALUE01
	UnitVALUE01
AOS01	AOS01Mode
	AOS01PD01
	BargraphOUT01
	NumericVALUE01
	UnitVALUE01
DIC01	DIC01PD01
	DIC01PD03
	DI01_Valve
DIS01	DIS01PD01
	DIS01PD03
	DI01_Mot
	DI01_Valve
DOC01	DOC01Mode
	DOC01PD01
	DOC01PD02
	DOC01PD03
DOS01	DOS01Mode
	DOS01PD01
	DOS01PD02
	DOS01PD03
	DOS01PD04
	DO01_Mot
Dricon_S	BarSpeed
	BarTorque
	Dricon_MV01
	Dricon_SP01

	Dricon_SPD01
	Dricon_SPD03
	Dricon_SPD07
	Dricon_SPD52
	Mode01
	NumericMV01
	NumericSP01
	UnitMV01
	UnitSP01
	MotPD00
Flow01	BargraphMV01
	Flow01PD01
	NumericOUT01
	UnitOUT01
GroupStart01	GsPD00
	GsPD01
	GsPD02
	Step Name
GroupStart02	-
Man01	BargraphACT01
	BargraphMV01
	BargraphOUT01
	Mode01
	NumericACT01
	NumericMV01
	NumericOUT01
	NumericUnitAct01
	NumericUnitMV01
	NumericUnitOUT01
	PD_ACT01
	PD_MV01
	PD_OUT01
	PD_OUT51
	UnitACT01
	UnitMV01
	UnitOUT01
Mot01	MotPD00
	MotPD01
	MotPD03
	MotPD07
	MotPD11
	MotPD12
	MotPD13

	MotPD14
	MotPD51
	MotPD52
Mot02	MotPD00
	MotPD01
	MotPD03
	MotPD07
	MotPD51
	MotPD52
MotFreq	Mode01
	MotBarLoad
	MotBarSpeed
	MotFreq_MV01
	MotPD00
	MotPD03
	MotPD07
	MotPD52
	MotFreq_SP01
	MotFreqPD01
	NumericMV01
	NumericSP01
	UnitMV01
	UnitSP01
Motval01	MotvalPD01
	MotvalPD02
	MotvalPD03
	MotvalPD04
	MotvalPD05
	MotvalPD06
	MotvalPD11
	MotvalPD12
	MotvalPD13,
	MotvalPD14
	MotvalPD15
Motval02	MotvalPD01
	MotvalPD02
	MotvalPD03
	MotvalPD04
	MotvalPD05
	MotvalPD06
	MotvalPD07
	MotvalPD08
	MotvalPD09

	MotvalPD10
	MotvalPD11
	MotvalPD12
	MotvalPD13
	MotvalPD14
	MotvalPD15
Pid01	BargraphACT01
	BargraphMV01
	BargraphOUT01
	BargraphSP01
	Mode01
	NumericACT01
	NumericMV01
	NumericOUT01
	NumericSP01
	NumericUnitACT01
	NumericUnitMV01
	NumericUnitOUT01
	NumericUnitSP01
	PD_MV01
	PD_MV02
	PD_OUT01
	PD_OUT51
	PD_SP01
	UnitACT01
	UnitMV01
	UnitOUT01
	UnitSP01
Pid01A	BargraphACT01
	BargraphMV01
	BargraphOUT01
	BargraphSP01
	Mode01
	NumericACT01
	NumericMV01
	NumericOUT01
	NumericSP01
	NumericUnitACT01
	NumericUnitMV01
	NumericUnitOUT01
	NumericUnitSP01
	PD_ACT01
	PD_MV01

	PD_MV02
	PD_OUT01
	PD_OUT51
	PD_SP01
	UnitACT01
	UnitMV01
	UnitOUT01
	UnitSP01
Ratio01	BargraphMV01
	BargraphOUT01
	BargraphSP01
	Mode01
	NumericMV01
	NumericOUT01
	NumericSP01
	NumericUnitMV01
	NumericUnitOUT01
	NumericUnitSP01
	PD_MV01
	PD_OUT01
	PD_SP01
	UnitMV01
	UnitOUT01
	UnitSP01
SEQ01	Seq01SG01
	CurrStepNumberName01
	Seq01PD00
	Seq01PD01
Valve01	Valve01PD01
	Valve01PD02
	Valve01PD03
	Valve01PD04
	Valve01PD05
	Valve01PD11
Bool01	Bool01Square
	Bool01Text
Bool02	Bool02PD01
	Bool02PD02
	Bool02PD03
	Bool02PD04
	Bool02Text
DInt01	DInt01Bar
	DInt01MV

	Dint01Numeric
	Dint01Unit
Dint02	Dint02Bar
	Dint02MV
	Dint02Numeric
	Dint02Unit
Real01	Real01Bar
	Real01MV
	Real01Numeric
	Real01Unit
Real02	Real02Bar
	Real02MV
	Real02Numeric
	Real02Unit
Time01	Time01
	Date01
	RelativeTime01
Text01	Text01Ind
	Text01Ind32
Total01	Total01MV
	Total01MVNumeric
	Total01MVPrevious
	Total01 MVPreviousNumeric
	Total01Unit

List of process display elements in PP_UMCLib

Function	Process Display Elements
UMC22	MotPD00
	MotPD01
	MotPD03
	MotPD07
	MotPD51
	MotPD52
UMC22_Act	MotvalPD01
	MotvalPD02
	MotvalPD03
	MotvalPD04
	MotvalPD05
	MotvalPD06
	MotvalPD11
	MotvalPD12
	MotvalPD13,
	MotvalPD14

	MotvalPD15
UMC22_Act02	MotvalPD01
	MotvalPD02
	MotvalPD03
	MotvalPD04
	MotvalPD05
	MotvalPD06
	MotvalPD07
	MotvalPD08
	MotvalPD09
	MotvalPD10
	MotvalPD11
	MotvalPD12
	MotvalPD13,
	MotvalPD14
	MotvalPD15

1.3 Engineering tools

Together with the library is delivered the following engineering tools.

Object Duplication Checker 1.0-0

PP CRT Tools 3.1-0

2. Related documents

The following documents are related to this document and included in the installation CD-ROM.

Identity	Rev	Document kind	Title
3AST001792D0117	A	Price Book	Pulp and Paper Control Library
3AST001972D0121	D	Release Notes	Pulp and Paper Control 5.X
3AST001603D001	F	Functional Description	PP Element Library
3AST001596D005	J	Functional Description	AIC01
3AST001596D001	J	Functional Description	AIS01
3AST001596D006	J	Functional Description	AOC01
3AST001596D002	J	Functional Description	AOS01
3AST001596D007	I	Functional Description	DIC01
3AST001596D003	I	Functional Description	DIS01
3AST001596D008	I	Functional Description	DOC01
3AST001596D004	I	Functional Description	DOS01
3AST001597D001	K	Functional Description	Dricon_S
3AST001597D010	J	Functional Description	Flow01
3AST001595D001	I	Functional Description	GroupStart
3AST001596D010	E	Functional Description	Indication Elements
3AST001590D001	I	Functional Description	Man01
3AST001586D001	J	Functional Description	Mot01
3AST001587D001	J	Functional Description	Mot02
3AST001592D001	J	Functional Description	MotFreq
3AST001593D001	J	Functional Description	Motval01
3AST001594D001	J	Functional Description	Motval02
3AST001589D001	N	Functional Description	Pid01
3AST001596D001	F	Functional Description	PidA01
3AST001591D001	G	Functional Description	Ratio01
3AST001596D011	F	Functional Description	Seq01
3AST001596D009	F	Functional Description	Total01
3AST001588D001	J	Functional Description	Valve01
3AST001599D001	C	Functional Description	UMC22
3AST001599D003	C	Functional Description	UMC22_Act
3AST001599D004	D	Functional Description	UMC22_Act02
3AST001792D0013	A	User Manual	PP CRT Manual

3. Section Software Components

When Pulp and Paper AC800M Connect is installed, functions, dialogs, and menu items are added to both Control Builder M and the Process Portal A Plant Explorer.

Pulp and Paper AC800M Connect is installed from the CD-ROM.

Pulp and Paper Lib 5.1-0 requires the following AC800M Control libraries :

IconLib 1.3-3, Basic 1.6-9, AlarmEvenLib 1.5.-8, ControlStandardLib 1.4-6

Pulp and Paper AC800M Control libraries are installed from the CD-ROM

4. Section Hardware Components

Not applicable

5. Section Technical Data and Performance

5.1 Execution Times

No boards were connected to the CEX bus.

Name	AC800M (PM866) Execution Time, typical (ms)
AIC01	0,21
AIS01	0,25
AOC01	0,04
AOS01	0,05
DIC01	0,06
DIS01	0,06
DOC01	0,04
DOS01	0,04
Dricon_S	0,78
Flow01	0,33
GroupStart1	0,17
MAN01	0,23
MOT01	0,51
MOT02	0,60
MOTFREQ	0,60
MOTVAL01	0,65
MOTVAL02	0,85
PID01	0,38
PID01A	0,81
RATIO01	0,27
Seq01	0,14
Total01	0,10
VALVE01	0,29
UMC22	0,76
UMC_Act	0,72
UMC_Act02	0.93

5.2 Memory Space Requirements

The following table shows the memory space requirements for Pulp and Paper Functional Units.

Name	First instance of FB (kbyte)	Additional instances of FB (kbyte)
AIC01	30,5	7,9

Name	First instance of FB (kbyte)	Additional instances of FB (kbyte)
AIS01	33,8	10
AOC01	13,3	1,8
AOS01	12,7	1,9
DIC01	19,7	3,5
DIS01	21,2	3,4
DOC01	12,0	1,6
DOS01	11,7	1,6
Dricon_S	95,3	27,2
Flow01	37,8	13,1
GroupStart1	33,9	6,8
MAN01	43,2	10,8
MOT01	64,8	19,5
MOT02	73,8	21,6
MOTFREQ	76,8	22,9
MOTVAL01	73,6	25,9
MOTVAL02	97	30,6
PID01	53,1	14,4
PID01A	140,8	29,5
RATIO01	42,5	9,5
Seq01	32,5	6,6
Total01	27,9	2,4
VALVE01	507	11,8
UMC22	87	26,9
UMC22_Act	77,1	23,6
UMC22_Act02	28,3	28,3

6. How to Report Errors

Please send mail to address pulpandpapersupportocs@se.abb.com for reporting errors or technical support.

In all communication with us regarding questions or complains about the functions in the Pulp&Paper libraries please add a printout from the elements PP_ElementVersion, PP_FunctionVersion and PP_UMCVersion.

7. Section Environmental Immunities

Not applicable

8. Section Ordering

The product guide aims to help ABB sales representatives when ordering the AC800M/C Connect product and licenses in connection with integration between Control IT products and other Industrial IT products.

This section describes the price lists needed when ordering, and provides an ordering example.

Note: Orders should be sent to via LN on this address: pulpandpaperorderbox

8.1 Pulp and Paper PPA AC800M Connect

Calculation of Tags

See Appendix Licenses below

8.2 Ordering example

Assume that you would like to order a PPA AC800M Connect system with 5400 tags.

Select the price list 3AST001792D0118 and select 54 pcs of Item B014.

8.3 Pulp and Paper AC800M Control

Counting Controller License Points

See Appendix Licenses below

8.4 Ordering example

Assume that you would like to order a PPA AC800M Controls with 3200 CLP's.

Select the price list 3AST001792D0119. Select correct part under section 2.2.1 3200 CLP is order in by selecting 32 pcs of Item B022.

Note: Item B010 is used if you would like to order only the P&P element library

9. Appendix Licenses

AC800M/C Connect Tags

A Tag is any Aspect Object in the Control Structure which has a Faceplate Aspect attached.

The estimation of how many Tags a given application needs is to calculate how many Function Block objects, with faceplate aspect, are created in the Control Structure for the application.

Controller License Points (CLP)

The CLP count is based on all variables connected to local and remote I/O channels. Variables are either connected via the I/O buses, such as Modulebus, FOUNDATION Fieldbus (FF) and Profibus-DP.

- Each variable of Boolean data type counts as one CLP
- Each variable of non-Boolean data type counts as two CLP

To calculate the total number of CLP:

- Identify all objects to be controlled by each controller
- Count all objects from UMC Library. Each instance of an object in PP_UMCLib will add 6 CLP to the number of CLP's used by each controller.
- Count all Boolean connected variables
- Count all non-Boolean connected variables
- For each Boolean variable, add one (1) point to the CLP count
- For each non-Boolean variable, add two (2) points to the CLP count
- Add 20% to the CLP count, to create a margin for growth

REVISION

Rev. ind.	Page (P) Chapt. (C)	Description	Date Dept./Init.