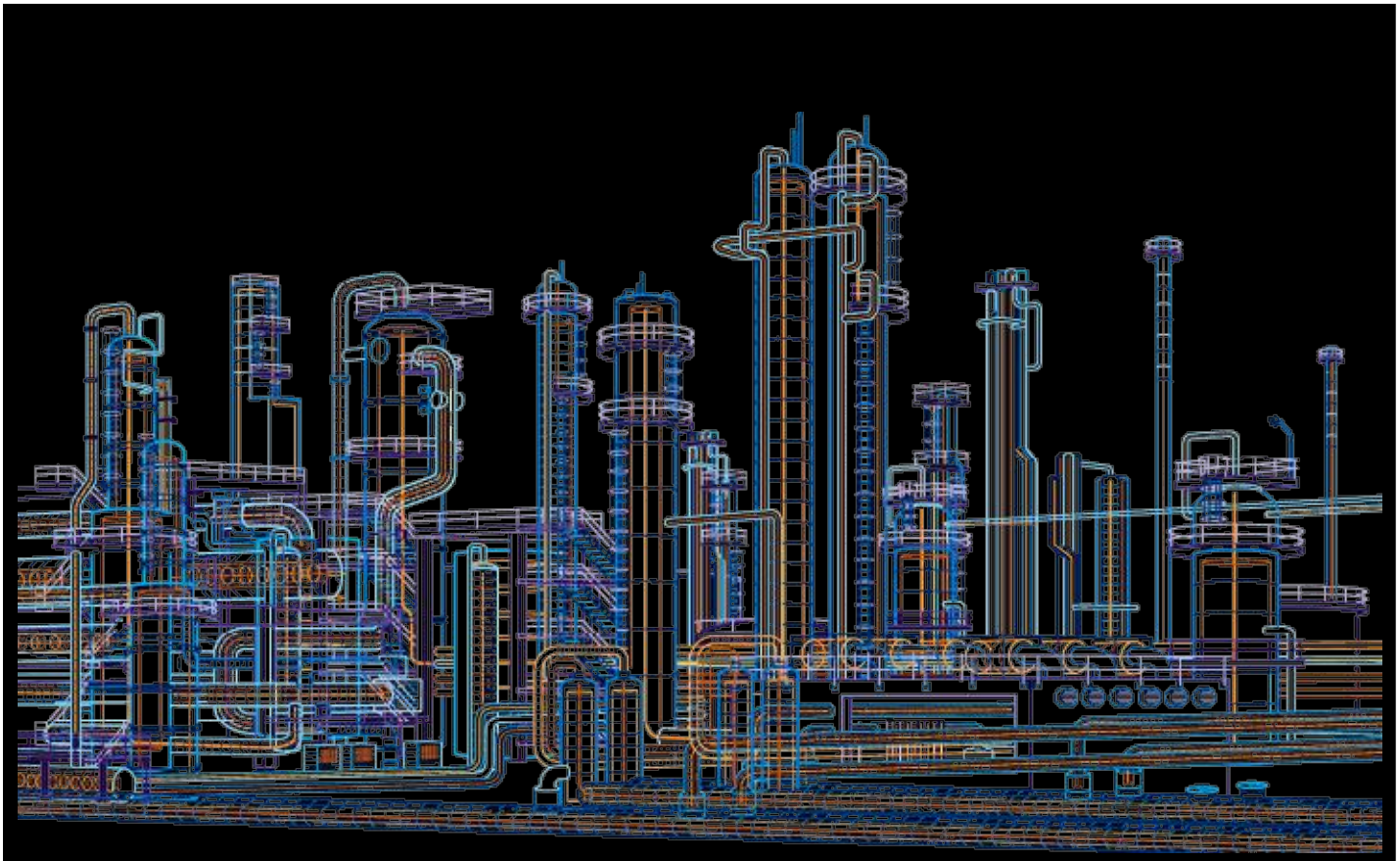

System 800xA
PC Toolkit Library for Melody
Human System Interface - SFC
User Manual

SV5.1RevA

Power and productivity
for a better world™

Purpose

The purpose of this document is to describe the Human System Interface with Faceplates and Graphic Elements of the System 800xA with connectivity to Melody/AC870P. All elements are part of an 800xA System Extension, which will be used mainly in the Petrochemical Industry but also in other Process industries. This document defines the ABB Control System standards for the Human Machine Interface (HMI).

Conditions

The System Extension supports 800xA System Version SV5.1RevA.

Notice

This document contains information about one or more ABB products and may include a description of or a reference to one or more standards that may be generally relevant to the ABB products. The presence of any such description of a standard or reference to a standard is not a representation that all of the ABB products referenced in this document support all of the features of the described or referenced standard.

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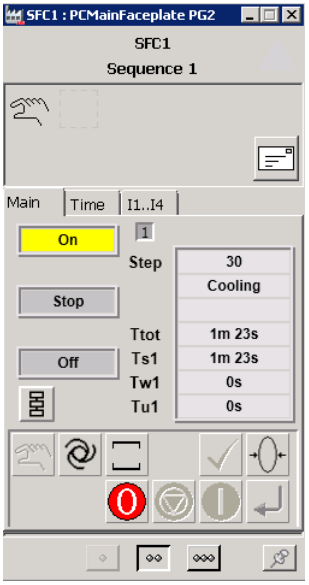
Human System Interface (Classic Style)

1. SFC - Sequential Function Chart



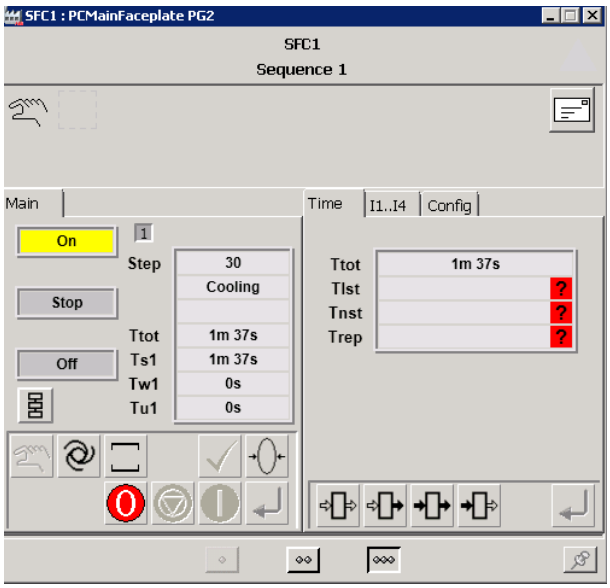


Figure: 1-1 Main View *Figure: 1-2 Extended View*

Basic information

Name:	**MainFaceplate**
Description:	PC MainFaceplate
Connect type:	Melody AC870P
Object type:	Sequential Function Chart
Library:	-
Min. required 800xA version:	SV5.1RevA
Graphics Builder version:	PG2

Table: 1-1 Basic Information

Layout

Parameter	**Value**
Update rate (ms)	1000
Default view	Faceplate
Faceplate orientation	Horizontal

Table: 1-2 Layout information

Sizing information

Parameter in pixels	Main View	Ext. View
Width	250 px	500 px
Height	424 px	424 px
MaxNoOfIndicatorRows	2	1
MaxNoOfIndicatorsRerRow	6	12
MaxNoOfButtonRows	0	0
MaxNoOfButtonPerRow	6	12

Table: 1-3 Sizing Information

Indicator and button icons are displayed on dedicated positions. Position 1 is the upper left corner. Position 12 is the lower right corner. Position 0 is not shown.

Elements

View	Aspect	Tab	NLS-ID	User role
Main	sfc_FE_Main PG2	1	NLSID_PC_Main	EveryOne
Main	sfc_FE_Time PG2	1	NLSID_PC_Time	EveryOne
Main	sfc_FE_Binary PG2	1	NLSID_PC_I1_I4	EveryOne
Ext	sfc_FE_Main PG2	1	NLSID_PC_Main	EveryOne
Ext	sfc_FE_TimeExt PG2	2	NLSID_PC_Time	EveryOne
Ext	sfc_FE_BinaryExt PG2	2	NLSID_PC_I1_I4	EveryOne
Ext	sfc_FE_Config PG2	2	NLSID_PC_Config	EveryOne

Table: 1-4 Faceplate Aspect names

1.1 Faceplate elements

1.1.1 sfc_FE_Main PG2

This is main view for Sequential Function Chart object type faceplate. It presents overview of SFC state, times and current step.

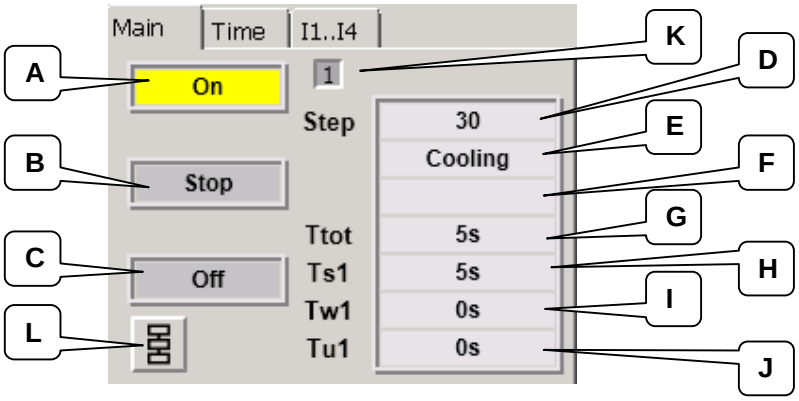


Figure: 1-3 Main Tab

ID	Comment	Property
A	Indication of sequence ON state	E1/SIG
B	Indication of sequence STOP state	STP/SIG
C	Indication of sequence OFF state	E0/SIG
D	Actual step number for selected branch ***X***	SST***X***/STEPNO
E	Actual step text 1 for selected branch ***X***	SST***X***/STEPTXT1
F	Actual step text 2 for selected branch ***X***	SST***X***/STEPTXT2
G	Total sequence run time	TRC/SIG
H	Actual step duration for branch ***X***	TRS***X***/SIG
I	Remaining waiting time for branch ***X***	TRW***X***/SIG
J	Remaining time until timeout for branch ***X***	TRM***X***/SIG
K	Selection of branch (only available branches can be visible/selected)	-
L	Link to SFC Viewer	-

Table: 1-5 Classic Faceplate Main tab Description

1.1.2 sfc_FE_Time PG2, sfc_FE_TimeExt PG2

This is time values view for Sequential Function Chart object type faceplate.

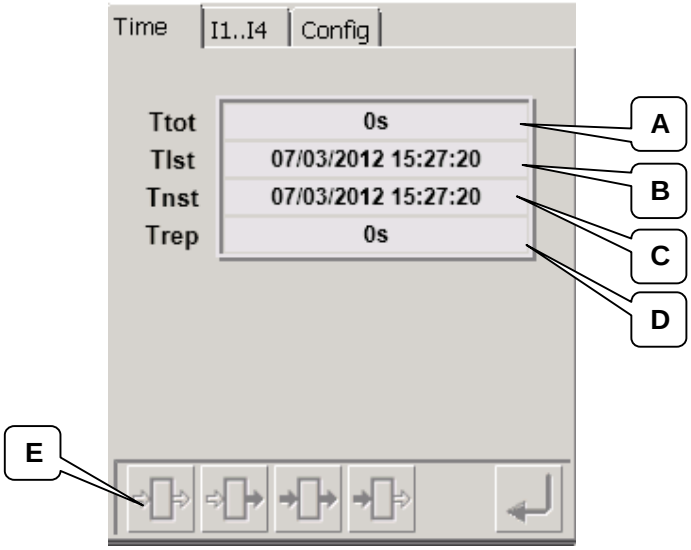


Figure: 1-4 Time Tab

ID	Comment	Property
A	Total sequence run time	TRC/SIG
B	Last run time	TLS/SIG
C	New start time	TNS/SIG
D	Repeat time	TRE/SIG
E	Selection of tipp mode (only in extended view)	KM1/SIG, KM2/SIG, KM3/SIG, KM4/SIG

Table: 1-6 Classic Faceplate Time tab Description

1.1.3 sfc_FE_Binary PG2, sfc_FE_BinaryExt PG2

This is binary inputs view for the Sequential Function Chart object type faceplate.

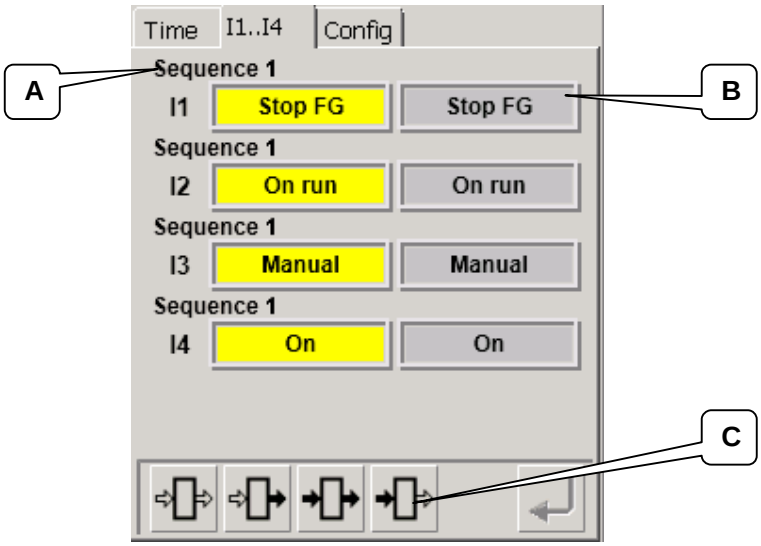


Figure: 1-5 Binary Tab

ID	Comment	Property
A	Description of binary signal, yellow background means active (***X***=1..4)	I***X***/DESCRIPTION
B	State of binary signal (***X***=1..4)	I***X***/SIG
C	Selection of tipp mode (only in extended view)	KM1/SIG, KM2/SIG, KM3/SIG, KM4/SIG

Table: 1-7 Classic Faceplate Binary tab Description

1.1.4 sfc_FE_Config PG2

Operation Lock and Manual Inhibit Write Permissions

The Melody faceplates' configuration tab allows checking **Operation Lock** in order to inhibit operator inputs. All buttons will be grayed out. Refer to document 3BDA033456R51xx Installation and Configuration in order to change the default write permission.

Manual Inhibit can be selected to manually inhibit all alarms of this Melody tag.

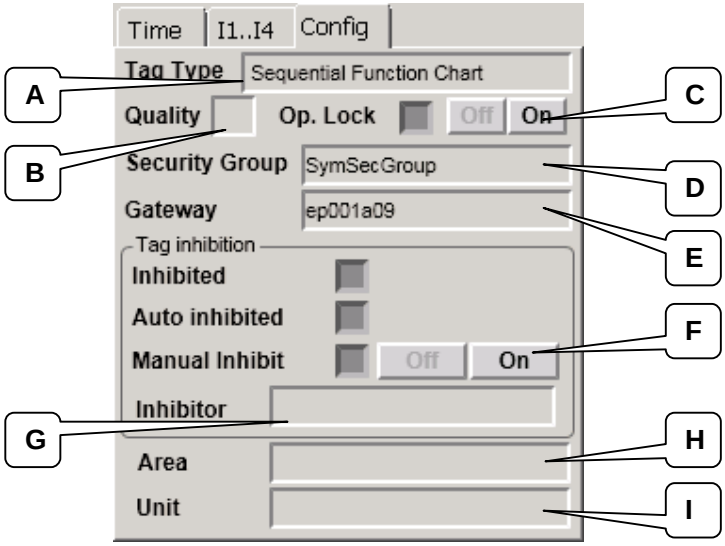


Figure: 1-6 Config Tab

ID	Comment	Property
A	Text describing the type of the tag	TYPE
B	Character which is providing Melody quality information	QUALITY
C	Buttons allow to switch Operating Lock on and off	OPL/SIG
D	Text describing the Melody security group to which this tag belongs	SECNAME
E	Text describing the Melody gateway to which this tag belongs	GATEWAY
F	Buttons allow to manually inhibit the tag Indications of tag inhibition (Yellow fill color - inhibited)	INHB INHBAUTO INHBMAN
G	Information about inhibitor	INHBTAG
H	Text describing Melody area to which tag belongs	AREA
I	Text describing Melody unit to which tag	UNIT

ID	Comment	Property
	belongs	

Table: 1-8 Classic Faceplate Config tab Description

1.2 Indicators

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Automatic mode set	AUT/SIG	1	1	1
	Manual mode set	MAN/SIG	1	1	1
	Automatic mode locked	AUT/SIG and LOCK/SIG	1	1	1
	Manual mode locked	MAN/SIG and LOCK/SIG	1	1	1
	Off state	E0/SIG	2	2	2
	On state	E1/SIG	2	2	2
	Stop state	STP/SIG	2	2	2
	Going to Off state	IST/FL08	2	2	2
	Going to On state	IST/FL18	2	2	2
	Going to Stop state	OCS/SIG	2	2	2
	Protective action 1	P1/SIG	3	3	3
	Protective action 0	P0/SIG	3	3	3
	Protective action stop	PST/SIG	3	3	3
	Auto command 1	IC1/SIG	4	4	4
	Interlock 1	not R1/SIG	4	4	4
	Restart time reached	NSTR/SIG	5	5	5
	Error	ER/SIG	6	6	6

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Tipp mode 1	KM1/SIG	7	7	7
	Tipp mode 2	KM2/SIG	7	7	7
	Tipp mode 3	KM3/SIG	7	7	7
	Tipp mode 4	KM4/SIG	7	7	7
	Op. mode inhibited	INHI/SIG or OPHP/SIG	8	8	8
	Run time error pos 1	RF1/SIG	9	9	9
	Run time error pos 0	RF0/SIG	9	9	9
	End position error pos 1	EF1/SIG	9	9	9
	End position error pos 0	EF0/SIG	9	9	9
	Auto command 0	IC0/SIG	10	10	10
	Interlock 0	not R0/SIG	10	10	10
	Operator Lock	OPL/SIG	11	11	11
	Operator note available		-	-	11

Table: 1-9 Indicators

1.3 Aspect Links

Icon	Description	Aspect	Position		
			Red	FP	Ext
	Operator note	Operator note	6	6	12

Table: 1-10 Aspect Links

1.4 Faceplate Buttons

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Set manual mode	MAN/SIG	1	1	1
	Set automatic mode	AUT/SIG	2	2	2
	Set/Reset operation mode lock	LOCK/SIG	3	3	3
	Acknowledge error	ACK/SIG	5	5	5
	Reset SFC	RES/SIG	6	6	6
	Set command Off	CMD0/SIG	9	9	9
	Set command On	CMD1/SIG	10	10	10
	Set command Stop	STP/SIG	11	11	11
	Apply the selected action	-	12	12	12

Table: 1-11 Faceplate Buttons

1.5 Graphic Elements

The following Graphic Elements have the following standard properties and enumeration.

Standard properties

Property	Data type	Default value	Description
EnableInput	Boolean	True	Enables input handling of the element, if false the element it self can't selected.
Name	String	-	Name of the element instance in a graphic display. Is set automatically by the Graphics Builder (Name of the element + index).
Rotation	Rotation	0	Rotation angle
SubscriptionRate	Integer	0	Update rate for all properties subscribed for
Transform	Transform	Empty	Enables animation like scaling, moving and rotation. It is intended only for dynamic values.
Visible	Boolean	True	Visibility of the element in the graphic display.
XPos	Float	-	X position of the upper left corner of the element
YPos	Float	-	Y position of the upper left corner of the element

Table: 1-12 Standard Properties for all Graphic Elements

Graphic Elements based on Melody object type Sequential Function Chart

Example	Graphic Element Name	Description
	sfc_cmd0_op_PG2	Command button „OFF". Push button with apply.
	sfc_cmd0_op_1step_PG2	Command button „OFF". Push button without apply.
	sfc_cmd1_op_PG2	Command button „ON". Push

Example	Graphic Element Name	Description
		button with apply.
	sfc_cmd1_op_1step_PG2	Command button „ON”. Push button without apply.
	sfc_cmd1_op_text_PG2	Command “ON” . Push button with apply and optional text.
	sfc_cmd0_1_op_text_PG2	Command “ON/OFF”. Push button with apply and optional text.
	sfc_cmd0_op_text_PG2	Command “OFF” with text. Push Button with apply and optional text.
	sfc_mode_PG2	Mode icon showing the current SFC operating mode.
	sfc_mode_extended_PG2	Like sfc_mode but with extended information: or or or or
00h 17m 05s	sfc_trc_time_PG2	Indicator text box with displaying the total run time.
00h 17m 05s	sfc_trm_time_PG2	Indicator text box with displaying the remaining time until timeout (Branch 1-8).
00h 17m 05s	sfc_trs_time_PG2	Indicator text box with displaying the actual step duration (Branch 1-8).
00h 17m 05s	sfc_trw_time_PG2	Indicator text box with displaying the remaining waiting time (Branch 1-8).
False	sfc_cmd0_text_PG2	Indicator text box for Signal cmd0
False	sfc_cmd1_text_PG2	Indicator text box for Signal cmd1

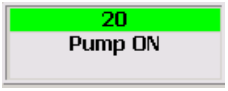
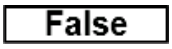
Example	Graphic Element Name	Description
	sfc_sst1_step_text_PG2	SFC step indicator text box (Signal SST1)
	sfc_i1_text_pg2	Indicator text box for Signal I1

Table 1-1: Melody Sequential Function Chart GE

2. SFC- Phase Function Block

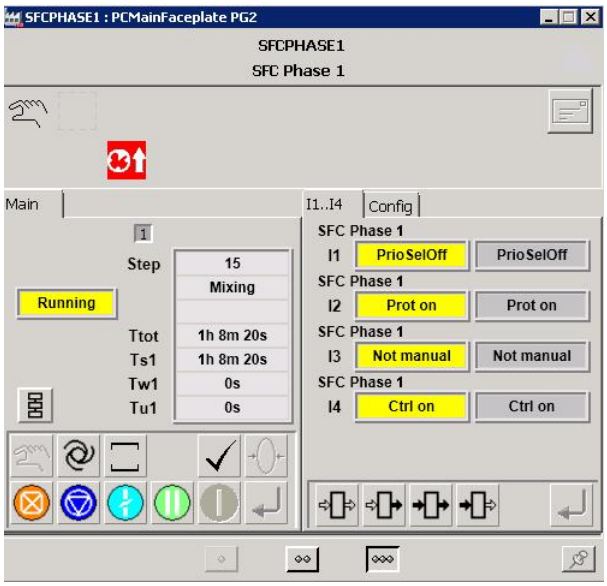


Figure: 2-1 Main View *Figure: 2-2 Extended View*

Basic information

Name:	**PCMainFaceplate**
Description:	PC MainFaceplate
Connect type:	Melody AC870P
Object type:	SFC-Phase Function Block
Library:	-
Min. required 800xA version:	SV5.1RevA
Graphics Builder version:	PG2

Table: 2-1 Basic Information

Layout

Parameter	**Value**
Update rate (ms)	1000
Default view	Faceplate
Faceplate orientation	Horizontal

Table: 2-2 Layout information

Sizing information

Parameter in pixels	Main View	Ext. View
Width	250 px	500 px
Height	424 px	424 px
MaxNoOfIndicatorRows	2	1
MaxNoOfIndicatorsRerRow	6	12
MaxNoOfButtonRows	0	0
MaxNoOfButtonPerRow	6	12

Table: 2-3 Sizing Information

Indicator and button icons are displayed on dedicated positions. Position 1 is the upper left corner. Position 12 is the lower right corner. Position 0 is not shown.

Elements

View	Aspect	Tab	NLS-ID	User role
Main	sfc_FE_Main PG2	1	NLSID_PC_Main	EveryOne
Main	sfc_FE_Binary PG2	1	NLSID_PC_I1_I4	EveryOne
Ext	sfc_FE_Main PG2	1	NLSID_PC_Main	EveryOne
Ext	sfc_FE_BinaryExt PG2	2	NLSID_PC_I1_I4	EveryOne
Ext	sfc_FE_Config PG2	2	NLSID_PC_Config	EveryOne

Table: 2-4 Faceplate Aspect names

2.1 Faceplate elements

2.1.1 sfc_FE_Main PG2

This is main view for SFC-Phase Function Block object type faceplate. It presents overview of SFC state, times and current step.

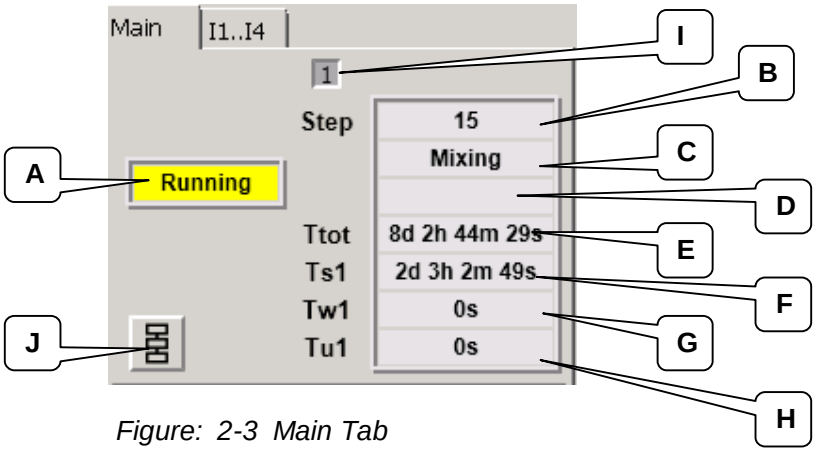


Figure: 2-3 Main Tab

ID	Comment	Property
A	Indication of sequence state	Run: RUN/SIG Completed: E1/SIG Pausing: TPAU/SIG Paused: PAU/SI Holding: THLD/SIG Held: HLD/SIG Stopping: TSTP/SIG Stopped: STP/SIG Aborting: AB/SIG Aborted: E0/SIG Idle: no valid state
B	Actual step number for selected branch ***X***	SST***X***/STEPNO
C	Actual step text 1 for selected branch ***X***	SST***X***/STEPTXT1
D	Actual step text 2 for selected branch ***X***	SST***X***/STEPTXT2
E	Total sequence run time	TRC/SIG
F	Actual step duration for branch ***X***	TRS***X***/SIG
G	Remaining waiting time for branch ***X***	TRW***X***/SIG
H	Remaining time until timeout for branch ***X***	TRM***X***/SIG
I	Selection of branch (only available branches can be visible/selected)	-
J	Link to SFC Viewer	-

Table: 2-5 Classic Faceplate Main tab Description

2.1.2 sfc_FE_Binary PG2, sfc_FE_BinaryExt PG2

This is the binary inputs view for SFC-Phase Function Block object type faceplate.

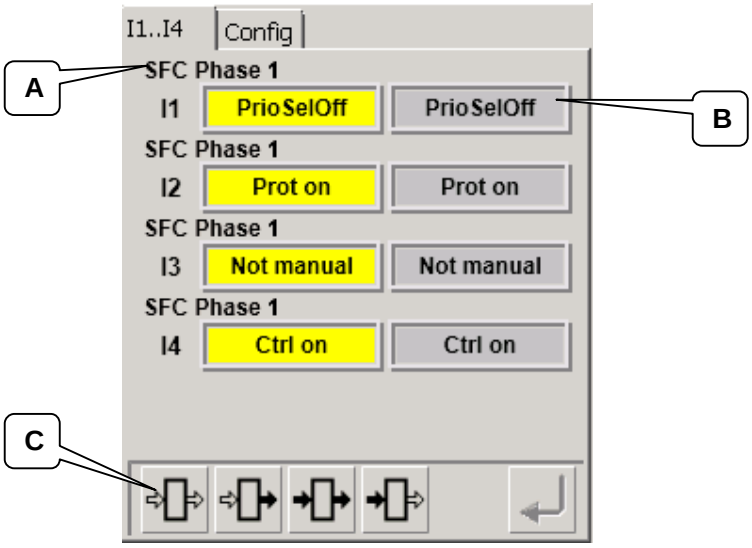


Figure: 2-4 Binary Tab

ID	Comment	Property
A	Description of binary signal (***X***=1..4)	I***X***/DESCRIPTION
B	State of binary signal (***X***=1..4)	I***X***/SIG
C	Selection of tipp mode (only in extended view)	KM1/SIG, KM2/SIG, KM3/SIG, KM4/SIG

Table: 2-6 Classic Faceplate Binary tab Description

2.1.3 sfc_FE_Config PG2

Operation Lock and Manual Inhibit Write Permissions

The Melody faceplates' configuration tab allows checking **Operation Lock** in order to inhibit operator inputs. All buttons will be grayed out. Refer to document 3BDA033456R51xx Installation and Configuration in order to change the default write permission.

There is no Operation Lock Functionality available for Binary Monitor type.

Manual Inhibit can be selected to manually inhibit all alarms of this Melody tag.

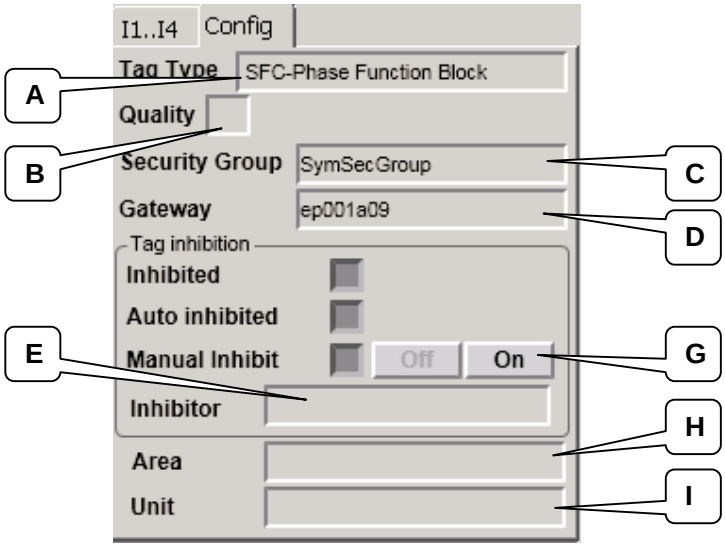


Figure: 2-5 Config Tab

ID	Comment	Property
A	Text describing the type of the tag	TYPE
B	Character which is providing Melody quality information	QUALITY
C	Text describing the Melody security group to which this tag belongs	SECNAME
D	Text describing the Melody gateway to which this tag belongs	GATEWAY
E	Rectangle indicators are showing inhibition status (Yellow color = On), Buttons allow to manually inhibit the tag	INHB INHBAUTO INHBMAN
F	Information about inhibitor	INHBTAG
G	Text describing Melody area to which tag belongs	AREA
H	Text describing Melody unit to which tag belongs	UNIT

Table: 2-7 Classic Faceplate Config tab Description

2.2 Indicators

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Automatic mode set	AUT/SIG	1	1	1
	Manual mode set	MAN/SIG	1	1	1
	Automatic mode locked	AUT/SIG and LOCK/SIG	1	1	1
	Manual mode locked	MAN/SIG and LOCK/SIG	1	1	1
	Completed	E1/SIG	2	2	2
	Run	RUN/SIG	2	2	2
	Stop state	STP/SIG	2	2	2
	Stopping	TSTP/SIG	2	2	2
	Aborted	E0/SIG	2	2	2
	Aborting	AB/SIG	2	2	2
	Held	HLD/SIG	2	2	2
	Holding	THLD/SIG	2	2	2
	Paused	TPAU/SIG	2	2	2
	Pausing	PAU/SIG	2	2	2
	Protective action 1	P1/SIG	3	3	3
	Protective action 0	P0/SIG	3	3	3
	Protective action stop	PST/SIG	3	3	3
	Auto command 1	IC1/SIG	4	4	4
	Interlock 1	not R1/SIG	4	4	4
	Restart time reached	NSTR/SIG	5	5	5
	Error	ER/SIG	6	6	6

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Tipp mode 1	KM1/SIG	7	7	7
	Tipp mode 2	KM2/SIG	7	7	7
	Tipp mode 3	KM3/SIG	7	7	7
	Tipp mode 4	KM4/SIG	7	7	7
	Op. mode inhibited	INHI/SIG	8	8	8
	Run time error pos 1	RF1/SIG	9	9	9
	Run time error pos 0	RF0/SIG	9	9	9
	End position error pos 1	EF1/SIG	9	9	9
	End position error pos 0	EF0/SIG	9	9	9
	Auto command 0	IC0/SIG	10	10	10
	Interlock 0	not R0/SIG	10	10	10
	Operator Lock	OPL/SIG	11	11	11
	Operator note available		-	-	11

Table: 2-8 Indicators

2.3 Aspect Links

Icon	Description	Aspect	Position		
			Red	FP	Ext
	Operator note	Operator note	6	6	12

Table: 2-9 Aspect Links

2.4 Faceplate Buttons

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Set manual mode	MAN/SIG	1	1	1
	Set automatic mode	AUT/SIG	2	2	2
	Set/Reset operation mode lock	LOCK/SIG	3	3	3
	Acknowledge error	ACK/SIG	5	5	5
	Reset SFC	RES/SIG	6	6	6
	Set command ABORT	CMD0/SIG	7	7	7
	Set command STOP	STP/SIG	8	8	8
	Set command HOLD	HLD/SIG	9	9	9
	Set command PAUSE	PAU/SIG	10	10	10
	Set command RESUME, RESTART, ON	CMD1/SIG	11	11	11
	Apply the selected action	-	12	12	12

Table: 2-10 Faceplate Buttons

2.5 Graphic Elements

The following Graphic Elements have the following standard properties and enumeration.

Standard properties

Property	Data type	Default value	Description
EnableInput	Boolean	True	Enables input handling of the element, if false the element it self can't selected.
Name	String	-	Name of the element instance in a graphic display. Is set automatically by the Graphics Builder (Name of the element + index).
Rotation	Rotation	0	Rotation angle
SubscriptionRate	Integer	0	Update rate for all properties subscribed for
Transform	Transform	Empty	Enables animation like scaling, moving and rotation. It is intended only for dynamic values.
Visible	Boolean	True	Visibility of the element in the graphic display.
XPos	Float	-	X position of the upper left corner of the element
YPos	Float	-	Y position of the upper left corner of the element

Table: 2-11 Standard Properties for all Graphic Elements

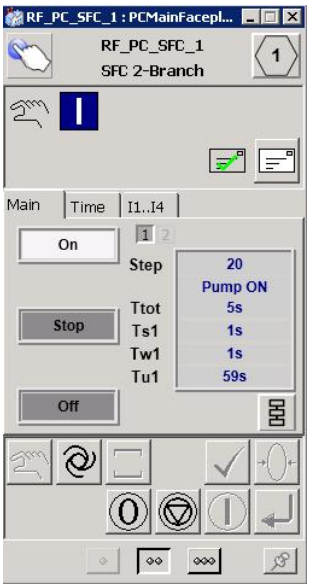
Graphic Elements based on Melody object type SFC- Phase Function Block

Example	Graphic Element Name	Description
	sfc_cmd0_op_PG2	Command button „OFF”. Push button with apply.
	sfc_cmd0_op_1step_PG2	Command button „OFF”. Push button without apply.
	sfc_cmd1_op_PG2	Command button „ON”. Push button with apply.
	sfc_cmd1_op_1step_PG2	Command button „ON”. Push button without apply.
	sfc_mode_PG2	Mode icon showing the current SFC operating mode.
	sfc_mode_extended_PG2	Like sfc_mode but with extended information: or or or or
00h 17m 05s	sfc_trc_time_PG2	Indicator text box with displaying the total run time.
00h 17m 05s	sfc_trm_time_PG2	Indicator text box with displaying the remaining time until timeout (Branch 1-8).
00h 17m 05s	sfc_trs_time_PG2	Indicator text box with displaying the actual step duration (Branch 1-8).
00h 17m 05s	sfc_trw_time_PG2	Indicator text box with displaying the remaining waiting time (Branch 1-8).
20 Pump ON	sfc_sst1_step_text_pg2	Indicator text box for SFC step text (signal SST1)

Table 2-1: Melody SFC-Phase Function Block GE

Human System Interface (High Performance Style)

3. SFC - Sequential Function Chart



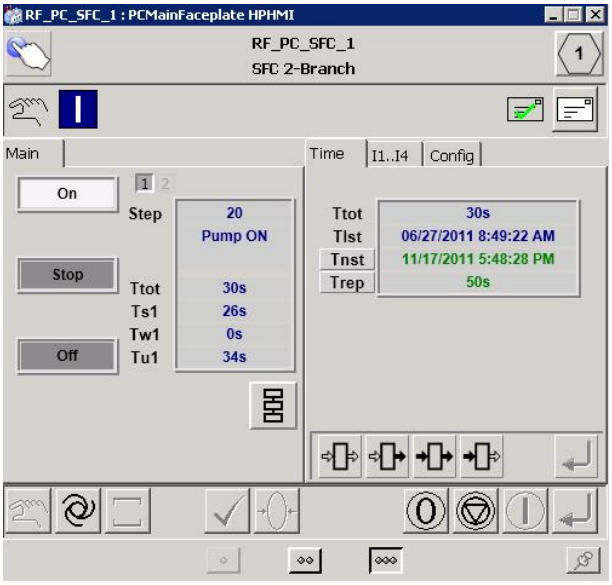


Figure: 3-1 Main View *Figure: 3-2 Extended View*

Basic information

Name:	**PCMainFaceplate HPHMI**
Description:	PC HPHMI Main Faceplate
Connect type:	Melody AC870P
Object type:	Sequential Function Chart
Library:	PCHighPerformanceHMILib 1.0-0
Min. required 800xA version:	SV5.1RevA
Graphics Builder version:	PG2

Table: 3-1 Basic Information

Layout

Parameter	**Value**
Update rate (ms)	1000
Default view	Faceplate
Faceplate orientation	Horizontal
Reduced View	Not available

Table: 3-2 Layout information

Sizing information

Parameter in pixels	Main View	Ext. View
Width	250 px	500 px
Height	424 px	424 px
MaxNoOfIndicatorRows	2	1
MaxNoOfIndicatorsRerRow	6	12
MaxNoOfButtonRows	2	1
MaxNoOfButtonPerRow	6	12

Table: 3-3 Sizing Information

Indicator and button icons are displayed on dedicated positions. Position 1 is the upper left corner. Position 12 is the lower right corner. Position 0 is not shown.

Elements

View	Aspect	Tab	NLS-ID	User role
Main	sfc_FE_HPHMI_Main	1	NLSID_PC_Main	EveryOne
Main	sfc_FE_HPHMI_Time	1	NLSID_PC_Time	EveryOne
Main	sfc_FE_HPHMI_Binary	1	NLSID_PC_I1_I4	EveryOne
Ext	sfc_FE_HPHMI_Main_ext	1	NLSID_PC_Main	EveryOne
Ext	sfc_FE_HPHMI_Time_ext	2	NLSID_PC_Time	EveryOne
Ext	sfc_FE_HPHMI_Binary_ext	2	NLSID_PC_I1_I4	EveryOne
Ext	sfc_FE_HPHMI_Config	2	NLSID_PC_Config	EveryOne

Table: 3-4 Faceplate Aspect names

3.1 Faceplate elements

3.1.1 sfc_FE_HPHMI_Main, sfc_FE_HPHMI_Main_ext

These are main views for Sequential Function Chart object type faceplate. They present overview of SFC state, times and current step.

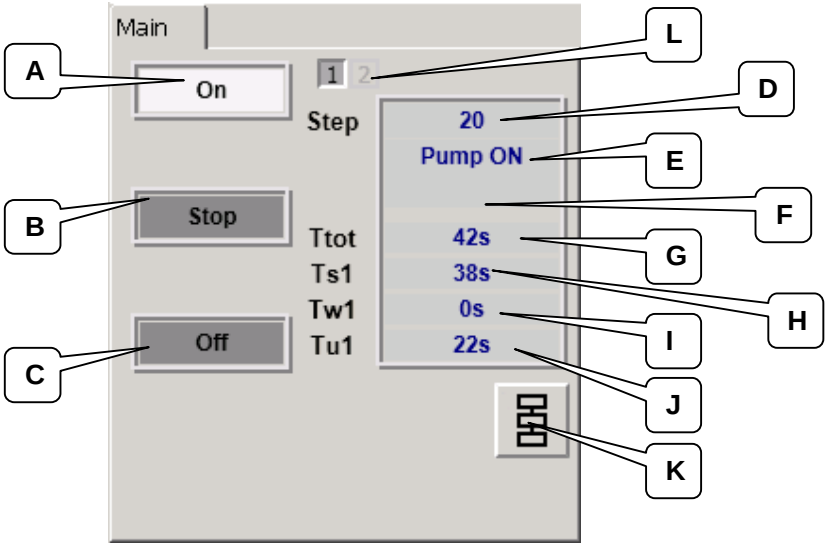


Figure: 3-3 Main Tab

ID	Comment	Property
A	Indication of sequence ON state	E1/SIG
B	Indication of sequence STOP state	STP/SIG
C	Indication of sequence OFF state	E0/SIG
D	Actual step number for selected branch ***X***	SST***X***/STEPNO
E	Actual step text 1 for selected branch ***X***	SST***X***/STEPTXT1
F	Actual step text 2 for selected branch ***X***	SST***X***/STEPTXT2
G	Total sequence run time	TRC/SIG
H	Actual step duration for branch ***X***	TRS***X***/SIG
I	Remaining waiting time for branch ***X***	TRW***X***/SIG
J	Remaining time until timeout for branch ***X***	TRM***X***/SIG
K	Link to SFC Viewer	-
L	Selection of branch (only available branches can be visible/selected)	-

Table: 3-5 HPHMI Faceplate Main tab Description

3.1.2 sfc_FE_HPHMI_Time, sfc_FE_HPHMI_Time_ext

These are time values' views for Sequential Function Chart object type faceplate.

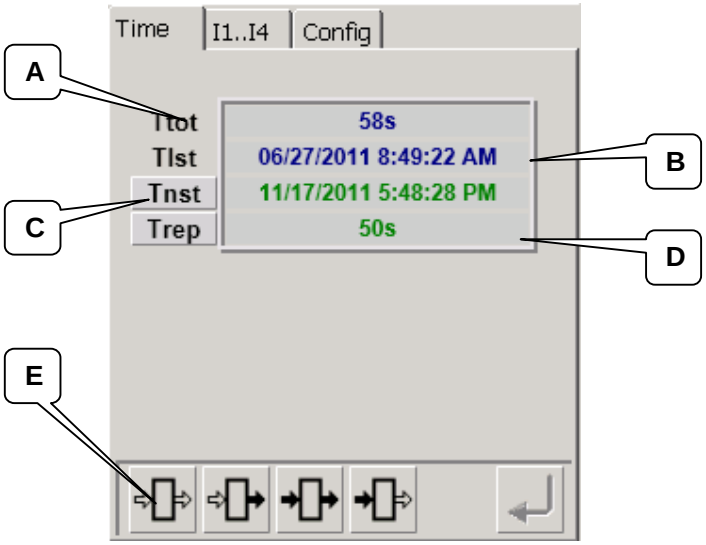


Figure: 3-4 Time Tab

ID	Comment	Property
A	Total sequence run time	TRC/SIG
B	Last run time	TLS/SIG
C	New start time	TNS/SIG
D	Repeat time	TRE/SIG
E	Selection of tipp mode	KM1/SIG, KM2/SIG, KM3/SIG, KM4/SIG

Table: 3-6 HPHMI Faceplate Time tab Description

3.1.3 sfc_FE_HPHMI_Binary, sfc_FE_HPHMI_Binary_ext

This is the binary input view for the Sequential Function Chart object type faceplate.

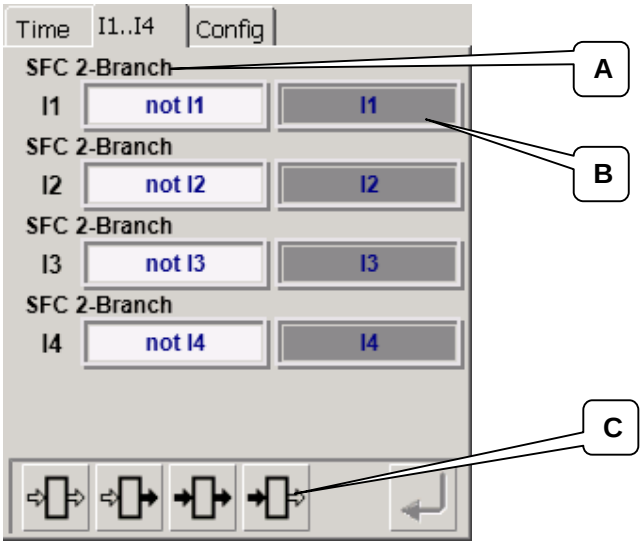


Figure: 3-5 HPHMI Faceplate Binary Tab

ID	Comment	Property
A	Description of binary signal (***X***=1..4)	I***X***/DESCRIPTION
B	State of binary signal (***X***=1..4)	I***X***/SIG
C	Selection of tipp mode	KM1/SIG, KM2/SIG, KM3/SIG, KM4/SIG

Table: 3-7 HPHMI Faceplate Binary tab Description

3.1.4 sfc_FE_HPHMI_Config

Operation Lock and Manual Inhibit Write Permissions

The Melody faceplates' configuration tab allows checking **Operation Lock** in order to inhibit operator inputs. All buttons will be grayed out. Refer to document 3BDA033456R51xx Installation and Configuration in order to change the default write permission.

Manual Inhibit can be selected to manually inhibit all alarms of this Melody tag.

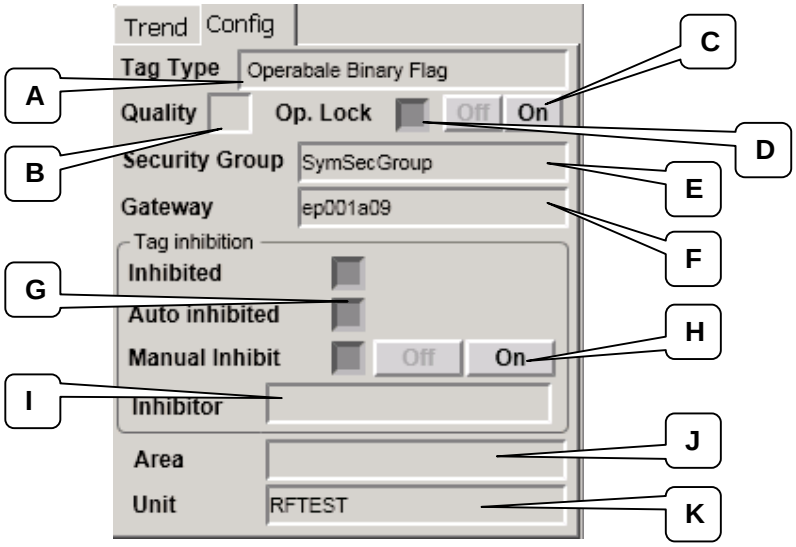


Figure: 3-6 HPHMI Faceplate Config Tab

ID	Comment	Property
A	Text describing the type of the tag	TYPE
B	Character which is providing Melody quality information	QUALITY
C	Buttons allow to switch Operating Lock on and off	OPL/SIG
D	Binary indicator White color: Op. Lock is On Gray color: Op. Lock is Off	OPL/SIG
E	Text describing the Melody security group to which this tag belongs	SECNAME
F	Text describing the Melody gateway to which this tag belongs	GATEWAY
G	Binary indicators are showing inhibition status (white color = On)	INHB INHBAUTO

I D	Comment	Property
		INHBMAN
H	Buttons allow to manually inhibit the tag	INHBMAN
I	Information about inhibitor	INHBTAG
J	Text describing Melody area to which tag belongs	AREA
K	Text describing Melody unit to which tag belongs	UNIT

Table: 3-8 HPHMI Faceplate Config tab Description

3.2 Indicators

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Automatic mode set	AUT/SIG	-	1	1
	Manual mode set	MAN/SIG	-	1	1
	Automatic mode locked	AUT/SIG and LOCK/SIG	-	1	1
	Manual mode locked	MAN/SIG and LOCK/SIG	-	1	1
	Off state	E0/SIG	-	2	2
	On state	E1/SIG	-	2	2
	Stop state	STP/SIG	-	2	2
	Going to Off state	IST/FL08	-	2	2
	Going to On state	IST/FL18	-	2	2
	Going to Stop state	OCS/SIG	-	2	2
	Protective action 1	P1/SIG	-	3	3
	Protective action 0	P0/SIG	-	3	3
	Protective action stop	PST/SIG	-	3	3
	Auto command 1	IC1/SIG	-	4	4
	Interlock 1	not R1/SIG	-	4	4

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Restart time reached	NSTR/SIG	-	5	5
	Error	ER/SIG	-	6	6
	Tipp mode 1	KM1/SIG	-	7	7
	Tipp mode 2	KM2/SIG	-	7	7
	Tipp mode 3	KM3/SIG	-	7	7
	Tipp mode 4	KM4/SIG	-	7	7
	Op. mode inhibited	INHI/SIG or OPHP/SIG	-	8	8
	Run time error pos 1	RF1/SIG	-	9	9
	Run time error pos 0	RF0/SIG	-	9	9
	End position error pos 1	EF1/SIG	-	9	9
	End position error pos 0	EF0/SIG	-	9	9
	Auto command 0	IC0/SIG	-	10	10
	Interlock 0	not R0/SIG	-	10	10
	Operator Lock	OPL/SIG	-	11	11
	Operator note available		-	-	11

Table: 3-9 Indicators

3.3 Aspect Links

Icon	Description	Aspect	Position		
			Red	FP	Ext
	Operator note	Operator note	-	6	12

Table: 3-10 Aspect Links

3.4 Faceplate Buttons

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Set manual mode	MAN/SIG	-	1	1
	Set automatic mode	AUT/SIG	-	2	2
	Set/Reset operation mode lock	LOCK/SIG	-	3	3
	Acknowledge error	ACK/SIG	-	5	5
	Reset SFC	RES/SIG	-	6	6
	Set command Off	CMD0/SIG	-	9	9
	Set command On	CMD1/SIG	-	10	10
	Set command Stop	STP/SIG	-	11	11
	Apply the selected action	-	-	12	12

Table: 3-11 Faceplate Buttons

3.5 Graphic Elements

The following Graphic Elements have the following standard properties and enumeration.

Standard properties

Property	Data type	Default value	Description
EnableInput	Boolean	True	Enables input handling of the element, if false the element it self can't selected.
Name	String	-	Name of the element instance in a graphic display. Is set automatically by the Graphics Builder (Name of the element + index).
Rotation	Rotation	0	Rotation angle
SubscriptionRate	Integer	0	Update rate for all properties subscribed for
Transform	Transform	Empty	Enables animation like scaling, moving and rotation. It is intended only for dynamic values.
Visible	Boolean	True	Visibility of the element in the graphic display.
XPos	Float	-	X position of the upper left corner of the element
YPos	Float	-	Y position of the upper left corner of the element

Table: 3-12 Standard Properties for all Graphic Elements

Graphic Elements based on Melody object type Sequential Function Chart

Example	Graphic Element Name	Description
	sfc_HPHMI_AlarmInd	Alarm indication
	sfc_HPHMI_i1_text	Text indication based on binary signal I1

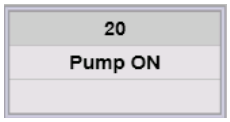
Example	Graphic Element Name	Description
	sfc_HPHMI_interlock	Interlock indication
	sfc_HPHMI_mode	Operating mode indication
	sfc_HPHMI_mode_extended	Operating mode indication extended (2 icons placed vertically)
	sfc_HPHMI_sst1_step_text	Overview of actual step number and step texts for branch 1
	sfc_HPHMI_trc_time	Numeric time indication of total run time
	sfc_HPHMI_trm_time	Numeric time indication of remaining time (branch selectable)
	sfc_HPHMI_trs_time	Numeric time indication of actual step duration (branch selectable)
	sfc_HPHMI_trw_time	Numeric time indication of remaining waiting time (branch selectable)

Table 3-1: Melody Sequential Function Chart GE

4. SFC- Phase Function Block

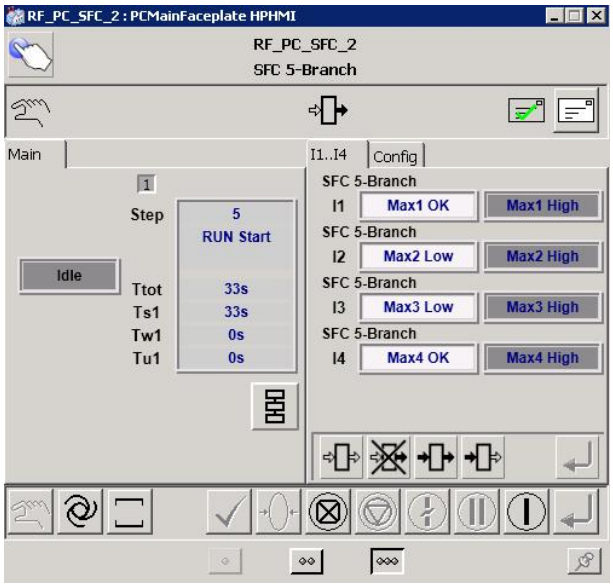


Figure: 4-1 Main View *Figure: 4-2 Extended View*

Basic information

Name:	**PCMainFaceplate HPHMI**
Description:	PC HPHMI Main Faceplate
Connect type:	Melody AC870P
Object type:	SFC-Phase Function Block
Library:	PCHighPerformanceHMILib 1.0-0
Min. required 800xA version:	SV5.1RevA
Graphics Builder version:	PG2

Table: 4-1 Basic Information

Layout

Parameter	**Value**
Update rate (ms)	1000
Default view	Faceplate
Faceplate orientation	Horizontal
Reduced View	Not available

Table: 4-2 Layout information

Sizing information

Parameter in pixels	Main View	Ext. View
Width	250 px	500 px
Height	424 px	424 px
MaxNoOfIndicatorRows	2	1
MaxNoOfIndicatorsRerRow	6	12
MaxNoOfButtonRows	2	1
MaxNoOfButtonPerRow	6	12

Table: 4-3 Sizing Information

Indicator and button icons are displayed on dedicated positions. Position 1 is the upper left corner. Position 12 is the lower right corner. Position 0 is not shown.

Elements

View	Aspect	Tab	NLS-ID	User role
Main	sfc_FE_HPHMI_Main	1	NLSID_PC_Main	EveryOne
Main	sfc_FE_HPHMI_Binary	1	NLSID_PC_I1_I4	EveryOne
Ext	sfc_FE_HPHMI_Main_ext	1	NLSID_PC_Main	EveryOne
Ext	sfc_FE_HPHMI_Binary_ext	2	NLSID_PC_I1_I4	EveryOne
Ext	sfc_FE_HPHMI_Config	2	NLSID_PC_Config	EveryOne

Table: 4-4 Faceplate Aspect names

4.1 Faceplate elements

4.1.1 sfc_FE_HPHMI_Main, sfc_FE_HPHMI_Main_ext

These are main views for SFC-Phase Function Block object type faceplate. They present overview of SFC state, times and current step.

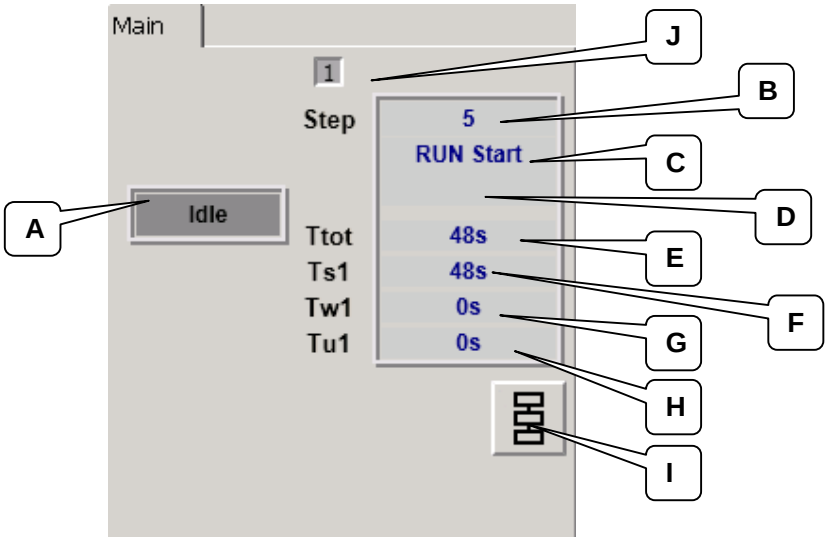


Figure: 4-3 Main Tab

ID	Comment	Property
A	Indication of sequence state	Run: RUN/SIG Completed: E1/SIG Pausing: TPAU/SIG Paused: PAU/SI Holding: THLD/SIG Held: HLD/SIG Stopping: TSTP/SIG Stopped: STP/SIG Aborting: AB/SIG Aborted: E0/SIG Idle: no valid state
B	Actual step number for selected branch ***X***	SST***X***/STEPNO
C	Actual step text 1 for selected branch ***X***	SST***X***/STEPTXT1
D	Actual step text 2 for selected branch ***X***	SST***X***/STEPTXT2
E	Total sequence run time	TRC/SIG
F	Actual step duration for branch ***X***	TRS***X***/SIG

G	Remaining waiting time for branch ***X***	TRW***X***/SIG
H	Remaining time until timeout for branch ***X***	TRM***X***/SIG
I	Link to SFC Viewer	-
J	Selection of branch (only available branches can be visible/selected)	-

Table: 4-5 HPHMI Faceplate Main tab Description

4.1.2 sfc_FE_HPHMI_Binary, sfc_FE_HPHMI_Binary_ext

This is the binary input view for SFC-Phase Function Block object type faceplate.

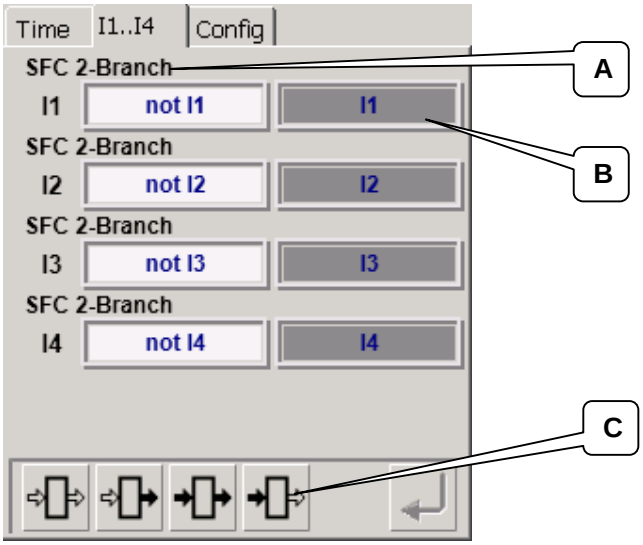


Figure: 4-4 HPHMI Faceplate Binary Tab

ID	Comment	Property
A	Description of binary signal (***X***=1..4)	I***X***/DESCRIPTION
B	State of binary signal (***X***=1..4)	I***X***/SIG
C	Selection of tipp mode	KM1/SIG, KM2/SIG, KM3/SIG, KM4/SIG

Table: 4-6 HPHMI Faceplate Binary tab Description

4.1.3 sfc_FE_HPHMI_Config

Operation Lock and Manual Inhibit Write Permissions

The Melody faceplates' configuration tab allows checking **Operation Lock** in order to inhibit operator inputs. All buttons will be grayed out. Refer to document 3BDA033456R51xx Installation and Configuration in order to change the default write permission.

There is no Operation Lock Functionality available for this object type.

Manual Inhibit can be selected to manually inhibit all alarms of this Melody tag.

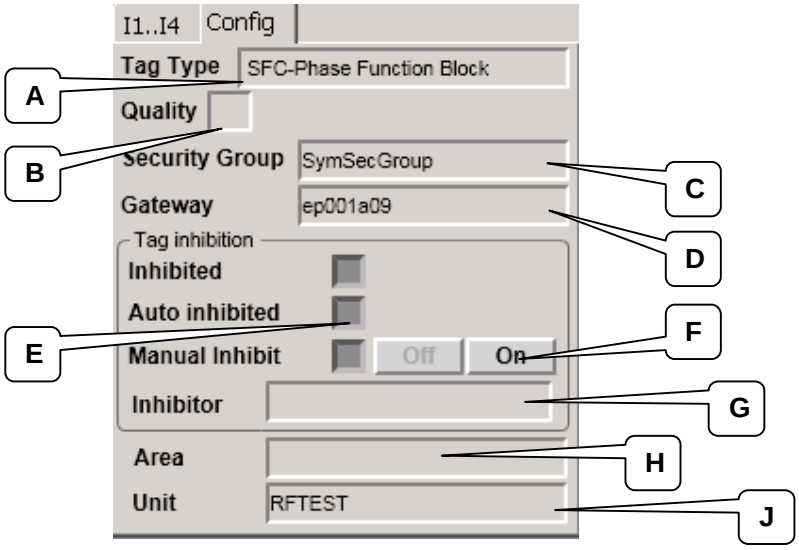


Figure: 4-5 HPHMI Faceplate Config Tab

ID	Comment	Property
A	Text describing the type of the tag	TYPE
B	Character which is providing Melody quality information	QUALITY
C	Text describing the Melody security group to which this tag belongs	SECNAME
D	Text describing the Melody gateway to which this tag belongs to	GATEWAY
E	Binary indicators are showing inhibition status (white color = On)	INHB INHBAUTO INHBMAN
F	Buttons allow to manually inhibit the tag	INHBMAN
G	Information about inhibitor	INHBTAG
H	Text describing Melody area to which tag belongs	AREA
I	Text describing Melody unit to which tag belongs	UNIT

Table: 4-7 HPHMI Faceplate Config tab Description

4.2 Indicators

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Automatic mode set	AUT/SIG	-	1	1
	Manual mode set	MAN/SIG	-	1	1
	Automatic mode locked	AUT/SIG and LOCK/SIG	-	1	1
	Manual mode locked	MAN/SIG and LOCK/SIG	-	1	1
	Completed	E1/SIG	-	2	2
	Run	RUN/SIG	-	2	2
	Stop state	STP/SIG	-	2	2
	Stopping	TSTP/SIG	-	2	2
	Aborted	E0/SIG	-	2	2
	Aborting	AB/SIG	-	2	2
	Holding	THLD/SIG	-	2	2
	Held	HLD/SIG	-	2	2
	Paused	TPAU/SIG	-	2	2
	Pausing	PAU/SIG	-	2	2
	Protective action 1	P1/SIG	-	3	3
	Protective action 0	P0/SIG	-	3	3
	Protective action stop	PST/SIG	-	3	3
	Auto command 1	IC1/SIG	-	4	4
	Interlock 1	not R1/SIG	-	4	4
	Restart time reached	NSTR/SIG	-	5	5
	Error	ER/SIG	-	6	6

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Tipp mode 1	KM1/SIG	-	7	7
	Tipp mode 2	KM2/SIG	-	7	7
	Tipp mode 3	KM3/SIG	-	7	7
	Tipp mode 4	KM4/SIG	-	7	7
	Op. mode inhibited	INHI/SIG	-	8	8
	Run time error pos 1	RF1/SIG	-	9	9
	Run time error pos 0	RF0/SIG	-	9	9
	End position error pos 1	EF1/SIG	-	9	9
	End position error pos 0	EF0/SIG	-	9	9
	Auto command 0	IC0/SIG	-	10	10
	Interlock 0	not R0/SIG	-	10	10
	Operator Lock	OPL/SIG	-	11	11
	Operator note available		-	-	11

Table: 4-8 Indicators

4.3 Aspect Links

Icon	Description	Aspect	Position		
			Red	FP	Ext
	Operator note	Operator note	-	6	12

Table: 4-9 Aspect Links

4.4 Faceplate Buttons

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Set manual mode	MAN/SIG	-	1	1
	Set automatic mode	AUT/SIG	-	2	2
	Set/Reset operation mode lock	LOCK/SIG	-	3	3
	Acknowledge error	ACK/SIG	-	5	5
	Reset SFC	RES/SIG	-	6	6
	Set command ABORT	CMD0/SIG	-	7	7
	Set command STOP	STP/SIG	-	8	8
	Set command HOLD	HLD/SIG	-	9	9
	Set command PAUSE	PAU/SIG	-	10	10
	Set command RESUME, RESTART, ON	CMD1/SIG	-	11	11
	Apply the selected action	-	-	12	12

Table: 4-10 Faceplate Buttons

4.5 Graphic Elements

The following Graphic Elements have the following standard properties and enumeration.

Standard properties

Property	Data type	Default value	Description
EnableInput	Boolean	True	Enables input handling of the element, if false the element it self can't selected.
Name	String	-	Name of the element instance in a graphic display. Is set automatically by the Graphics Builder (Name of the element + index).
Rotation	Rotation	0	Rotation angle
SubscriptionRate	Integer	0	Update rate for all properties subscribed for
Transform	Transform	Empty	Enables animation like scaling, moving and rotation. It is intended only for dynamic values.
Visible	Boolean	True	Visibility of the element in the graphic display.
XPos	Float	-	X position of the upper left corner of the element
YPos	Float	-	Y position of the upper left corner of the element

Table: 4-11 Standard Properties for all Graphic Elements

Graphic Elements based on Melody object type SFC- Phase Function Block

Example	Graphic Element Name	Description
	sfc_HPHMI_AlarmInd	Alarm indication
	sfc_HPHMI_interlock	Interlock indication
	sfc_HPHMI_mode	Operating mode indication
	sfc_HPHMI_mode_extended	Operating mode indication extended (2 icons placed vertically)
	sfc_HPHMI_sst1_step_text	Overview of actual step number and step texts for branch 1
	sfc_HPHMI_trc_time	Numeric time indication of total run time
	sfc_HPHMI_trm_time	Numeric time indication of remaining time (branch selectable)
	sfc_HPHMI_trs_time	Numeric time indication actual step duration (branch selectable)
	sfc_HPHMI_trw_time	Numeric time indication of remaining waiting time (branch selectable)

Table 4-1: Melody SFC-Phase Function Block GE

3BDA033447R5103EN_HMI_SFC Germany 2012-09-25

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