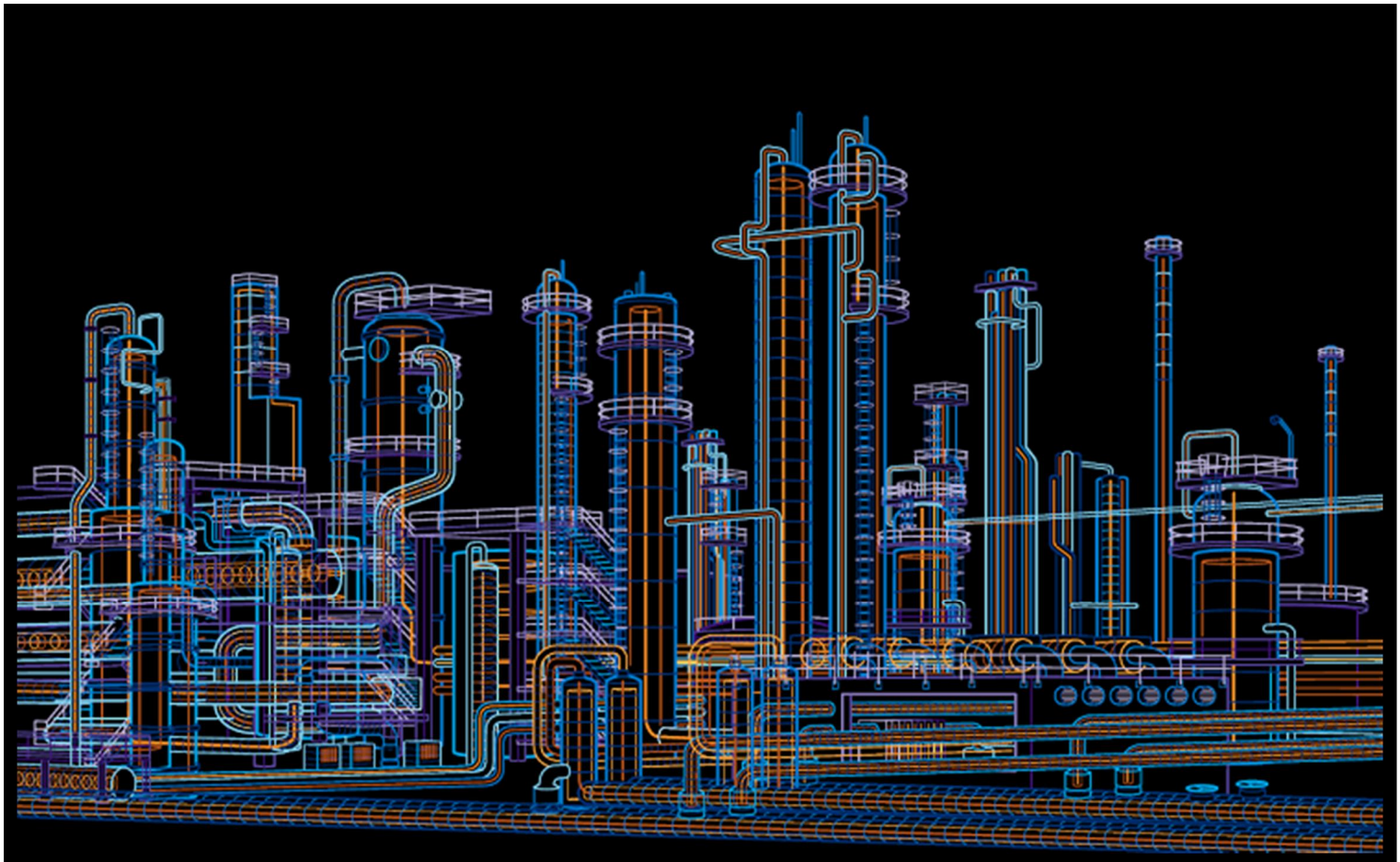

System 800xA
PC Toolkit Library for Melody
Human System Interface - Time & Pulse Counter
User Manual

System Version 6.0

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).

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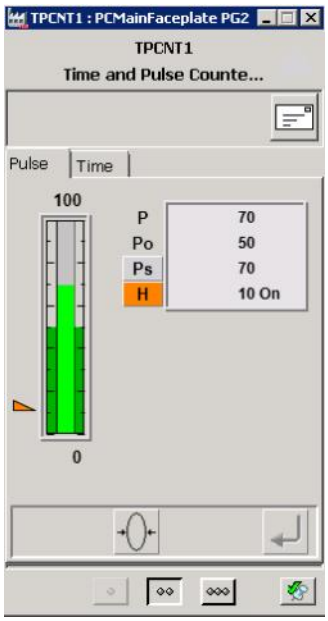
Human System Interface (Classic Style)

1. Time & Pulse Counter



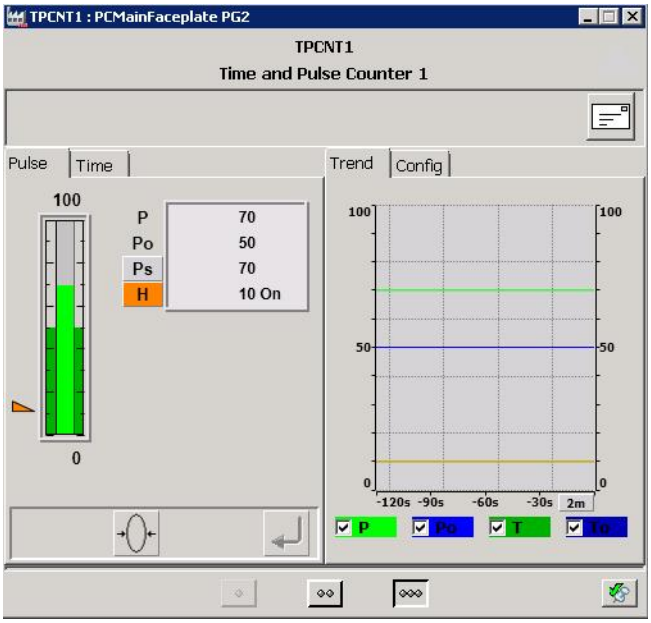


Figure: 1-1 Main View *Figure: 1-2 Extended View*

Basic information

Name:	**PCMainFaceplate**
Description:	PC MainFaceplate
Connect type:	Melody AC870P
Object type:	Time and Pulse Counter
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	1	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	tpcnt_FE_Pulse PG2	1	NLSID_PC_Pulse	EveryOne
Main	tpcnt_FE_Time PG2	1	NLSID_PC_Time	EveryOne
Ext	tpcnt_FE_Pulse PG2	1	NLSID_PC_Pulse	EveryOne
Ext	tpcnt_FE_Time PG2	1	NLSID_PC_Time	EveryOne
Ext	tpcnt_FE_Trend PG2	2	NLSID_PC_Trend	EveryOne
Ext	tpcnt_FE_Config PG2	2	NLSID_PC_Config	EveryOne

Table: 1-4 Faceplate Aspect names

1.1 Faceplate elements

1.1.1 tpcnt_FE_Pulse PG2

This is the main view for Pulse count of the Time and Pulse Counter object type faceplate. Operator input is possible based on access rights.

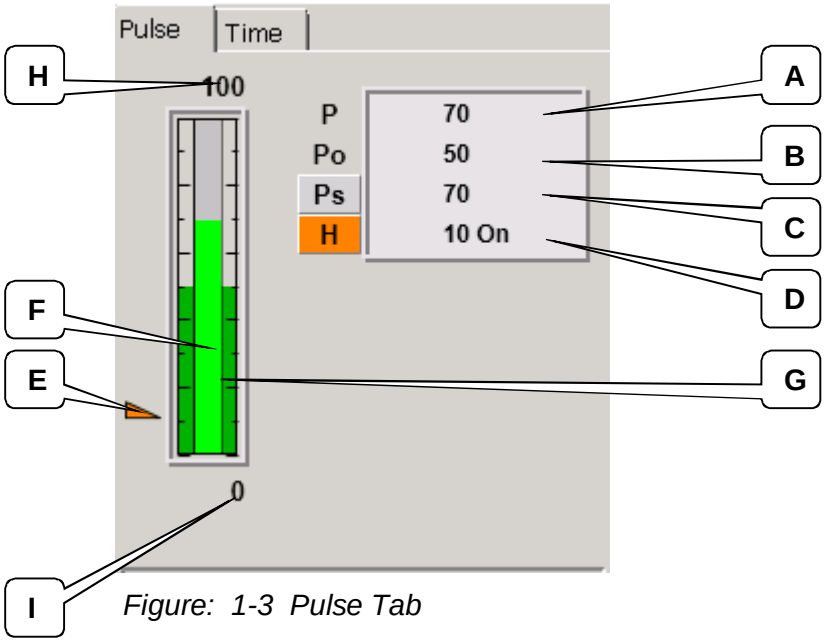


Figure: 1-3 Pulse Tab

ID	Comment	Property
A	Actual pulse count	PCNT/SIG
B	Previous pulse count	POLD/SIG
C	Pulse count start value	SVPO/SIG
D	High limit	LVPO/SIG
E	High limit	LVPO/SIG
F	Actual pulse count	PCNT/SIG
G	Previous pulse count	POLD/SIG
H	Max range for pulse count	PCNT/HIGH
I	Min range for pulse count	PCNT/LOW

Table: 1-5 Classic Faceplate Pulse tab Description

1.1.2 tpcnt_FE_Time PG2

This is the main view for Time count of the Time and Pulse Counter object type faceplate. Operator input is possible based on access rights.

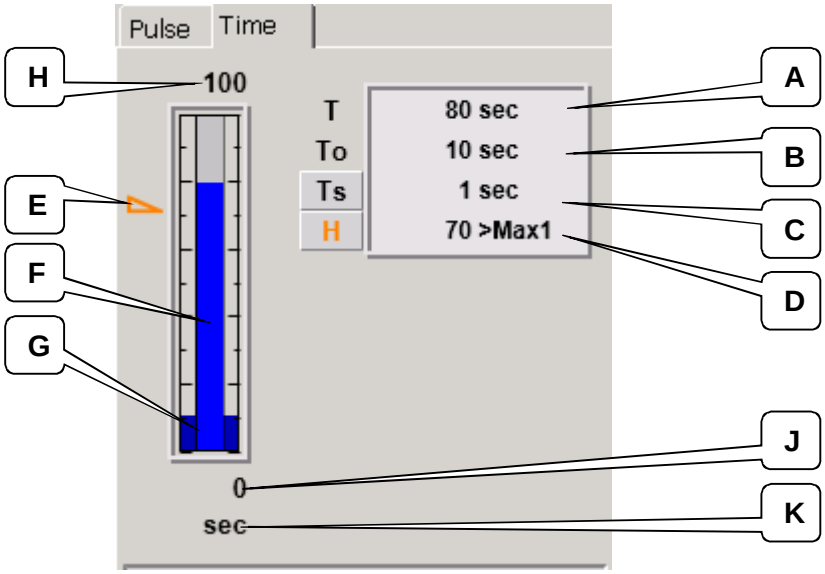


Figure: 1-4 Time Tab

ID	Comment	Property
A	Actual time count	TIME/SIG
B	Previous time count	TOLD/SIG
C	Start value of time count	SVTO/SIG
D	High limit	LVTR/SIG
E	High limit	LVTR/SIG
F	Actual time count	TIME/SIG
G	Previous time count	TOLD/SIG
H	Max range for time count	TIME/HIGH
I	Min range for time count	TIME/LOW
J	Unit for time count	TIME/UNITS

Table: 1-6 Classic Faceplate Time tab Description

1.1.3 tpcnt_FE_Trend PG2

This is the trend view for the Time and Pulse Counter object type faceplate.

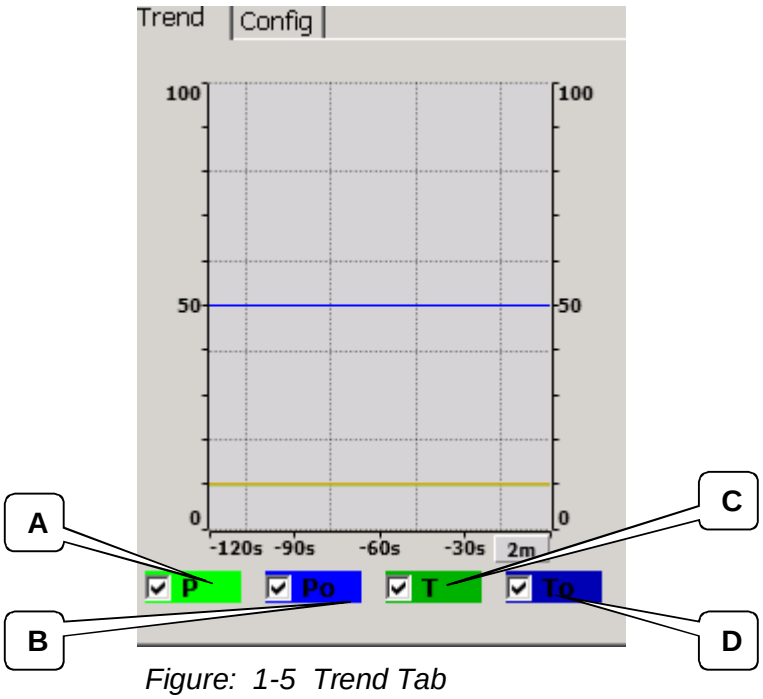


Figure: 1-5 Trend Tab

ID	Comment	Property
A	Actual pulse count (“P”)	PCNT/SIG
B	Previous pulse count (“Po”)	POLD/SIG
C	Actual time count (“T”)	TIME/SIG
D	Previous time count (“To”)	TOLD/SIG

Table: 1-7 Classic Faceplate Trend tab Description

1.1.4 tpcnt_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.

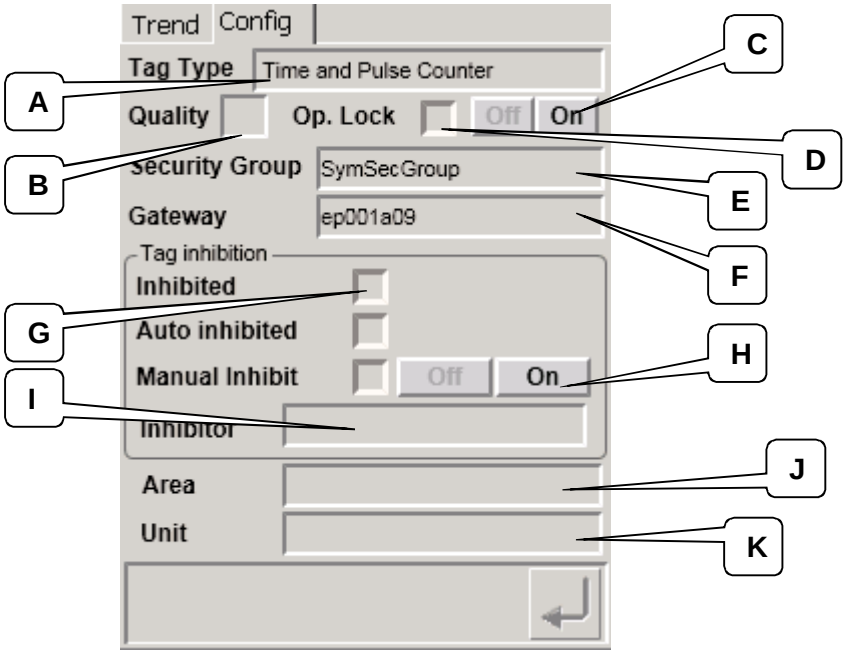


Figure: 1-6 Config Tab

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	On: AKO/SIG Off: AKOR/SIG
D	Binary indicator Yellow color: Op. Lock is On Gray color: Op. Lock is Off	AKO/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 (Yellow color = On)	INHB INHBAUTO INHBMAN
H	Buttons allow to manually inhibit the tag	INHBMAN

ID	Comment	Property
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: 1-8 Classic Faceplate Config tab Description

1.2 Indicators

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Forced	(not (PCNT/ALI = “”) and PCNT/SIG:Q=216) or (not (TIME/ALI = “”) and TIME/SIG:Q=216)	1	1	1
	Operator lock	AKO/SIG	5	5	10
	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
	Reset	QOR/SIG	3	3	3
	Apply the selected action	-	6	6	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 Time & Pulse Counter

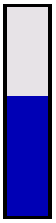
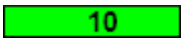
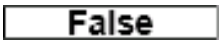
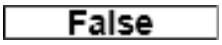
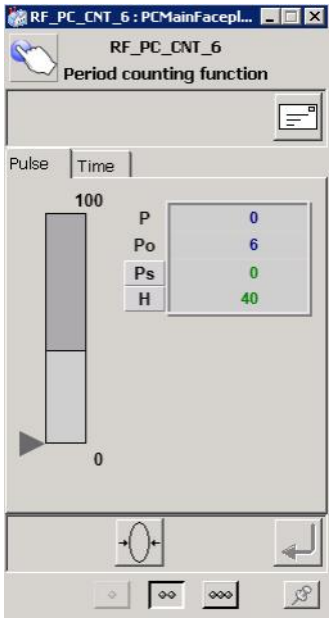
Example	Graphic Element Name	Description
	tpcnt_pcnt_bargraph_PG2	Bargraph for the current counter value pulse.
	tpcnt_time_bargraph_PG2	Bargraph for the current counter value time.
	tpcnt_pcnt_numeric_PG2	Indicator text box with numeric formatting displaying the current counter value pulse.
	tpcnt_time_numeric_PG2	Indicator text box with numeric formatting displaying the current counter value time.
	tpcnt_lvpo_text_PG2	Value Text Box in order of the limit value pulse counter.
	tpcnt_lvto_text_PG2	Value Text Box in order of the limit value time counter.
	tpcnt_qor_value_op_text1_pg2	Command ON/OFF with optional text. With apply button

Table 1-1: Melody Time and Pulse Counter GE

High Performance Indication

2. Time & Pulse Counter



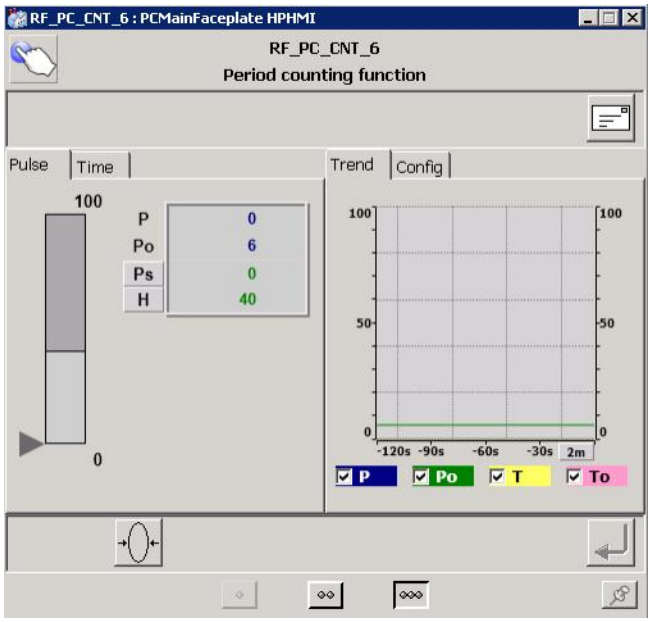


Figure: 2-1 Main View *Figure: 2-2 Extended View*

Basic information

Name:	**PCMainFaceplate HPHMI**
Description:	PC HPHMI Main Faceplate
Connect type:	Melody AC870P
Object type:	Time and Pulse Counter
Library:	PCHighPerformanceHMILib 1.0-0
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
Reduced View	Not available

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	1	1
MaxNoOfIndicatorsRerRow	6	12
MaxNoOfButtonRows	1	1
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	tpcnt_FE_HPHMI_Pulse	1	NLSID_PC_Pulse	EveryOne
Main	tpcnt_FE_HPHMI_Time	1	NLSID_PC_Time	EveryOne
Ext	tpcnt_FE_HPHMI_Pulse	1	NLSID_PC_Pulse	EveryOne
Ext	tpcnt_FE_HPHMI_Time	1	NLSID_PC_Time	EveryOne
Ext	tpcnt_FE_HPHMI_Trend	2	NLSID_PC_Trend	EveryOne
Ext	tpcnt_FE_HPHMI_Config	2	NLSID_PC_Config	EveryOne

Table: 2-4 Faceplate Aspect names

2.1 Faceplate elements

2.1.1 tpcnt_FE_HPHMI_Pulse

This is the main view for Pulse count of the Time and Pulse Counter object type faceplate. Operator input is possible based on access rights.

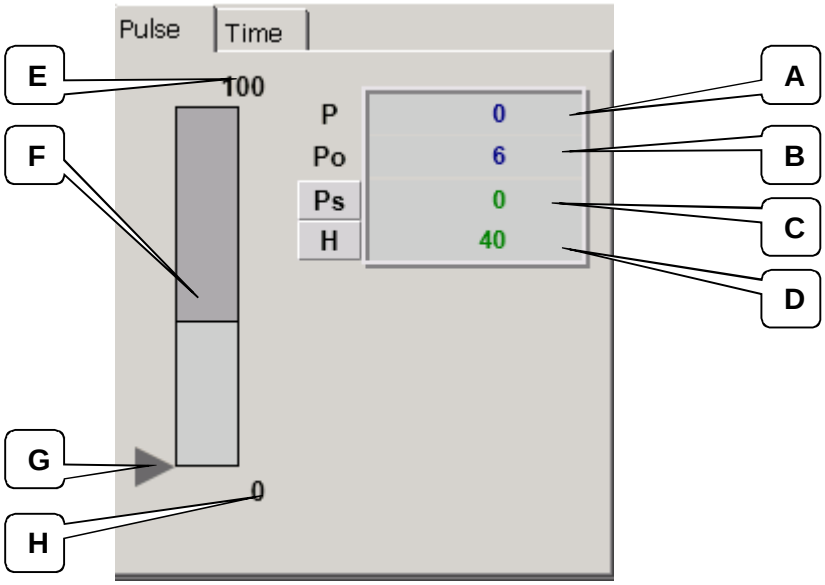


Figure: 2-3 Pulse Tab

ID	Comment	Property
A	Actual pulse count	PCNT/SIG
B	Previous pulse count	POLD/SIG
C	Pulse count start value	SVPO/SIG
D	High limit	LVPO/SIG
E	Max range for pulse count	PCNT/HIGH
F	High limit	LVPO/SIG
G	Actual pulse count	PCNT/SIG
H	Min range for pulse count	PCNT/LOW

Table: 2-5 HPHMI Faceplate Pulse tab Description

2.1.2 tpcnt_FE_HPHMI_Time

This is the main view for Time count of the Time and Pulse Counter object type faceplate. Operator input is possible based on access rights.

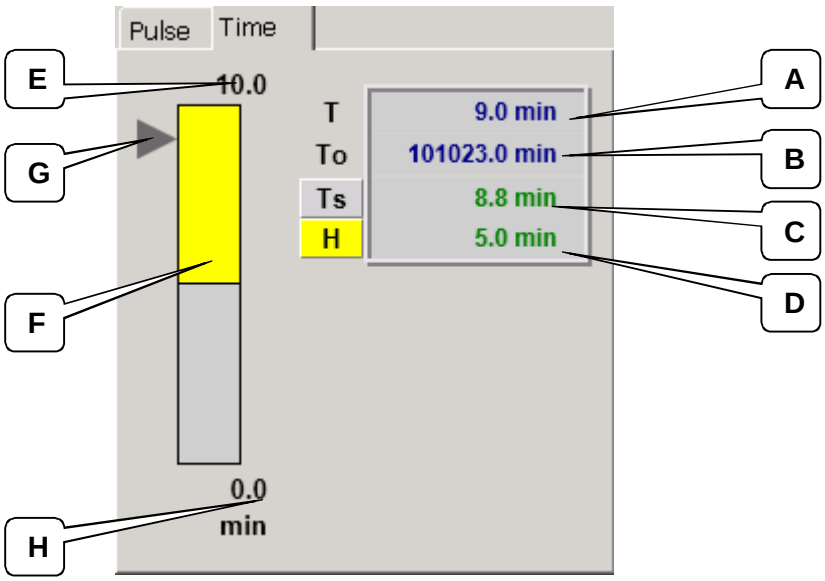


Figure: 2-4 Time Tab

ID	Comment	Property
A	Actual time count	TIME/SIG
B	Previous time count	TOLD/SIG
C	Start value of time count	SVTO/SIG
D	High limit	LVTR/SIG
E	Max range for time count	TIME/HIGH
F	High limit	LVTR/SIG
G	Actual time count	TIME/SIG
H	Min range for time count	TIME/LOW

Table: 2-6 HPHMI Faceplate Time tab Description

2.1.3 tpcnt_FE_HPHMI_Trend

This is the trend view for the Time and Pulse Counter object type faceplate.

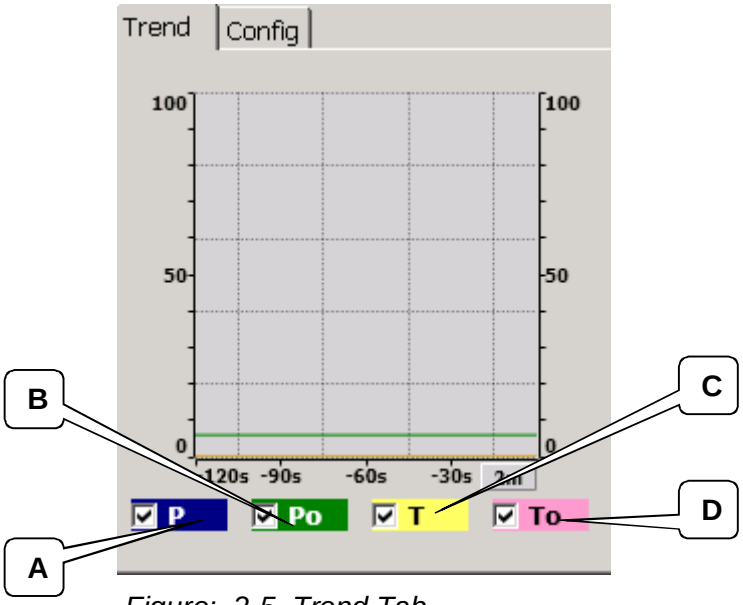


Figure: 2-5 Trend Tab

ID	Comment	Property
A	Actual pulse count (“P”)	PCNT/SIG
B	Previous pulse count (“Po”)	POLD/SIG
C	Actual time count (“T”)	TIME/SIG
D	Previous time count (“To”)	TOLD/SIG

Table: 2-7 HPHMI Faceplate Trend tab Description

2.1.4 tpcnt_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.

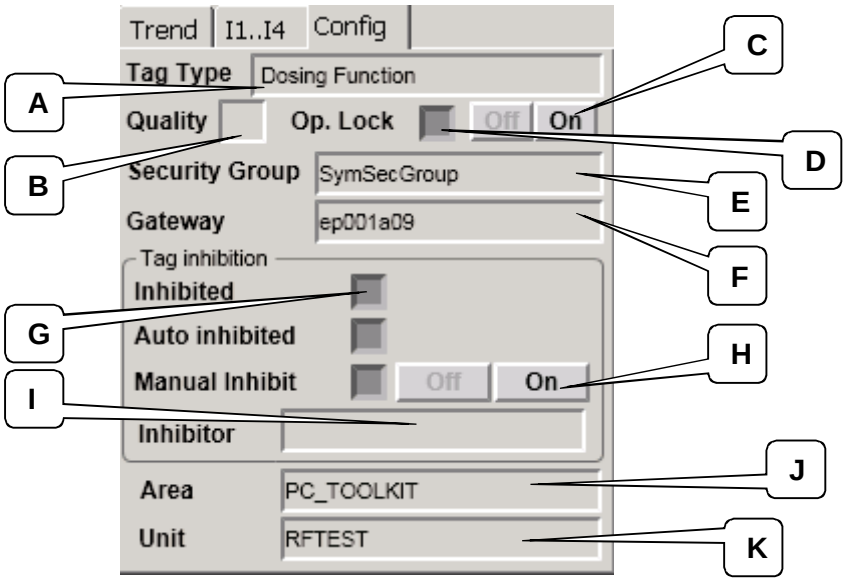


Figure: 2-6 HPHMI Faceplate Config Tab

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	On: AKO/SIG Off: AKOR/SIG
D	Binary indicator White color: Op. Lock is On Gray color: Op. Lock is Off	AKO/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 INHBMAN
H	Buttons allow to manually inhibit the tag	INHBMAN

ID	Comment	Property
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: 2-8 HPHMI Faceplate Config tab Description

2.2 Indicators

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Forced	(not (PCNT/ALI = “”) and PCNT/SIG:Q=216) or (not (TIME/ALI = “”) and TIME/SIG:Q=216)	-	1	1
	Operator lock	AKO/SIG	-	5	10
	Operator note available		-	-	11

Table: 2-9 Indicators

2.3 Aspect Links

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

Table: 2-10 Aspect Links

2.4 Faceplate Buttons

Icon	Description	Property (Value)	Position		
			Red	FP	Ext
	Reset	QOR/SIG	-	3	3
	Apply the selected action	-	-	6	12

Table: 2-11 Faceplate Buttons

2.5 Graphic Elements

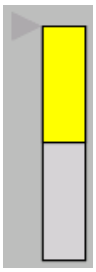
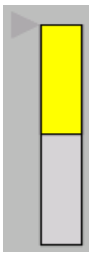
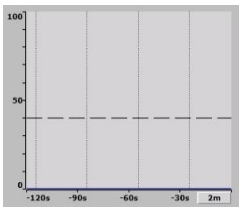
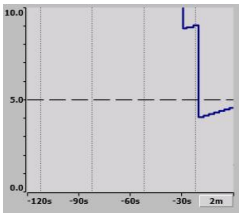
The following Graphic Elements have the following standard properties and enumeration.

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: 2-12 Standard Properties for all Graphic Elements

Graphic Elements based on Melody object type Time & Pulse Counter

Example	Graphic Element Name	Description
	tpcnt_HPHMI_AlarmInd	Alarm indication
	tpcnt_HPHMI_pcnt_bargraph	Bargraph indication pulse count (signal PCNT)
	tpcnt_HPHMI_time_bargraph	Bargraph indication time count (signal TIME)
	tpcnt_HPHMI_pcnt_bargraph	Trend indication pulse count (signal PCNT)
	tpcnt_HPHMI_time_bargraph	Trend indication time count (signal TIME)
	tpcnt_HPHMI_pcnt_numeric	Numeric indication pulse count (signal PCNT)
	tpcnt_HPHMI_time_numeric	Numeric indication time count (signal TIME)
	tpcnt_HPHMI_lvpo_text	Text indication based on active pulse count H level

Example	Graphic Element Name	Description
	tpcnt_HPHMI_lvto_text	Text indication based on active time count H level

Table 2-1: Melody Time and Pulse Counter GE

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