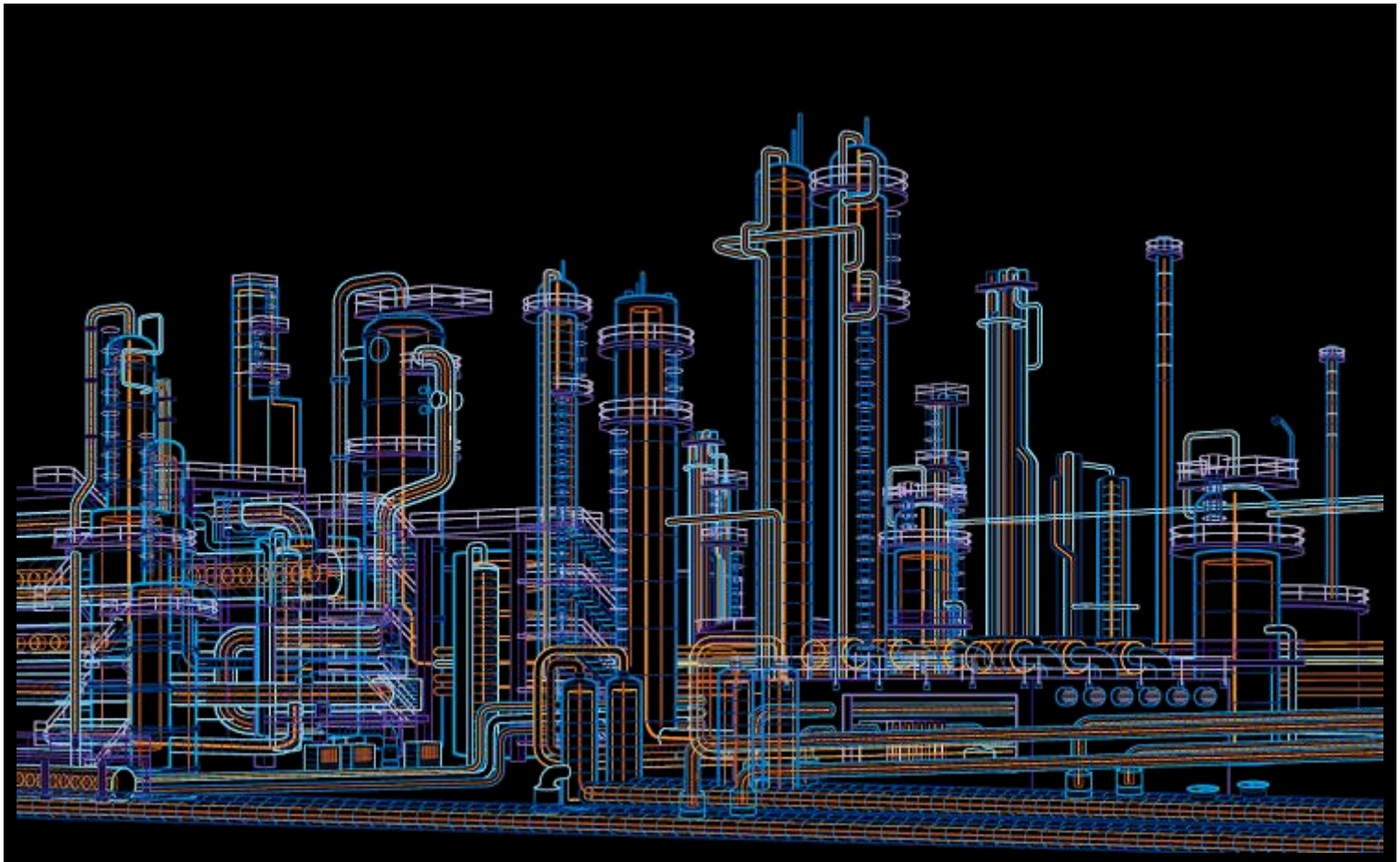


System 800xA
PC Toolkit Library for Melody
Operation
User Manual

System Version 5.1

Power and productivity
for a better world™

Purpose

The purpose of this document is to describe the general features and functionality of the operator workplace and handling of the Distributed Control System (DCS) which will be used in process industries.

This document is intended to be used for operators.

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.

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

Trademarks

All rights to copyrights, registered trademarks, and trademarks reside with their respective owners.

Copyright © 2012 by ABB.

All rights reserved.

Release: 2012-09-26

Document Number: 3BDA033439R5105EN_Operation

Table of contents

1. Introduction 4

1.1 Terminology 4
1.2 Document References 4

2. General Operator Start-Up 5

2.1 Login 5
2.2 Change password 6
2.3 Logoff 7

3. Operator Workplace 8

3.1 Workplace overview 8
3.2 Application Bar 9
3.3 Tool Bar 12
3.4 Status Bar 15
3.5 Display Area 15
3.6 Window Management 16
3.7 Change User 17

4. Process Graphics 18

4.1 Faceplate 20
4.2 Graphic Element 29
4.3 Icons for Process Objects 31

5. Process Object Navigation 33

5.1 Operating 33
5.2 Calling up Faceplates 34
5.3 Calling up graphic displays 34
5.4 Alarm Status Indication 35
5.5 Acknowledging Alarms 37
5.6 Silencing acoustic signals 37

Appendix A: Tag Quality 38

Appendix B: Indicator Icons 40

Appendix C: Command Icons 46

Appendix D: Security 50

1. Introduction

Information in this user manual is intended for operators. It describes the 800xA System functions of the PC Toolkit Library for Melody. It is a complement to the 800xA Standard documentation. Refer to section 1.2 for Document References.

1.1 Terminology

A complete and comprehensive list of Terms is included in the Industrial IT, 800xA - System, Engineering Concepts instruction (3BDS100972R5001).

Abbreviation	Description
Classic Style	Displays in classic style show a more or less representation of the P&I diagram with animated elements like spinning pumps, moving conveyors and brightly colored 3-D vessels. Maximum information of the process status is given any time. The operators are captured in a “colored picture”.
HP Style	High Performance Indication to graphic displays and faceplates allows effective operation with only those information highlighted that requires his attention. Color is limited and animation is only used to highlight abnormal situations. Gray backgrounds are used to minimize glare, along with a generally low-contrast depiction.
HMI	Human Machine Interface
PC	Process Control; Industry where the PC Toolkit Library for Melody is used

Table 1-1: Abbreviation

1.2 Document References

Document Number	Description
3BSE036904-510	800xA Operations (Standard product documentation)

Table 1-2: Document References

2. General Operator Start-Up

2.1 Login

To log on the system every operator needs his user name and password. After a successful login, the operator has the possibility to change the password. This is described in chapter 2.2. The login window pops up with the Windows 7 Logo, like shown in the Figure below.

Figure 2.1: Login for Operator

After a successful login windows will start automatically the operator workplace with the user specific rights.

2.2 Change password

After the first login every operator should change his password that nobody else can use his account. The password for guest or default user does not expire.

After pushing the keyboard keys Ctrl+Alt+Del the Windows security window pops up with the possibility to enter a new password.

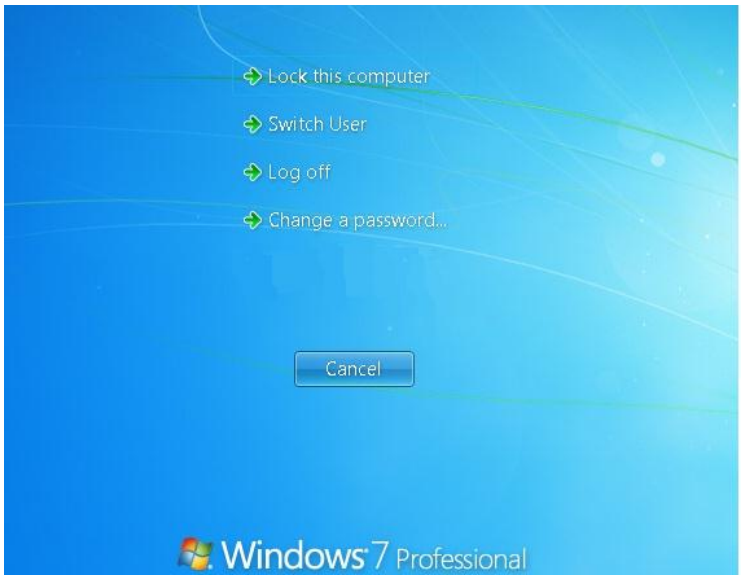


Figure 2.2: Windows Security Options

On pushing the button “Change Password” the actual user has to type in the old password and the new password. The new password has to be confirmed and acknowledged.

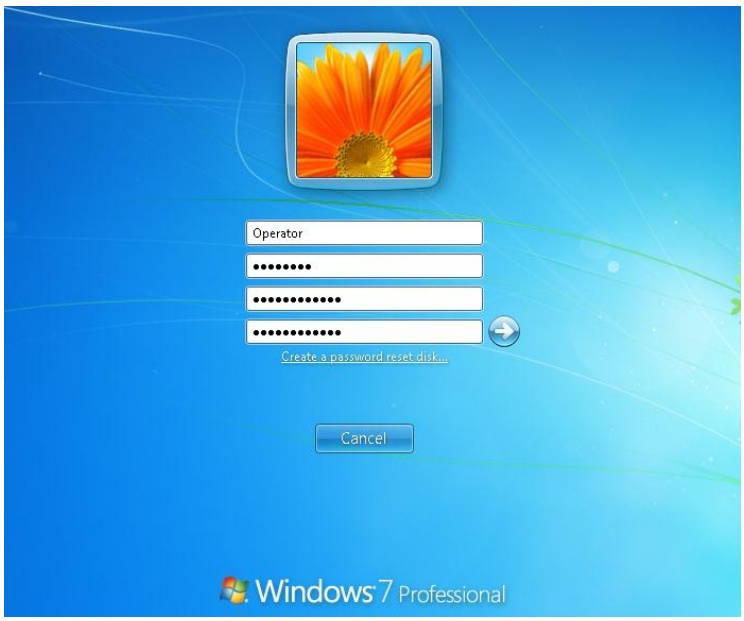


Figure 2.3: Change Password

2.3 Logoff

If an operator wants to log off from system, he has also to open the windows security options (Ctrl+Alt+Del). There he can choose the option “Log Off”.

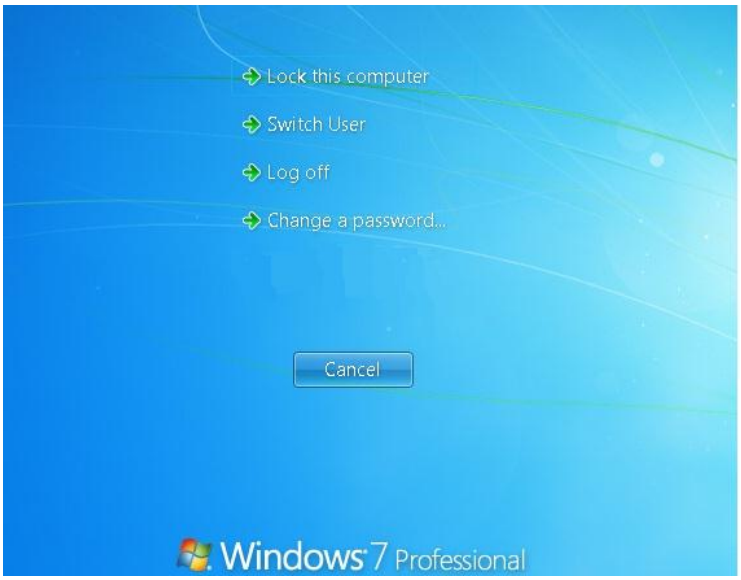


Figure 2.4: Authentication Window

3. Operator Workplace

3.1 Workplace overview

The PC Operator Workplace screen is divided into three main parts:

- The Application Bar contains information that must be visible at all time, and it provides a fast and easy way to switch between information areas.
- The Display Area is used to present information such as process displays, trend displays and alarm lists.
- The Status Bar shows information may be used for additional process call up buttons and shows date and time as well who the current user is.

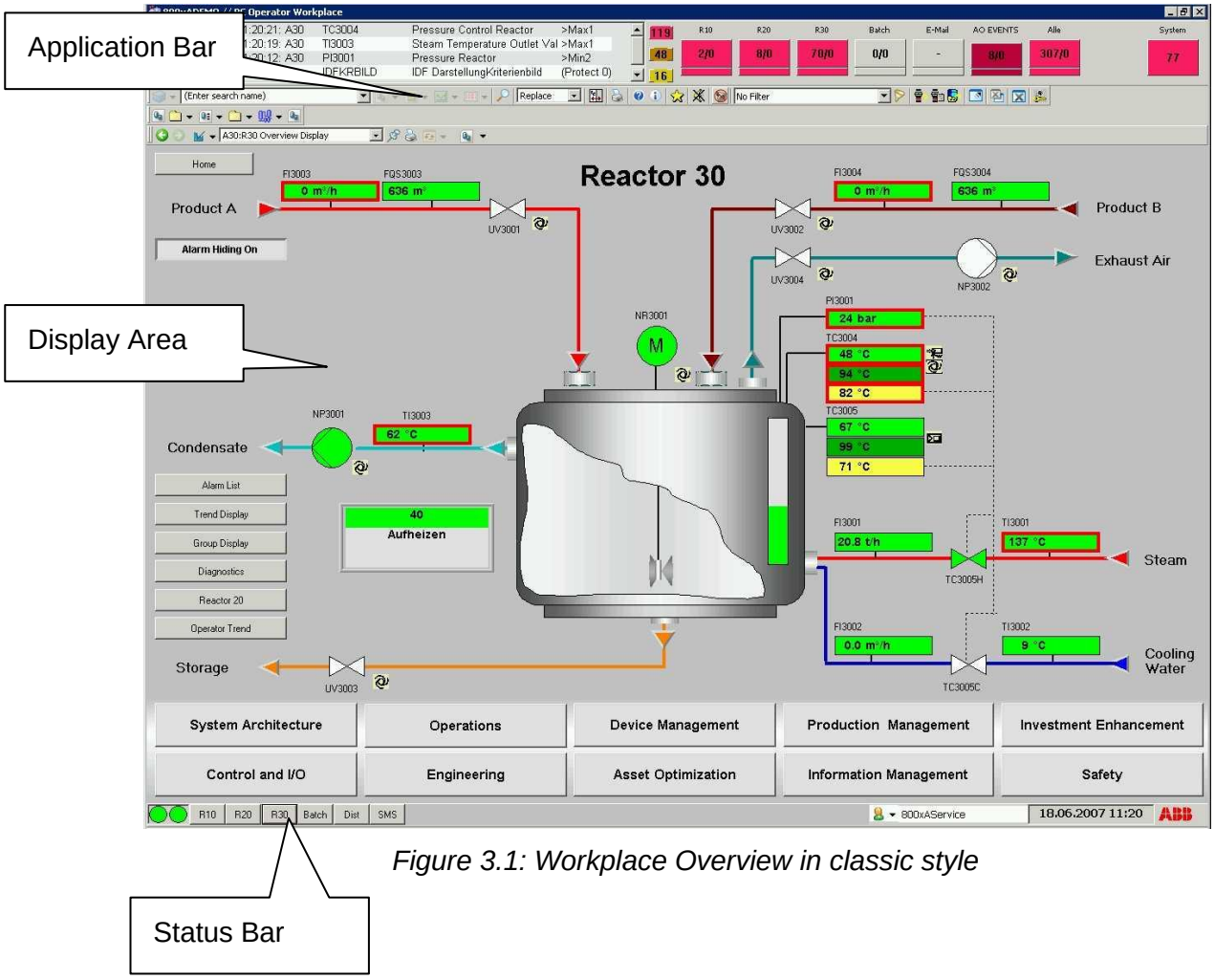


Figure 3.1: Workplace Overview in classic style

3.2 Application Bar

Overview

The Application Bar occupies the area at the top of the Operator Workplace window. It is used for showing important information about your system. The main use is to show the latest alarms, give easy access to the alarm situation for a process area as well as direct links to displays or other aspects and tools.

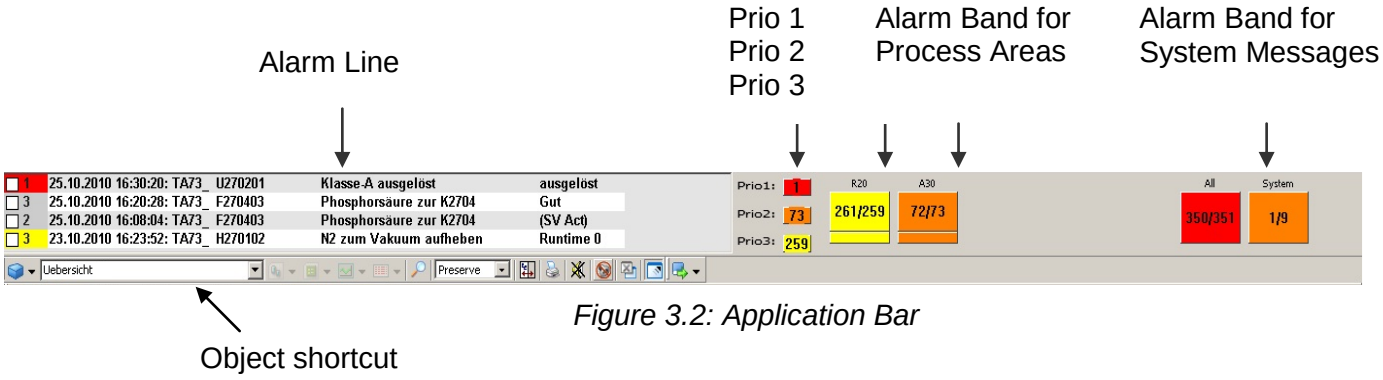


Figure 3.2: Application Bar

Alarm Line

The Alarm Line is an Alarm List, with special configuration. It shows the four latest process alarms with priory 1 to 3 which are not acknowledged.

Figure 3.3: Alarm Line

Priority Indication

The Prio 1, Prio 2 and Prio 3 buttons call up the filtered alarm pages. The number on the buttons show the number of not acknowledged alarms of corresponding priority.

Figure 3.4: Priority Indication

Alarm Band

The Alarm Band provides a summary display for selected alarm lists and provides a link to the corresponding alarm list display. The numbers on a button represent the number of currently active and unacknowledged alarms.

Figure 3.5: Alarm Band

It is also possible to hide alarms in the system. If an alarm is hidden and active, then the rectangle for the hidden alarms changes to defined color (e.g. white). A mouse click onto the field brings up a list of all hidden alarms.

Figure 3.6: Alarm Band with hidden alarms

System Alarms

The System Alarm Band provides a summary of the control system alarms. The number also shows the currently active and not unacknowledged alarms.

Figure 3.7: System Alarms

Object Shortcut, Object Information

The Object Information see Figure 3.2: Application Bar makes it easier to access the most important and/or most frequently used aspects of different aspect objects. The shortcut icons give direct access to Graphic Display, Faceplate, Trend and Alarm and Event List. At delivery these shortcuts are defined as default shortcuts. The Aspect drop-down menus are organized regarding to aspect category, and give access to related displays for the selected object.

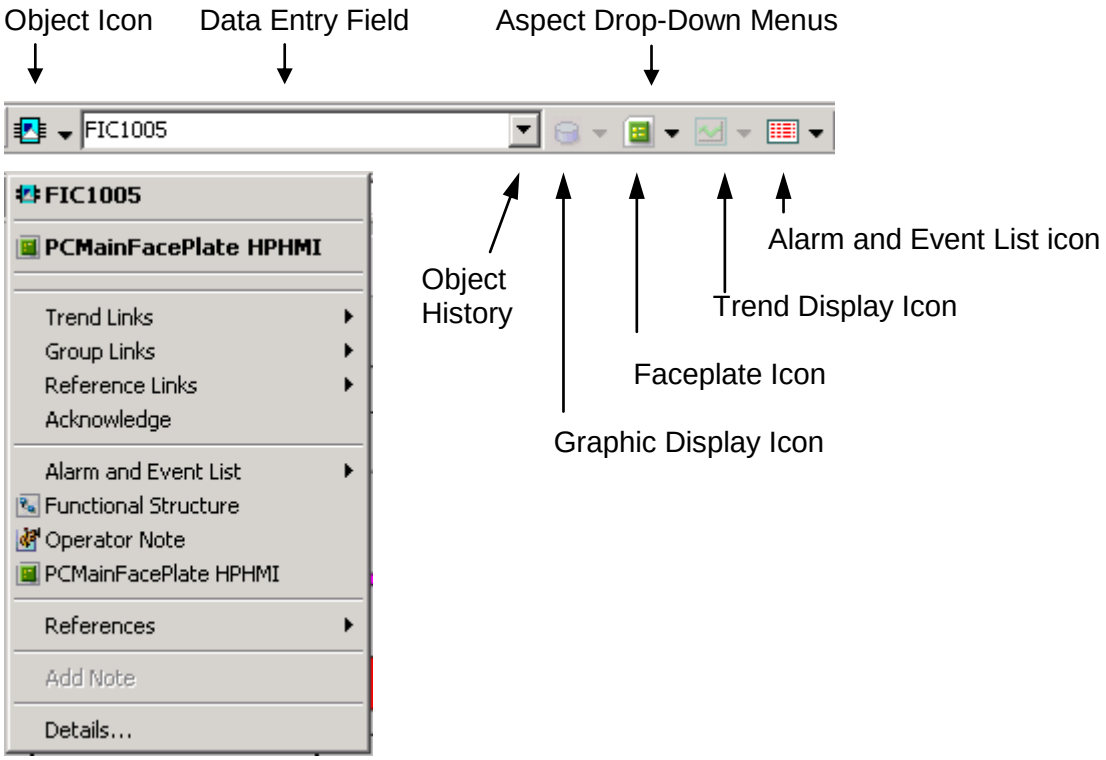


Figure 3.8: Object drop down menu

This example shows that the operator can choose following aspects for the controller FIC1005:

- PCMainFacePlate HPHMI (default call up aspect for that function)
- Links to associated displays as Trends, Group displays, etc.
- Acknowledge (alarm acknowledge for that function)
- Alarm and Event List (open alarm and event lists for that function)
- Functional Structure (opens window which shows where the object is placed in functional structure of the plant)
- Operator Note (shows operator note for that function)
- PCMainFacePlate HPHMI (call up of faceplate for that function)
- References (shows in which graphic pictures the function is used)
- Details (shows function details like properties or permissions)

If someone knows the name of a function or a graphic display he wants to call up, then he can write directly the name of the object in the text field.

Moreover there are some buttons, where the operator can directly choose an aspect category of the object. Possible categories are:

- Graphic display
- Faceplate
- Trend display
- Alarm and Event Lists

In this case there are only the faceplate and alarm & event aspect reachable, cause the function has no graphic or trend display.

3.3 Tool Bar

The functionality of the tool bar in the operator workplace depends on the individual workplace configuration. The following example shows the most useful buttons.

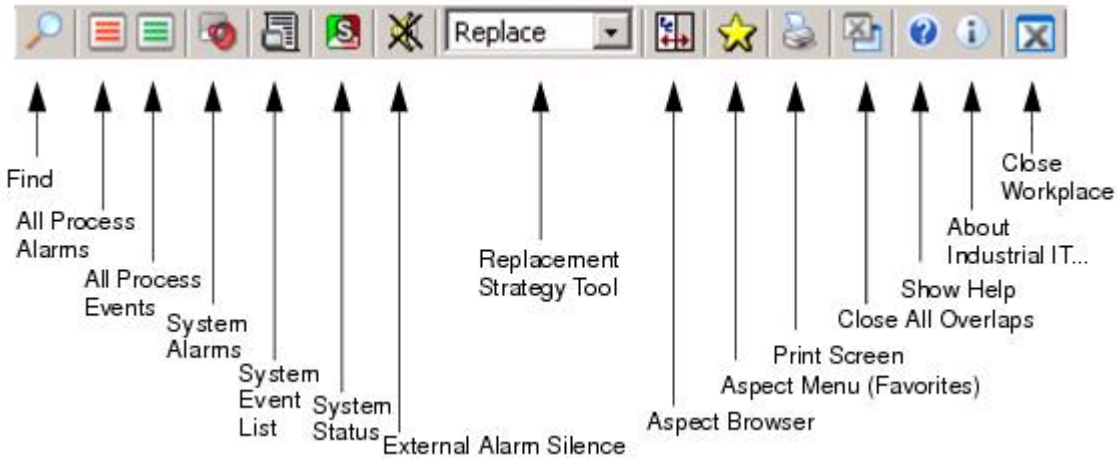


Figure 3.9: Tool Bar Buttons

- The **Find Tool** is a tool used for finding the objects and aspects in a system, based on name, path or guide and other attributes for example aspect category or creation date.
- **All Process Alarms** shows a listing of all alarms from the process.
- **All Process Events** shows a listing of all alarms from the process.
- **System Alarms** shoes a listing of all alarms in the control system.
- **System Event List** shows a listing of all events in the system.
- **System Status** shows a listing of status information for system services in the Service Structure.
- **External Alarm Silence** is used to silence all external alarms.
- The **Replacement Strategy Tool** allows selection of overlap window behavior. Selection of Preserve will cause any selection of aspect to occur in a new

overlap window. Selection of Replace will cause the overlap window to replace its content if the asked for aspect is of the same type.

- The **Aspect Browser** switches the Aspect Browser on and off. When it is switched on, the Aspect Browser is opened in an overlap window. You can then browse the object structures.
- **Aspect Menu (Favorites)** shows a listing of the aspects that were placed in the favorites list for fast access.
- **Print Screen** is used to print the Operator Workplace contents. The screen where the tool is clicked will be printed on the default printer.
- **Close All Overlaps** will close all overlapping windows opened in the Operator Workplace.
- **Show Help** shows the On-line Help.
- **About Industrial IT** gives information about the installed system version and extensions.
- **Close Workplace** closes the Operator Workplace.

Find Tool

The find tool is useful for searching some functions which names are not known exactly. Here it's possible to write the beginning of the name with "*" and then the system shows all functions with equal beginning. In connection with the description of a function, it will be much easier to identify the right function.

Furthermore it is possible to set some attributes, to filter the result of searching. Possible attributes are for example:

- Creation date
- Created by
- Modified by
- Reserved by

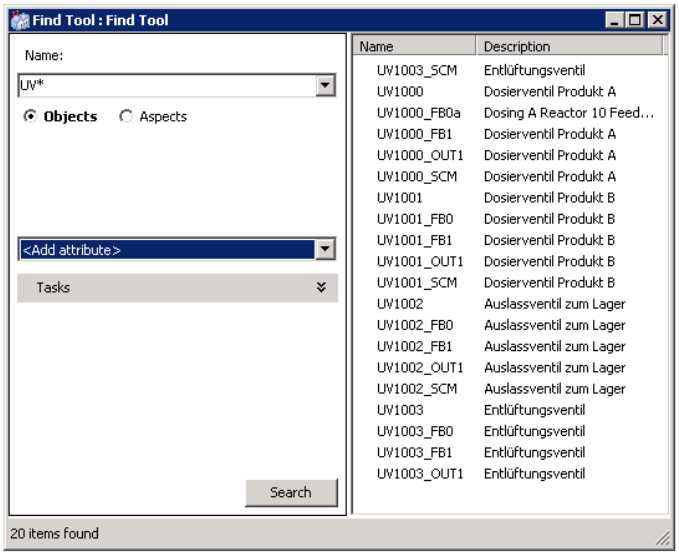


Figure 3.10: Find Tool

Display Bar

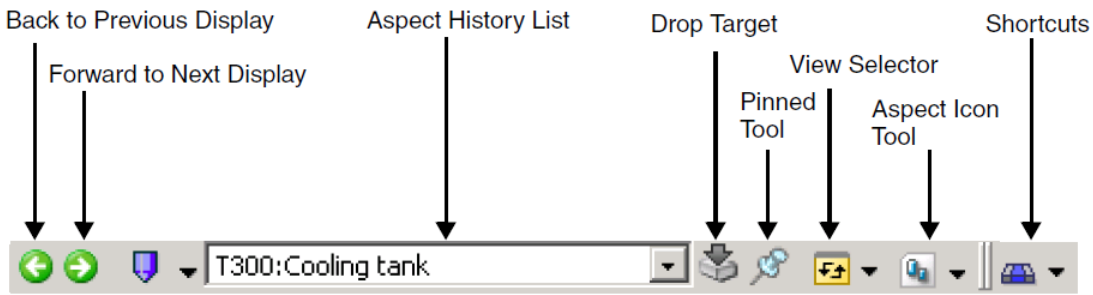


Figure 3.11: Display Bar

The Display Bar, see Figure 3.11: Display Bar, can be used to control and identify the contents of the Display Area.

Back to Previous Display shows the previous display in the aspect history list.

Forward to Next Display shows the next displays in the aspect history list.

Aspect History List shows a listing of the most recently viewed aspects or type of information (the latest used display on top).

By dragging an aspect to the **Drop Target,** it will be displayed in the Display Area.

The **Pinned Tool** pins the display like a note on a billboard. The display can not be changed by clicking on the Backward or Forward button, or drop a display on the Drop Target tool. To enable change of display, you first have to remove the pinning of the display.

The **View Selector** shows a drop-down menu of the available views for the aspect you have selected. If you place the pointer on the View Selector, a tooltip will show the current view. This is normally not relevant for operators.

With the **Aspect Icon Tool** you can for example add the aspect as a favorite by selecting **Add to Aspect Menu** in the drop-down menu. You also have the possibility to display the aspect view on another workplace by selecting the workplace from the **Send To** submenu in the drop-down menu.

Shortcuts provide shortcuts to specific displays. Shortcuts can be added and configured to point out specific displays.

To change the display in the Operator Workplace window, begin by placing the pointer in the main Operator Workplace window or an overlap display, where you want to change display. Click once with the left mouse button. The Title Bar will be high-lighted (marked). Change the display in this selected display area by using one of the ways listed above.

3.4 Status Bar

The Status Bar occupies the lower part of the Operator Workplace window.

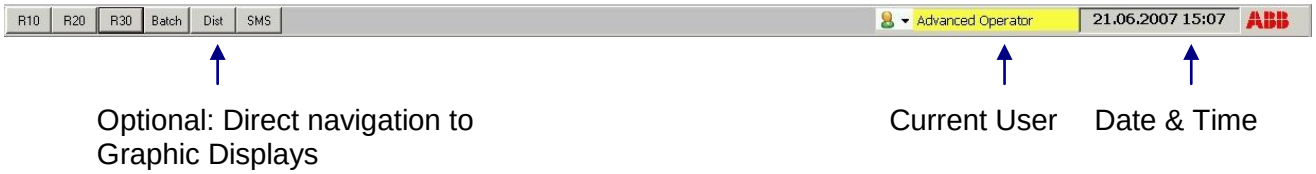


Figure 3.12: Status Bar

It shows individual configured navigation buttons, the current user, includes the log over functionality and the system date/time.

3.5 Display Area

The display area shows graphic pictures which illustrates the plant process, or other things. On the graphic pictures are graphic elements, like valves or motors, buttons, charts.

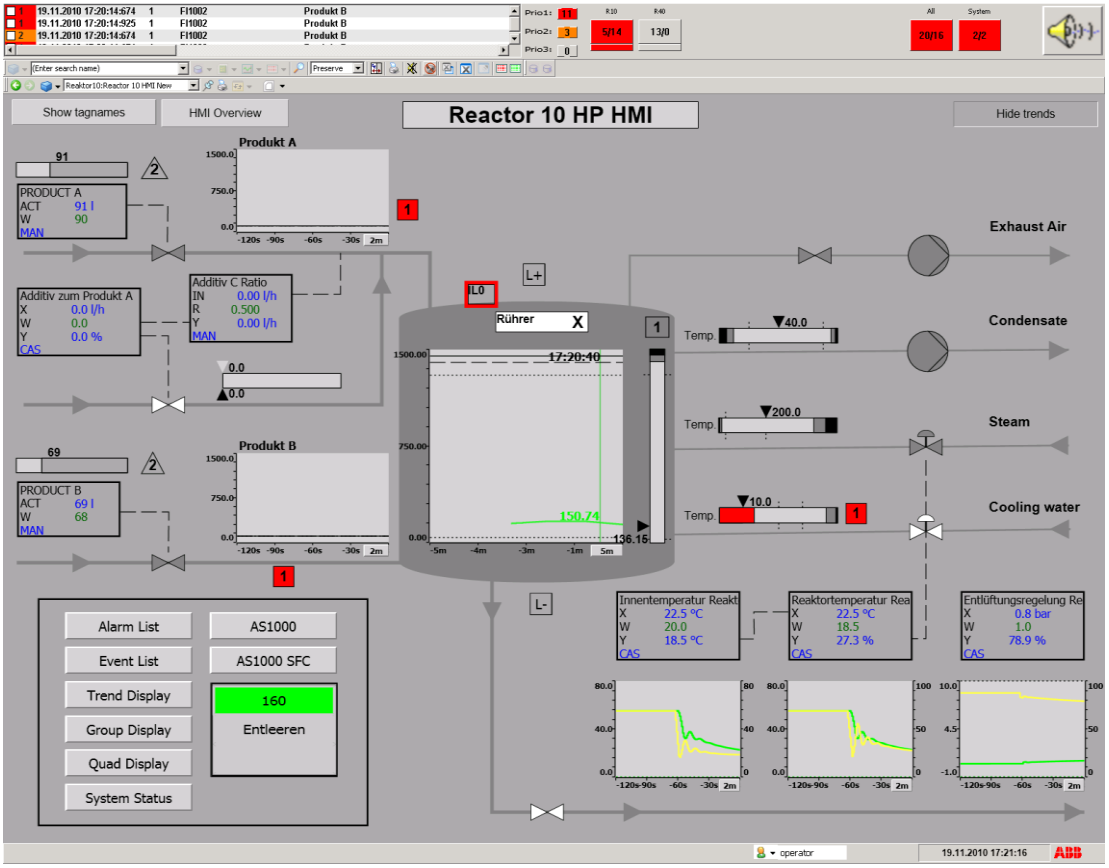


Figure 3.13: Example graphic display in high performance style

If the mouse points on a graphic element of a function, a tool tip shows the function name the element belongs to. Normally if the user clicks on a graphic element in a graphic display, the faceplate (default call up aspect) of that function opens.

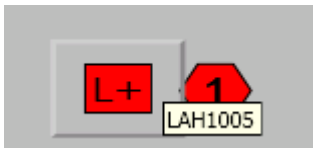


Figure 3.14: Graphic Element with Tool Tip

The default call up aspect of a graphic element is defined in the depended HMI documentation for each function type (e.g. Motor, Valve or Totalizer).

But there are also action aspect buttons or aspect view buttons on a graphic display. Normally they are described by the description on them.

If the user opens a faceplate via an aspect button or the object information, he can move it on the graphic display with drag and drop on the faceplate header. If he wants to fix it, he can activate the pin button on the faceplate. To close the faceplate the user has to click on the close symbol in the header of the faceplate.

3.6 Window Management

Pinning

Figure 3.15: Pinning

If you click on the **Pinned icon** in the Display Bar, see Figure 3.15: Pinning, the display area window will be pinned like a note on a billboard. This means that you can not change the content of the display window by clicking on the **Backward** or **Forward** button, or drop a display on the Drop Target tool. To enable change of display, you first have to remove the pinning of the display. To prevent change of the base display you have to pin it, or you can press the **Shift** key when opening an aspect from the context menu, favorites or the aspect browser. This makes the aspect to be presented in a new overlap window.

Replace/Preserve

Figure 3.16: Replace and Preserve

Replace means that when you open a new overlap window, it will replace the oldest unpinned overlap window of the same type.

If you have chosen Preserve, new displays are opened in new overlap windows. Sometimes this is not possible, due to the maximum allowed number of windows of a specific type (view class). In this case, the replace strategy will be used instead. That means that the oldest, unpinned window, if any, will be replaced by the new display.

3.7 Change User

When a user opens a Workplace he gets logged in as the current Windows user. Some operations in the system, however, require a fast and temporary switch between users in a running workplace. This can be useful for example, if an operation requires a permission not held by the current user.

To change user right-click on the user name and select Change User...,

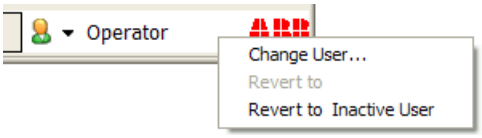


Figure 3.17: Change User

A Change User dialog box appears and the new user has to enter his/her User ID (with domain if it differs from the default domain) and password.

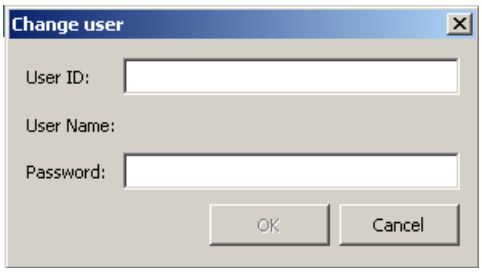


Figure 3.18: Change User Authentication Dialog Box

To return to the first user, select Revert to in the dialog box and enter the previous ID and password.
Leaving the Operator Workplace, for shorter or longer periods of time, might be considered a threat or security breach in some trades. As a security precaution it is therefore possible to define an inactivity time-out. When the time-out expires the system automatically reverts to an inactivity user which should be configured to have no or limited permissions.
It is also possible to manually change user to the guest or a default user by right-clicking on the user name and select Revert to Inactive User, for example when leaving the Operator Workplace. Note that no manual authentication is required when reverting to the default user.
The background of the user name has different colours depending on who the current user is. The background is white if the logged in user is active. If a change user action has been made the background is yellow and if the inactive user is the current user the background is grey.

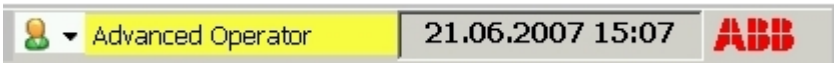


Figure 3.19: Advanced Operator after logging over

4. Process Graphics

The PC Toolkit Library for Melody provides Faceplates and Graphic Elements to create operator workplaces following both classic HMI and High Performance HMI style.

Classic and High Performance HMI

High Performance HMI expands the capabilities of traditional HMIs of distributed control systems in many aspects. It reduces risks of human errors and decreases operator-related incidents by improving situation awareness and leading to better handling of abnormal conditions. Using High Performance HMI can help operators to make better decisions and so improve process safety and process uptime.

Some of the main factors to improve the classic HMI are deliberate color definitions and the usage to maximize visibility of abnormal situations.

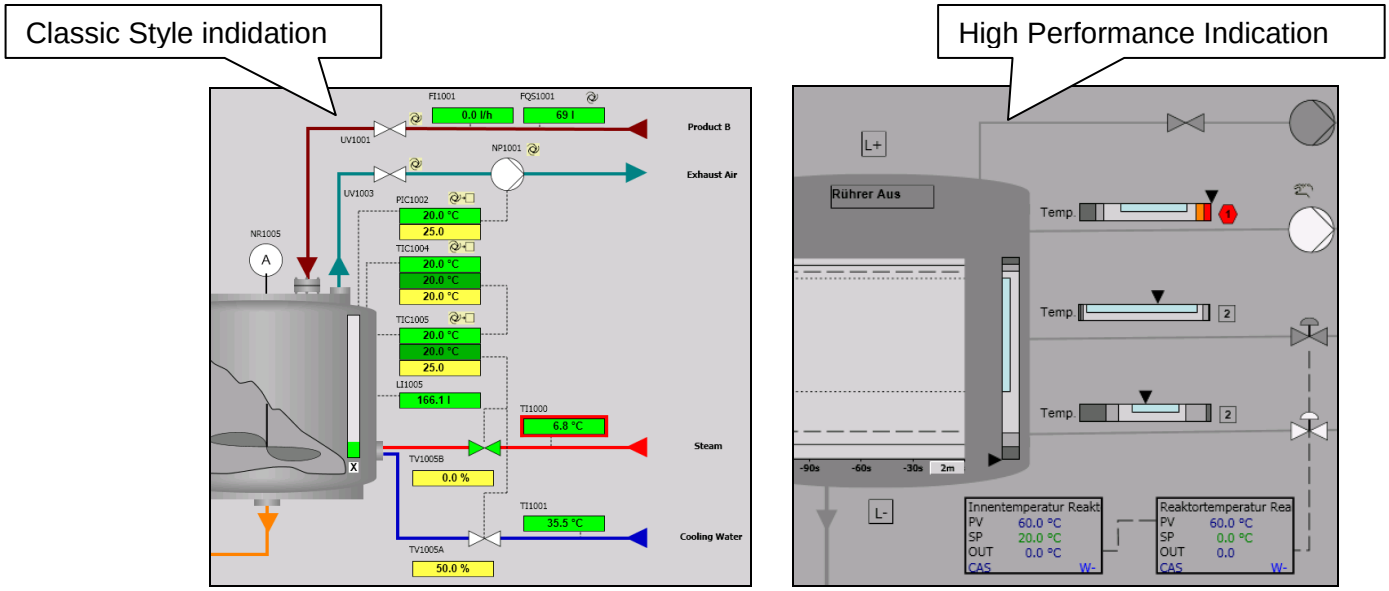


Figure 4.1: Classic & High Performance HMI

Figure 4.1 shows the differences of the color definitions and how High Performance HMI can be used to increase the visibility of an abnormal situation.

High Performance HMI does not only mean the usage of gray scales but also a modified way to display information (e.g. using bargraphs instead of numeric values when it makes sense). Another difference to classic HMI is the usage of color changeover (e.g. for limit values in bargraphs).

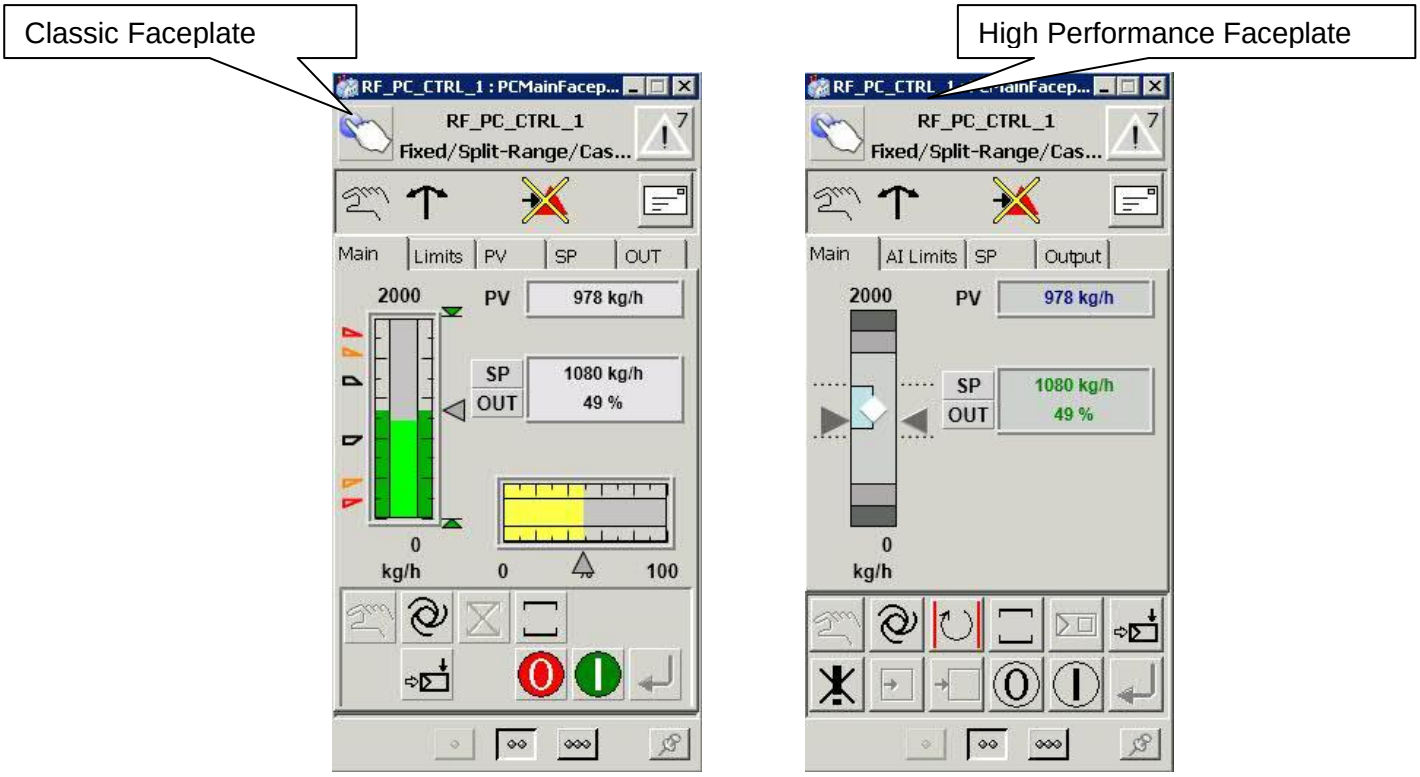


Figure 4.2: Classic & High Performance HMI Faceplate

Figure 4.2 shows the comparison of an analogue value faceplate in classic and a High Performance style. As shown in the screenshots the classic analog value faceplate has three limit value pairs HH/LL, H/L respectively the tolerance alarm limits GH and GL. The HP HMI faceplate uses the tolerance limits to define the good range. This allows the operator to simply recognize if the process value leaves the normal range before the occurrence of an alarm.

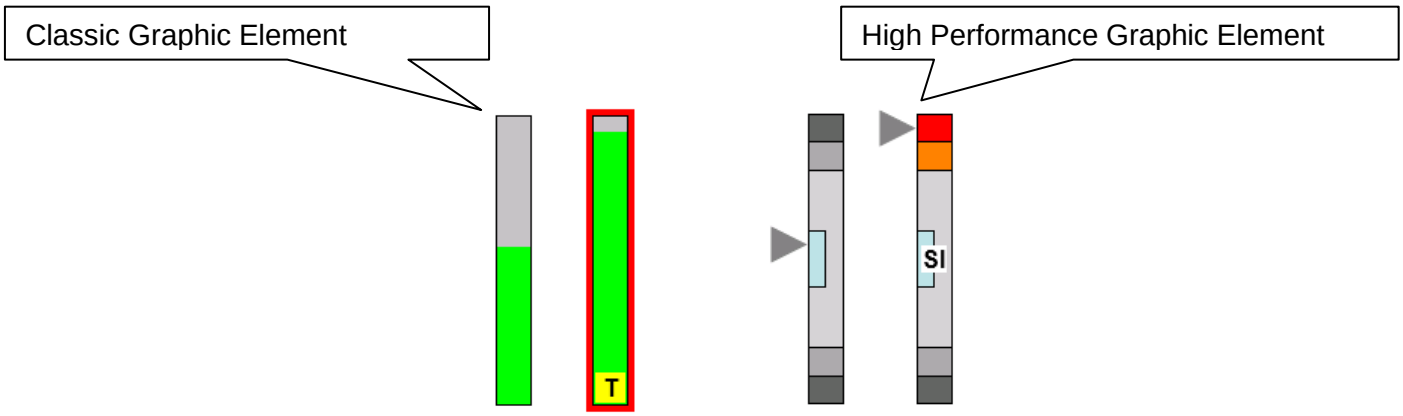


Figure 4.3: Classic Style & High Performance Style

Figure 4.3 shows the comparison of an analog value bargraph in classic and High Performance HMI style. In both cases an alarm limit is reached (classic HMI: red alarm frame / HP HMI: color changeover) and the value is forced (classic HMI: black ‘T’ on yellow background / HP HMI: black ‘SI’ on white background).

4.1 Faceplate

The faceplate is divided into several areas. All faceplates have the same layout and size. The different areas and how to use them are described in this section. The part in the middle, which is named indication area, varies to all faceplates and depends on the object type.

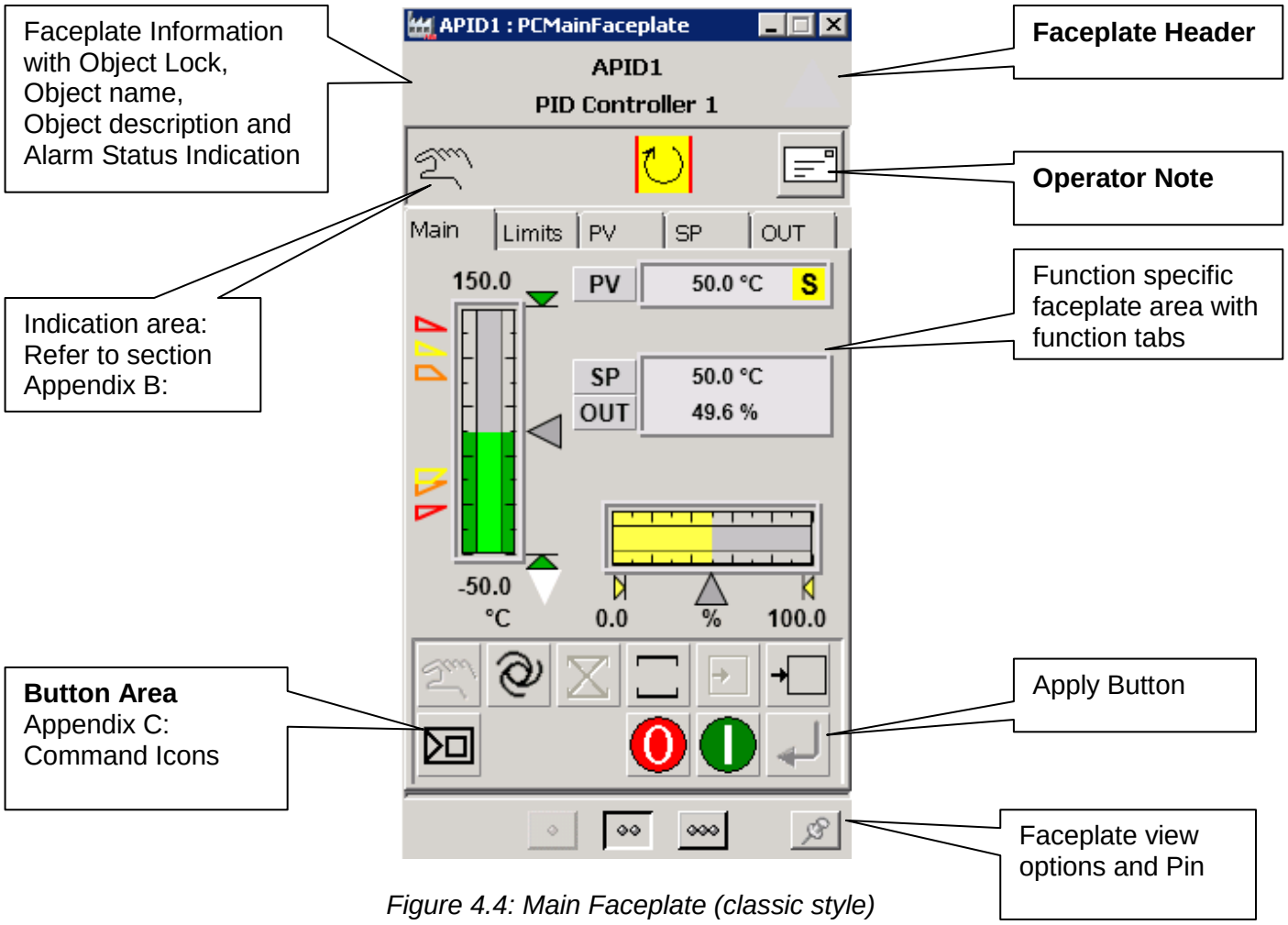


Figure 4.4: Main Faceplate (classic style)

Faceplate Header

With a mouse click on ☒ closes the faceplate. Minimize and full size icon is not available for operators.

Object name

Object Name displays the primary name of the object. If the width of the Name area is not wide enough to display the full name this is indicated by three dots, "...", at the end of the visible text. A tooltip will always show the whole name, when the pointer is positioned above the name.

Object description

Object Description displays the description of the object, and the tooltip works the same way as in the name area.

Object Lock

Object Lock is enabled if the Lock Server function is configured. Refer to IndustrialIT 800xA, System, Administration and Security (3BSE037410*) for more information.

Object lock will give the user the sole right to operate an object. If Autolock is enabled the object will be locked from the moment the user opens up the faceplate. If the object lock function is controlled manually, the user has to take the lock by clicking the Object Lock button to be able to operate the object. In some cases the lock required option may be enabled, all buttons and commands will then be dimmed until the user clicks the Object Lock button.

The table below shows the different object lock states and their corresponding indications.

Lock status	Button	Icon	Background Color
Unlocked	Raised		Blue-grey
Locked by me	Sunken		White
Locked by [name of the user who locked]	Flat		Yellow

Table 4-1: Lock status

When the object is released by somebody else, the button changes from flat to upraised and it turns blue-grey. To lock the object, simply press the button. Possible ways to release a lock on an object is to either click the lock button or to close the faceplate. In case of inactivity of operation action in the faceplate, there is a specific time-out period until the object lock is released.

Indication Area

Figure 4.5: Indication area

This area shows the current status of the object. Space is, however, limited. Only 5 status icons can be displayed in the standard view, beside the operator icon on the outmost right side. If more icons should be displayed at the same time you can see it by switching the faceplate to extended view.

Common Indication icons for all object types

Classic Style	HP Style	Description
		Automatic mode set
		Manual mode set
		Error mode
		Force set

Table 4-2: Common icons for the most object types

Refer to Chapter Appendix B: Indicator Icons to get a complete list of the symbols for every object type.

Operator note

An Operator Note is a message to another operator or a note about an object, in order to remember information about it. Clicking on the symbol, in the faceplate, opens a window where you can read and write notes regarding the object. The dialog for Operator Note is a basic text editor. Write the note and click Apply.

This symbol indicates that there is a note for this tag. It is only indicated in the extended faceplate view.

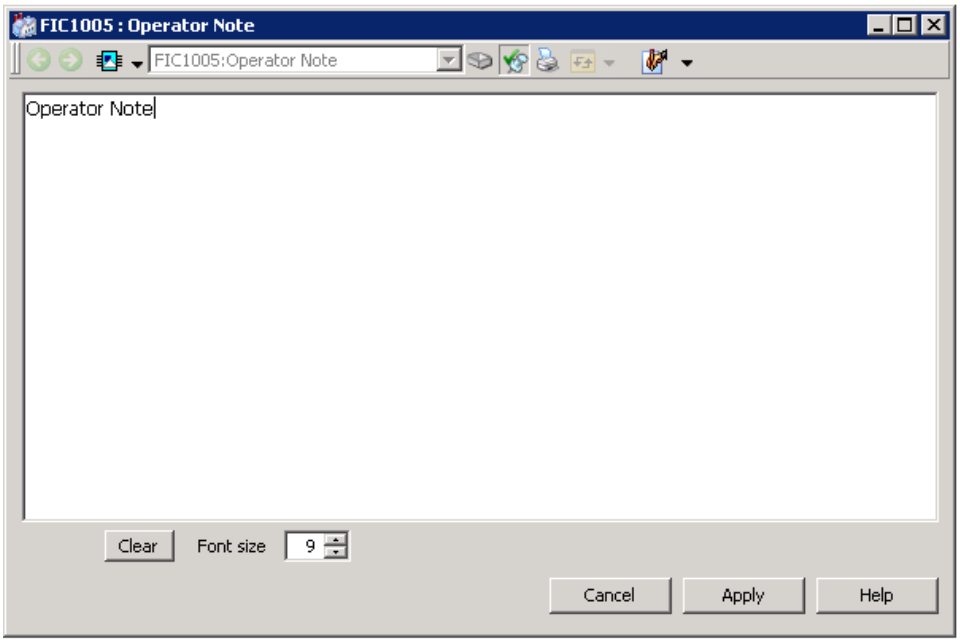


Figure 4.6: Operator Note

Alarm Status Indication

For each tag the alarm state indicates and displays one of six possible alarm states. The alarm state color shown is based upon the system configuration for the tag and the alarm priority color configured in the **PC Color Definition Aspect**.

A mouse click on the icon button opens the Alarm List.

Classic	HPHMI	Alarm State	
		There is no alarm. Overall alarm status of tag is normal but not active and has been acknowledged.	Inactive and acknowledged
		Illegal Alarm configuration	Inactive and acknowledged
		Alarm is active but not acknowledged. Priority level is indicated on the icon top right. The number indication on the icon top right is the priority level	Active but not acknowledged
		Alarm is active and acknowledged.	Active and acknowledged
		Alarm is neither active, nor acknowledged	Neither active, nor acknowledged
	Not shown	Alarm has been inhibited by the user	Alarm manually disabled (active)
	Not shown	Alarm has been automatically inhibited by the system	Alarm disabled by system (active)
		A white rectangle covering an alarm symbol, shows that there are hidden alarms for the object.	Hidden Alarm
		A white circle appearing to the right of the alarm symbol shows that there are shelved alarms for the object.	Shelved Alarm

Table 4-3: Alarm Symbols and States

The Alarm Status with examples for alarm priority 1, 2, 3 and 4 indicates the alarm state and allows acknowledging the object alarms from the faceplate by clicking the alarm status button. Alarm priority levels of the Melody tags range from 1 through 16. 1 through 3 is red, orange and yellow while 4 through 16 can be configured.

Figure 4.7: Alarm Levels 1 – 4 (800A style)

Figure 4.8: Alarm Levels 1 – 4 (HPHMI style)

	Depending on the HPHMI setting “HPHMI Alarm Control” (see document 3BDA033456R5107_Installation and Configuration) it is possible to display the alarm indication either in 800xA style (classic) or High Performance style. Melody maintains maximum 16 alarm priority levels.

The Element provides information of the most important actual alarm.

- Alarms are resolved in following order:

1. Highest priority active unacknowledged alarm
2. Highest priority active acknowledged alarm
3. Highest priority inactive unacknowledged alarm
4. No alarm

- Active alarm state is shown by different shapes and colors. Alarm level is presented by number and color.
- Blink frequency for incoming and unacknowledged alarm is 4 Hz
- Blink frequency for gone alarms but not acknowledged is 2 Hz
- Active and acknowledged alarms are with steady alarm indication icon

Alarm shelving and Alarm hiding

Indication of the hidden and shelved alarms via the alarm control (800xA Style). A mouse click on the icon opens the Hidden or Shelved Alarm List.

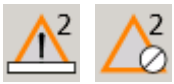


Figure 4.9 Alarm Level 2 with hidden and shelved alarms (800A style)

An “H” or “S” indicates that there are hidden or shelved alarms. A mouse click on the icon opens the Hidden or Shelved Alarm List.

Figure 4.10 Alarm Level 2 with hidden and shelved alarms (HPHMI style)

Function specific faceplate area with function tabs

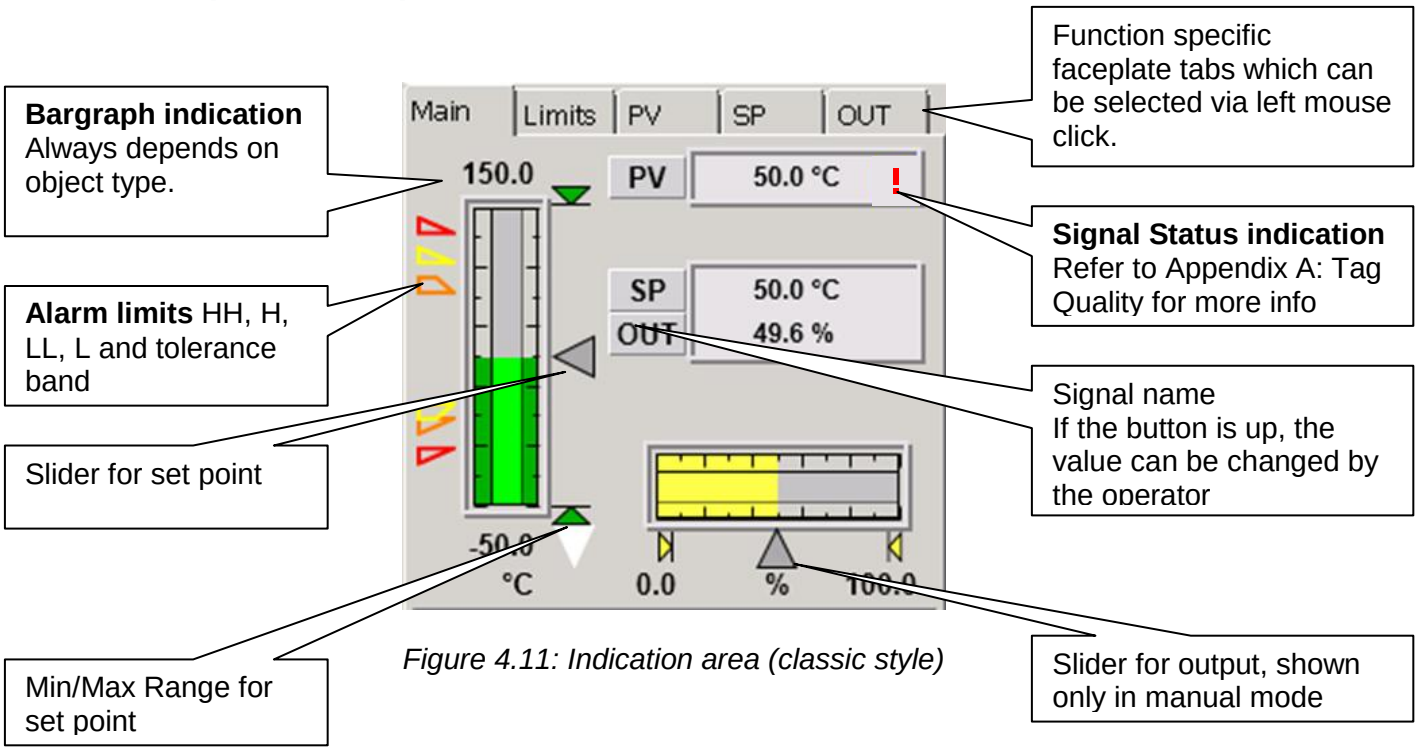


Figure 4.11: Indication area (classic style)

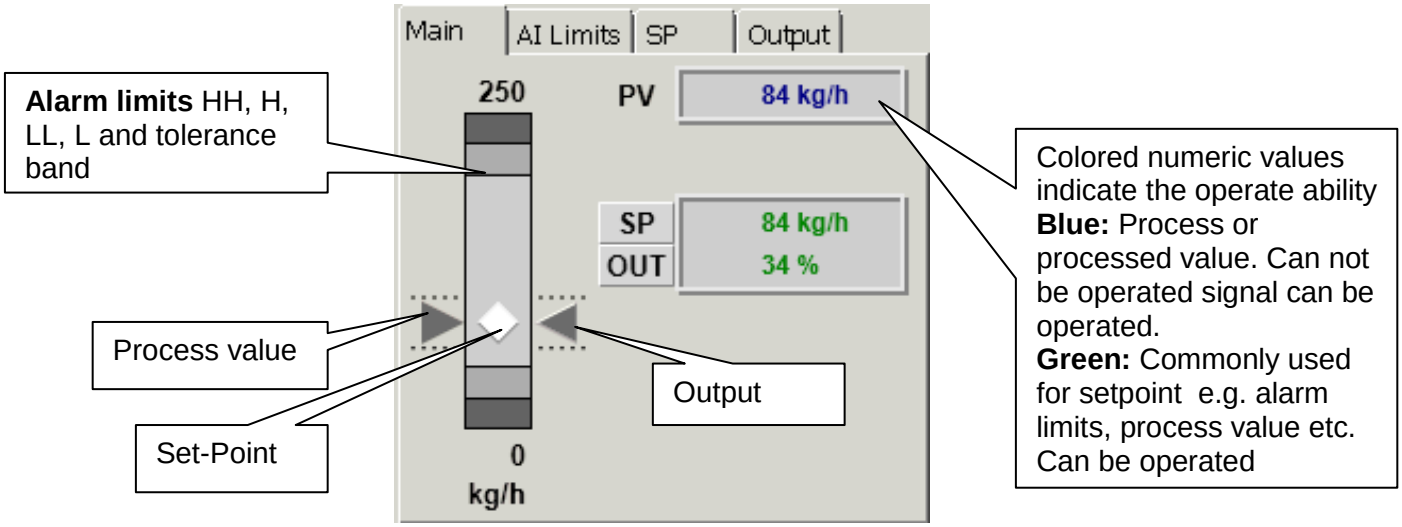


Figure 4.12: Indication area (HP HMI style)

Bargraph indication

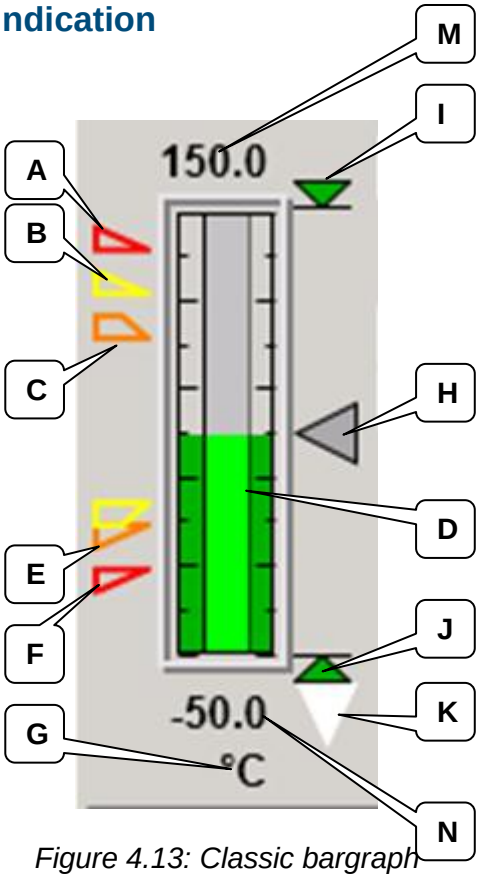


Figure 4.13: Classic bargraph

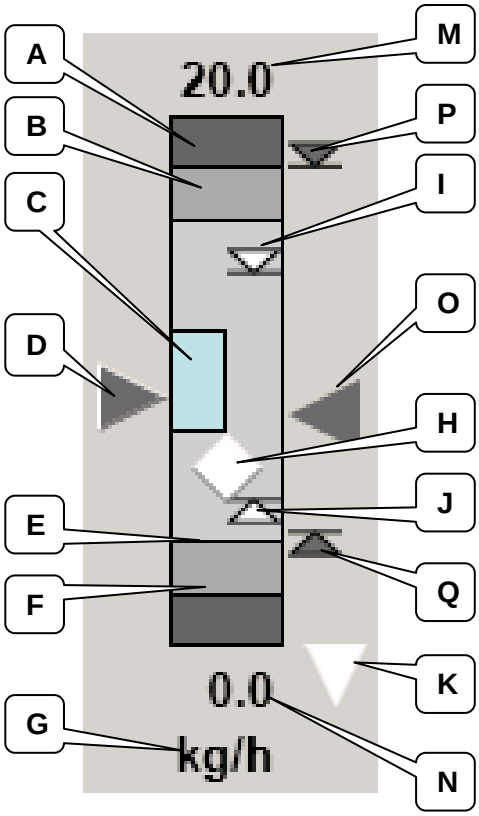
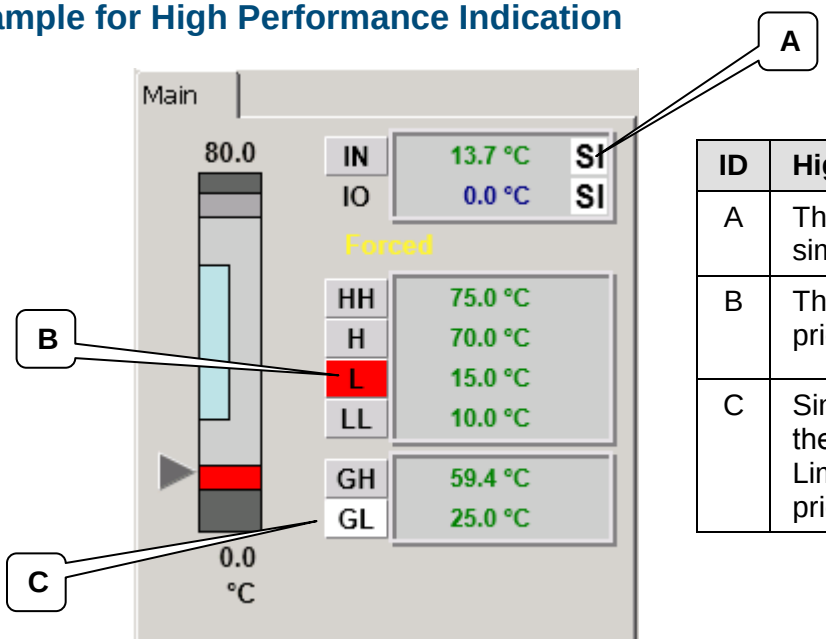


Figure 4.14: High performance bargraph

ID	Discription
A	Limit HH
B	Limit H
C	Value in good condition
D	Process value (cannot be forced in manual mode)
E	Limit L
F	Limit LL
G	Unit string for process value and setpoint
H	Setpoint
I	Maximum range indication
J	Minimum range indication
K	Maximum and minimum Transient
M	Measuring range end
N	Measuring range start
O	HPHMI Style only: Value of the open loop control output. Can be modified in manual mode. Classic style view: Output value of the closed loop controller respectively the max and min value limits is displayed in a horizontal bargraph under the numeric indication area.
P	HPHMI Style only: Max Limit of the output Classic indication: refer to ID O
Q	HPHMI Style only: Min Limit of the output Classic indication: refer to ID O

Example for High Performance Indication



ID	High Performance bar graph
A	The process value PV is forced / simulated [SI] and shows 13.7Cel.
B	The Low Limit L is reached. The priority of this limit is high (red).
C	Since the process value is out of the “Signal good condition”, the GL Limit indicated alarm with low priority (white)

Figure 4.15: Example HP bargraph

Button area

The button area is the place where the operator can control the modes of the object types.

Figure 4.16: Button area

If more than 5 buttons plus the acknowledge key must be displayed the view switches to two lines above.

Common buttons to most of the object types

Classic Style	HP Style	Description
		Set force on
		Set force off
		Set manual mode
		Set automatic mode

Classic Style	HP Style	Description
		Set command Close
		Set command Stop
		Set command Open
		Apply the selected action

Table 4-4: Common buttons to most of the object types

Refer to Appendix C: Command Icons to get a complete list of the symbols for every object type.

Faceplate view options

Figure 4.17: View selection

The different views of a Faceplate affect the size or look. The left button (1 dot) minimizes the faceplate to reduced view with most used commands and most important information on an object. This button is not used in the PC Setup Library for Melody.

The two-dot-Button shows the Main Faceplate as shown in Figure 4.4: Main Faceplate.

The tree-dot-Button shows the extended Faceplate with double size of the width. This view usually has two groups of tabs with additional process information and functionality. This view is used to display the maximum amount of information and is intended for the process engineer or the advanced operator.

A pinned faceplate will not be replaced when opening a new faceplate. The new faceplate will be opened in a separate window.

4.2 Graphic Element

Graphics elements are dynamic icons that represent real process objects, such as a motor or a valve, see Figure 4.18: Valve. In the centre of the element there is a symbol representing the object, for example a symbol of a valve, motor, or tank. There may also be text.

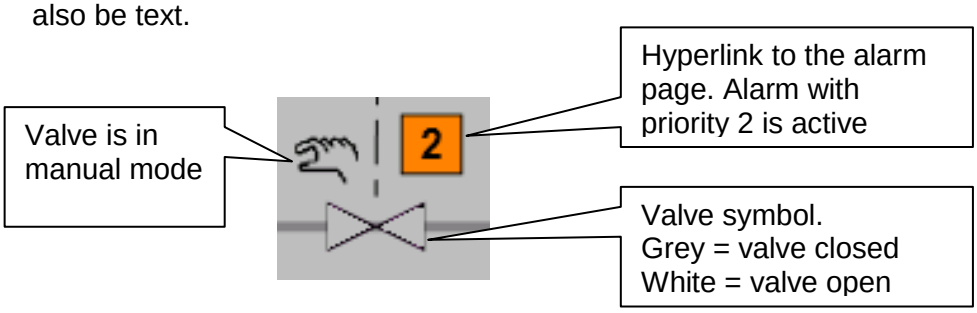


Figure 4.18: Valve HP style

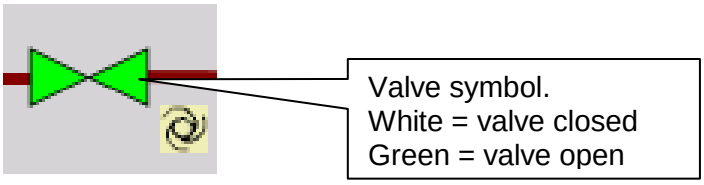


Figure 4.19: Valve classic style

The symbols next to the graphic element show object alarms, object mode, object status and other information about the object, for example if there are any Operator Notes for the object. If there is more than one alarm for the object, then only the most severe alarm state will be shown.

Refer to section 4.3 for available device icons.

Tag quality

The tag quality displays the error state of the signal. The indication is shown if a value is bad, uncertain, simulated, alarm suppressed or forced. When the value is good, the indication is invisible. The quality indicator appears in several functions such as faceplate and graphic element.

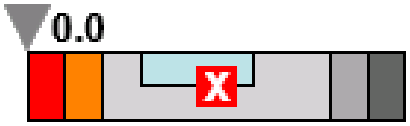


Figure 4.20: Graphic Element with tag quality indication

The position of the quality status is shown up in the center of the element but can also be customized to be indicated left, center, right or outside of the element. Only the most important quality indication is shown. The Order of displaying the quality indication is (in precedence order)

- Forced
- Bad Quality
- Uncertain Quality
- Alarms Suppressed
- Alarms Inhibited
- Interlocked

A comprehensive list of the quality tags shows Appendix A: Tag Quality

4.3 Icons for Process Objects

Icons present the current states of a process objects. They are available for the device types Bucket Wheels, Compressors, Fans, Flaps, Motors, Pumps, Valves and Lamp. Arrow and Return icons complement this set.

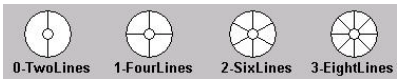
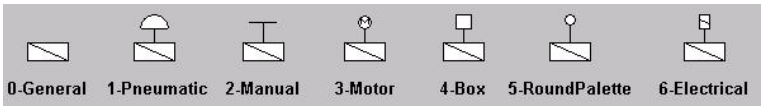
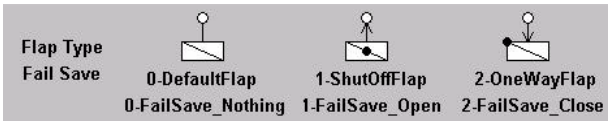
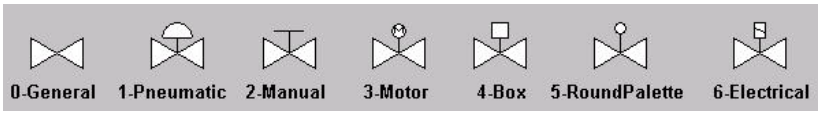
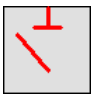
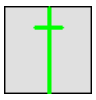
Devices	Device Types
Bucket Wheels	
Compressors	
Fans	
Flaps	 
Motors	
Pumps	
Valves	
3 Way Valve	
Return	
Lamp	
Arrow	
Switch	 

Table 4-5: Process Object Icons

The error presentation, alarm and acknowledgement status is used in all mode icons except lamp and arrow.

Status and error presentations include:

- Controller and object status indication
- Line style, width and color
- Fill color

The icons include controller and object status indication like bad or uncertain communication, simulated or forced values or alarm indication suppressed. For detailed information on the status indication refer to Appendix B: Indicator Icons.

5. Process Object Navigation

5.1 Operating

Depending on the user rights, the operator can take action into the process by modifying process set points, limits, output values etc.

Modifying values via direct entry window

Open the handle via a mouse click in the bargraph, or in the numeric field. Modify the data in the direct entry window by:

- Enter the value manually
- Click the Up and Down arrows in the direct entry window. This changes the value with an increment of 1% of the measuring range
- Use the up and down arrow keys on the keyboard. This changes the value with an increment of 1% of the measuring range
- Use the arrow keys by pushing the STRG Key with an increment of 0,1%
- Use the arrow keys by pushing the SHIFT Key with an increment of 10%
- Use the up and down arrow keys for pictures on the keyboard. This changes the value with an increment of 10% of the measuring range

Click the Apply button, or press Enter on the keyboard.

Press the Esc key on the keyboard, or click in a neutral area on the side, within the faceplate if you want to cancel the action. The direct entry window will be closed.

Check boxes

Some tab cards in the main and extended faceplates show check boxes or drop down lists where the user is able to interfere into the process.

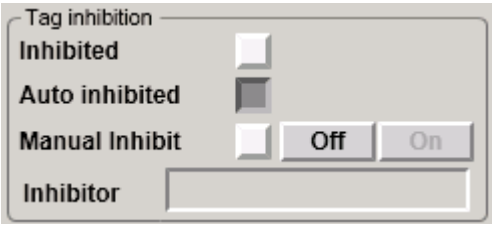
	HH Alarm/Event is enabled and can be disabled by mouse click on Off button
	show / hide check boxes for trend indication

Table 5-1: Check boxes

5.2 Calling up Faceplates

If you want to call up faceplate which shows an alarm, you can do that in three ways:

- Double click on the alarm in the Alarm Line or List
- Choosing the faceplate aspect over the alarm aspects (right click on the alarm)
- Enter the function name in the object information area

5.3 Calling up graphic displays

The easiest way to call up a graphic display a function belongs to is, to right click in the general faceplate information area and choose References. There are hyperlinks for all graphic displays where the function is included.

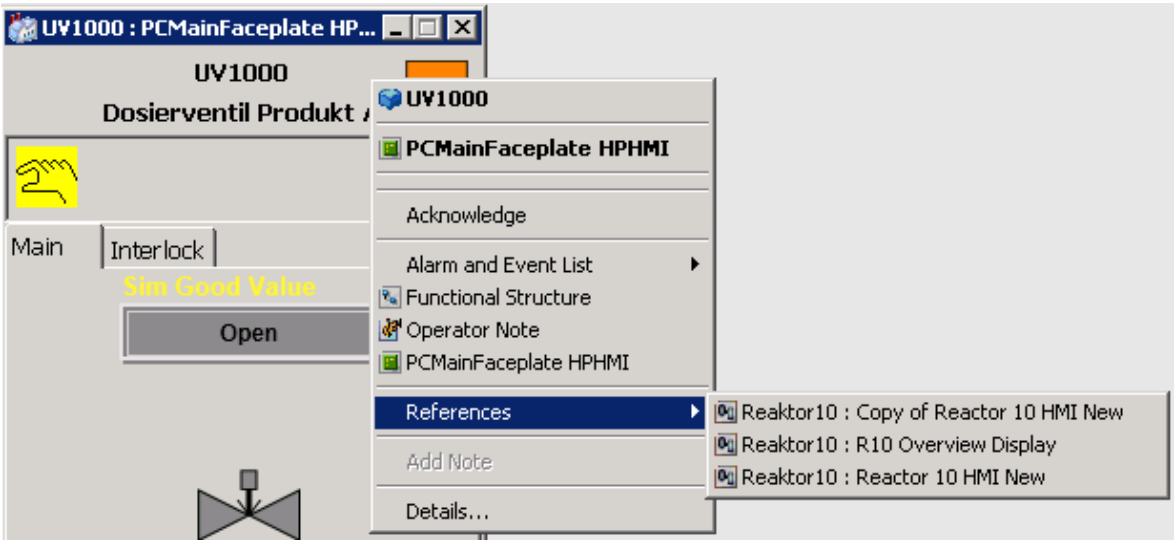


Figure 5.1: graphic call up via faceplate

After opening the graphic display, the function is indicated via a blue frame.

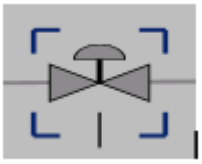


Figure 5.2: Function indication in graphic displays

5.4 Alarm Status Indication

An abnormal status of an object is being indicated on the screen in various displays.

Alarm Band

The summary display of an alarm lists indicates that an alarm was generated. An Alarm Band can cover several alarm headers and also an alarm list for system alarms.

Figure 5.3: Alarm Band with several alarm headers

Alarm List

The alarm list indicates detail information of the objects and what has caused the alarm to come up. An alarm list can cover alarms of different areas, units.

1	25.10.2010 16:30:20: TA73_	U270201	Klasse-A ausgelöst	ausgelöst
3	25.10.2010 16:20:28: TA73_	F270403	Phosphorsäure zur K2704	Gut
2	25.10.2010 16:08:04: TA73_	F270403	Phosphorsäure zur K2704	(SV Act)
3	23.10.2010 16:23:52: TA73_	H270102	N2 zum Vakuum aufheben	Runtime 0

Figure 5.4: Alarm List

Alarm Control

The upper right corner of the faceplate shows up the alarm control with a certain priority shape and color.

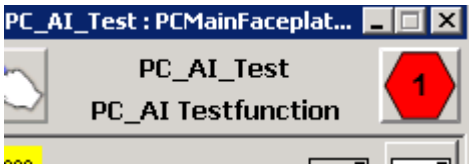


Figure 5.5: Faceplate's alarm control

An alarm control can be placed next to the graphic element indicating a certain priority shape and color (High Performance Style)

Figure 5.6: Example Alarm control next to the graphic element

Frame of a graphic element

The frame of the graphic element can be surrounded by a frame which indicates the alarm priority and color (Classic Style). The priority colors are red=Prio1, orange=Prio2, yellow=Prio3 and white=Prio4.

Figure 5.7: Alarm frame

Blinking Indication

An abnormal status, it is indicated in the following ways:

1. Blinking text or alarm control in order to highlight the acknowledge status
2. Priority color of the value or objects frame

Common to both style guides is the presentation of arriving, acknowledged and gone alarms.

Blinking indication	Description
Fast blinking (2Hz):	Alarm is initiated. Operator attention is needed!
Steady light:	Alarm has been acknowledged by an operator but is still active
Slow blinking (0.5HZ)	Alarm status returned to normal, but still to be acknowledged

Table 5-2: Blinking alarm indication

5.5 Acknowledging Alarms

When a new alarm is indicated in the Operator Workplace, the operator has following options to acknowledge the alarm.

- Acknowledge in the Alarm Line by mouse click in the white acknowledge field

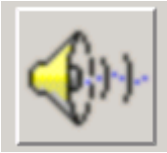
66	☒	1	18.10.2012 10:49:29:505	0	RF_PC_SFC_1	SFC 2-Branch
67	☒	2	18.10.2012 10:51:08:229	0	PC_AI_1	Analog Input Module
68	☒	2	18.10.2012 10:51:08:230	0	RF_PC_AI_1	Analog Input Module
69	☒	2	18.10.2012 10:51:08:231	0	RD_T_SFLAGBO	Binary Input Modul (BI-1)
70	☒	2	18.10.2012 10:51:08:232	0	RF_PC_CTRL_1	Fixed/Split-Range/Cas-Master
71	☒	3	18.10.2012 10:51:08:232	0	RF_PC_CNT_5	Time counting function

- Acknowledge via the Faceplate alarm indication
- Right click on the alarm and select “Acknowledge Selected”
- Acknowledge via the alarm list

5.6 Silencing acoustic signals

An acoustic signal in addition to an alarm message on the screen makes the operator sensitive that a high priority alarm was generated. It can be an internal system message or an alarm from the field. Not every alarm triggers the acoustic signal. In general it is only the high priority alarms. There are various options to configure acoustic alarms. The alarm can be silenced locally which means that alarms have to be silenced on every single workplace. If the configuration is set to globally, the silencing on one workplace applies for all other workplaces.

The way how silencing is configured is defined by filter functions. Please ask your system administrator how the silencing is configured in your plant.



The big horn icon on the top right corner of the screen is the button for silencing the hard wired external horn. This horn is in general connected to an I/O module of the system.

The small sound icon in the application bar is silencing the sound of the local client.

Appendix A: Tag Quality

The controller communication status is used as overlay and displays the error state. The indication is shown if a value is bad, uncertain, simulated, alarm suppressed or forced. The quality indicator appears in several functions such as faceplate and graphic element. When the value is good, the indication is invisible.

	Refer to document Melody Configuration (3BDD011741-510) instruction for detailed information on the tag property qualities in 800xA for Melody.

Condition	State	Signal status value	Back Color	Fore Color	Icon
Good Quality	Normal state	--			none
	Alarms inhibited	200	UserControl. BackColor	Red	\
	Alarms disabled	201	UserControl. BackColor	Red	=
	Alarms suppressed (Classic Style)	--	White	Yellow	X
	Alarms suppressed (High Performance Style)	--	White	Black	X
	Simulated (Classic Style)	--	Yellow	Black	S
	Simulated/Forced (High Performance Style)	--	White	Black	SI
	Forced (Classic Style)	--	Yellow	Black	T
	Interlocked (Classic Style)	--	UserControl. BackColor	Black	X
	Interlocked (High Performance Style)	--	White	Black	I
Bad Quality	Non specific	0	Red	White	X
	Device Failure	12	Red	White	X
	Sensor failure	16	Red	White	X
	Configuration Error	4	Red	Black	.

Condition	State	Signal status value	Back Color	Fore Color	Icon
	Not Connected	8	Red	Black	?
	Not connected	128	Red	Black	?
	Last known value	20	Red	Black	/
	Communication Failure	24	Red	Black	@
	Out of service	28	Red	Black	~
Uncertain	**Note:** Uncertain Quality is only visible when not simulated.	64	UserControl. BackColor	Red	!
	Last usable value	68	UserControl. BackColor	Red	!
	Sensor failure	80	UserControl. BackColor	Red	!
	Engineering units exceeded	84	UserControl. BackColor	Red	!
	Sub-normal	88	UserControl. BackColor	Red	!
	Unknown OPC quality	Other	UserControl. BackColor	Red	*

Table A1: Quality Indications for graphic elements

A graphic element shows the most important quality indication. The Order of displaying the quality indication is (in precedence order):

1. Bad Quality
2. Uncertain Quality and not simulated
3. Alarms inhibited or disabled
4. Alarms suppressed
5. Local override (Forced)
6. Simulated
7. Interlocked

Appendix B: Indicator Icons

The indicator icons are presenting the current state or mode of a process object in the faceplates indication area. For example, a process object that is automatic mode would be indicated by the automatic mode icon.

The maneuver icons should be used together with interaction, or objects for maneuvering process objects. The icons look like the actual buttons, for example to call up an operator note.

The table lists the standardized icons for status and mode indication.

Classic Style	HP Style	Description
		Operator Note
		Operator Note containing information
		Alarm suppressed
		Object runs with forced value (Simulated in Composer)
		Object runs with simulate value (Alternative value)
		Object is controlled manually
		Operation of the actuator locked by “Inhibit” or “Higher priority operation”
		Local operation of actuator, controller output is disconnected.
		Operation mode Lock in manual
		Operation mode Lock in automatic

Classic Style	HP Style	Description
		Normal operation interrupted, current operating mode no longer valid. Manual action by operator required to select operating mode.
		Object is run automatically by the system
		Object is in state ON
		Object is in state ON (two direction ON with IDF2)
		Object is in state OFF
		Object is stopped
		Object is running
		Object is pausing
		Object is interlocked Interlocks are used to lock out a process object from certain states during a time period. For example, a motor can either run or be stopped. If the motor cannot be run due to repairs, then the motor is interlocked and can not be started.
		Protective action effective in On direction
		Protective action effective in Off/Closed direction
		No release in Open/On direction
		Control action effective in Open/On direction

Classic Style	HP Style	Description
		No release in Closed/Off direction
		Control action effective in Off/Closed direction
		Torque monitoring is signaling a blockade of the drive Blockade 1
		Torque monitoring is signaling a blockade of the drive Blockade 0
		Functional fault, input variables and their connections are determined by the function in Melody
		External fault/disconnection on faults Reset command outputs
		Reset command outputs for the duration of the fault action
		Switchgear in test position
		Execution time error 0, End position not reached in the configured monitoring time
		Execution time error 1, End position not reached in the configured monitoring time
		End position error 0, leaving a controlled End position
		End position error 1, leaving a controlled End position
		Object is in Cascade mode or automatic external. Controller is working with external set point (if connected).
		Computer DDC (direct digital control) operating mode The control variable is specified directly by an external computer.

Classic Style	HP Style	Description
		Computer SPC (set point control) operating mode The controller works with a set point specified by an external computer.
		Override Control. Division of control range for the application of other control algorithms into extreme ranges.
		Control action on control output
		Control action on set point
		Control action on timer function
		The controller is ready to accept the control (specification of set point or control variable) from the external computer
		Synchronization of slave and master controller; the master controller control variable is adjusted to match the set point of the slave controller.
		Controller is working with internal set point
		Controller is working with external set point The combination of “Automatic” and “External set point” corresponds to “Cascade”.
		Key mode 1 No checking of criteria, no active command output
		Key mode 2 No checking of criteria, active command output
		Key mode 3 Checking of criteria, active command output
		Key mode 4 Checking of criteria, no active command output
		Yearly repeat set

Classic Style	HP Style	Description
		Monthly repeat set
		Weekly repeat set
		Daily repeat set
		Hourly repeat set
		Minute repeat set
		Second repeat set
		Output O set
		Repeat function active
		New start time elapsed after long term power fail
		Protection stop
		Reset Counter inhibited
		Enable dosing inhibited
		Stop dosing inhibited
		Full charge dosing

Classic Style	HP Style	Description
		Partly charge dosing
		Leakage
		Test position
SP+	SP+	Further dosage set point
S<A	S<A	Number of units exceeded
S>A	S>A	Number of units not reached
Poff	**Poff**	Priority unit off

Table B1: Status and Mode Icons

Appendix C: Command Icons

A command icon is used together with an interaction object. If the operator clicks on this type of icon, some function will be activated.

The table lists the standardized icons for command buttons.

Classic Style	HP Style	Description
		Confirm the action (control command)
		Switch object into manual mode. APID: The OUTPUT can be changed by the operator.
		Switch object into automatic mode. APID: The controller is working with an internal set point.
		Lock/Unlock operating mode. The current operating mode cannot be changed for as long as the lock is active.
		Release operating mode inhibited
		IDF: Direction command 1 Direction command 1 APID: Set control variable to 100 % SFLAG Boolean: Set value BFLAG Boolean: Set selected value DOSING: Dosing enabled SFC: Activate Sequence program On Within the key modes, the button can also be used for inching forwards in the off program or backwards in the on program.
		IDF2: Start second direction command SFC: Command Stop

Classic Style	HP Style	Description
		IDF: Direction command 0 Direction command APID: Set control variable to 0 % SFLAG Boolean: Reset value BFLAG Boolean: Reset selected value. DOSING: Stop dosing SFC: Start off program Within the key modes, the button can also be used for inching forwards in the off program or backwards in the on program.
		SFC: Command Abort
		SFC: Command Stop SFC
		SFC: Command Hold
		SFC: Acknowledge runtime or feedback errors
		TOTALIZER: Reset TPCOUNT: Reset DOSING: Processing reset SFC: Reset sequence to initial step (step 0)
SP+	**SP+**	DOSING: Further dosage set point
		DOSING: Part charge dosing
		DOSING: Full charge dosing
		Resetting the alternative value. As soon as the condition for switching to an alternative value is no longer present, the current actual value is activated by selecting the key.
		Simulate (Alternative value)

Classic Style	HP Style	Description
		Reset Simulation
		COA: Set priority to following unit. Command must be completed with OK and will be active after e. g. T=5 sec.
		COA: Set priority to preceded unit. Command must be completed with OK and will be active after e. g. T=5 sec.
		Cascade mode or automatic external Controller is working with external set point (if connected).
		Computer mode, sets the requirement for accepting control from the external computer
		Controller can be switched to internal set point
		Controller can be switched to external set point The combination of “Automatic” and “External set point” corresponds to “Cascade”.
		Key mode 1 No checking of criteria, no active command output
		Key mode 2 No checking of criteria, active command output
		Key mode 3 Checking of criteria, active command output
		Key mode 4 Checking of criteria, no active command output
		Switch to yearly repeat
		Switch to monthly repeat
		Switch to weekly repeat

Classic Style	HP Style	Description
D	D	Switch to daily repeat
h	h	Switch to hourly repeat
m	m	Switch to minute repeat set
s	s	Switch to second repeat set

Table C1: Command Buttons

Appendix D: Security

In 800xA for Melody the different OPC items are set to default access permission depending on the semantic of the item. 800xA for Melody provides basic settings for read, write, and operate permission.

	Refer to the Industrial IT, 800xA for Melody, Configuration (3BDD011741-510) instruction for more detailed information on Security settings in 800xA for Melody.

An OPC item can be represented by a faceplate key. Faceplate keys are sensitive if the operation is allowed for the user, which is logged in. If a user does not have the permission the faceplate keys are grayed out. For example: Guest User. The guest user can just view and not operate at all. This means the guest user will have the permission to see the faceplates but not operate. All faceplate keys are grayed out for the guest user.

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.

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

Figure D1 Config Tab

Refer to document 3BDA033456R5107EN Installation and Configuration in order to change the default write permission.

3BDA033439R5105EN_Operation

Germany 2012-09-26

Copyright © 2012 by ABB. All Rights Reserved
® Registered Trademark of ABB.
™ Trademark of ABB.

BU Chemical and Pharmaceutical
Frankfurt, Germany
www.abb.com/Chemical