DeltaV Operator Keyboard

The Operator Keyboard can be part of an entire ergonomically designed operator console environment

- User-configured dedicated operator buttons

- Totally configurable keyboard layout

- Display-based alarming strategy

- Easy to configure using standard DeltaV Operator Station graphic tools

Introduction

DeltaV Operator Keyboard provides a flexible, easy-to-configure custom, dedicated operator keyboard for DeltaV workstations. Using a Touchscreen flat-panel monitor as the keyboard, the operator keyboard provides your operators the ability to navigate through displays, respond to alarms and perform control functions using a familiar keyboard-style interface.

Benefits

User-configured dedicated buttons. The operator keyboard is totally configurable by the user. Using the same tools and techniques used on the operator graphics, you can easily create an operator keyboard environment to match the needs of your operators. You can add alarm buttons, display direct access buttons, and module direct access buttons—plus you can easily develop your own user-specific set of button functions.

Totally configurable keyboard layout. You can lay out any number of alarm buttons, navigation keys or other direct-action buttons to allow the operator quick and easy access to control features and functions. By using pop-up windows as nested keypads, a virtually unlimited number of operator buttons can be created.
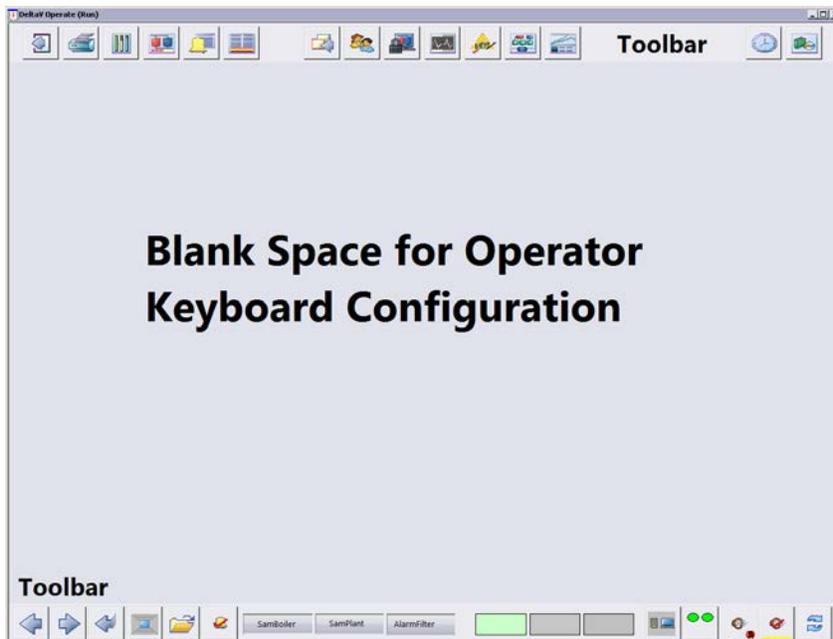
Display-based alarming strategy. The use of dedicated alarm buttons provides the ability to create alarm annunciation based on familiar pattern-recognition techniques. The operator keyboard allows the operator to easily recognize specific alarm annunciation patterns and quickly assess the alarm conditions of different units.

Easy to configure using standard Operator Station graphic tools. There's no need to learn a new configuration method. The operator keyboard uses the familiar display-building tools that are used to create operator graphics. There is a set of tools to facilitate the creation of the operator keyboard buttons and to help with navigation among the multiple operator screens. These additional tools complement the existing DeltaV Operate graphic tools and can be customized using the same scripting techniques as the existing tools.
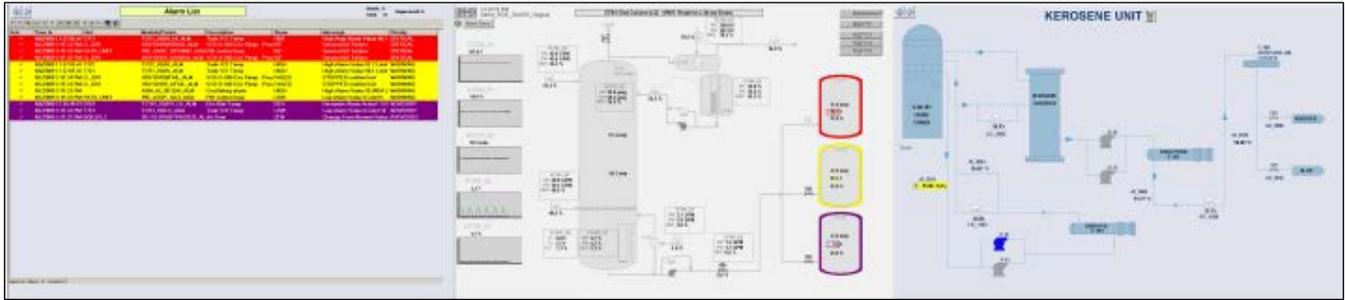
Product Description

The DeltaV Operator Keyboard provides an operator keyboard function using a Touchscreen monitor as the physical keyboard. The graphic on this monitor is the location where all of the operator functions are done. It contains upper and lower tool bars with preconfigured buttons for operator action, while the center of the screen is a blank space used to construct the user-specific operator keyboard buttons. Unlike the other graphic screens, the keyboard screen is locked to prevent its being replaced, so it remains visible at all times.

The upper toolbar contains the standard DeltaV buttons for accessing alarm summaries, programs, help or functions. The lower toolbar contains buttons specific to navigating among the operating screens. The lower toolbar buttons provide the operator easy access to open displays on the other screens, swap displays between screens, scroll displays on the screens, silence the alarm horn, and to perform other keyboard related functions.

The blank area provides space to create the user-specific operator keyboard

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The blank space is totally available for the user to create a custom keyboard for the operator. See figure 2 for an example. The example shows a 5 x 8 grid of alarm buttons. Four buttons have been assigned to alarm groups, with the light gray buttons serving as placeholders for future use. The colored buttons below the grid are navigation buttons which allow the operator direct access to different operator graphics. The light gray buttons under the grid provide direct access to specific control module faceplates. Note that this is just an example, and a user can totally configure the keyboard space in any manner desired. By using standard graphic dynamos for the keyboard functions, you can extend the customization of the keyboard by creating a unique set of buttons.

An example operator keyboard layout. The blank space for the faceplate is optional and keyboard buttons could fill the entire space.

Improved Alarm Handling

The alarm buttons not only indicate alarm conditions; they can also easily indicate the priority of the alarm to the operator. Using a color based on the priority of the alarm, the operator can see which units are in alarm and can also easily determine which units need attention first. The buttons will flash to indicate unacknowledged alarms, so the operator can easily see where to turn his attention next. The fixed button position allows you to place critical units at specific locations on the keyboard so the operator can quickly respond to the alarms on most critical units.

Duplicate Existing Keyboard Layouts

The DeltaV Operator Keyboard will help reduce costs when moving to a DeltaV system. With the totally configurable keyboard, it is easy to duplicate an existing keyboard layout to help operators transition to a DeltaV system. By recreating a familiar operations layout the operators do not have to learn a new way to interface with the control system. Being more comfortable in the familiar environment, operators will more easily gain confidence in using the DeltaV system, thereby reducing training costs and maintaining operator productivity during the transition.

The faceplate will come up on a dedicated section of the screen with a data entry keypad sized for touchscreen use.

Control Changes from the Operator Keyboard

The operator keyboard also allows the operator to make control changes on the keyboard screen using the Touchscreen. A faceplate will open in a dedicated location of the keyboard screen along with a keypad for data entry, using the Touchscreen. See figure 3 for an example of this function. The data entry panel provides buttons sized to allow ease of operation using the Touchscreen. The separate keypad, which can be closed while leaving the faceplate still visible, allows the faceplate to remain open for future operator actions without being so large as to take up an excess portion of the keyboard. The data entry panel provides mode buttons as well as fast and slow slew buttons for the output and setpoint functions. Multiple faceplates can also be opened on the operator graphics screens as usual.

Operator Graphics

The other operating screens can have full screen operator graphics. The operator keyboard workstation can be setup using either 2 or 3 screens in addition to the keyboard.

Having all of the operator functions on the keyboard allows operator graphics to use the full screen of the monitors, providing more information for your operators on a single screen. These displays are built using a full-screen template, and they use all of the standard DeltaV Operate graphic building techniques and tools. Use existing graphic building experience—there's nothing new to learn.

The three operator graphics are full screen – all of the navigation and interface functions are done at the keyboard.

New graphic elements provide the tools necessary to manage the graphic navigation using the multiple monitors. New functions allow the operator to swap displays between any of the operator graphic monitors, select which monitor to act as the working screen, and to open displays from a drop-down list on any of the operator graphic screens.

When opening a single graphic performance is comparable with a single monitor workstation. However, if multiple graphics are opened simultaneously, the graphic call-up times are additive (e.g. 2 simultaneous graphics take 2x the call-up time as a single graphic).

Workstation Furniture for the Operator Keyboard

The DeltaV Operator Keyboard requires no specific furniture style or arrangement. The keyboard and monitors can be mounted vertically in a square 2 x 2 or rectangular 1 x 3 or 1 x 4 monitor arrangements. The keyboard monitor can be mounted in a desktop, in a desktop wedge, or in virtually any configuration that conforms to the space in the control room

System Compatibility

DeltaV version 9.3 or later is required.

The Operator Keyboard supports both wide screen and 4:3 aspect ratio monitors.

Emerson provides monitors so that the entire workstation can be ordered from Emerson. Emerson provided monitors are tested and supported for use on the DeltaV system. However, you may obtain monitors from other sources.

Monitor physical appearances change periodically and without notice from monitor suppliers. We cannot guarantee that physically compatible monitors will be available at all times. If you require that any spare or replacement monitors be physically compatible with installed monitors, then spare or replacement monitors must all be ordered at the same time the initial workstation is ordered.

 Touchscreen monitors are optional – even the Operator Keyboard can be driven using the mouse. We support only Microtouch ClearTouch 3000 capacitive technology Touchscreens.

DeltaV Operator Keyboard

Ordering Information

Description	Model Number
Four-Monitor Workstation License	VE2104K01

Related Products

- **DeltaV Operate.** High performance operator graphics, trends and alarms offered in standard operating layouts and utilizing system-wide built-in security.

- **DeltaV Four Monitor Workstation.** DeltaV Operate support of up to four screens for monitoring your process.

Not Supported Products

- **DeltaV Operate for PROVOX.** Replaces PROVOX consoles for a single integrated operator interface for both PROVOX and DeltaV systems.

- **DeltaV Operate for RS3.** Replaces RS3 consoles for a single integrated operator interface for both RS3 and DeltaV systems.

Related Hardware Products

- **DeltaV Workstation Hardware** Select from a variety of PC and server hardware, tested and preloaded with DeltaV software.

- **Touchscreen.** Allows displays to interact directly to operators' touch.

Prerequisites

- DeltaV Operate software is required.

- A DeltaV Four-Monitor Workstation license is required for each DeltaV Operator Keyboard console.

- The DeltaV Operator Keyboard is supported only on the workstation included in the DeltaV Workstation Hardware Product Data Sheet. It is extremely important that the computer supporting the Operator Keyboard be ordered from Emerson to ensure that you obtain the supported hardware elements. We specifically do not support the Operator Keyboard on any other hardware configuration, including different computers or other video cards.

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Process Management