

Dials & Gauges Blockset Release Notes

The “Dials & Gauges Blockset 1.1.2 Release Notes” on page 1-1 describe the changes introduced in the latest version of the Dials & Gauges Blockset. The following topics are discussed in these Release Notes:

- “New Features” on page 1-2
- “Upgrading from an Earlier Release” on page 1-3
- “Known Software and Documentation Problems” on page 1-4

The Dials & Gauges Blockset Release Notes also provide information about the earlier versions of the product, in case you are upgrading from a version that was released prior to Release 12. If you are upgrading from a release earlier than Release 12, you should also see “Dials & Gauges Blockset 1.1.1 Release Notes” on page 2-1.

Printing the Release Notes

If you would like to print the Release Notes, you can link to a PDF version.

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New Features

This section summarizes the new features and enhancements introduced in the Dials & Gauges Blockset 1.1.2.

If you are upgrading from a release earlier than Release 12.1, then you should see “New Features” on page 2-2.

Examples of Displaying Multiple Input Values

The documentation uses two new example models to illustrate two different techniques for displaying multiple input values simultaneously on a multiple-component gauge. One model simulates a stopwatch that has multiple needles, while the other model varies multiple portions of a pie chart. See “Controlling Multiple Graphical Elements” for details.

Upgrading from an Earlier Release

This section describes the upgrade issues involved in moving from the Dials & Gauges Blockset 1.1.1 to Version 1.1.2.

If you are upgrading from a version earlier than 1.1.1, then you should see “Upgrading from an Earlier Release” on page 2-4.

Change in Numerical Value of Buttons and Switches

In earlier versions of the Dials & Gauges Blockset, ActiveX control blocks in the Buttons & Switches library returned a numerical value of -1 when they were in the “on” state. As of Version 1.1.2, the same blocks return a numerical value of 1 when they are in the “on” state. The “off” state is unaffected by this change, and continues to return a numerical value of 0.

Note More generally, this change in behavior applies to your own ActiveX controls if they return a property whose data type is Boolean.

Here are two possible ways to upgrade your existing models that use button or switch blocks:

- If the model contains a “Button convert to Simulink” block at the output port of the button or switch block, then remove the “Button convert to Simulink” block.
- Otherwise, insert a Gain block at the output port of the button or switch, using a value of -1 for the **Gain** parameter. The Gain block is in the Simulink Math library.

If you previously used a Data Type Conversion block to convert to a Simulink Boolean value, then you do not need to change your model.

Removal of Dialog Box Field for Off-Block Controls

The **Event on which to output** field has been removed from the **Block Parameters** dialog box for off-block controls. Off-block dials are not supported.

Known Software and Documentation Problems

You can see a list of known software and documentation problems in Version 1.1.2. If you are viewing these Release Notes in PDF form, please refer to the HTML form of the Release Notes, using either the Help browser or the MathWorks Web site and use the link provided.

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New Features

This section introduces the new features and enhancements added in the Dials & Gauges Blockset 1.1.1 since the Dials & Gauges Blockset 1.0 (Release 11.1).

Real-Time Workshop Support

You can now use Real-Time Workshop to generate code from models that include Dials & Gauges Blockset blocks.

For dials, the code you generate contains static values (i.e., the value specified at the time of code generation). Gauges are ignored during code generation, except through the use of external mode (see below). If you want to manipulate dials and view the gauges, you can do so through the Real-Time Workshop's external mode.

External Mode Support

The Dials & Gauges Blockset 1.1.1 support for external mode allows you to incorporate dials and gauges into any target that you can connect to through external mode (e.g., the xPC Target and Real-Time Windows Target environments; see the documentation for those products for details).

For more information about external mode, see the “External Mode” section of the Real-Time Workshop documentation.

Block Parameters Dialog Boxes Enhanced

A new field, **Event on which to output**, has been added to the **Block Parameters** dialog box for dials.

This field has been added to allow dial controls to be more efficient. In the Dials & Gauges Blockset 1.0, at each time step Simulink queried the dial for its value. Now, in the Dials & Gauges Blockset 1.1.1, when you move a dial, an event occurs that changes the output value of the block. This new event-driven approach is more efficient than the former approach of repeatedly requesting the same information at successive time steps.

The **Event on which to output** field allows you to specify what events will cause the value of the output to be updated.

Note The field that was called **Event** in the Dials & Gauges Blockset 1.0 has been renamed in the Dials & Gauges Blockset 1.1.1; it is now called **Other events and handlers**.

New Demos Added

The Global Majic ActiveX Library, `dng_gmslib`, contains two new demo sublibraries:

- Demo Aircraft Instruments
- Demos Joystick Control

These sublibraries contain ActiveX controls that use time-limited evaluation licenses from Global Majic, Inc. Contact The MathWorks for details about purchasing full licenses for those controls.

Upgrading from an Earlier Release

This section describes the upgrade issues involved in moving from the Dials & Gauges Blockset 1.0 to the Dials & Gauges Blockset 1.1.1.

Double-Clicking on Block Borders

In the Dials & Gauges Blockset 1.0, double-clicking on the border of a block displayed the **Block Parameters** dialog box. Now, in the Dials & Gauges Blockset 1.1.1, double-clicking on a block that is supplied with the blockset (i.e., a built-in block) displays the ActiveX Control property sheet. If you double-click on a user-created block, the **Block Parameters** dialog box is displayed (i.e., the behavior is the same as it was for the Dials & Gauges Blockset 1.0).

Values Inserted in the “Event on which to output” Field

When you open a Dials & Gauges Blockset 1.0 model with the Dials & Gauges Blockset 1.1.1, default values may be automatically inserted in the **Event on which to output** field. This occurs for built-in Dials & Gauges Blockset blocks when this field is empty. See “Block Parameters Dialog Boxes Enhanced” on page 2-2 for details.