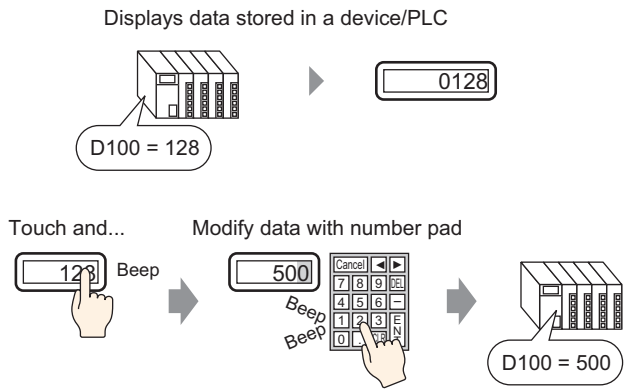
14 Data Display/ Data Input

This chapter explains how to use "Data Display & Data input" to place data display parts. Please start by reading "14.1 Settings Menu" (page 14-2), and then turn to the corresponding page.

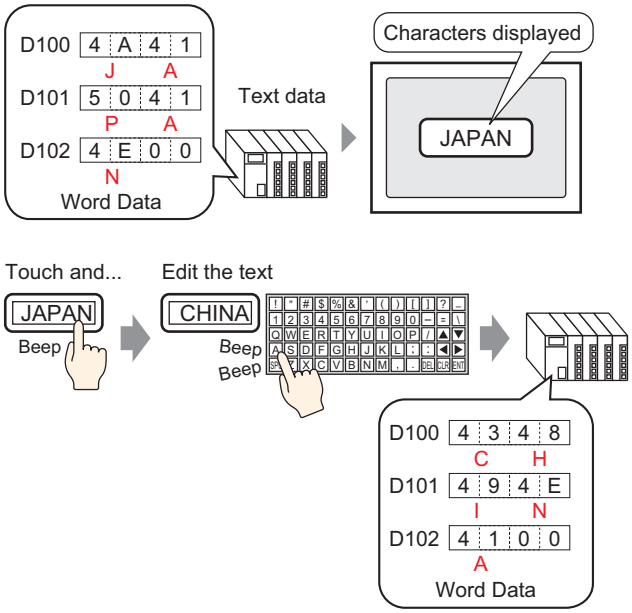
14.1 Settings Menu

Displaying/Inputting Numeric Data



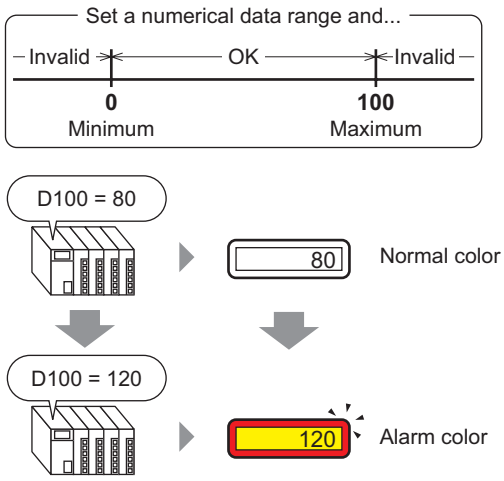
☞ Setup Procedure (page 14-6)
☞ Introduction (page 14-5)

Displaying/Inputting Text Data



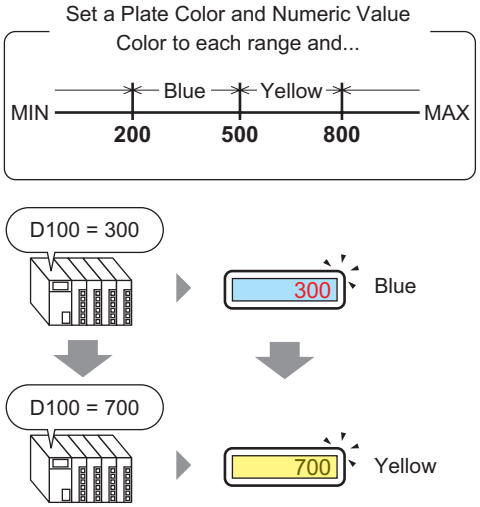
☞ Setup Procedure (page 14-9)
☞ Introduction (page 14-8)

Displaying Numerical Data as an Alarm



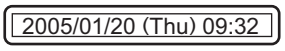
☞ Setup Procedure (page 14-13)
☞ Introduction (page 14-12)

Color-coding and Displaying Multiple Ranges



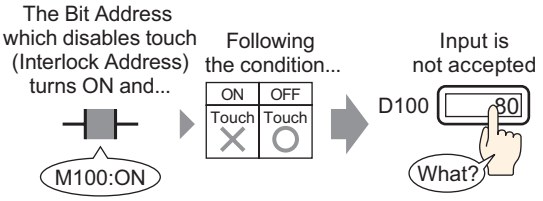
☞ Setup Procedure (page 14-17)
☞ Introduction (page 14-16)

Displaying the Date and Time



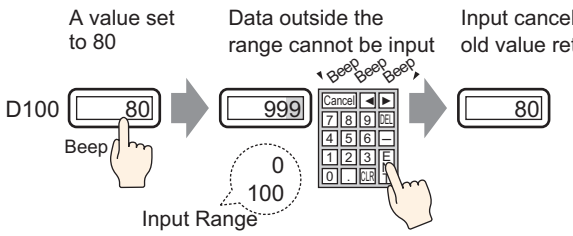
☞ Setup Procedure (page 14-23)
☞ Introduction (page 14-22)

Preventing Operational Errors By Using Interlock



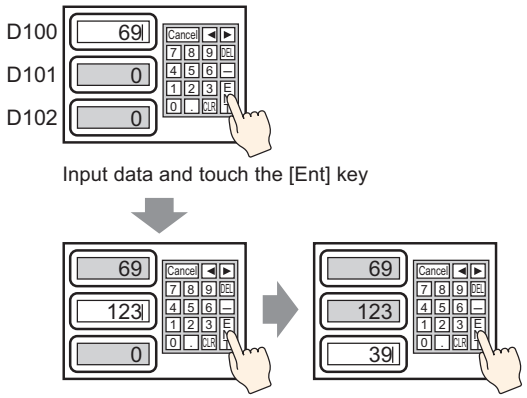
☞ Setup Procedure (page 14-26)
☞ Introduction (page 14-25)

Prevent Entering Data Outside the Allowed Range



☞ Setup Procedure (page 14-30)
☞ Introduction (page 14-29)

8 x16 Dots Sequential Input



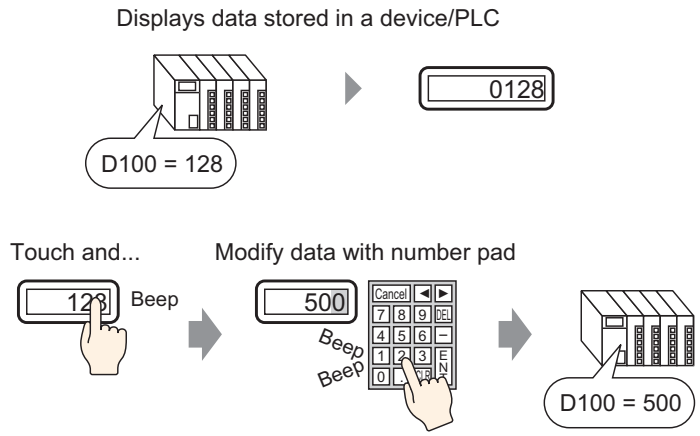
☞ Setup Procedure (page 14-34)
☞ Introduction (page 14-33)

Changing Values by Adding/Subtracting data

☞ Setup Procedure (page 14-38)
☞ Introduction (page 14-37)

14.2 Displaying/Inputting Numeric Data

14.2.1 Introduction

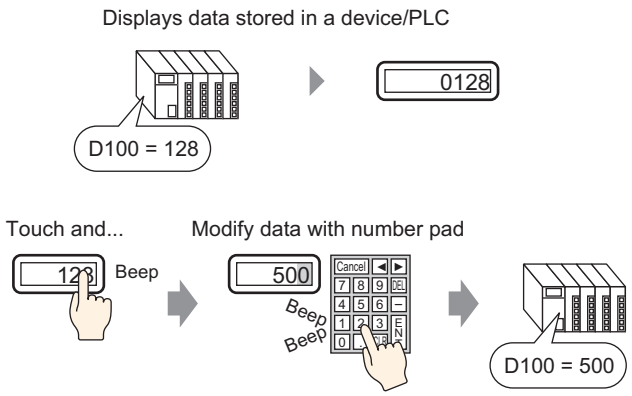


Display data stored in a designated word address in the device /PLC as a numeric value. Furthermore, by specifying Input Permission settings, you can display a number pad on the screen and input data to a designated word address.

14.2.2 Setup Procedure

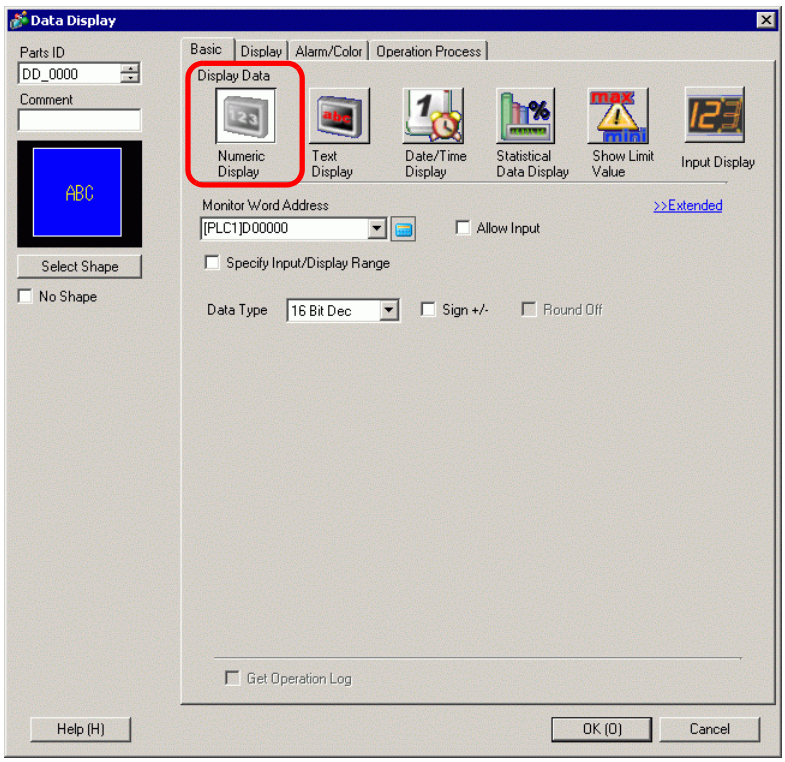
NOTE

- Please refer to the Settings Guide for details.
  ☞"14.11.1 Numeric Display" (page 14-44)
- For details of the part placement method and the address, shape, color, and label setting method, refer to the "Part Editing Procedure".
  ☞"8.6.1 Editing Parts" (page 8-44)



1 On the [Parts (P)] menu, select [Data Display (D)] and then click [Numeric Display (N)], or click the icon, and place it on the screen.

2 Double-click the placed Data Display. The following dialog box appears.

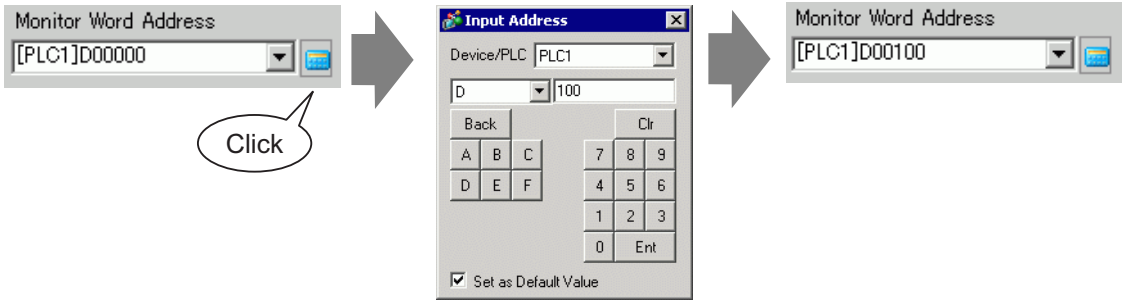


3 Select the Data Display shape from [Select Shape].

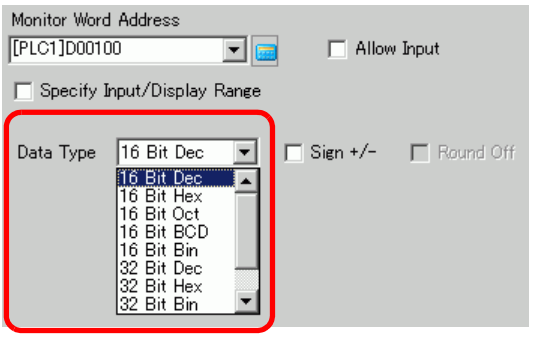
4 In [Monitor Word Address], set the address (D100) that will store the Value to display.

Click the icon to display an address input keypad.

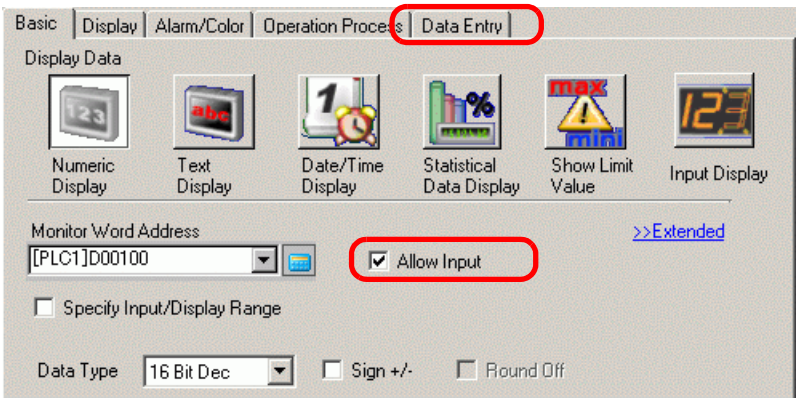
Select device "D", input "100" as the address, and press the Enter key.



5 In the [Data Type] drop-down list, set the type of data to display (for example, "16 Bit Dec").



6 Select the [Allow Input] check box. Ensure the [Enable Popup Keypad] check box is selected. You can enter numerical data from the pop-up keypad.



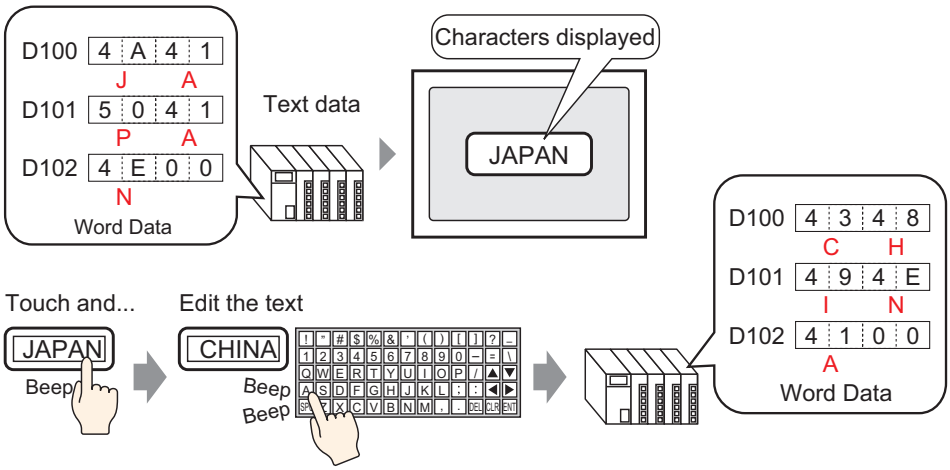
NOTE

- This cannot be set when only numeric data displays.

7 As needed, set the Data Display color and text on the [Alarm/Color] tab and [Display] tab, and click [OK].

14.3 Displaying/Inputting Text Data

14.3.1 Introduction



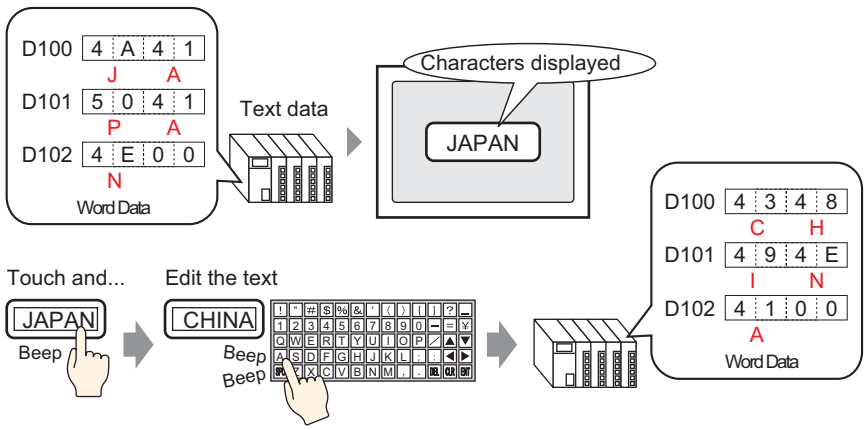
Display text data stored in a specified word address on the device (PLC).
There are two methods for changing Text Data: change the displayed screen, or use a trigger bit.

Furthermore, by specifying Allow Input settings, you can display a keypad on the screen and input text data to a designated word address.

14.3.2 Setup Procedure

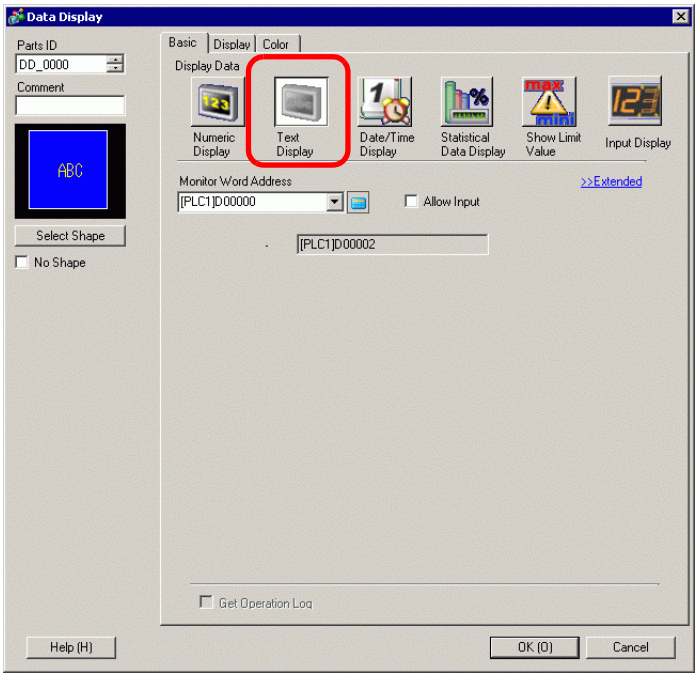
NOTE

- Please refer to the Settings Guide for details.
  ☞"14.11.2 Text Display" (page 14-87)
- For details of the part placement method and the address, shape, color, and label setting method, refer to the "Part Editing Procedure".
  ☞"8.6.1 Editing Parts" (page 8-44)



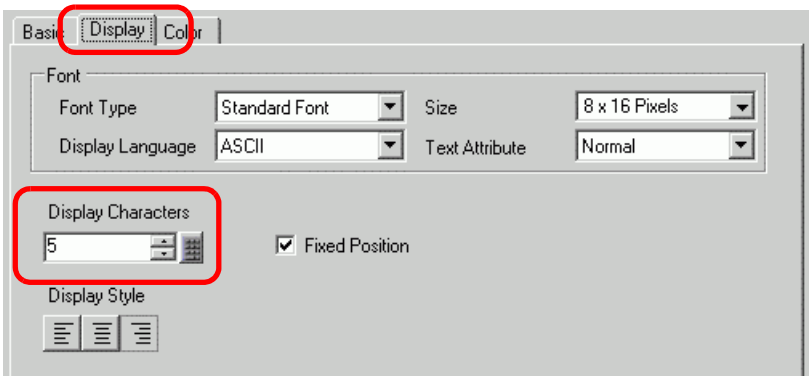
1 On the [Parts (P)] menu, select [Data Display (D)] and then click [Text Display (S)], or click  and place it on the screen.

2 Double-click the placed Data Display. The following dialog box appears.



3 Select the Data Display shape from [Select Shape].

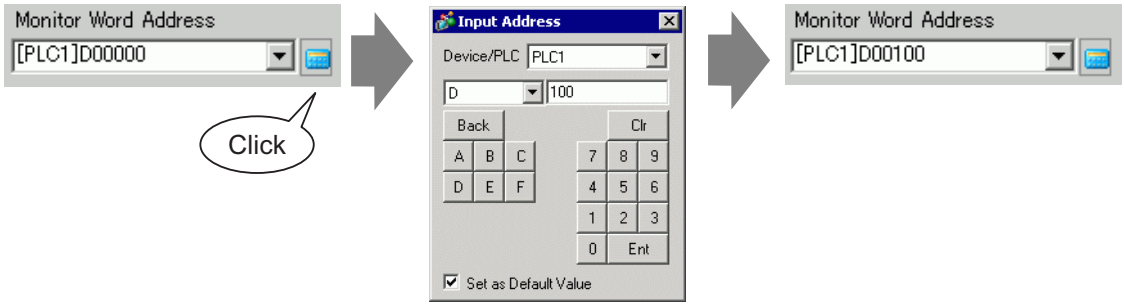
4 Click the [Display] tab, and enter the number of characters from 1 to 100 into the [Display Characters] field. When working with double-byte characters, each double-byte character counts as two characters.



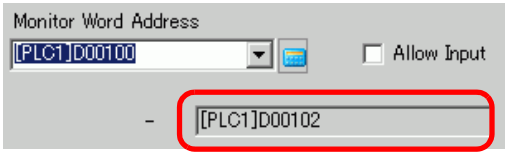
5 Click the [Basic Settings] tab, and in [Monitor Word Address], set the address (D100) that will store the Value to display.

Click the icon to display an address input keypad.

Select device "D", input "100" as the address, and press the Enter key.



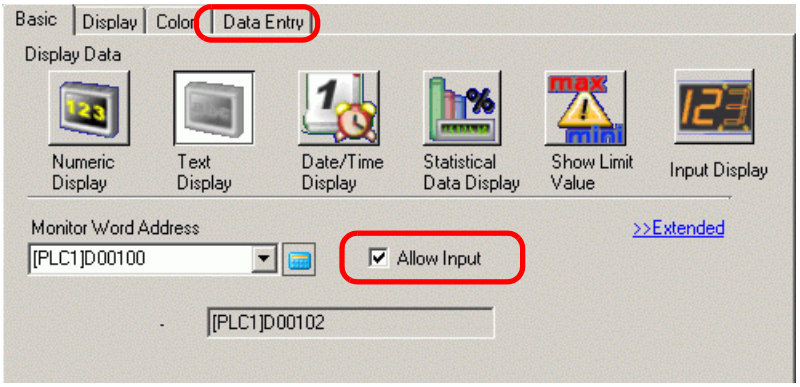
6 The last address of the Word Address (Monitor Word Address + Display characters) displays.



NOTE

- Use two characters for one word in single-byte characters, and one character for one word in double-byte characters.

7 Select the [Allow Input] check box. Ensure the [Enable Popup Keypad] check box is selected. You can enter text data from the pop-up keypad.



NOTE

- This cannot be set when only text data displays.

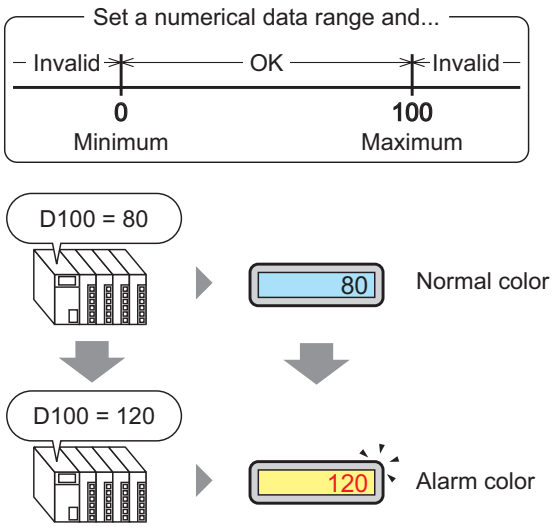
8 If necessary, set the Data Display color and text on the [Color] tab and [Display] tab, and click [OK].

NOTE

- For more information about Text Displays, refer to "14.12.1 Text Display Restrictions" (page 14-118).

14.4 Displaying Numerical Data as an Alarm

14.4.1 Introduction

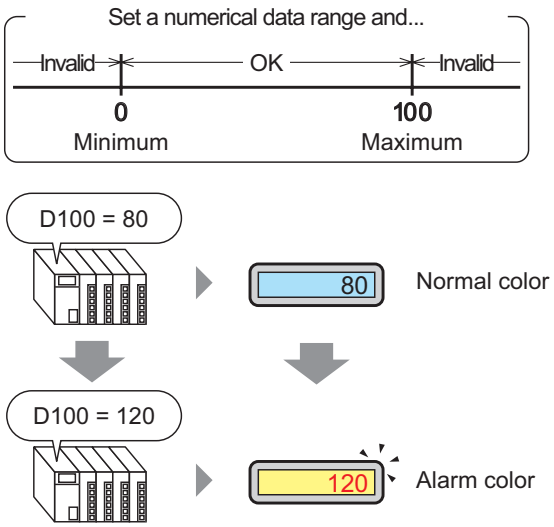


Set a range with preset numeric values.
If the numerical data is outside the range, the display color changes and the user is notified (for example, with an alarm).

14.4.2 Setup Procedure

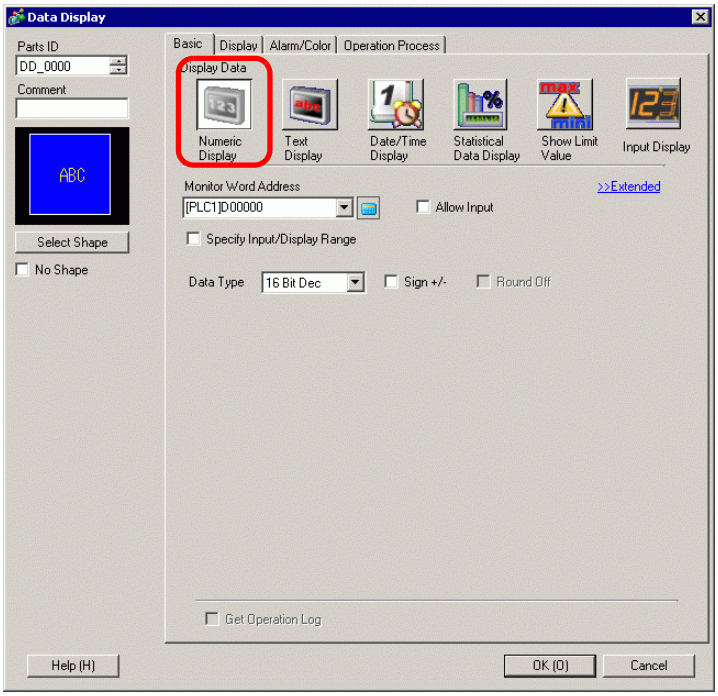
NOTE

- Please refer to the Settings Guide for details.
  ☞"14.11.1 Numeric Display ■ Alarm/Color Settings/Basic" (page 14-77)
- For details of the part placement method and the address, shape, color, and label setting method, refer to the "Part Editing Procedure".
  ☞"8.6.1 Editing Parts" (page 8-44)



1 On the [Parts (P)] menu, select [Data Display (D)] and then click [Numeric Display (N)], or click the icon, and place it on the screen.

2 Double-click the placed Data Display. The following dialog box appears.

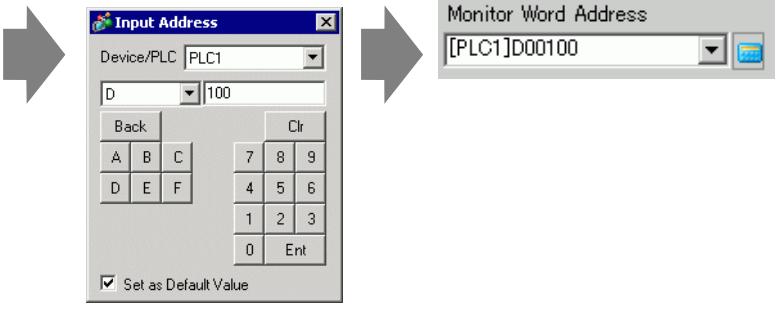


3 Select the Data Display shape from [Select Shape].

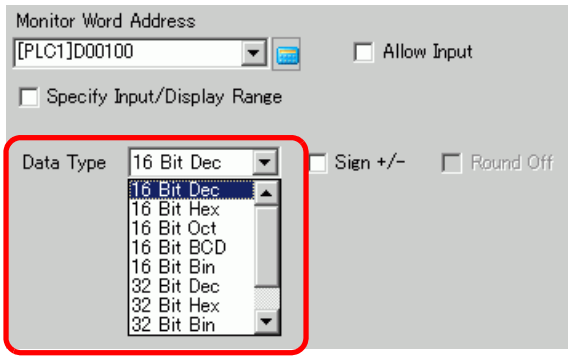
4 In [Monitor Word Address], set the address (D100) that will store the Value to display.

Click to display an address input keypad.

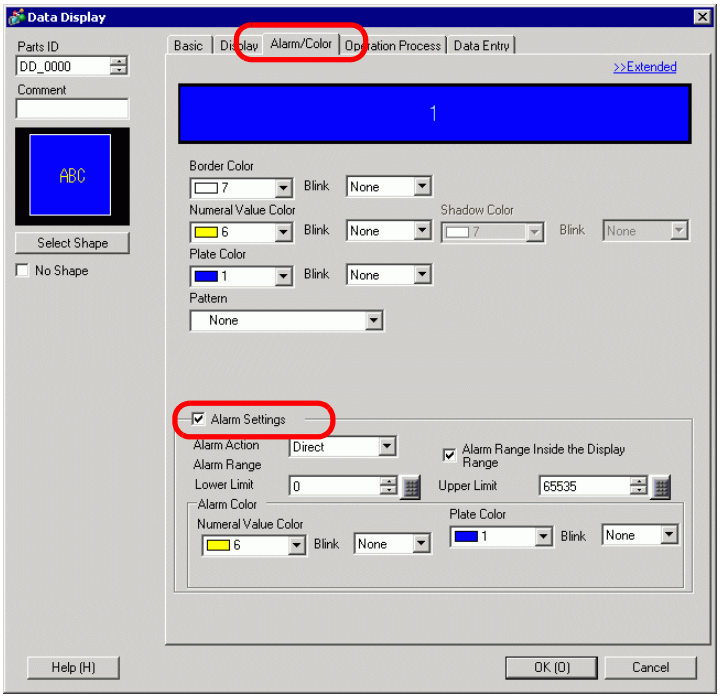
Select device "D", input "100" as the address, and press the Enter key.



5 In the [Data Type] drop-down list, set the type of data to display (for example, "16 Bit Dec").

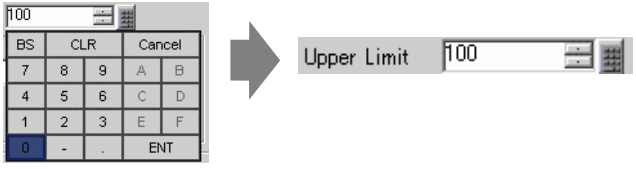


6 Click the [Alarm/Color] tab, and select the [Alarm Settings] check box.



7 In [Alarm Action], select the Upper/Lower Limit Value specification method from either [Direct] or [Address] (for example, [Direct]).

8 In [Alarm Range], set the Upper Limit (for example, 100) and Lower Limit (for example, 0).

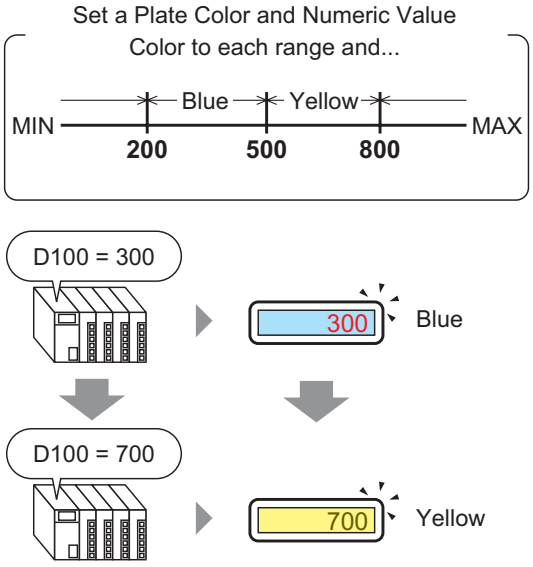


9 In [Alarm Color], set the [Numeral Value Color] (for example, Red) and the [Plate Color] (for example, Yellow).

10 As needed, set the Data Display text on the [Display] tab, and click [OK].

14.5 Color-coding and Displaying Multiple Ranges

14.5.1 Introduction

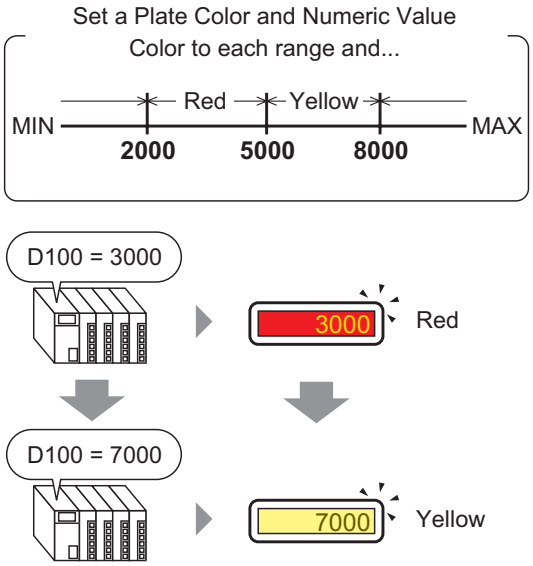


By setting colors for each range, values will change colors when they reach the set range. You can change the Plate/Text color.

14.5.2 Setup Procedure

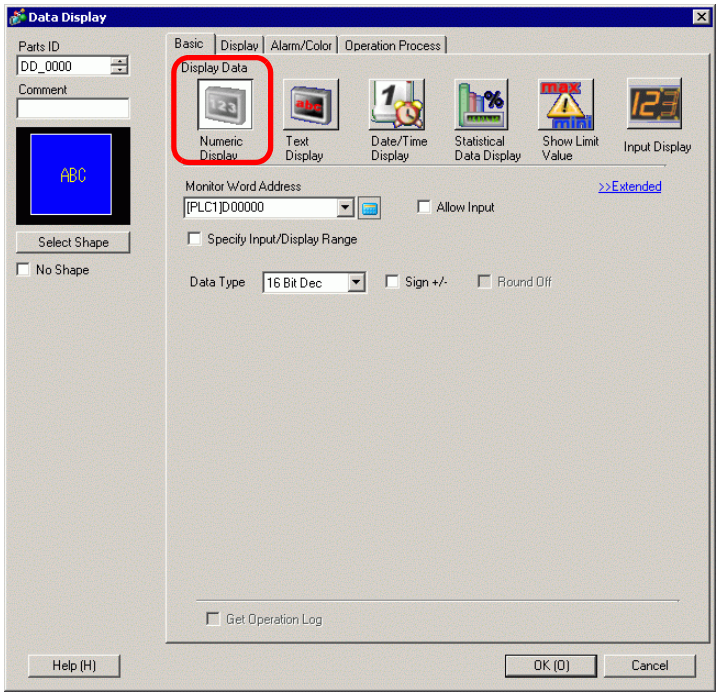
NOTE

- Please refer to the Settings Guide for details.
  ☞"14.11.1 Numeric Display" (page 14-44)
- For details of the part placement method and the address, shape, color, and label setting method, refer to the "Part Editing Procedure".
  ☞"8.6.1 Editing Parts" (page 8-44)



1 On the [Parts (P)] menu, select [Data Display (D)] and then click [Numeric Display (N)], or click the icon, and place it on the screen.

2 Double-click the placed Data Display. The following dialog box appears.

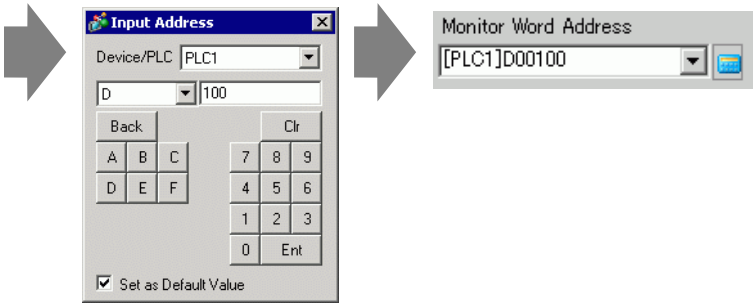


3 Select the Data Display shape from [Select Shape].

4 In [Monitor Word Address], set the address (D100) that will store the Value to display.

Click to display an address input keypad.

Select device "D", input "100" as the address, and press the Enter key.

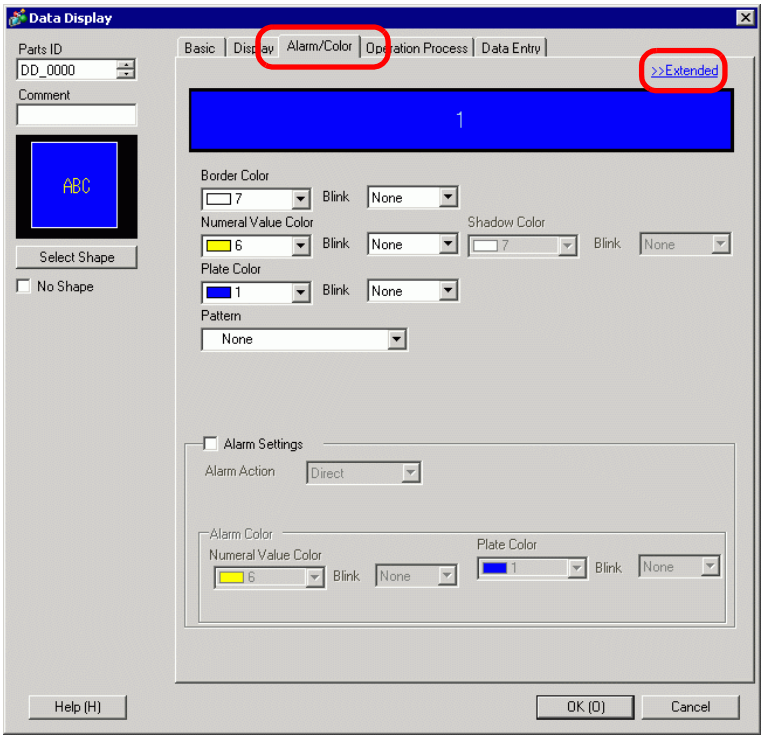


5 In the [Data Type] drop-down list, select the type of data to display (for example, "16 Bit Dec").

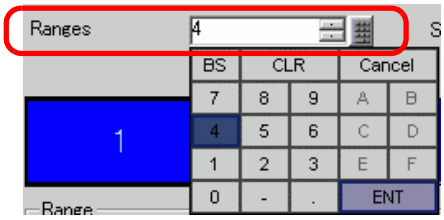
NOTE

- Set [Specify Input/Display Range] so the numeric data can be converted comparatively and displayed.

6 Click the [Alarm/Color] tab, and click [Extended].

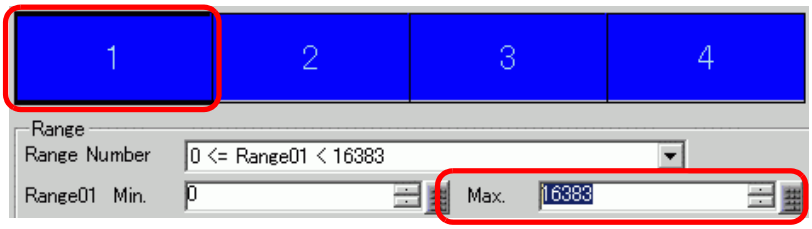


7 In [Ranges], set the number of ranges (for example, 4).



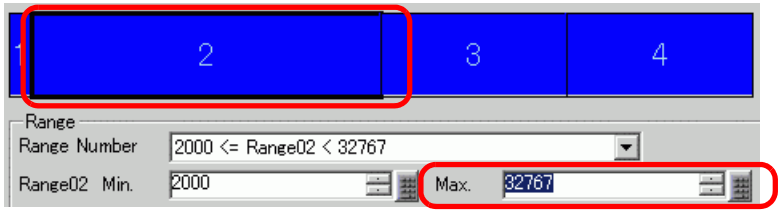
8 Select a method of specifying the range of minimum and maximum values in [Specify Range] from [Constant], [Address] (Constant).

9 Select 1 from [Alarm Color Display Bar] and set the Min. and Max. values for [Range 01]. For example, Min. Value = 0, Max. Value = 2000



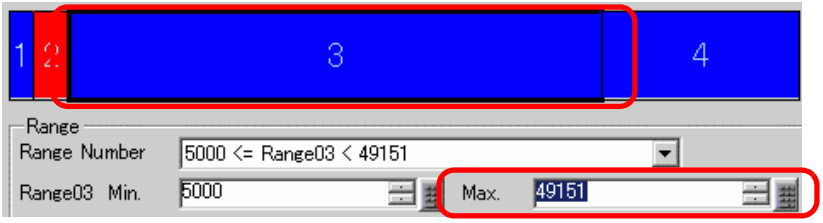
10 In [Alarm Color], set the [Numeral Value Color] (for example, Yellow) and the [Plate Color] (for example, Blue) for [Range 01].

11 Select 2 from [Alarm Color Display Bar] and set the Min. and Max. values for [Range 02]. For example, Min. Value = 2000, Max. Value = 5000



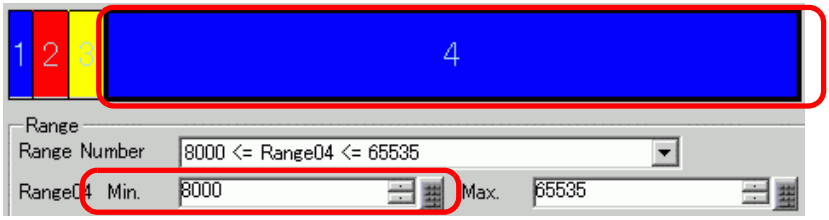
12 Set the [Numeral Value Color] (for example, Yellow) and the [Plate Color] (for example, Red) for [Range 02].

13 Select 3 from [Alarm Color Display Bar] and set the Min. and Max. values for [Range 03]. For example, Min. Value = 5000, Max. Value = 8000



14 Set the [Numeral Value Color] (for example, Black) and the [Plate Color] (for example, Yellow) for [Range 03].

15 Select 4 from [Alarm Color Display Bar] and set the [Range 04] Min and Max. (for example, Min 8000). For example, Min. Value = 8000

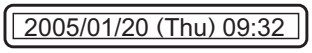


16 Set the [Numeral Value Color] (for example, Yellow) and the [Plate Color] (for example, Blue) for [Range 04].

17 As needed, set the Data Display text on the [Display] tab, and click [OK].

14.6 Displaying the Date and Time

14.6.1 Introduction



The GP clock and calendar data are stored in a designated area of the System Data Area.

14.6.2 Setup Procedure

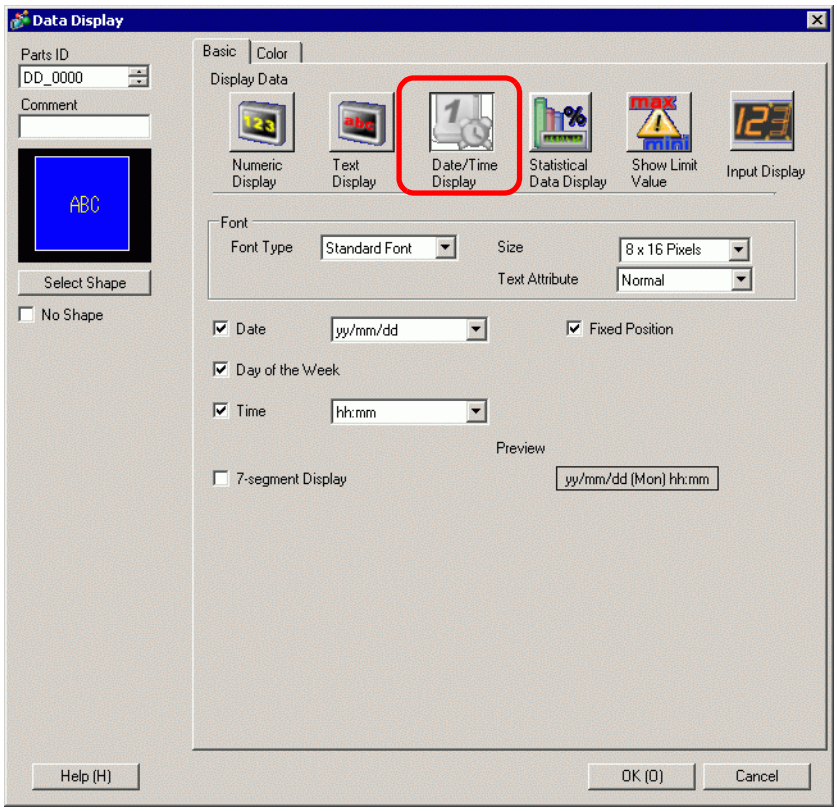
NOTE

- Please refer to the Settings Guide for details.
  ☞"14.11.3 Date/Time Display" (page 14-104)
- For details of the part placement method and the address, shape, color, and label setting method, refer to the "Part Editing Procedure".
  ☞"8.6.1 Editing Parts" (page 8-44)

2005/01/20 (Thu) 09:32

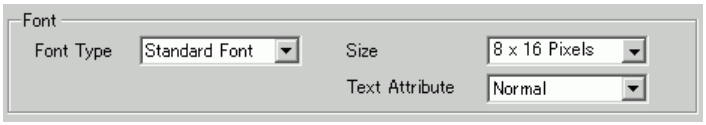
1 On the [Parts (P)] menu, select [Data Display (D)] and then click [Date/Time Display (D)], or click  and place it on the screen.

2 Double-click the placed Data Display. The following dialog box appears.

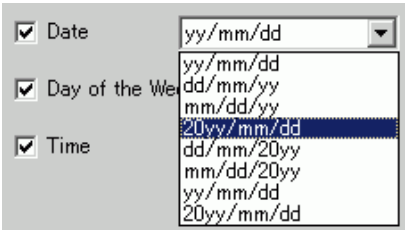


3 Select the Data Display shape from [Select Shape].

4 Choose a font for the date/time in [Font]. (For example, Standard Font, Size = 8 x 16pixels, Text Attribute = Normal)



5 Select a date format in [Date]. (For example, 20yy/mm/dd)



6 To display the day, select the [Day of the Week] check box. (For example, Display day)

7 Select a time format in [Time]. (For example, hh:mm)

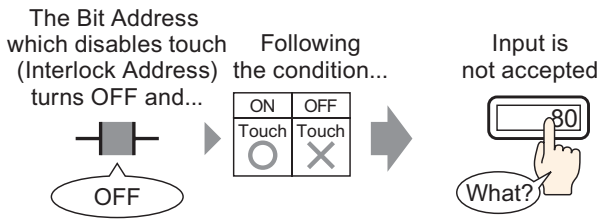
8 As needed, set the Data Display color on the [Color] tab, and click [OK].

14.7 Preventing Operational Errors By Using Interlock

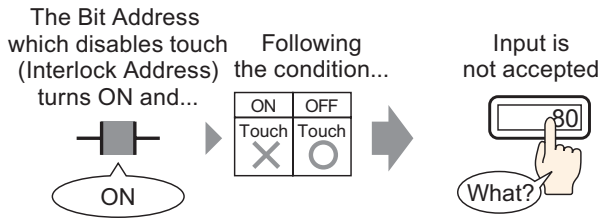
14.7.1 Introduction

The touch action will only be executed if the bit address specified in the Interlock Address meets the Touch Enable Condition.

- When the Touch Enable Condition is "Bit ON".
  The touch action will only work when the set Interlock Address is ON.



- When the Touch Enable Condition is "Bit OFF".
  The touch action will only work when the set Interlock Address is OFF.



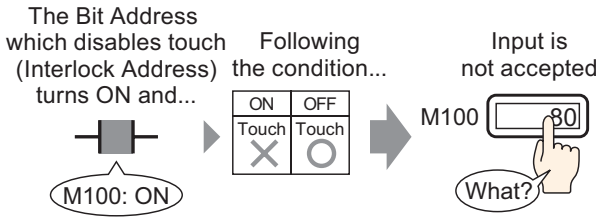
NOTE

- You can set up an interlock (Global Interlock) for the whole project.
  ☞"22.4 Disable All Touch Operations for the Timing" (page 22-11)

14.7.2 Setup Procedure

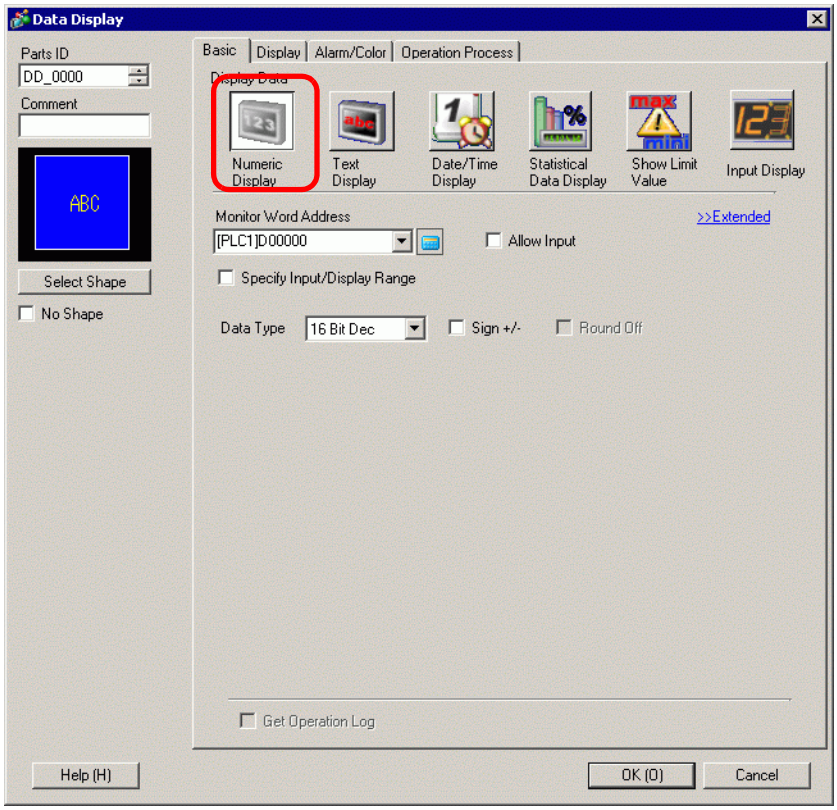
NOTE

- Please refer to the Settings Guide for details.
  ☞"14.11.1 Numeric Display" (page 14-44)
- For details of the part placement method and the address, shape, color, and label setting method, refer to the "Part Editing Procedure".
  ☞"8.6.1 Editing Parts" (page 8-44)



1 On the [Parts (P)] menu, select [Data Display (D)] and then click [Numeric Display (N)], or click the 123 icon, and place it on the screen.

2 Double-click the placed Data Display. The following dialog box appears.

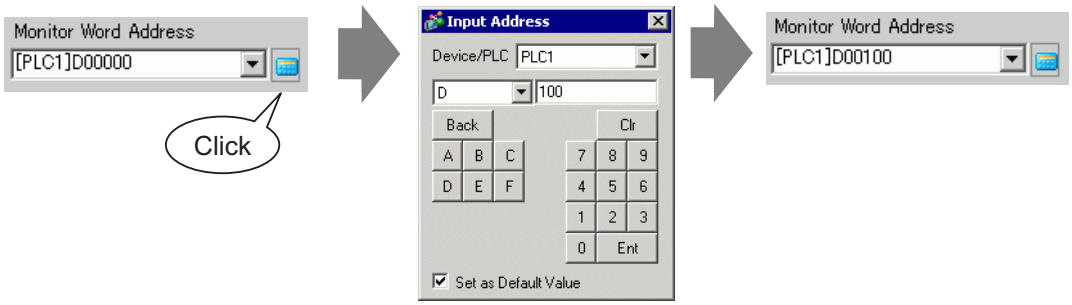


3 Select the Data Display shape from [Select Shape].

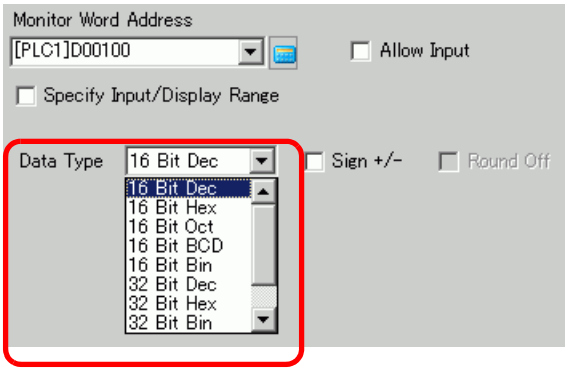
4 In [Monitor Word Address], set the address (D100) that will store the Value to display.

Click the icon to display an address input keypad.

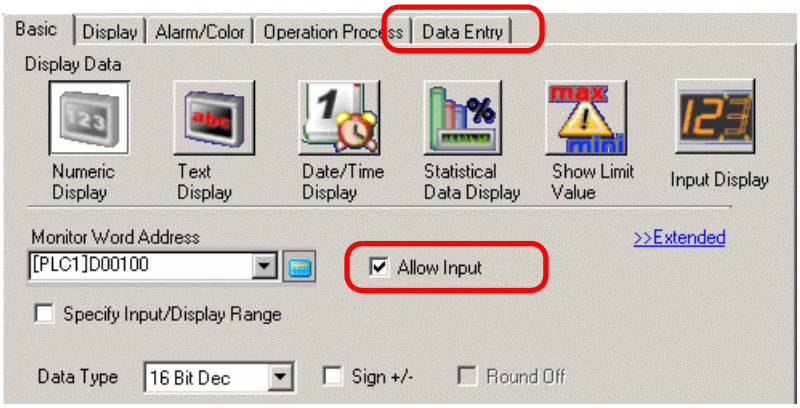
Select device "D", input "100" as the address, and press the Enter key.



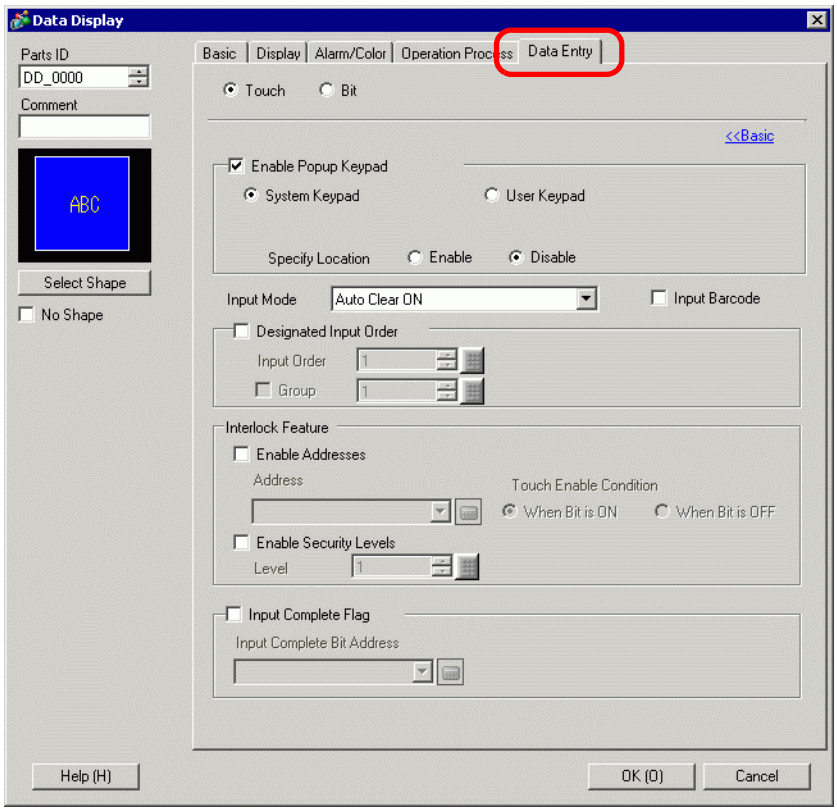
5 In the [Data Type] drop-down list, set the type of data to display (for example, "16 Bit Dec").



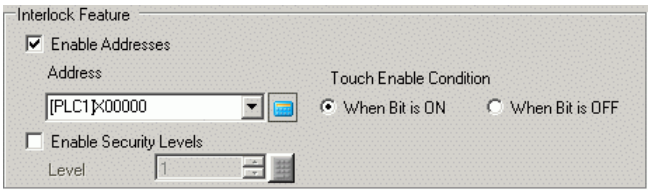
6 Select the [Allow Input] check box. Ensure the [Enable Popup Keypad] check box is selected. You can enter numerical data from the pop-up keypad.



7 On the [Data Entry] tab, click [Extended]. The following dialog box appears.



8 From the [Interlock Feature] field, check the [Enable Address] check box and specify in [Address] the bit address (M100) that will enable touch inputs.

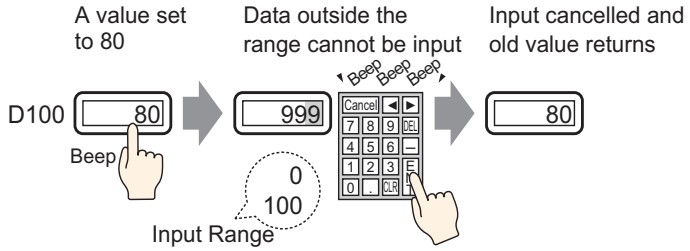


9 Use the [Touch Enable Condition] field to set up a condition that enables touch inputs. (For example, select "Enable When Bit is Off" to enable touch operations when the bit is off.)

10 As needed, set the Data Display color and text on the [Alarm/Color] tab and [Display] tab, and click [OK].

14.8 Prevent Entering Data Outside the Allowed Range

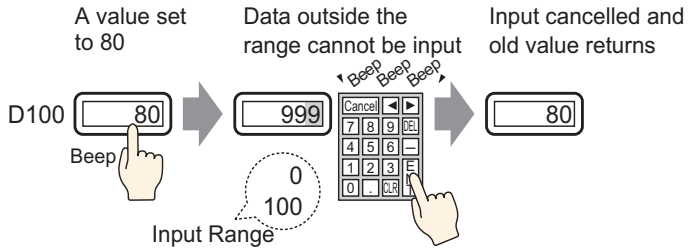
14.8.1 Introduction



14.8.2 Setup Procedure

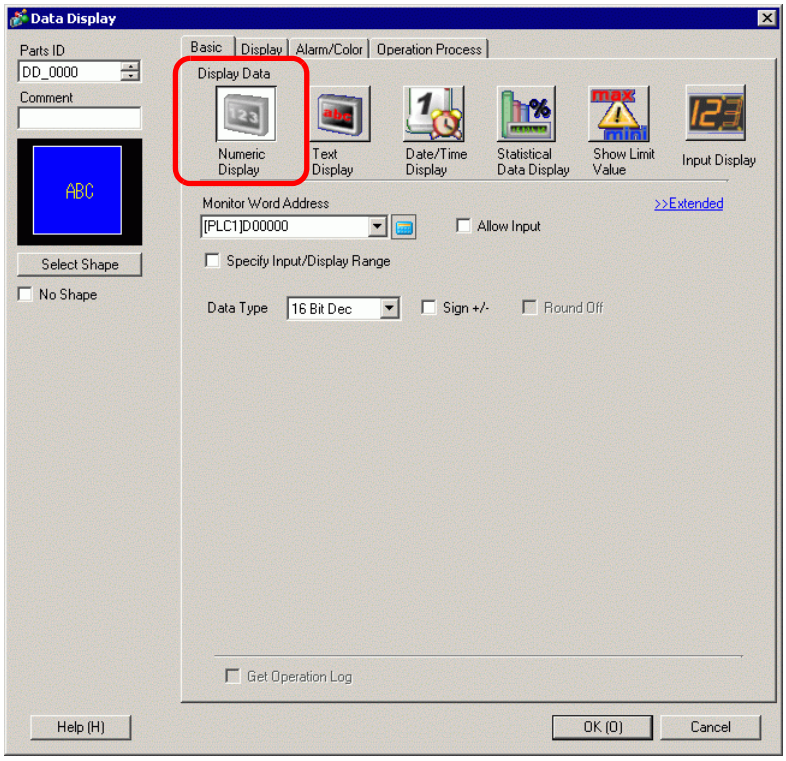
NOTE

- Please refer to the Settings Guide for details.
  ☞"14.11.1 Numeric Display" (page 14-44)
- For details of the part placement method and the address, shape, color, and label setting method, refer to the "Part Editing Procedure".
  ☞"8.6.1 Editing Parts" (page 8-44)



1 On the [Parts (P)] menu, select [Data Display (D)] and then click [Numeric Display (N)], or click the icon, and place it on the screen.

2 Double-click the placed Data Display. The following dialog box appears.

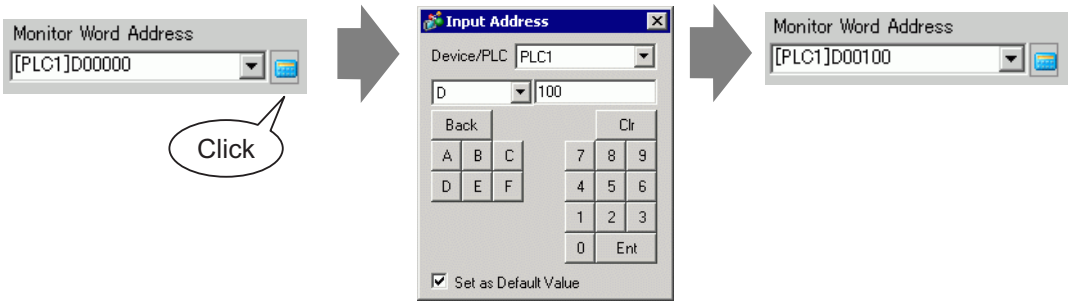


3 Select the Data Display shape from [Select Shape].

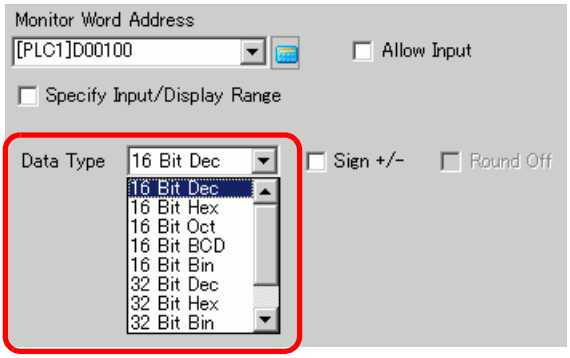
4 In [Monitor Word Address], set the address (D100) that will store the Value to display.

Click the icon to display an address input keypad.

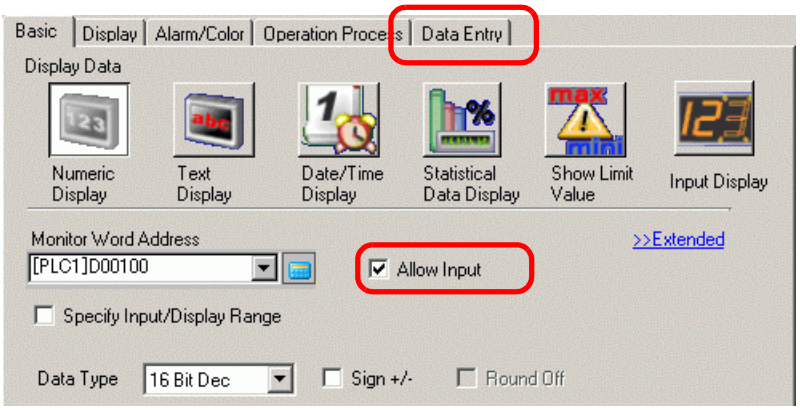
Select device "D", input "100" as the address, and press the Enter key.



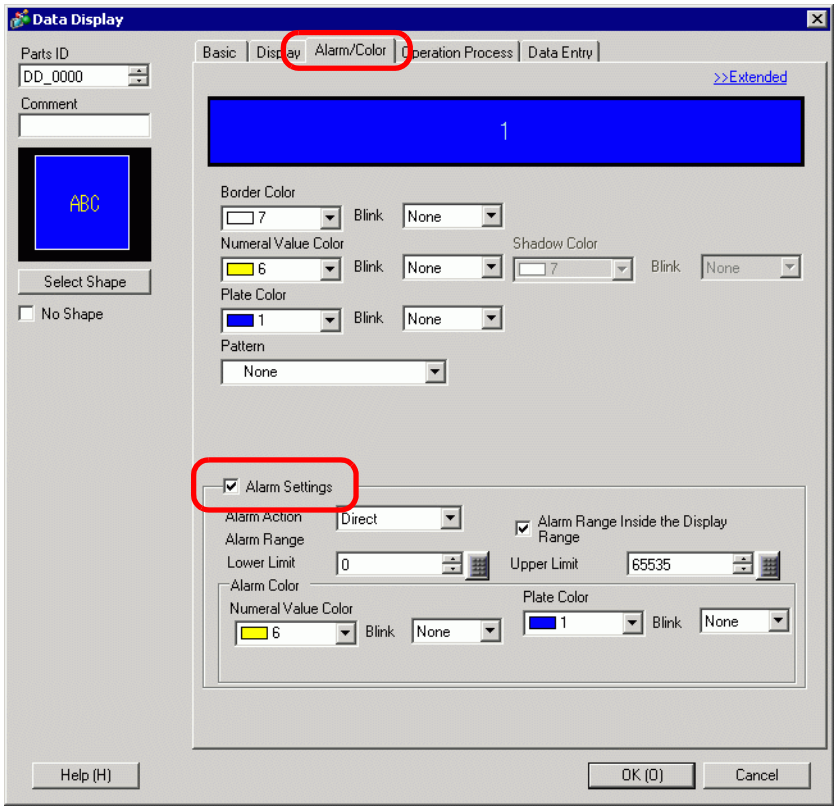
5 In the [Data Type] drop-down list, set the type of data to display (for example, "16 Bit Dec").



6 Select the [Allow Input] check box. Ensure the [Enable Popup Keypad] check box is selected. You can enter numerical data from the pop-up keypad.



7 Click the [Alarm/Color] tab, and select the [Alarm Settings] check box.

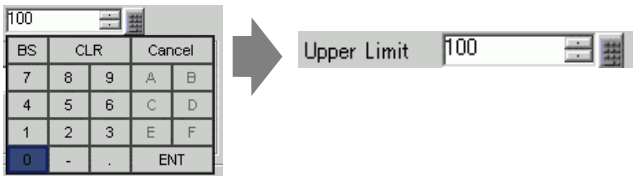


8 In [Alarm Action], select the Upper/Lower Limit Value specification method from either [Direct] or [Address] (for example, [Direct]).

NOTE

- When selecting the [Set the alarm range], the settings are allowed only within the range of the [Display Range] under [Basic Settings].

9 In [Alarm Range], set the Upper Limit (for example, 100) and Lower Limit (for example, 0).



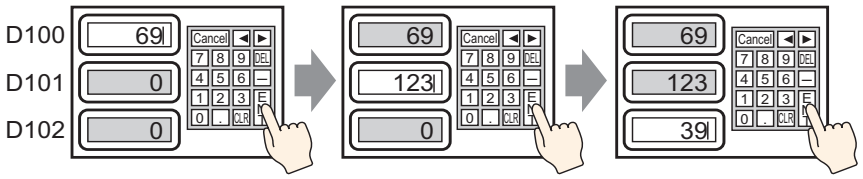
10 As needed, set the Data Display color and text on the [Alarm/Color] tab and [Display] tab, and click [OK].

NOTE

- There are no input restrictions on the values input from the PLC.

14.9 8 x16 Dots Sequential Input

14.9.1 Introduction



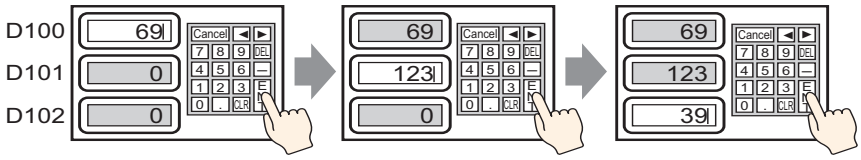
Input data and touch the [Ent] key

The input is confirmed and the next Data Display part in the input order enters the Input Permit state.→Input data and touch the [Ent] key

14.9.2 Setup Procedure

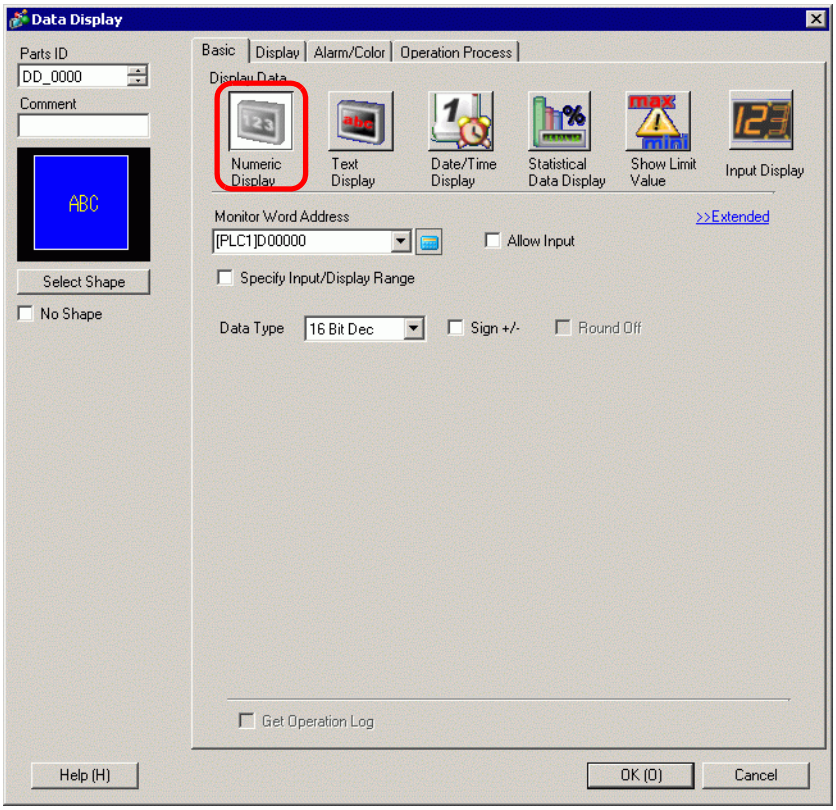
NOTE

- Please refer to the Settings Guide for details.
  ☞"14.11.1 Numeric Display" (page 14-44)
- For details of the part placement method and the address, shape, color, and label setting method, refer to the "Part Editing Procedure".
  ☞"8.6.1 Editing Parts" (page 8-44)



1 On the [Parts (P)] menu, select [Data Display (D)] and then click [Numeric Display (N)], or click the 123 icon, and place it on the screen.

2 Double-click the placed Data Display. The following dialog box appears.

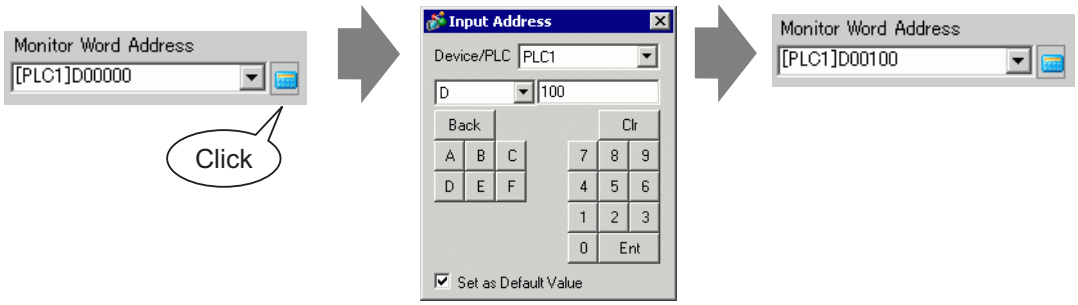


3 Select the Data Display shape from [Select Shape].

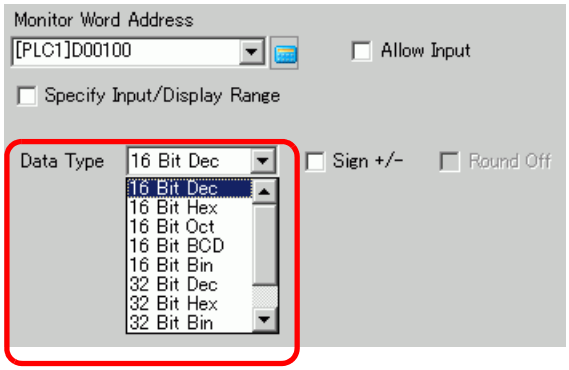
4 In [Monitor Word Address], set the address (D100) that will store the Value to display.

Click the icon to display an address input keypad.

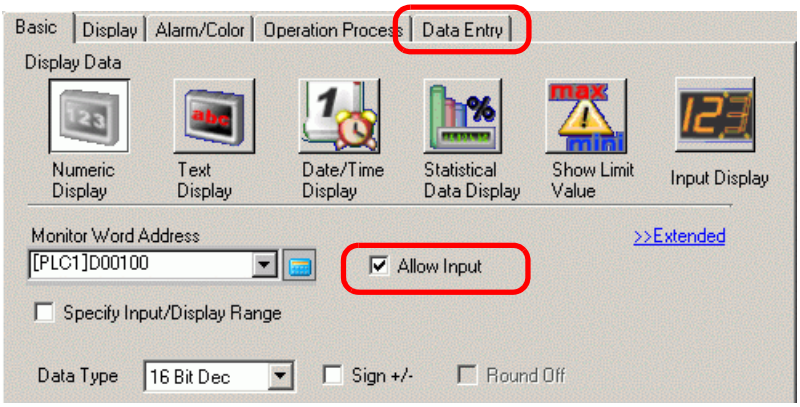
Select device "D", input "100" as the address, and press the Enter key.



5 In the [Data Type] drop-down list, set the type of data to display (for example, "16 Bit Dec").



6 Select the [Allow Input] check box. Ensure the [Enable Popup Keypad] check box is selected. You can enter numerical data from the pop-up keypad.



7 Click the [Data Entry] tab, and select the [Designated Input Order] check box.

8 In [Input Order], set the order the part will enter input status (for example, 1).

9 As needed, set the Data Display color and text on the [Alarm/Color] tab and [Display] tab, and click [OK].

NOTE

- In the same way, to set the 2nd Data Display that will enter the Allow Input state, set [Monitor Word Address] to "D101", and [Input Order] to "2". For the 3rd Data Display that will enter the Allow Input state, set [Monitor Word Address] to "D102", and [Input Order] to "3".
- For information about the Input Order settings, refer to "14.13.1 Set Input Order" (page 14-121).

14.10 Changing Values by Adding/Subtracting data

14.10.1 Introduction

When you use a word switch's Add/Subtract Data function, the directly referenced data in a Data Display can be modified. This is useful for fine-tuning and small-scale adjustments. This setup is an option for increasing or decreasing values. When the value rolls over, it carries over changes to other digits.

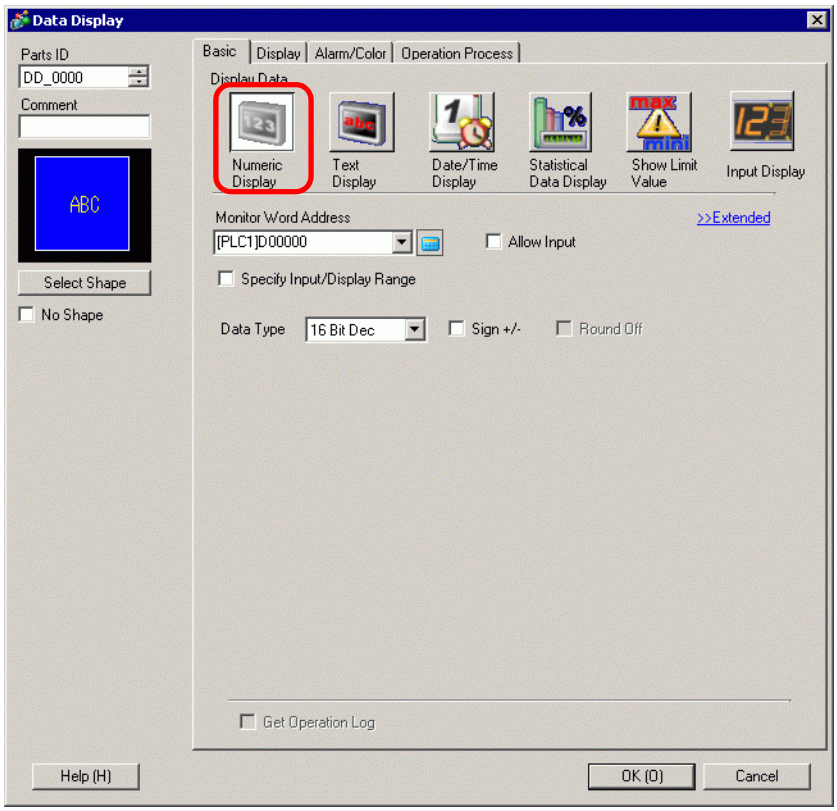
14.10.2 Setup Procedure

NOTE

- Please refer to the Settings Guide for details.
  ☞"14.11.1 Numeric Display" (page 14-44)
- For details of the part placement method and the address, shape, color, and label setting method, refer to the "Part Editing Procedure".
  ☞"8.6.1 Editing Parts" (page 8-44)

1 On the [Parts (P)] menu, select [Data Display (D)] and then click [Numeric Display (N)], or click the icon, and place it on the screen.

2 Double-click the placed Data Display. The following dialog box appears.

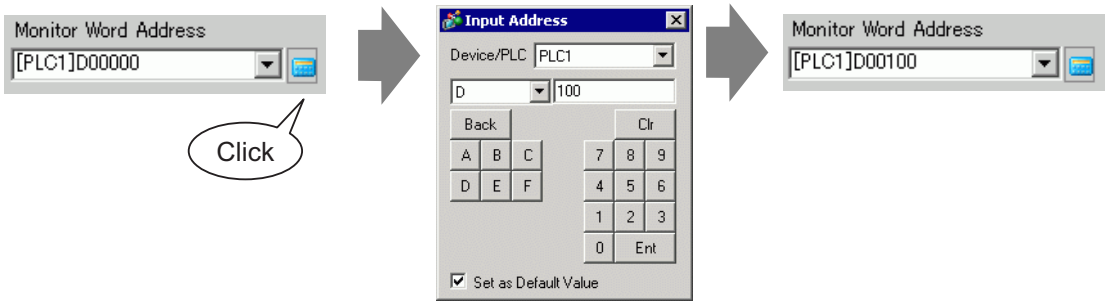


3 Select the Data Display shape from [Select Shape].

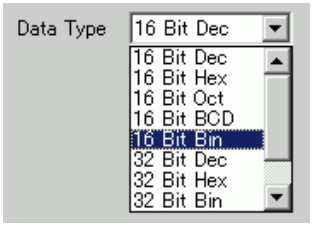
4 In [Monitor Word Address], set the address (D100) that will store the Value to display.

Click the icon to display an address input keypad.

Select device "D", input "100" as the address, and press the Enter key.



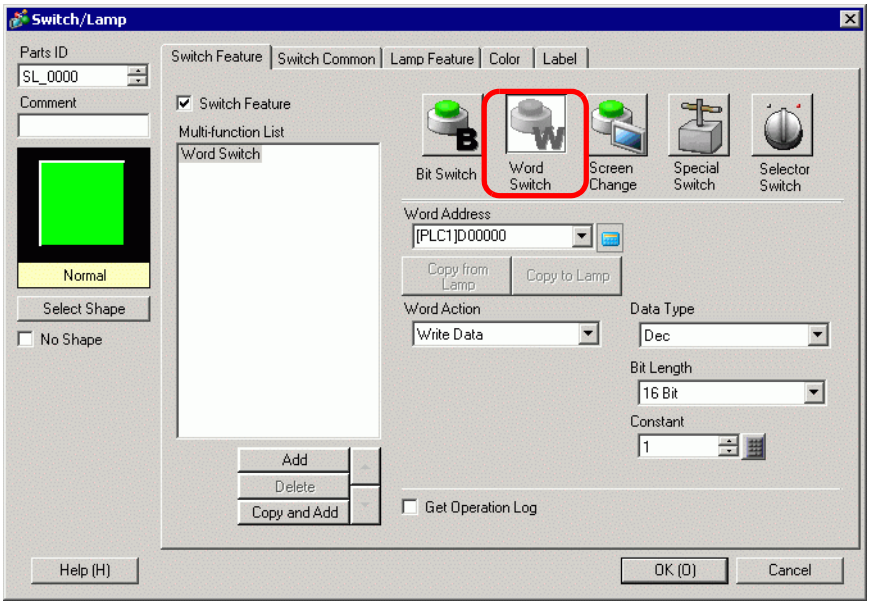
5 Set the type of data that will be displayed (for example, "16 Bit Bin") in [Data Type].



6 As needed, set the Data Display color and text on the [Alarm/Color] tab and [Display] tab, and click [OK].

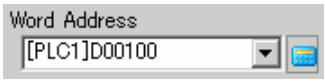
7 Next, set the switch which will operate the addition action. From the [Parts (P)] menu, point to [Switch Lamp] and select [Word Switch], or click  and place it on the screen.

8 Double-click the placed Switch part. The following dialog box appears.

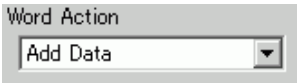


9 In [Select Shape], select the Switch shape.

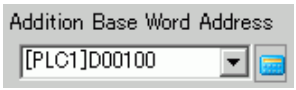
10 Set the address (D100) where you want to write data when you touch the switch in [Word Address].



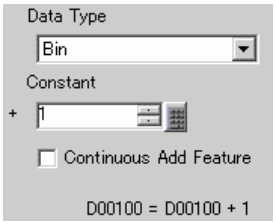
11 From [Word Action] choose [Add Data].



12 Set the address (D100) which will add the data in [Addition Base Word Address].

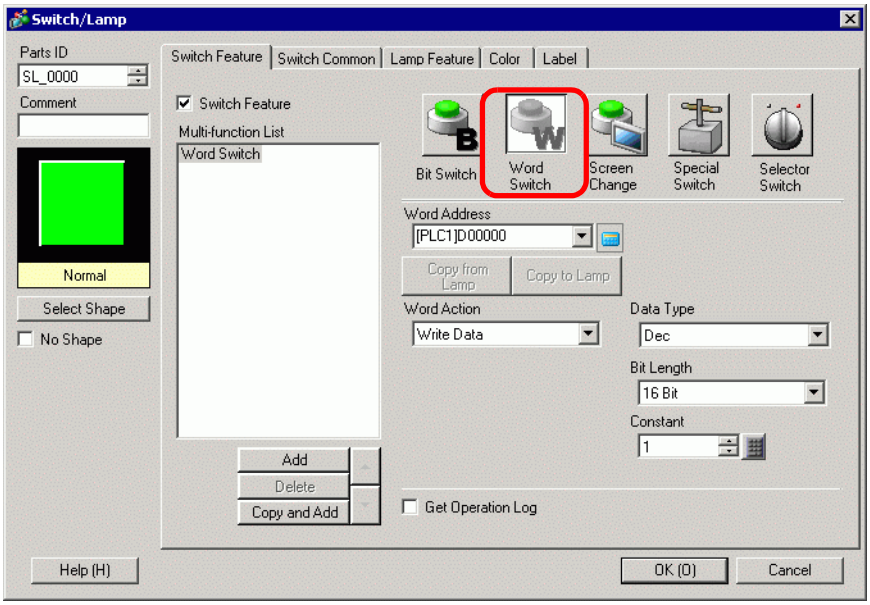


13 Set [Data Type] to [Bin] and [Constant] to "1" and click [OK]. The addition action's Word switch function is now set.



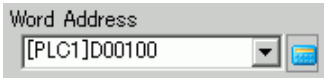
14 Next, set the switch which will operate the subtraction action. From the [Parts (P)] menu, point to [Switch Lamp] and select [Word Switch], or click  and place it on the screen.

15 Double-click the placed Switch part. The following dialog box appears.



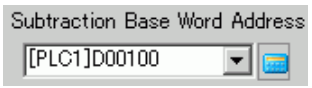
16 In [Select Shape], select the Switch shape.

17 Set the address (D100) where you want to write data when you touch the switch in [Word Address].

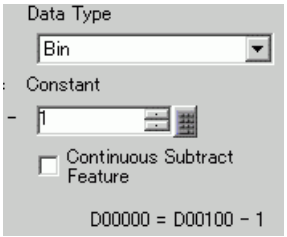


18 Choose [Subtract Data] from [Word Action].

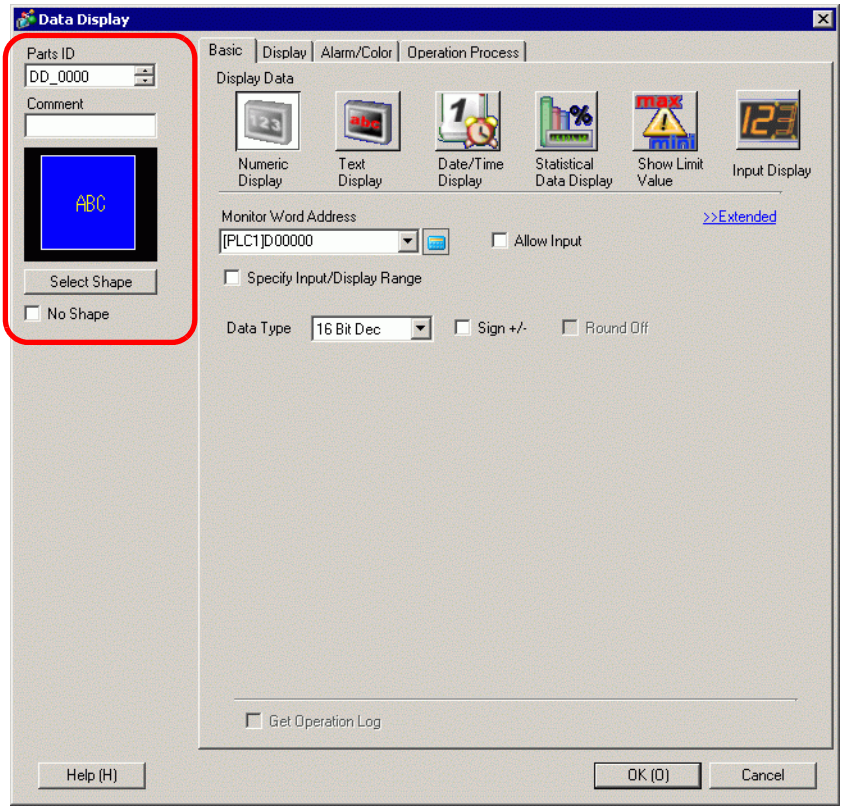
19 Set the address (D100) which will subtract the data in [Subtraction Base Word Address].



20 Set [Data Type] to [Bin] and [Constant] to "1" and click [OK]. The subtraction action's Word switch function is now set.

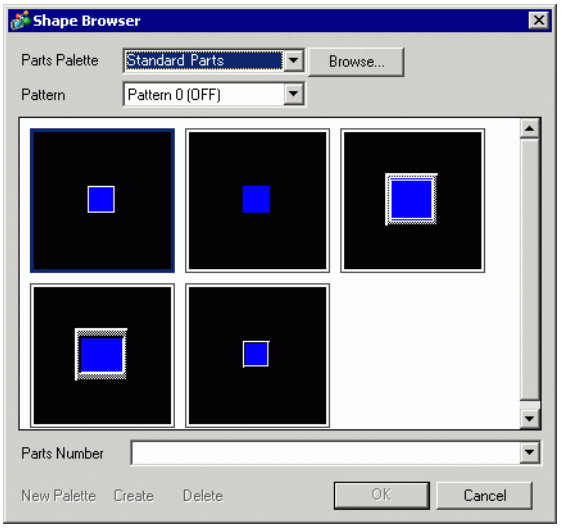


14.11 Data Display Settings Guide



Setting	Description
Part ID	Parts are automatically assigned an ID number. Data Display's ID: DD_ **** (4 digits) The letter portion is fixed. The number portion can be modified from 0000 to 9999.
Comment	The comment for each Part can be up to 20 characters.
Shape Display	Displays the shape and status of the Part selected in [Select Shape].

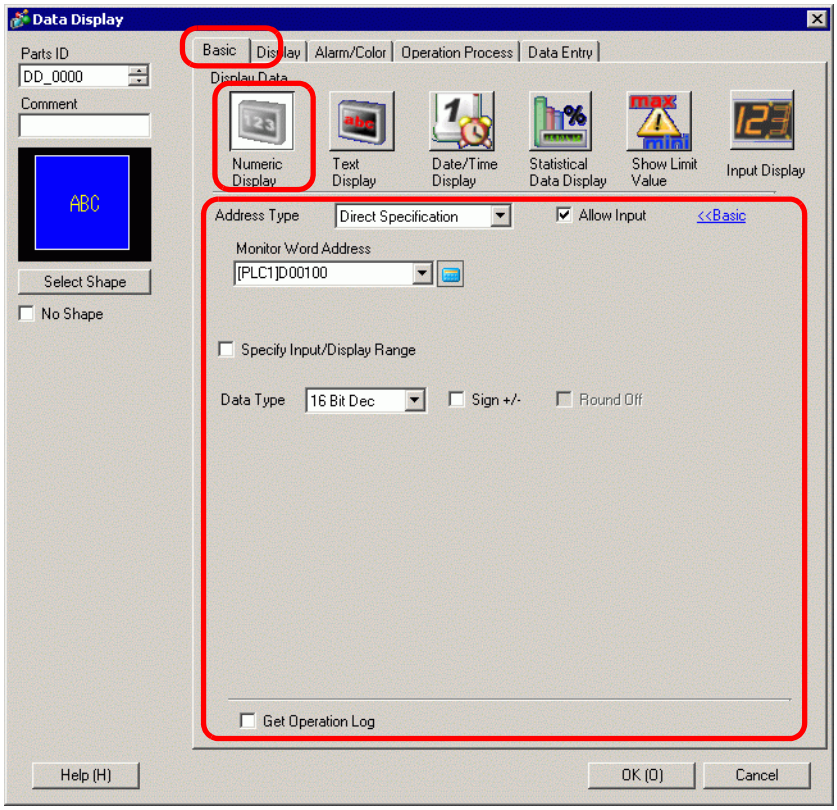
Continued

Setting	Description
Select Shape	Open the Select Shape dialog box to choose the shape. 
Display Data	Select the Data Display type. • Numeric Display Displays the numeric data stored in the word address. ☞"14.11.1 Numeric Display" (page 14-44) • Text Display Displays the character string stored in the word address. ☞"14.11.2 Text Display" (page 14-87) • Date/Time Display Refers to the GP clock data and displays the date/time. ☞"14.11.3 Date/Time Display" (page 14-104) • Statistical Data Display Takes statistics from the successive values of multiple word addresses, and displays the numeric value. ☞"14.11.4 Statistical Data Display" (page 14-107) • Show Limit Value Displays the set Alarm values (the displayed data's upper/lower limit values) on the same screen as a Numeric Display with [Alarm]. ☞"14.11.5 Show Limit Value" (page 14-113) • Input Display Display data being input from the user keypad. ☞"14.11.5 Show Limit Value" (page 14-113)
No Shape	Select whether the part will be transparent with no shape.

14.11.1 Numeric Display

■ Basic Settings/Basic

Display numeric data stored in a specified word address in a Device/PLC.

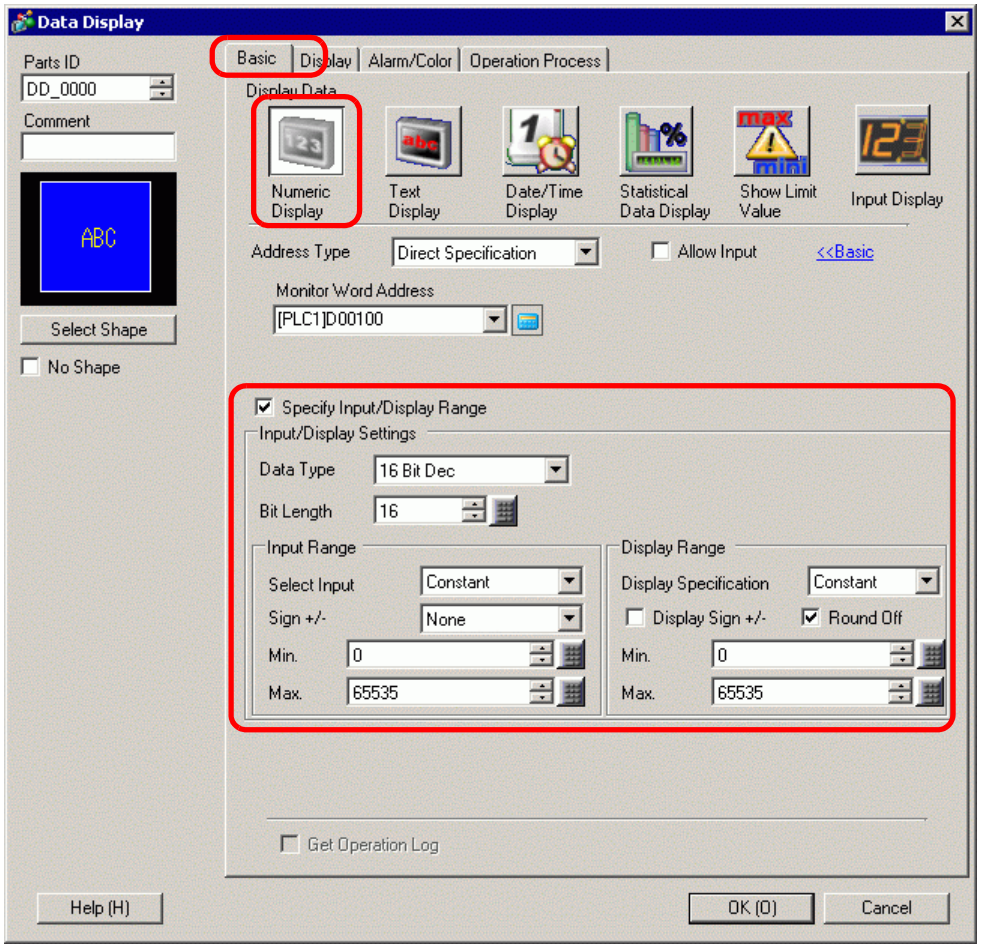


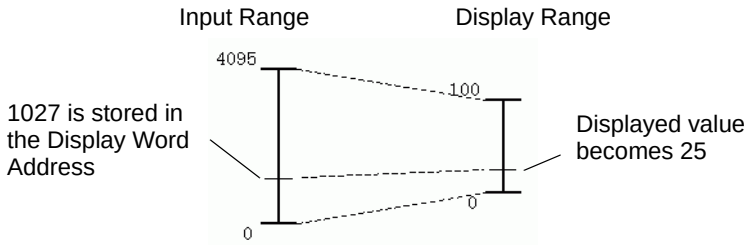
Setting	Description
Monitor Word Address	You can have a real-time numeric display of data stored in the word address specified here. **NOTE** • Real variables cannot be displayed because they are 64 bits in length.
Allow Input	Set whether keypad and barcode reader input will be accepted by the Data Display. **NOTE** • This cannot be set if the [Display Format] option is set on the [Display] tab's [Extended] screen. ☞" ■ Data Entry/Basic" (page 14-58)
Specify Input/Display Range	Specify an input/display range and [Monitor Word Address] data will automatically convert to correspond with the input and display range. The resulting numeric values can display.

Continued

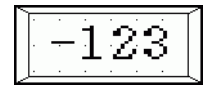
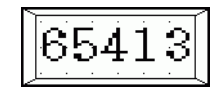
<table>
<tr><th>Setting</th><th>Description</th></tr>
<tr><td>Data Type</td><td>Select the type of data to be displayed.
<table>
<tr><th>Bit Length</th><th>Data Type</th></tr>
<tr><td>16 bit</td><td>Dec, Hex, Oct, Bin, BCD</td></tr>
<tr><td>32 bit</td><td>Dec, Hex, Bin, BCD, Float</td></tr>
</table>
NOTE
• When using 32-bit data, the relationship of high order and low order Word data will differ according to the device/PLC type. For more information, refer to your device/PLC manual.
• The Float format is IEEE754.</td></tr>
<tr><td>Sign +/–</td><td>Defines negative number support for display data. Set up when you want to display negative values. Negative values are handled using 2's Complement.
This can only be set when the [Data Type] is [Dec].</td></tr>
<tr><td>Round Off</td><td>Sets whether to round off fractional values in the display data. Fractions will be discarded if rounding off is not selected.
This setting is available when [Data Type] is [Float].</td></tr>
<tr><td>Get Operation Log</td><td>Specifies whether to record the Operation Log. Can be specified only when [Allow Input] is selected.
NOTE
• When [Enable Operation Log Function] is not selected for the common [Operation Log Settings], a message stating that an Operation Log of each individual part cannot be recorded will appear. Select [Enable Operation Log Function] and enable Operation Log Settings.</td></tr>
</table>

Sets up numeric data as relative values.



Setting	Description
Specify Input/Display Range	Specify an input/display range and [Monitor Word Address] data will automatically convert to correspond with the input and display range. The resulting numeric values can display. (Display relative values) For example: 
Data Type	Select the type of data to be displayed. Bit Length / Data Type 16 bit / Dec, Hex, Oct, Bin, BCD 32 bit / Dec, Hex, Bin, BCD, Float

Continued

Setting		Description
Bit Length		Specify the address' valid bit length from 1 to 16. Selectable only when [Data Type] is specified as [16 Bits].
Input Range	Input Specification	Choose how the input range's max and min values is specified. • Constant Specify a set constant as the Min/Max. (Direct Specification) • Address Specify the address where the Min/Max values are stored. (Indirect Specification)
	Sign +/-	Specifies whether input data will be able to handle negative numeric data. • None Only positive numeric data. • 2's Complement Negative numbers are handled with 2's complement. • MSB Sign Negative numbers are handled with MSB sign.
Display Range	Display Specification	Choose how the max and min values of the display range will be specified. • Constant Specify a set constant as the Min/Max. (Direct Specification) • Address Specify the address where the Min/Max values are stored. (Indirect Specification)
	Round Off	When displaying data, select whether fractions get rounded off or truncated.
	Display Sign +/–	Set to display negative numbers. This can be set when the [Data Type] is [Dec]. For example: When writing "–123"   Negative numbers displayed   Negative numbers not displayed

Continued

<table>
<tr><th colspan="2">Setting</th><th>Description</th></tr>
<tr><td>Input Range/ Display Range</td><td>Min. Value/ Max. Value</td><td>
Select the input range and display range for the numeric display data.
If [Input Specification] or [Display Specification] is [Constant], you can input a min/max value.
If [Address] is set, specify the word address where the min/max value will be stored.
Input Range/Display Range Min. Value/Max. Value
<table>
<tr><th>Bit Length</th><th>Data Type</th><th>Sign +/-</th><th>Input Range</th><th>Display Sign +/–</th><th>Display Range</th></tr>
<tr><td rowspan="19">16 bit</td><td rowspan="6">Dec</td><td rowspan="2">None</td><td rowspan="2">0 ~ 65535</td><td>Disable</td><td>0 ~ 65535</td></tr>
<tr><td>Enable</td><td>–32768 ~ 32767</td></tr>
<tr><td rowspan="2">2's Complement</td><td rowspan="2">–32768 ~ 32767</td><td>Disable</td><td>0 ~ 65535</td></tr>
<tr><td>Enable</td><td>–32768 ~ 32767</td></tr>
<tr><td rowspan="2">MSB Sign</td><td rowspan="2">–32767 ~ 32767</td><td>Disable</td><td>0 ~ 65535</td></tr>
<tr><td>Enable</td><td>–32768 ~ 32767</td></tr>
<tr><td rowspan="3">Hex</td><td>None</td><td>0 ~ 65535</td><td>—</td><td>0 ~ FFFF(h)</td></tr>
<tr><td>2's Complement</td><td>–32768 ~ 32767</td><td>—</td><td>0 ~ FFFF(h)</td></tr>
<tr><td>MSB Sign</td><td>–32767 ~ 32767</td><td>—</td><td>0 ~ FFFF(h)</td></tr>
<tr><td rowspan="3">Oct</td><td>None</td><td>0 ~ 65535</td><td>—</td><td>0 ~ 177777(o)</td></tr>
<tr><td>2's Complement</td><td>–32768 ~ 32767</td><td>—</td><td>0 ~ 177777(o)</td></tr>
<tr><td>MSB Sign</td><td>–32767 ~ 32767</td><td>—</td><td>0 ~ 177777(o)</td></tr>
<tr><td>BCD</td><td>-</td><td>0 ~ 9999</td><td>—</td><td>0 ~ 9999</td></tr>
<tr><td rowspan="3">Bin</td><td>None</td><td>0 ~ 65535</td><td>—</td><td>0 ~ FFFF(h)</td></tr>
<tr><td>2's Complement</td><td>–32768 ~ 32767</td><td>—</td><td>0 ~ FFFF(h)</td></tr>
<tr><td>MSB Sign</td><td>–32767 ~ 32767</td><td>—</td><td>0 ~ FFFF(h)</td></tr>
</table>
</td></tr>
</table>

Continued

Setting		Description
Input Range/ Display Range	Min. Value/ Max. Value	

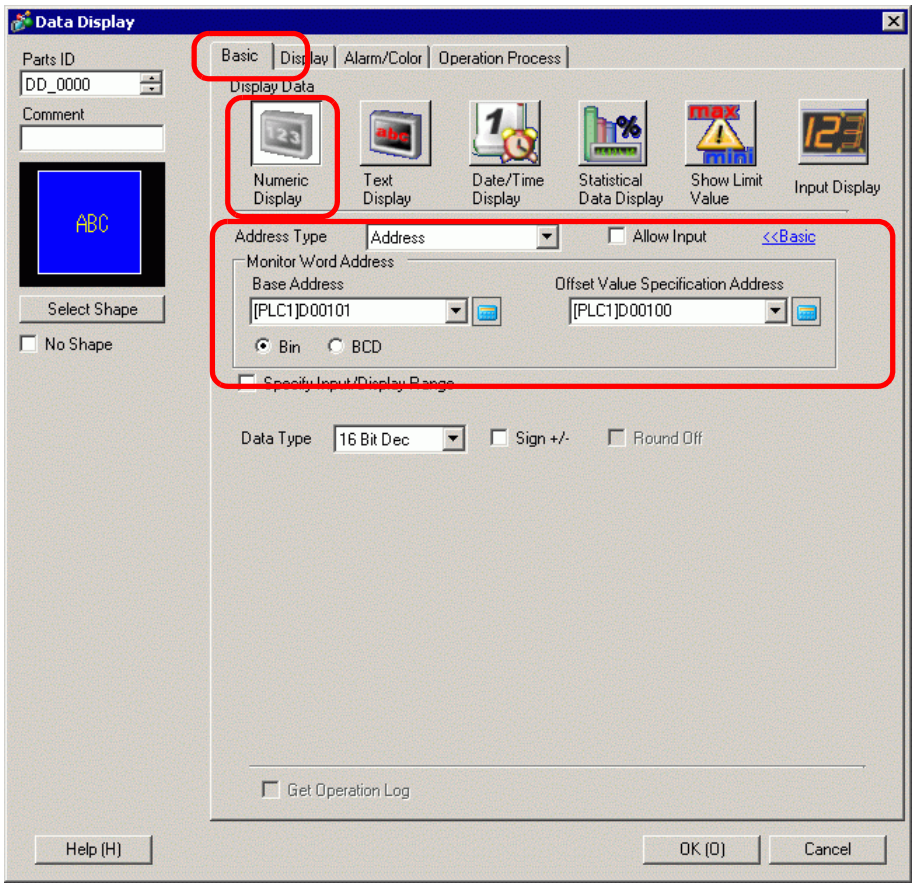
Bit Length	Data Type	Sign +/-	Input Range	Display Sign +/–	Display Range
32 bit	Dec	None	0 ~ 4294967295	Disable	0 ~ 4294967295
				Enable	–2147483648 ~ 2147483647
		2's Complement	–2147483648 ~ 2147483647	Disable	0 ~ 4294967295
				Enable	–2147483648 ~ 2147483647
		MSB Sign	–2147483647 ~ 2147483647	Disable	0 ~ 4294967295
				Enable	–2147483648 ~ 2147483647
	Hex	None	0 ~ 4294967295	—	0 ~ FFFFFFFF(h)
		2's Complement	–2147483648 ~ 2147483647	—	0 ~ FFFFFFFF(h)
		MSB Sign	–2147483647 ~ 2147483647	—	0 ~ FFFFFFFF(h)
	BCD	-	0~ 99999999	—	0 ~ 99999999
	Bin	None	0 ~ 4294967295	—	0 to FFFFFFFF(h)
		2's Complement	–2147483648 ~2147483647	—	0 to FFFFFFFF(h)
		MSB Sign	–2147483647 ~2147483647	—	0 to FFFFFFFF(h)
	Float	—	$-9.9e^{16}$ ~ $9.9e^{16}$	—	$-9.9e^{16}$ to $9.9e^{16}$

NOTE

- The Input Range and Display Range define how to convert values for display. If the value is outside the input range, the value is converted and displayed using the same ratio.

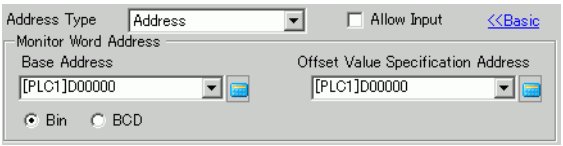
■ Basic Settings/Extended

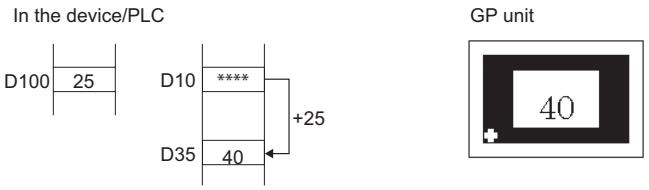
You can indirectly specify the address for the numeric data display. There are two methods for indirect specification.



Setting	Description
Address Type	You can define the display address (Monitor Word Address) in the following ways: [Direct Specification], [Address], or [Device Type & Address].
Allow Input	You can accept input from a keypad, bar code reader, or a two-dimensional bar code reader. Select this check box to display the [Data Entry] tab. **NOTE** • This cannot be set if the [Display Format] option is set on the [Display] tab's [Extended] screen. ☞" ■ Display Settings/Extended" (page 14-70)
Monitor Word Address	You can have a real-time numeric display of data stored in the word address specified here. To indirectly specify the Monitor Word Address, in the [Address Type] list select [Address] or [Device Type Address].

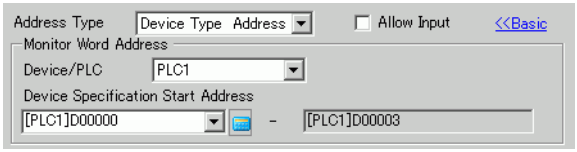
Continued

<table>
<tr><th colspan="3">Setting</th><th>Description</th></tr>
<tr><td rowspan="5">Monitor Word Address</td><td colspan="2">Address</td><td>Indirectly designates to the device specified in [Base Address].</td></tr>
<tr><td rowspan="3">Address</td><td>Base Address</td><td rowspan="2"> 

The [Base Address] becomes the standard indirectly designated address.
In [Offset Value Specification Address], set the address that stores the offset value from the [Base Address].
For example:
[Monitor Word Address] is D35, Indirectly designated [Base Address] = D10 [Offset Value Specification Address] = D100
The data in [Offset Value Specification Address] is handled as the offset value from the [Base Address].
 

The [Base Address] (D10) is added to the [Offset Value Specification Address] (D100)'s data, which is "25", and the resulting address D35's data "40" displays.</td></tr>
<tr><td>Offset Value Specification Address</td></tr>
<tr><td>Bin, BCD</td><td>Choose the type of data stored in the [Offset Value Specification Address] from [Bin] or [BCD].</td></tr>
<tr><td colspan="2">Device Type & Address</td><td>Indirectly designates both the device and address.</td></tr>
<tr><td colspan="2"></td><td>Device/PLC</td><td>When [Address Type] is [Device Type & Address], select which device/PLC's address to indirectly designate.</td></tr>
</table>

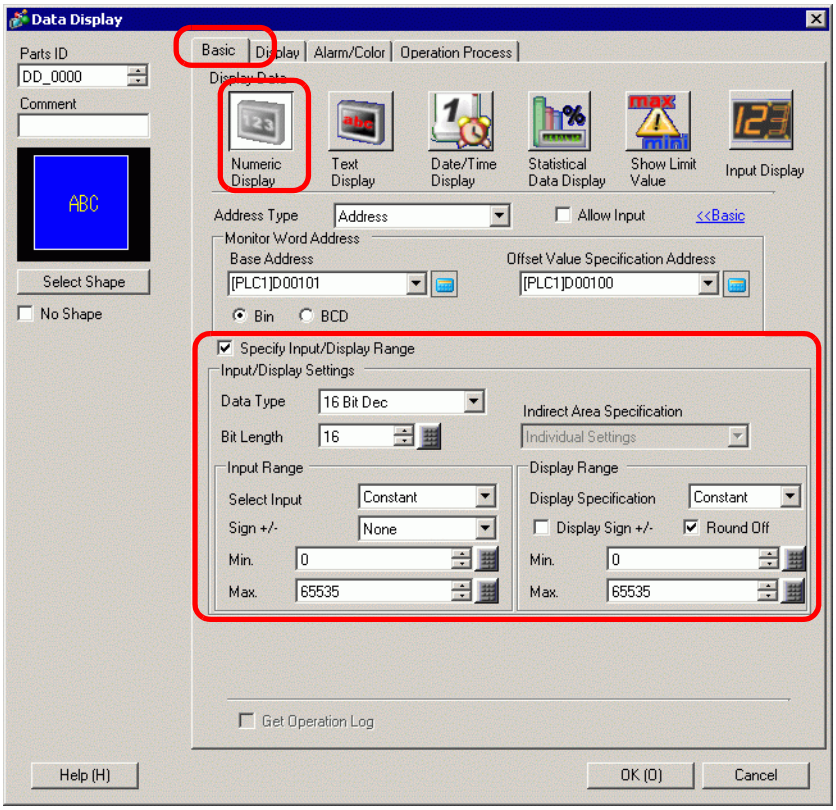
Continued

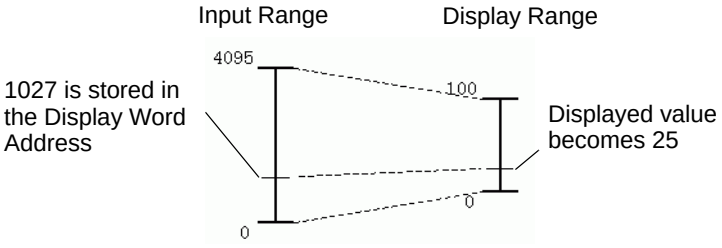
Setting			Description
Monitor Word Address	Device Type & Address	Device Specification Start Address	 Input the start address of the word address to specify the Display Address in [Device Specification Start Address]. Store the Address Mode in [Device Specification Start Address]. Address Mode is the mode to determine if the Device Address is for Internal or External (PLC) Device. Store the Device Code and the Address Code in the three Words following [Device Specification Start Address]. The word address specified with the Device Code and the Address Code will be displayed. For example: [Monitor Word Address] is CN35, Indirectly designated [Device Specification Start Address] = D100 [Address Mode] = External (PLC) Device [Device Code] = CN:0061 In the device/PLC GP unit D100 0 Address Mode*1 D101 0061 Device Code*2 D102 35 Address Code(L) D103 0 Address Code(H) CN35 40 40 *1 Address Mode 0: External (PLC) Device 1: Internal Device In the above case, 0 is stored. *2 Please see the "GP-Pro EX Device/PLC Connection Manual" for device codes. If you select an internal device, the device codes are LS area: 0000 and USR area: 0001. The address designated by D100, D101, D102, and D103 is CN35. Its data, "40" displays.

NOTE

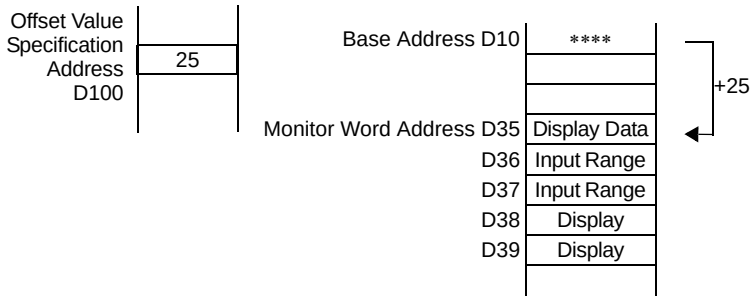
- If the indirectly-designated address is out of range or does not exist, a communication error will occur. An error can affect the screen update. When an error occurs, check the indirectly-designated data and write the correct value to the device/PLC address to restore the screen update.

On the [Basic] tab's Extended screen, when you set [Address Type] to [Address] or [Device Type & Address], and set the [Input/Display]'s [Input Specification] and [Display Specification] to [Address], the address that stores the max/min values for the Input Range/ Display Range will be automatically allotted to the addresses following the Monitor Word Address.

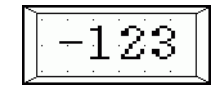


Setting	Description
Specify Input/Display Range	Specify an input/display range and [Monitor Word Address] data will automatically convert to correspond with the input and display range. The resulting numeric values can display. (Display relative values) For example: 
Data Type	Select the type of data to be displayed. Bit Length / Data Type 16 bit / Dec, Hex, Oct, Bin, BCD 32 bit / Dec, Hex, Bin, BCD, Float

Continued

Setting	Description
Bit Length	Specify the address' valid bit length from 1 to 16. Selectable only when [Data Type] is specified as [16 Bits].
Indirect Area Specification	If [Input Specification] and [Display Specification] are both [Address], choose the indirect designation method from [Individual Settings] or [Area After Display Address] for the word addresses that will store the Input Range and Display Range's upper/lower limit value. If either [Input Specification] or [Display Specification] is set to [Constant], the setting will be fixed as [Individual Settings]. • Individual Settings Specify the value or word address for [Min.] and [Max.] individually. • Area After Display Address In the [Basic] tab, the input and display ranges are stored in consecutive addresses that follow the [Monitor Word Address], for the Input Range Max value, Input Range Min value, Display Range Min value, and Display Range Max value. For example: When [Indirect Area Specification] is set to [Area After Display Address], the min/max values for the input/display range will be as follows: [Base Address] = D10, [Offset Value Specification Address] = D100 [Monitor Word Address] = D35 [Input Specification] = [Address], [Display Specification] = [Address] 

Continued

Setting		Description
Input Range	Input Specification	Choose how the input range's max and min values is specified. • Constant Specify a set constant as the Min/Max. (Direct Specification) • Address Specify the address where the Min/Max values are stored. (Indirect Specification)
	Sign +/-	Specifies whether input data will be able to handle negative numeric data. • None Only positive numeric data. • 2's Complement Negative numbers are handled with 2's complement. • MSB Sign Negative numbers are handled with MSB sign.
Display Range	Display Specification	Choose how the max and min values of the display range will be specified. • Constant Specify a set constant as the Min/Max. (Direct Specification) • Address Specify the address where the Min/Max values are stored. (Indirect Specification)
	Round Off	When displaying data, select whether fractions get rounded off or truncated.
	Display Sign	Set to display negative numbers. This can be set when the [Data Type] is [Dec]. For example: • When writing "–123"   Negative numbers displayed   Negative numbers not displayed

Continued

<table>
<tr><th colspan="2">Setting</th><th>Description</th></tr>
<tr><td>Input Range/ Display Range</td><td>Min. Value/ Max. Value</td><td>Select the input range and display range for the numeric display data. If [Input Specification] or [Display Specification] is [Constant], you can input a min/max value.
If [Address] is set, specify the word address where the min/max value will be stored.
The set up range varies depending on the [Data Type], [Sign +/-], and [Display Sign +/–].
<table>
<tr><th>Bit Length</th><th>Data Type</th><th>Sign +/-</th><th>Input Range</th><th>Display Sign +/–</th><th>Display Range</th></tr>
<tr><td rowspan="24">16 bit</td><td rowspan="6">Dec</td><td rowspan="2">None</td><td rowspan="2">0 ~ 65535</td><td>Disable</td><td>0 ~ 65535</td></tr>
<tr><td>Enable</td><td>–32768 ~ 32767</td></tr>
<tr><td rowspan="2">2's Complement</td><td rowspan="2">–32768 ~ 32767</td><td>Disable</td><td>0 ~ 65535</td></tr>
<tr><td>Enable</td><td>–32768 ~ 32767</td></tr>
<tr><td rowspan="2">MSB Sign</td><td rowspan="2">–32767 ~ 32767</td><td>Disable</td><td>0 ~ 65535</td></tr>
<tr><td>Enable</td><td>–32768 ~ 32767</td></tr>
<tr><td rowspan="3">Hex</td><td>None</td><td>0 ~ 65535</td><td>–</td><td>0 ~ FFFF(h)</td></tr>
<tr><td>2's Complement</td><td>–32768 ~ 32767</td><td>–</td><td>0 ~ FFFF(h)</td></tr>
<tr><td>MSB Sign</td><td>–32767 ~ 32767</td><td>–</td><td>0 ~ FFFF(h)</td></tr>
<tr><td rowspan="3">Oct</td><td>None</td><td>0 ~ 65535</td><td>–</td><td>0 ~ 177777(o)</td></tr>
<tr><td>2's Complement</td><td>–32768 ~ 32767</td><td>–</td><td>0 ~ 177777(o)</td></tr>
<tr><td>MSB Sign</td><td>–32767 ~ 32767</td><td>–</td><td>0 ~ 177777(o)</td></tr>
<tr><td>BCD</td><td>–</td><td>0 ~ 9999</td><td>–</td><td>0 ~ 9999</td></tr>
<tr><td rowspan="3">Bin</td><td>None</td><td>0 ~ 65535</td><td>–</td><td>0 ~ FFFF(h)</td></tr>
<tr><td>2's Complement</td><td>–32768 ~ 32767</td><td>–</td><td>0 ~ FFFF(h)</td></tr>
<tr><td>MSB Sign</td><td>–32767 ~ 32767</td><td>–</td><td>0 to FFFF(h)</td></tr>
</table>
</td></tr>
</table>

Continued

Setting		Description

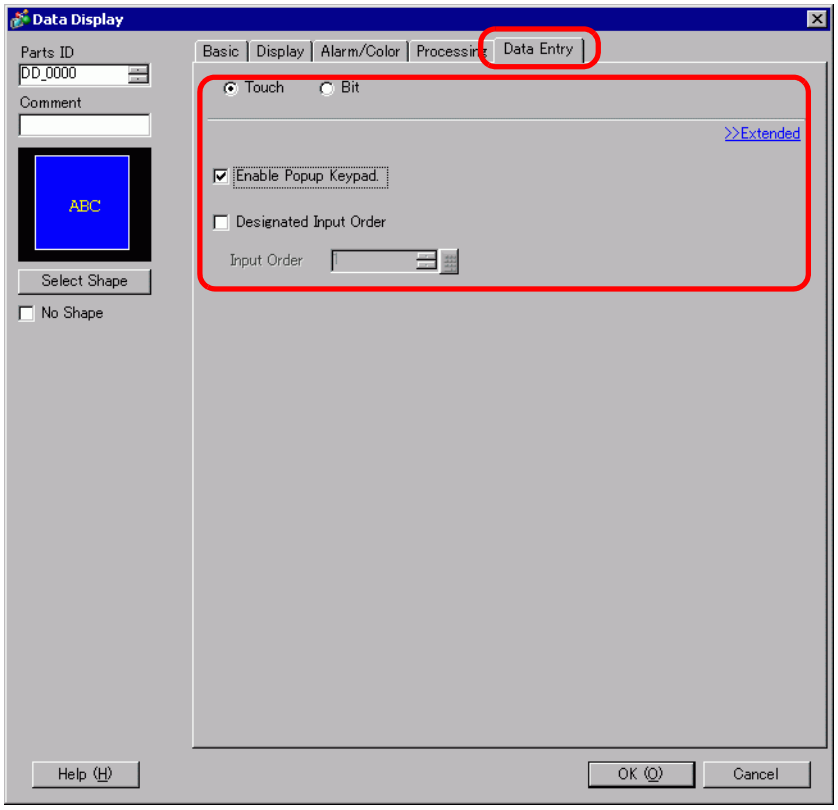
Input Range/ Display Range — Min. Value/ Max. Value

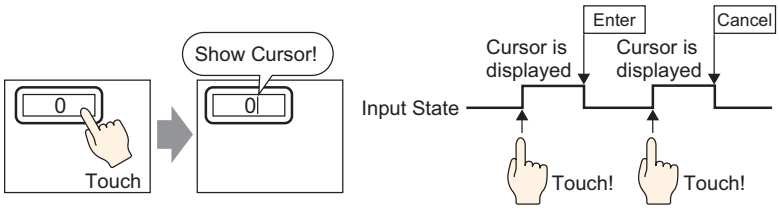
Bit Length	Data Type	Sign +/-	Input Range	Display Sign +/–	Display Range
32 bit	Dec	None	0 ~ 4294967295	Disable	0 ~ 4294967295
				Enable	–2147483648 ~ 2147483647
		2's Complement	–2147483648 ~ 2147483647	Disable	0 ~ 4294967295
				Enable	–2147483648 ~ 2147483647
		MSB Sign	–2147483647 ~ 2147483647	Disable	0 ~ 4294967295
				Enable	–2147483648 ~ 2147483647
	Hex	None	0 ~ 4294967295	–	0 ~ FFFFFFFF(h)
		2's Complement	–2147483648 ~ 2147483647	–	0 ~ FFFFFFFF(h)
		MSB Sign	–2147483647 ~ 2147483647	–	0 ~ FFFFFFFF(h)
	BCD	–	0 ~ 99999999	–	0 ~ 99999999
	Bin	None	0 ~ 4294967295	–	0 ~ FFFFFFFF(h)
		2's Complement	–2147483648 ~ 2147483647	–	0 ~ FFFFFFFF(h)
		MSB Sign	–2147483647 ~ 2147483647	–	0 ~ FFFFFFFF(h)
	Float	–	$-9.9e^{16}$ ~ $9.9e^{16}$	–	$-9.9e^{16}$ ~ $9.9e^{16}$

NOTE

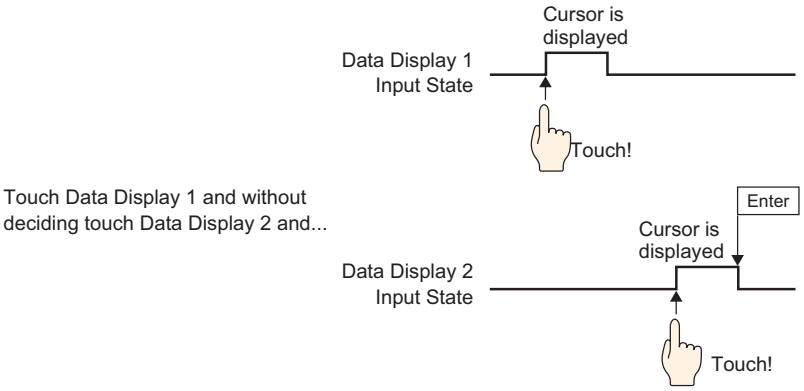
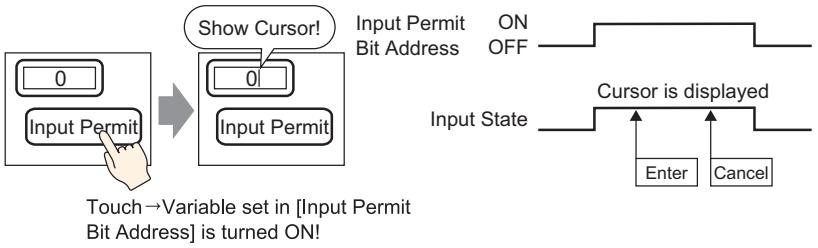
- The Input Range and Display Range define how to convert values for display. If the value is outside the input range, the value is converted and displayed using the same ratio.

■ Data Entry/Basic

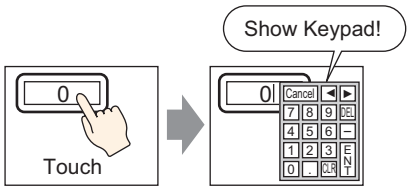
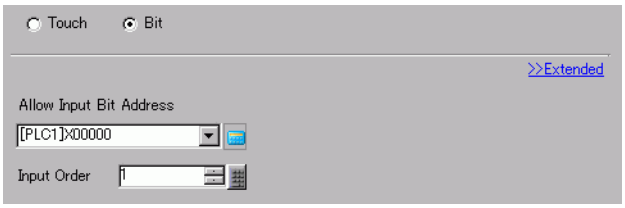


Setting	Description
Data Entry Methods	Select the method that will change the Data Display to input state (cursor display state). • Touch When the Data Display is touched, it will change to the Allow Input state. 

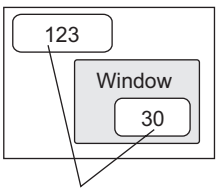
Continued

Setting	Description
Data Entry Methods	**NOTE** • If you touch a Data Display while inputting data into another Data Display, the input data will revert to its previous data, and the most recently touched part will enter the Allow Input state.  • Bit When the Allow Input Bit Address is ON, the Data Display is in the Allow Input state.  **NOTE** • If the [Allow Input Bit Address] is turned OFF while inputting data in a Data Display, the Allow Input state is canceled, and the input data is erased.
Touch	

Continued

Setting		Description
Touch	Enable Popup Keypad	Select to display a pop-up keypad when you touch the Data Display part.  **NOTE** • A pop-up keypad cannot be used when the Data Display is placed on a Window screen.
	Designated Input Order	When entering data into multiple Data Displays in sequence, select the order in which each display enters the input state. ☞ "14.13 How Data Input Order Works" (page 14-121)
	Input Order	Select the order, from 1 to 384, in which the Part will enter the input state.
Bit		
	Allow Input Bit Address	When the bit address set here turns ON, the Data Display enters the input state.

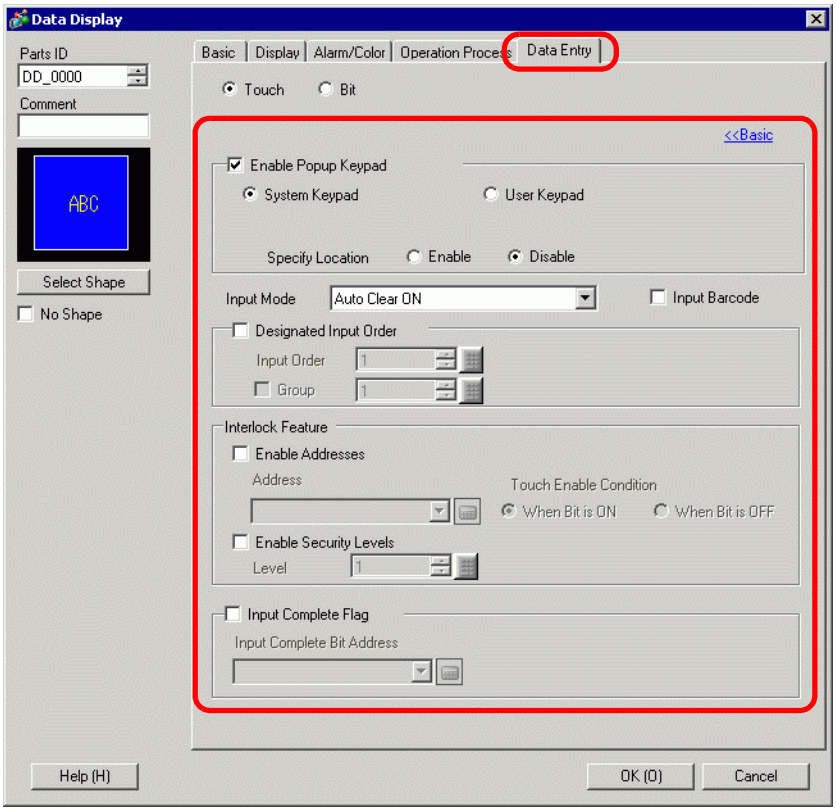
Continued

Setting		Description
Bit	Input Order	Number the Parts from 1 to 384 in the order that they will enter the Allow Input state if the [Allow Input Bit Addresses] of multiple Data Display Parts turn ON at the same time (when a bit address has been registered to multiple Data Display parts, or when different bit addresses turn ON at the same time). **NOTE** • If more than one [Allow Input Bit Address] is turned ON at the same time, the Data Displays will enter the input state according to their [Input Order] settings. If the [Input Order] settings are the same, the input state order will be determined by the order the parts were placed. • If the [Allow Input Bit Address] of Data Displays placed on the Base Screen and Window Screen turn ON at the same time, the Base Screen will have a higher priority for the input state than the Window Screen. When placing Data Displays on both the Base and Window screen, make sure to set a different [Allow Input Bit Address]. 

NOTE

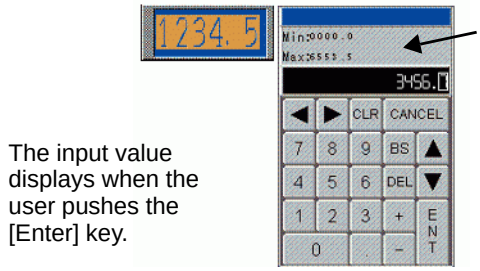
- When Visibility Animation is selected for the Numeric Display, it will operate as described below.
  - •When it is invisible, it cannot be activated by touch.
  - •If a Bit operation is executed when it is visible, the input box will appear, and when you set up the Popup Keypad, the Popup Keypad will also appear.
  - •If a Bit operation is executed when it is invisible, it stays in the Invisible state and the input box will not appear. However, if the bit operation is enabled and it is in the visible state while Bit is ON, the input box will appear at the same time. However, when there is a numeric display part in the input state, the numeric display part will enter an input state when input is completed.
  - •When it changes from visible to invisible in the input state, the input state will be canceled. If a popup keypad is being displayed, the popup keyboard also becomes invisible.
  - •When the Designated Input Order is enabled, the input state will be transferred to the next Numeric Display Part. Also, if the input order is applied while invisible, the input box will not appear and it will be transferred to the next numeric display part.

■ Allow Input/Extended



Setting		Description
Touch	Enable Popup Keypad	Select to display a pop-up keypad when you touch the Data Display part. **NOTE** • A pop-up keypad cannot be used when the Data Display is placed on a Window screen.
	Keypad Type	• System Keypad Use the standard keypad registration for GP-Pro EX. Use this in normal cases. • User Keypad Create a user-defined keypad with the Keypad part. This keypad allows for customized input. ☞ "15.4.2 Setup Procedure n Popping Up the Customized Keypad" (page 15-15)

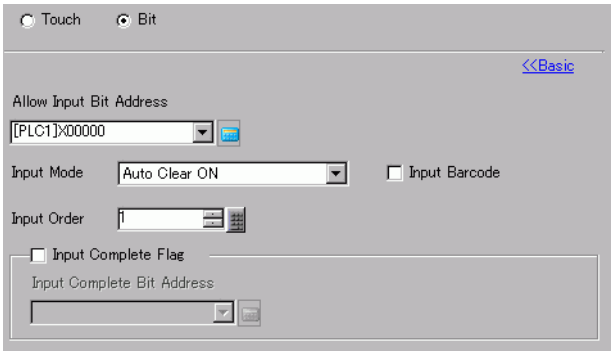
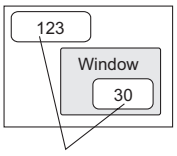
Continued

Setting		Description
Touch	System Keypad	Display the prepared standard keypad registration in GP-Pro EX.  **NOTE** • The range displayed on the system keypad varies depending on whether or not the Alarm Settings are being used. If there are no Alarm Settings: the Min. and Max. values of the "Display Range". If there are Alarm Settings: the Lower and Upper limit values for the "Alarm Settings". • When defining the alarm settings, the upper and lower limits are displayed as the input range. • When the Specify Input/Display Range check box is selected, even if no alarm is set up, the upper and lower limits are displayed as the input range. • When neither an Alarm Settings nor Specify Input/Display Range is used, the upper and lower limit values are defined by the Data Type and Total Display Digits in the Data Display. • When [Data Type] is [32 Bit Bin], the input range and alarm range does not display. • When [Data Type] is [32 Bit Float], and if Alarm Settings are not configured, the input range does not display.
	User Keypad Keypad	Set the number of the custom-made keypad.
	Specify Location	Select whether to set the pop-up keypad display position. If [Enable] is selected, the pop-up keypad Display Area can be selected and moved after the Data Display part is positioned. **NOTE** • When you group a Data Display with other parts, you cannot select or move the pop-up keypad display area.

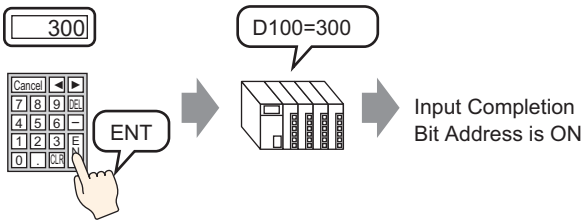
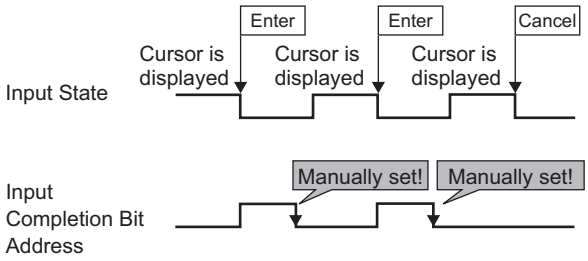
Continued

<table>
<tr><th colspan="3">Setting</th><th>Description</th></tr>
<tr><td rowspan="8">Touch</td><td colspan="2">Designated Input Order</td><td>When entering data into multiple Data Displays in sequence, select the order in which each display enters the input state.
☞"14.13 How Data Input Order Works" (page 14-121)</td></tr>
<tr><td></td><td>Input Order</td><td>Select the order, from 1 to 384, in which the Part will enter the input state.</td></tr>
<tr><td></td><td>Group</td><td>Divide the Data Displays into groups for continuous data input. The cursor will move in turn to each successive Data Display registered in the same group, according to the input order, setting them into the Allow Input state. The Group Number can be from 1 to 10. Continued
☞"14.13.2 Set Input Order by Group" (page 14-122)</td></tr>
<tr><td colspan="2">Interlock</td><td>Designate whether or not to use the Address and Security Level when using the Interlock Feature (a feature that enables Touch only when the conditions are satisfied).
NOTE
• If visibility/invisibility switches according to Visibility Animation settings during interlocking, touch operation is still enabled regardless of the visibility/invisibility, but the switch feature will not work.</td></tr>
<tr><td></td><td>Use an Address</td><td>This function only allows input when the [Address] bit is selected via the [Touch Enable Condition]. Select the check box to use Interlock.
☞"14.7 Preventing Operational Errors By Using Interlock" (page 14-25)</td></tr>
<tr><td></td><td>Address</td><td>Select the bit address that will designate the enable condition, to allow input to be entered. Touch is enabled (disabled) depending on the state of this address.</td></tr>
<tr><td></td><td>Touch Enable Conditions</td><td>Select the condition that will enable the part to be touched, to allow input to be entered.
<table>
<tr><th>Touch Enable Condition</th><th>Address Status</th><th>Touch Enabled/ Disabled</th></tr>
<tr><td rowspan="2">When Bit is ON</td><td>ON</td><td>Touch enabled</td></tr>
<tr><td>OFF</td><td>Touch disabled</td></tr>
<tr><td rowspan="2">When Bit is OFF</td><td>ON</td><td>Touch disabled</td></tr>
<tr><td>OFF</td><td>Touch enabled</td></tr>
</table>
NOTE
• When the Interlock [Touch Enable Condition] is disabled during input, the Data Display will remain in the Allow Input state. Interlock will not work until the input is completed.</td></tr>
<tr><td></td><td>Use Security Level</td><td>Select whether to use the security function for each part. When logged in with a Security Level higher than that set for the part, Touch Operation will be enabled.</td></tr>
<tr><td></td><td>Level</td><td>Set the Security Level of the part from 1 to 15.</td></tr>
</table>

Continued

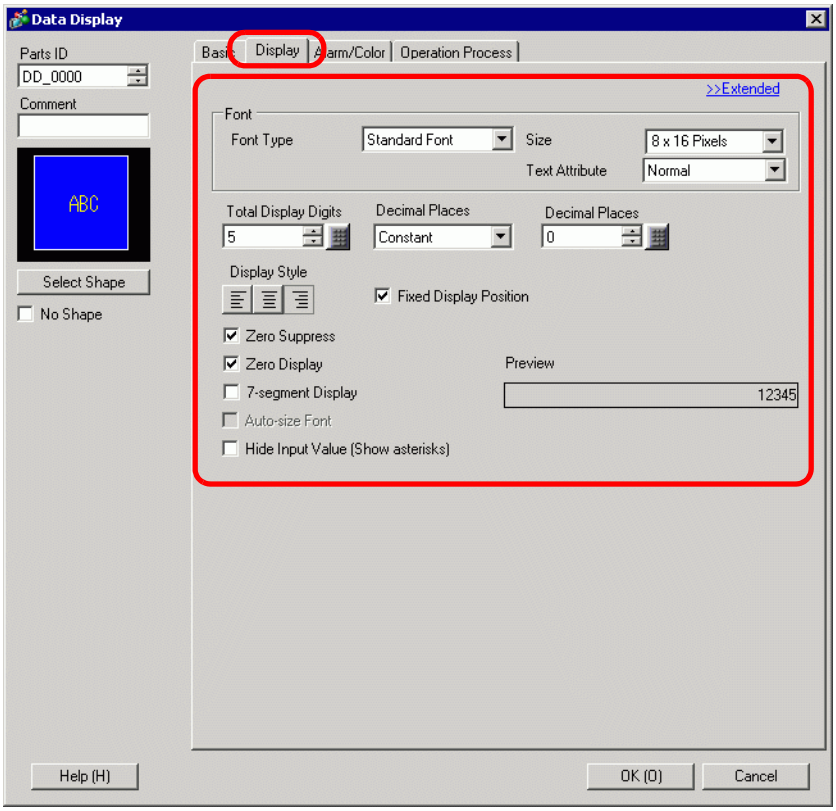
Setting		Description
Bit		
	Allow Input Bit Address	When the bit address set here turns ON, the Data Display enters the input state.
	Input Order	Number the Parts from 1 to 384 in the order that they will enter the Allow Input state if the [Allow Input Bit Addresses] of multiple Data Display Parts turn ON at the same time (when a bit address has been registered to multiple Data Display parts, or when different bit addresses turn ON at the same time). **NOTE** • If more than one [Allow Input Bit Address] is turned ON at the same time, the Data Displays will enter the input state according to their [Input Order] settings. If the [Input Order] settings are the same, the input state order will be determined by the order the parts were placed. • If the [Allow Input Bit Address] of Data Displays placed on the Base Screen and Window Screen turn ON at the same time, the Base Screen will have a higher priority for the input state than the Window Screen. When placing Data Displays on both the Base and Window screens, make sure to set a different [Allow Input Bit Address] for each.  [Allow Input Bit Address] turns ON at the same time

Continued

Setting	Description
Input Mode	• Auto Clear OFF New data will build on previously input data. Pressing [CLR] on the keypad clears the value. • Auto Clear ON The first key pressed (except cursor moves, [ENT], [DEL], or [BS]) will clear the previously input text data. • Auto Clear ON + Input Check When using barcode input, performs automatic clear and checks whether the number of input digits coincides with the [Total Display Digits]. If they do not coincide, the data will not be written to the word address.
Input Barcode	A setting that allows input from a barcode reader. ☞ "16.2.2 Setup Procedure" (page 16-5)
Input Complete Flag	Detects and notifies you when input has been completed. 
Input Complete Bit Address	Sets the bit address that will turn ON when input has been completed.  **NOTE** • Please return this bit to OFF after input has been completed.

■ Display Settings/Basic

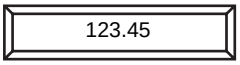
Sets the font and attributes of the Numeric Display.



Setting		Description
Font		Sets a font for the numeric values.
	Font Type	Select a font type for the numeric values from [Standard Font] or [Stroke Font].
	Size	Chooses a font size for the numeric values. Standard Font: (8 to 64) x (8 to 128). Standard Font (Fixed Size):[6x10], [8x13], [13x23]. (Displays single-byte characters only.) Stroke Font: 6 to 127.
	Text Attribute	Select the text attributes. Standard Font: Choose from [Standard], [Bold], [Shadow]. (When using the [6x10] font size, select either [Standard] or [Shadow].) Stroke Font: Choose from [Standard], [Bold], [Outline]. **NOTE** • When using [Auto-size Font] with either [7-segment Display] or [Stroke Font], the [Text Attribute] cannot be defined.

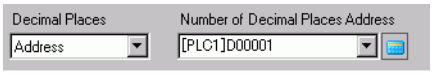
Continued

<table>
<tr><th>Setting</th><th>Description</th></tr>
<tr><td>Total Display Digits</td><td>Select the number of digits to display in the numeric display. Numbers after the decimal point are included in the display digits. However, the decimal point is not included in the display digits.</td></tr>
<tr><td>Specify Decimal Places</td><td>Select the designation method for specifying the Decimal Places. This setting is available when the [Data Type] is [Dec.] or [Float].
• Constant
Specify a fixed value for the Decimal Places. (Direct Specification)
• Address
Specify the address where the Decimal Places are stored. (Indirect Specification)</td></tr>
<tr><td>Decimal Places</td><td> 

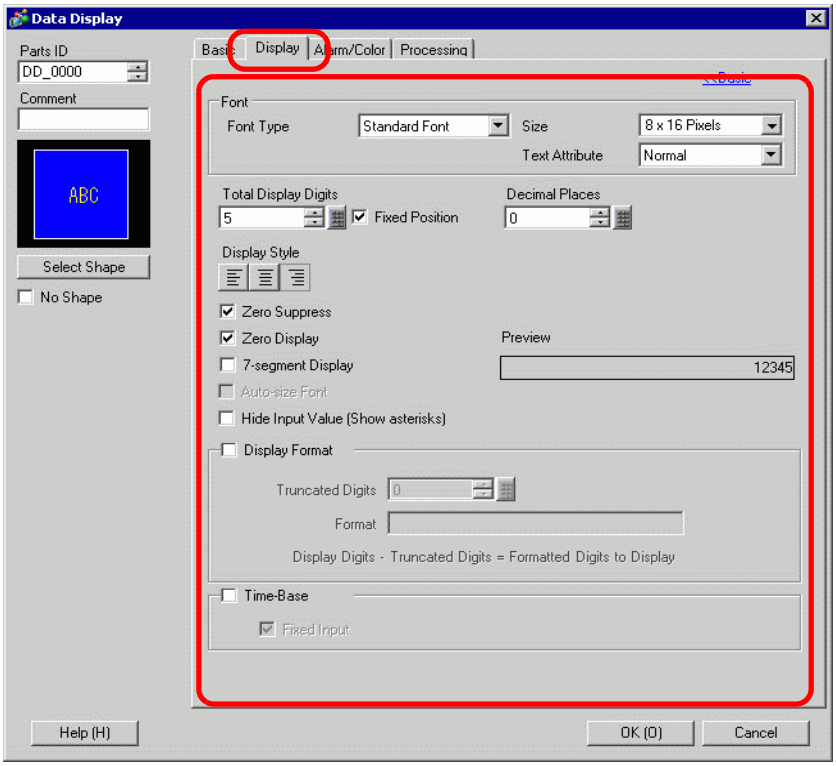
When [Specified Decimal Places] is [constant], select the number of digits after the decimal point.
For example:
When the Total Display Digits is 5, and the Number of Decimal Places is 2, it will look as follows:
 

The number of decimal places you can set up depends on the [Data Type].
<table>
<tr><th rowspan="2">Data Length</th><th rowspan="2">Data Type</th><th>Total Display Digits</th><th>Decimal Places</th></tr>
<tr><th colspan="2">Setting Range</th></tr>
<tr><td rowspan="5">16 bit</td><td>Dec</td><td>1~11</td><td>0~10</td></tr>
<tr><td>Hex</td><td>1~11</td><td></td></tr>
<tr><td>BCD</td><td>1~11</td><td></td></tr>
<tr><td>Oct</td><td>1~11</td><td></td></tr>
<tr><td>Bin</td><td>1~16</td><td></td></tr>
<tr><td rowspan="5">32 bit</td><td>Dec</td><td>1~11</td><td>0~10</td></tr>
<tr><td>Hex</td><td>1~11</td><td></td></tr>
<tr><td>BCD</td><td>1~11</td><td></td></tr>
<tr><td>Bin</td><td>1~32</td><td></td></tr>
<tr><td>Float</td><td>1~17</td><td>0~16</td></tr>
</table></td></tr>
</table>

Continued

Setting	Description
Decimal Places Address	 When the [Decimal Places Specification] is [Address], specify the Address where Decimal Places are stored.
Display Style	Select the alignment of the numeric display area's numeric value: [Align Right], [Align Left], or [Align Center].
Fixed Position	Select this option to display the numeric value in the center of the part.
Zero Suppress	If this option is selected, leading zeros are not displayed. For example, when Total Display Digits = 4  Unnecessary zeroes are not displayed  Leading zeroes are added to correspond to the length of Display Digits
Zero Display	Displays "0" when the data is zero.
7-segment Display	Select this option to show values as a 7-segment display. **NOTE** • [This option is not available when a [Fixed Size] is selected in the font [Size] list. • This cannot be set if the [Display Format] option is set on the [Basic] tab's [Extended] screen.
Auto-size Font	For use with the Stroke Font, select this option to display the value without the top and bottom margins. **NOTE** • This cannot be set when [Text Table] is selected. • This option is unavailable when the [7-segment Display] check box is selected.
Hide Input Value (Show asterisks)	Set whether Input Values will be indicated by asterisks. This feature is useful when entering passwords or other types of inputs that require increased security. **NOTE** • You cannot use Hide Input Value (Show asterisks) with the [7-segment Display].
Preview	Displays the data image according to the settings.

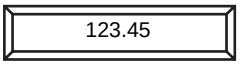
■ Display Settings/Extended

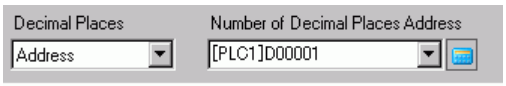


Setting		Description
Font		Sets a font for the numeric values.
	Font Type	Select a font type for the numeric values from [Standard Font] or [Stroke Font].
	Size	Chooses a font size for the numeric values. Standard Font: (8 to 64) x (8 to 128). Standard Font (Fixed Size): [6 x 10], [8 x 13], [13 x 23]. (Displays single-byte characters only.) Stroke Font: 6 to 127.
	Text Attribute	Select the text attributes. Standard Font: Choose from [Standard], [Bold], [Shadow]. (When using the [6x10] font size, select either [Standard] or [Shadow].) Stroke Font: Choose from [Standard], [Bold], [Outline]. **NOTE** • When using [Auto-size Font] with either [7-segment Display] or [Stroke Font], the [Text Attribute] cannot be defined.
Total Display Digits		Select the number of digits to display in the numeric display. Numbers after the decimal point are included in the display digits. However, the decimal point is not included in the display digits.

Continued

<table>
<tr><th>Setting</th><th>Description</th></tr>
<tr><td>Decimal Places</td><td>Select the designation method for specifying the Decimal Places. This setting is available when the [Data Type] is [Dec] or [Float].
• Constant
Specify a fixed value for the Decimal Places. (Direct Specification)
• Address
Specify the address where the Decimal Places are stored. (Indirect Specification)</td></tr>
<tr><td>Decimal Places</td><td> 

When [Specified Decimal Places] is [constant], select the number of digits after the decimal point.
For example:
When the Total Display Digits is 5, and the Number of Decimal Places is 2, it will look as follows:
 

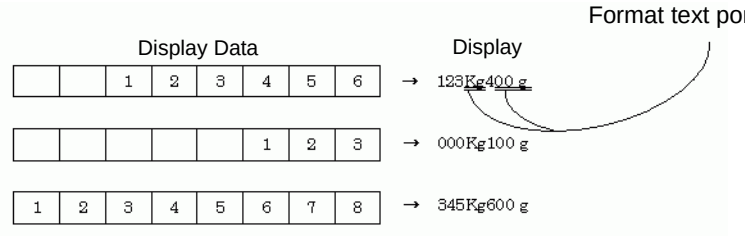
The number of decimal places you can set up depends on the [Data Type].
<table>
<tr><th rowspan="2">Data Length</th><th rowspan="2">Data Type</th><th>Total Display Digits</th><th>Decimal Places</th></tr>
<tr><th colspan="2">Setting Range</th></tr>
<tr><td rowspan="5">16 bit</td><td>Dec</td><td>1~11</td><td>0~10</td></tr>
<tr><td>Hex</td><td>1~11</td><td></td></tr>
<tr><td>BCD</td><td>1~11</td><td></td></tr>
<tr><td>Oct</td><td>1~11</td><td></td></tr>
<tr><td>Bin</td><td>1~16</td><td></td></tr>
<tr><td rowspan="5">32 bit</td><td>Dec</td><td>1~11</td><td>0~10</td></tr>
<tr><td>Hex</td><td>1~11</td><td></td></tr>
<tr><td>BCD</td><td>1~11</td><td></td></tr>
<tr><td>Bin</td><td>1~32</td><td></td></tr>
<tr><td>Float</td><td>1~17</td><td>0~16</td></tr>
</table></td></tr>
<tr><td>Decimal Places Address</td><td> 

When the [Decimal Places Specification] is [Address], specify the Address where Decimal Places are stored.</td></tr>
</table>

Continued

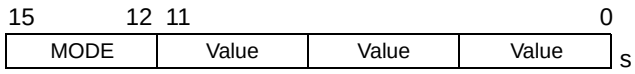
Setting	Description
Display Style	Select the alignment of the numeric display area's numeric value: [Align Right], [Align Left], or [Align Center].
Fixed Position	Select this option to display the numeric value in the center of the part.
Zero Suppress	If this option is selected, leading zeros are not displayed. For example, when Total Display Digits = 4  Unnecessary zeroes are not displayed  Leading zeroes are added to correspond to the length of Display Digits
Zero Display	Displays "0" when the data is zero.
7-segment Display	Select this option to show values as a 7-segment display. **NOTE** • This option is not available when a [Fixed Size] is selected in the font [Size] list. • This cannot be set if the [Display Format] option is set on the [Basic] tab's [Extended] screen.
Auto-size Font	For use with the Stroke Font, select this option to display the value without the top and bottom margins. **NOTE** • This cannot be set when [Text Table] is selected. • This option is unavailable when the [7-segment Display] check box is selected.
Hide Input Value (Show asterisks)	Set whether Input Values will be indicated by asterisks. **NOTE** • You cannot use Hide Input Value (Show asterisks) with the [7-segment Display].
Preview	Displays the data image according to the settings.

Continued

Setting		Description
Display Format		Select whether to use a Display Format. **NOTE** • This option cannot be selected when, in the [Basic] tab, [Allow Input] is selected. • This option cannot be set when [Data Type] is [Bin] on the [Basic] tab.
	Truncated Digits	Designate at which digit to truncate (0 to 10). This can only be set when the [Data Type] is [Dec] or [BCD] on the [Basic] tab. When there are no digits to truncate, a value of zero is set.
	Format	Format Set the Display Format. The portion which will display data is input with an asterisk "∗". Together with the format character portion, it must not exceed 80 characters. The numeric value displays in the asterisks "∗" from the lowest position. Select the settings so that the Total Display Digits - Truncated digits = Number of "∗". For example: [Total Display Digits] = 6, [Truncated Digits] = 2, [Display Style] = Align Right [Zero Suppress] = OFF, [Format] = ∗∗∗Kg ∗00g  Data is entered starting from the lowest asterisk [∗] field position. However, [Truncated Digits] is set to [2], so data is entered starting with the third digit from the right.
	Total Display Digits - Truncated Digits = Number of asterisks * in the Format	Displays the calculation method for the number of asterisks "∗" in the Display Format.

Continued

<table>
<tr><th>Setting</th><th>Description</th></tr>
<tr><td>Time-Base</td><td>
Defines whether to use the Time-Base Function.
This works only when the following devices are selected:
• Siemens AG: SIMATIC S7 3964(R)/RK512
• Siemens AG: SIMATIC S7 MPI Direct
• Siemens AG: SIMATIC S7 Ethernet
• PROFIBUS International: PROFIBUS DP Slave
If the [Time-Base] check box is selected, data displays in the following formats.

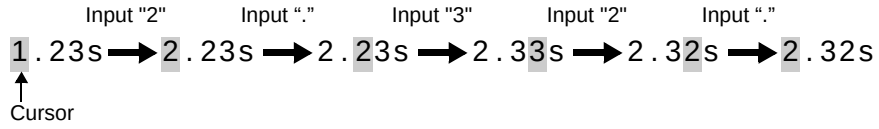
Word Address


Using the defined word address, the four most-significant bits specify the decimal point. Each four bit that follows specifies a number for up to three positions to the right of the decimal point.
Displays the 4-digit value (including decimal points, spaces, and 0s) + "s" (5th digit). When entering values other than 0h to 09h, displays as follows.

<table>
<tr><th>Mode</th><th>Display</th></tr>
<tr><td>0h</td><td>0.01 Seconds</td></tr>
<tr><td>1h</td><td>0.1 Seconds</td></tr>
<tr><td>2h</td><td>1 Seconds</td></tr>
<tr><td>3h</td><td>10 Seconds</td></tr>
<tr><td>0 to 3h or more</td><td>10 Seconds</td></tr>
</table>
When a value outside 0h to 9h is inserted, displays as follows.
<table>
<tr><th>0Ah</th><th>Space</th></tr>
<tr><td>0Bh</td><td>:</td></tr>
<tr><td>0Ch</td><td>E</td></tr>
<tr><td>0Dh</td><td>.</td></tr>
<tr><td>0Eh</td><td>+</td></tr>
<tr><td>0Fh</td><td>-</td></tr>
</table>
When Value1=1, Value2=2, and Value3=3


</td></tr>
</table>

Continued

<table>
<tr><th colspan="2">Setting</th><th>Description</th></tr>
<tr><td>Time-Base</td><td>Fixed Input</td><td>
Specify if the decimal position is fixed when inputting values.
• At Enabled
Decimal point is fixed. When you input a decimal point, you can move the cursor before or after the decimal point. You can also move the cursor by pressing the "" or "" keys.
For example:


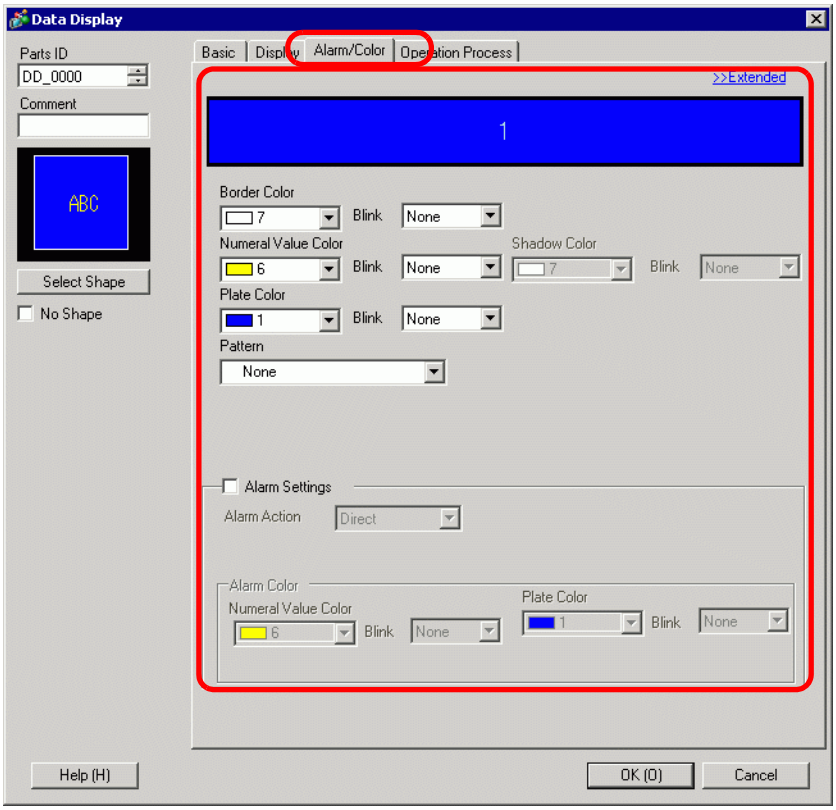
<table>
<tr><th rowspan="2">Input Value</th><th colspan="4">Value displayed in the Data Display</th></tr>
<tr><th>Mode0 (0.01 Seconds)</th><th>Mode1 (0.1 Seconds)</th><th>Mode2 (1 Second)*1</th><th>Mode3 (10s)*1</th></tr>
<tr><td>0</td><td>0.00 Seconds</td><td>_0.0s</td><td>__0_s</td><td>___0s</td></tr>
<tr><td>2</td><td>2.00 Seconds</td><td>_2.0s</td><td>__2_s</td><td>__20s</td></tr>
<tr><td>1.2</td><td>1.20 Seconds</td><td>_1.2s</td><td>Input Not Possible</td><td>Input Not Possible</td></tr>
<tr><td>1.23</td><td>1.23 Seconds</td><td>_1.3s*2</td><td>Input Not Possible</td><td>Input Not Possible</td></tr>
<tr><td>12</td><td>2.00.00s*3</td><td>12.0 Seconds</td><td>_12_s</td><td>_120s</td></tr>
<tr><td>12.3</td><td>2.30.00s*4</td><td>12.3 Seconds</td><td>Input Not Possible</td><td>Input Not Possible</td></tr>
<tr><td>123</td><td>3.00s*5</td><td>23.0 Seconds*4</td><td>123_s</td><td>1230 Seconds</td></tr>
</table>
*1 Mode 2 and 3 do not allow decimal input.
*2 Because the number of decimal digits is 1, the first decimal value entered (2) is overwritten.
*3 Because the number of integral digits is 1, the first entered value (1) is overwritten.
*4 Because the cursor does not move to a decimal position until a decimal point is input, the input (1) is ignored.
*5 Because the cursor does not move to a decimal position until a decimal point is input, the inputs ("1" and "2") are ignored.
</td></tr>
</table>

Continued

<table>
<tr><th colspan="2">Setting</th><th>Description</th></tr>
<tr><td>Time-Base</td><td>Fixed Input</td><td>
• At Disabled
Inputs a 4-digit value, which includes the decimal point. This type of input enables higher precision of display values.
When the Data Display accepts inputs, the cursor position starts in the far right position.
<table>
<tr><th>Input Value</th><th>Value to display</th><th>Mode</th></tr>
<tr><td>0</td><td>0.00 Seconds</td><td>0</td></tr>
<tr><td>0.0</td><td>0.00 Seconds</td><td>0</td></tr>
<tr><td>1</td><td>1.00 Seconds</td><td>0</td></tr>
<tr><td>1.2</td><td>1.20 Seconds</td><td>0</td></tr>
<tr><td>1.23</td><td>1.23 Seconds</td><td>0</td></tr>
<tr><td>12</td><td>12.0 Seconds</td><td>1</td></tr>
<tr><td>12.3</td><td>12.3 Seconds</td><td>1</td></tr>
<tr><td>123</td><td>123_s</td><td>2</td></tr>
<tr><td>1230</td><td>1230 Seconds</td><td>3</td></tr>
<tr><td>1234</td><td>Input Not Possible</td><td>–</td></tr>
</table>
</td></tr>
</table>

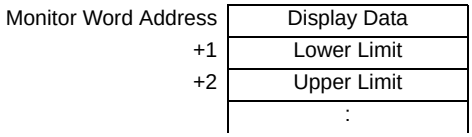
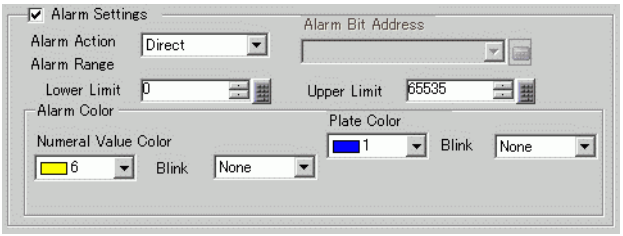
■ Alarm/Color Settings/Basic

Settings for the Numeric Display's color and numeric data.



Setting	Description
Border Color	Select the border color for the Numeric Display.
Numeral Value Color	Set the color for the Numeric Display's numeric data.
Shadow Color	Set the background color for the Numeric Display's numeric value. **NOTE** • This can only be set when [Shadow] is set on the [Text Attribute] in the [Display] tab's [Font].
Plate Color	Set a background color for the Numeric Display part. **NOTE** • When the Plate Color is set to transparent and [No Shape] is selected, only the Numeric Value is displayed. However, the range that can be touched when Allow Input is enabled will include only the Numeric Display and becomes smaller than the normal range.
Pattern	Set a background pattern for the Numeric Display.
Pattern Color	Set a pattern color for the Numeric Display.

Continued

Setting	Description
Blink	Select the blink and blink speed. You can choose different blink settings for the [Border Color], [Numeral Value Color], [Shadow Color], [Plate Color], and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Display Unit and System Settings' [Color Settings]. ☞"8.5.1 Setting Colors ■ List of Compatible Colors" (page 8-36)
Indirect Area Specification	If the [Alarm]'s [Alarm Action] is [Address], choose the designation method for the word addresses which will store the alarm's upper/ lower limit value. • Area After Display Address In the [Basic] tab, the Min and Max input range values are stored in consecutive addresses that follow the [Monitor Word Address].  For example: When [Monitor Word Address] is "D100" The Lower Limit will be "D101", and the Upper Limit will be "D102". • Individual Settings Individually define a word address for the [Lower Limit] and a word address for the [Upper Limit].
Alarm	The color can be set to change when the value goes outside of a specified range. Select whether to designate [Alarm].  **NOTE** • The alarm settings can only be set when the number of ranges is one. When the number of ranges is one, the contents of the Basic screen will also be displayed on the Detail screen. • If [Allow Input] has been selected under the [Basic Settings] tab, values outside of the alarm range cannot be input.

Continued

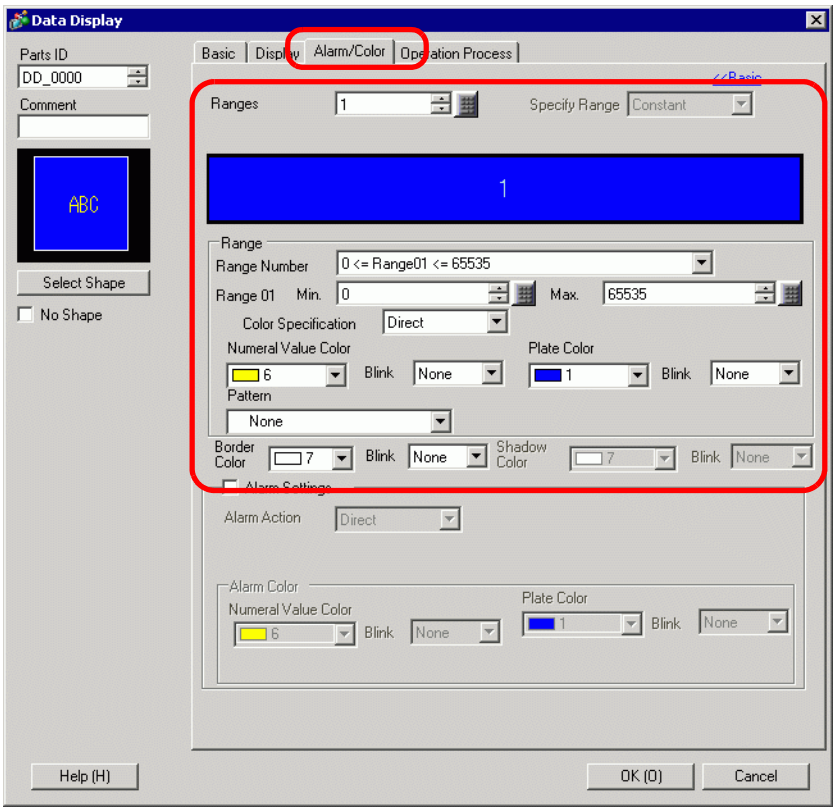
Setting		Description
Alarm	Alarm Action	Choose the Alarm Action. • Direct Write a set constant as the Alarm' upper/lower limit value. Select the upper and lower limits of the [Display Range] to fit within the ranges of the Max. and Min. values. Proper operation will be prevented if the values exceed the range. • Address Specify the address where the Upper/Lower Limit values are stored. • Change Color When the [Alarm Bit Address] turns ON, the color changes and an alarm displays.
	Specify the Alarm Range within the Display range	If [Alarm Action] is [Direct], you can set the upper and lower limit values for the alarm range. Specify whether to set within the [Display Range] of the [Basic Settings] tab. Once selected, you can specify only within the Display Range. Also, preset lower and upper limit values will be input. **NOTE** • When the settings of the Display Range are not displayed or the [Display Specification] is [Address], you can specify within the range from the Min. and Max. values of each data type.
	Alarm Bit Address	When the [Alarm Action] is [Change Color], input the bit address which will act as a trigger for the color change. When this bit turns ON, the color change will occur. Continued

Continued

<table>
<tr><th colspan="3">Setting</th><th>Description</th></tr>
<tr><td rowspan="5">Alarm</td><td colspan="2">Alarm Range Upper Limit/ Lower Limit</td><td>If [Alarm Action] is [Direct], you can set an upper/lower limit value for the alarm range. When [Alarm Action] is [Address] and [Individual Settings], you can set the word address where the upper and lower limit values are stored.
Each [Data Type] and [Sign +/–] has a different setup range.
<table>
<tr><th>Data Type</th><th>Data Length</th><th>Sign +/ –</th><th>Alarm Range Settings</th></tr>
<tr><td rowspan="4">Dec</td><td rowspan="2">16 bit</td><td>Disable</td><td>0 to 65535</td></tr>
<tr><td>Enable</td><td>–32768 to 32767</td></tr>
<tr><td rowspan="2">32 bit</td><td>Disable</td><td>0 to 4294967295</td></tr>
<tr><td>Enable</td><td>–2147483648 to 2147483647</td></tr>
<tr><td rowspan="2">Bin</td><td>16 bit</td><td colspan="2" rowspan="2">0000..0000(16 bit) ~ 1111..1111(16 bit)</td></tr>
<tr><td>32 bit</td></tr>
<tr><td>BCD</td><td>16 bit</td><td colspan="2">0 ~ 9999</td></tr>
<tr><td></td><td>32 bit</td><td colspan="2">0 to 99999999</td></tr>
<tr><td rowspan="2">Hex</td><td>16 bit</td><td colspan="2">0FFFF(h)</td></tr>
<tr><td>32 bit</td><td colspan="2">0FFFFFFFF(h)</td></tr>
<tr><td>Oct</td><td>16 bit only</td><td colspan="2">0 to 177777(o)</td></tr>
<tr><td>Float</td><td>32 bit only</td><td colspan="2">–9.9e^{16} to 9.9e^{16}</td></tr>
</table></td></tr>
<tr><td colspan="2">Alarm Color</td><td>Sets the alarm color.</td></tr>
<tr><td></td><td>Numeral Value Color</td><td>Select an alarm display color for numeric values from among 256 colors.</td></tr>
<tr><td></td><td>Plate Color</td><td>Select an alarm display background color for numeric values from among 256 colors.</td></tr>
<tr><td></td><td>Pattern Color</td><td>Select an alarm display pattern color for numeric values from among 256 colors.</td></tr>
<tr><td></td><td>Blink</td><td>Select the blink and blink speed. You can choose different blink settings in [Numeral Value Color], [Plate Color] and [Pattern Color].
NOTE
• There are cases where you can and cannot set Blink depending on the Display Unit and System Settings' [Color Settings].
☞"8.5.1 Setting Colors ■ List of Compatible Colors" (page 8-36)</td></tr>
</table>

■ Alarm/Color Settings/Extended

The displayed color will change depending on the numeric data range.



Setting	Description
Ranges	Set the number of ranges to be color-coded for the numeric display from 1 to 16.
Area Specification	If [Ranges] is more than "2", select the method to specify the minimum and maximum for each range. If [Ranges] is "1", [Constant] is fixed. • Constant Specify a set constant as the Min/Max. (Direct Specification) • Address Specify the address where the Min/Max values are stored. (Indirect Specification)

Continued

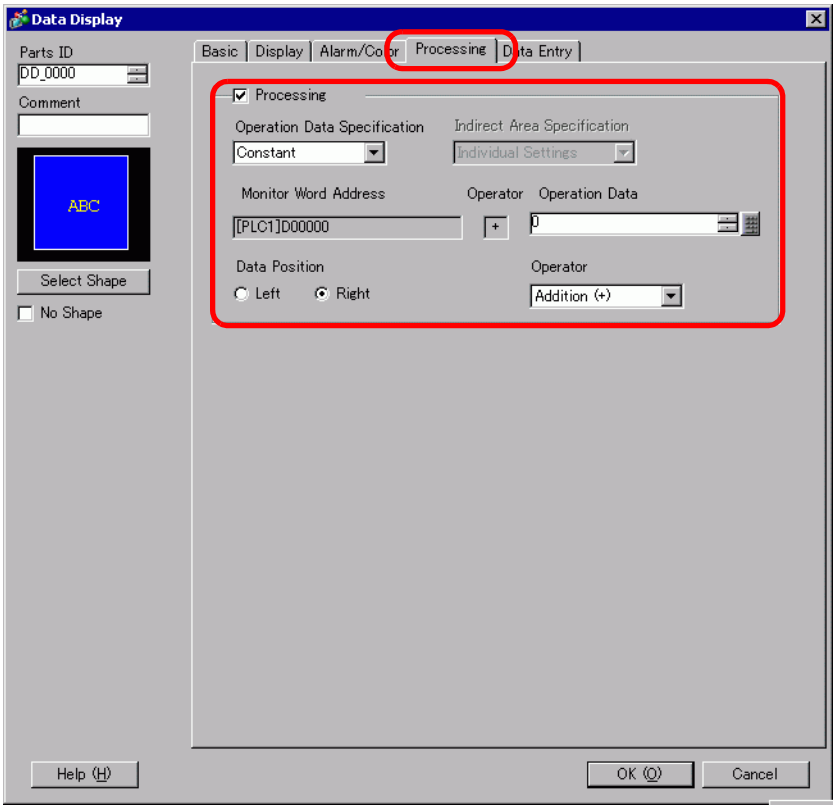
<table>
<tr><th colspan="2">Setting</th><th>Description</th></tr>
<tr><td colspan="2">Indirect Area Specification</td><td>If [Specify Range] is [Address], select the method to specify the address for storing the minimum and maximum numeric values.
• Area After Display Address
Allocated in order from Min. Max. from the specified address in [Monitor Word Address] on the [Basic] tab.
<table><tr><td>Monitor Word Address</td><td>Display Data</td></tr><tr><td>+1</td><td>Min</td></tr><tr><td>+2</td><td>Max</td></tr><tr><td></td><td>:</td></tr></table>
For example:
If [Monitor Word Address] is "D100", Min. is "D101", Max. is "D102".
• Individual Settings
Specify a word address for [Min.] and [Max.] individually.</td></tr>
<tr><td rowspan="2">Range</td><td>Range Number</td><td>Select the range for setting minimum and maximum and color within the range of 1 to 16 in [Ranges]. The value set for [Min.] and [Max.] displays.
For example:
Min. <= Range** < Max.</td></tr>
<tr><td>Min. Value/ Max. Value</td><td>Set the minimum and maximum values for the range selected in [Range Number]. If [Specify Range] is [Constant], set a min value/ max value. If [Address] is set, specify the address where the min/max value will be stored. The setting range varies according to [Data Type] on the [Basic] tab and the presence or absence of a sign.
<table><tr><th colspan="2">Data Type</th><th>Sign +/–</th><th>Range</th></tr><tr><td rowspan="7">16 bit</td><td rowspan="2">Dec</td><td>Disable</td><td>0 ~ 65535</td></tr><tr><td>Enable</td><td>–32768 ~ 32767</td></tr><tr><td>Hex</td><td></td><td>0 ~ FFFF(h)</td></tr><tr><td>Oct</td><td></td><td>–1777770 ~ 177777(o)</td></tr><tr><td>Bin</td><td></td><td>0 ~ FFFF(h)</td></tr><tr><td>BCD</td><td></td><td>0 ~ 9999</td></tr><tr><td rowspan="6">32 bit</td><td rowspan="2">Dec</td><td>Disable</td><td>0 ~ 4294967295</td></tr><tr><td>Enable</td><td>–2147483648 ~ 2147483647</td></tr><tr><td>Hex</td><td></td><td>0 ~ FFFFFFFF(h)</td></tr><tr><td>Bin</td><td></td><td>0 ~ FFFFFFFF(h)</td></tr><tr><td>BCD</td><td></td><td>0 ~ 99999999</td></tr><tr><td>Float</td><td></td><td>$-9.9e^{16} \sim 9.9e^{16}$</td></tr></table></td></tr>
</table>

Continued

Setting		Description
Range	Color Specification	Select how to define the color and pattern for the defined range. If [Ranges] is 2 or more, this setting is fixed as [Direct]. • Direct The [Display Color], [Pattern], and [Pattern Color] of the range specified in [Range Number] will be directly chosen and set. (Direct Specification) • Address Specify the address where the color code will be stored. (Indirect Specification)
	Numeral Value Color	Set the color for the Numeric Display's numeric data.
	Plate Color	Set a background color for the Numeric Display part.
	Pattern	Set a background pattern for the Numeric Display.
	Pattern Color	Set a pattern color for the Numeric Display.
Border Color		Select the border color for the Numeric Display.
Shadow Color		Set a shadow color for the Numeric Display text.
Blink		Select the blink and blink speed. You can choose different blink settings for the [Numeral Value Color], [Plate Color], [Pattern Color], [Border Color], and [Shadow Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Display Unit and System Settings' [Color Settings]. ☞"8.5.1 Setting Colors ■ List of Compatible Colors" (page 8-36)

■ Processing

You can perform an arithmetic operation on the data read from the device/PLC, and display the resulting data.

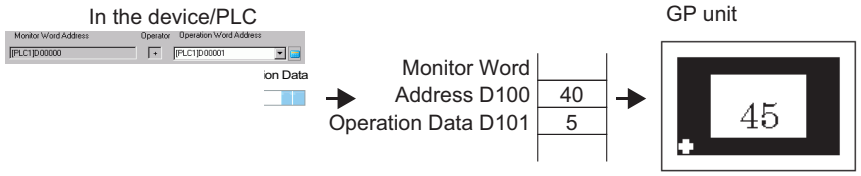


Setting		Description

Processing		Set whether to perform an arithmetic operation on the data stored in [Monitor Word Address] and display the result.
		NOTE
		• In the following cases, [Processing] cannot be set:
		  • When [Specify Input/Display Range] is set.
		  • When [Alarm] is set.

	Operation Data Specification	Select the method to set the data to operate. • Constant Write a set constant as the data to operate. (Direct Specification) • Address Designate the address which stores the data to operate. (Indirect Specification)

Continued

<table>
<tr><th colspan="2">Setting</th><th>Description</th></tr>
<tr><td rowspan="3">Processing</td><td>Indirect Area Specification</td><td>If the [Operation Data Specification] is [Address], choose the designation method for the address which will store the data to operate.
• Area After Display Address
Arithmetic operations take place using the values stored in the [Monitor Word Address], and the address that follows.
For example:
When Operation Data Specification is [Address], the Indirect Area Specification is [Area After Display Address], and the Operator is [+].
 

• Individual Settings
Select a separate word address for the operation data.</td></tr>
<tr><td>Monitor Word Address</td><td>The [Monitor Word Address] specified on the [Basic] tab displays.</td></tr>
<tr><td>Operation Data</td><td>For [Word Address] data, set the other data.
If the [Operation Data Specification] is set to [Constant], enter the operation data here. Each [Data Type] on the [Basic] tab has a different size range. If [Address] is set, specify the address where the operation data will be stored.
<table>
<tr><th colspan="2">Data Type</th><th>Sign +/–</th><th>Range</th></tr>
<tr><td rowspan="6">16 bit</td><td rowspan="2">Dec</td><td>Disable</td><td>0 ~ 65535</td></tr>
<tr><td>Enable</td><td>–32768 ~ 32767</td></tr>
<tr><td>Hex</td><td>-</td><td>0 ~ FFFF(h)</td></tr>
<tr><td>Oct</td><td>-</td><td>-1777770 ~ 177777(o)</td></tr>
<tr><td>Bin</td><td>-</td><td>0 ~ FFFF(h)</td></tr>
<tr><td>BCD</td><td>-</td><td>0 ~ 9999</td></tr>
<tr><td rowspan="6">32 bit</td><td rowspan="2">Dec</td><td>Disable</td><td>0 ~ 4294967295</td></tr>
<tr><td>Enable</td><td>–2147483648 ~ 2147483647</td></tr>
<tr><td>Hex</td><td>-</td><td>0 ~ FFFFFFFF(h)</td></tr>
<tr><td>Bin</td><td>-</td><td>0 ~ FFFFFFFF(h)</td></tr>
<tr><td>BCD</td><td>-</td><td>0 ~ 99999999</td></tr>
<tr><td>Float</td><td>-</td><td>$-9.9e^{16}$ ~ $9.9e^{16}$</td></tr>
</table></td></tr>
</table>

Continued

Setting		Description
Processing	Data Position	Select the Operation Data or Destination Word Address display position from [Right] or [Left]. Right: The Monitor Word Address is left, the Operation Data or Destination Word Address is right word address  Left: The Operation Data or Destination Word Address is left, the Monitor Word Address is right 
	Operator	Choose an operator from [Addition (+)], [Subtraction (–)], [Multiplication (*)], [Division (/)], [Logical AND (&)], [Logical OR (|)] or [Exclusive OR (^)]. **NOTE** • When the data format for a calculation is 32 bit Float, only addition, subtraction, multiplication and division can be performed.

NOTE

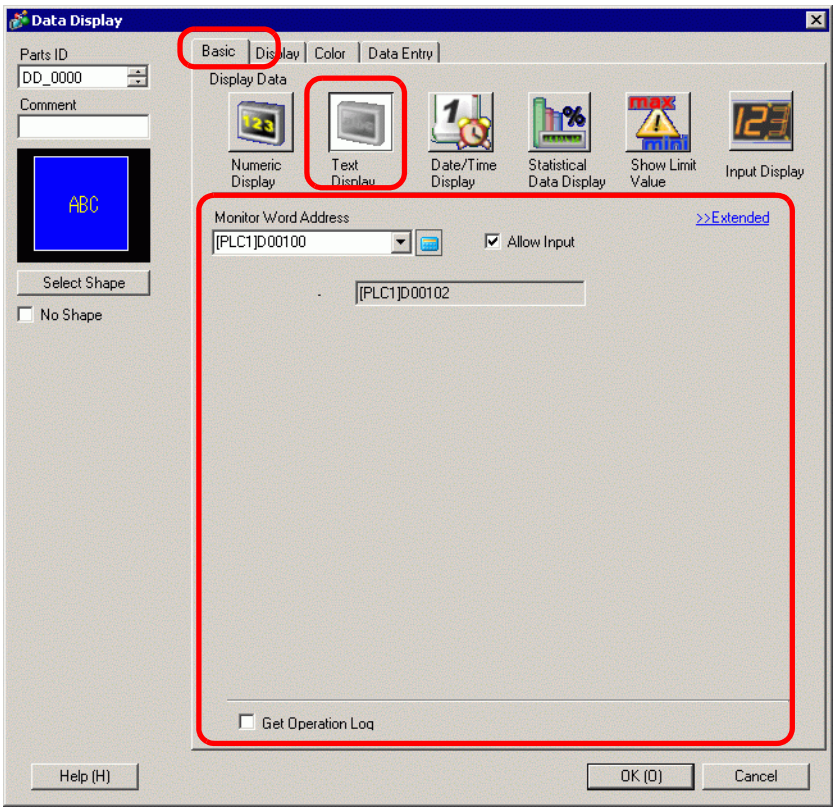
- Any overflowing digits resulting from an arithmetic operation will be ignored. For example, when [16 Bit Hex] is set, the result of "FFFF(h) + 1(h)" would be "0000(h)".
- If a division produces a remainder, an error may occur as a result of rounding the decimal.
- Results of base address + offset value calculations are always handled as 16 bit Bin values, regardless of the data length and data format settings.
  If a calculation result exceeds 16 bits (Max. Value: 65,535), bit 0 to bit 15 are handled as the valid bits and the higher-order bits are discarded.

14.11.2 Text Display

■ Basic Settings/Basic

Displays text stored in the specified device/PLC word address.

☞ "14.3 Displaying/Inputting Text Data" (page 14-8)



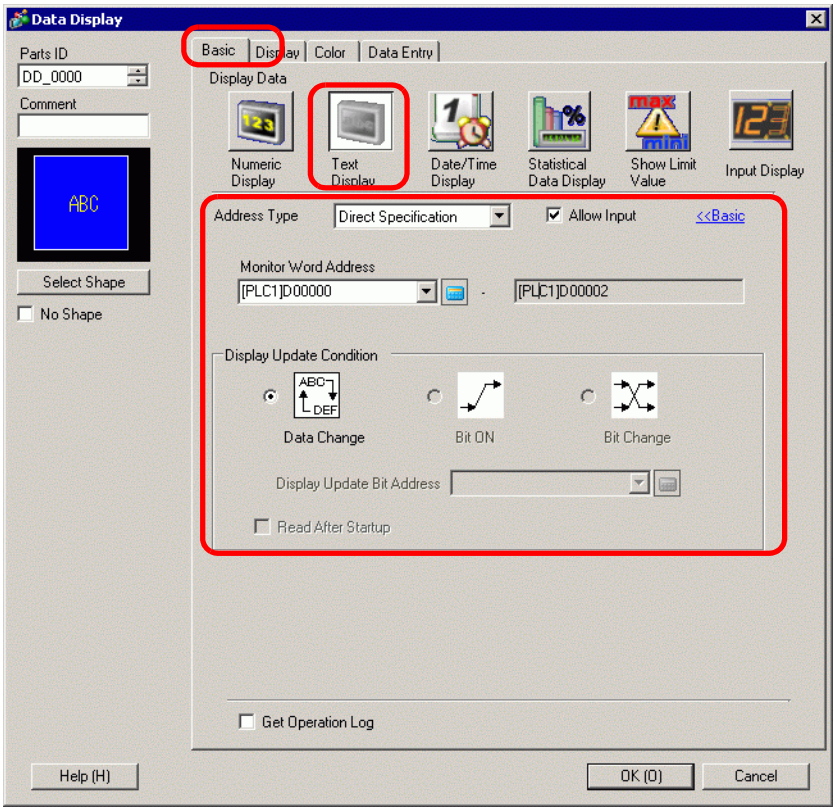
Setting	Description
Monitor Word Address	The Text Display displays text beginning with the word address defined here, for the number of consecutive addresses defined by the [Display Characters] in the [Display] tab. For example: When the [Display Characters] in the [Display] tab is set to "5" and the [Monitor Word Address] is "D100", the last address will become "D102". **NOTE** • The relationship of high order and low order Word data will differ according to the device/PLC type.
Allow Input	Set whether keypad and barcode reader input will be accepted by the Text Display.

Continued

Setting	Description
Get Operation Log	Specifies whether to record the Operation Log. Can be specified only when [Allow Input] is selected. **NOTE** • When [Enable Operation Log Function] is not selected for the common [Operation Log Settings], a message stating that an Operation Log of each individual part cannot be recorded will appear. Select [Enable Operation Log Function] and enable Operation Log Settings.

■ Basic Settings/Extended

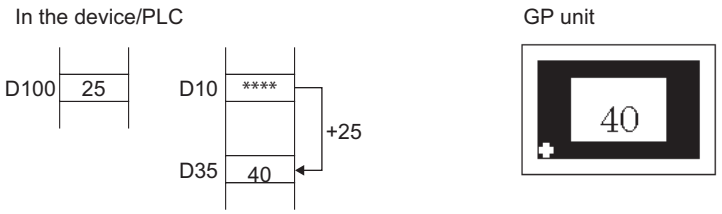
You can indirectly specify an address for the Text Display, or set up an update condition for displayed text.



Setting	Description
Address Type	You can define the display address (Monitor Word Address) in the following ways: [Direct Specification], [Address], or [Device Type & Address].
Allow Input	You can accept input from a keypad, bar code reader, or a two-dimensional bar code reader. Select this check box to display the [Data Entry] tab.
Monitor Word Address	You can have a real-time numeric display of data stored in the Word Address specified here. To indirectly specify the Monitor Word Address, in the [Address Type] list select [Address] or [Device Type Address].
Address	Indirectly designates to the device specified in [Base Address].

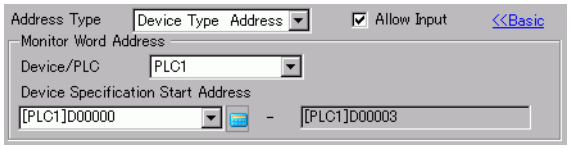
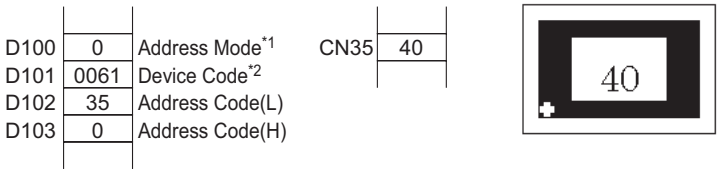
Continued

<table>
<tr><th colspan="3">Setting</th><th>Description</th></tr>
<tr><td rowspan="4">Monitor Word Address</td><td rowspan="3">Address</td><td>Base Address</td><td rowspan="2"> 

The [Base Address] becomes the standard indirectly designated address.
In [Offset Value Specification Address], set the address that stores the offset value from the [Base Address].
For example, when you indirectly specify [Monitor Word Address] D35
[Base Address] = D10 [Offset Value Specification Address] = D100
The data in [Offset Value Specification Address] is handled as the offset value from the [Base Address].
 

The [Base Address] (D10) is added to the [Offset Value Specification Address] (D100)'s data, which is "25", and the resulting address D35's data "40" displays.
IMPORTANT
• If the [Base Address] + [Offset Value] operation results in overflowing digits (more than 16 bit), the correct Monitor Word Address cannot be requested. In this case the Monitor Word Address will be undefined.</td></tr>
<tr><td>Offset Value Specification Address</td></tr>
<tr><td>Bin, BCD</td><td>Choose the type of data stored in the [Offset Value Specification Address] from [Bin] or [BCD].</td></tr>
<tr><td colspan="2">Device Type & Address</td><td>Indirectly designates both the device and address.</td></tr>
<tr><td rowspan="2"></td><td>Device/PLC</td><td>When [Address Type] is [Device Type & Address], select which device/PLC's address to indirectly designate.</td></tr>
</table>

Continued

Setting			Description
Monitor Word Address	Device Type & Address	Device Specification Start Address	 Input the start address of the word address to specify the Display Address in [Device Specification Start Address]. Store the Address Mode in [Device Specification Start Address]. Address Mode is the mode to determine if the Device Address is for Internal or External (PLC) Device. Store the Device Code and the Address Code in the three Words following [Device Specification Start Address]. The word address specified with the Device Code and the Address Code will be displayed. For example, when you indirectly specify [Monitor Word Address] CN35 [Device Specification Start Address] = D100 [Address Mode] = External (PLC) Device [Device Code] = CN:0061 In the device/PLC GP unit  *1 Address Mode 0: External (PLC) Device 1: Internal Device In the above case, 0 is stored. *2 Please see the "GP-Pro EX Device/PLC Connection Manual" for device codes. If you select an internal device, the device codes are LS area: 0000 and USR area: 0001. The data "40" of the address CN35 designated by D100, D101, D102, and D103 is displayed. **NOTE** • If the indirectly-designated address is out of range or does not exist, a communication error will occur. An error can affect the screen update. When an error occurs, check the indirectly-designated data and write the correct value to the device/PLC address to restore the screen update.

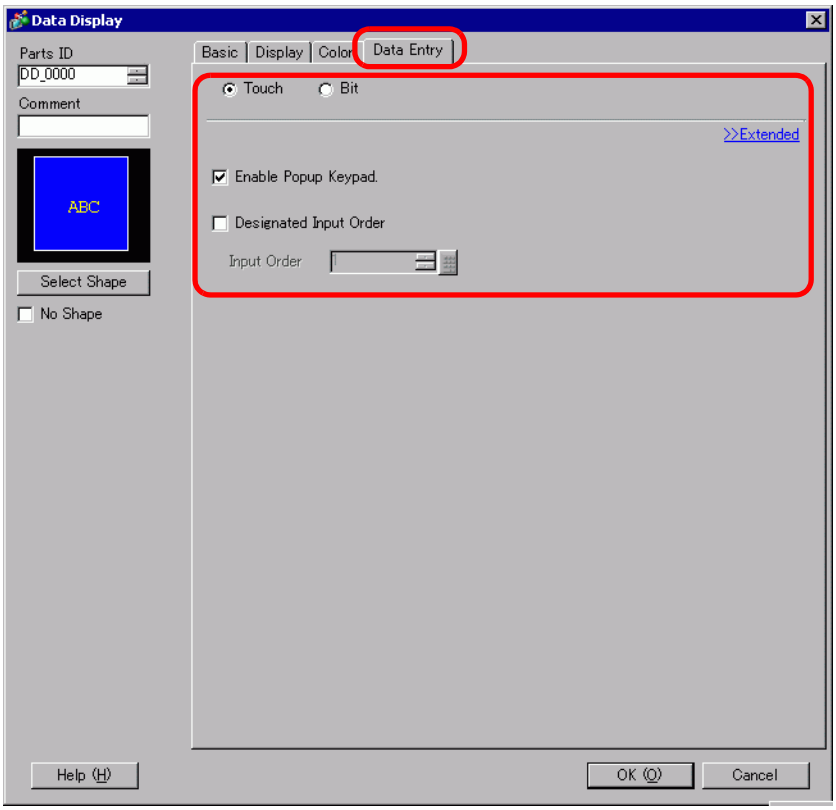
Continued

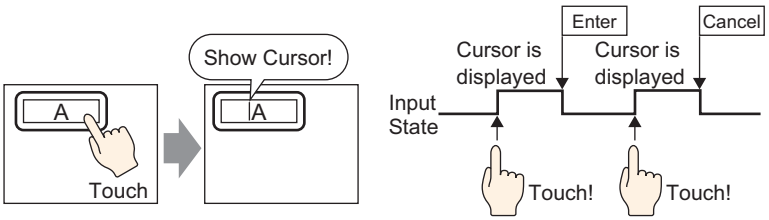
Setting		Description
Display Update Condition		Designate the condition which will update the display. This can only be set on the Detail screen. • Data Change The display is updated when a change occurs in the data stored in the [Monitor Word Address] on the [Basic] tab. • Bit ON The display is updated when a bit stored in the [Monitor Word Address] on the [Basic] tab turns ON. • Bit Change The display is updated when a bit stored in the [Monitor Word Address] on the [Basic] tab changes state from ON to OFF or from OFF to ON. **NOTE** • When Visibility Animation is set and [Bit ON] or [Bit Change] is selected, the following operation will occur. • When Bit On or Bit Change is selected in the invisible state, the Display Text will be updated while maintaining the invisible state. Subsequently, when it is in the visible state, the updated Text will be displayed. • Also, when the Monitor Word Address value is changed, it will maintain the invisible state. Similar to regular operation, the Display Text will not be updated even if the Monitor Word Address value is changed. Subsequently, when it enters the invisible state, Text that has not been updated will be displayed.
	Display Update Bit Address	Defines the ON/OFF trigger bit address for when [Display Update Condition] is set to [Bit ON] or [Bit Change].
	Read After Startup	When the text data has a large volume or many Text Display parts are set on the single screen, select this check box for each Text Display to increase other tags' display speeds. However, when this is checked, Text Display speeds will decrease.

NOTE

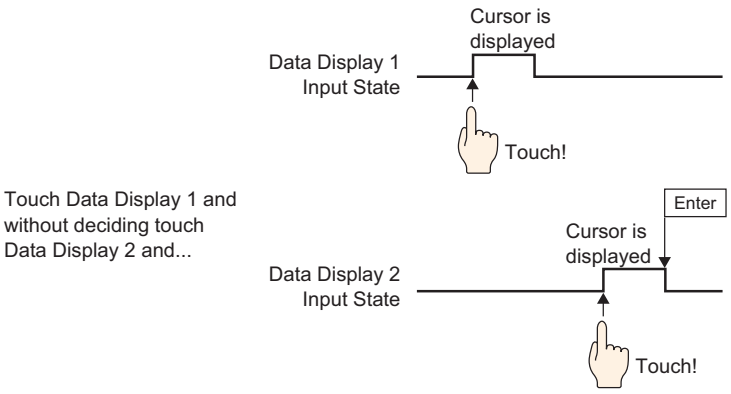
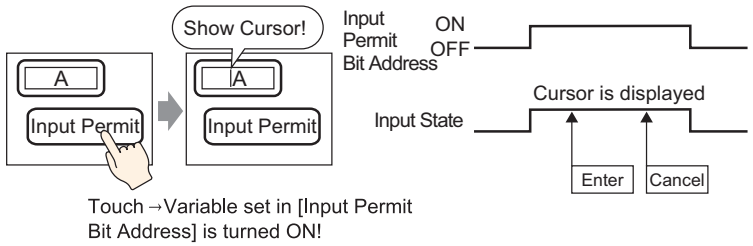
- After the data has been changed in the monitor address, please change the [Display Update Bit Address] so the text displays. If the changing order is reversed, the text may not display properly.
- If the [Display Update Bit Address] changes immediately after the text data changes in the device/PLC, there may be instances where the text does not display correctly. In this case, program the device/PLC to use the [Wait to Send] to slightly delay the trigger bit change.
  The [Wait to Send] period depends on the amount of placed parts, scan time, baud rate, and the number of characters used.

■ Data Entry/Basic

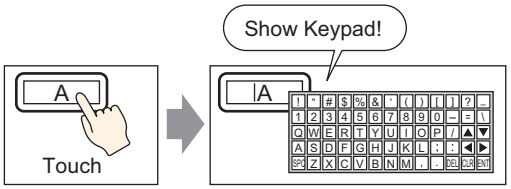
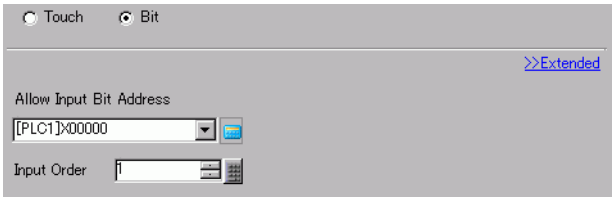


Setting	Description
Data Entry Methods	Select the method that will change the Data Display to input state (cursor display state). • Touch When the Data Display is touched, it will change to the Allow Input state. 

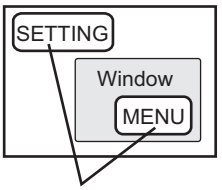
Continued

Setting	Description
Data Entry Methods	**NOTE** • If you touch a Data Display while inputting data into another Data Display, the input data will revert to its previous data, and the most recently touched part will enter the Allow Input state.  • Bit When the Allow Input Bit Address is ON, the Data Display is in the Allow Input state.  **NOTE** • If the [Allow Input Bit Address] is turned OFF while inputting data in a Data Display, the Allow Input state is canceled, and the input data is erased.
Touch	

Continued

Setting		Description
Touch	Enable Popup Keypad	Select whether a pop-up keypad will display when you touch the Data Display part.  **NOTE** • A pop-up keypad cannot be used when the Data Display is placed on a Window screen.
	Designated Input Order	When entering data into multiple Data Displays in sequence, select the order in which each display enters the input state.
	Input Order	Select the order, from 1 to 384, in which the Part will enter the input state.
Bit		
	Allow Input Bit Address	When the bit address set here turns ON, the Data Display enters the input state.

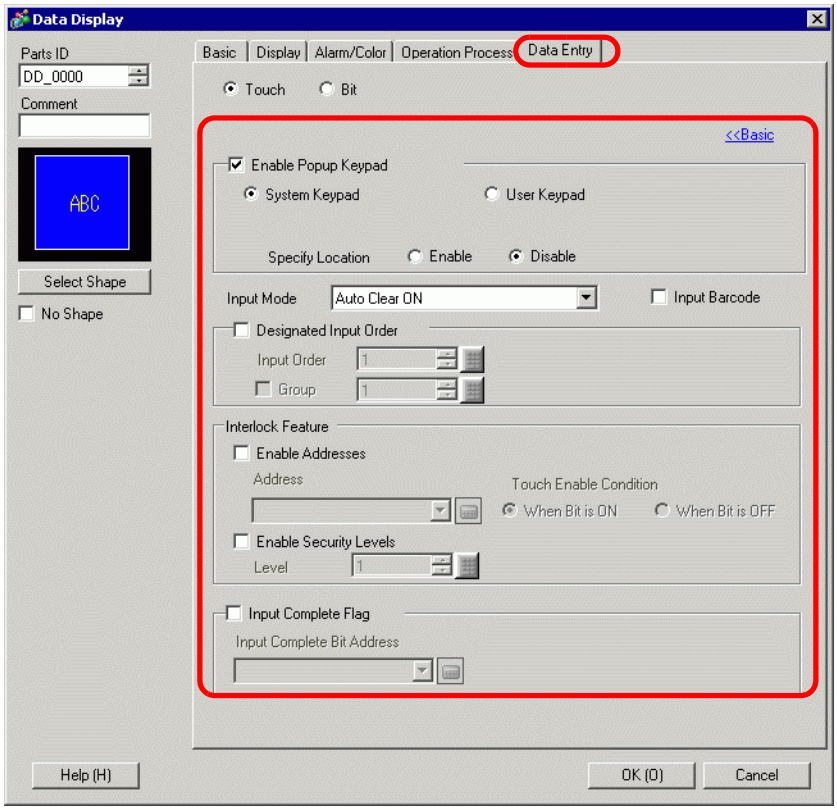
Continued

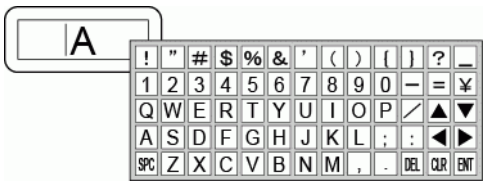
Setting		Description
Bit	Input Order	Number the Parts from 1 to 384 in the order that they will enter the Allow Input state if the [Allow Input Bit Addresses] of multiple Data Display Parts turn ON at the same time (when a bit address has been registered to multiple Data Display parts, or when different bit addresses turn ON at the same time). **NOTE** • If more than one [Allow Input Bit Address] is turned ON at the same time, the Data Displays will enter the input state according to their [Input Order] settings. If the [Input Order] settings are the same, the input state order will be determined by the order the parts were placed. • If the [Allow Input Bit Address] of Data Displays placed on the Base Screen and Window Screen turn ON at the same time, the Base Screen will have a higher priority for the input state than the Window Screen. When placing Data Displays on both the Base and Window screen, make sure to set a different [Allow Input Bit Address].  Multiple [Allow Input Bit Addresses] turn ON simultaneously

NOTE

- When Visibility Animation is set for the Text Display Parts, the following operations will occur.
  - •When it is invisible, it cannot be activated by touch.
  - •If a Bit operation is executed when it is visible, the input box will appear, and when you set up the Popup Keypad, the Popup Keypad will also appear.
  - •If a Bit operation is executed when it is invisible, it stays in the Invisible state and the input box will not appear. However, if the bit operation is enabled and it is in the visible state while Bit is ON, the input box will appear at the same time. However, when there is a text display part in the input state, the input box will enter an input state when input is completed.
  - •When it changes from visible to invisible in the input state, the input state will be canceled. If a popup keypad is being displayed, the popup keyboard also becomes invisible.
  - •When the Designated Input Order is enabled, the input state will be transferred to the next Text Display Part. Also, if the input order is applied while invisible, the input box will not appear and it will be transferred to the next Text Display Part.

■ Allow Input/Extended

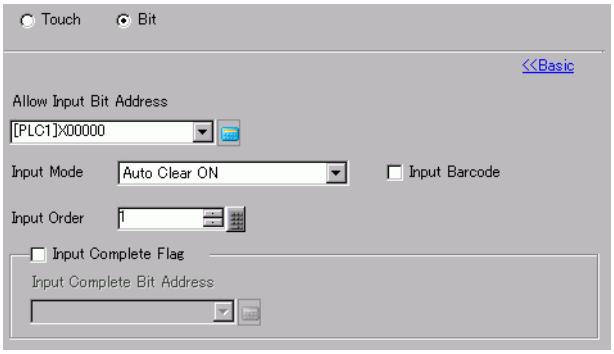
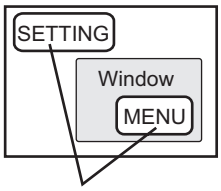


Setting		Description
Touch	Enable Popup Keypad	Select whether a pop-up keypad will display when you touch the Data Display part. **NOTE** • A pop-up keypad cannot be used when the Data Display is placed on a Window screen.
	Keypad Type	• System Keypad Use the standard keypad registration for GP-Pro EX. Use this in normal cases. • User Keypad Create a user-defined keypad with the Keypad part. This keypad allows for customized input. ☞ "15.6.1 Keypad Settings Guide n User Keypad" (page 15-33)
	System Keypad	Display the prepared standard keypad registration in GP-Pro EX. 

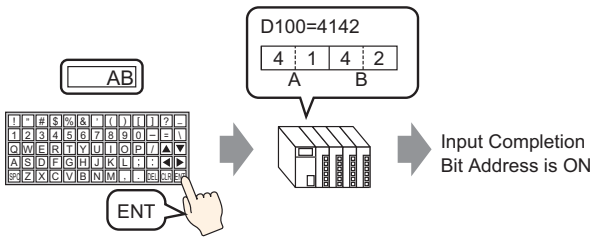
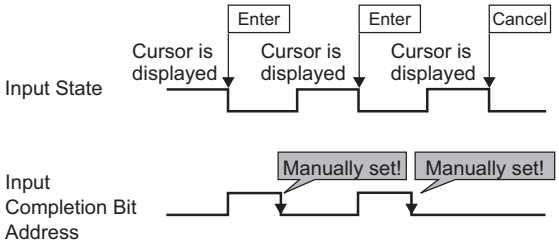
Continued

<table>
<tr><th colspan="3">Setting</th><th>Description</th></tr>
<tr><td rowspan="8">Touch</td><td colspan="2">User Keypad
Keypad</td><td>Set the number of the custom-made keypad.
☞"15.6.1 Keypad Settings Guide n User Keypad" (page 15-33)</td></tr>
<tr><td colspan="2">Specify Location</td><td>Select whether to set the pop-up keypad display position. If [Enable] is selected, the pop-up keypad Display Area can be selected and moved after the Data Display part is positioned.
NOTE
• When you group a Data Display with other parts, you cannot select or move the pop-up keypad display area.</td></tr>
<tr><td colspan="2">Designated Input Order</td><td>When entering data into multiple Data Displays in sequence, select the order in which each display enters the input state.</td></tr>
<tr><td rowspan="3"></td><td>Input Order</td><td>Select the order, from 1 to 384, in which the Part will enter the input state.</td></tr>
<tr><td>Group</td><td>Divide the Data Displays into groups for continuous data input. The cursor will move in turn to each successive Data Display registered in the same group, according to the input order, setting them into the Allow Input state. The Group Number can be from 1 to 10.
☞"14.13.2 Set Input Order by Group" (page 14-122)</td></tr>
<tr><td colspan="2">Interlock</td><td>Designate whether or not to use the Address and Security Level when using the Interlock Feature (a feature that enables Touch only when the conditions are satisfied).</td></tr>
<tr><td rowspan="3"></td><td>Use an Address</td><td>This function only allows input when the [Address] bit is selected via the [Touch Enable Condition]. Select the check box to use Interlock.
☞"14.7 Preventing Operational Errors By Using Interlock" (page 14-25)</td></tr>
<tr><td>Address</td><td>Select the bit address that will designate the enable condition, to allow input to be entered. Touch is enabled (disabled) depending on the state of this address.</td></tr>
<tr><td>Touch Enable Condition</td><td>Select the condition that will enable the part to be touched, to allow input to be entered.
<table>
<tr><th>Touch Enable Condition</th><th>Address Status</th><th>Touch Enabled/ Disabled</th></tr>
<tr><td rowspan="2">When Bit is ON</td><td>ON</td><td>Touch enabled</td></tr>
<tr><td>OFF</td><td>Touch disabled</td></tr>
<tr><td rowspan="2">When Bit is OFF</td><td>ON</td><td>Touch disabled</td></tr>
<tr><td>OFF</td><td>Touch enabled</td></tr>
</table>
NOTE
• When the Interlock [Touch Enable Condition] is disabled during input, the Data Display will remain in the Allow Input state. Interlock will not work until the input is completed.</td></tr>
</table>

Continued

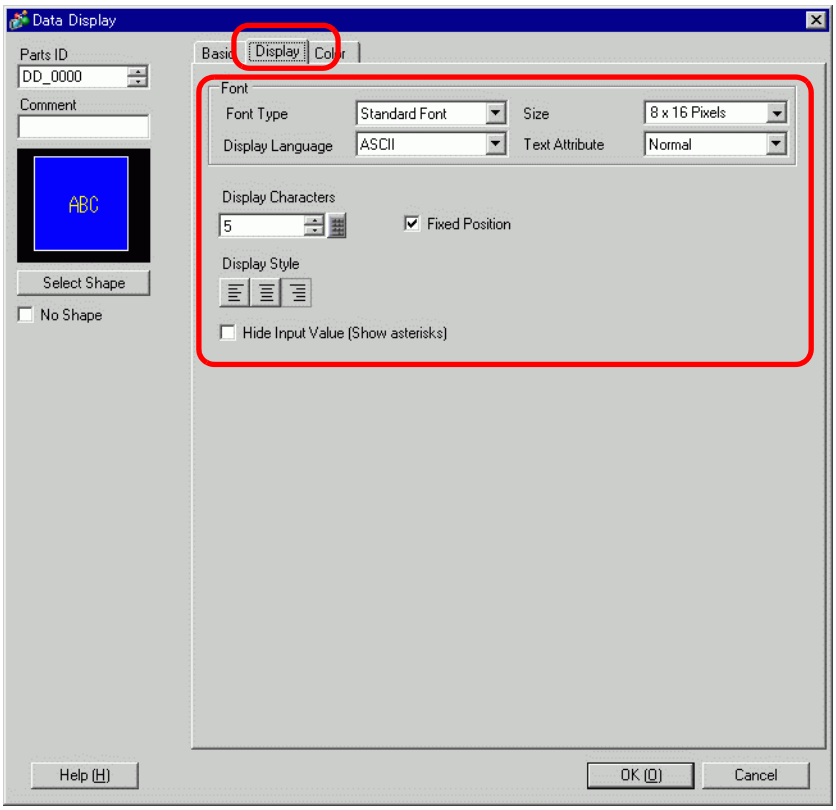
Setting			Description
Touch	Interlock	Use Security Level	Select whether to use the security function for each part. When logged in with a Security Level higher than that set for the part, Touch Operation will be enabled.
		Level	Set the Security Level of the part from 1 to 15.
Bit			
	Allow Input Bit Address		When the bit address set here turns ON, the Data Display enters the input state.
	Input Order		Number the Parts from 1 to 384 in the order that they will enter the Allow Input state if the [Allow Input Bit Addresses] of multiple Data Display Parts turn ON at the same time (when a bit address has been registered to multiple Data Display parts, or when different bit addresses turn ON at the same time). **NOTE** • If more than one [Allow Input Bit Address] is turned ON at the same time, the Data Displays will enter the input state according to their [Input Order] settings. If the [Input Order] settings are the same, the input state order will be determined by the order the parts were placed. • If the [Allow Input Bit Address] of Data Displays placed on the Base Screen and Window Screen turn ON at the same time, the Base Screen will have a higher priority for the input state than the Window Screen. When placing Data Displays on both the Base and Window screen, make sure to set a different [Allow Input Bit Address].  Multiple [Allow Input Bit Addresses] turn ON simultaneously

Continued

Setting	Description
Input Mode	• Auto Clear OFF New data will build on previously input data. Pressing [CLR] on the keypad clears the value. • Auto Clear ON The first key pressed (except cursor moves, [ENT], [DEL], or [BS]) will clear the previously input text data. • Auto Clear ON + Input Check When using barcode input, check whether the number of input digits coincides with the [Display characters]. If they do not coincide, the data will not be written to the word address.
Input Barcode	A setting that allows input from a barcode reader. ☞ "16.2.2 Setup Procedure" (page 16-5)
Input Complete Flag	Detects and notifies you when input has been completed. 
Input Complete Bit Address	Sets the bit address that will turn ON when input has been completed.  **NOTE** • Please return this bit to OFF after input has been completed.

■ Display Settings

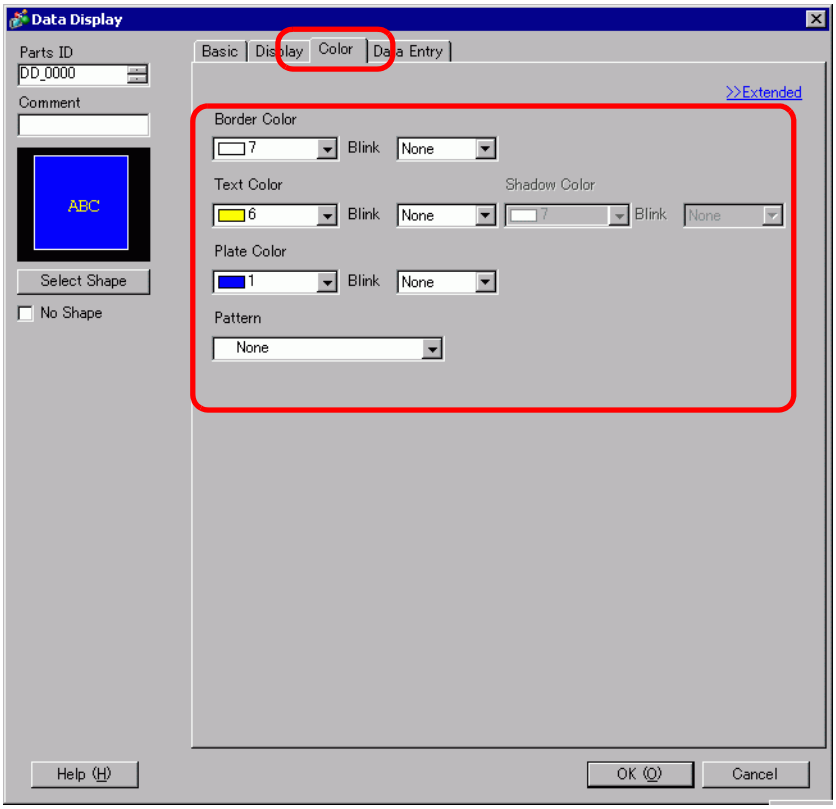
Set the Text Display's font and attributes.



Setting		Description
Font		Set a font for the text.
	Font Type	Choose a font type for the text.
	Size	Choose a font size for the text. Standard Font: (8 to 64) x (8 to 128). Standard Font (Fixed Size): [6x10], [8x13], [13x23]. (Displays single-byte characters only.) Stroke Font: 6 to 127.
	Display Language	Select the display language: [Japanese], [ASCII], [Chinese (Simplified)], [Chinese (Traditional)], [Korean], [Cyrillic], or [Thai].
	Text Attribute	Select the text attributes. Standard Font: Choose from [Standard], [Bold], [Shadow]. (When using the [6x10] font size, select either [Standard] or [Shadow].) Stroke Font: Choose from [Standard], [Bold], [Outline].
Display Characters		Set the number of characters to be displayed from 1 to 100.
Fixed Position		Set whether the text will be fixed in the center of the Part.
Display Style		Select the alignment of the text display area's text: [Align Right], [Align Left], or [Align Center].
Hide Input Value (Show asterisks)		Set whether Input Values will be indicated by asterisks.

■ Color Settings/Basic

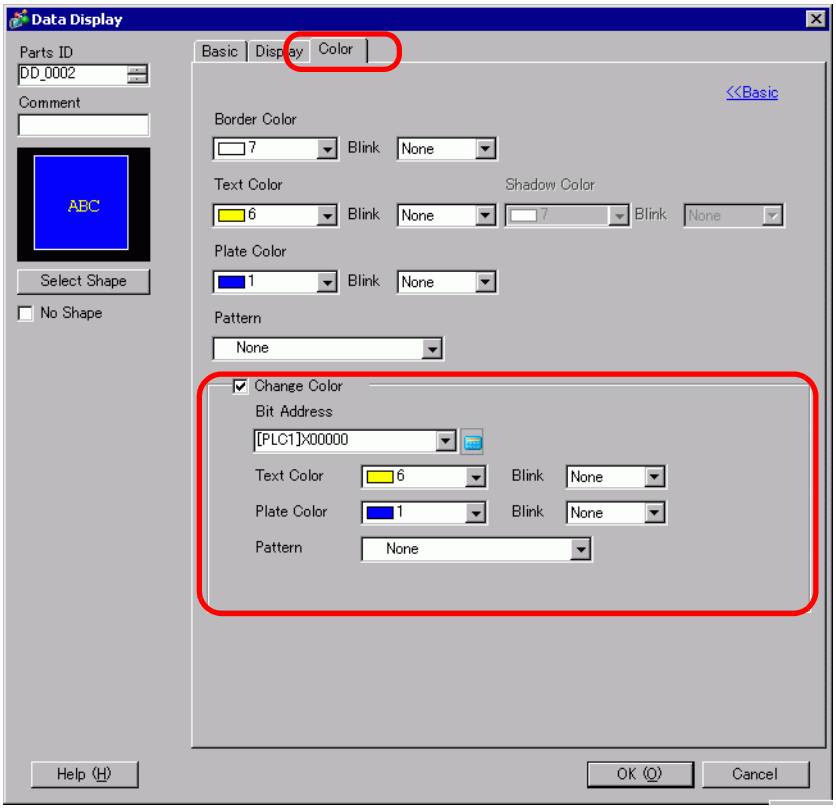
Select the Text Display's color.



Setting	Description
Border Color	Select a border color.
Text Color	Select a text color.
Shadow Color	Select a text background color.
Plate Color	Select a background color. **NOTE** • When the Plate Color is set to transparent and [No Shape] is selected, only the words are displayed. However, the range that can be touched when Allow Input is enabled will include only the Text Display Parts and becomes smaller than the normal range.
Pattern	Select a background pattern.
Pattern Color	Select a background pattern color.
Blink	Select the blink and blink speed. You can choose different blink settings for the [Border Color], [Text Color], [Shadow Color], [Plate Color], and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Display Unit and System Settings' [Color Settings]. ☞ "8.5.1 Setting Colors ■ List of Compatible Colors" (page 8-36)

■ Color Settings/Extended

Select how the color of the Text Data of the Text Display Parts changes when the bit turns ON.

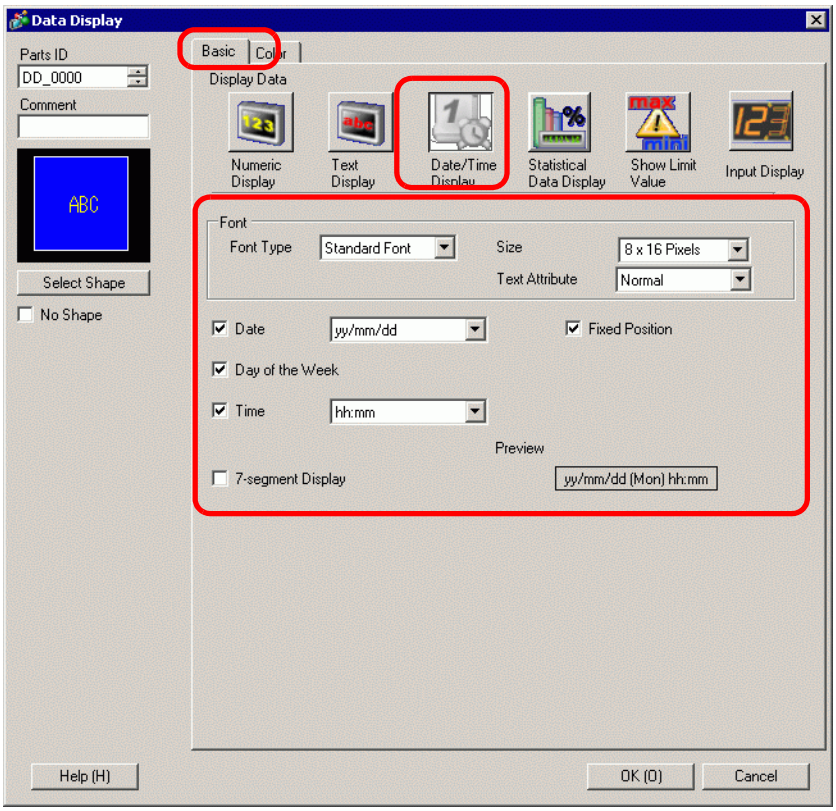


Setting		Description
Change Color		Select whether a different color will be displayed when the designated [Bit Address] turns ON.
	Bit Address	When the address set here turns ON, the color change will occur.
	Text Color	When the [Bit Address] turns ON, this text color will be displayed.
	Plate Color	When the [Bit Address] turns ON, this background color will be displayed.
	Pattern	Select a background pattern.
	Pattern Color	Select a background pattern color.
	Blink	Select the blink and blink speed. You can choose different blink settings for the [Text Color], [Plate Color], and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Display Unit and System Settings' [Color Settings]. ☞ "8.5.1 Setting Colors ■ List of Compatible Colors" (page 8-36)

14.11.3 Date/Time Display

■ Basic Settings

Displays the Date/Time.



Setting		Description
Font		Set a font for the date/time.
	Font Type	Choose a font type for the date/time from [Standard Font] or [Stroke Font].
	Size	Choose a font size for the date/time. Standard Font: (8 to 64) x (8 to 128). Standard Font (Fixed Size):[6x10], [8x13], [13x23]. (Displays single-byte characters only.) Stroke Font: 6 to 127.
	Text Attribute	Select the text attributes. Standard Font: Choose from [Standard], [Bold], [Shadow]. (When using the [6x10] font size, select either [Standard] or [Shadow].) Stroke Font: Choose from [Standard], [Bold], [Outline]. **NOTE** • This setting is unavailable for [7-segment Display].

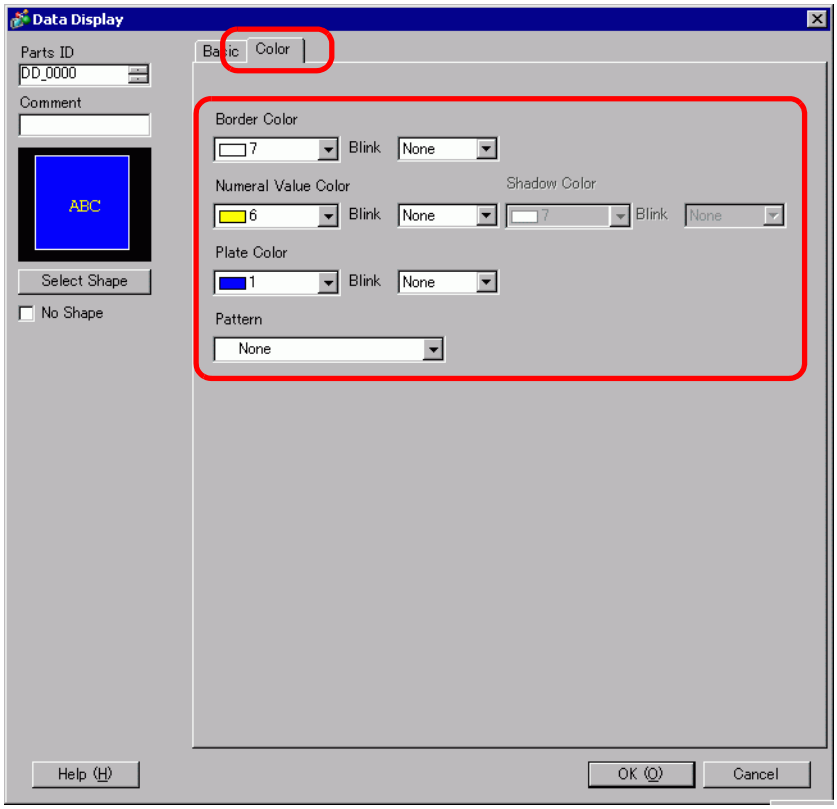
Continued

Setting	Description
Date	Set whether to display the date, and select the display format from [yy/mm/dd], [dd/mm/yy], [mm/dd/yy], [20yy/mm/dd], [dd/mm/20yy], or [mm/dd/20yy]. **NOTE** • When working with a double-byte character language and you select a display format that includes the year, month or date, values display in double-byte characters. However, if you select [7-segment Display], those same values display in single-byte characters.
Day of the Week	Select whether to display the day.
Time	Specify whether to display the time and select the time format from [hh:mm] or [hh:mm:ss]. **NOTE** • When working with a double-byte character language and you select a display format that includes hours, minutes, or seconds, values display in double-byte characters. However, if you select [7-segment Display], those same values display in single-byte characters.
Fixed Position	Select this option to display the numeric value in the center of the part.
7-segment Display	Select this option to show values as a 7-segment display. **NOTE** • This cannot be set when [Size] is [Fixed Size]. • This can be set only when [Text Attribute] is selected as [Standard].
Preview	Displays the data image according to the settings.

■ Color Settings

The Color tab settings define the colors in the Date/Time Display part.

☞ "14.6 Displaying the Date and Time" (page 14-22)



Setting	Description
Border Color	Defines the border color for the Date/Time Display.
Numeral Value Color	Defines the text color for the Date/Time Display.
Shadow Color	Defines the shadow color in the text attributes for the Date/Time Display.
Plate Color	Defines the plate color for the Date/Time Display.
Pattern	Defines the pattern for the Date/Time Display.
Pattern Color	Defines the color that intersperses the plate color to create a pattern for the Date/Time Display.
Blink	Select the blink and blink speed. You can choose different blink settings for the [Border Color], [Numeral Value Color], [Shadow Color], [Plate Color], and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Display Unit and System Settings' [Color Settings]. ☞ "8.5.1 Setting Colors ■ List of Compatible Colors" (page 8-36)

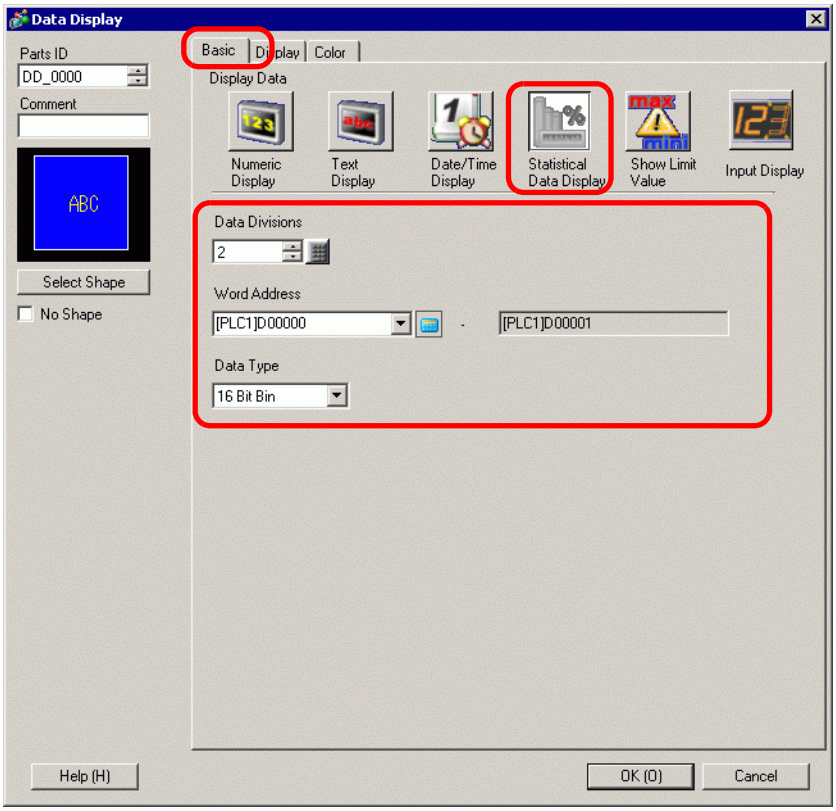
14.11.4 Statistical Data Display

This function takes statistics from the values of successive word addresses, and displays them as numeric values. This is mainly used to display statistical graph data set in a Graph. The statistical data settings can be set independently, even without using the Graph's settings.

NOTE

- When setting Visibility Animation, it will be set for the Statistical Data Display Part. It cannot be set individually for each data item.

■ Basic



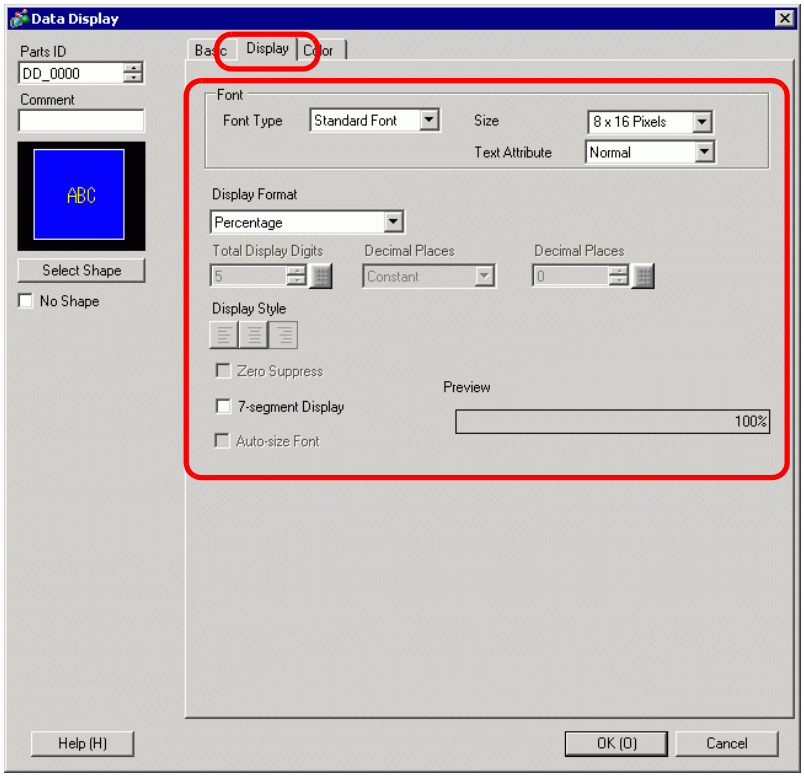
Setting	Description
Data Divisions	Set the no. of Data shown in the Statistical Data Display. The setting range is from 2 to 16.
Word Address	Defines the initial word address for data in the Statistical Data Display. Data Divisions defines the number of consecutive word addresses from this word address displayed in the Statistical Data Display part. When using the Statistical Data Display with a Data Block Display Graph, the word address in this field corresponds to the graph's.

Continued

<table>
<tr><th>Setting</th><th>Description</th></tr>
<tr><td>Data Type</td><td>Select the type of data to be displayed.
<table><tr><th>Bit Length</th><th>Data Type</th></tr><tr><td>16 bit</td><td>Bin, BCD</td></tr><tr><td>32 bit</td><td>Bin, BCD, Float</td></tr></table>
NOTE
• A single Statistical Data Display cannot combine data from different data types such as Bin, BCD, and Float.</td></tr>
</table>

■ Display Settings

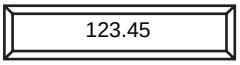
Set the Statistical Data Display's font and attributes.

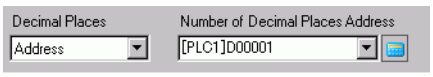


Setting		Description
Font		Set a font for the text.
	Font Type	Choose a font type for the statistical data from [Standard Font] or [Stroke Font].
	Size	Choose a font size for the statistical data. Standard Font: (8 to 64) x (8 to 128). Standard Font (Fixed Size): [6x10], [8x13], [13x23]. (Displays single-byte characters only.) Stroke Font: 6 to 127.
	Text Attribute	Select the text attributes. Standard Font: Choose from [Standard], [Bold], [Shadow]. (When using the [6x10] font size, select either [Standard] or [Shadow].) Stroke Font: Choose from [Standard], [Bold], [Outline]. **NOTE** • When using [Auto-size Font] with either [7-segment Display] or [Stroke Font], the [Text Attribute] cannot be defined.

Continued

<table>
<tr><th>Setting</th><th>Description</th></tr>
<tr><td>Display Format</td><td>There are three ways to display statistical data: [Percentage], [Numeric Value], and [Numeric Value + Percentage].
IMPORTANT
• When [Percentage] has been selected, the division operation may create results that, when totaled, do not add up to exactly 100%.</td></tr>
<tr><td>Total Display Digits</td><td>If the [Display Format] is set to [Numeric Value] or [Percentage + Value], set the digits to be displayed in the Statistical Data Display. Numbers after the decimal point are included in the display digits. However, the decimal point is not included in the display digits.</td></tr>
<tr><td>Specify Decimal Places</td><td>Select the designation method for specifying the Decimal Places. This setting is available when the [Data Type] is [Bin] or [Float].
• Constant
Specify a fixed value for the Decimal Places. (Direct Specification)
• Address
Specify the address where the Decimal Places are stored. (Indirect Specification)</td></tr>
<tr><td>Decimal Places</td><td> 

When [Specified Decimal Places] is [constant], select the number of digits after the decimal point.
For example:
When the Total Display Digits is 5, and the Number of Decimal Places is 2, it will look as follows:
 

The number of decimal places you can set up depends on the [Data Type].
<table>
<tr><th>Data Length</th><th>Data Type</th><th>Total Display Digits</th><th>Decimal Places</th></tr>
<tr><td rowspan="2">16 bit</td><td>Bin</td><td rowspan="2">1 ~ 11</td><td>1 ~ 10</td></tr>
<tr><td>BCD</td><td>-</td></tr>
<tr><td rowspan="3">32 bit</td><td>Bin</td><td rowspan="2">1 ~ 11</td><td>1 ~ 10</td></tr>
<tr><td>BCD</td><td>-</td></tr>
<tr><td>Float</td><td>1 ~ 17</td><td>1 ~ 16</td></tr>
</table></td></tr>
<tr><td>Decimal Places Address</td><td> 

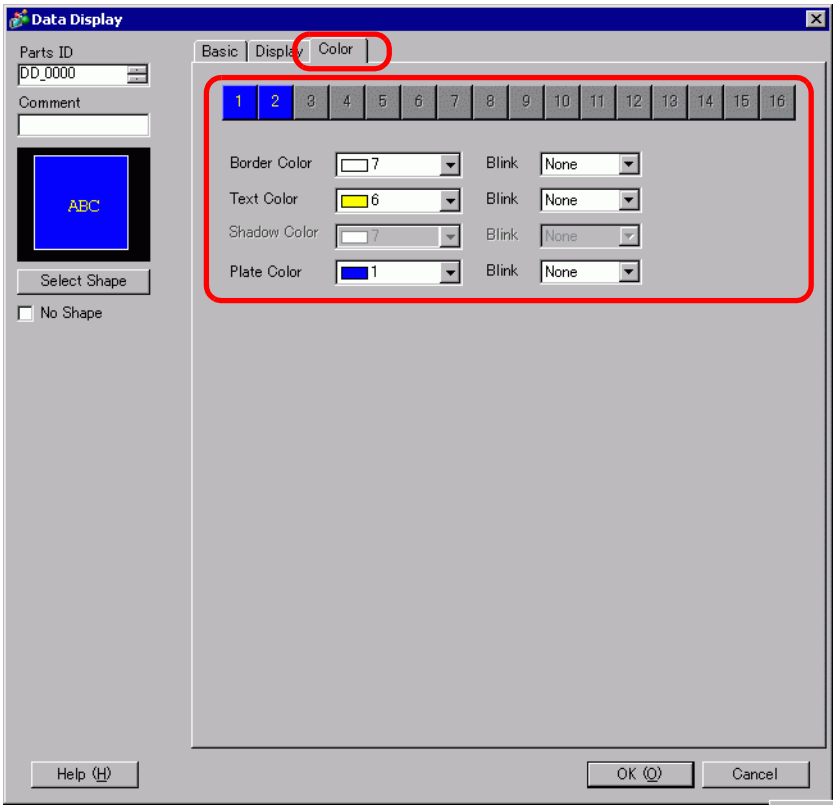
When the [Decimal Places Specification] is [Address], specify the Address where Decimal Places are stored.</td></tr>
<tr><td>Display Style</td><td>There are three ways of positioning statistical data: [Align Right], [Align Left], and [Align Center].</td></tr>
</table>

Continued

Setting	Description
Zero Suppress	If this option is selected, leading zeros are not displayed. For example: When Total Display Digits = 4  Leading zeroes are not displayed  Leading zeroes are added to correspond to the length of Display Digits
7-segment Display	Select this option to show values as a 7-segment display. **NOTE** • This can be set only when [Text Attribute] is selected as [Standard]. • This option is not available when a [Fixed Size] is selected in the font [Size] list.
Auto-size Font	For use with the Stroke Font, select this option to display the value without the top and bottom margins. **NOTE** • This cannot be set when [Text Table] is selected. • This option is unavailable when the [7-segment Display] check box is selected.
Preview	Displays the data image according to the settings.

■ Color Settings

Select colors for the Statistical Data Display.

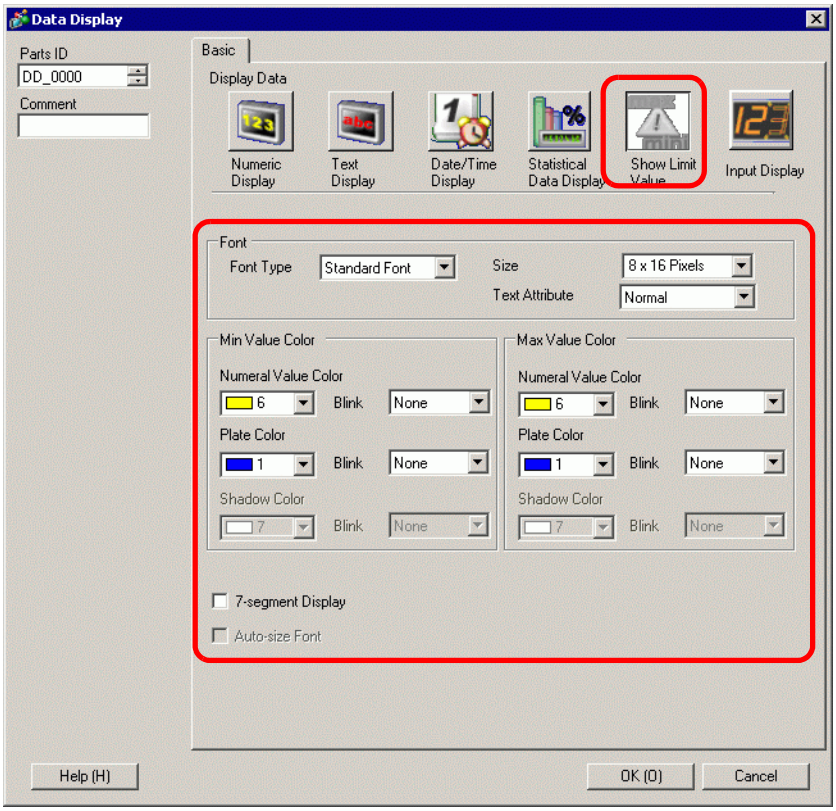


Setting	Description
Select State Bar	Displays the division range number selected in [Data Divisions].
Border Color	Set the border color.
Text Color	Set the text color.
Shadow Color	Set the shadow color.
Plate Color	Select the background color.
Blink	Select the blink and blink speed. You can choose different blink settings for the [Border Color], [Text Color], [Shadow Color], and [Plate Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Display Unit and System Settings' [Color Settings]. ☞ "8.5.1 Setting Colors ■ List of Compatible Colors" (page 8-36)

14.11.5 Show Limit Value

Displays the set Alarm values (the displayed data's upper/lower limit values) on the same screen as a Numeric Display part with alarms set.

■ **Basic**



Setting		Description
Font		Set the font.
	Font Type	Choose a font type for the Limit Value from [Stroke Font] or [Bitmap Font].
	Size	Choose a font size for the Limit Value. Standard Font: (8 to 64) x (8 to 128). Standard Font (Fixed Size): [6x10], [8x13], [13x23]. (Displays single-byte characters only.) Stroke Font: 6 to 127.
	Text Attribute	Select the text attributes. Standard Font: Choose from [Standard], [Bold], [Shadow]. (When using the [6x10] font size, select either [Standard] or [Shadow].) Stroke Font: Choose from [Standard], [Bold], [Outline]. **NOTE** • When using [Auto-size Font] with either [7-segment Display] or [Stroke Font], the [Text Attribute] cannot be defined.

Continued

Setting		Description
Maximum Value/Minimum Value Color	Numeral Value Color	Set a color for the min value/max value.
	Plate Color	Set the background color for the max/min value.
	Shadow Color	Set the shadow color for the Limit Value.
7-segment Display		Select this option to show values as a 7-segment display. NOTE • This can be set only when [Text Attribute] is selected as [Standard]. • This option is not available when a [Fixed Size] is selected in the font [Size] list.
Auto-size Font		For use with the Stroke Font, select this option to display the value without the top and bottom margins. NOTE • This option is unavailable when the [7-segment Display] check box is selected.
Blink		Select the blink and blink speed. You can choose different blink settings for the [Numeral Value Color], [Plate Color], and [Shadow Color]. NOTE • There are cases where you can and cannot set Blink depending on the Display Unit and System Settings' [Color Settings]. ☞"8.5.1 Setting Colors ■ List of Compatible Colors" (page 8-36)

NOTE

- The input range's (Limit Value's) data type depends on the Numeric Display's data type.
- In the Allow Input state, if there is no [Alarm] in a Data Display or if there is no Data Display part, the value range will be displayed as a blank.
- Once it is in the Input state, a rectangle of the Data Part is usually left displayed, but if the Visibility Animation Function is selected, the rectangle will not be displayed during a non-input state.

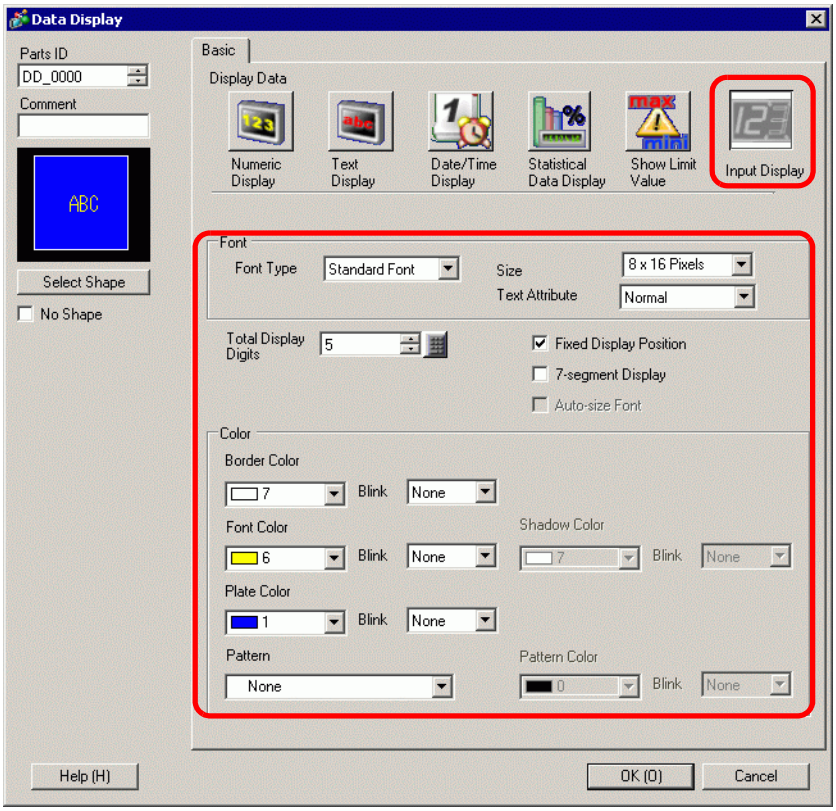
14.11.6 Input Display

It is used as the Input Display for the User Keypad.

NOTE

- For details on how to perform these settings, refer to the following.
  ☞"15.5 Customizing the System Keypad of the Data Display" (page 15-22)
- One data item can be placed per screen.

■ Basic



Setting		Description
Font		Configure font settings for the Input Display.
	Font Type	Choose a font type for the Input Display from [Standard Font] or [Stroke Font].
	Size	Choose a font size for the Input Display. Standard Font: (8 to 64) x (8 to 128). Standard Font (Fixed Size): [6x10], [8x13], [13x23]. (Displays single-byte characters only.) Stroke Font: 6 to 127.
	Text Attribute	Select the text attributes. Standard Font: Choose from [Standard], [Bold], [Shadow]. (When using the [6x10] font size, select either [Standard] or [Shadow].) Stroke Font: Choose from [Standard], [Bold], [Outline]. **NOTE** • When using [Auto-size Font] with either [7-segment Display] or [Stroke Font], the [Text Attribute] cannot be defined.
Total Display Digits		Select the number of digits to display in the numeric display. Numbers after the decimal point are included in the display digits. However, the decimal point is not included in the display digits.
Fixed Position		Select this option to display the numeric value in the center of the part.
7-segment Display		Select this option to show values as a 7-segment display. **NOTE** • This can be set only when [Text Attribute] is selected as [Standard]. • This option is not available when a [Fixed Size] is selected in the font [Size] list.
Auto-size Font		For use with the Stroke Font, select this option to display the value without the top and bottom margins. **NOTE** • This cannot be set when [Text Table] is selected. • This option is unavailable when the [7-segment Display] check box is selected.
Blink		Select the blink and blink speed. You can choose different blink settings for the [Border Color], [Numeral Value Color], [Shadow Color], [Plate Color], and [Pattern Color]. **NOTE** • There are cases where you can and cannot set Blink depending on the Display Unit and System Settings' [Color Settings]. ☞ "8.5.1 Setting Colors ■ List of Compatible Colors" (page 8-36)
Border Color		Set the border color for the Input Display Part.

Continued

Setting	Description
Numeral Value Color	Set the text color for the Input Display Part.
Shadow Color	Set the shadow color for the Input Display Part.
Plate Color	Set a background color for the Numeric Display part.
Pattern	Select a background pattern for the Input Display Part.
Pattern Color	Select a background pattern color for the Input Display Part.

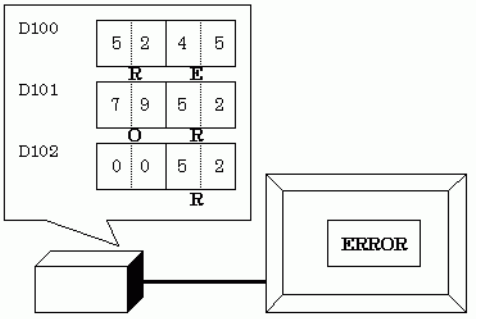
14.12 Restrictions

14.12.1 Text Display Restrictions

- It may take longer to transfer text strings because text is larger than other data types. You can change the text display faster with one of the following procedures:
  - If the text is short, set [Display Update Condition] to [Data Change] and display without using [Display Update Bit Address].
  - If the text is long, select [Bit ON] or [Bit Change], and [Display Update Bit Address].
- Even if you are using the [Hide Input Value (Show asterisks)] feature, single-byte spaces do not appear as asterisks [*].
- A NULL code or Display characters (no. of bytes) is recognized at the end of a text string. If the actual number of displayed characters is smaller than the number of characters set in [Display characters], please store NULL="00(h)" (In Unicode, Null="0000(h)" in the left-over portion of the address if the device/PLC. If there is still room left after the NULL, a SPACE (␣)="20(h)" character will be stored.

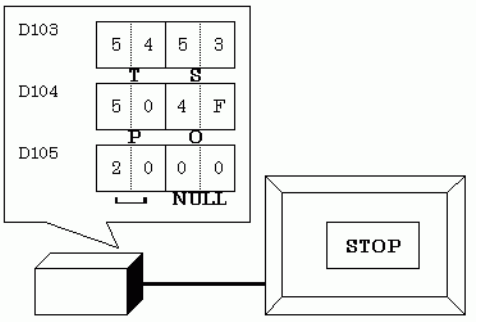
  For example:

  Display characters = 6
  Actual Number of Displayed Characters ("ERROR") = 5



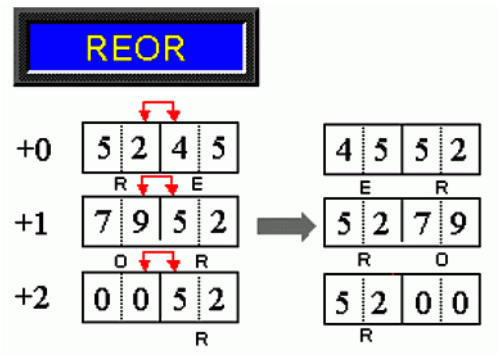
  For example:

  Display characters = 6
  Actual Number of Displayed Characters ("STOP") = 4



- The relationship of high order and low order Word data will differ according to the device/PLC type.

If the text is not displayed correctly, as in the following example, change the character code's store order in the device/PLC.



- When you input text to a Data Display set up with integer variables, regardless of how text is set up on the device/PLC, the data displays as follows.

  For example, display characters: 4, Allow Input is selected, Input Character "ABCD"

	31 24	23 16	15 8	7 0
HEX	44	43	42	41
ASCII	D	C	B	A

■ Character Input

- If the number of input characters is less than the [Display characters], a SPACE character ("␣20h") will be stored in the remaining portion.

  Display characters= 6 Inputted Characters = 4 (when using a 16-bit device)

'A'	'B'	'C'	'D'	'␣'	'␣'

  Display characters= 5 Inputted Characters = 4 (when using a 16-bit device)

'A'	'B'	'C'	'D'	'␣'	NULL

14.12.2 Limitations of Time-Base Function

- If the device specified in the [Basic Settings] workspace's [Monitor Word Address] field is not compatible, the Time-Base function will not work.
- If you select the [Time-Base] check box, you cannot change the following items:

Category	Items	Fixed Value
Basic	Address Type	Direct Specification
	Input/Display Range Definitions	Disable
	Data Type	16 Bit Dec
	Sign +/-	Disable
	Round Off	Disable
Display	Total Display Digits	3
	Decimal Places	0
	Display Style	Align Right
	Zero Suppress	Enable
	Zero Display	Enable
	Display Format	Disable
Alarm/Color Settings*1	Ranges	1
	Area Specification	Constant
	Range Number	Min: Max:
	Alarm Action	Direct
Processing	Processing	Disable
Allow Input	Input Barcode	Disable

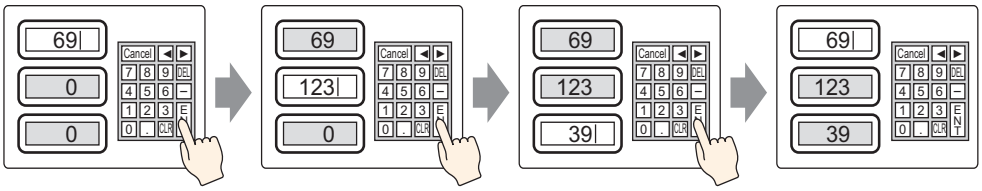
*1 If the [Allow Input] check box is selected in the [Basic] tab and the [Fixed Input] check box is cleared in the [Time-Base] group, you cannot change the [Alarm] in the [Alarm/Color] tab.
You can set the [Alarm Range] with a value from 0 to 999.

- In the middle of a data input from the GP, even if you change how the defined address stores its data, the input will continue to use the previous input setting. This is not updated in real time.

14.13 How Data Input Order Works

14.13.1 Set Input Order

After confirming the input in a given Data Display (and pressing the [ENT] key), the Data Display part registered with the next [Input Order] number enters the Allow Input state.



Input data and touch the [ENT] key

The input is confirmed and the next Data Display part in the input order enters the Input Permit state. ? Input data and touch the [ENT] key

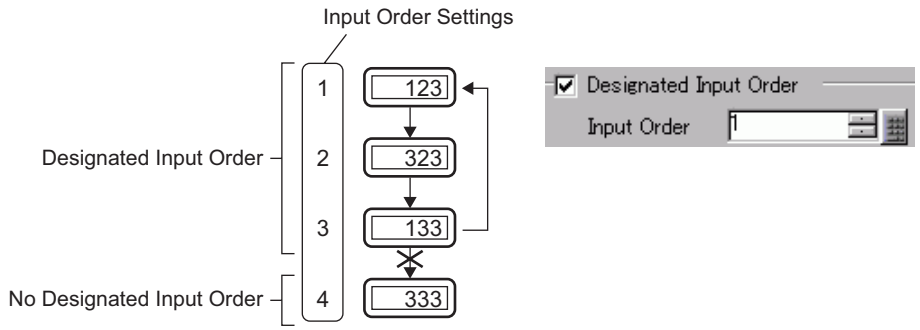
The input is confirmed and the Data Display part at the top of the input order once again enters the Input Permit state.

Ending sequential input

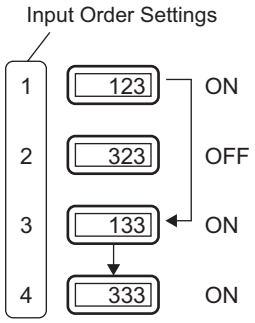
For [Touch], when inputting is complete, you can touch the keypad's [CANCEL] key, or touch the currently selected Data Display part again. For [Bit], the input is complete when you turn OFF the [Allow Input Bit Address].

Sequential input targets

For [Touch], the Data Displays that have a [Designated Input Order] set become targets for sequential inputting.

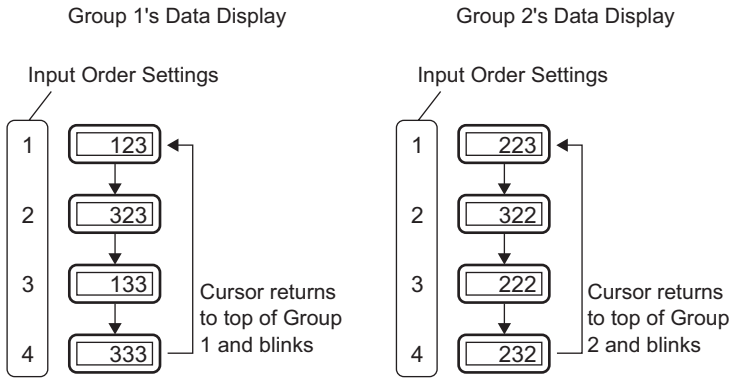


For [Bit], although there is a setting to control the input order of all Data Display parts, in practice, the only target of sequential input is having [Allow Input Bit Address] ON.



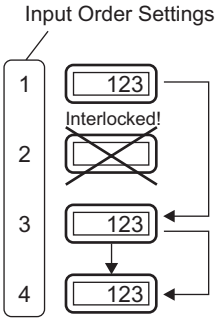
14.13.2 Set Input Order by Group

For [Touch], sequential input Data Displays can be divided up into groups on the Detail screen. Sequential input then takes place inside each group.



NOTE

- If there is an interlocked data display part in the [Input Order], skip the interlocked part and proceed to the next Data Display part that is ready for inputs. In the following figure, the order is 1, 3, 4, 1.



- If you press the left or right arrow keys while inputting, the current input will be canceled, the previous data will appear, and the next Data Display in the input order will enter the Allow Input state and display the cursor.
- In the figure below, when the second Data Display Part of the [Input Order] becomes available for input, you can input data in the following order: 2, 3, 4, 1, 2.