

28



Logic Functions are Useful in the Following Cases

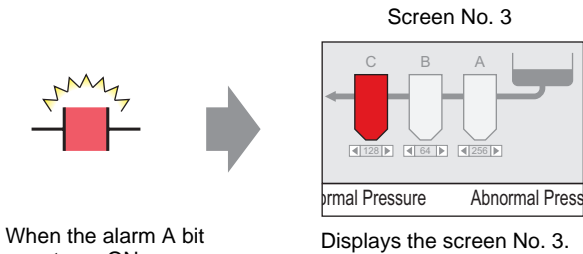
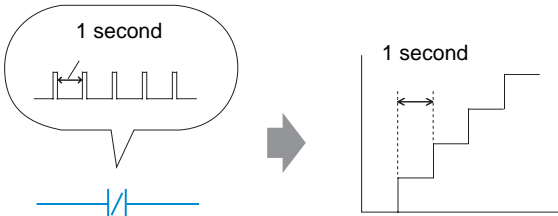
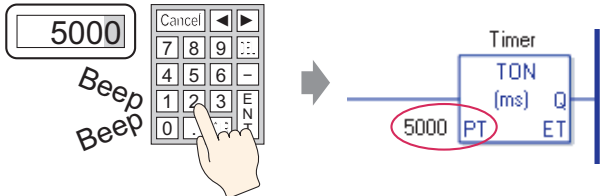
This chapter introduces what you can do by using the GP-Pro EX logic functions.

First, read “28.1 Settings Menu” (page 28-2) , and read the description of the operation you want to run.

28.1	Settings Menu	28-2
28.2	Switching Screens Using a Logic Program	28-4
28.3	Generating Pulses at 1-Second Intervals.....	28-5
28.4	Entering the Timer Value on the Screen	28-6
28.5	Moving Data Between Connection Devices	28-7

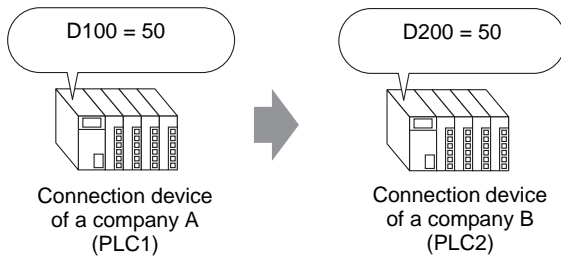
28.1 Settings Menu

By using logic functions and performing easy to use Windows operations, you can create a logic program that conforms to international standard IEC61131-3. The logic program you write downloads and runs on the GP. Also, variables created in your logic can be shared with other screen functions (such as switches and lamps).

Switching Screens Using a Logic Program	
 <p>When the alarm A bit turns ON...</p> <p>Screen No. 3</p> <p>Displays the screen No. 3.</p>	<p>☞ “28.2 Switching Screens Using a Logic Program” (page 28-4)</p>
Generating Pulses at 1-Second Intervals	
<p>Using the counter, you can create a circuit that counts up every 1 second.</p> 	<p>☞ “28.3 Generating Pulses at 1-Second Intervals” (page 28-5)</p>
Entering the Timer Value on the Screen	
<p>A numeric keypad appears and the numeric values can be changed.</p> 	<p>☞ “28.4 Entering the Timer Value on the Screen” (page 28-6)</p>

Moving Data Between Connection Devices

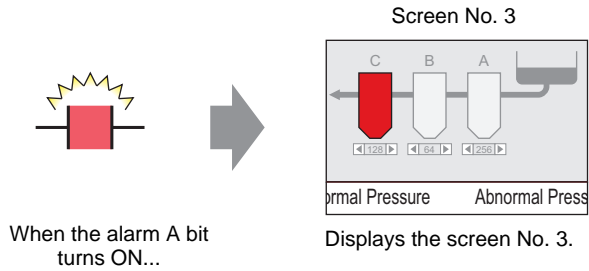
You can specify the device address for a connection device using the logic program.



☞ "28.5 Moving Data Between Connection Devices" (page 28-7)

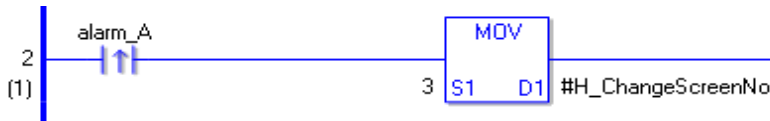
28.2 Switching Screens Using a Logic Program

28.2.1 Details



■ Logic Program

In the following example logic program, when a trigger occurs, the MOV instruction stores the screen number in the system variable (#H_ChangeScreenNo).



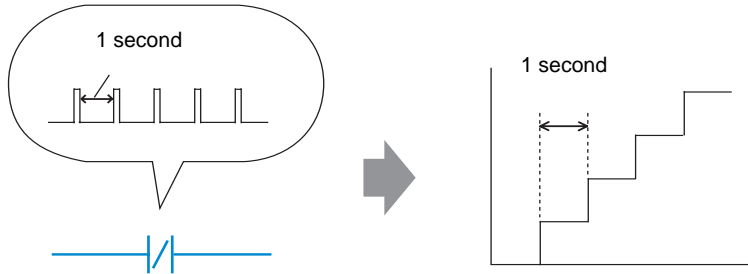
■ Description of Operations

You can change the screen on the GP by storing the number of the screen you want to display in the system variable "#H_ChangeScreenNo".

1. When the "alarm A" bit turns ON, "3" is stored in "#H_ChangeScreenNo".
2. The display changes to screen number 3.

28.3 Generating Pulses at 1-Second Intervals

28.3.1 Details



■ Logic Program

In the following example logic program, there is a normally closed contact set to “timer variable.Q” and a timer instruction set to 1 second (1000 ms).



■ Description of Operations

The basic operation of the timer instruction (TON) is to repeatedly turn on “timer variable.Q” after the defined time has elapsed.

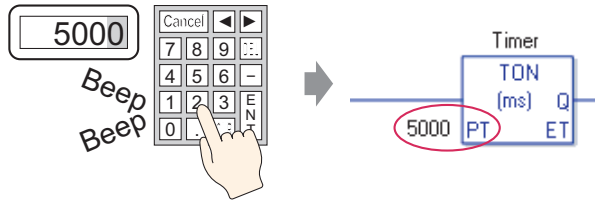
1. After 1 second elapses, “Clock1SecondPulse.Q” in the TON instruction turns ON.
2. During the next scan, as the normally closed contact turns ON, the TON instruction is reset.
3. When the TON instruction is reset, the normally closed contact turns OFF, and the TON instruction receives power again.

As a result, the normally closed contact “Clock1SecondPulse.Q” repeatedly turns OFF for one second and turns ON upon the next scan.

28.4 Entering the Timer Value on the Screen

28.4.1 Details

A numeric keypad appears and the numeric values can be changed.



■ Logic Program

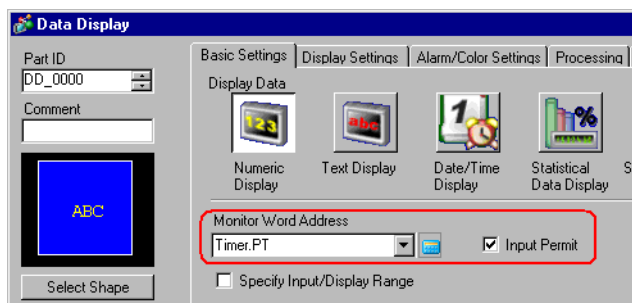
The following example of a logic program uses a timer instruction set to five seconds (5000 ms).



■ Example Screen Settings

In the Data Display's [Monitor Word Address], enter "Timer.PT". Also, select the [Input Permit] check box.

"Timer.PT" stores the timer preset time of five seconds. You can change the value using the Data Display.

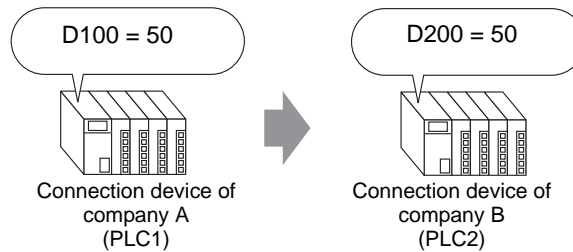


■ Description of Operations

When you use the Data Display to enter a value, it changes the timer preset time "Timer.PT".

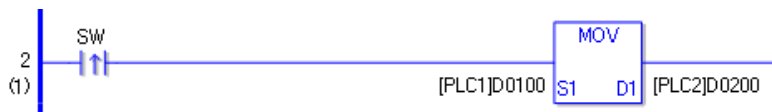
28.5 Moving Data Between Connection Devices

28.5.1 Details



■ Logic Program

In the following example of a logic program, the MOV instruction copies data between connection devices.



■ Description of Operations

When the writing start bit is turned ON, the data in [PLC1]D0100 will be stored in [PLC2]D0200.

Memo