Demo Project – Flow Block

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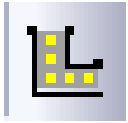
Overview

[Flow Block] object displays the flow status of the blocks in the pipe or the status of the transportation lines. Unlike [Moving Shape] object which requires a precise measurement between two points provided by users, the blocks flow at a fixed interval in a horizontal or vertical straight line.

The features of [Flow Block]:

1. Each section of the flow block must be a horizontal or vertical straight line and the blocks flow at a fixed interval within it.
2. Dynamic speed and direction adjustment (Speed and direction can be controlled by a designated register.)
3. Security mechanism (Interlock), which hides [Flow Block] when the status of designated bit is invalid.

Operation

Open the project and execute simulation. The following figure demonstrates the Taiwan Taipei MRT System. Adjust the speed and direction by dragging the Speed slider on the top right position.
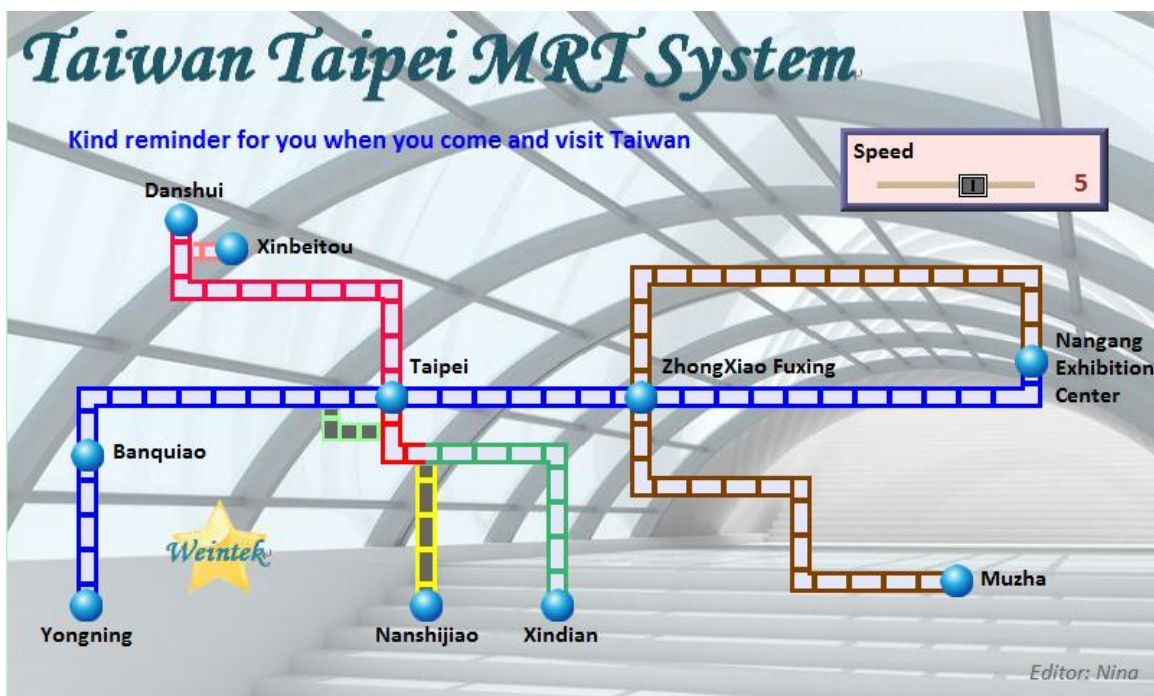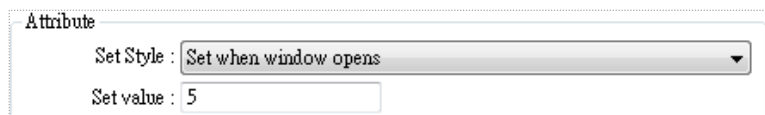
2. Settings

1. Draw a [Flow Block] object. In [General] tab, select [Dynamic speed] check box, and set the address to LW-0. The speed and direction in which the blocks flow can be controlled by a designated register.
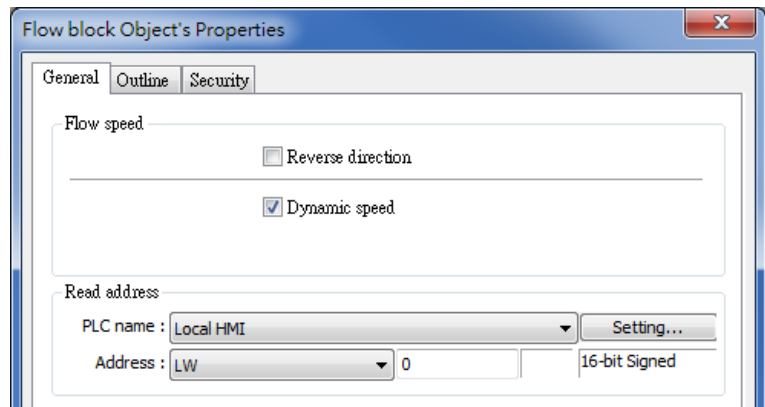

2. Create a [Slider] object, set address to LW-0. The valid range of the value is -25 to 25. When entering a positive value in LW-0, the blocks flow in the direction in which [Flow Block] is drawn. A larger value indicates a faster speed. When a negative value is entered, the blocks flow in a reversed direction, and a smaller negative value indicates a faster speed. When 0 is entered, it stops flowing. Also, enable [Watch address] and set the address to LW-1.
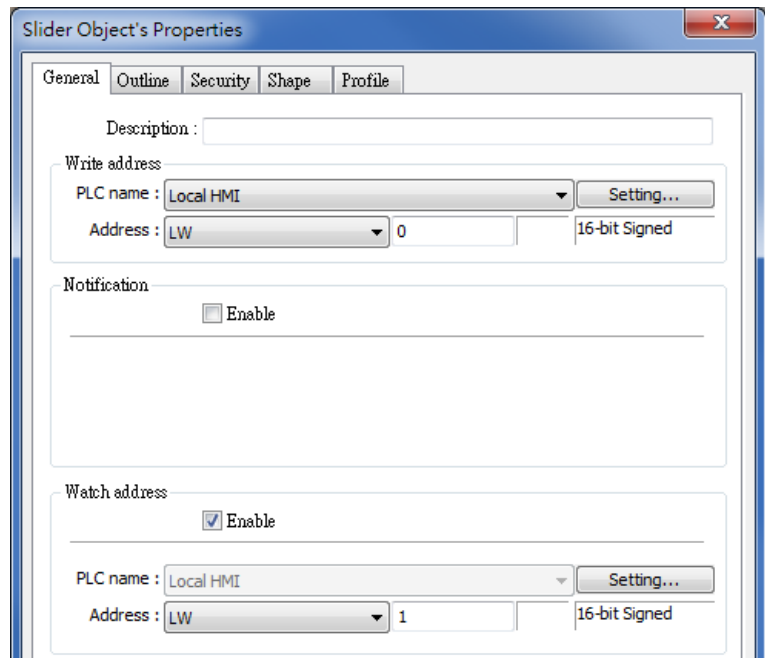
3. To start flowing automatically right after starting simulation, create a [Set Word] object and set address to LW-0, select [Set when window opens] and assign 5 to [Set value].

4. To display the value controlled by the slider, create a [Numeric Display] object, and assign LW-1 to the read address.
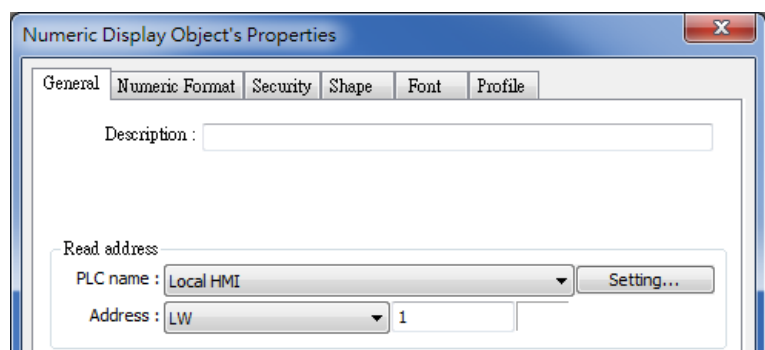
3. Addresses

The objects used in this demo project and the addresses are listed below, the settings can be changed based on actual usage.

Object	Address	Object ID	Description
Window No. 10			
Flow Block	LW-0		LW-0 Dynamic speed control address
Slider	LW-0	SL_0	Controls the speed at which the blocks flow.
Numeric Display	LW-1	ND_0	Displays the current value controlled by the slider.
Set Word	LW-0	SW_0	Sets the speed at which the blocks flow when the window opens.

4. References

1. About [Set Word] object, please refer to EasyBuilder User Manual Chapter 13.4.
2. About [Slider] object, please refer to EasyBuilder User Manual Chapter 13.8.
3. About [Numeric Display] object, please refer to EasyBuilder User Manual Chapter 13.9.
4. About [Flow Block] object, please refer to EasyBuilder User Manual Chapter 13.34.