Chapter 16

STEPS

Edition 1

Overview

Overview

This chapter describes the Function Blocks, Steps and Macro Steps which are created as part of Sequential Function Charts (SFC).

Unlike other Function Blocks, Steps and Macro always run in the same task, i.e. the task associated with executing the entire Sequential Function Chart to which they belong.

These Function Blocks provide a convenient way of assessing information associated with SFC Steps and Macro Steps and may be used to syncronise actions within parallel branches of the sequence program.
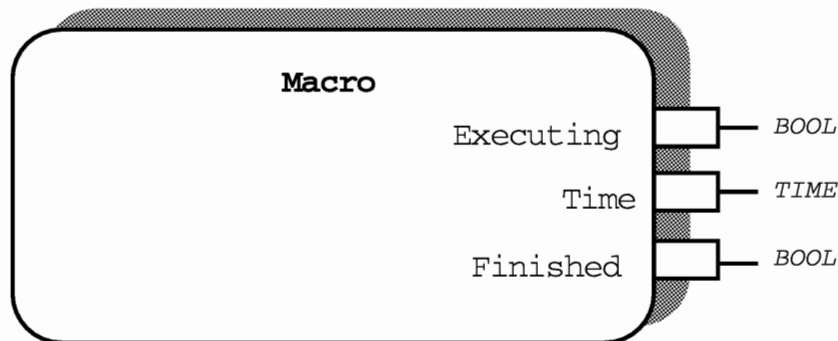
MACRO FUNCTION BLOCK

Figure 16-1 Macro Function Block

Functional Description

The Macro function block provides the user with a set of parameters that define the state of a Macro Step's execution. An instance of the function block is created with every new Macro definition in the Sequential Function Chart. The block indicates the amount of time for which the Macro has been executing and whether the execution has been completed.

Function Block Attributes

Type:.................................... 40   10

Class: .... STEPS

Default task:........................ Task_2

Short List: .... Executing, Time, Finished

Memory Requirements: .... 6 Bytes

Parameter Descriptions

Executing (X)

Executing indicates whether the Macro referenced by the function block instance is currently active. If Executing is set to Yes (1), the Macro is active. If Executing is set to No (0), the Macro is inactive.

Time (T)

Time indicates the amount of time for which the Macro has been executing. If the Macro is not currently executing, the Time indicates the length of the last execution.

Finished (F)

Finished indicates whether the Macro is currently executing. If Finished is set to No (0), the Macro is currently executing or has not yet executed and has not yet completed all its steps. If Finished is set to Yes (1), the Macro has finished executing all its steps.

Parameter Attributes

Name	Type	Wiring	Cold Start	Read Access	Write Access	Type Specific	
Executing	**BOOL**	Output	No (0)	Oper		Senses	No (0) Yes (1)
Time	**TIME**	Output	0	Oper			
Finished	**BOOL**	Output	No (0)	Oper		Senses	No (0) Yes (1)

Table 16-1 Macro Parameter Attributes
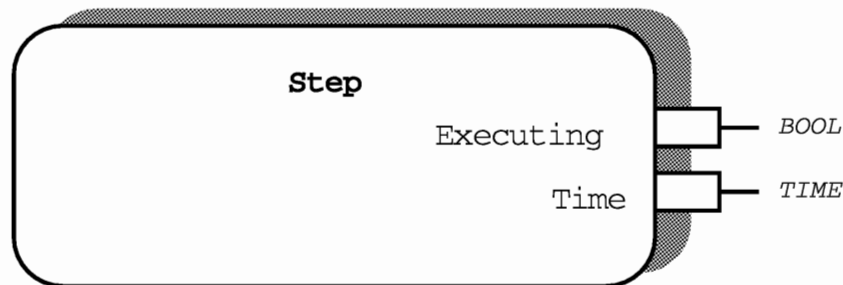
STEP FUNCTION BLOCK

Figure 16-2 Step Function Block

Functional Description

The Step function block provides the user with a set of parameters that define the state of a Step's execution. An instance of the function block is created with every new Step definition in the Sequential Function Chart. The block indicates the amount of time for which the Step has been executing and whether the Step is actively executing.

Function Block Attributes

Type:.................................... 40 20

Class: .... STEPS

Default task:........................ Task_2

Short List: .... Executing, Time

Memory Requirements: ...... 6 Bytes

Parameter Descriptions

Executing (X)

Executing indicates whether the Step referenced by the function block instance is currently active. If Executing is set to Yes (1), the Step is active. If Executing is set to No (0), the Step is inactive.

Time (T)

Time indicates the amount of time for which the Step has been executing. If the Step is not currently executing, then Time indicates the length of the last execution.

Parameter Attributes

Name	Type	Wiring	Cold Start	Read Access	Write Access	Type Specific	
Executing	**BOOL**	Output	No (0)	Oper		Senses	No (0) Yes (1)
Time	**TIME**	Output	0	Oper			

Table 16-2 Step Parameter Attributes