



Andhra Pradesh State Skill Development Corporation



The image is a composite of two parts. On the left, there is a diagram of a Learning Management System (LMS). It features a central computer monitor displaying the 'LMS' logo, surrounded by various icons representing different functions: a person icon labeled 'courses', a play button icon labeled 'software', a document icon labeled 'documentation', a stack of cylinders labeled 'tracking', a gear icon labeled 'system', a graduation cap icon labeled 'education', and a gear icon labeled 'e-learning management'. Lines connect these icons to the central monitor. On the right, there is a photograph of three individuals (two men and one woman) wearing headsets and working on desktop computers in what appears to be a call center or customer service environment.

Basics of PLC

Watch Table and Force Table



Monitor/Modify Variables: Watch Tables

	Name	Address	Display	Monitor value	Monitor wit...	Modify wit...	Modify value	
1	"LB"	%I8.0	Bool	TRUE	Permanent	Permanent		
2	"T_Bay1"	%I8.1	Bool	FALSE	Permanent	Permanent		
3	"T_Bay2"	%I8.2	Bool	TRUE	Permanent	Permanent		
4	"T_Bay3"	%I8.3	Bool	TRUE	Permanent	Permanent		
5	"T_Bay-LB"	%I8.4	Bool	FALSE	Permanent	Permanent		
6	"Bay1"	%I8.5	Bool	FALSE	Permanent	Permanent	TRUE	<input checked="" type="checkbox"/> !
7	"Bay2"	%I8.6	Bool	FALSE	Permanent	Permanent	TRUE	<input checked="" type="checkbox"/> !
8	"Bay3"	%I8.7	Bool	FALSE	Permanent	Permanent	TRUE	<input checked="" type="checkbox"/> !
9	"L_Bay1"	%Q8.1	Bool	FALSE	Permanent	Permanent		
10	"L_Bay2"	%Q8.2	Bool	FALSE	Permanent	Permanent		
11	"L_Bay3"	%Q8.3	Bool	FALSE	Permanent	Permanent		
12	"L_Bay-LB"	%Q8.4	Bool	FALSE	Permanent	Permanent		
13	"K_Right"	%Q8.5	Bool	FALSE	Permanent	Permanent		
14	"K_Left"	%Q8.6	Bool	FALSE	Permanent	Permanent		
15	"IW_Weight"	%IW96	Hex	16#1F23	Permanent	Permanent	16#CAFE	<input checked="" type="checkbox"/> !
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Introduction

A Watch Table contains the variables defined and chosen by you and which are valid throughout the CPU. For each CPU created in the project, a "Watch and force tables" folder is automatically created. Through the command "Add new watch table", you create a new watch table in this folder.

Structure

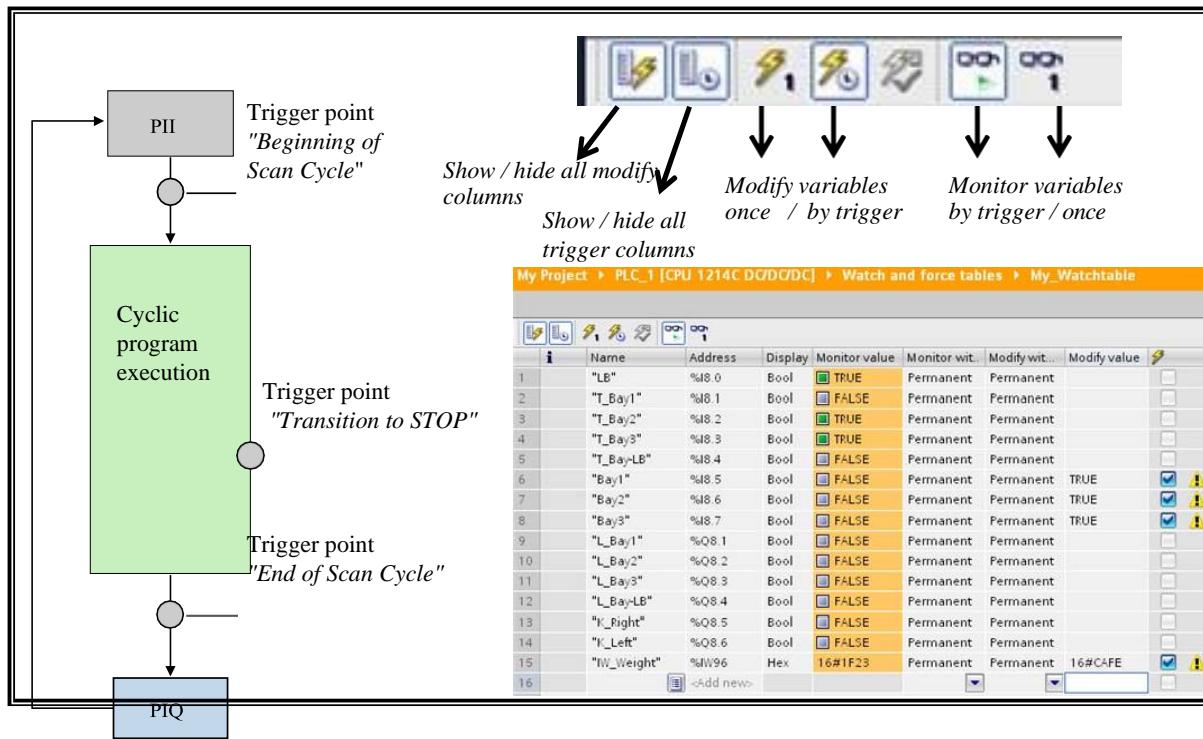
The columns displayed in the watch table depend on whether you are working in the basic mode or in the extended mode.

In the extended mode, the following columns are also displayed:

- Monitor with trigger
- Modify with trigger



"Monitor/Modify Variables": Trigger Points



Trigger Point

With the selection of the monitor and modify modes, you determine the trigger point and the duration of the monitoring of variables in the Watch table.

The following monitoring and modifying modes are available:

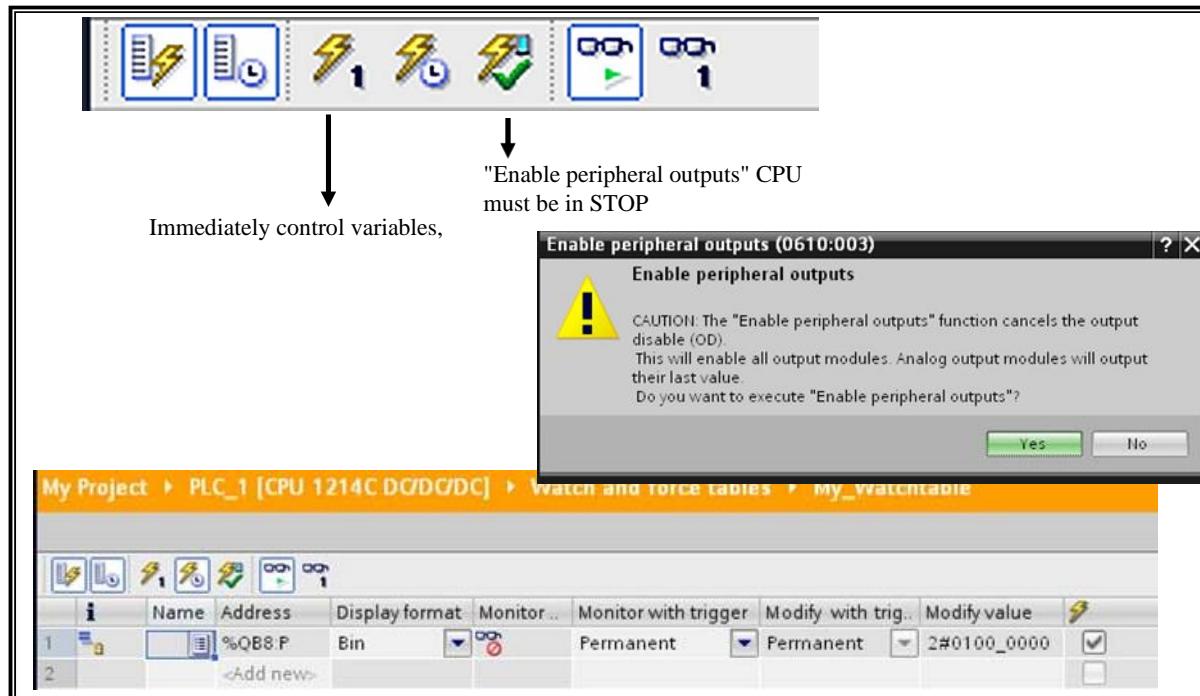
- Permanent
In this mode, the inputs at the beginning and the outputs at the end of the cycle can be monitored.
- Once only, at start of scan cycle
- Once only, at end of scan cycle
- Permanently, at start of scan cycle
- Permanently, at end of scan cycle
- Once only, at transition to STOP
- Permanently, at transition to STOP

The trigger points "start of scan cycle", "end of scan cycle" and "transition to STOP"



determine at which point in time the variables are to be read out of the CPU or are to be updated in the CPU.

Enable Peripheral Outputs



Introduction

The function "Enable peripheral outputs" cancels the output disable (OD) of the peripheral outputs. This enables the control of peripheral outputs when the CPU is in the STOP state. This function is available only in the "Extended Mode" in the Watch table.

Prerequisites

- A Watch table is created.
- An online connection to the CPU exists.
- The CPU must be in the STOP state to enable the peripheral outputs. The watch table must be in the extended mode.
- The forcing of variables cannot be active.



Force Variables

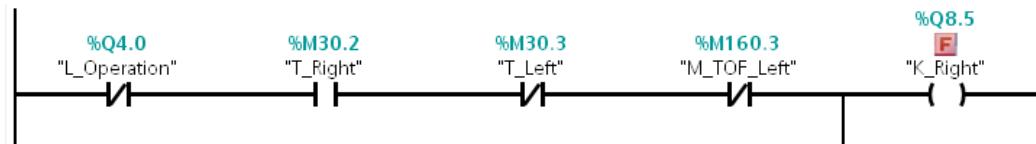
Introduction

With the help of the Force table, you can pre-assign individual variables of the user program with fixed values. These variables are then independently and continuously overwritten by the CPU. This process is called Forcing. Prerequisite for forcing is that an online connection to the CPU exists and that the CPU used supports this function.

Area of Use

Through the fixed pre-assignment of variables with defined values, you can set certain specifications for your user program and thus test the programmed functions.

Forced variables and PLCs are identified with an F, as soon as you switch to the online view or the respective block is monitored.



- 👉 With an active Force task, the MAINT-LED lights up on the CPU. Only physical inputs and outputs (in other words ":P") can be forced.

Careful

Before forcing, you must become familiar with the safety precautions with this process.

