Follow the CFC standard procedure!

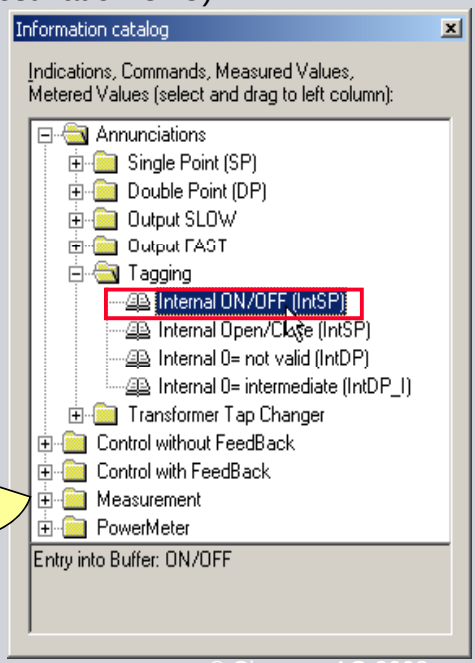
SIEMENS

1. Allocate necessary information to CFC
2. Save the Configuration Matrix
3. Insert and name a new CFC chart
4. Draw the chart
5. Shift the chart in the proper priority class
6. Let the system verify the run sequence
7. Compile the chart
8. Save and download the parameter set

Step 1: Allocation of information

➔ Insert a new information item of the type “Internal Single-Point Indication” (Tagging) in the matrix and assign it to the F1 function key and to CFC (destination CFC).

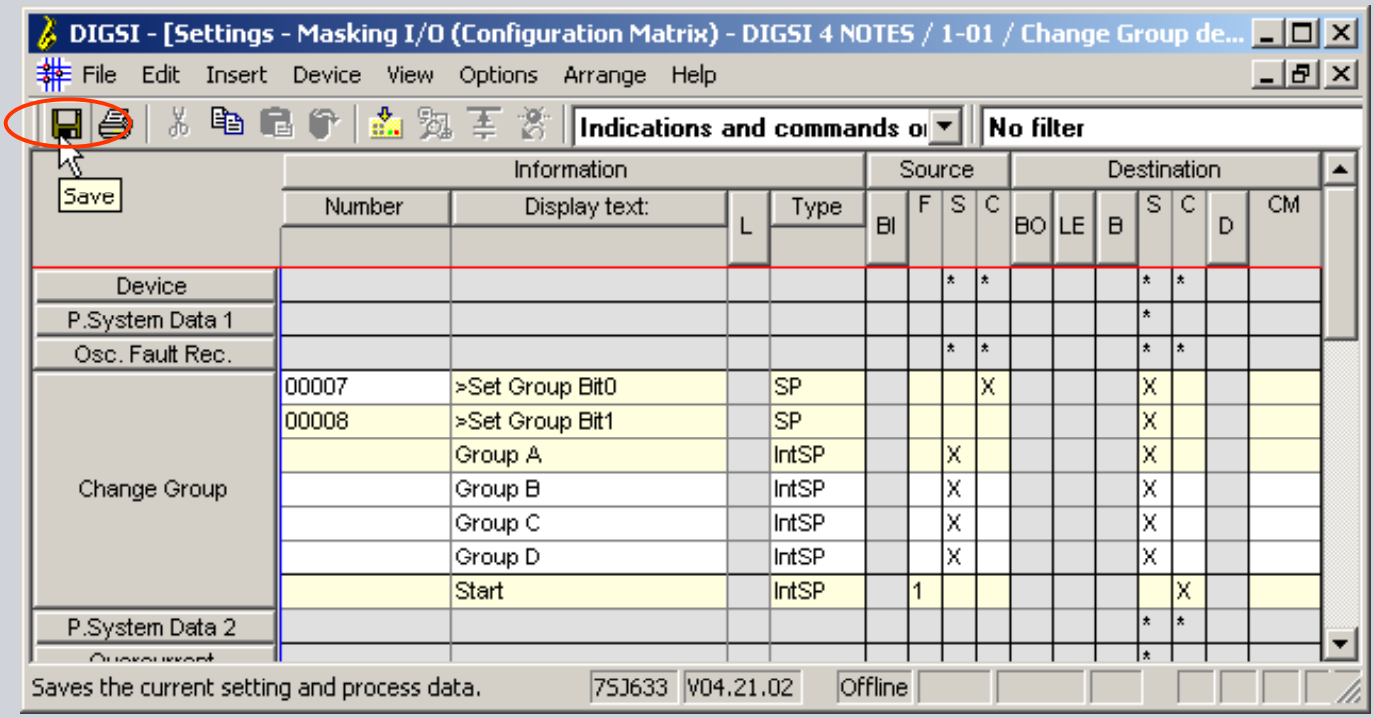
	Information				Source			Destination					
	No.	Display text:	L	Type	BI	F	C	BO	LE	Buf	S	C	E
Change Group	00007	>Set Group Bit0		SP			X				X		
	00008	>Set Group Bit1		SP							X		
		Group A		IntSP							X		
		Group B		IntSP							X		
		Group C		IntSP							X		
		Group D		IntSP							X		
		Start		IntSP		1						X	



Follow the CFC standard procedure!

1. Allocate necessary information to CFC ☑
2. Save the Configuration Matrix
3. Insert and name a new CFC chart
4. Draw the chart
5. Shift the chart in the proper priority class
6. Let the system verify the run sequence
7. Compile the chart
8. Save and download the parameter set

Step 2: Save the allocated information

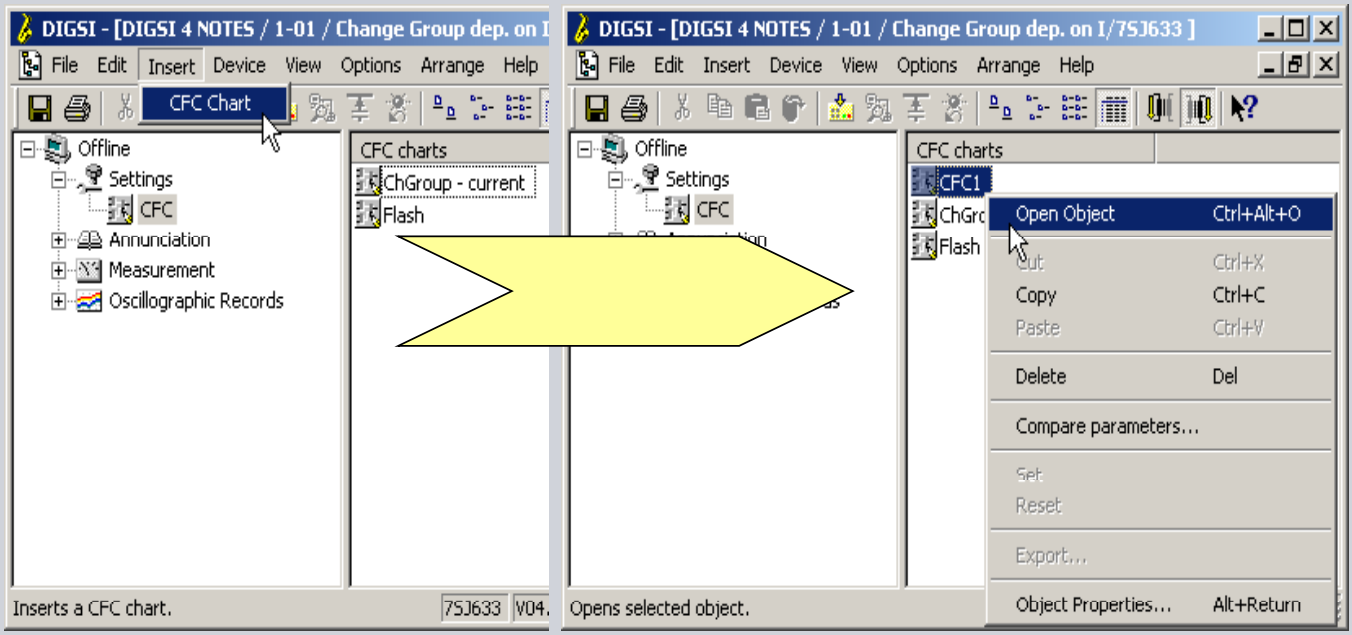


Follow the CFC standard procedure!

1. Allocate necessary information to CFC ☑
2. Save the Configuration Matrix ☑
3. Insert and name a new CFC chart
4. Draw the chart
5. Shift the chart in the proper priority class
6. Let the system verify the run sequence
7. Compile the chart
8. Save and download the parameter set

Step 3: Insert a new CFC chart

➔ Open the folder named “CFC”, insert a new CFC chart, give it a “good” name and open it.



SIEMENS

Follow the CFC standard procedure!

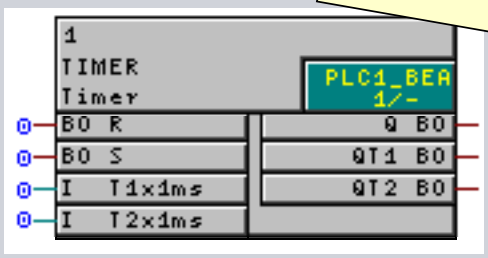
1. Allocate necessary information to CFC ☑
2. Save the Configuration Matrix ☑
3. Insert and name a new CFC chart ☑
4. Draw the chart
5. Shift the chart in the proper priority class
6. Let the system verify the run sequence
7. Compile the chart
8. Save and download the parameter set

SIEMENS

Step 4: Draw a CFC chart

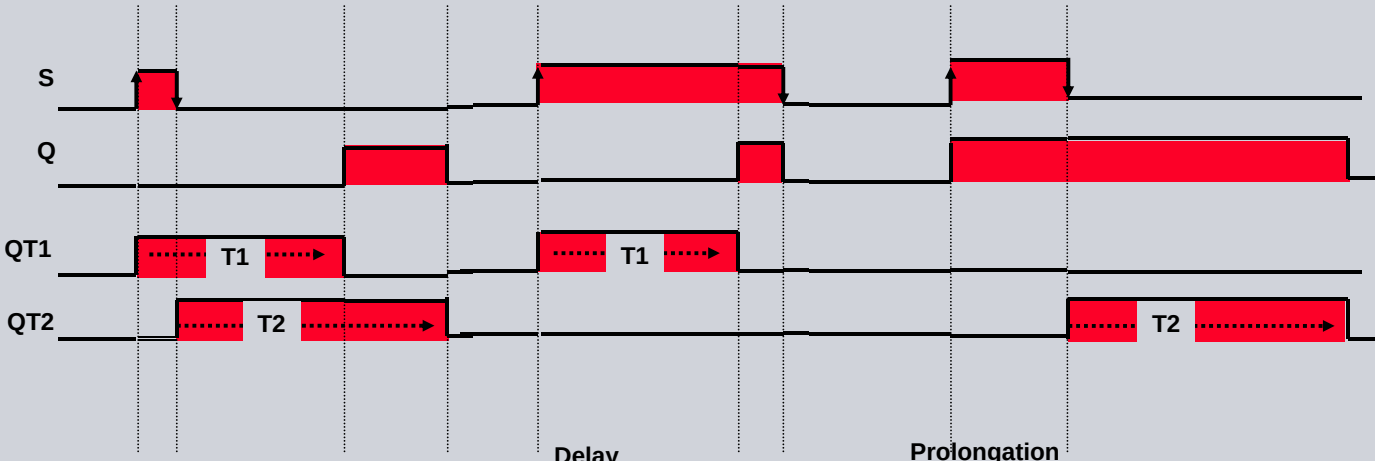
➔ Use the TIMER block.

The TIMER runs only in PLC or PLC1 !



R => Timer Reset
S => Timer Start

Q=(S+T2) * $\overline{T1}$ * $\overline{R}$
QT1= T1 * $\overline{R}$
QT2= T2 * $\overline{R}$



T1 and T2 timer function

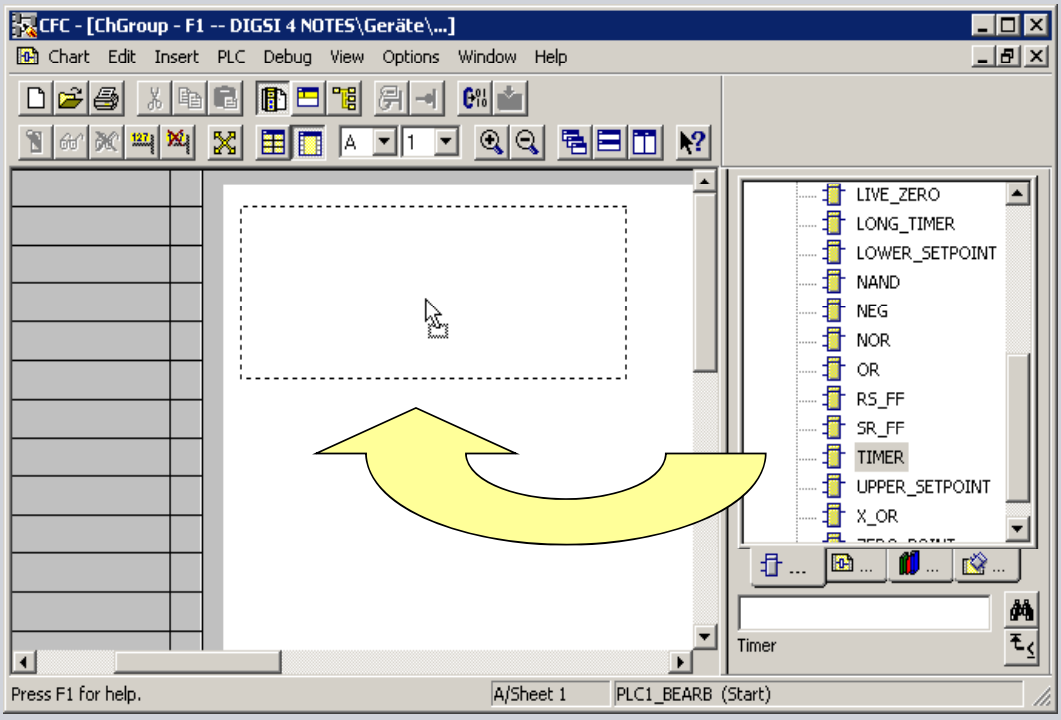
Delay
Q is delayed by T1

Prolongation
Q corresponds to S prolonged by T2

SIEMENS

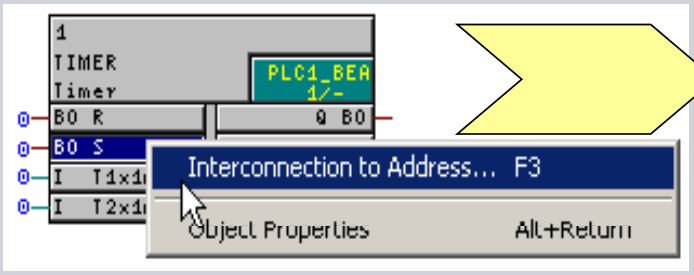
Step 4: Draw a CFC chart

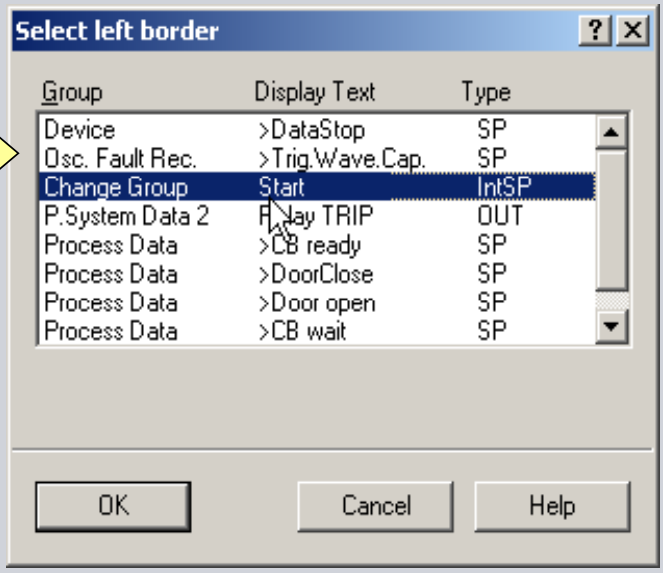
➔ Insert a TIMER block via Drag & Drop.



Step 4: Draw a CFC chart

➔ Connect the input “S“ (Start TIMER)
to the information “Start“ (configured to F1)

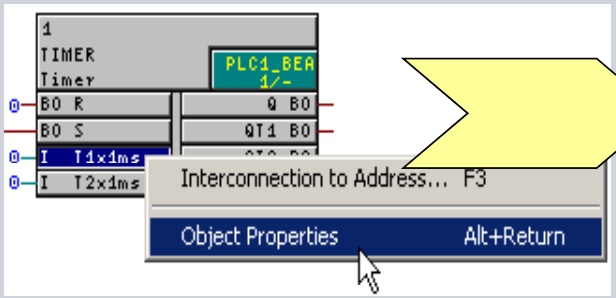


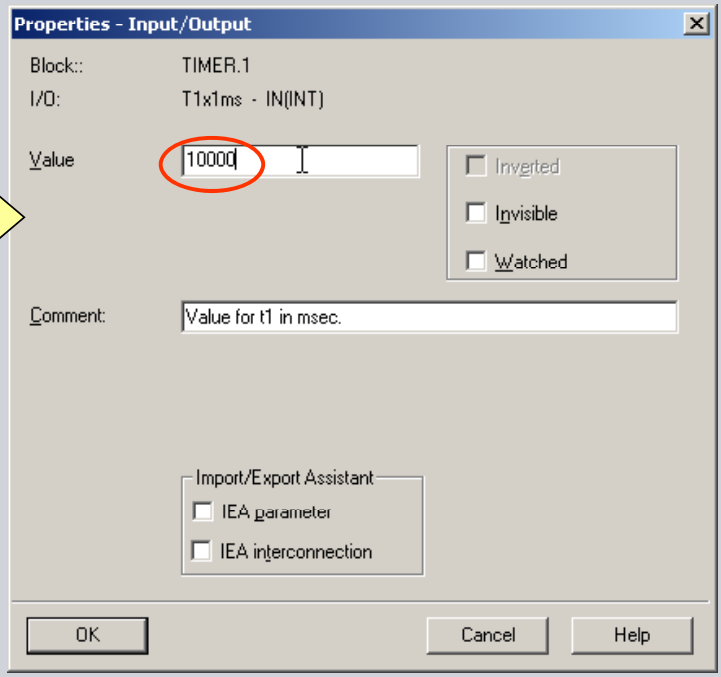


SIEMENS

Step 4: Draw a CFC chart

➔ Set the value for the timer “T1“ to 10000 ms.

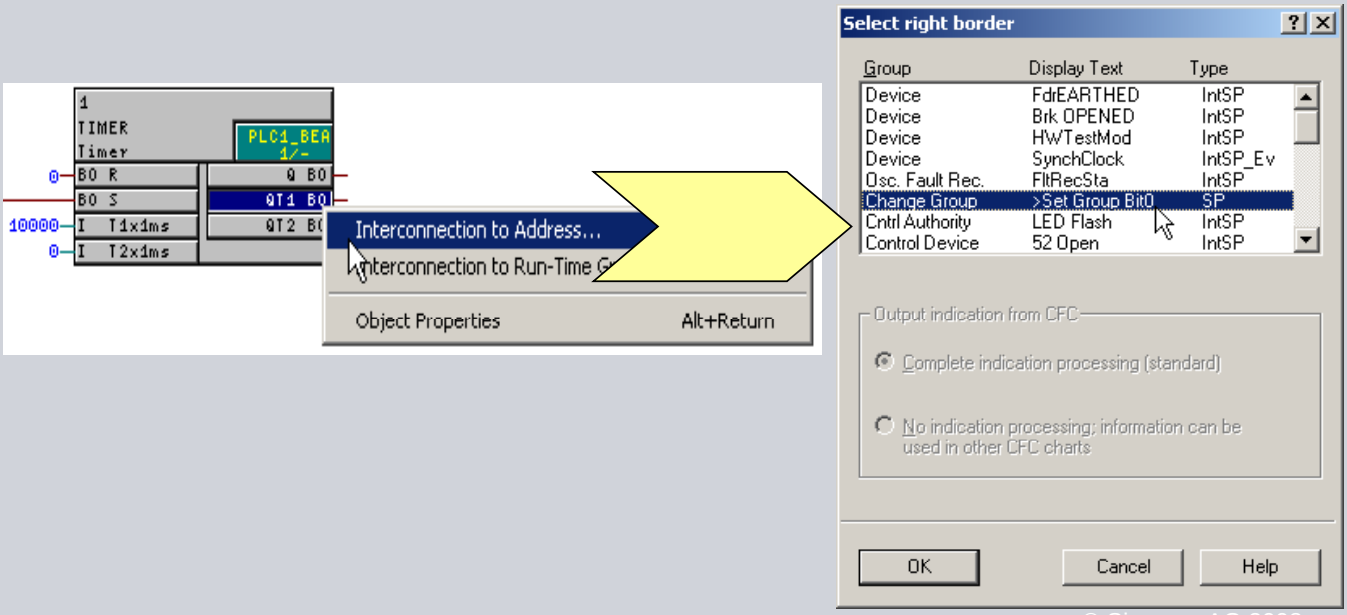




© Siemens AG 2008

Step 4: Draw a CFC chart

➔ Connect the output “QT1“ (HIGH applies for as long as the T1 timer is running) to the information “>Set Group Bit 0“



Follow the CFC standard procedure!

1. Allocate necessary information to CFC ☑
2. Save the Configuration Matrix ☑
3. Insert and name a new CFC chart ☑
4. Draw the chart ☑
5. Shift the chart in the proper priority class
6. Let the system verify the run sequence
7. Compile the chart
8. Save and download the parameter set

CFC - Continuous Function Chart (IEC Standard 1131 = High Flexibility)

SIEMENS

4 priority classes for various tasks

PLC (Fast PLC)
- Blocking protection functions
- Few modules only
- Automatic start after change-of-state at the input

PLC1 (Slow PLC)
- Most frequent priority class (e.g. for TIMER applications)
- Automatic start after change-of-state at the input

SFS (Switchgear interlocking)
- Verifying the switchgear interlocking
- Automatic start like PLC plus when activating a control command

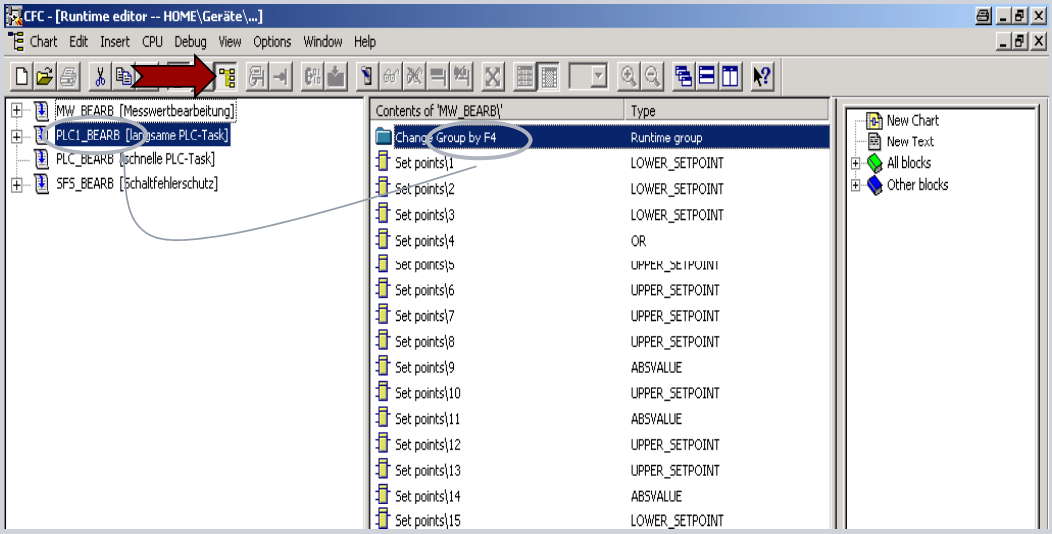
MW (Measured value processing)
- Configuring and comparing measured values
- Implementing additional protection functions such as “Reverse power (ANSI 32)” and “Power factor (ANSI 55)”
- Automatic start every 600 ms

SIEMENS

Step 5: Shift chart in the proper priority class

- Open the Runtime Editor
- To change the priority class: Grab your “good name” folder (by left mouse key) “ and drag & drop it into the desired priority-class folder menu (Shift + F11).

- If you want to prepare the NEXT CFC chart inserted to run under another priority class then first select the desired priority class then click on “edit” then “predecessor for insert position” and then “ok”



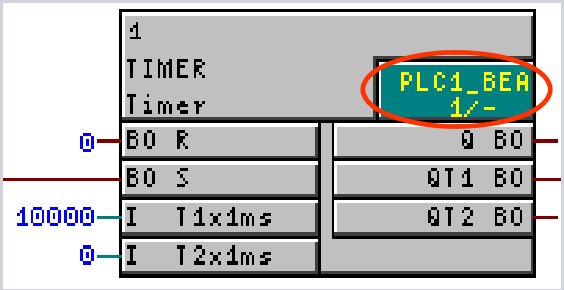
Follow the CFC standard procedure!

SIEMENS

1. Allocate necessary information to CFC ☑
2. Save the Configuration Matrix ☑
3. Insert and name a new CFC chart ☑
4. Draw the chart ☑
5. Shift the chart in the proper priority class ☑
6. Let the system verify the run sequence
7. Compile the chart
8. Save and download the parameter set

SIEMENS

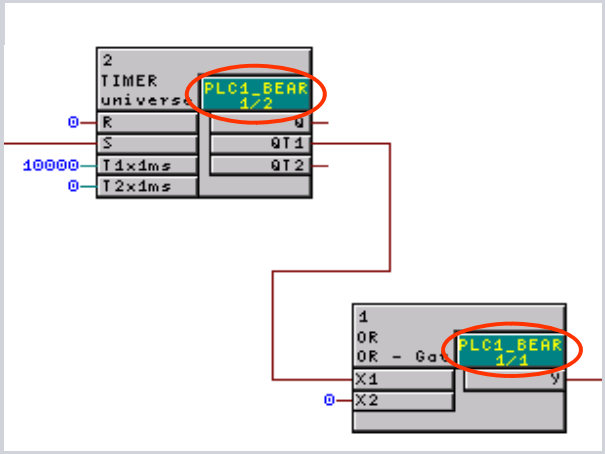
Step 6: Let the system verify the run sequence



Obviously, you don't have to change the run sequence as the TIMER is the only block running in the chart.

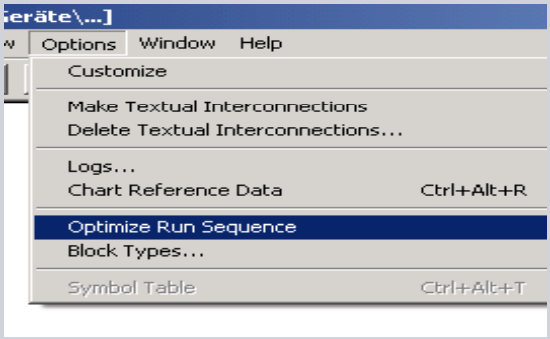
➔ Changes must, however, be made if several function blocks are placed – and some of them are maybe in the wrong order…

Step 6: Let the system verify the run sequence



In this case, the run sequence must be changed as the TIMER has the number 2 in the chart, i.e. it will be executed after the OR block.

➔ Click on “Options” and then on “optimize run sequence”.

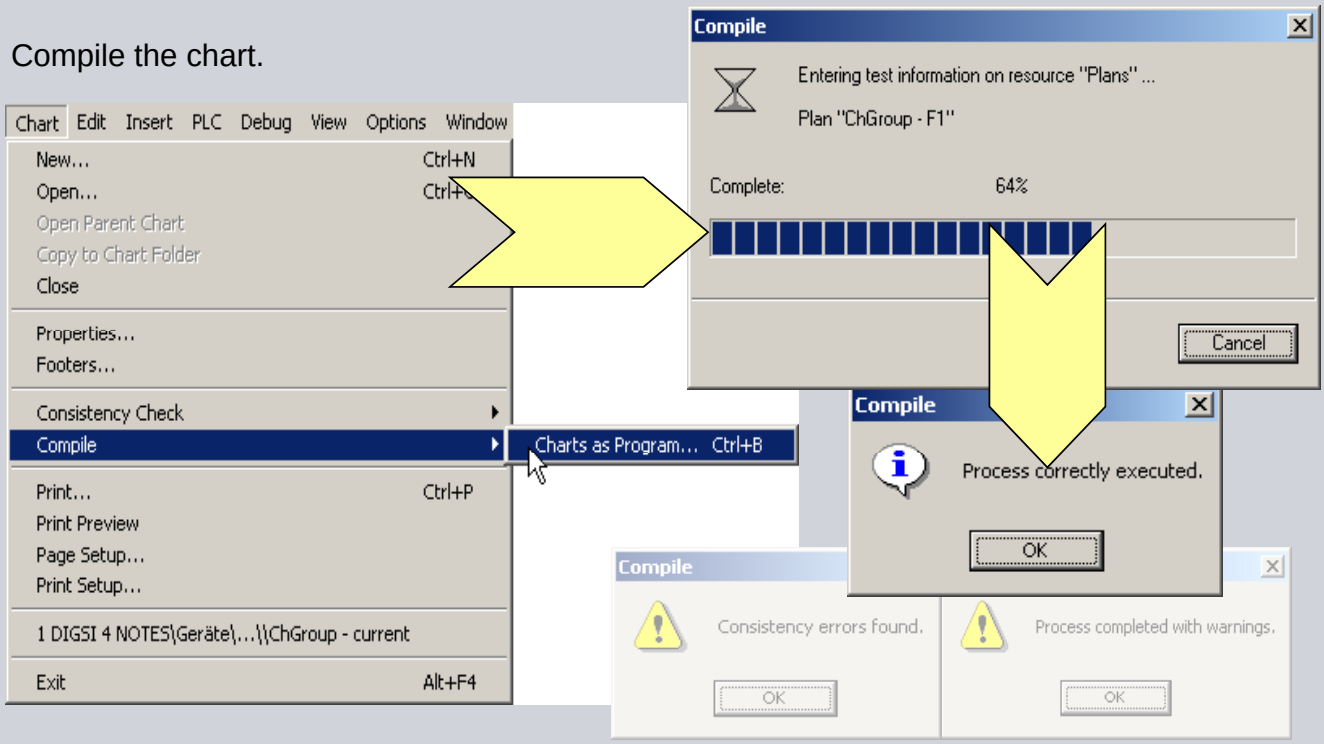


Follow the CFC standard procedure!

1. Allocate necessary information to CFC ☑
2. Save the Configuration Matrix ☑
3. Insert and name a new CFC chart ☑
4. Draw the chart ☑
5. Shift the chart in the proper priority class ☑
6. Let the system verify the run sequence ☑
7. Compile the chart
8. Save and download the parameter set

Step 7: Compile the CFC chart

➔ Compile the chart.

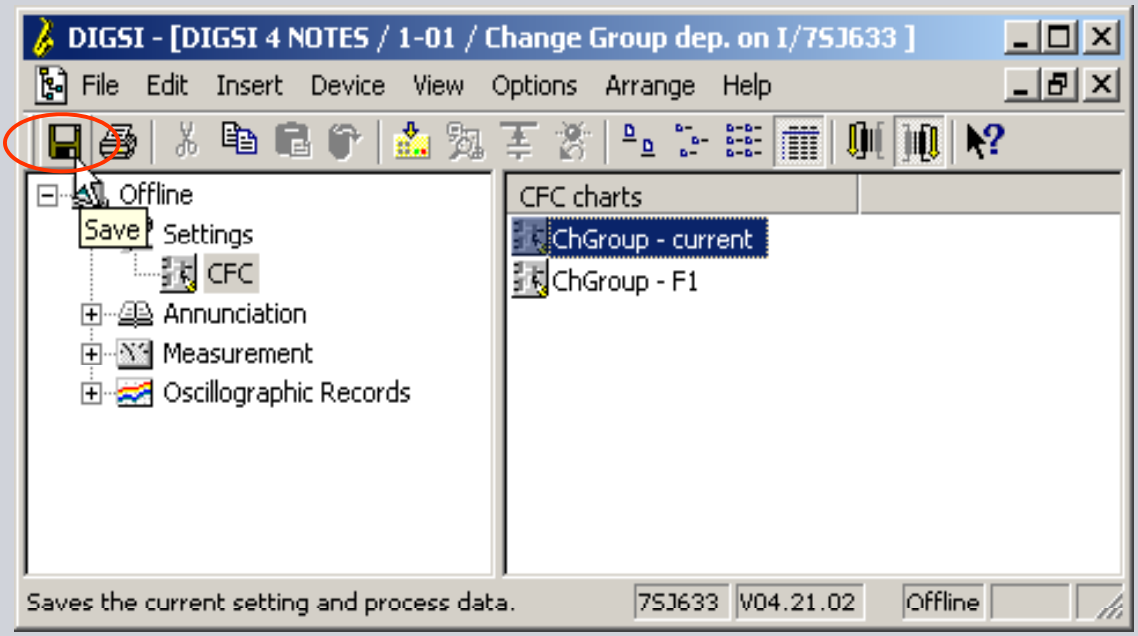


Follow the CFC standard procedure!

1. Allocate necessary information to CFC ☑
2. Save the Configuration Matrix ☑
3. Insert and name a new CFC chart ☑
4. Draw the chart ☑
5. Shift the chart in the proper priority class ☑
6. Let the system verify the run sequence ☑
7. Compile the chart ☑
8. Save and download the parameter set

Step 8: Save the parameter set

➔ Close the chart and save the parameter set.



Follow the CFC standard procedure!

SIEMENS

1. Allocate necessary information to CFC ☑
2. Save the Configuration Matrix ☑
3. Insert and name a new CFC chart ☑
4. Draw the chart ☑
5. Shift the chart in the proper priority class ☑
6. Let the system verify the run sequence ☑
7. Compile the chart ☑
8. Save and download the parameter set ☑