

Connecting gates in CFC

Once you have inserted an element (gate) into the CFC-chart, the connections (inputs and outputs of the gate) must be applied. The proper sequence of execution must also be set.

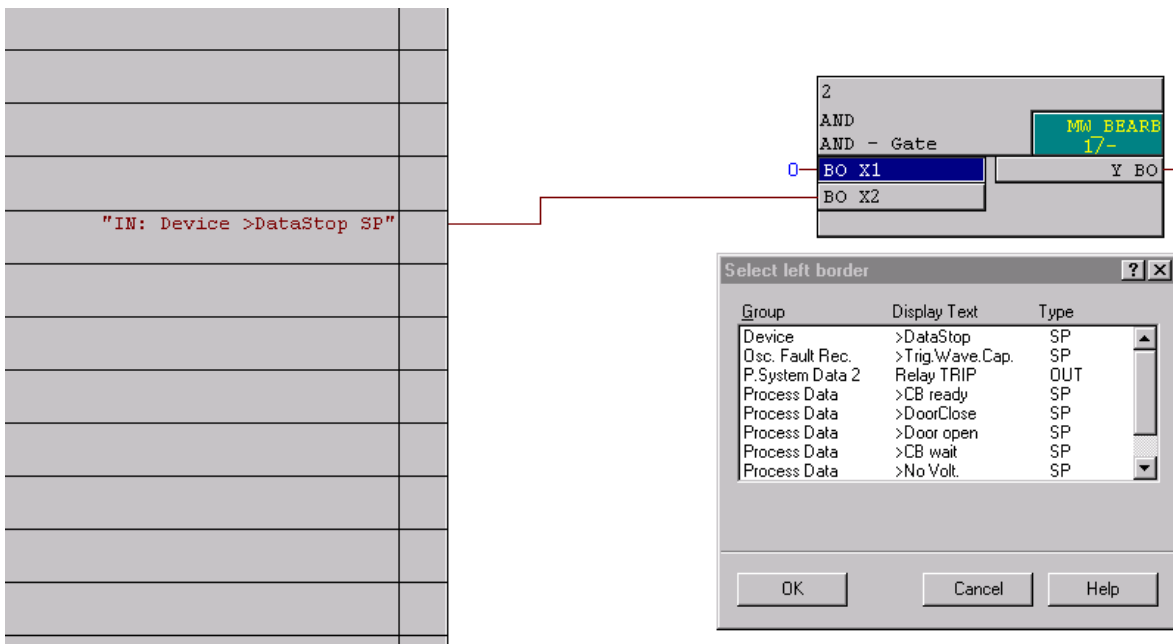
In picture 1 an input of the “AND” gate is connected to an annunciation in the left hand column of the CFC-chart (destination CFC in the matrix). For this purpose, the annunciation was marshalled in the matrix with destination CFC. From the left hand column it can then be used as an input to elements in the CFC-chart.

After changes to the matrix, the parameter set must be saved so that these changes are evident when programming the CFC-chart.

To apply this connection, click with the right mouse button on the relevant “AND” gate input (BO X1 or BO X2). In the pop-up window select „Interconnection to Address“ and choose the desired annunciation from the list. Only those annunciations which are of the appropriate type and which were routed accordingly in the I/O matrix will be available for selection.

The same procedure must be followed when configuring an output from the CFC-chart to the right hand border of the worksheet (source CFC in the matrix). In this case only those items which were routed as source CFC in the I/O matrix will appear in the selection list. Remember that the information type must correspond to the information type output by the CFC element in question.

To apply connections between gates, click the output on the gate in question and then the desired input of the second gate. A line depicting the connection will be drawn automatically.



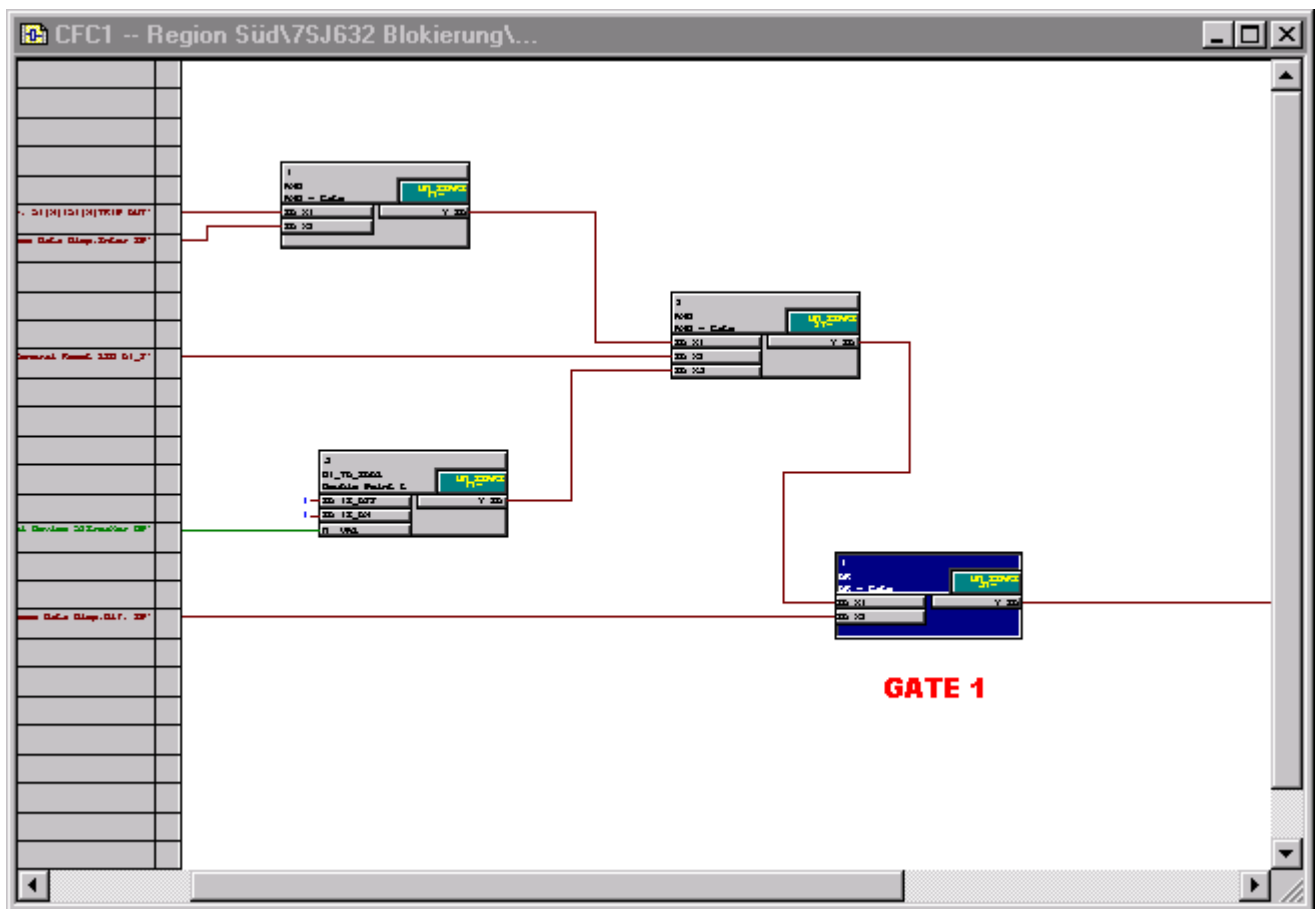
Picture 1: An AND with one input connected to the right hand column of the worksheet (click with right mouse button on BO X1)

Different types of information are available. If for example the input of the gate DI_TO_BOOL is connected to the right hand column, the list of available inputs will differ from the list shown for configuring the input of the AND gate. The reason being, that the DI_TO_BOOL gate requires a “double point” (DP) annunciation, while the AND gate requires a “single point” (SP) annunciation. Therefore e.g. it is also not possible to connect a command to the input of an AND gate. If this is required, the command must first be converted with a command to information gate (CMD_INF), which will separate the command into SP information such as “Open”, “Close”, “On”, “OFF”, “CONTROL SOURCE”.

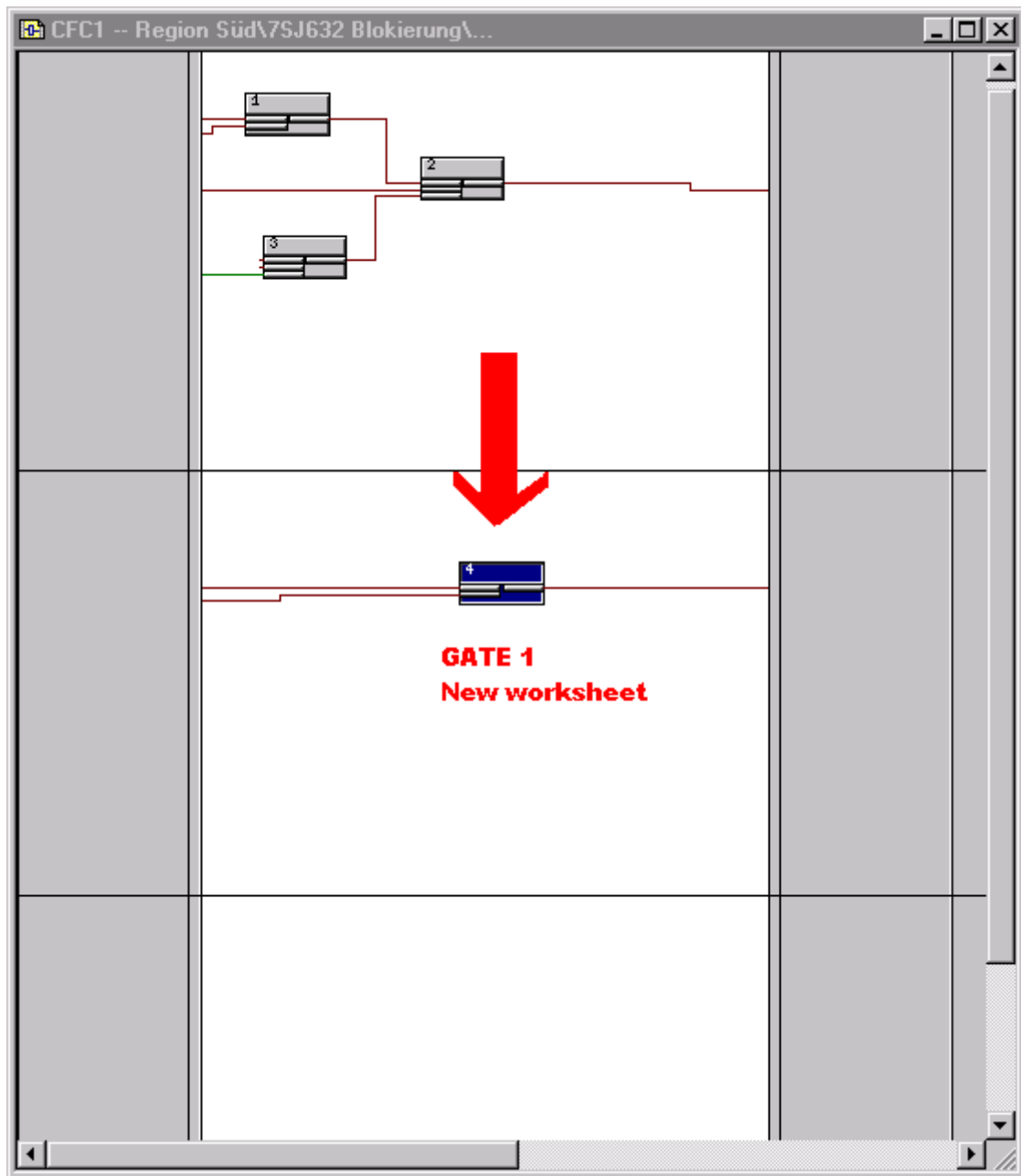
The user cannot inadvertently apply the wrong information type, as the CFC programme automatically restricts the choice to the valid types. This applies to connections from the left hand column or to the right hand column and to connections between gates. Remember that special gates are available to convert information types where necessary.

If one worksheet is not sufficient for the entire logic, further worksheets (total 6) are available within one CFC-chart.

Connections between the worksheets are possible. To achieve this, place the destination gate in the worksheet where the interconnecting signal originates, apply the interconnection and then “drag & drop” the destination gate into the destination worksheet (Picture 2 and 3). The “drag & drop” procedure may be carried out in the “Overview” mode where six worksheets are visible. The “Overview” mode is reached by clicking the right mouse button and choosing “Overview” in the “pop-up” menu. Alternatively, or by pressing “Ctrl +U”. The connection will be maintained although in the worksheet it is routed as output via the right hand column in the source sheet and as input via the left hand column in the destination sheet.



Picture 2: Connection of gates



Picture 3: Gate moved to destination worksheet. The inputs and outputs are maintained automatically.