



In the CFC chart (overall chart refer to last page) the start input to the counter is the first condition that is evaluated. This is the "CB open" state=">Brk Aux NO" (additionally "CB closed"="Brk> Aux NC" may not be present at the same time) or the condition that I is smaller than a set "pole open" threshold.

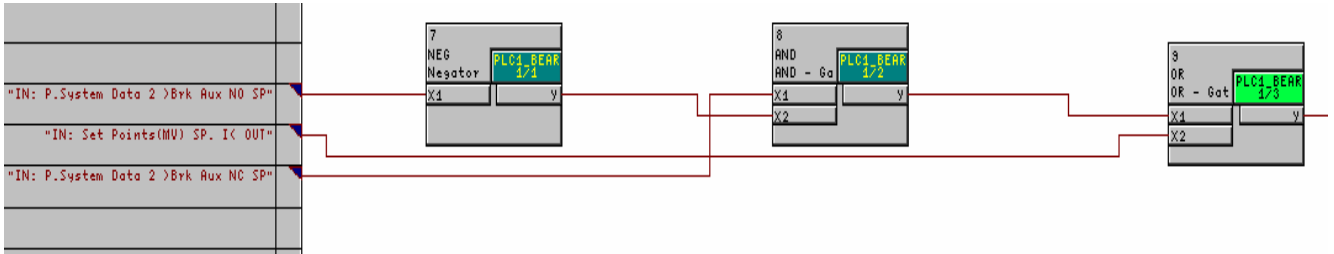


Figure 3: Starting condition

The signal from the OR gate is routed to the BLINK module (see Figure 4 below). The setting 500ms ON and 500ms OFF state is applied, i.e. when a signal is applied at the ENABLE input the output of the BLINK module provides a pulse per second signal (with ON state of 500ms).

The first counter module (COUNTER) summates these pulses until the "END" value of 3600 is reached. After 3600 sec = one hour, an output on the OVERFLOW terminal of the module is generated. The COUNTER is automatically retriggered by the falling edge of the signal at the CLK input. It will continue counting and again provide an OVERFLOW signal after 3600 further input pulses. These OVERFLOW signals are now accumulated by the second COUNTER module. The output at the VAL terminal corresponds to the number of hours that the circuit breaker was open. By means of a DINT\_TO\_REAL module this value may be visualised as a measured value, for example in the user defined measured value window (Display: MENU → Measurement → User Defined).

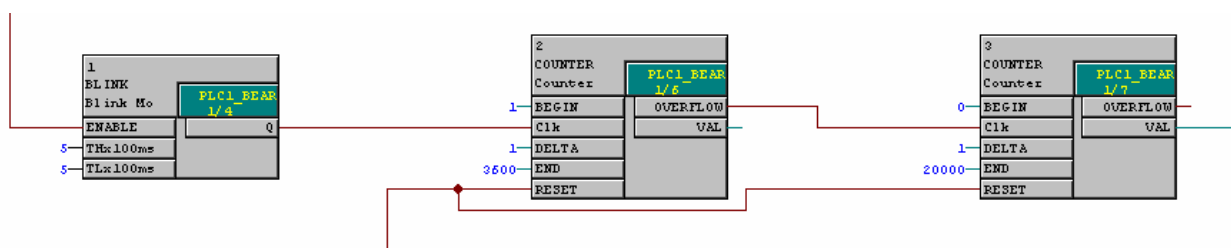


Figure 4: CFC chart with BLINK and COUNTER module

With a reset signal, for example derived from a binary input, the COUNTERS can be reset at any time. By means of a TIMER module it can be ensured that even a very short reset impulse is extended to ensure that the reset condition is securely processed in the COUNTER modules (refer to Figure 9).

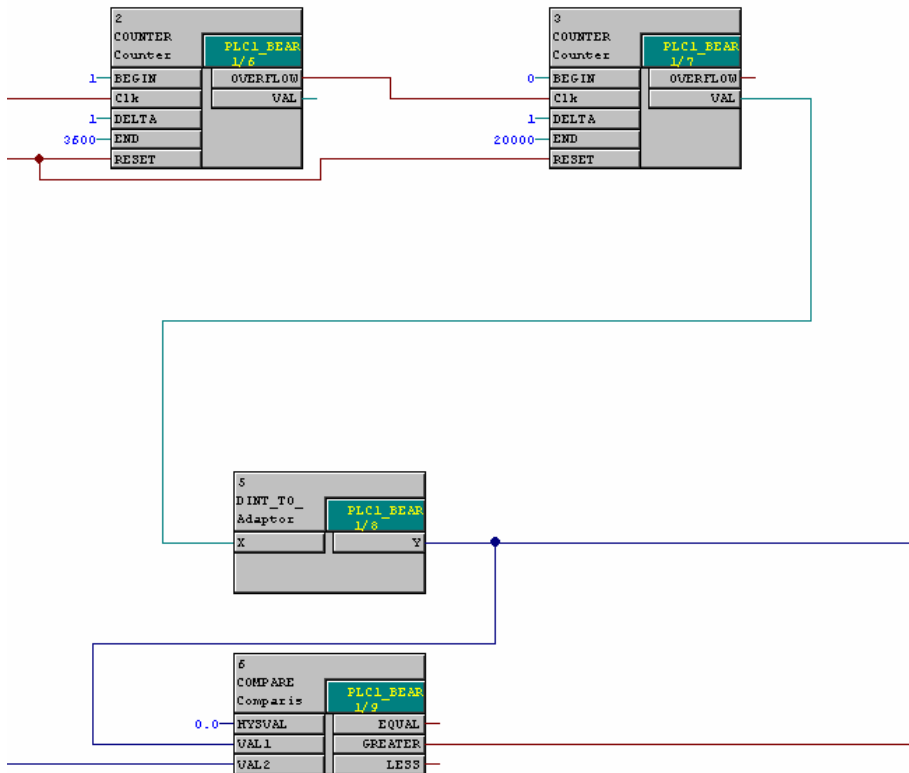


Figure 5: Output of the CFC chart

In addition, the measured value indicating the number of hours at the output of the DINT\_TO\_REAL module (Figure 5) may also be compared with a variable threshold. For this purpose this value output is routed to a further COMPARE module. The setting for the comparison threshold with the COMPARE module can be set in the matrix by means of a threshold value LVU (*Limit DHC*, refer to Figure 2). Advantage: The CFC chart does not have to be recompiled following every setting change of the threshold. Click on the *Limit DHC* threshold value in the matrix with the right mouse button; the limits can be set here. 100% corresponds to 1h, e.g. threshold value 50h is set with 5000%.

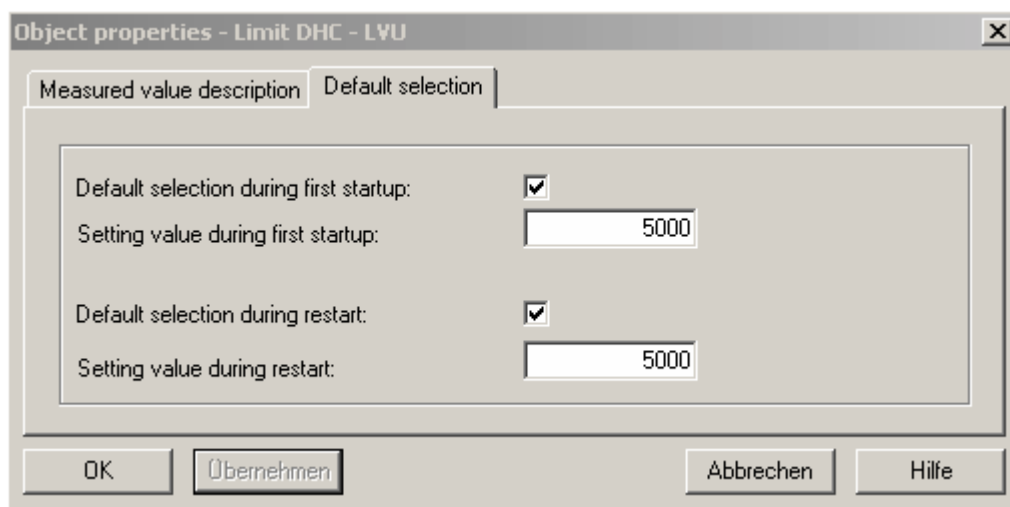


Figure 6: Object properties of Set Point LVU

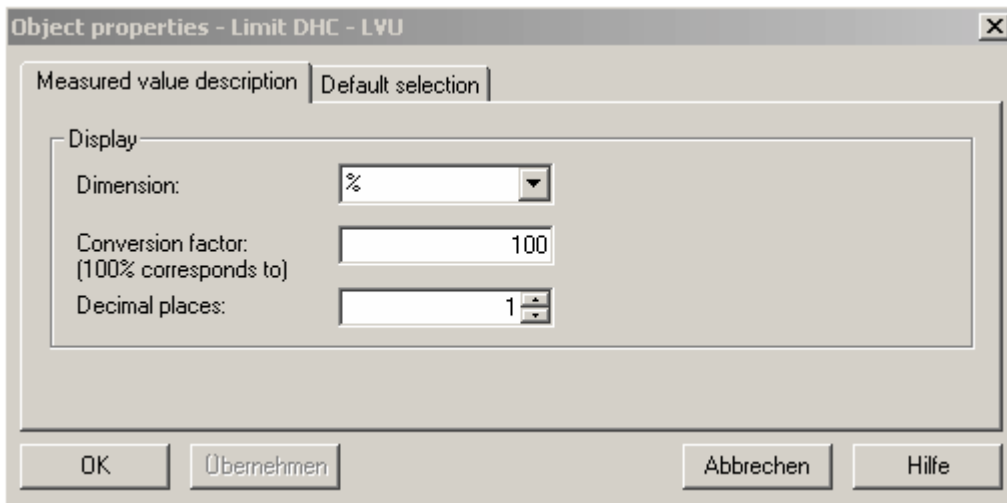


Figure 7: Object properties of Set Point LVU

Under index "Measured value description" the standard settings are maintained.

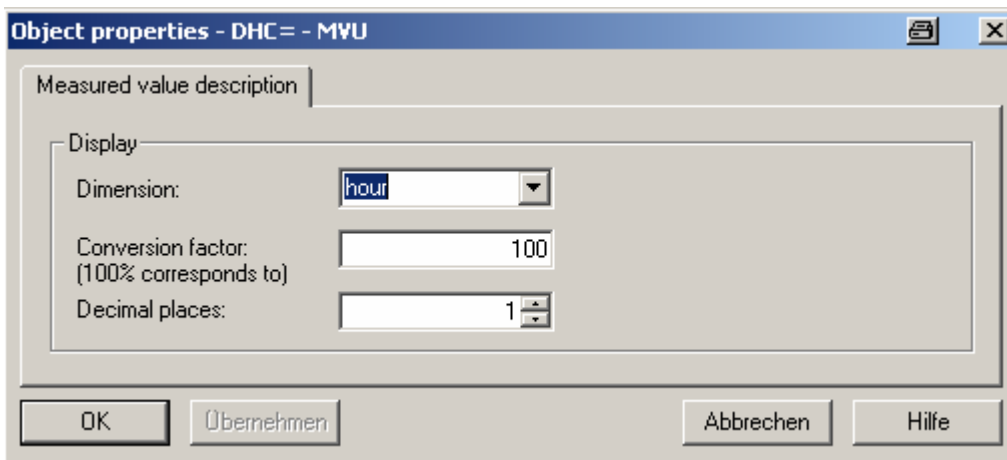


Figure 8: Object properties measured value MVU

For the measured value the dimension „hour“ may be applied.

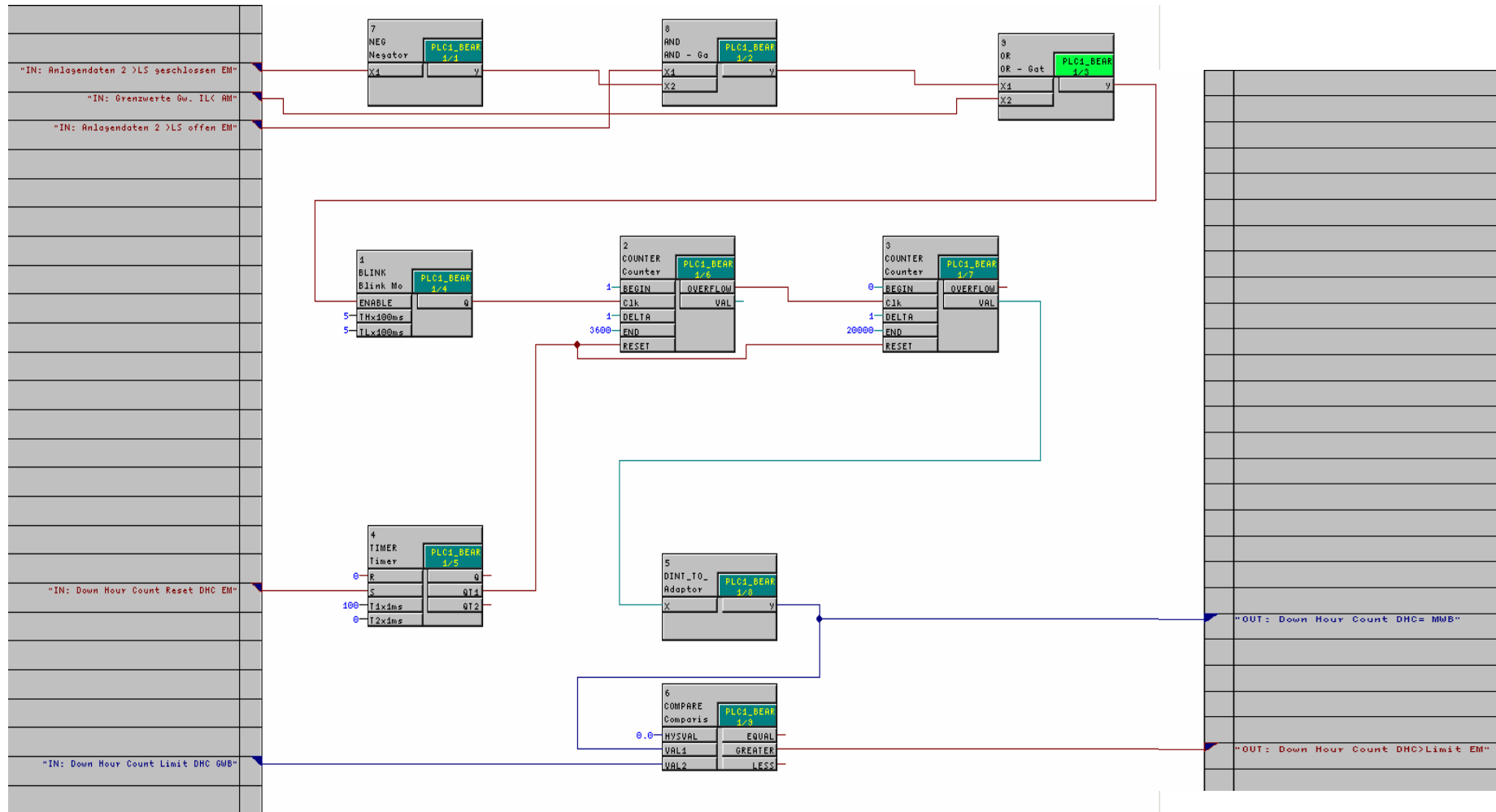


Figure 9: Overall CFC chart