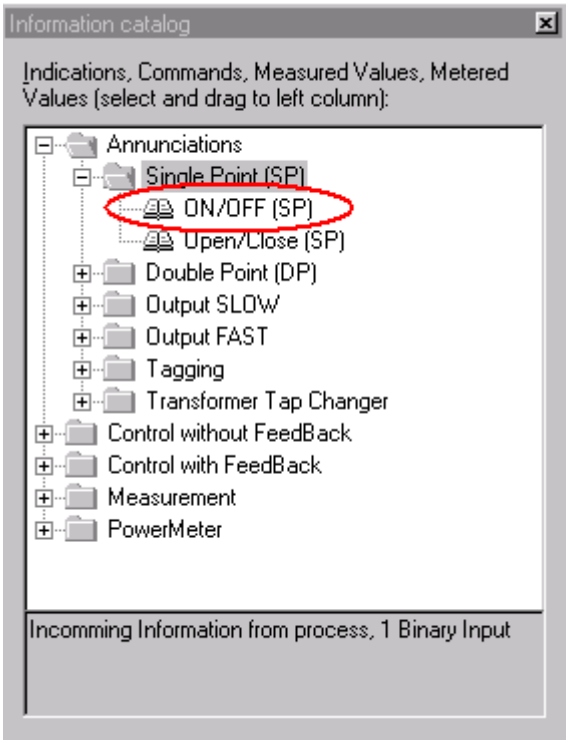
Graphical current indicator part II

Objective

In this example the graphic current indicator will indicate the largest (or lowest) of the three phase currents.

Implementation

For each phase current, a new information group (Balken, Balken1, Balken2), and one common group for controlling the display indicator, are applied. In this case 4 CFC charts will be used. Due to limited resources, the number of stages is decreased from 10 to 8. The corresponding step size is therefor increased from 10 to 12,5%. Furthermore, single point annunciations instead of double point are used in this case. All three phase group annunciations (3 x 8) are allocated with source and destination CFC. In the fourth group (in picture 2 called Gruppen) the new annunciations are allocated to source CFC and as destination routed to the Default and Control display.

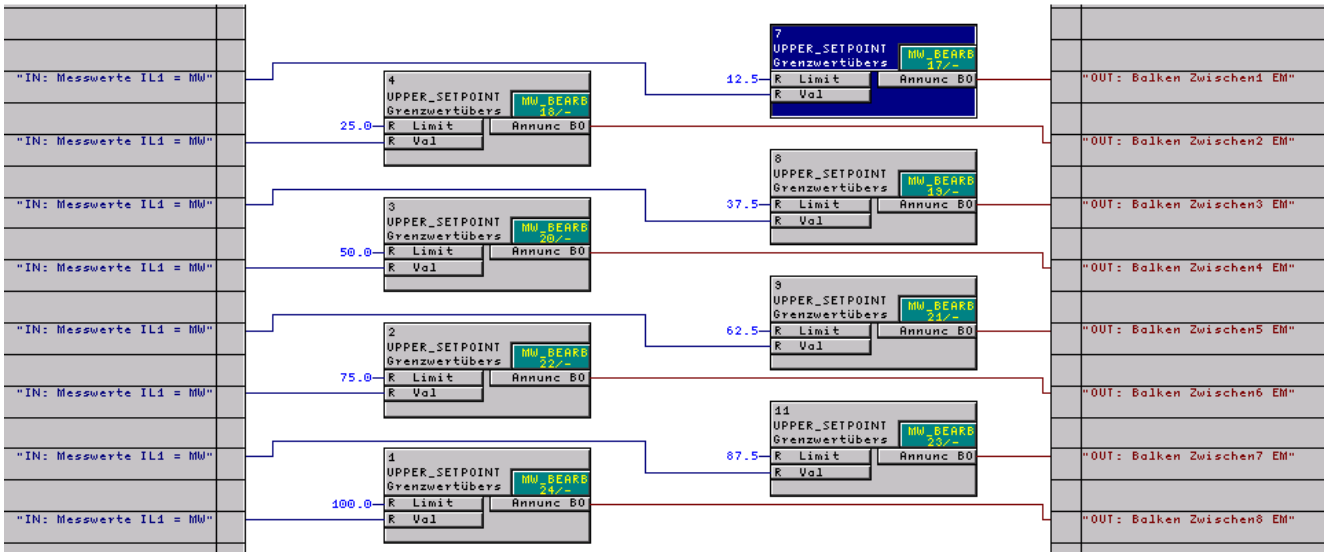


Picture 1: Information catalogue

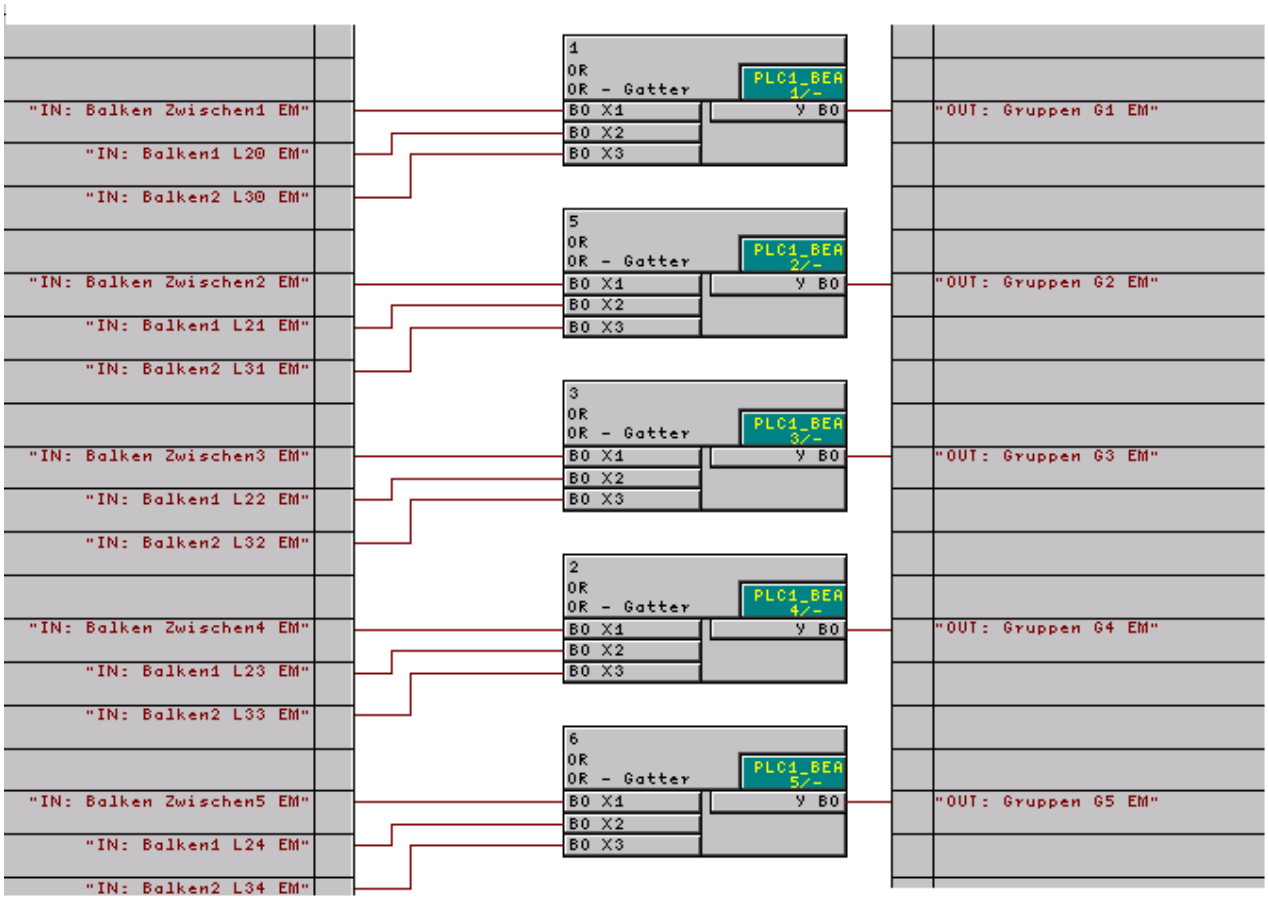
	Information				Source					Destination																							
	Number	Display text:	L	Type	BI	F	S	C	BO	LED																Buffer			S	C	D		CM
										1	2	3	4	5	6	7	8	9	10	11	12	13	14	O	S	T			C	D	
Osc. Fault Rec.							*	*																*			*	*			
P.System Data 2																								*		*	*	*			
Overcurrent																								*		*	*				
Directional O/C																								*		*	*				
Measurem.Superv																								*			*				
Fault Locator																								*		*	*				
Cntrl Authority							*																	*			*				
Control Device							*	*																*			*	*	*	*	*
Process Data																								*			*	*			
Balken		Zwischen1		SP				X																00				X	X	X	
		Zwischen2		SP				X																00				X	X	X	
		Zwischen3		SP				X																00				X	X	X	
		Zwischen4		SP				X																00				X	X	X	
		Zwischen5		SP				X																00				X	X	X	
		Zwischen6		SP				X																00				X	X	X	
		Zwischen7		SP				X																00				X	X	X	
		Zwischen8		SP				X																00				X	X	X	
Balken1		L20		SP				X																00				X	X	X	
		L21		SP				X																00				X	X	X	
		L22		SP				X																00				X	X	X	
		L23		SP				X																00				X	X	X	
		L24		SP				X																00				X	X	X	
		L25		SP				X																00				X	X	X	
		L26		SP				X																00				X	X	X	
		L27		SP				X																00				X	X	X	
Balken2		L30		SP				X																00				X	X	X	
		L31		SP				X																00				X	X	X	
		L32		SP				X																00				X	X	X	
		L33		SP				X																00				X	X	X	
		L34		SP				X																00				X	X	X	
		L35		SP				X																00				X	X	X	
		L36		SP				X																00				X	X	X	
		L37		SP				X																00				X	X	X	
Gruppen		G1		SP				X																00				X	X	X	
		G2		SP				X																00				X	X	X	
		G3		SP				X																00				X	X	X	
		G4		SP				X																00				X	X	X	
		G5		SP				X																00				X	X	X	
		G6		SP				X																00				X	X	X	
		G7		SP				X																00				X	X	X	
		G8		SP				X																00				X	X	X	

Picture 2: input/output matrix

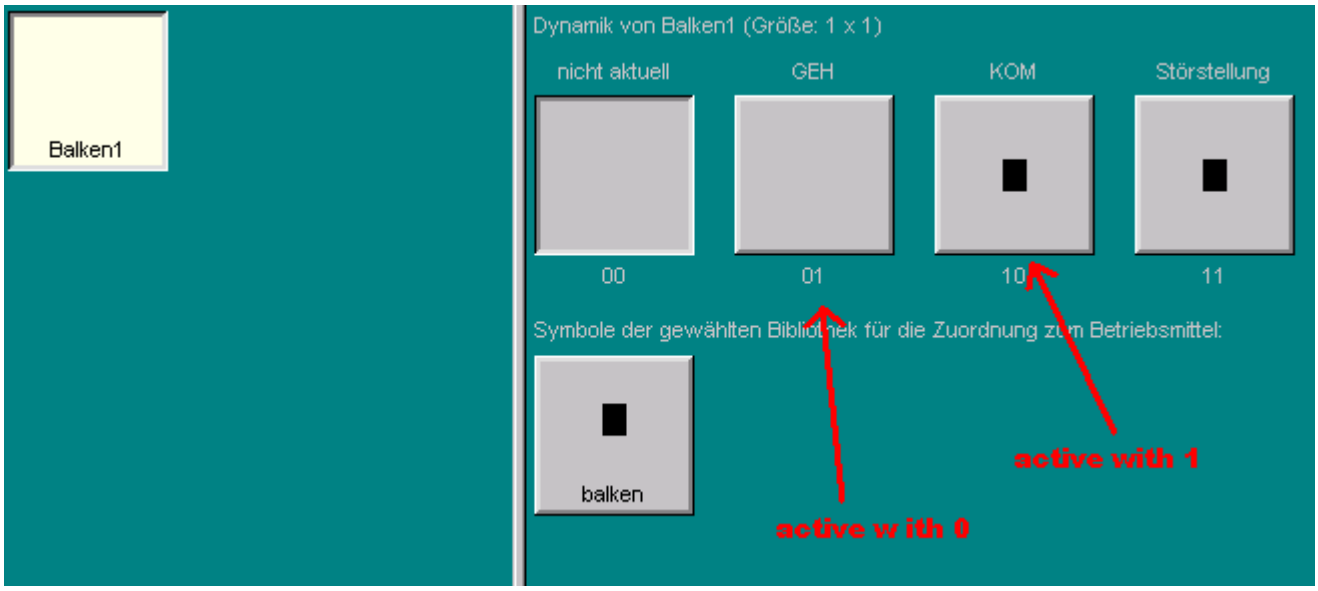
In the 4 CFC-charts the upper set point gates have the corresponding measured value (IL1, IL2, or IL3), connected to the R VAL input of the upper threshold gates. These are programmed in 12,5% steps with ascending order. The output of the upper set point gates is routed to the right hand margin with the corresponding user defined annunciation. Thereby each chart creates 8 signals indicating the corresponding magnitude of the ohase current. These signals are used as inputs of the common CFC-chart (picture 4) where they are used as inputs to 8 OR gates. For each of the 8 thresholds one OR gate is used, i.e. the 12,5% threshold from the 3 charts are connected to OR gate 1 etc. The output of the OR gate is routed to the 8 level indications (Gruppen G1 to G8). These signals will be used to control the display.



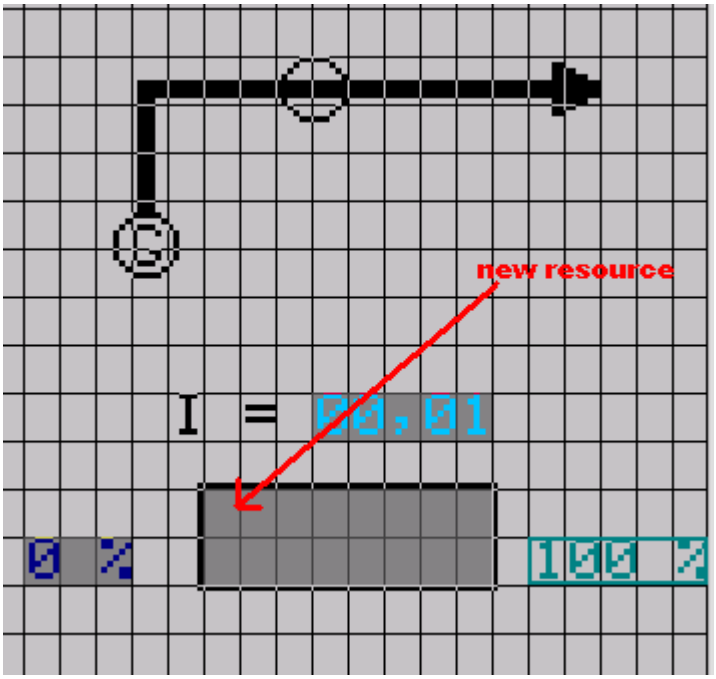
Picture 3 : first CFC chart



Picture 4: group CFC chart



Picture 5: New resource construction



Picture 6: Default display with current indicator

Default display: A new resource and element are defined. The element will indicate the current status. Open the new resource and import the new element. Then place the resource activated by the output signal (G1 to G8) in the resource construction. The 0 state need not be assigned.

The new resource constructed in this manner can now be used to indicate the current in the default display. For this purpose, place 8 such resource elements side by side and assign them with the 8 output signals from the 4th CFC-chart defined earlier.

The two illustrated methods have merits and demerits. Indicating only one phase current consumes less resources and enables the derived information to be used by other functions. The second method indicating the maximum level of the three monitored currents consumes more resources and provides no useful signals for other tasks.