

Light01 Example

A Much Better Idea : Logical : Unique



AmbiLogique

Electronic Controllers

The Light01 example shows a very simple corridor lighting control scheme, and illustrates the use of the XOR gate. This is the first example used in the Ambi_PLC tutorial.

The electricians among you will declare that you don't need a PLC to do this trivial job - but we are just using it to illustrate the basic principles of carrying out an AmbiLogique project.

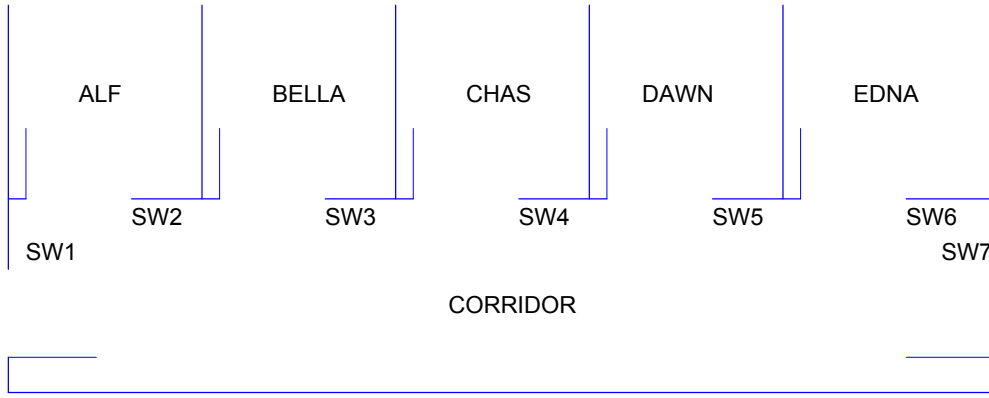
The explanation of how the system works, together with a diagram of the corridor and its layout, are all included on the one-sheet diagram.

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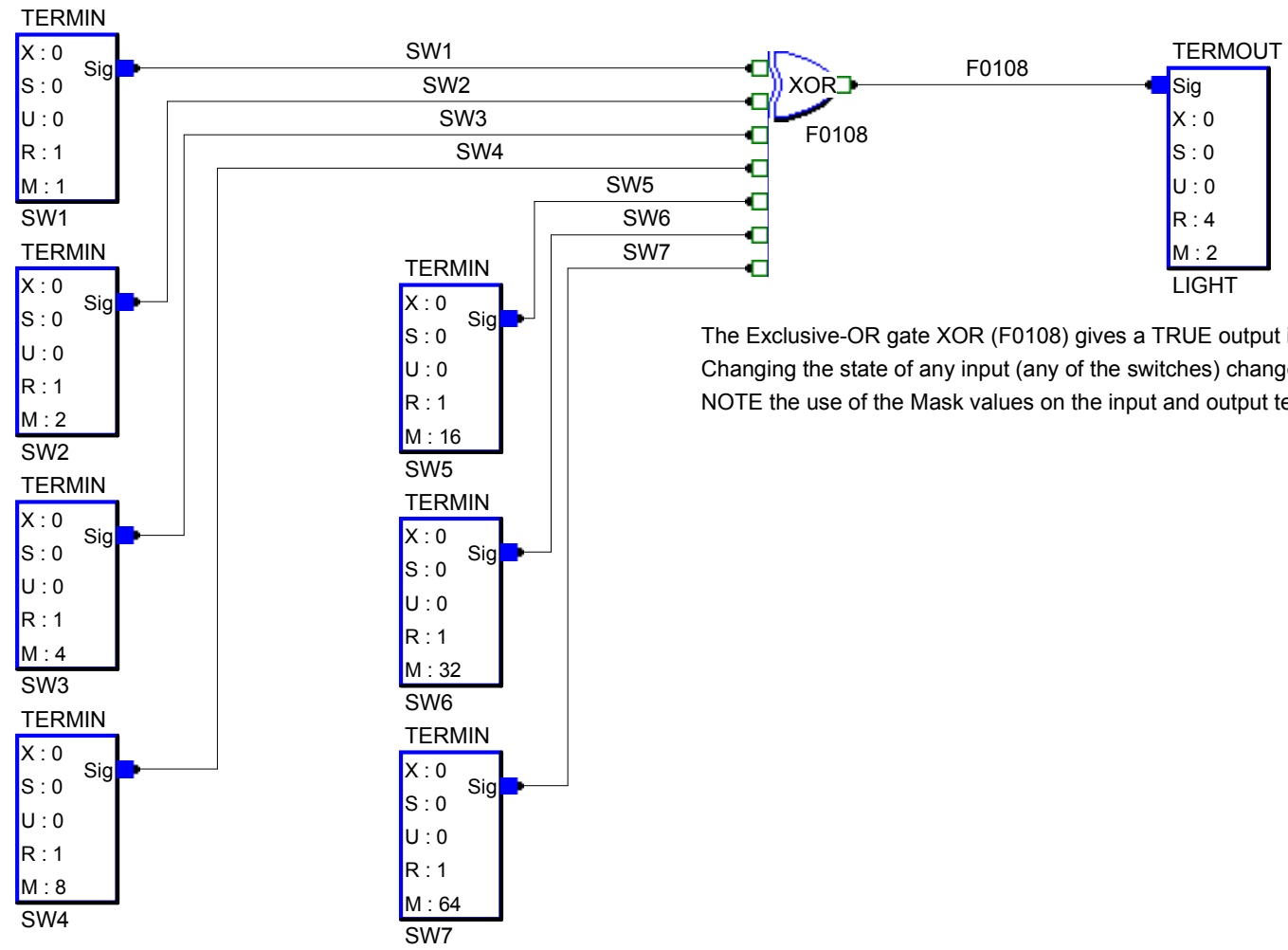
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The corridor has 7 lighting switches in it. There is one light switch by each entrance door, and one outside each office door. Changing the state of any light switch should change the state of the lights. For example, Bella comes in by the right hand door and finds the lights off. She switches on the lights using SW7, goes to her office and turns the lights off using SW3. Dawn comes out of her office, switches on the lights with SW5, and forgets to turn them off. Finally, Bella goes home via the left hand door and switches the lights off by means of SW1.



The Exclusive-OR gate XOR (F0108) gives a TRUE output if an odd number of its inputs are TRUE. Changing the state of any input (any of the switches) changes the state of the output. NOTE the use of the Mask values on the input and output terminals.