Elevator A (3 floors)

The elevator consists of a cage with counterweights, a pit and three floor units, each one containing a pneumatic driven sliding door, call buttons and colored control lamps to indicate the moving direction of the cage. In addition to this there is a control panel, realizing the operating options from inside the cage. In essence, these are selection buttons to choose a floor, an alarm button, an emergency stop and the ability to choose a mode of operation, where the lift is controlled exclusively from outside the cage. The simulated process shows the elevator being brought from a basic position to one of the floors, by operating the control panel or one of the call buttons, and after opening and closing the sliding door being ready for the next sequence: After operation one of the call buttons, indicated by a signal lamp, the cage is brought in a slow-fast-slow-movement, being controlled by mechanical switches depending on the distance, to the chosen floor. The sliding door gets opened and remains open, until the programmed loading time is over. A one way light barrier controls the entrance to prevent, in a real case persons or things that are in the danger zone of the door, from getting hurt. After closing the sliding door, the cage gets moved to the next chosen floor, where the sequence of opening and closing the sliding door occurs in the same manner. A miniature compressor for the pneumatic driven sliding doors is integrated in the model.

Inputs / Sensors		
Variable	Name	Direction
x0	cabin pos. ground floor	Input
x1	cabin pos. 1. floor	Input
x2	cabin pos. 2. floor	Input
x3	switch-over slow ground floor	Input
x4	switch-over slow 1. floor from the bottom	Input
x5	switch-over slow 1. floor from the top	Input
x6	switch-over slow 2. floor	Input
x7	door ground floor open	Input
x8	door ground floor closed	Input
x9	door 1. floor open	Input
x10	door 1. floor closed	Input
x11	door 2. floor open	Input
x12	door 2. floor closed	Input
x13	light barrier ground floor	Input
x14	light barrier 1. floor	Input
x15	light barrier 2. floor	Input
x16	call button ground floor	Input
x17	call button 1. floor downstairs	Input
x18	call button 1. floor upstairs	Input
x19	call button 2. floor	Input
x20	call button ground floor (operator panel)	Input
x21	call button 1. floor (operator panel)	Input
x22	call button 2. floor (operator panel)	Input
x23	allert (operator panel)	Input
x24	emergency stop (operator panel)	Input
x25	Simulation overload	Input

Outputs / Actuators		
Variable	Name	Direction
y0	cabin up	Output
y1	cabin down	Output
y2	cabin slow	Output
y3	open door ground floor	Output
y4	close door ground floor	Output
y5	open door 1. floor	Output
y6	close door 1. floor	Output
y7	open door 2. floor	Output
y8	close door 2. floor	Output
y9	call display ground floor	Output
y10	call display 1. floor downstairs	Output
y11	call display 1. floor upstairs	Output
y12	call display 2. floor	Output
y13	indicator display ground floor	Output
y14	indicator display 1. floor	Output
y15	indicator display 2. floor	Output
y16	drive direction display downstairs	Output
y17	drive direction display upstairs	Output
y18	call display ground floor (operator panel)	Output
y19	call display 1. floor (operator panel)	Output
y20	call display 2. floor (operator panel)	Output
y21	allert (operator panel)	Output
y22	emergency stop (operator panel)	Output
y23	overload (operator panel)	Output