Alarm Annunciator

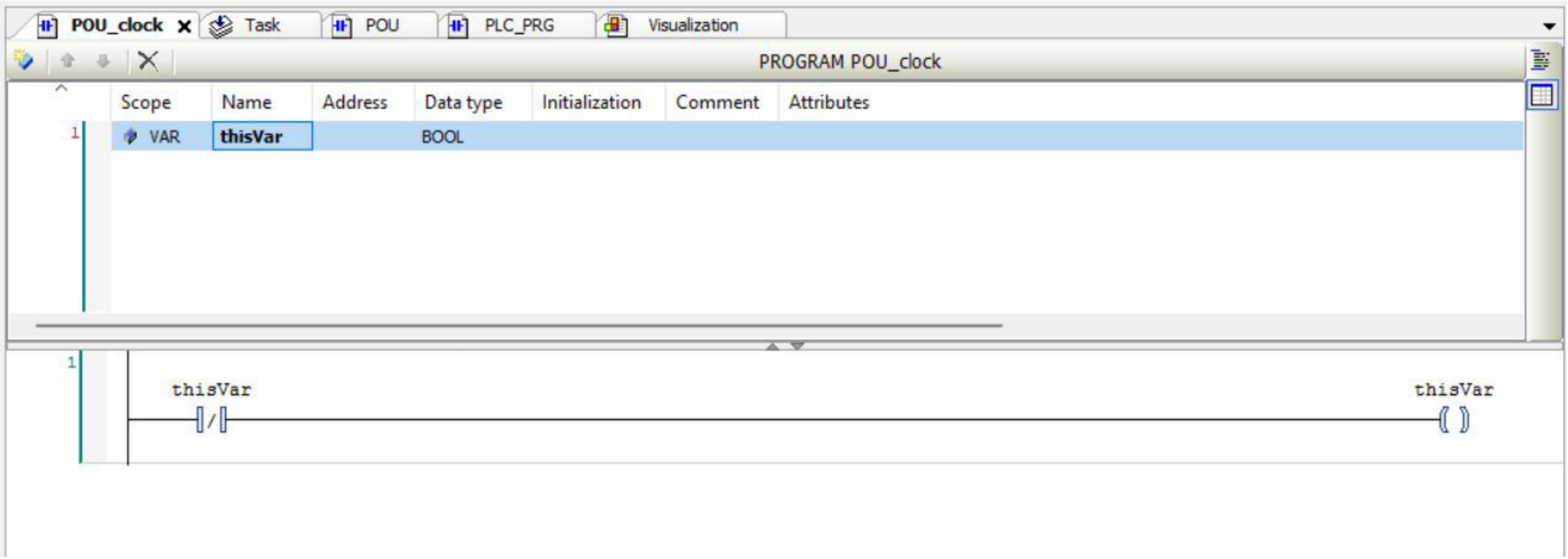
1) The Lamp (output) of the alarm annunciator flashes at 1 Hz and the audio output is activated (to draw the attention of the plant operator) when input changes to a logic high, state, signifying an abnormal operating state.

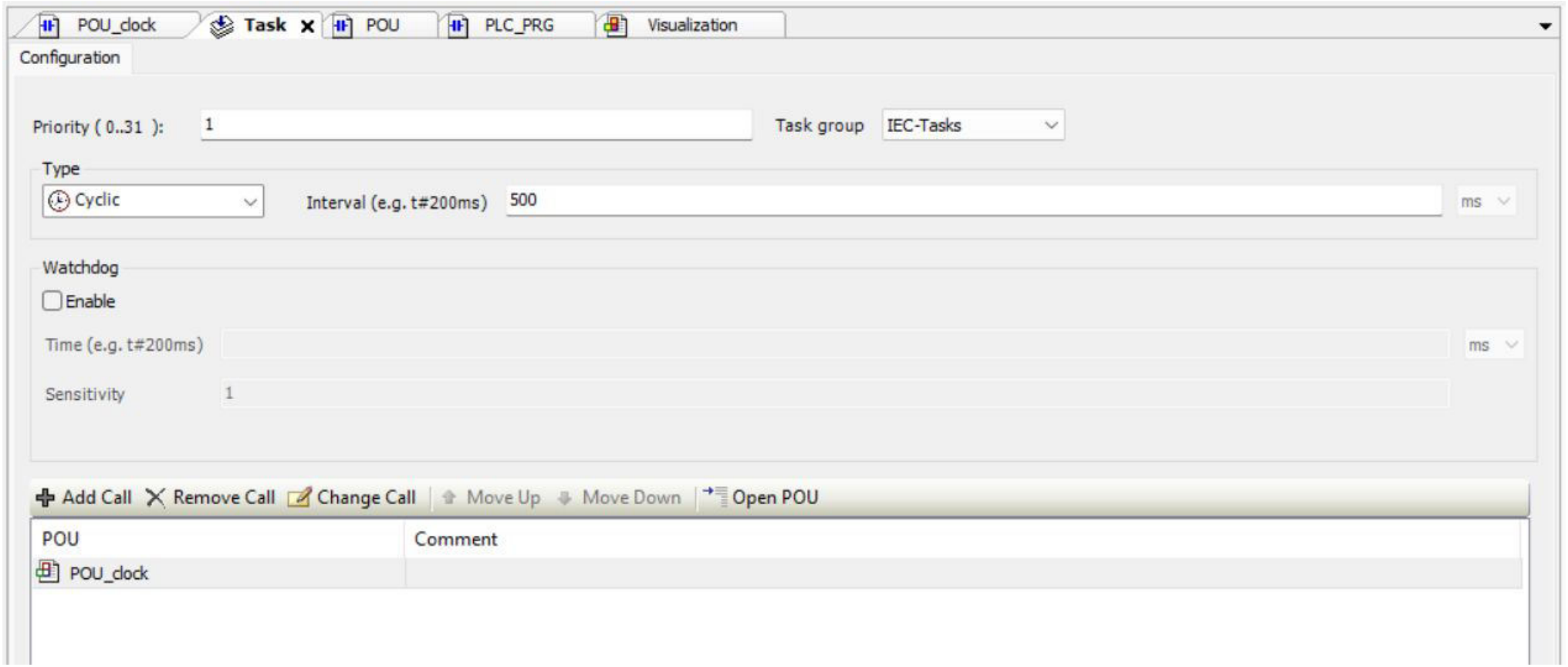
2) When the operator presses the Ack_Reset button (to acknowledge the occurrence of the alarm) the audio alarm is turned off and the output Lamp is now continuously lit instead of flashing. This indicates that the alarm has been acknowledged but the alarm condition persists (that is input is still 1).

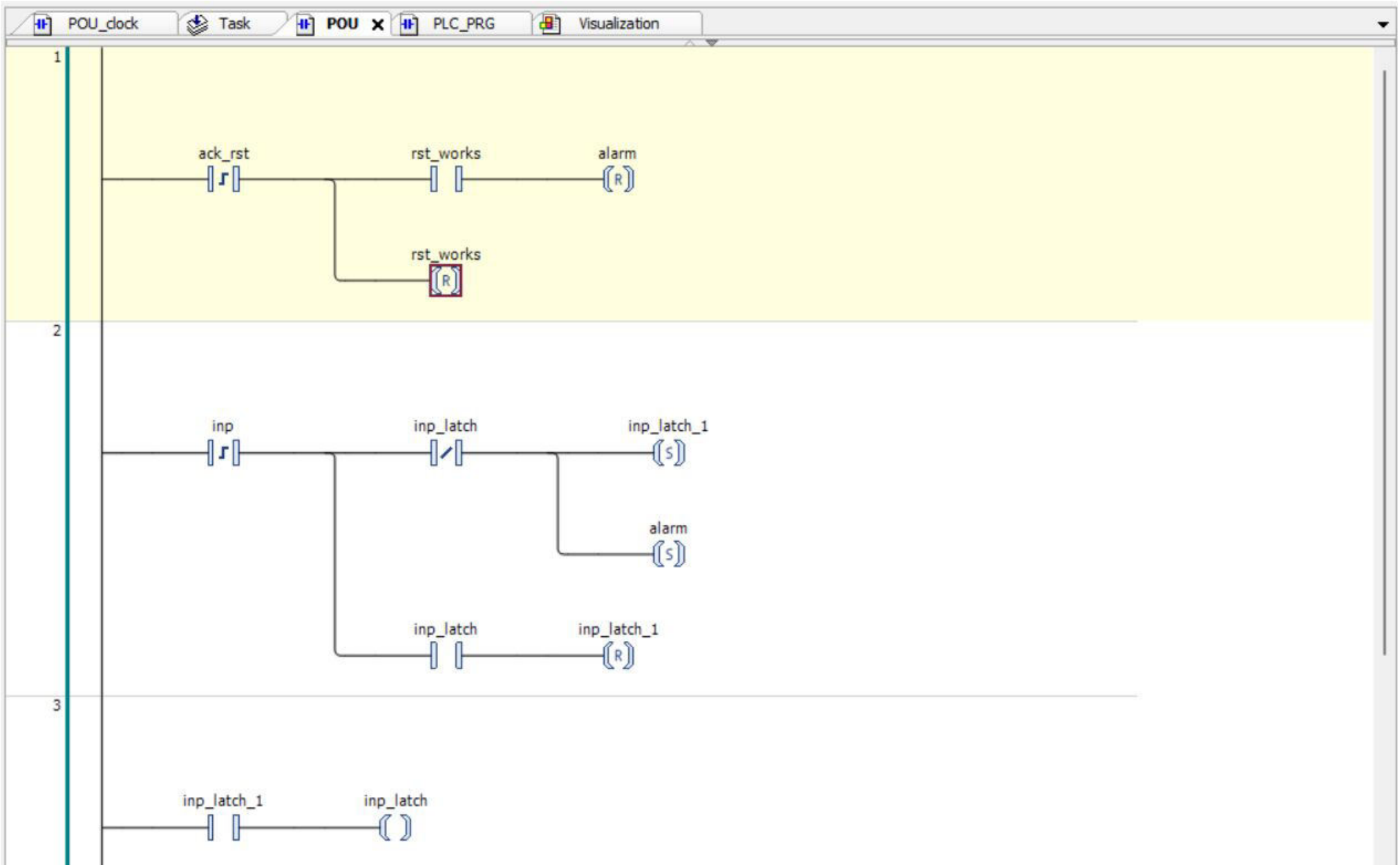
3) When the alarm condition returns to normal (input changes to 0), the Lamp turns off.

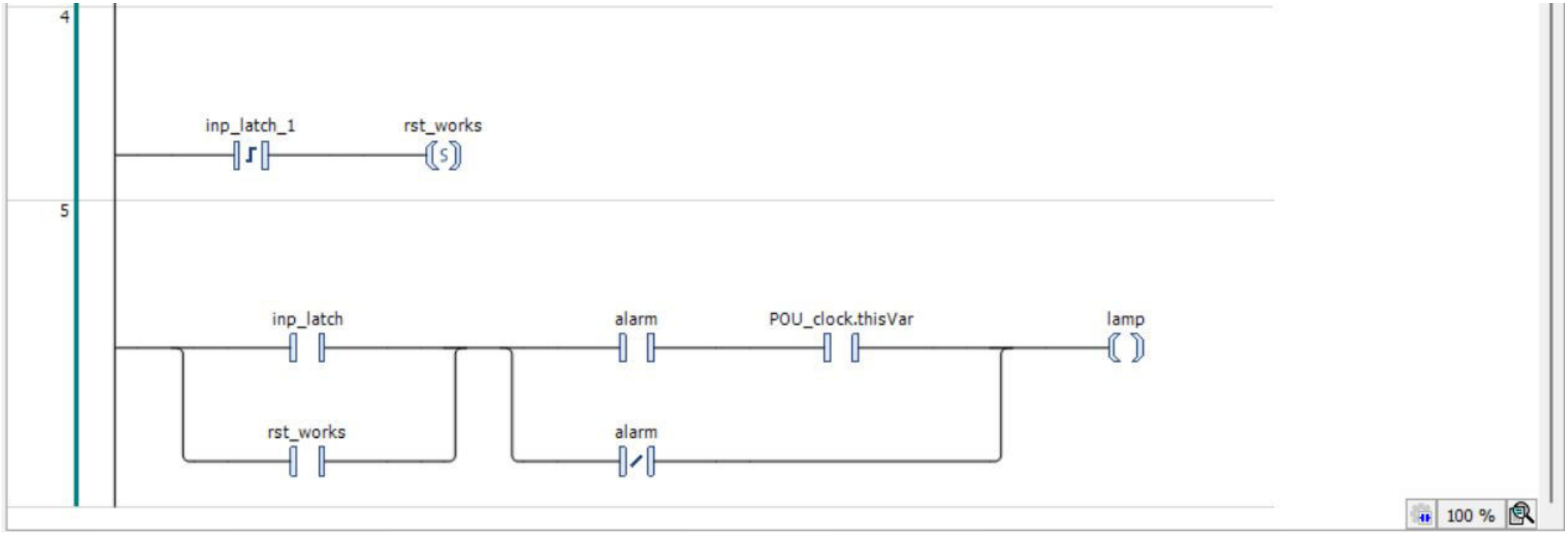
4) If an alarm condition returns to normal before it is acknowledged by pressing the Ack_Reset push button, then the Lamp continues to flash and audio output remains activated (even though the alarm condition has returned to normal) until the Ack_Reset push button is pressed by the operator, after which the Lamp and the audio alarm both go to the off state.

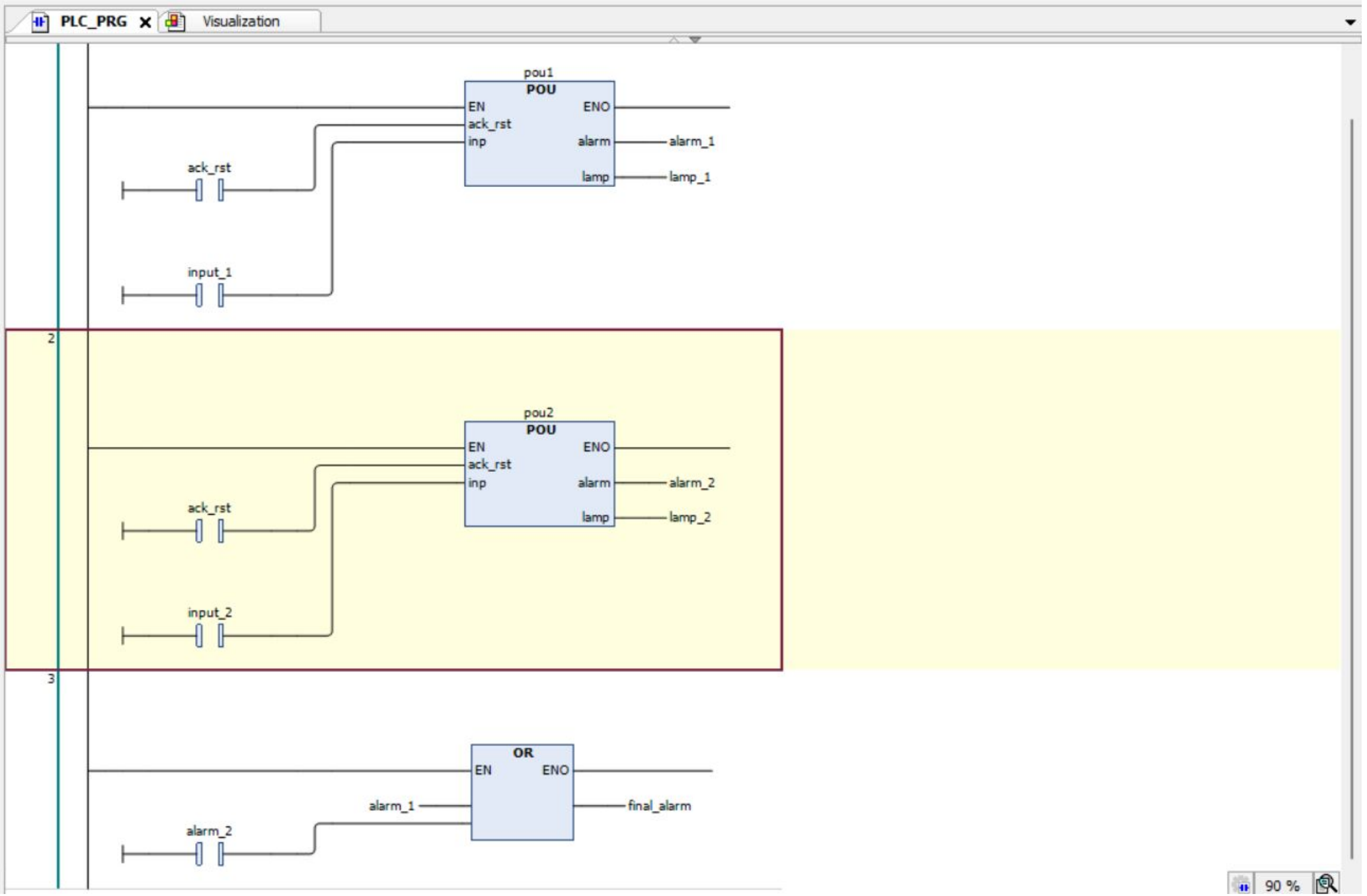
A one-channel alarm annunciator is implemented using a Function Block and then multiple instances of this FB is used to implement multiple channels.

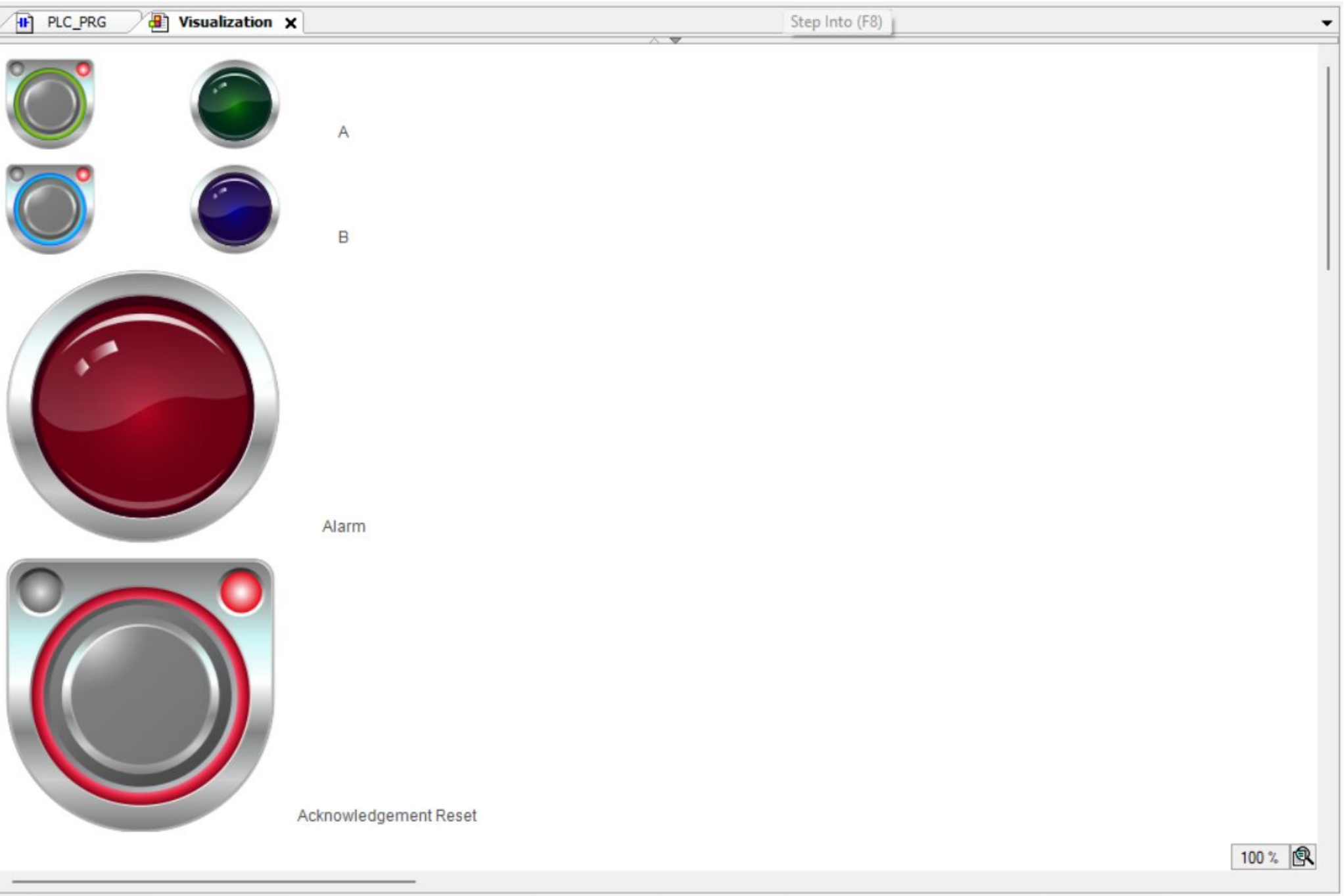

POU_clock
Task
POU
PLC_PRG
Visualization
PROGRAM POU_clock
Scope
Name
Address
Data type
Initialization
Comment
Attributes
1
VAR
thisVar
BOOL
1
thisVar
thisVar


POU_clock
Task
POU
PLC_PRG
Visualization
Configuration
Priority (0..31):
1
Task group
IEC-Tasks
Type
Cyclic
Interval (e.g. t#200ms)
500
ms
Watchdog
Enable
Time (e.g. t#200ms)
ms
Sensitivity
1
Add Call
Remove Call
Change Call
Move Up
Move Down
Open POU
POU
Comment
POU_clock


POU_clock
Task
POU
PLC_PRG
Visualization
1
ack_rst
rst_works
alarm
R
rst_works
R
2
inp
inp_latch
inp_latch_1
S
alarm
S
inp_latch
inp_latch_1
R
3
inp_latch_1
inp_latch


4
inp_latch_1
rst_works
S
5
inp_latch
alarm
POU_clock.thisVar
lamp
rst_works
alarm
100 %


PLC_PRG
Visualization
pou1
POU
EN
ENO
ack_rst
inp
alarm
lamp
alarm_1
lamp_1
ack_rst
input_1
2
pou2
POU
EN
ENO
ack_rst
inp
alarm
lamp
alarm_2
lamp_2
ack_rst
input_2
3
OR
EN
ENO
alarm_1
final_alarm
alarm_2
90 %


PLC_PRG
Visualization
Step Into (F8)
A
B
Alarm
Acknowledgement Reset
100 %