

# TECHNICAL DOCUMENTATION

## SP6\_12

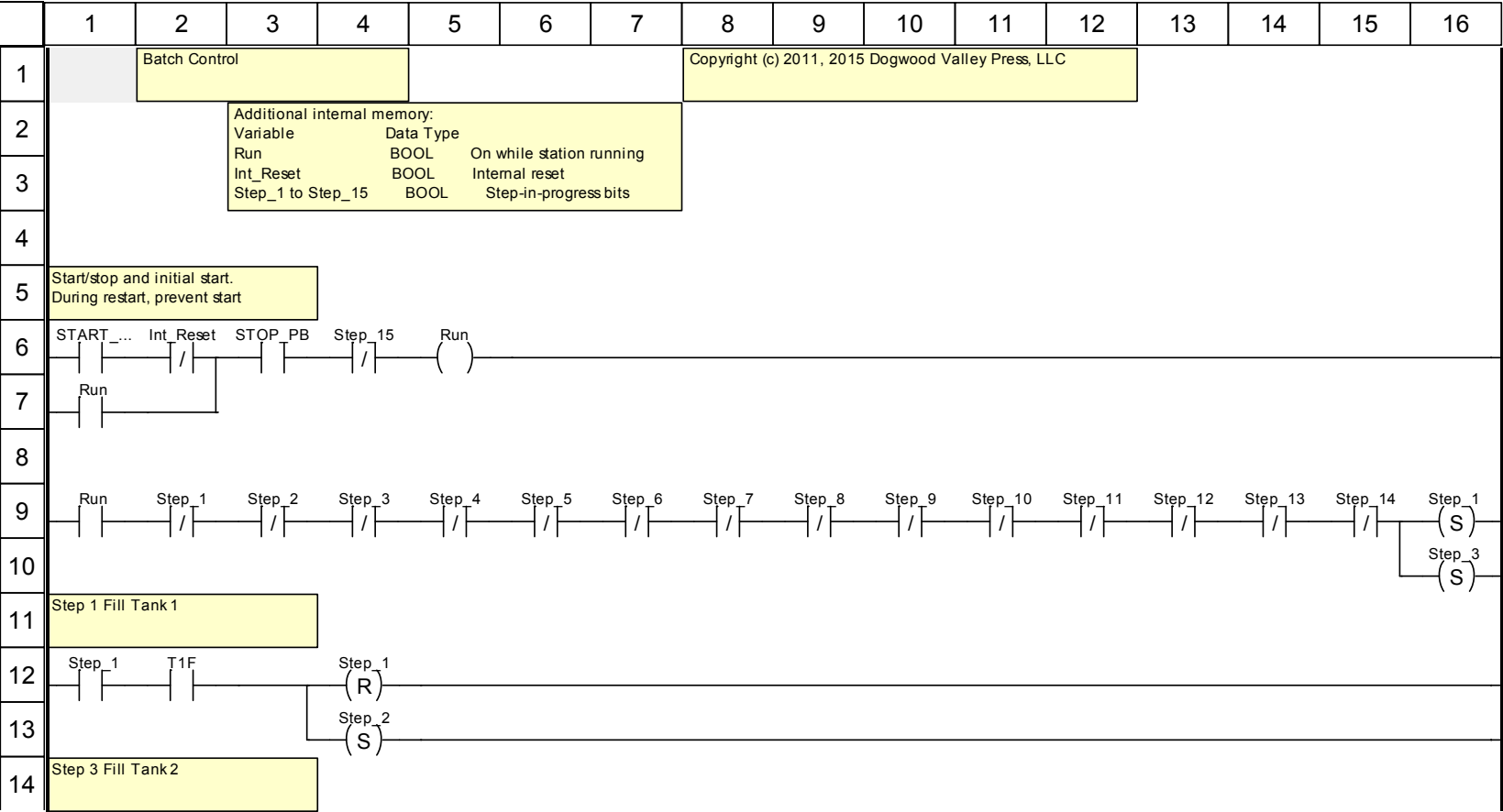
|                        |                                     |
|------------------------|-------------------------------------|
| Project                | SP6_12                              |
| Designer               |                                     |
| Application            | sp6_12.stu                          |
| Software Version       | Unity Pro L V10.0                   |
| Creation Date          | 4/12/2011 8:52:23 PM                |
| Last Modification Date | 12/22/2015 4:45:44 PM               |
| Target PLC             | BMX P34 1000 02.00CPU 340-10 Modbus |

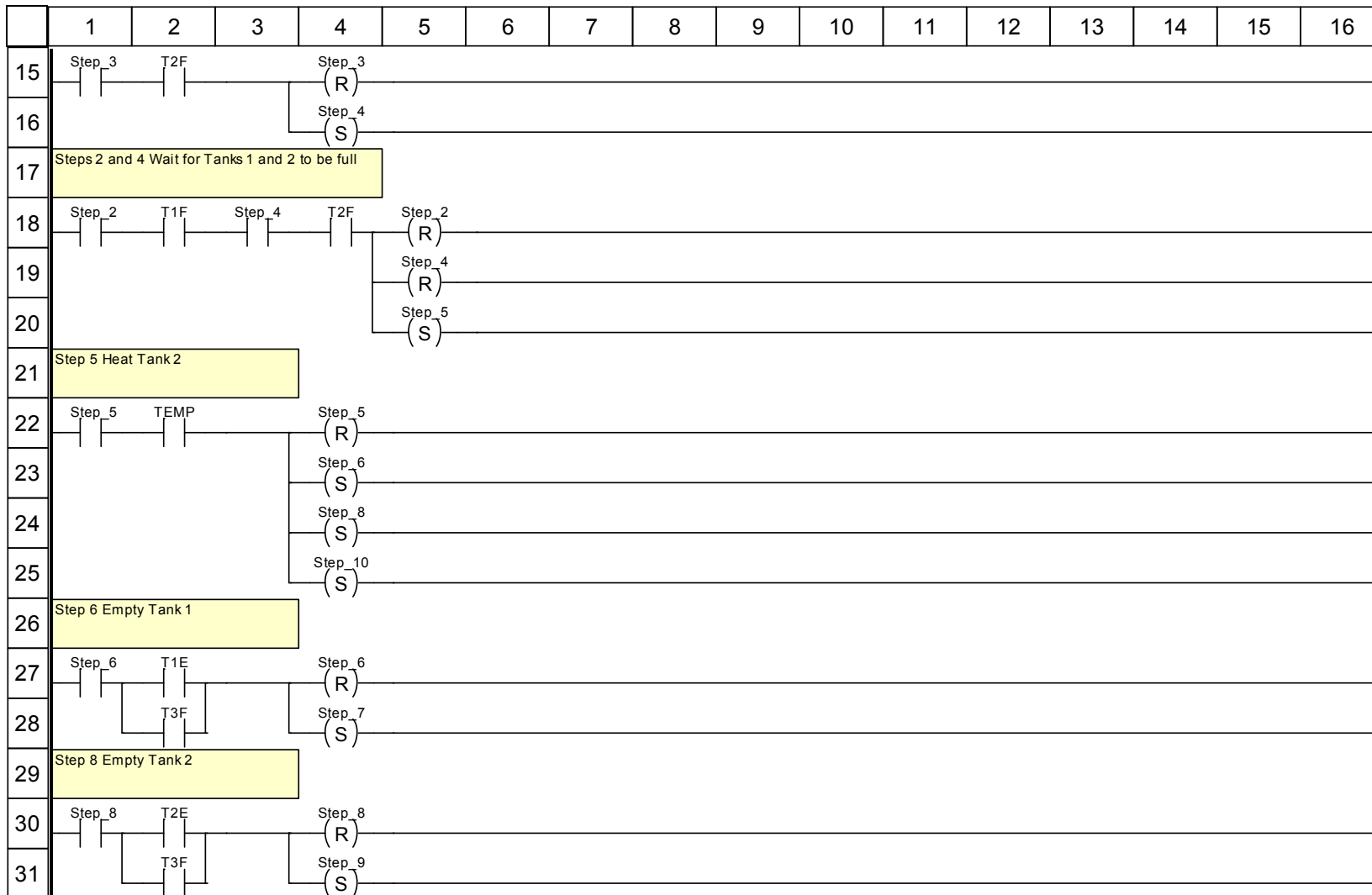
# MAST

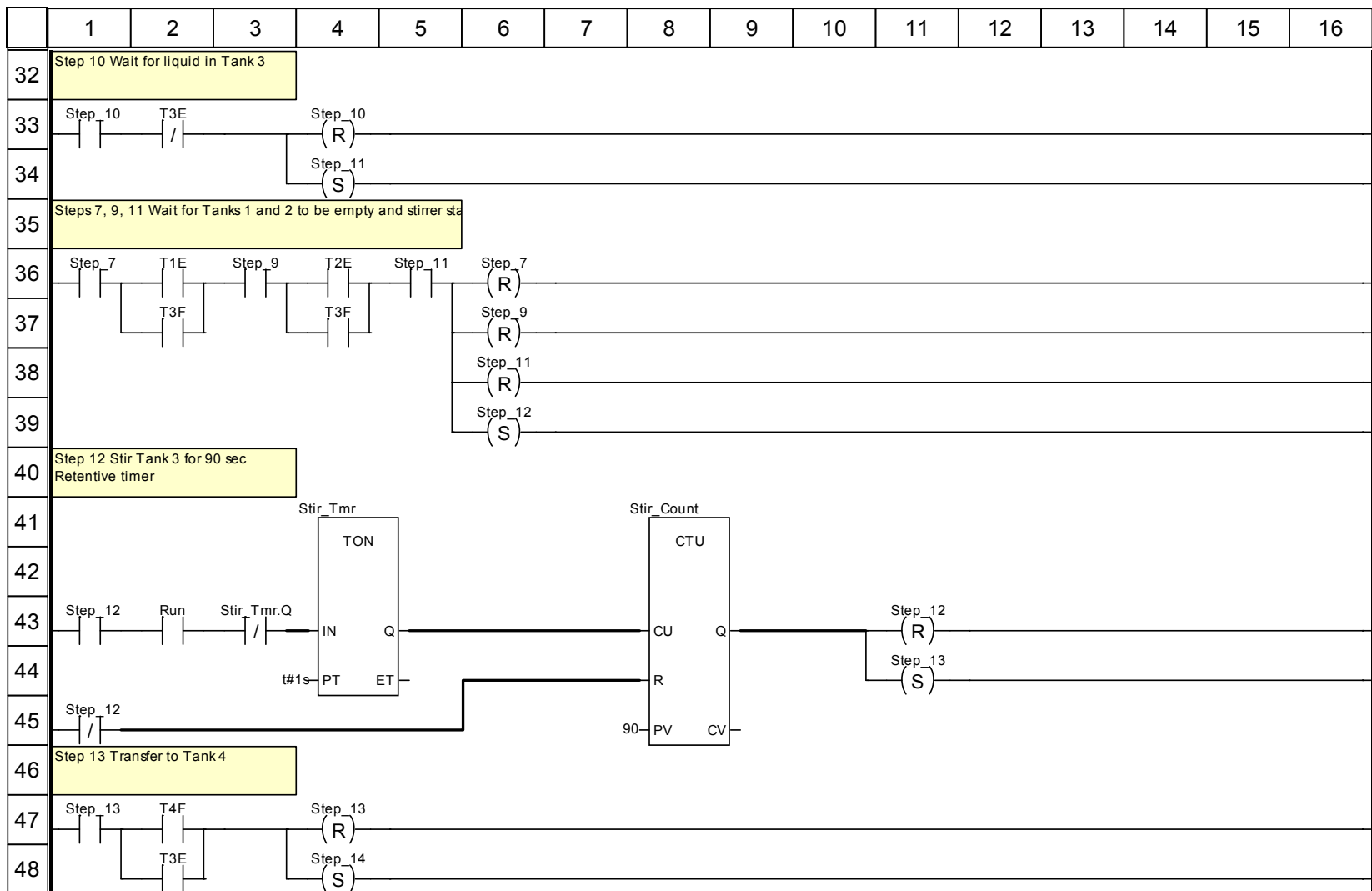
**Specific properties**

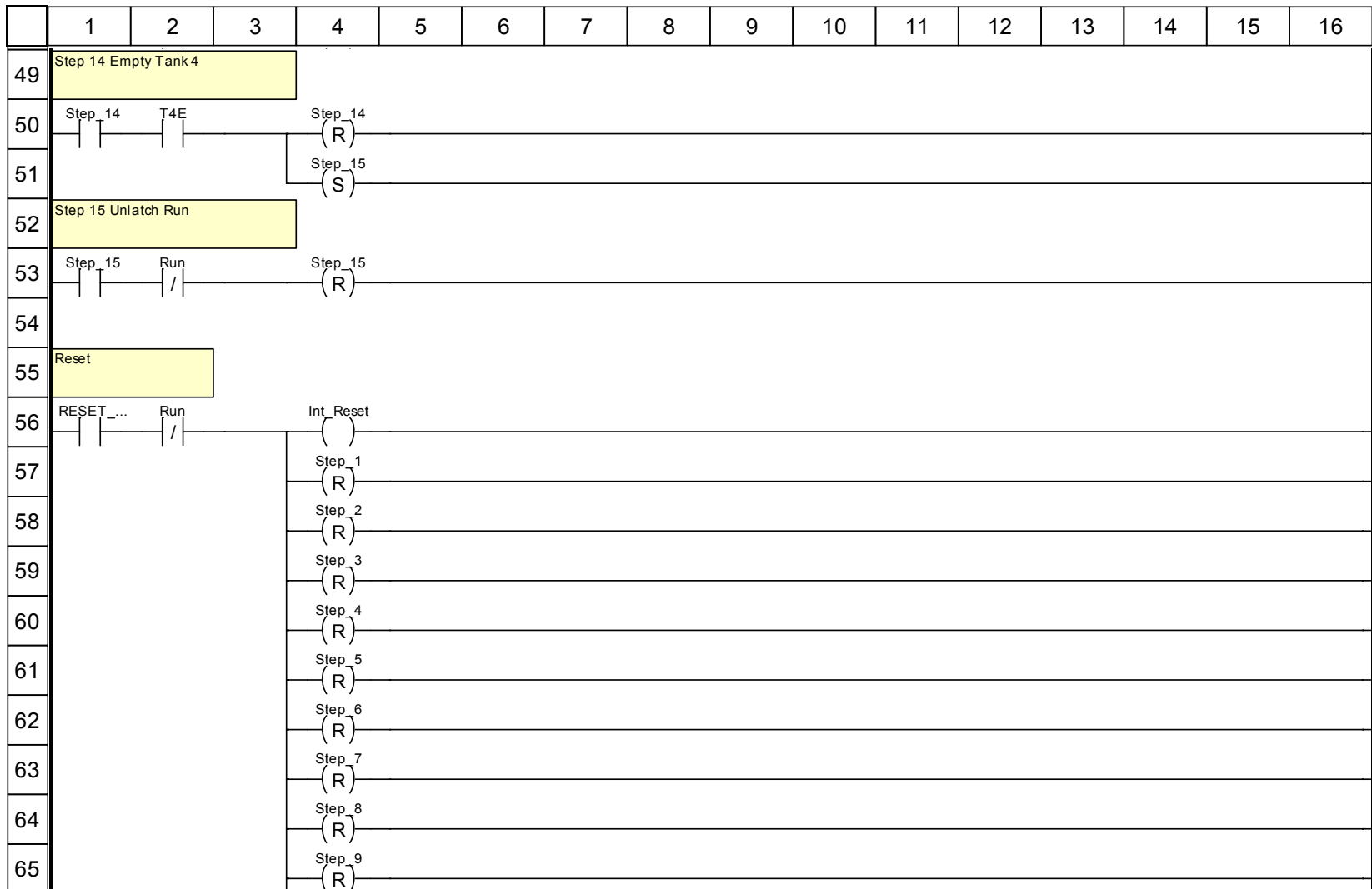
|                             |        |
|-----------------------------|--------|
| Configuration               | Cyclic |
| Task period configuration   | 0      |
| Watchdog time configuration | 250    |

# main : [MAST]

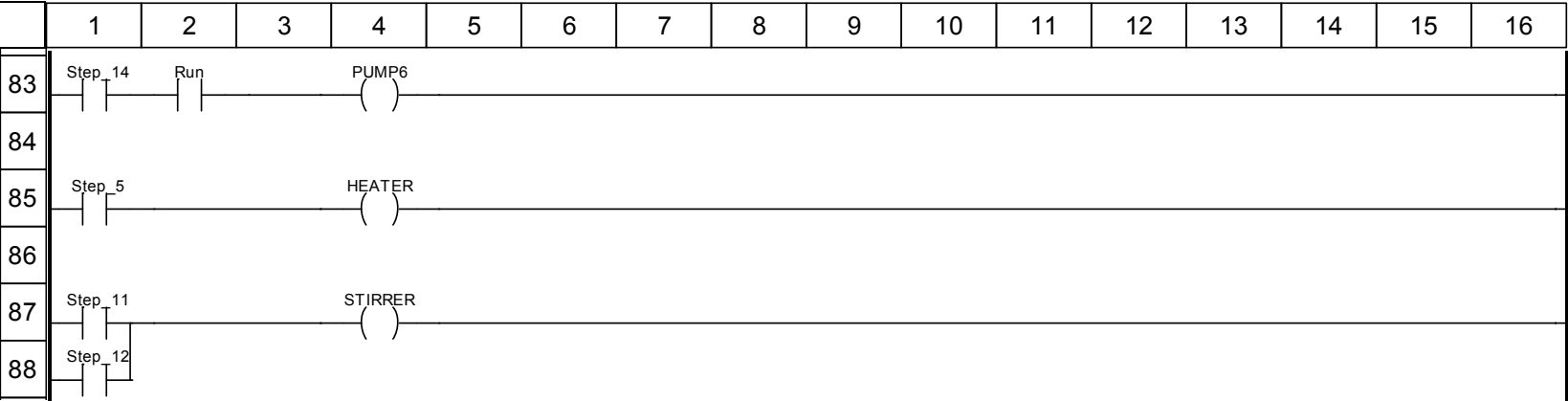








|    | 1  | 2   | 3 | 4              | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|----|--|-----|---|----------------|---|---|---|---|---|----|----|----|----|----|----|----|
| 66 |  |     |   | Step_10<br>(R) |   |   |   |   |   |    |    |    |    |    |    |    |
| 67 |  |     |   | Step_11<br>(R) |   |   |   |   |   |    |    |    |    |    |    |    |
| 68 |  |     |   | Step_12<br>(R) |   |   |   |   |   |    |    |    |    |    |    |    |
| 69 |  |     |   | Step_13<br>(R) |   |   |   |   |   |    |    |    |    |    |    |    |
| 70 |  |     |   | Step_14<br>(R) |   |   |   |   |   |    |    |    |    |    |    |    |
| 71 |  |     |   |                |   |   |   |   |   |    |    |    |    |    |    |    |
| 72 | Physical Outputs<br>Can not turn off heater or stirrer when paused |     |   |                |   |   |   |   |   |    |    |    |    |    |    |    |
| 73 | Step_1   | Run |   | PUMP1<br>( )   |   |   |   |   |   |    |    |    |    |    |    |    |
| 74 |  |     |   |                |   |   |   |   |   |    |    |    |    |    |    |    |
| 75 | Step_3   | Run |   | PUMP2<br>( )   |   |   |   |   |   |    |    |    |    |    |    |    |
| 76 |  |     |   |                |   |   |   |   |   |    |    |    |    |    |    |    |
| 77 | Step_6   | Run |   | PUMP3<br>( )   |   |   |   |   |   |    |    |    |    |    |    |    |
| 78 |  |     |   |                |   |   |   |   |   |    |    |    |    |    |    |    |
| 79 | Step_8   | Run |   | PUMP4<br>( )   |   |   |   |   |   |    |    |    |    |    |    |    |
| 80 |  |     |   |                |   |   |   |   |   |    |    |    |    |    |    |    |
| 81 | Step_13  | Run |   | PUMP5<br>( )   |   |   |   |   |   |    |    |    |    |    |    |    |
| 82 |  |     |   |                |   |   |   |   |   |    |    |    |    |    |    |    |



Truncated labels:

| Label    | Position(s) |
|----------|-------------|
| RESET_PB | (1, 56)     |
| START_PB | (1, 6)      |



# Cross References

## Application:

### Addresses

| Object | Referred into | Location | Usage |
|--------|---------------|----------|-------|
|--------|---------------|----------|-------|

### Variables or FB instances

| Object    | Referred into | Location      | Usage |
|-----------|---------------|---------------|-------|
| HEATER    | main : [MAST] | (I: 85, c: 4) | W     |
| Int_Reset | main : [MAST] | (I: 6, c: 2)  | R     |
|           |               | (I: 56, c: 4) | W     |
| PUMP1     | main : [MAST] | (I: 73, c: 4) | W     |
| PUMP2     | main : [MAST] | (I: 75, c: 4) | W     |
| PUMP3     | main : [MAST] | (I: 77, c: 4) | W     |
| PUMP4     | main : [MAST] | (I: 79, c: 4) | W     |
| PUMP5     | main : [MAST] | (I: 81, c: 4) | W     |
| PUMP6     | main : [MAST] | (I: 83, c: 4) | W     |
| RESET_PB  | main : [MAST] | (I: 56, c: 1) | R     |
| Run       | main : [MAST] | (I: 6, c: 5)  | W     |
|           |               | (I: 7, c: 1)  | R     |
|           |               | (I: 9, c: 1)  | R     |
|           |               | (I: 43, c: 2) | R     |
|           |               | (I: 53, c: 2) | R     |
|           |               | (I: 56, c: 2) | R     |
|           |               | (I: 73, c: 2) | R     |
|           |               | (I: 75, c: 2) | R     |
|           |               | (I: 77, c: 2) | R     |
|           |               | (I: 79, c: 2) | R     |
|           |               | (I: 81, c: 2) | R     |
|           |               | (I: 83, c: 2) | R     |
| START_PB  | main : [MAST] | (I: 6, c: 1)  | R     |
| STIRRER   | main : [MAST] | (I: 87, c: 4) | W     |
| STOP_PB   | main : [MAST] | (I: 6, c: 3)  | R     |
| Step_1    | main : [MAST] | (I: 9, c: 2)  | R     |
|           |               | (I: 9, c: 16) | W     |

## Cross References

| Object  | Referred into | Location       | Usage |
|---------|---------------|----------------|-------|
|         |               | (l: 12, c: 1)  | R     |
|         |               | (l: 12, c: 4)  | W     |
|         |               | (l: 57, c: 4)  | W     |
|         |               | (l: 73, c: 1)  | R     |
| Step_10 | main : [MAST] | (l: 9, c: 11)  | R     |
|         |               | (l: 25, c: 4)  | W     |
|         |               | (l: 33, c: 1)  | R     |
|         |               | (l: 33, c: 4)  | W     |
|         |               | (l: 66, c: 4)  | W     |
| Step_11 | main : [MAST] | (l: 9, c: 12)  | R     |
|         |               | (l: 34, c: 4)  | W     |
|         |               | (l: 36, c: 5)  | R     |
|         |               | (l: 38, c: 6)  | W     |
|         |               | (l: 67, c: 4)  | W     |
|         |               | (l: 87, c: 1)  | R     |
| Step_12 | main : [MAST] | (l: 9, c: 13)  | R     |
|         |               | (l: 39, c: 6)  | W     |
|         |               | (l: 43, c: 1)  | R     |
|         |               | (l: 43, c: 11) | W     |
|         |               | (l: 45, c: 1)  | R     |
|         |               | (l: 68, c: 4)  | W     |
|         |               | (l: 88, c: 1)  | R     |
| Step_13 | main : [MAST] | (l: 9, c: 14)  | R     |
|         |               | (l: 44, c: 11) | W     |
|         |               | (l: 47, c: 1)  | R     |
|         |               | (l: 47, c: 4)  | W     |
|         |               | (l: 69, c: 4)  | W     |
|         |               | (l: 81, c: 1)  | R     |
| Step_14 | main : [MAST] | (l: 9, c: 15)  | R     |
|         |               | (l: 48, c: 4)  | W     |
|         |               | (l: 50, c: 1)  | R     |
|         |               | (l: 50, c: 4)  | W     |
|         |               | (l: 70, c: 4)  | W     |
|         |               | (l: 83, c: 1)  | R     |
| Step_15 | main : [MAST] | (l: 6, c: 4)   | R     |
|         |               | (l: 51, c: 4)  | W     |

## Cross References

| Object | Referred into | Location       | Usage |
|--------|---------------|----------------|-------|
|        |               | (l: 53, c: 1)  | R     |
|        |               | (l: 53, c: 4)  | W     |
| Step_2 | main : [MAST] | (l: 9, c: 3)   | R     |
|        |               | (l: 13, c: 4)  | W     |
|        |               | (l: 18, c: 1)  | R     |
|        |               | (l: 18, c: 5)  | W     |
|        |               | (l: 58, c: 4)  | W     |
| Step_3 | main : [MAST] | (l: 9, c: 4)   | R     |
|        |               | (l: 10, c: 16) | W     |
|        |               | (l: 15, c: 1)  | R     |
|        |               | (l: 15, c: 4)  | W     |
|        |               | (l: 59, c: 4)  | W     |
|        |               | (l: 75, c: 1)  | R     |
| Step_4 | main : [MAST] | (l: 9, c: 5)   | R     |
|        |               | (l: 16, c: 4)  | W     |
|        |               | (l: 18, c: 3)  | R     |
|        |               | (l: 19, c: 5)  | W     |
|        |               | (l: 60, c: 4)  | W     |
| Step_5 | main : [MAST] | (l: 9, c: 6)   | R     |
|        |               | (l: 20, c: 5)  | W     |
|        |               | (l: 22, c: 1)  | R     |
|        |               | (l: 22, c: 4)  | W     |
|        |               | (l: 61, c: 4)  | W     |
|        |               | (l: 85, c: 1)  | R     |
| Step_6 | main : [MAST] | (l: 9, c: 7)   | R     |
|        |               | (l: 23, c: 4)  | W     |
|        |               | (l: 27, c: 1)  | R     |
|        |               | (l: 27, c: 4)  | W     |
|        |               | (l: 62, c: 4)  | W     |
|        |               | (l: 77, c: 1)  | R     |
| Step_7 | main : [MAST] | (l: 9, c: 8)   | R     |
|        |               | (l: 28, c: 4)  | W     |
|        |               | (l: 36, c: 1)  | R     |
|        |               | (l: 36, c: 6)  | W     |
|        |               | (l: 63, c: 4)  | W     |
| Step_8 | main : [MAST] | (l: 9, c: 9)   | R     |

## Cross References

| Object     | Referred into | Location      | Usage |
|------------|---------------|---------------|-------|
|            |               | (I: 24, c: 4) | W     |
|            |               | (I: 30, c: 1) | R     |
|            |               | (I: 30, c: 4) | W     |
|            |               | (I: 64, c: 4) | W     |
|            |               | (I: 79, c: 1) | R     |
| Step_9     | main : [MAST] | (I: 9, c: 10) | R     |
|            |               | (I: 31, c: 4) | W     |
|            |               | (I: 36, c: 3) | R     |
|            |               | (I: 37, c: 6) | W     |
|            |               | (I: 65, c: 4) | W     |
| Stir_Count | main : [MAST] | (I: 41, c: 8) | FC    |
|            |               | (I: 41, c: 8) | R     |
|            |               | (I: 41, c: 8) | R     |
|            |               | (I: 41, c: 8) | R     |
| Stir_Tmr   | main : [MAST] | (I: 43, c: 3) | R     |
|            |               | (I: 41, c: 4) | FC    |
|            |               | (I: 41, c: 4) | R     |
|            |               | (I: 41, c: 4) | R     |
| T1E        | main : [MAST] | (I: 27, c: 2) | R     |
|            |               | (I: 36, c: 2) | R     |
| T1F        | main : [MAST] | (I: 12, c: 2) | R     |
|            |               | (I: 18, c: 2) | R     |
| T2E        | main : [MAST] | (I: 30, c: 2) | R     |
|            |               | (I: 36, c: 4) | R     |
| T2F        | main : [MAST] | (I: 15, c: 2) | R     |
|            |               | (I: 18, c: 4) | R     |
| T3E        | main : [MAST] | (I: 33, c: 2) | R     |
|            |               | (I: 48, c: 2) | R     |
| T3F        | main : [MAST] | (I: 28, c: 2) | R     |
|            |               | (I: 31, c: 2) | R     |
|            |               | (I: 37, c: 2) | R     |
|            |               | (I: 37, c: 4) | R     |
| T4E        | main : [MAST] | (I: 50, c: 2) | R     |
| T4F        | main : [MAST] | (I: 47, c: 2) | R     |
| TEMP       | main : [MAST] | (I: 22, c: 2) | R     |