

FB1 - <offline>

"Program_Control"

Name:
Author: Yetkin
Time stamp Code:
Interface:
Lengths (block/logic/data): 00700 00486 00000

Family:
Version: 0.1
Block version: 2
01/03/2022 02:57:17 PM
07/20/2017 05:12:40 PM

Name	Data Type	Address	Initial Value	Comment
IN		0.0		
Stage_1	Bool	0.0	FALSE	
Stage_2	Bool	0.1	FALSE	
Stage_3	Bool	0.2	FALSE	
Stage_4	Bool	0.3	FALSE	
Emergency_Stop	Bool	0.4	FALSE	
Motor_Healthy	Bool	0.5	FALSE	
Prox_sensor_1	Bool	0.6	FALSE	
Prox_sensor_2	Bool	0.7	FALSE	
OUT		0.0		
Stage_1_lamp	Bool	2.0	FALSE	
Stage_2_lamp	Bool	2.1	FALSE	
Stage_3_lamp	Bool	2.2	FALSE	
Stage_4_lamp	Bool	2.3	FALSE	
Error_lamp	Bool	2.4	FALSE	
Motor_fault	Bool	2.5	FALSE	
Speed_1_Fast	Bool	2.6	FALSE	
Speed_2_Slow	Bool	2.7	FALSE	
Move_forward	Bool	3.0	FALSE	
Move_backward	Bool	3.1	FALSE	
Brake	Bool	3.2	FALSE	
IN_OUT		0.0		
STAT		0.0		
Actual_Stage	Int	4.0	0	
Requested_Stage	Int	6.0	0	
Countup_FP	Bool	8.0	FALSE	
Countdown_FP	Bool	8.1	FALSE	
TEMP		0.0		

Block: FB1

Sample project for a segment car control

Network: 1

U

SPB

U

SPB

U

SPB

#Stage_1

_012

#Stage_2

_013

#Stage_3

_014

#Stage_1

#Stage_2

#Stage_3

```
U      #Stage_4      #Stage_4
SPB    _015
SPA    end6

_012: L      1
      T      #Requested_Stage  #Requested_Stage
      SPA    end6
_013: L      2
      T      #Requested_Stage  #Requested_Stage
      SPA    end6
_014: L      3
      T      #Requested_Stage  #Requested_Stage
      SPA    end6
_015: L      4
      T      #Requested_Stage  #Requested_Stage

end6: NOP      0
```

Network: 2

Forward - Backward

```
O      #Emergency_Stop  #Emergency_Stop
ON     #Motor_Healthy   #Motor_Healthy
SPB    _003
L      #Actual_Stage    #Actual_Stage
L      #Requested_Stage #Requested_Stage
<I
SPB    _001
>I
SPB    _002
==I
SPB    _003
SPA    end1
_001: R      #Brake      #Brake
      S      #Move_forward  #Move_forward
      S      #Speed_1_Fast  #Speed_1_Fast
      SPA    end1
_002: R      #Brake      #Brake
      S      #Move_backward  #Move_backward
      S      #Speed_1_Fast  #Speed_1_Fast
      SPA    end1
_003: R      #Move_forward  #Move_forward
      R      #Move_backward  #Move_backward
      R      #Speed_1_Fast  #Speed_1_Fast
      R      #Speed_2_Slow  #Speed_2_Slow
      S      #Brake      #Brake

end1: NOP      0
```

Network: 3

Check motor health

```
ON     #Motor_Healthy   #Motor_Healthy
S      #Motor_fault     #Motor_fault

O      #Motor_Healthy   #Motor_Healthy
R      #Motor_fault     #Motor_fault
```

Network: 4

Stage count & actual stage

```
U      #Move_forward    #Move_forward
U      #Prox_sensor_2   #Prox_sensor_2
FP     #Countup_FP      #Countup_FP
SPB    _004
U      #Move_backward    #Move_backward
U      #Prox_sensor_1   #Prox_sensor_1
FP     #Countdown_FP    #Countdown_FP
SPB    _005
SPA    end2

_004: L      #Actual_Stage  #Actual_Stage
      INC      1
      T      #Actual_Stage  #Actual_Stage
      SPA    end2
```

```
_005: L      #Actual_Stage  #Actual_Stage
      DEC    1
      T      #Actual_Stage  #Actual_Stage
end2: NOP    0
```

Network: 5Automatic speed regulation (Closing to station)

```
      L      #Requested_Stage  #Requested_Stage
      L      #Actual_Stage     #Actual_Stage
      -I
      L      1
      ==I
      U      #Move_forward     #Move_forward
      U      #Prox_sensor_1    #Prox_sensor_1
      SPB    _006
      L      #Actual_Stage     #Actual_Stage
      L      #Requested_Stage  #Requested_Stage
      -I
      L      1
      ==I
      U      #Move_backward    #Move_backward
      U      #Prox_sensor_2    #Prox_sensor_2
      SPB    _007
      SPA    end3
_006: R      #Speed_1_Fast     #Speed_1_Fast
      S      #Speed_2_Slow     #Speed_2_Slow
      SPA    end3
_007: R      #Speed_1_Fast     #Speed_1_Fast
      S      #Speed_2_Slow     #Speed_2_Slow
end3: NOP    0
```

Network: 6Speed regulation

```
      U      #Speed_2_Slow     #Speed_2_Slow
      R      #Speed_1_Fast     #Speed_1_Fast
```

Network: 7Current stage

```
      L      #Actual_Stage     #Actual_Stage
      L      1
      ==I
      SPB    _008
      L      #Actual_Stage     #Actual_Stage
      L      2
      ==I
      SPB    _009
      L      #Actual_Stage     #Actual_Stage
      L      3
      ==I
      SPB    _010
      L      #Actual_Stage     #Actual_Stage
      L      4
      ==I
      SPB    _011
      SPA    end4
_008: S      #Stage_1_lamp     #Stage_1_lamp
      R      #Stage_2_lamp     #Stage_2_lamp
      R      #Stage_3_lamp     #Stage_3_lamp
      R      #Stage_4_lamp     #Stage_4_lamp
      SPA    end4
_009: R      #Stage_1_lamp     #Stage_1_lamp
      S      #Stage_2_lamp     #Stage_2_lamp
      R      #Stage_3_lamp     #Stage_3_lamp
      R      #Stage_4_lamp     #Stage_4_lamp
      SPA    end4
_010: R      #Stage_1_lamp     #Stage_1_lamp
      R      #Stage_2_lamp     #Stage_2_lamp
      S      #Stage_3_lamp     #Stage_3_lamp
```

```

R      #Stage_4_lamp #Stage_4_lamp
SPA    end4

_011: R      #Stage_1_lamp #Stage_1_lamp
      R      #Stage_2_lamp #Stage_2_lamp
      R      #Stage_3_lamp #Stage_3_lamp
      S      #Stage_4_lamp #Stage_4_lamp

end4: NOP    0
```