FB2 - <offline>

"Calibration_Procedure"

Name: **Family:**
Author: **Version:** 0.1
Block version: 2
Time stamp Code: 06/24/2015 01:34:55 PM
Interface: 06/22/2015 02:16:36 PM
Lengths (block/logic/data): 02444 02090 00030

Name	Data Type	Address	Initial Value	Comment
IN		0.0		
OUT		0.0		
IN_OUT		0.0		
STAT		0.0		
TMR_Calibration_0	TON	0.0		Initialization Timer
TMR_Scale_Empty_ON	TON	22.0		Confirm Scale Empty
TMR_Scale_Empty_OFF	TON	44.0		
TMR_Calibration_1	TON	66.0		
TMR_Calibration2	TON	88.0		
TMR_Test_Wt_Flash_ON	TON	110.0		
TMR_Test_Wt_Flash_OFF	TON	132.0		
TEMP		0.0		
Return_Val	Int	0.0		
Run_Init_Timer	Bool	2.0		
Init_Timer_Done	Bool	2.1		
Run_Scale_Empty_Flash_ON	Bool	2.2		Run the Confirm Scale Empty Flash Timer
Run_Delay1	Bool	2.3		
Delay1_Done	Bool	2.4		
Run_Delay2	Bool	2.5		
Delay2_Done	Bool	2.6		
Run_Test_Weight_Flash_ON	Bool	2.7		

Block: FB2 Calibration Procedure Subroutine

This Subroutine is run from the Cyclic_Operation routine when the 'Calibration'
flag is set.

It requires that the user confirm that the scale is empty in step 1 before
initializing the PLC Command sequence and then calibrating the zero point.

We'll make use of another routine "Wait_For_Calibration_Complete" which is
called AFTER each calibration step is triggered. It monitors the Data OK bit
and the Calibration Status, and will let us know when the step is done and if
it
completed successfully.

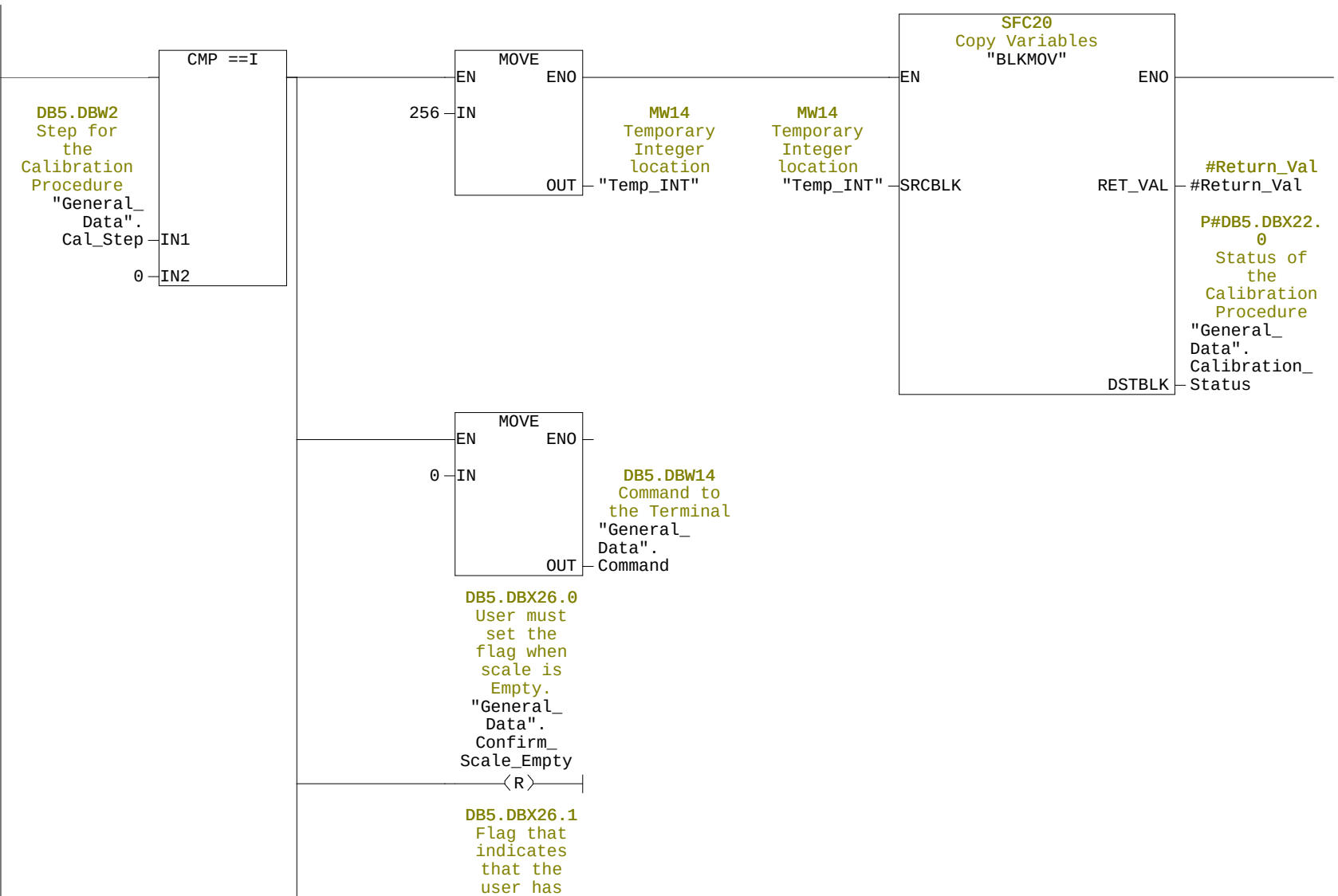
After the Zero Point has been calibrated, we'll do exactly the same thing with
the Span. Note that in Step 12 the user must set the bit indicating that the
Test Weight has been added at the proper time or the procedure will not
complete
properly.

Again, we'll call the "Wait_For_Calibration_Complete" routine to know when the
Span Calibration is done and what the completion status was.

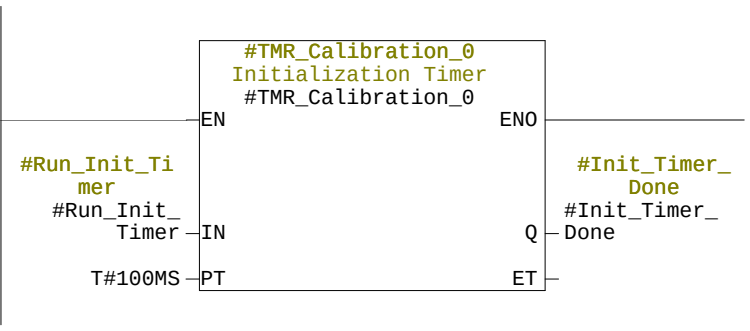
Finally, we'll clear the 'Calibration' bit to end the Calibration sequence.

Note that we make use of the Command_Acked bit (set in the Cyclic_Operation
routine when a change in the Command Ack bits is detected) in this routine to
drive the steps.

Network: 1 Initialize the Calibration Sequence

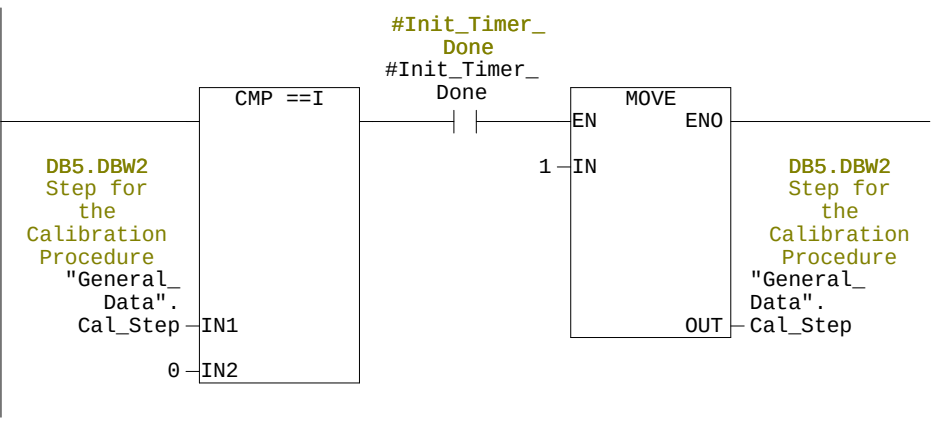


Network: 2 Initialization Timer



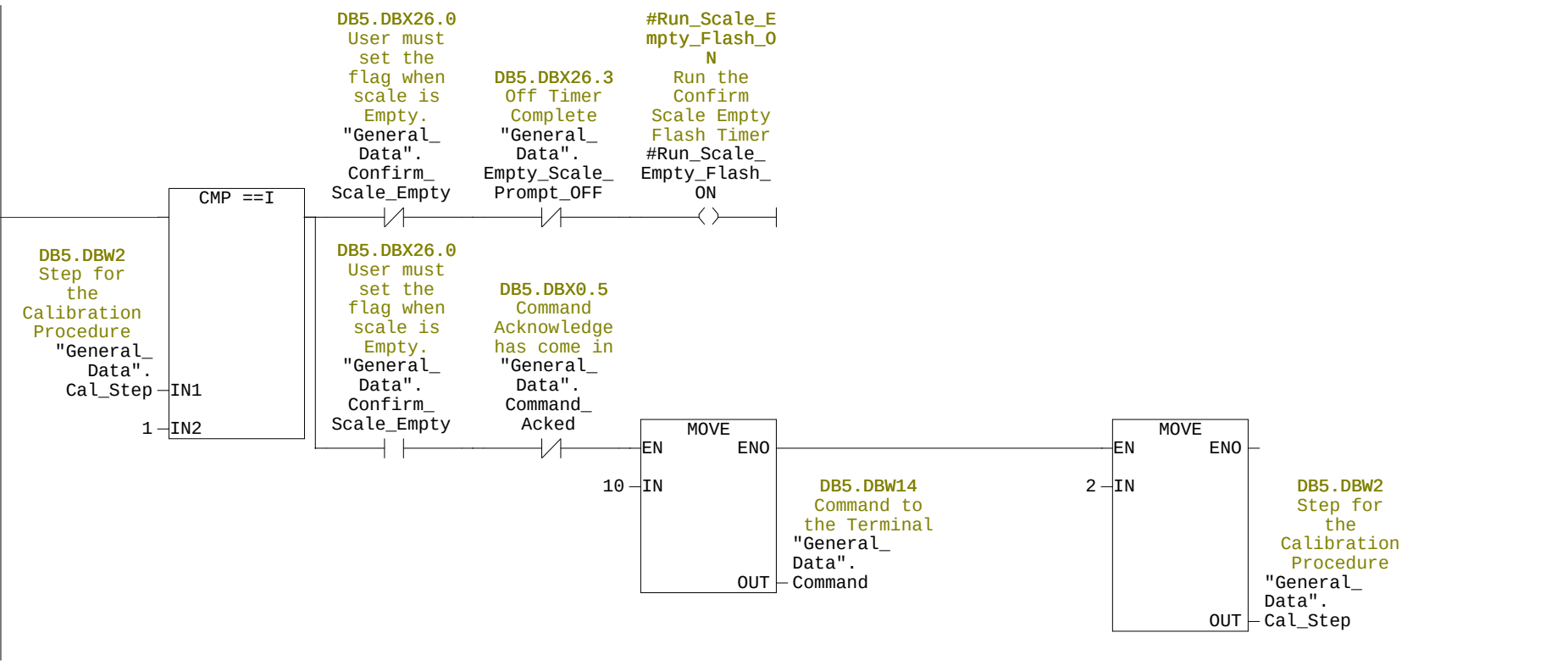
Network: 3 Initialization Complete

When the initialzation Timer completes, move on to step 1.



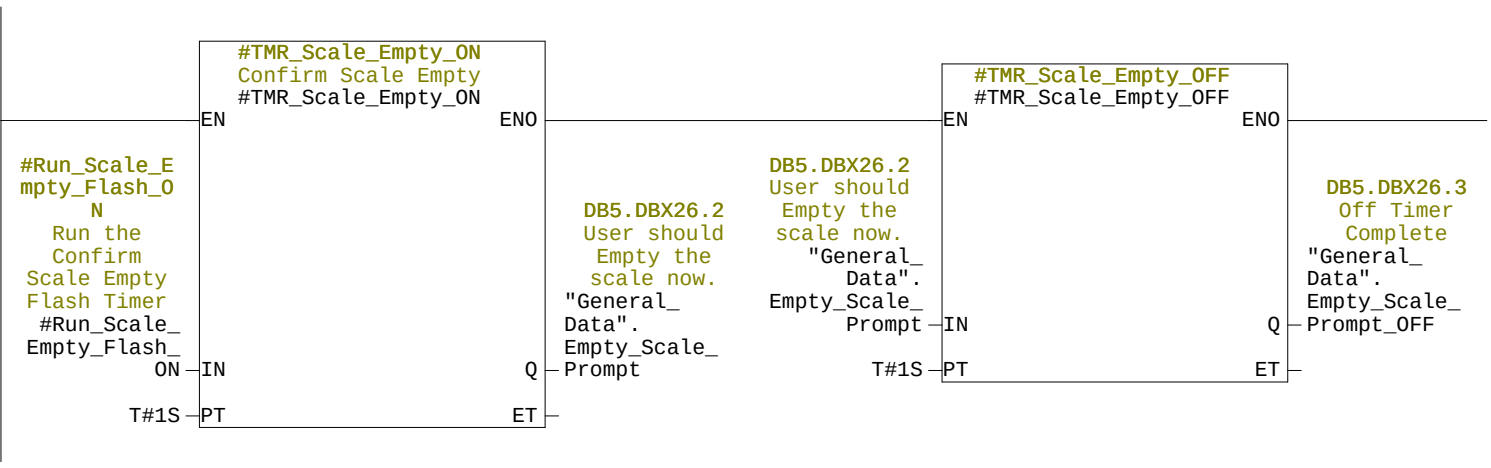
Network: 4 Wait for the scale to be zeroed.

As long as the user has NOT confirmed that the scale is empty, flash the prompt bit. Once they have confirmed that the scale is empty, turn off the flash timer and move on to the next step.

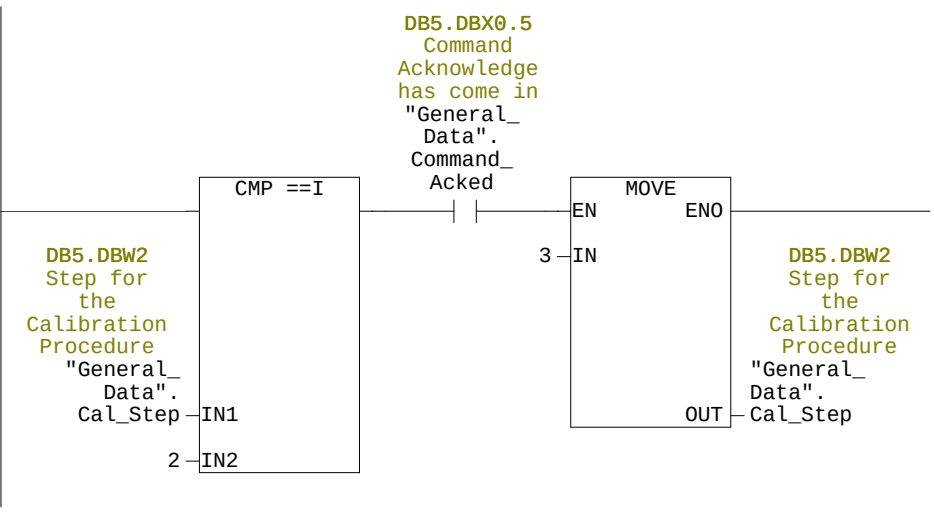


Network: 5 Scale Empty Flash (prompt) timer

Flash the prompt bit to alert the operator that they need to Zero the scale.

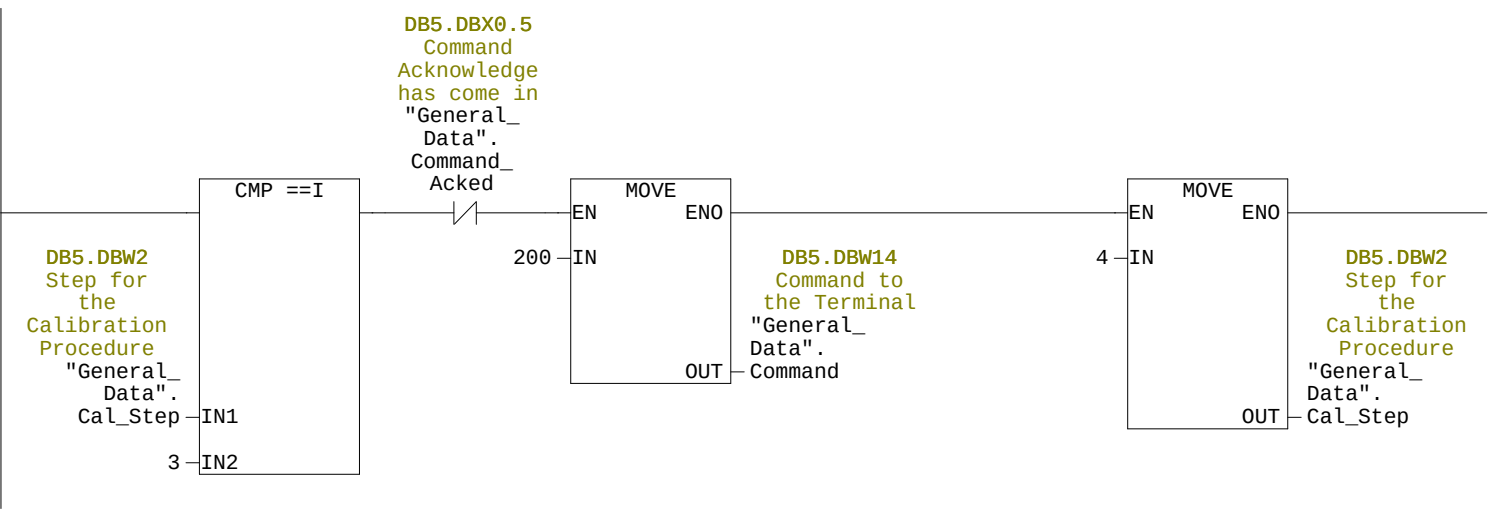


Network: 6



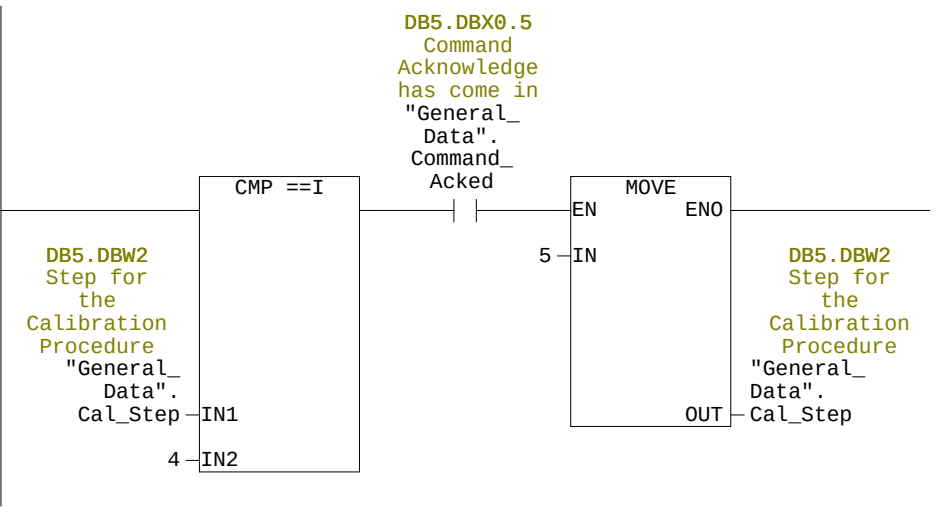
Network: 7 Calibrate the Zero Point.

After the command to return the Gross Weight has been confirmed, issue the command to calibrate the Zero point.

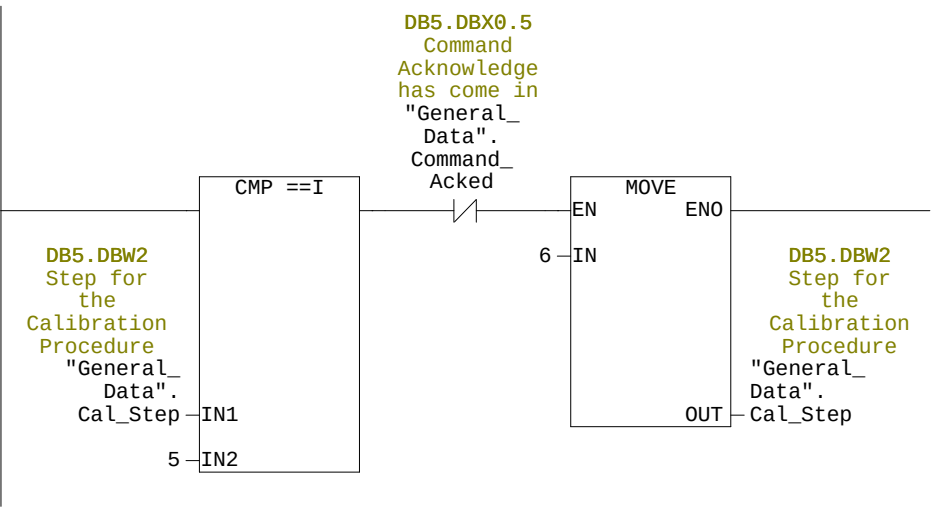


Network: 8 Wait for Command to be acknowledged.

After the Calibrate Zero Point command has been Acknowledged, Move on to the next step.

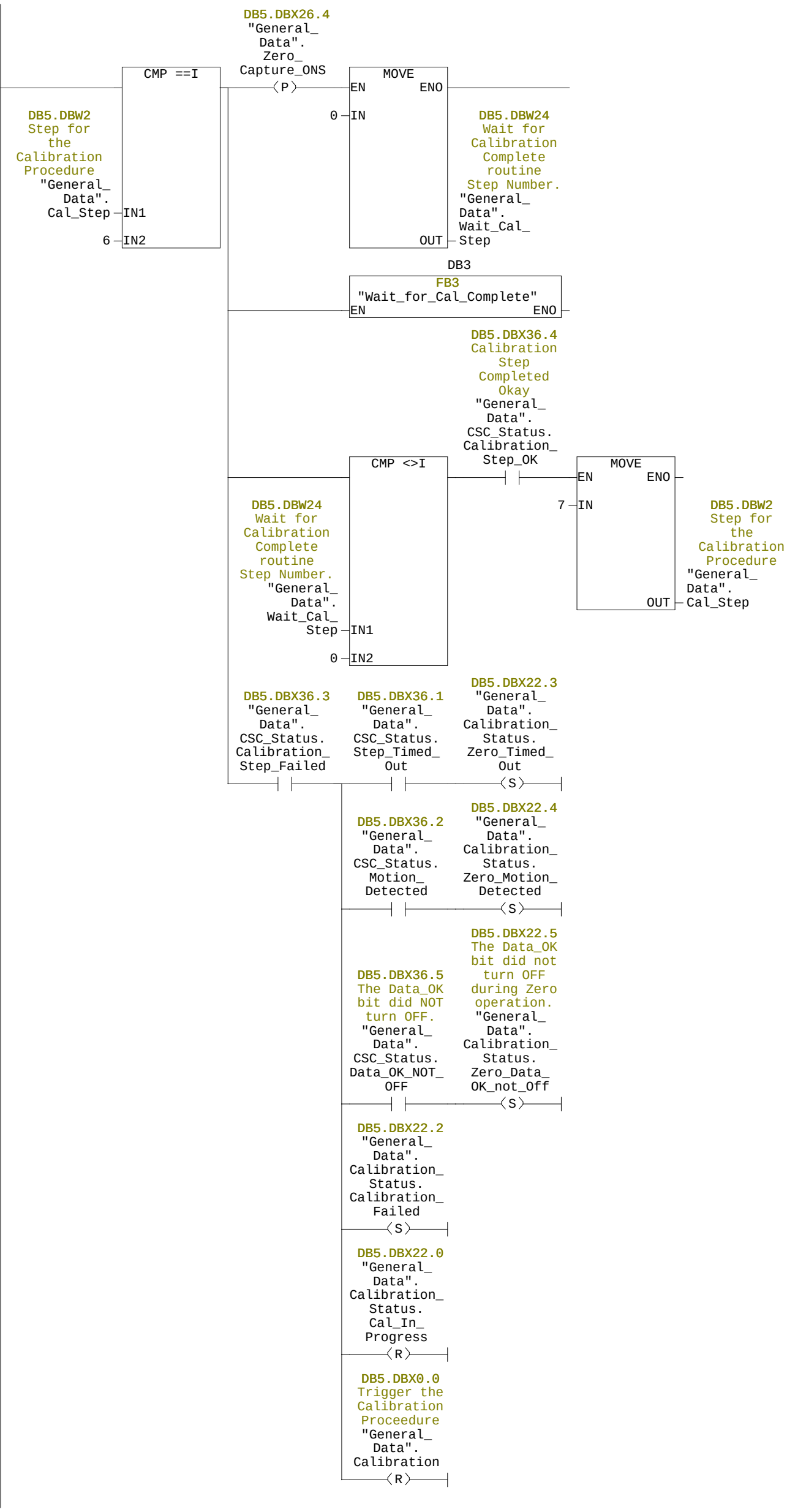


Network: 9

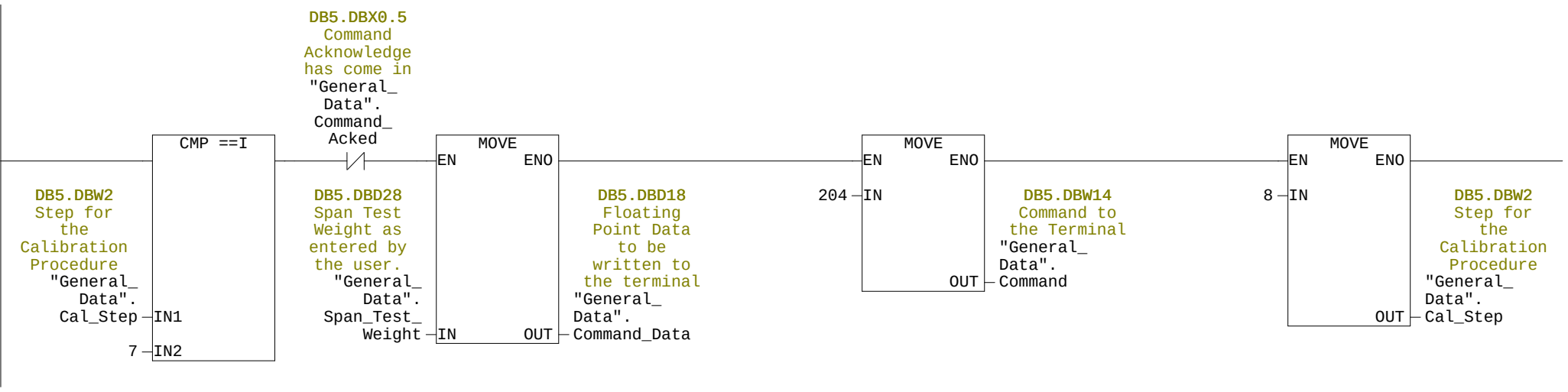


Network: 10 Wait for the Capture Zero Calibration Step to Complete.

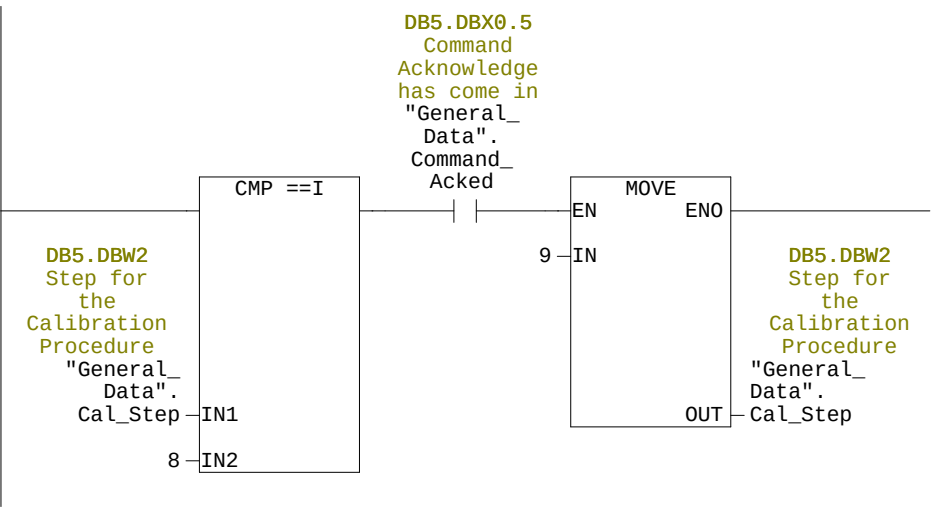
When it's done, check the status flag to see if it completed successfully. If it did, move on to the next step. If it failed, set the calibration failed flag and stop the calibration procedure.



Network: 11

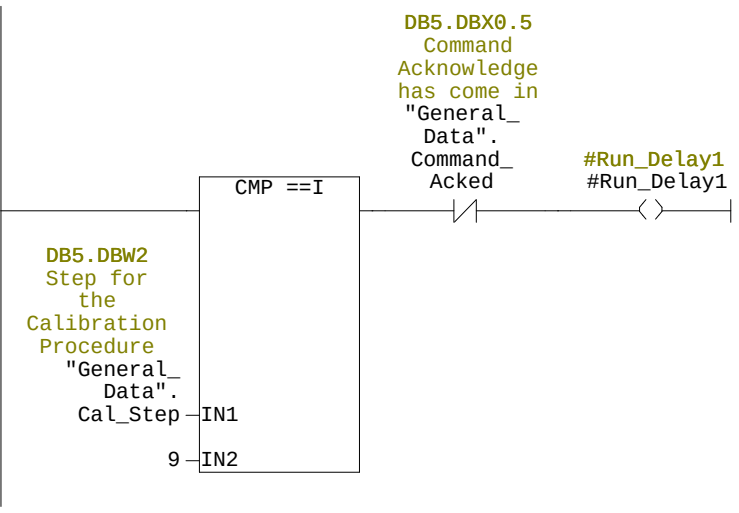


Network: 12

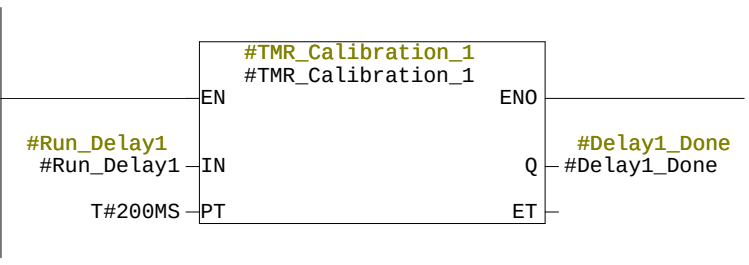


Network: 13 Delay #1

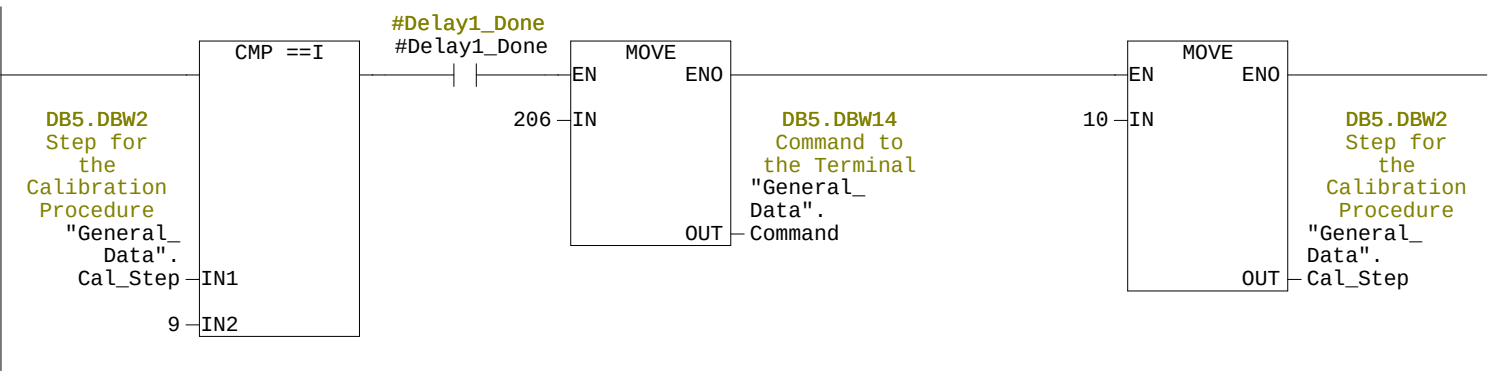
Give a little delay to give the terminal some time to catch up.



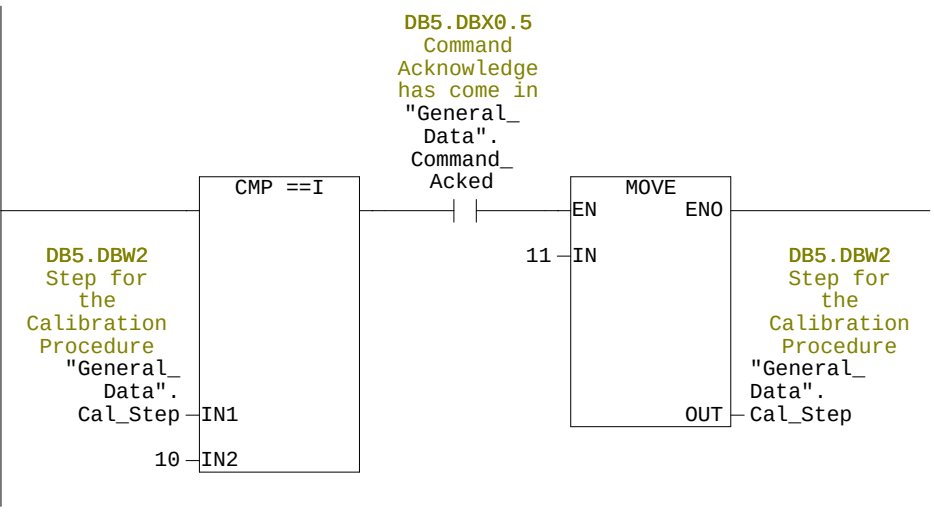
Network: 14 Calibration Delay #1



Network: 15 Issue Report Calibration Test #1 Span Cmd (206)

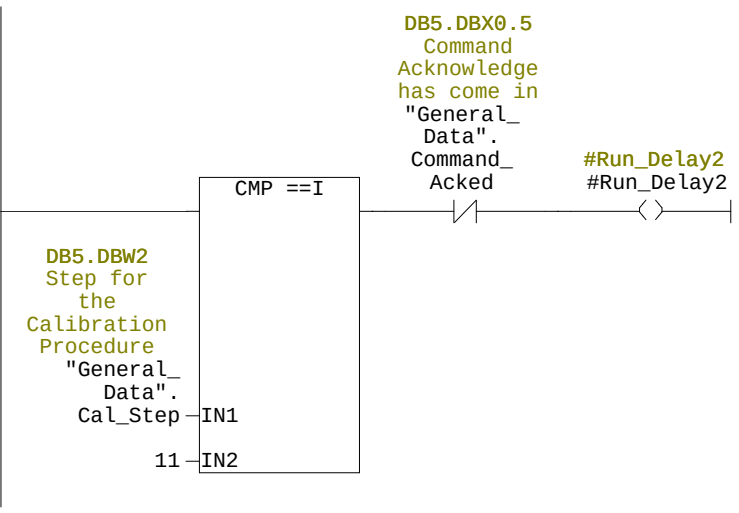


Network: 16 Wait for 206 Command Acknowledge

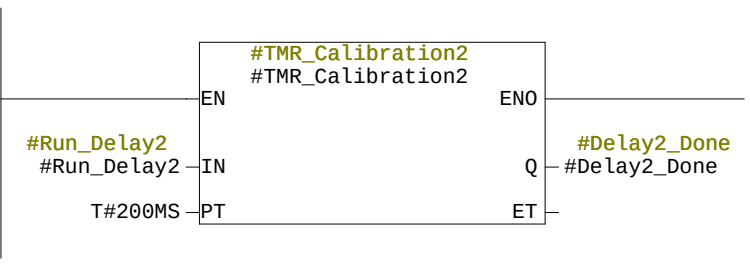


Network: 17 Delay #2

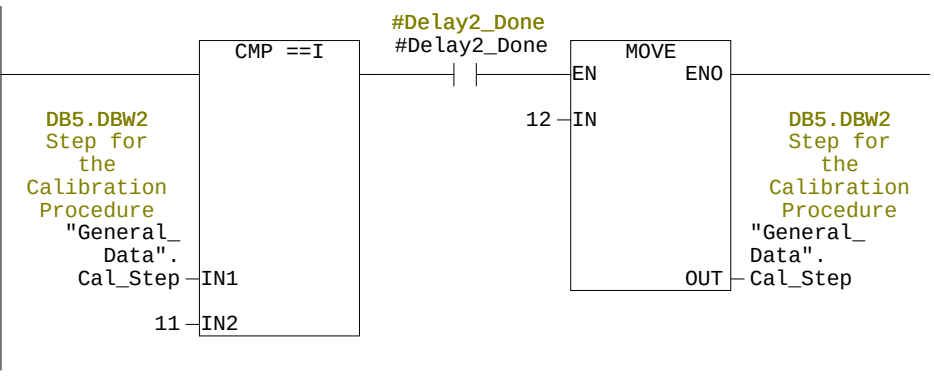
Give a little delay for the Terminal to update it's buffer.



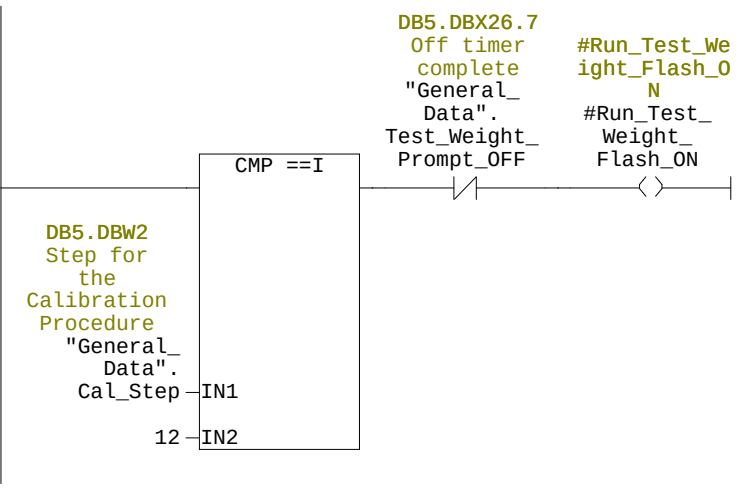
Network: 18 Delay #2



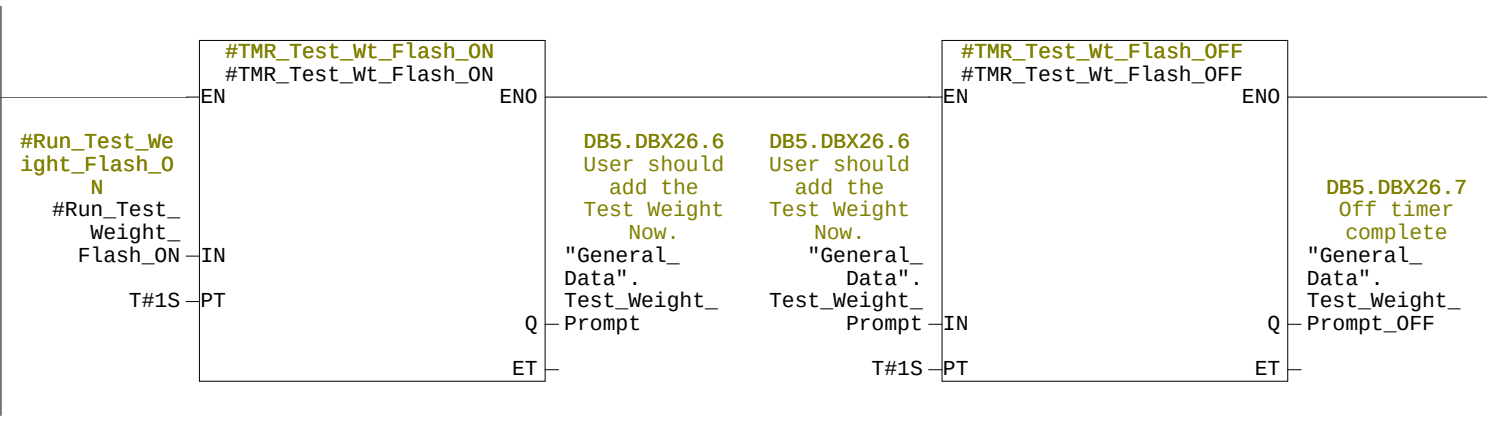
Network: 19 Delay #2 Done



Network: 20 Prompt the user to place the Test Weight



Network: 21 Test Weight Prompt Flash Timers

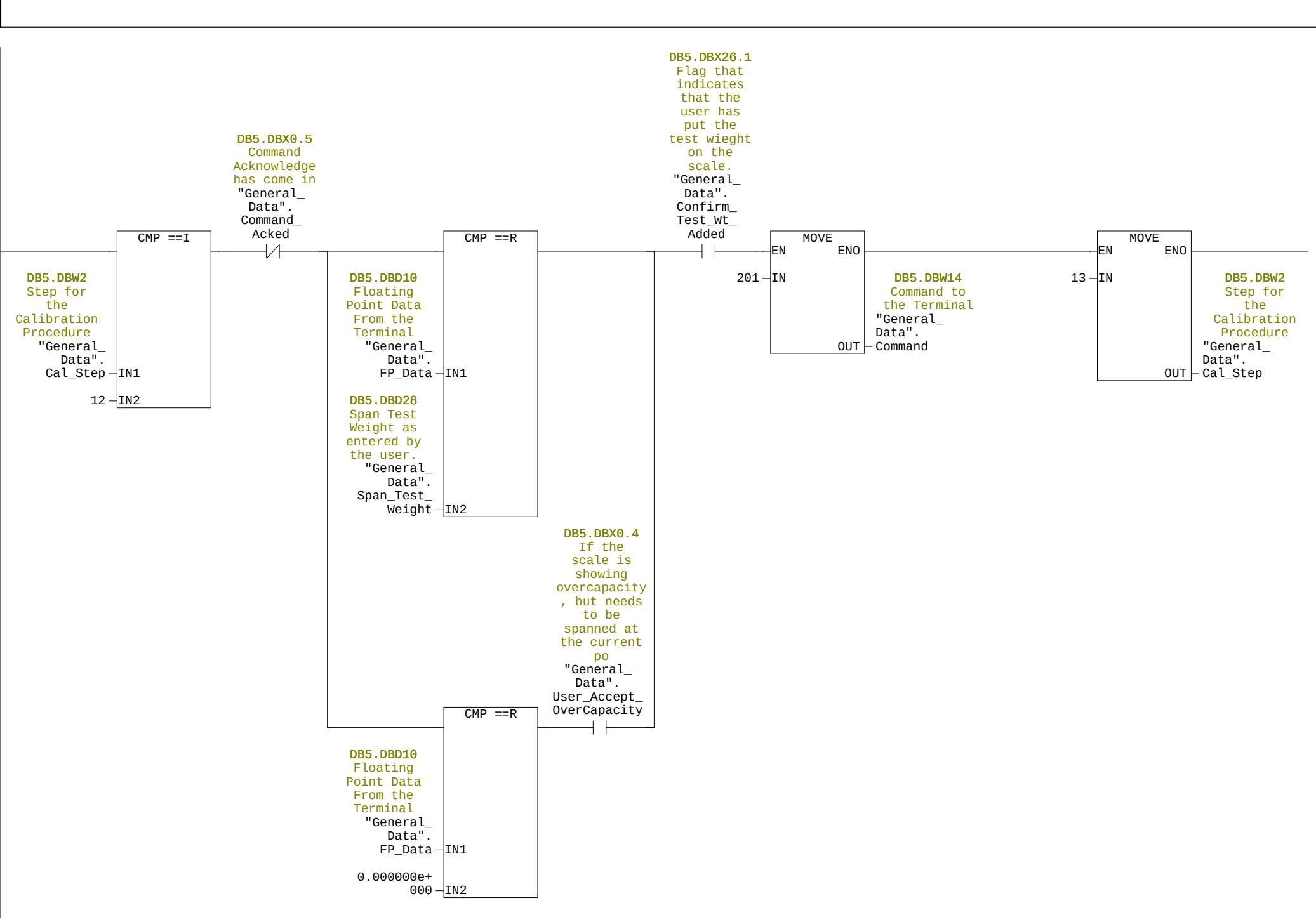


Network: 22 Trigger Calibration Span

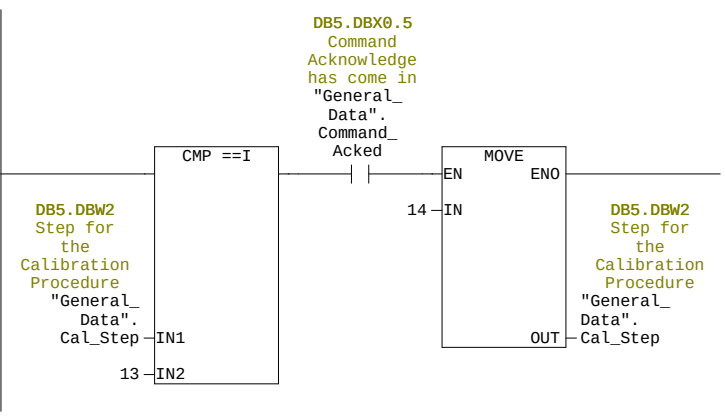
Check to make sure that the Span Weight we entered is echoed back by the
Terminal.

The user has to confirm that they have placed the test weight onto the scale
before we can proceed. After that, send a command 201 to the terminal to
trigger the calibration of the Span.

Note that if the new Span takes the Indicator into OverCapacity indication,
then
the terminal will return Zero in response to the 206 command instead of the
Span
Weight. So, we get around that by having the user confirm that they want to
perform the span as indicated anyway.



Network: 23 Wait for Command Acknowledge



Network: 24 Capture Span

Wait for the Calibration step to complete. Look at the Completed OK and the Failed bits to determine when it's done.

Update the Calibration Status word and then exit.