

Main [OB1]

Main Properties

General

Name	Main	Number	1	Type	OB
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Language	LAD	Numbering	Manual		
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Information

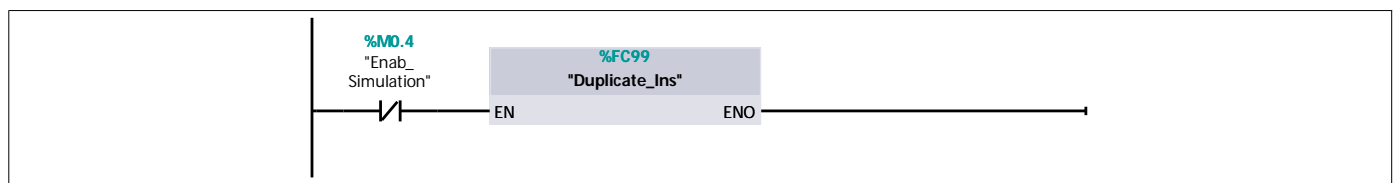
Title	Example 21.4	Author		Comment	Xfer Unit Control
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					Copyright (c) 2011 Dog-wood Valley Press, LLC
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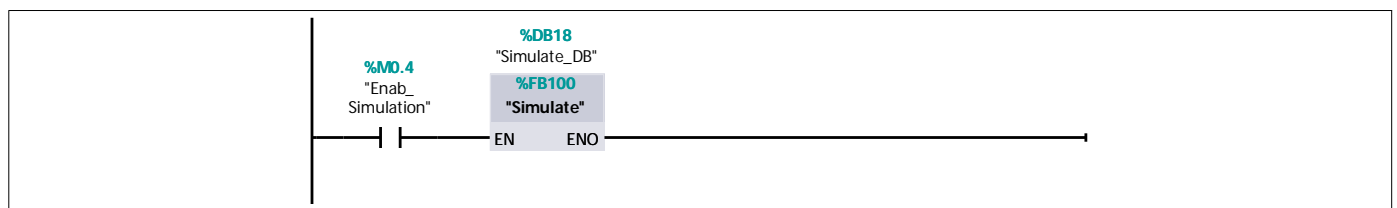
Family		Version	0.1	User-defined ID	
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Name	Data type	Default value
▼ Temp		
OB1_EV_CLASS	Byte	
OB1_SCAN_1	Byte	
OB1_PRIORITY	Byte	
OB1_OB_NUMBR	Byte	
OB1_RESERVED_1	Byte	
OB1_RESERVED_2	Byte	
OB1_PREV_CYCLE	Int	
OB1_MIN_CYCLE	Int	
OB1_MAX_CYCLE	Int	
OB1_DATE_TIME	Date_And_Time	
Temp1	Bool	
Temp2	Bool	
Constant		

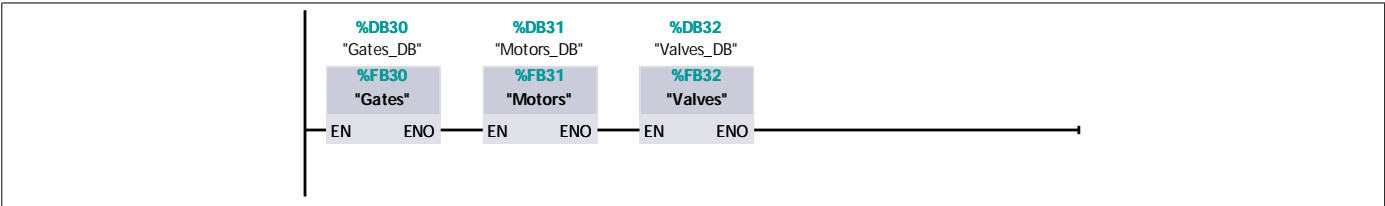
Network 1: If not simulation, transfer inputs to proper location



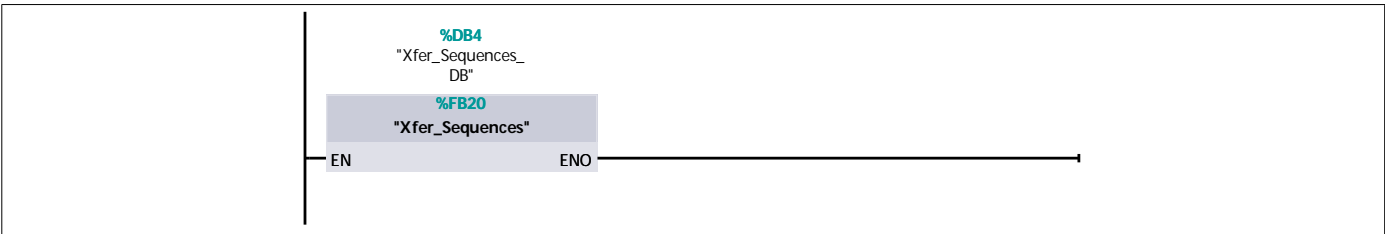
Network 2:



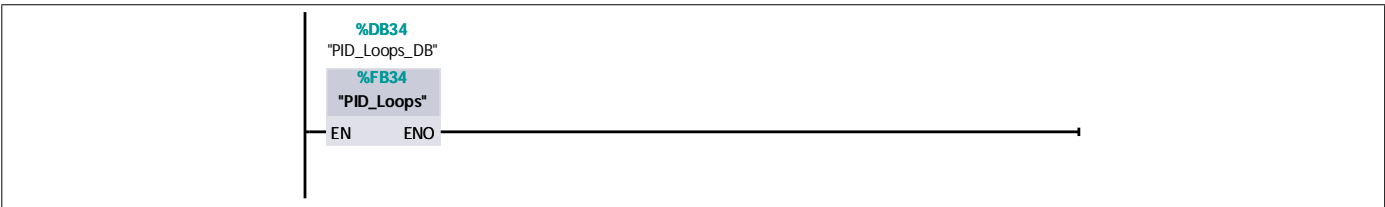
Network 3: Device Controls



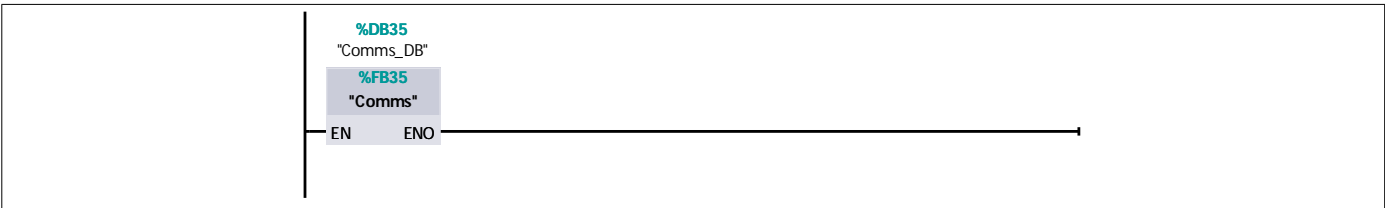
Network 4: Unit Transfer Sequence



Network 5: PID Loops

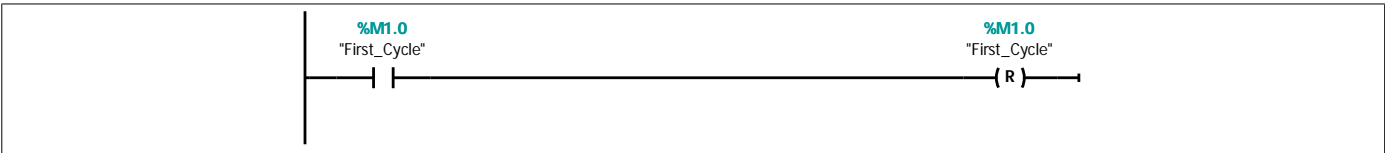


Network 6: Communications



Network 7: On for first scan of OB1

Reset first scan bit. MUST BE LAST RUNG IN OB1!!



Xfer_Sequences [FB20]

Xfer_Sequences Properties

General

Name	Xfer_Sequences	Number	20	Type	FB
Language	LAD	Numbering	Manual		

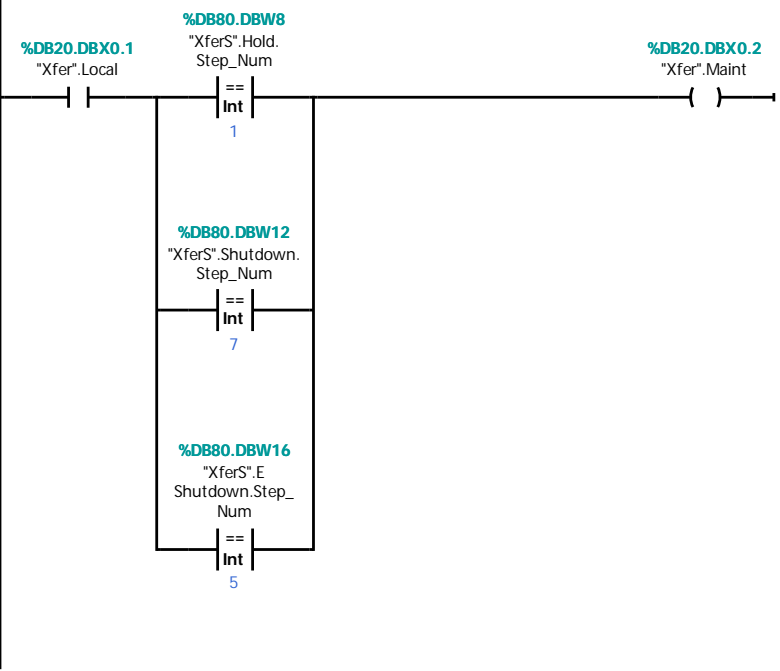
Information

Title	Example 21.4 Xfer Sequences	Author		Comment	Copyright (c) 2022 Dogwood Valley Press, LLC
Family		Version	0.1	User-defined ID	

Name	Data type	Default value
Input		
Output		
InOut		
▼ Static		
Xfer_Startup_ARTmr	TON	
Xfer_Operate_ARTmr	TON	
Xfer_Hold_ARTmr	TON	
Xfer_Shutdown_ARTmr	TON	
Xfer_EShutdown_ARTmr	TON	
Xfer_ConvCln_Tmr	TON	
TmpDI	DInt	0
TmpDI2	Time	T#0ms
Xfer_EShutdown_Tmr	TON	
EX100_FailHold_Tmr	TON	
C105_FailESdwn_Tmr	TON	
G102_FailESdwn_Tmr	TON	
L101_Level_Sdwn_Tmr	TON	
LSL101_Level_Alarm_Tmr	TON	
Temp		
Constant		

Network 1: Maintenance privilege for device control

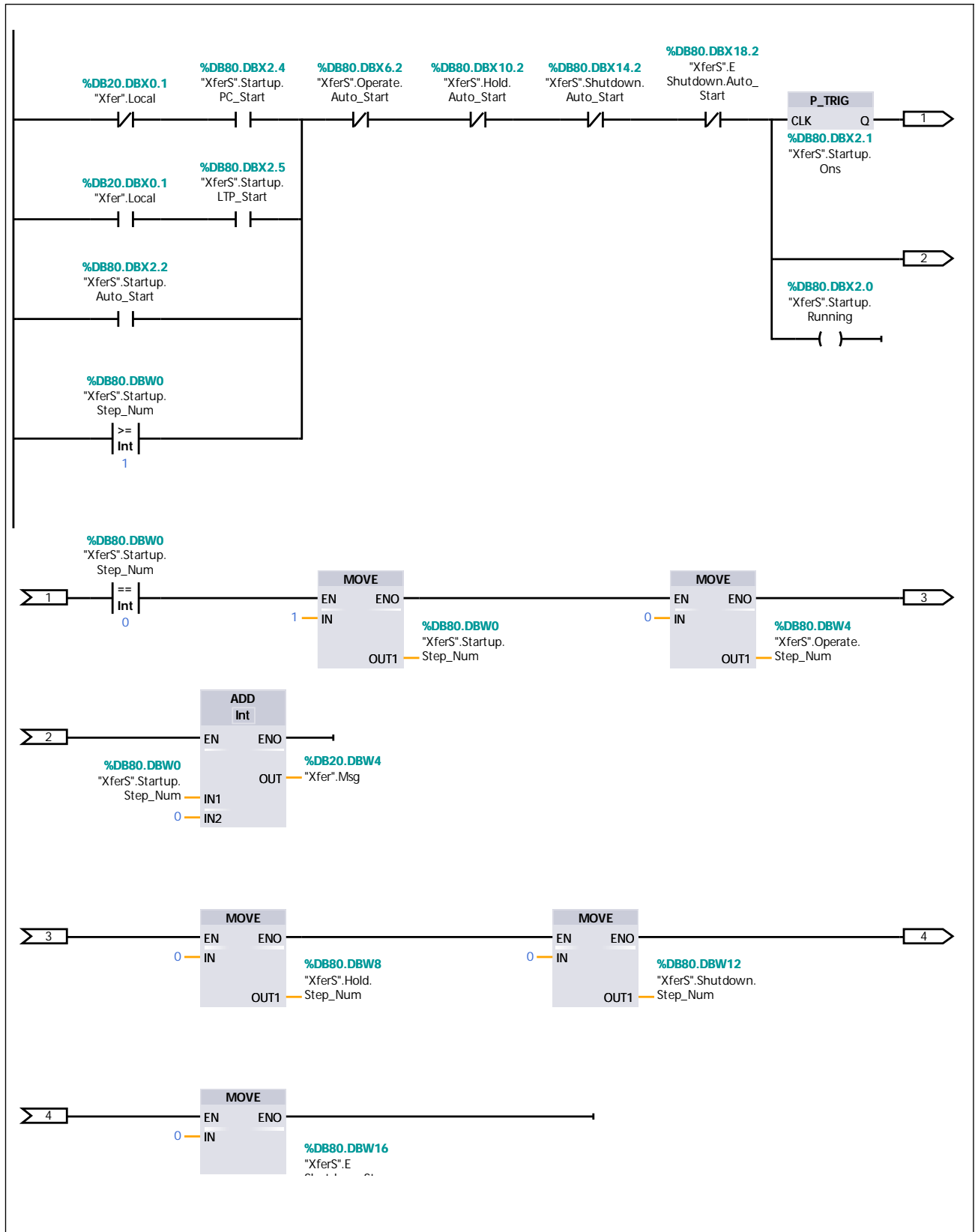
Unit device manual control allowed when local control granted and in safe state.



Network 2: Start Transfer Sequence

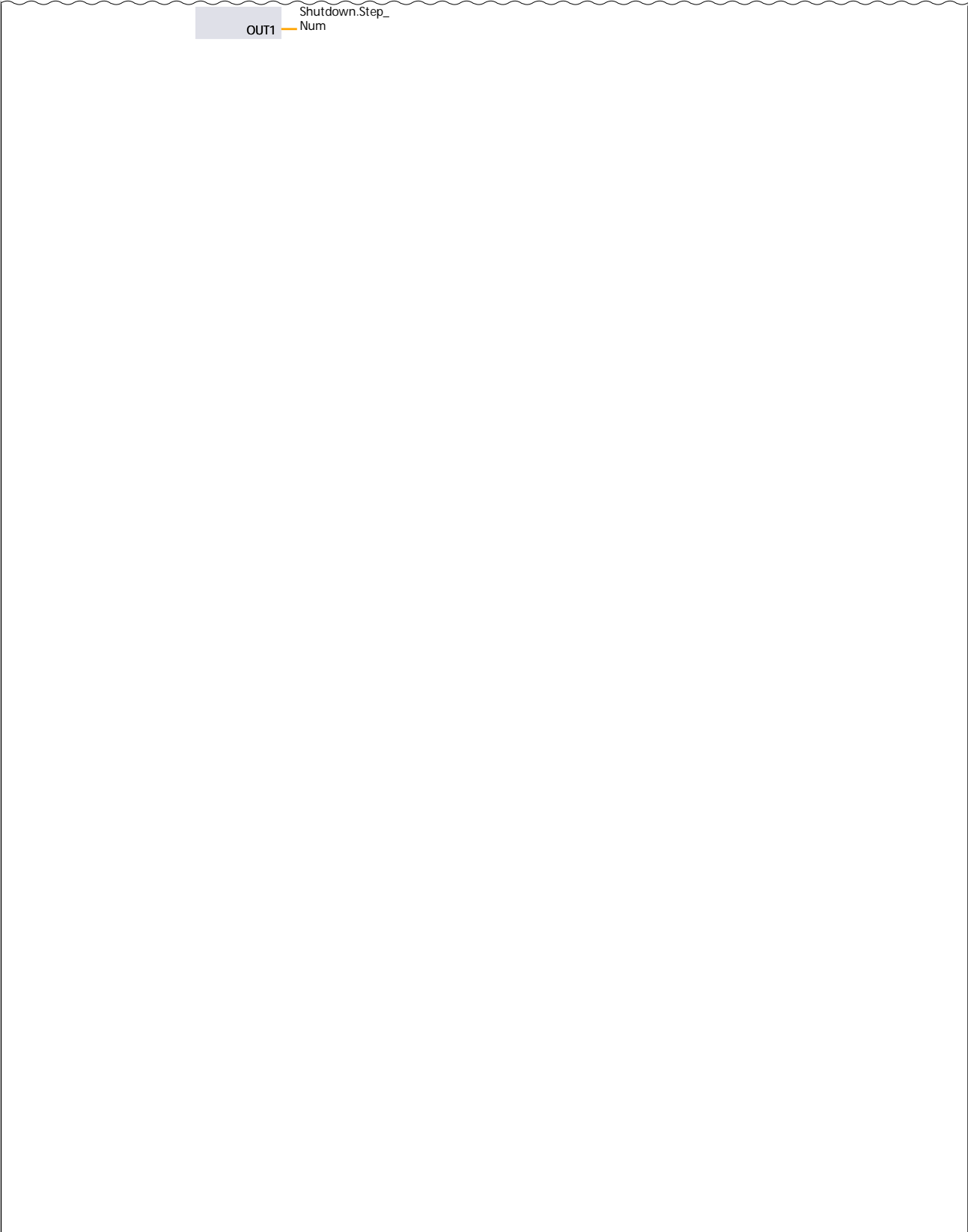
Start Transfer - Operator requests and auto sequence starts. Maintain message number for OI

Network 2: Start Transfer Sequence (1.1 / 2.1)



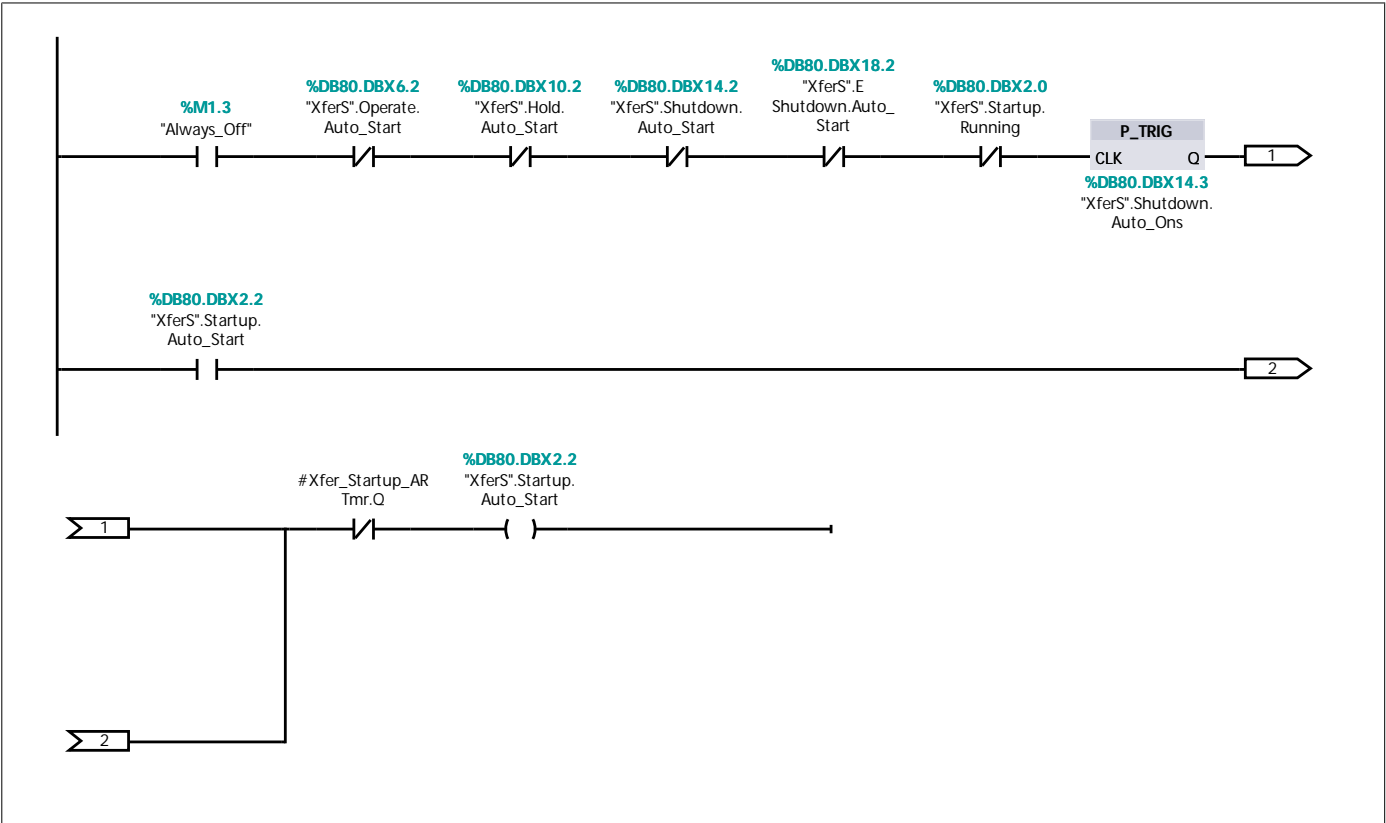
Network 2: Start Transfer Sequence (2.1 / 2.1)

1.1 (Page2 - 3)

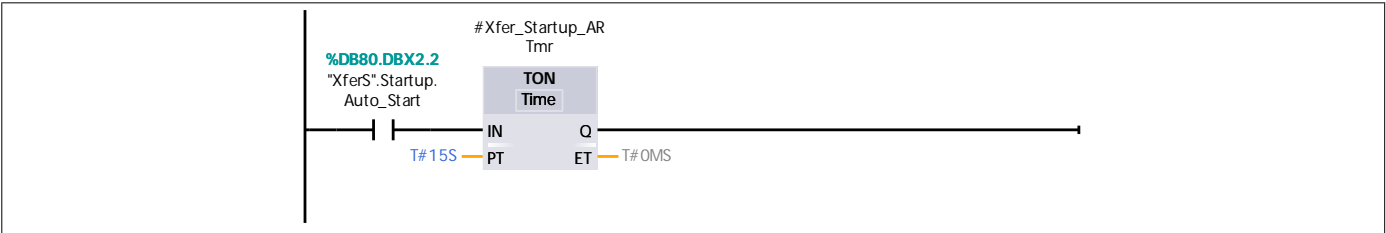


Network 3: Auto start request

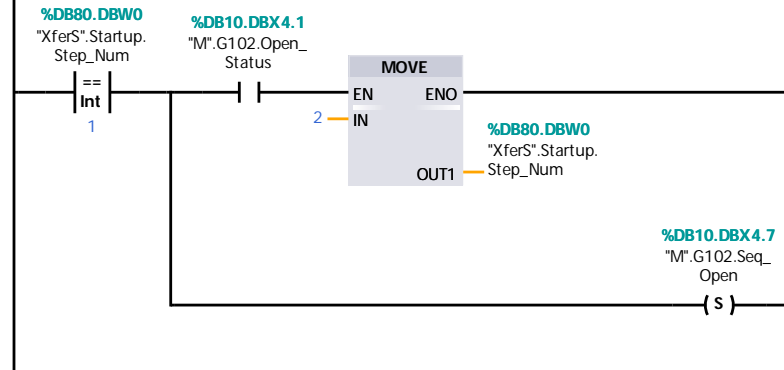
Auto-start for Startup - Not Used



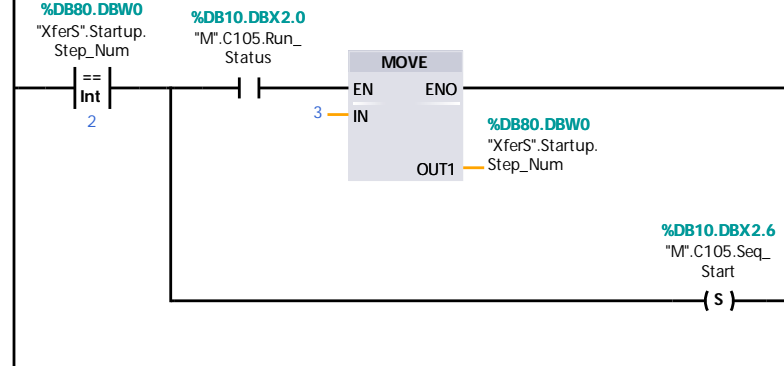
Network 4: Auto Start Timer



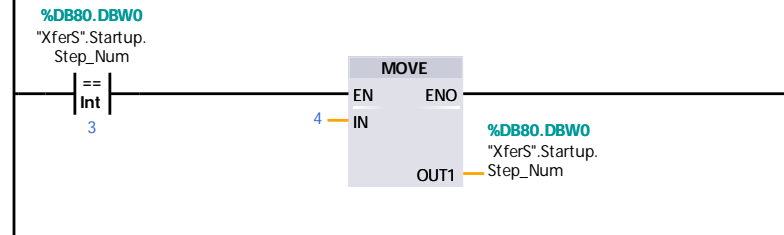
Network 5: Start Transfer step 1 - Open CIP Tank slide gate G-102



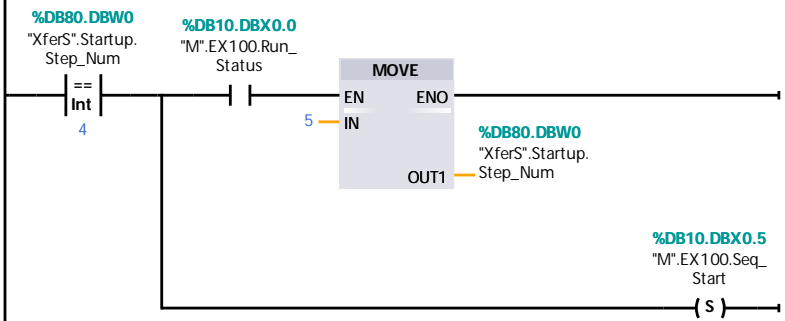
Network 6: Start Transfer step 2 - Start conveyor C-105



Network 7: Start Transfer step 3 - Spare step



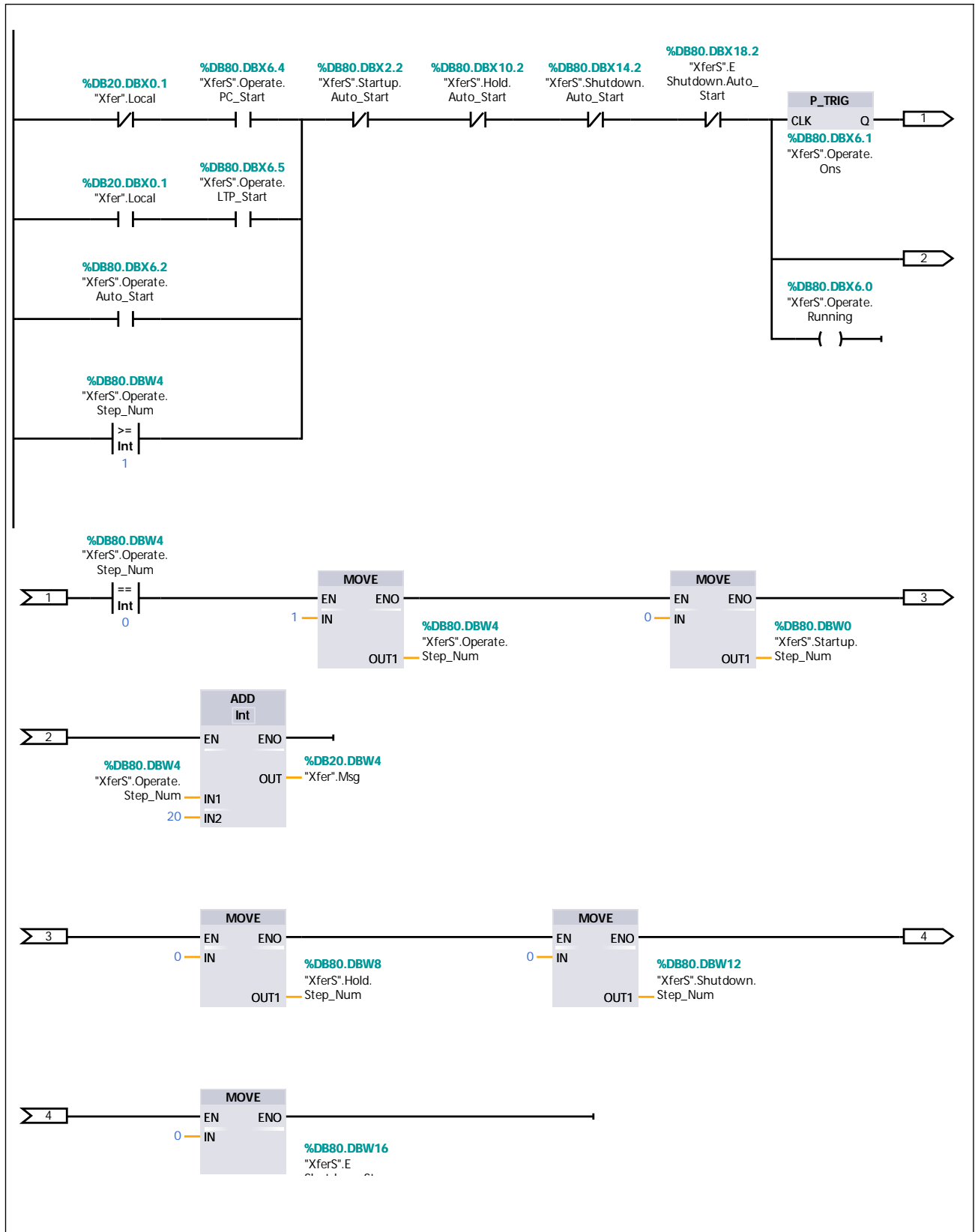
Network 8: Start Transfer step 4 - Start airlock EX100



Network 9: Operate Sequence

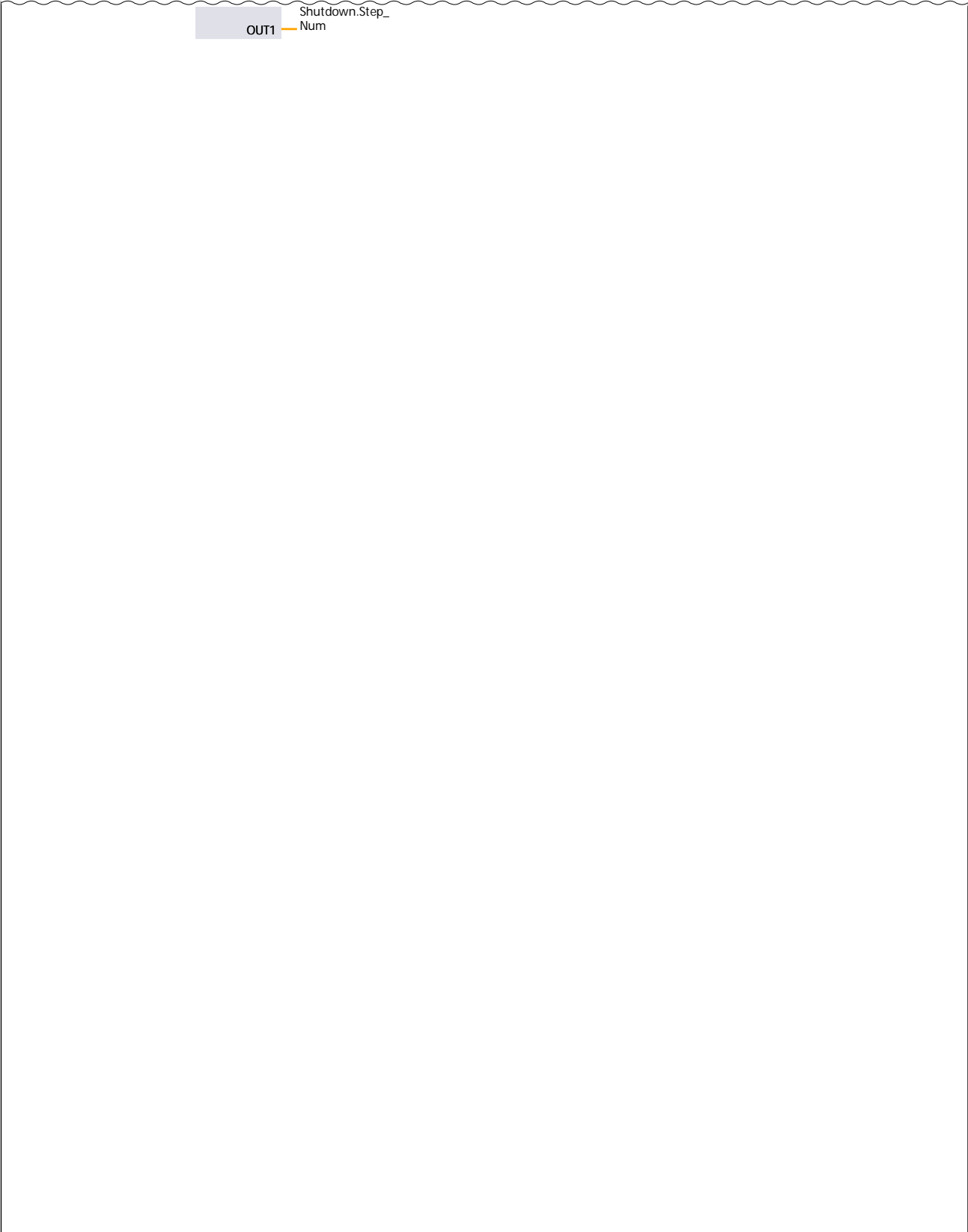
Operate - Operator requests and auto sequence starts. Maintain message number for OI

Network 9: Operate Sequence (1.1 / 2.1)



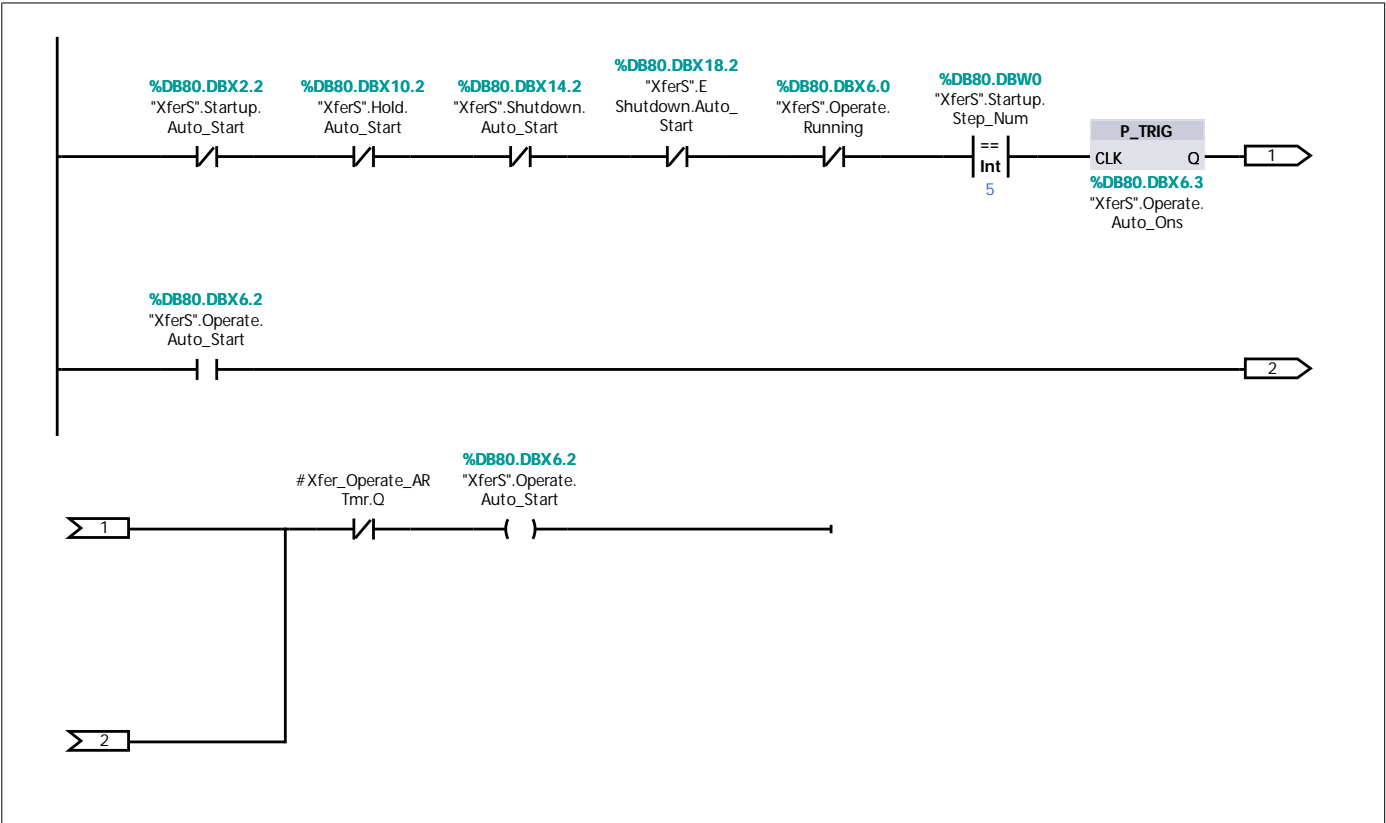
Network 9: Operate Sequence (2.1 / 2.1)

1.1 (Page2 - 8)

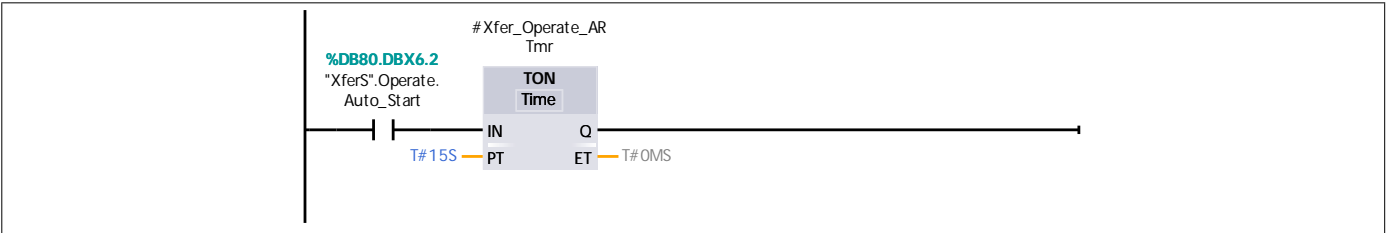


Network 10: Auto start request

Auto-start for Operate



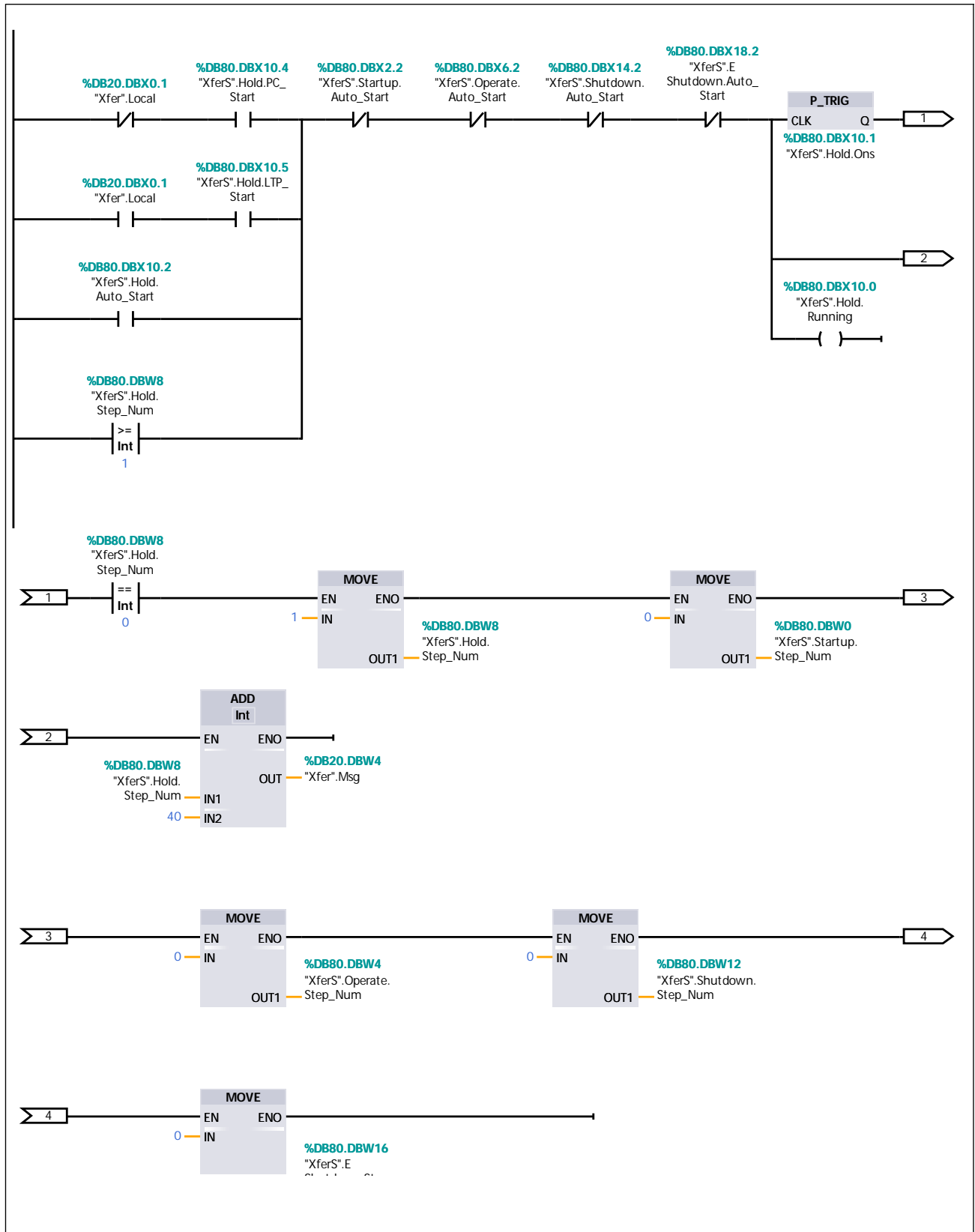
Network 11: Auto Start Timer



Network 12: Hold Sequence

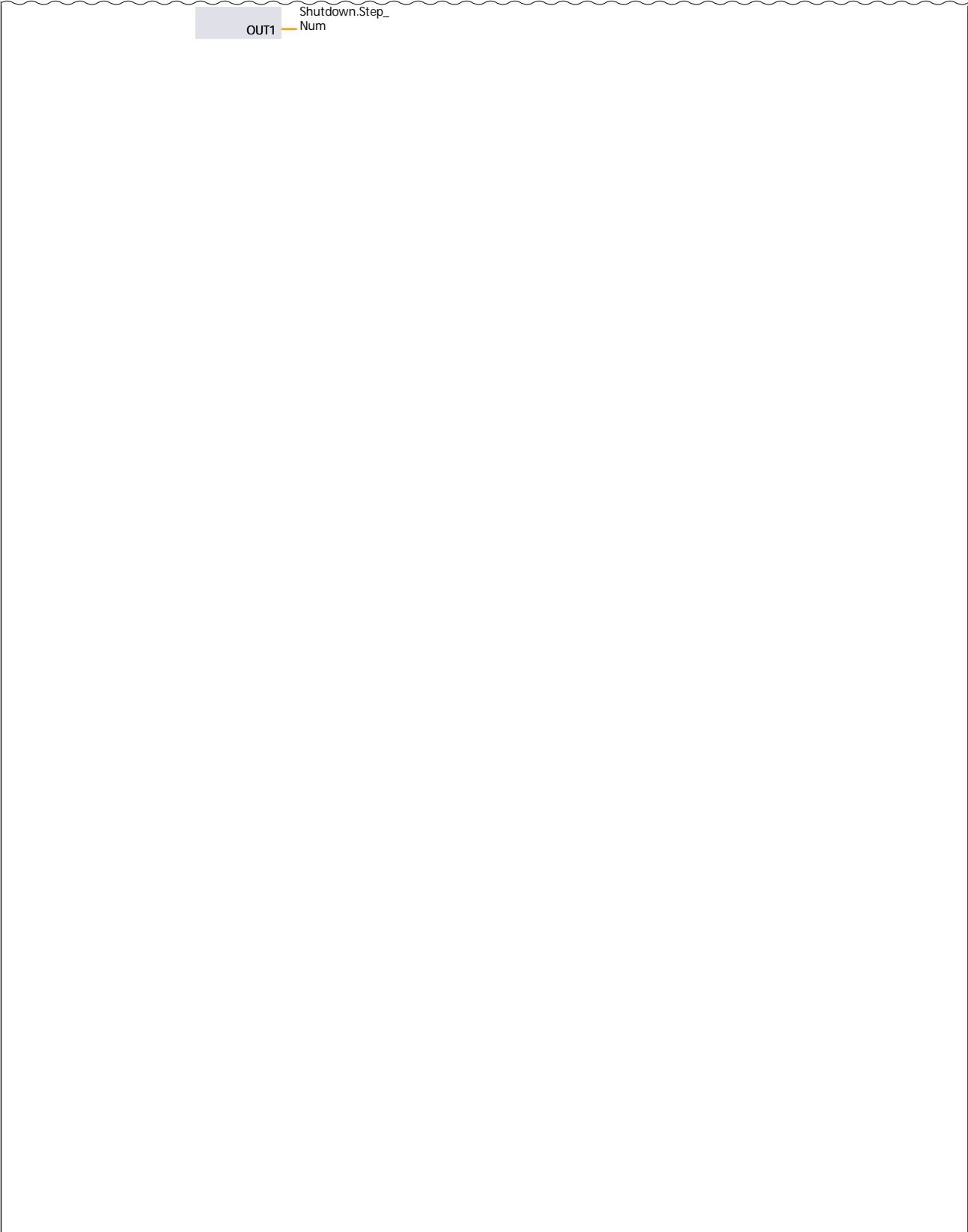
Hold - Operator requests and auto sequence starts. Maintain message number for OI

Network 12: Hold Sequence (1.1 / 2.1)



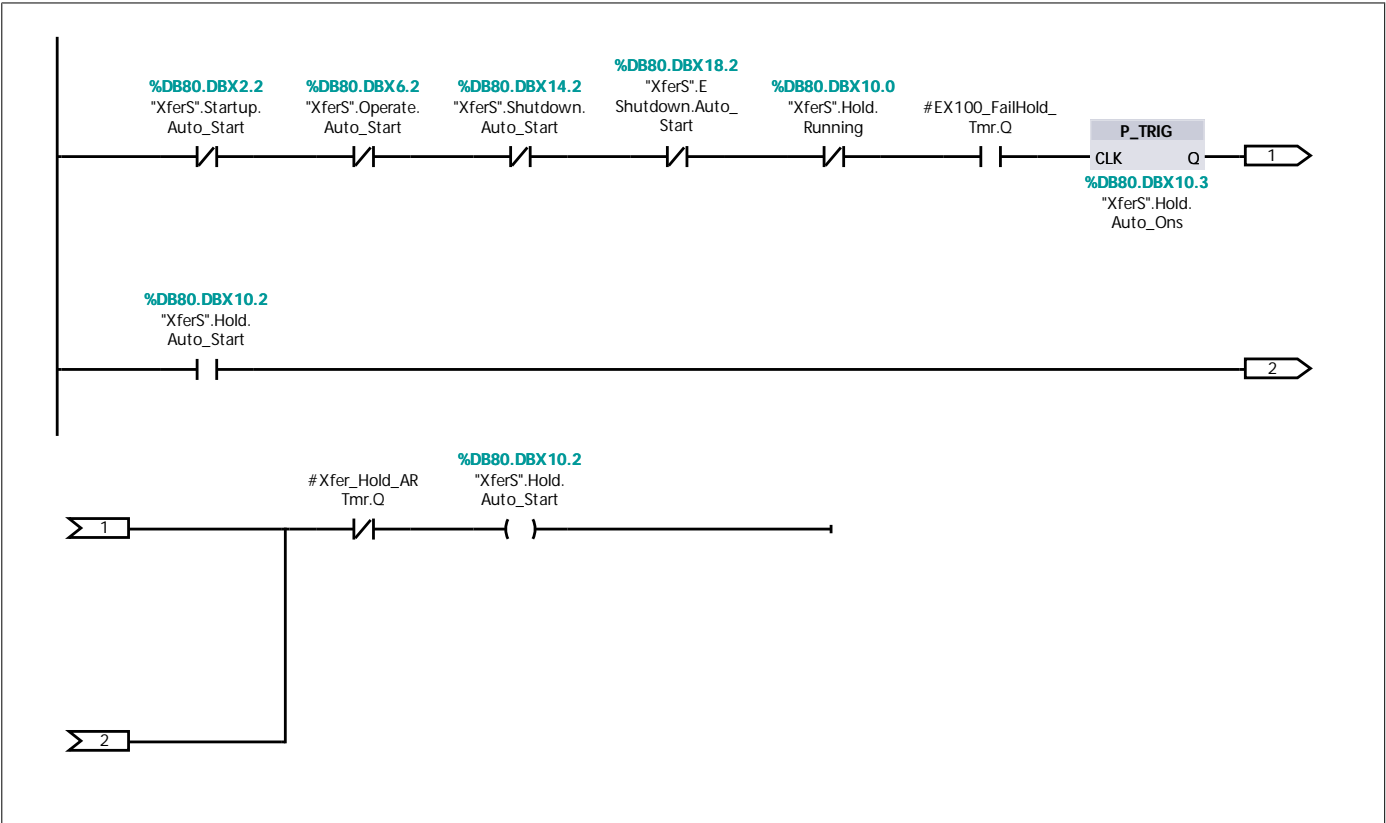
Network 12: Hold Sequence (2.1 / 2.1)

1.1 (Page2 - 11)

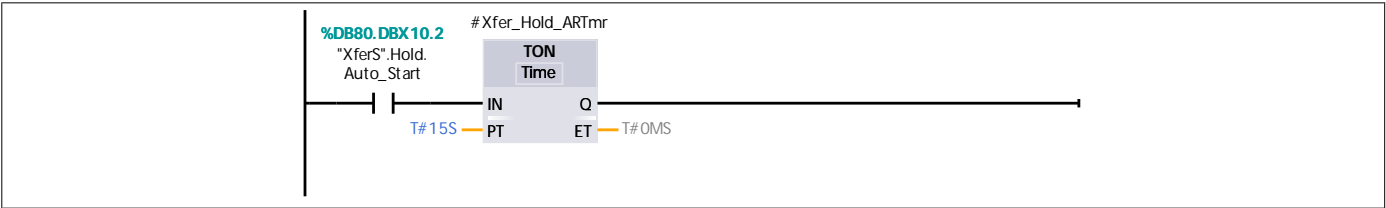


Network 13: Auto start request

Auto-start for Hold



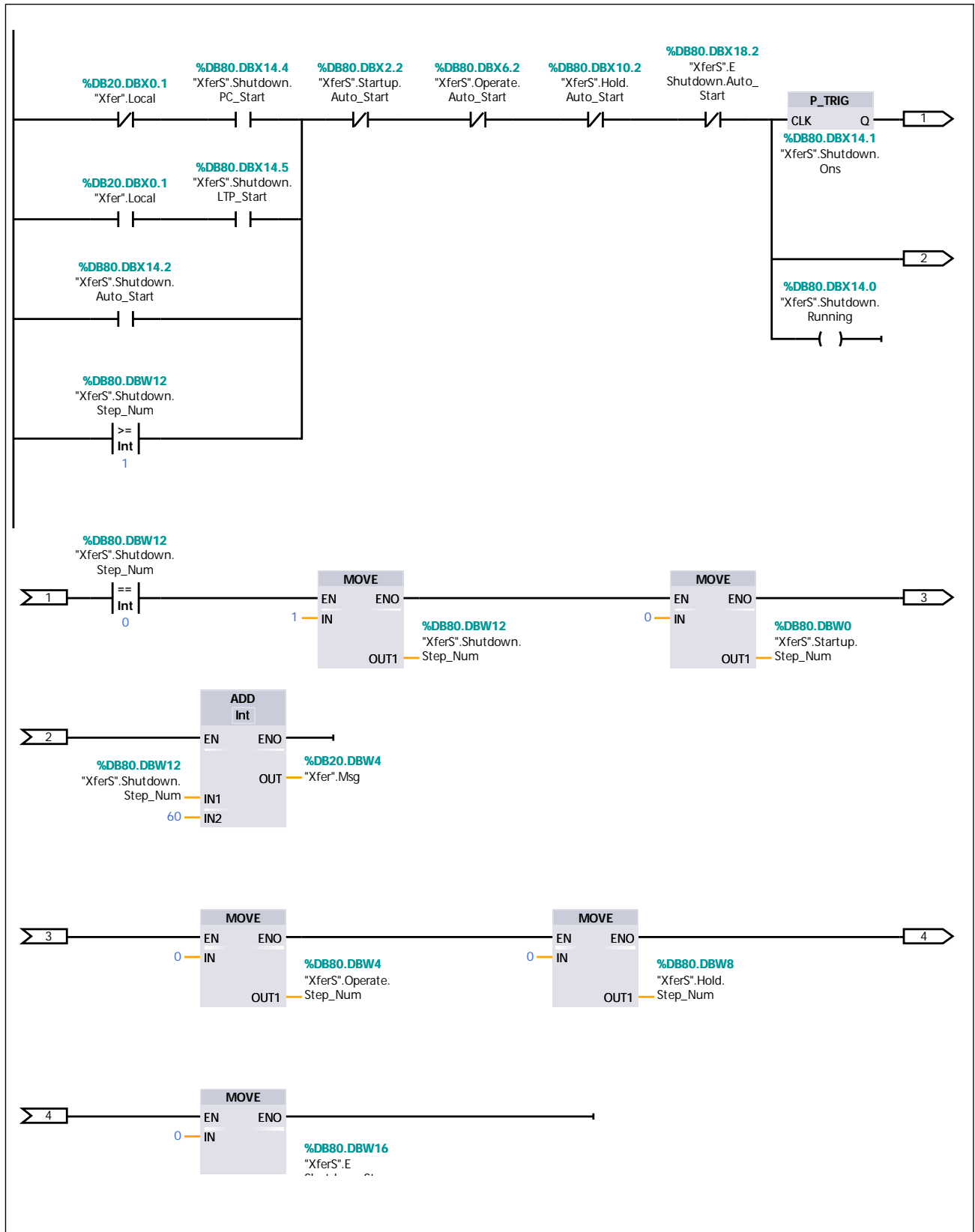
Network 14: Auto Start Timer



Network 15: Shutdown Sequence

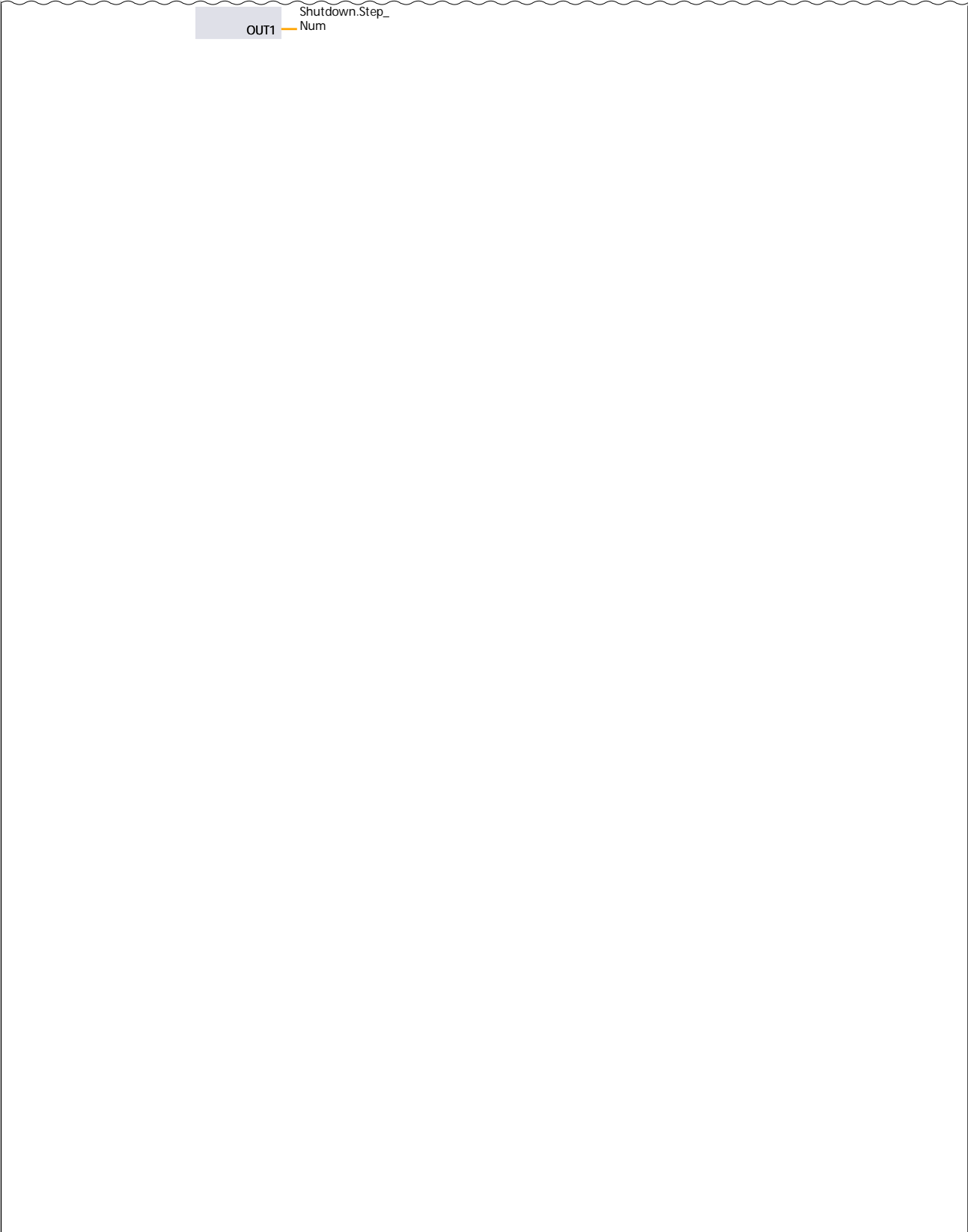
Shutdown - Operator requests and auto sequence starts. Maintain message number for OI

Network 15: Shutdown Sequence (1.1 / 2.1)



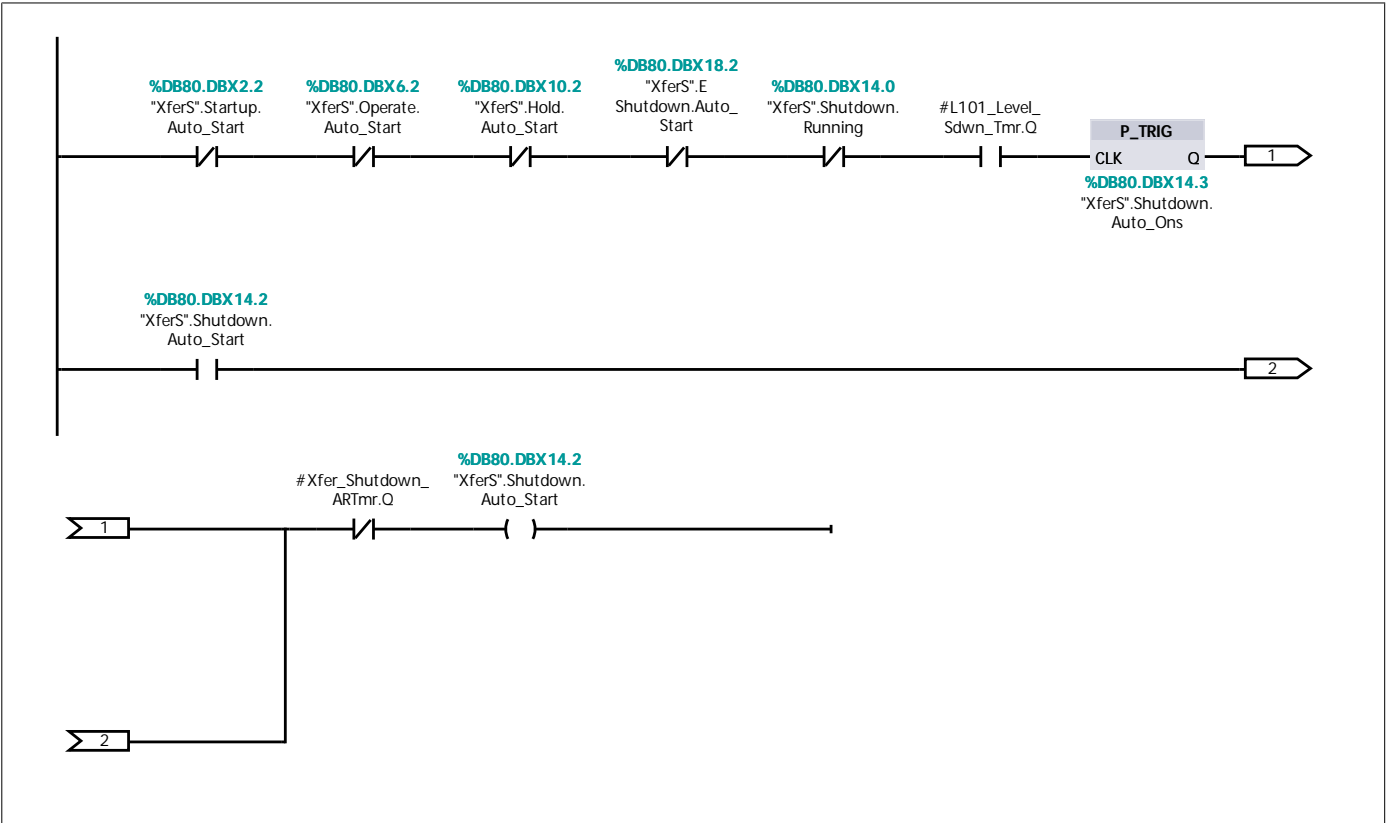
Network 15: Shutdown Sequence (2.1 / 2.1)

1.1 (Page2 - 14)

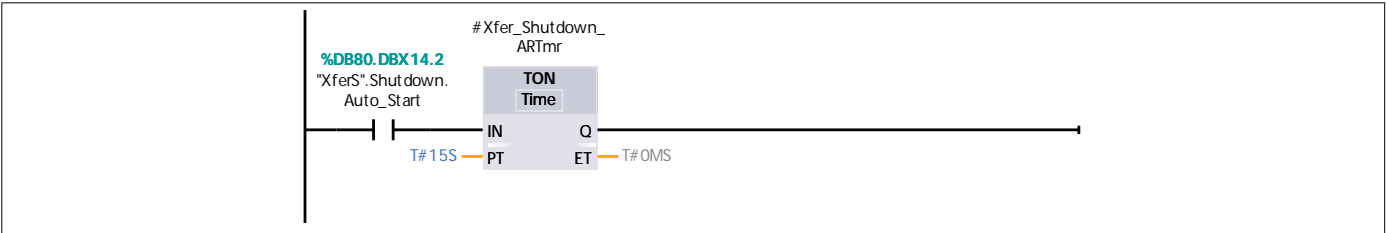


Network 16: Auto start request

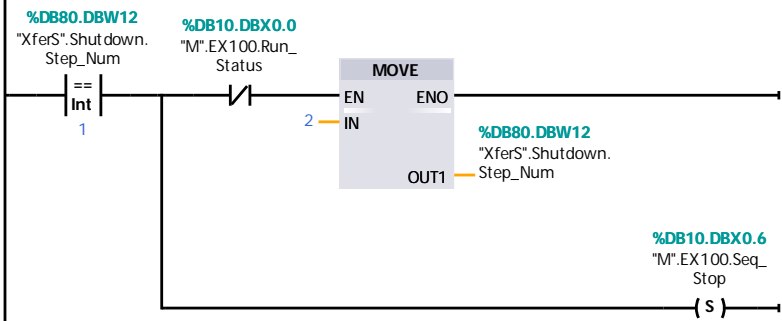
Auto-start for Shutdown



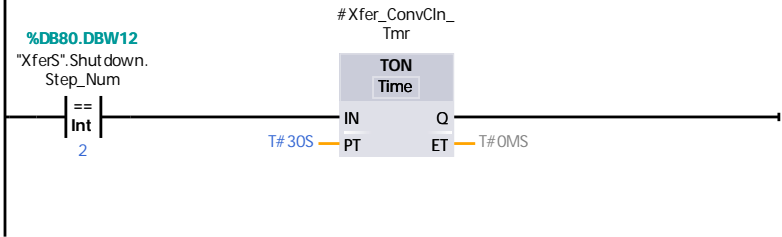
Network 17: Auto Start Timer



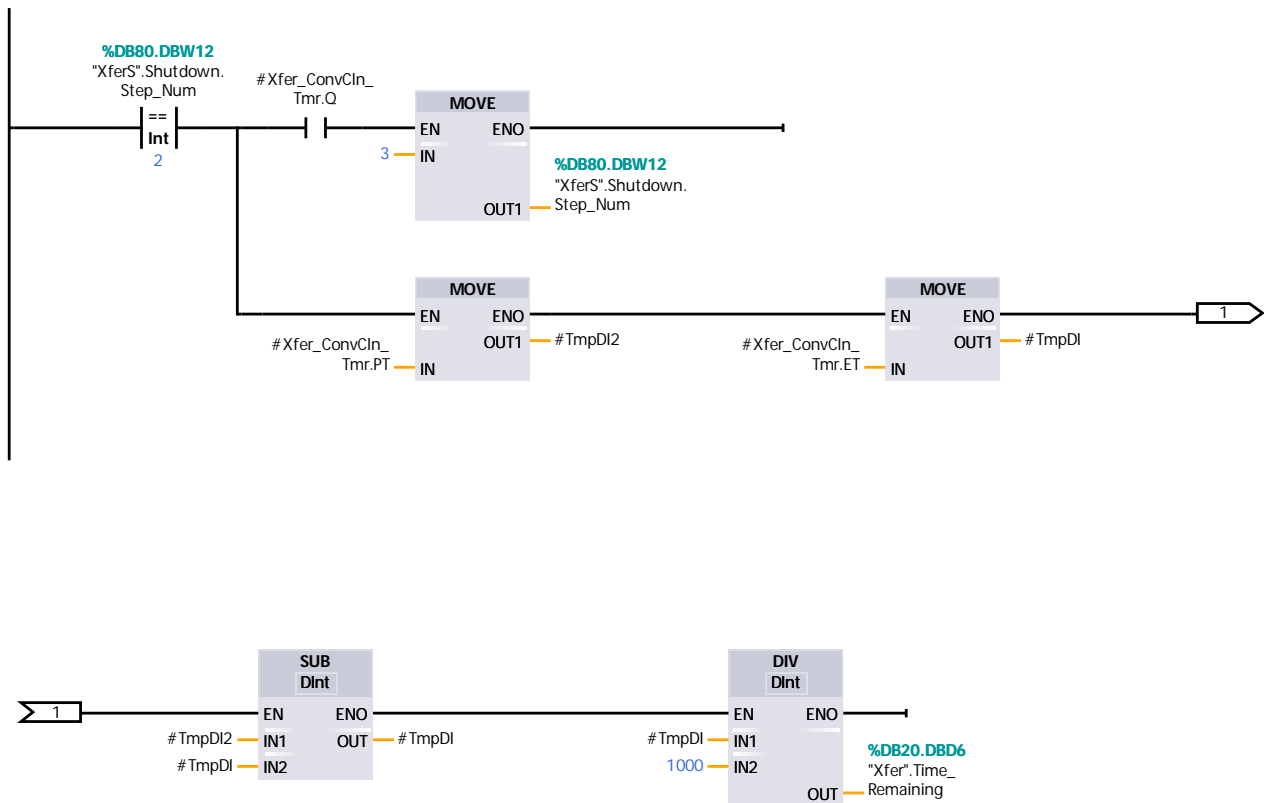
Network 18: Shutdown step 1 - Stop airlock



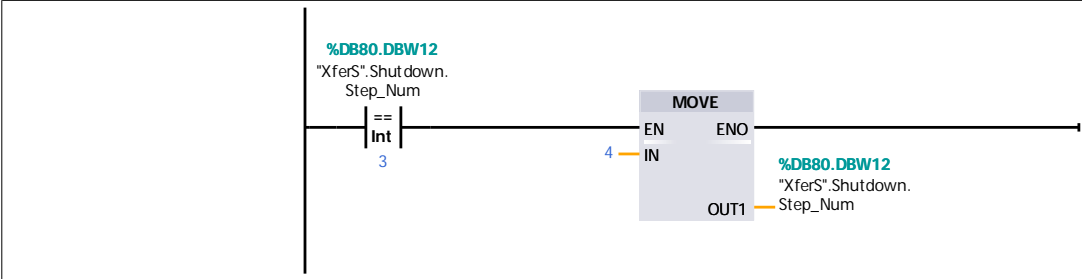
Network 19: Shutdown step 2 - Wait 30 seconds for C-6100 to clear.



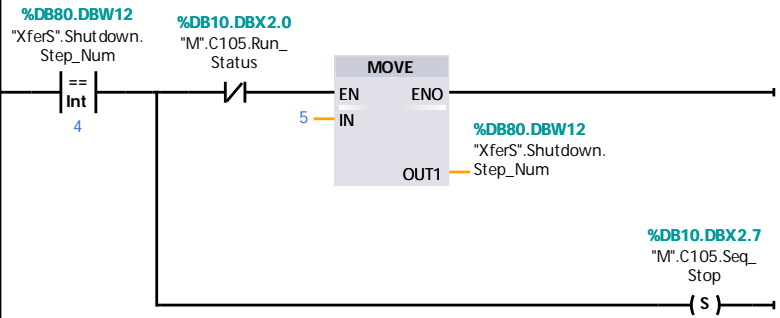
Network 20: Step transition bits



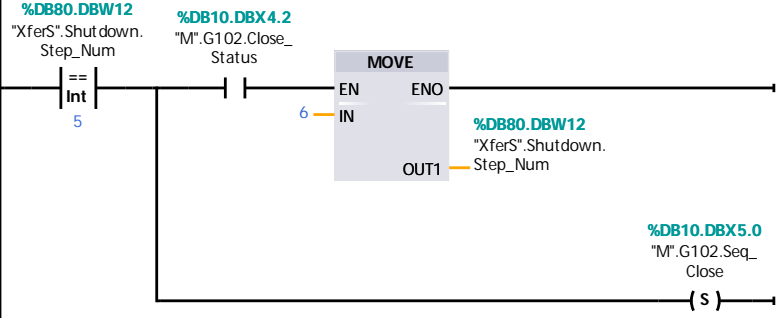
Network 21: Shutdown step 3 - Spare step



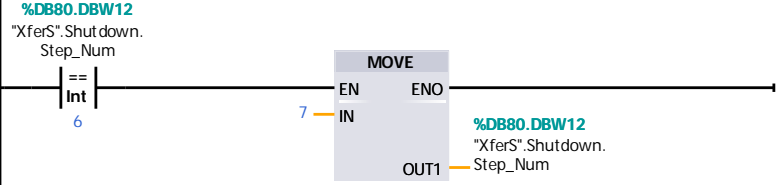
Network 22: Shutdown step 4 - Stop soda ash screw conveyor.



Network 23: Shutdown step 5 - Close slide gate



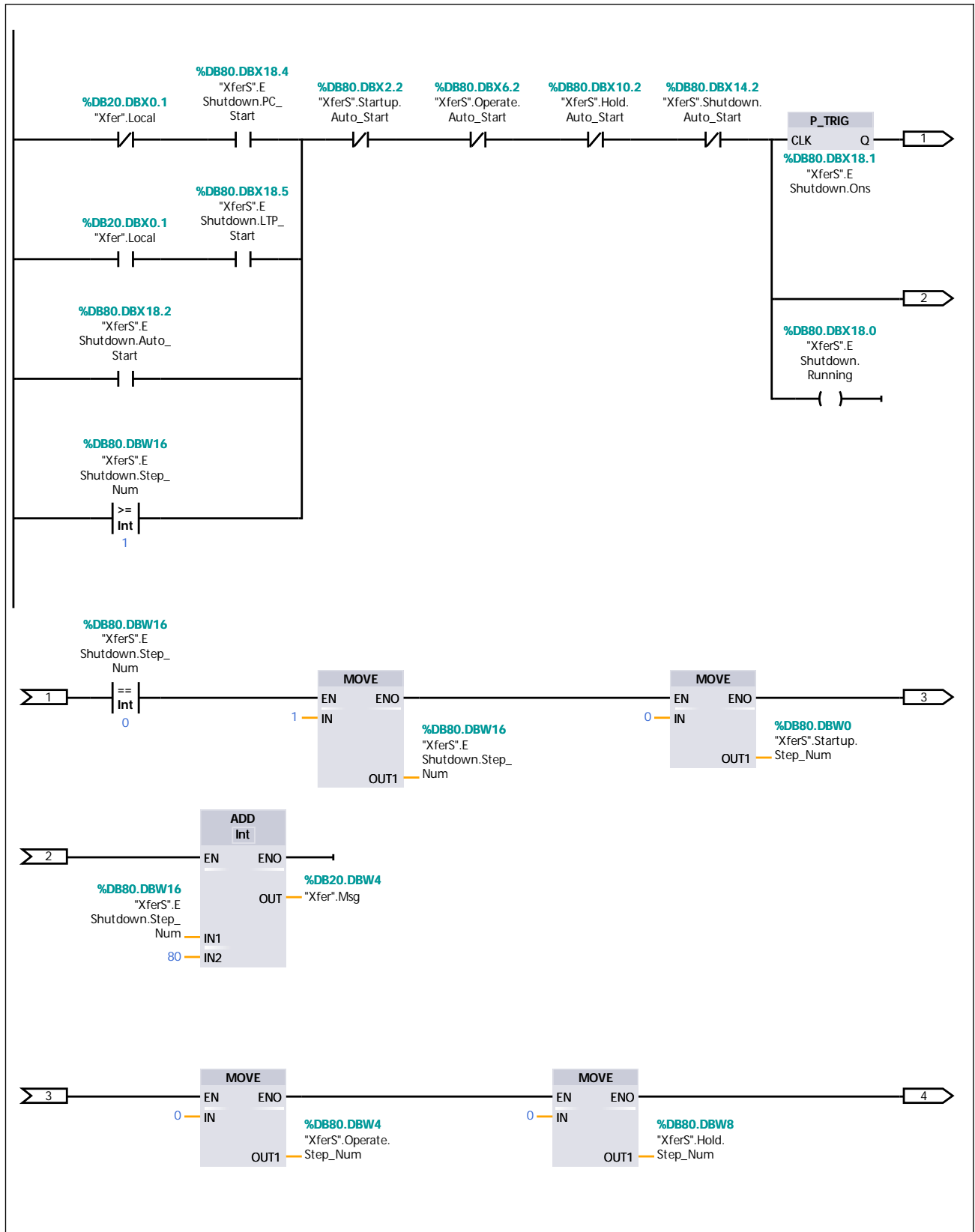
Network 24: Shutdown step 6 - Spare step



Network 25: E-Shutdown Sequence

EShutdown - Operator requests and auto sequence starts. Maintain message number for OI

Network 25: E-Shutdown Sequence (1.1 / 2.1)



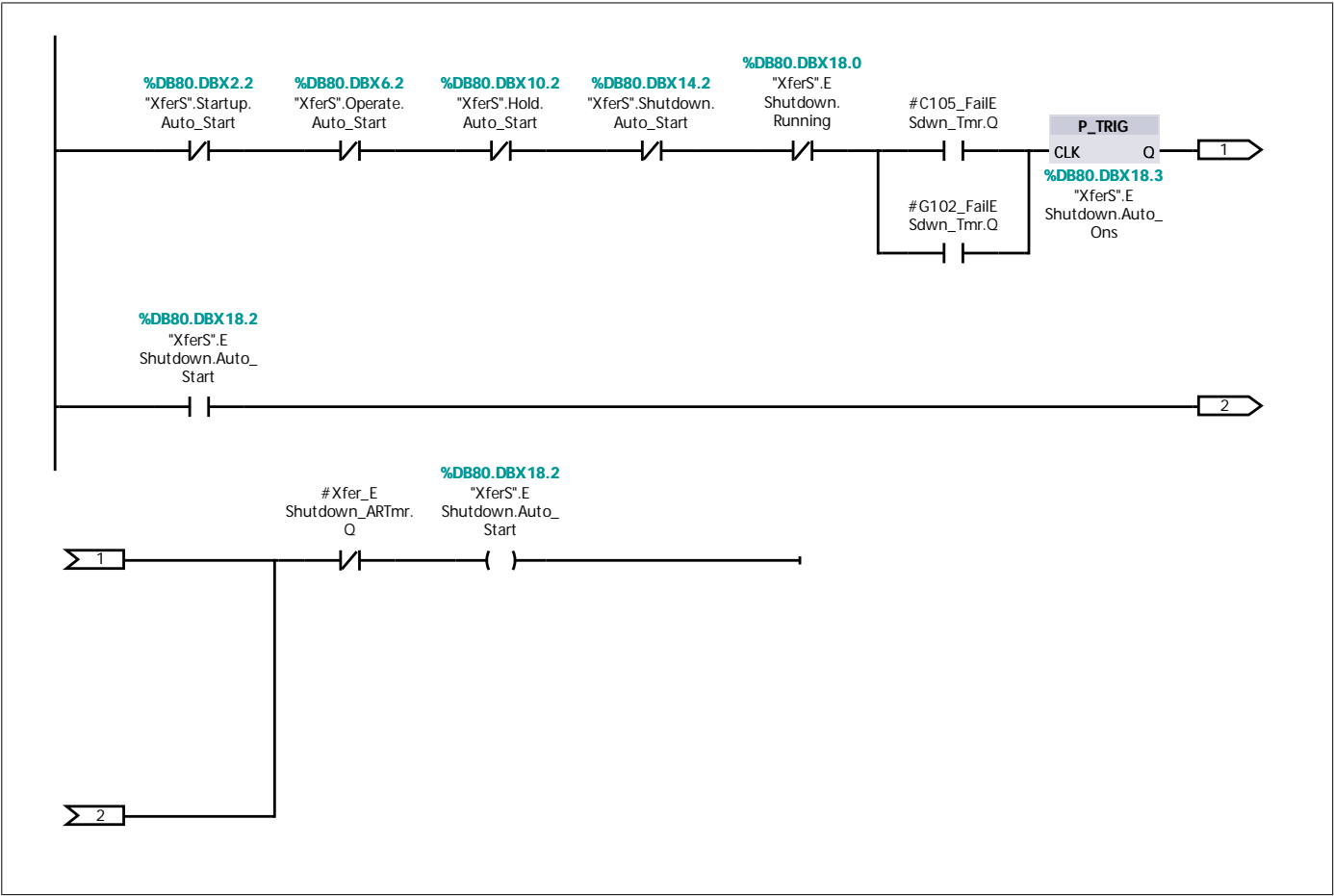
Network 25: E-Shutdown Sequence (2.1 / 2.1)

1.1 (Page2 - 20)

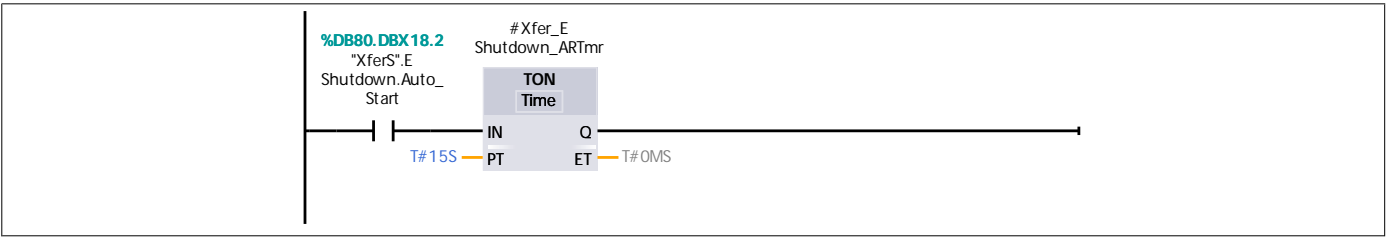


Network 26: Auto start request

Auto-start for E-Shutdown



Network 27: Auto Start Timer



Network 28: E-Shutdown step 1 - Stop airlock and conveyor

%DB80.DBW16

"XferS".E
Shutdown.Step_
Num

==
Int

1

MOVE

EN

ENO

2

IN

%DB80.DBW16

"XferS".E
Shutdown.Step_
Num

OUT1

%DB10.DBX2.7

"M".C105.Seq_
Stop

(S)

%DB10.DBX0.6

"M".EX100.Seq_
Stop

(S)

Network 29: E-Shutdown step 2 - Close slide gate

%DB80.DBW16

"XferS".E
Shutdown.Step_
Num

==
Int

2

MOVE

EN

ENO

3

IN

%DB80.DBW16

"XferS".E
Shutdown.Step_
Num

OUT1

%DB10.DBX5.0

"M".G102.Seq_
Close

(S)

Network 30: E-Shutdown step 3 - Spare

%DB80.DBW16

"XferS".E
Shutdown.Step_
Num

==
Int

3

MOVE

EN

ENO

4

IN

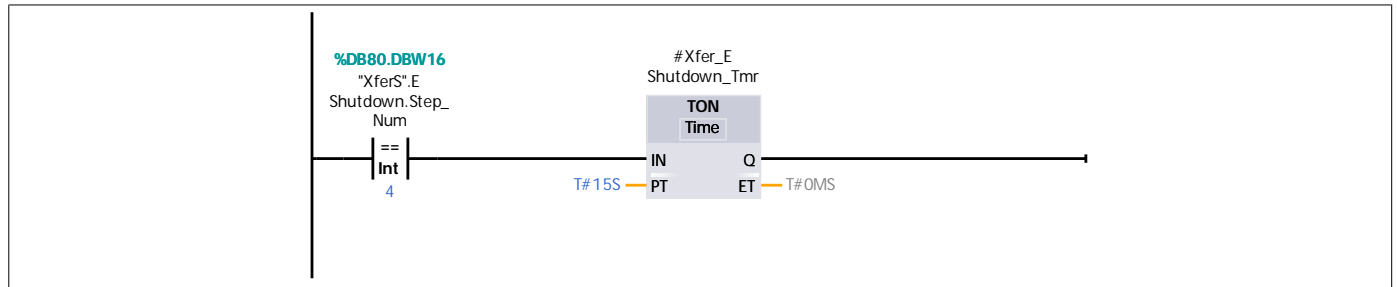
%DB80.DBW16

"XferS".E
Shutdown.Step_
Num

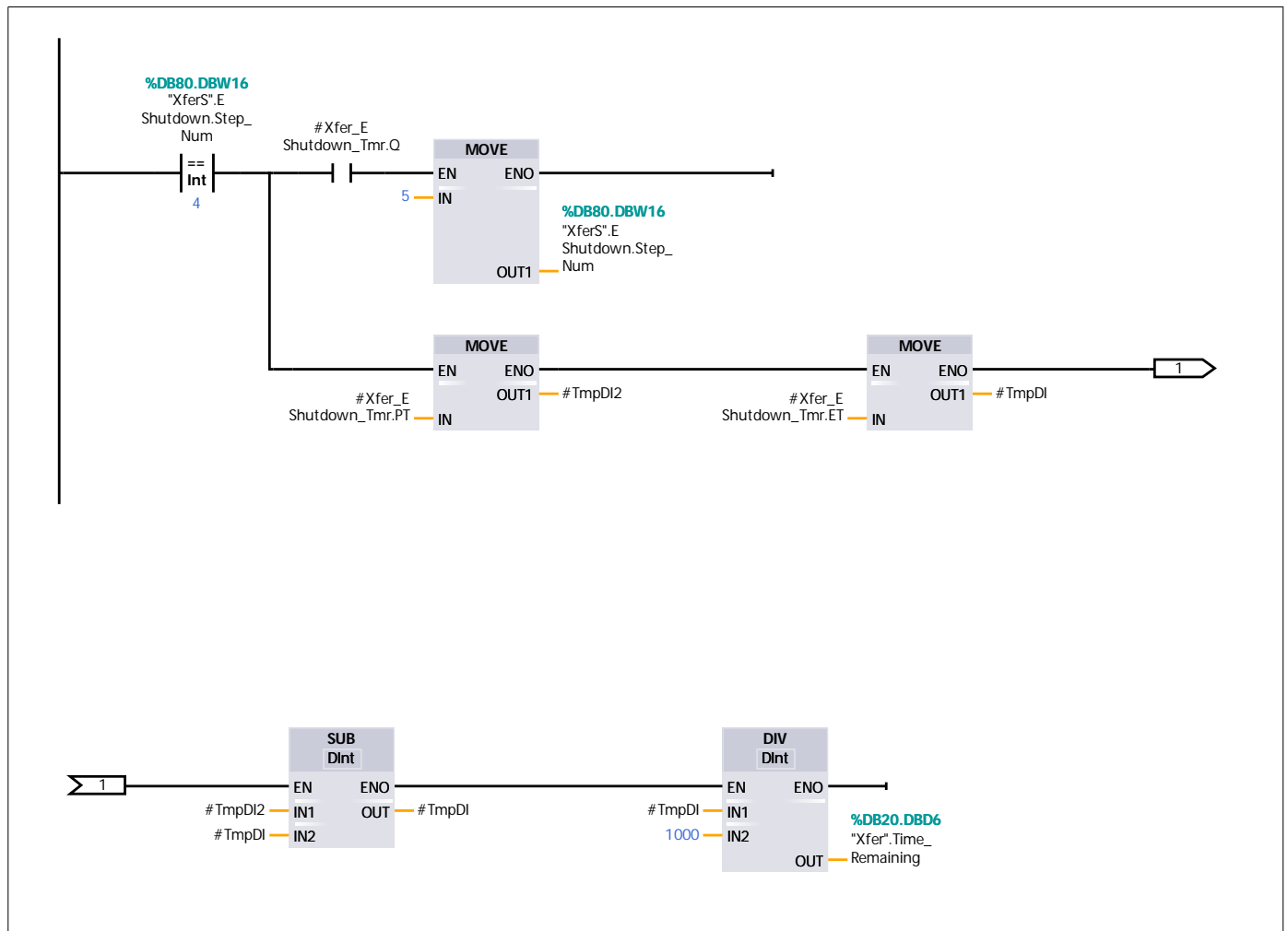
OUT1

Network 31: E-Shutdown step 4 - Wait 15 seconds

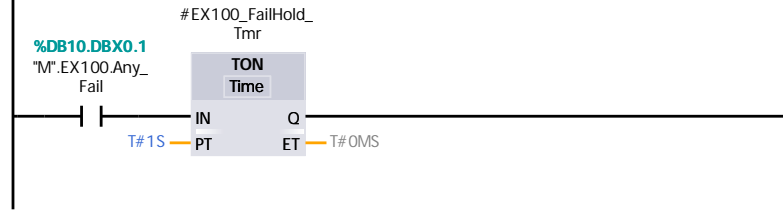
for equipment to shut down before allowing maintenance mode.



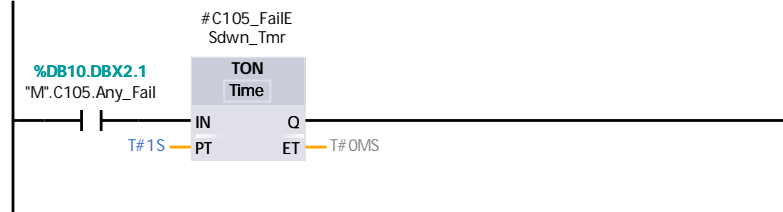
Network 32: Step transition bits



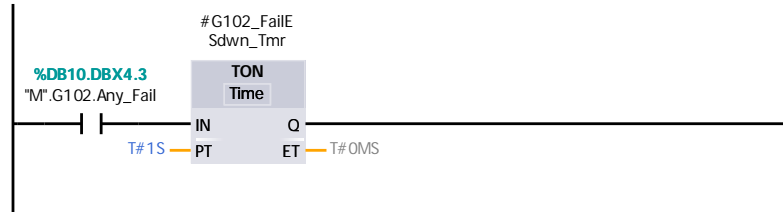
Network 33: EX100 Fail to Hold



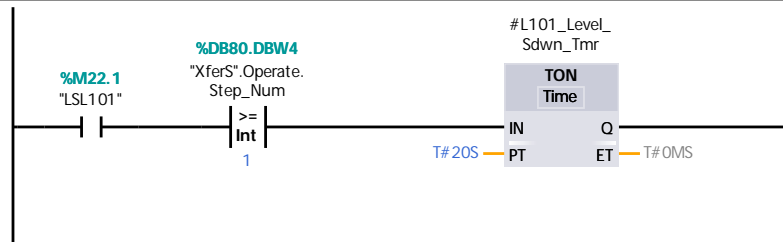
Network 34: C105 Fail to E-Shutdown



Network 35: G102 Fail to E-Shutdown

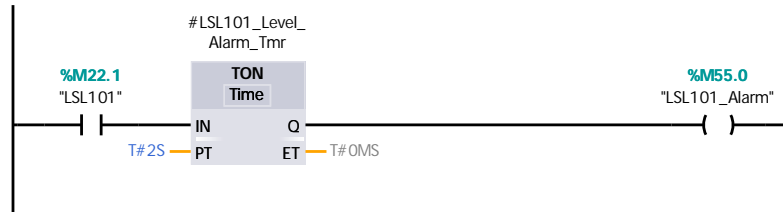


Network 36: Low bin for 20 secs while transfer in progress goes to Shutdown



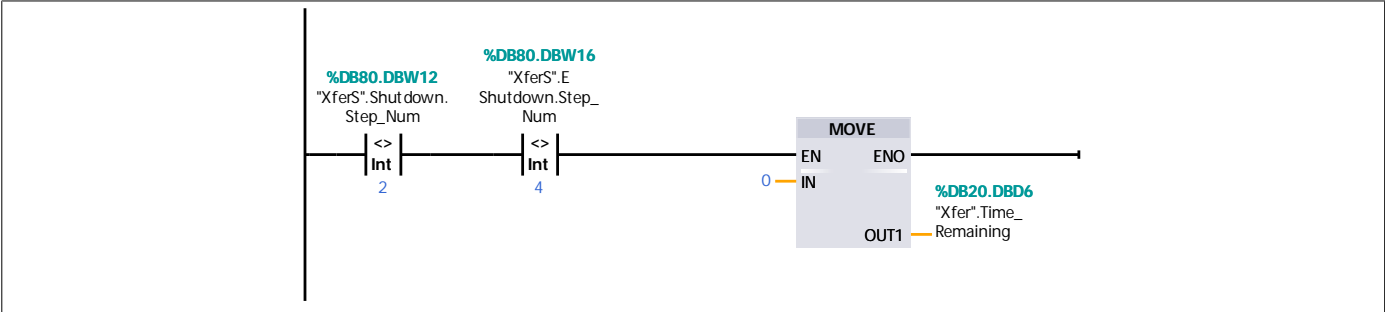
Network 37: Bin Low Level Alarm

Low bin for 2 seconds generates alarm.



Network 38: Clear time remaining to OI

If not in conveyor cleaning step or next-to-last step in E-shutdown



Network 39:

