

RSLogix Micro Project Report



Program File List

Name	Number	Type	Rungs	Debug	Bytes
[SYSTEM]	0	SYS	0	No	0
	1	SYS	0	No	0
MAIN	2	LADDER	3	No	121
PF4M RESTR	250	LADDER	20	No	2223
PF4M BCKUP	251	LADDER	9	No	521
PB&R LCD	252	LADDER	9	No	1617
PB&R RESTR	253	LADDER	8	No	556
PB&R BCKUP	254	LADDER	7	No	313
PB&R MAIN	255	LADDER	4	No	111

Monday, August 09, 2010 - 13:10:52

If the Read from Restore Node# message succeeded, then configure the Restore Node# for the destination address in the MSG instructions. If the Read from Restore Node# message failed, but the Read from Default Node# message succeeded, then configure 100 for the destination address in the MSG instructions.

0000

PF4M Restore MSG #1

MG252:5

EN

Modbus MSG - Read
from Restore Node#

MG254:1

DN

PF4M Restore MSG #1

MOV

Move
Source N255:255
0<
Dest MG252:5.NOD
100<

PF4M Restore MSG #2

MOV

Move
Source N255:255
0<
Dest MG252:6.NOD
100<

PF4M Restore MSG #3

MOV

Move
Source N255:255
0<
Dest MG252:7.NOD
100<

PF4M Restore MSG #4

MOV

Move
Source N255:255
0<
Dest MG252:8.NOD
100<

PF4M Restore MSG #5

MOV

Move
Source N255:255
0<
Dest MG252:9.NOD
100<

PF4M Restore MSG #6

MOV

Move
Source N255:255
0<
Dest MG252:10.NOD
100<

PF4M Restore MSG #7

MOV
Move
Source N255:255
0<
Dest MG252:11.NOD
100<

PF4M Restore MSG #8

MOV
Move
Source N255:255
0<
Dest MG252:12.NOD
100<

PF4M Restore MSG #9

MOV
Move
Source N255:255
0<
Dest MG252:13.NOD
100<

PF4M Restore MSG #10

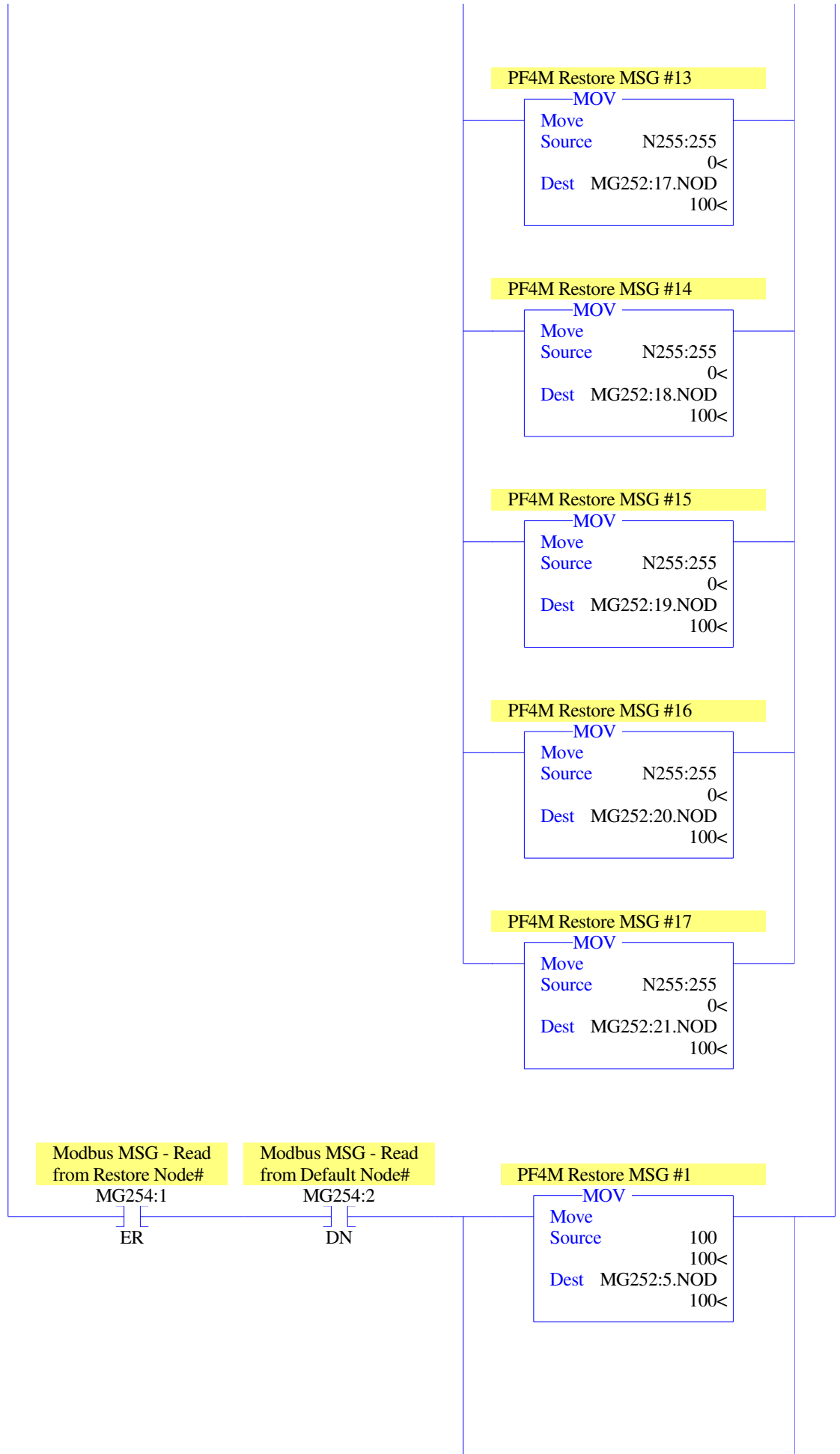
MOV
Move
Source N255:255
0<
Dest MG252:14.NOD
100<

PF4M Restore MSG #11

MOV
Move
Source N255:255
0<
Dest MG252:15.NOD
100<

PF4M Restore MSG #12

MOV
Move
Source N255:255
0<
Dest MG252:16.NOD
100<



PF4M Restore MSG #2

MOV

Move	
Source	100
	100<
Dest	MG252:6.NOD
	100<

PF4M Restore MSG #3

MOV

Move	
Source	100
	100<
Dest	MG252:7.NOD
	100<

PF4M Restore MSG #4

MOV

Move	
Source	100
	100<
Dest	MG252:8.NOD
	100<

PF4M Restore MSG #5

MOV

Move	
Source	100
	100<
Dest	MG252:9.NOD
	100<

PF4M Restore MSG #6

MOV

Move	
Source	100
	100<
Dest	MG252:10.NOD
	100<

PF4M Restore MSG #7

MOV

Move	
Source	100
	100<
Dest	MG252:11.NOD
	100<

PF4M Restore MSG #8

MOV

Move	
Source	100
	100<
Dest	MG252:12.NOD
	100<

PF4M Restore MSG #9

MOV

Move	
Source	100
	100<
Dest	MG252:13.NOD
	100<

PF4M Restore MSG #10

MOV

Move	
Source	100
	100<
Dest	MG252:14.NOD
	100<

PF4M Restore MSG #11

MOV

Move	
Source	100
	100<
Dest	MG252:15.NOD
	100<

PF4M Restore MSG #12

MOV

Move	
Source	100
	100<
Dest	MG252:16.NOD
	100<

PF4M Restore MSG #13

MOV

Move	
Source	100
	100<
Dest	MG252:17.NOD
	100<

PF4M Restore MSG #14

MOV
 Move
 Source 100
 100<
 Dest MG252:18.NOD
 100<

PF4M Restore MSG #15

MOV
 Move
 Source 100
 100<
 Dest MG252:19.NOD
 100<

PF4M Restore MSG #16

MOV
 Move
 Source 100
 100<
 Dest MG252:20.NOD
 100<

PF4M Restore MSG #17

MOV
 Move
 Source 100
 100<
 Dest MG252:21.NOD
 100<

This is the PowerFlex 4M Drive Parameter Restore subroutine.
 This message writes PF4M parameters P101 to P112.

PF4M Restore MSG #1

MSG
 Read/Write Message
 MSG File MG252:5
 Setup Screen <
 EN
 DN
 ER

This message writes PF4M parameters t201 to t202.

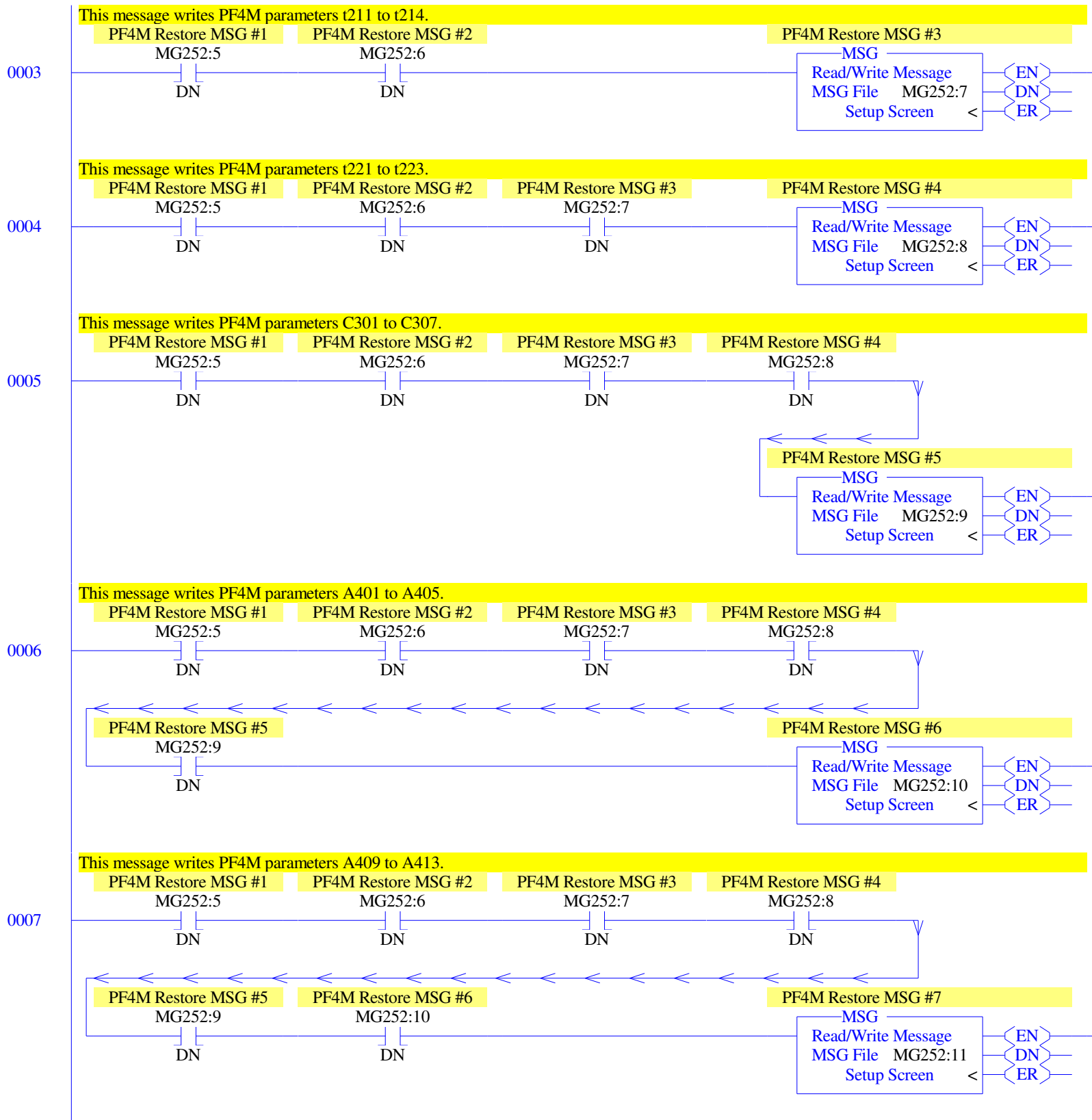
PF4M Restore MSG #1

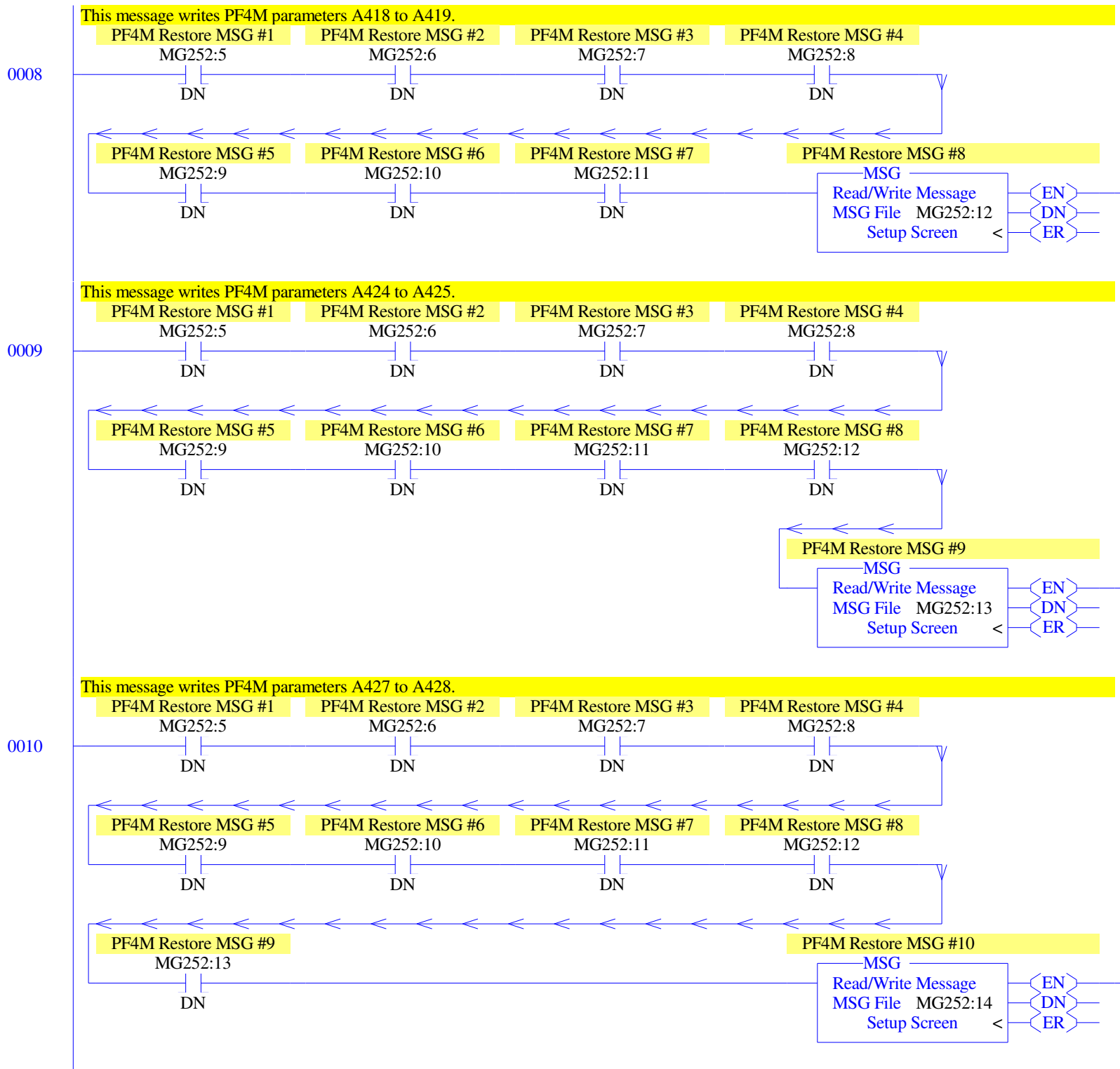
MG252:5

DN

PF4M Restore MSG #2

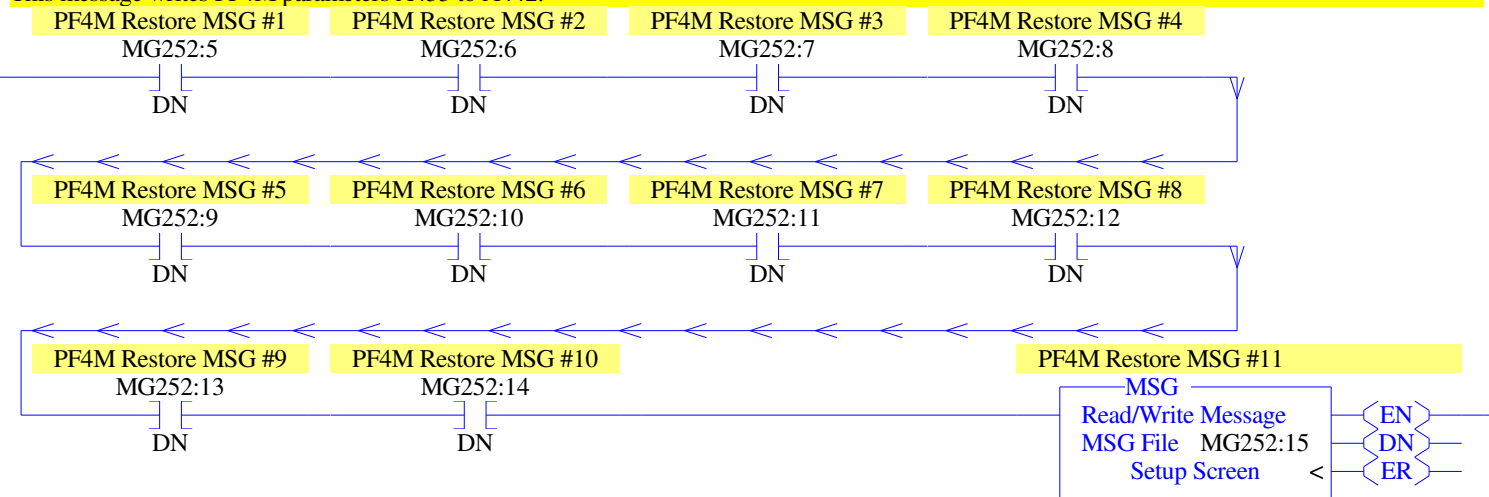
MSG
 Read/Write Message
 MSG File MG252:6
 Setup Screen <
 EN
 DN
 ER





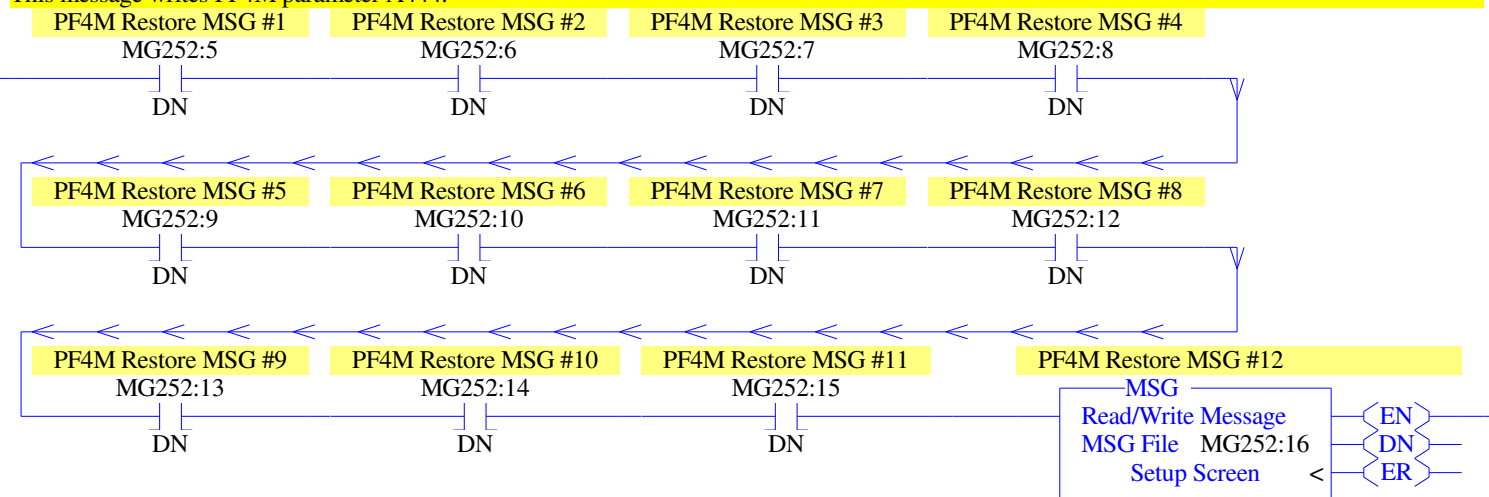
0011

This message writes PF4M parameters A433 to A442.



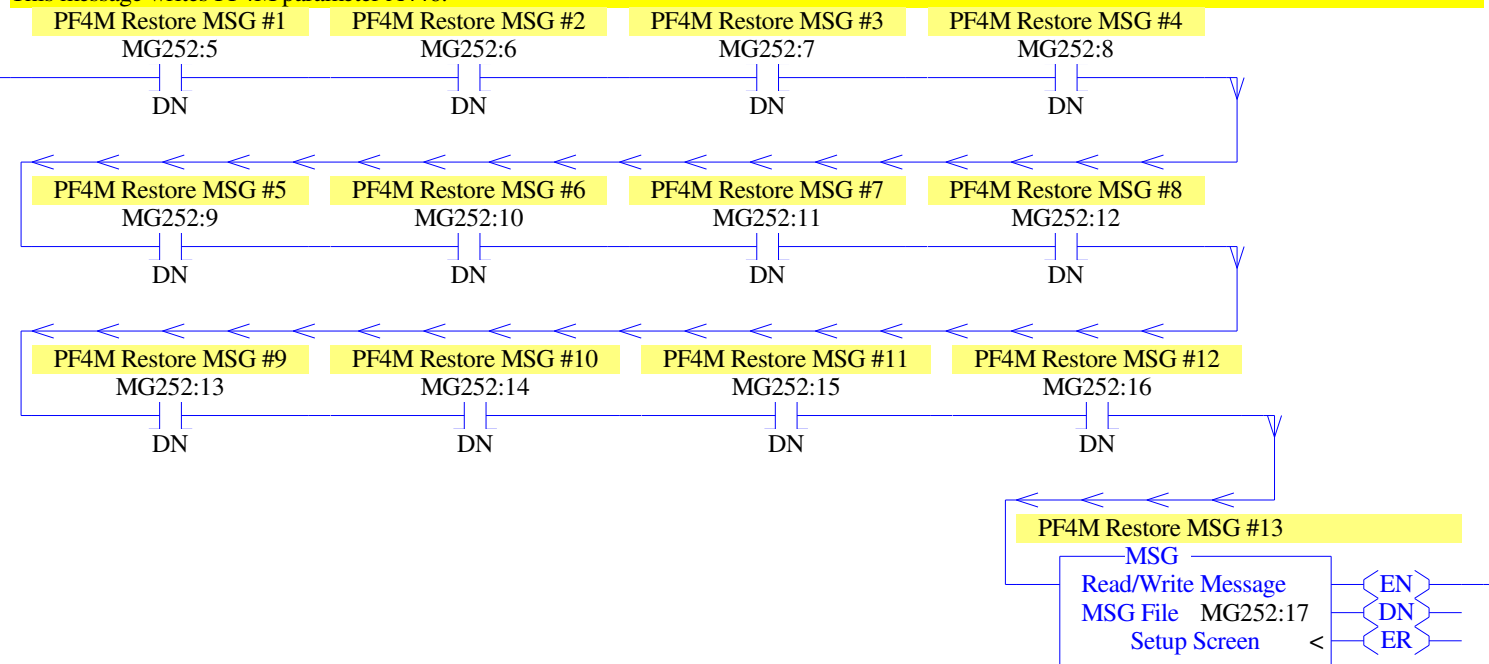
0012

This message writes PF4M parameter A444.



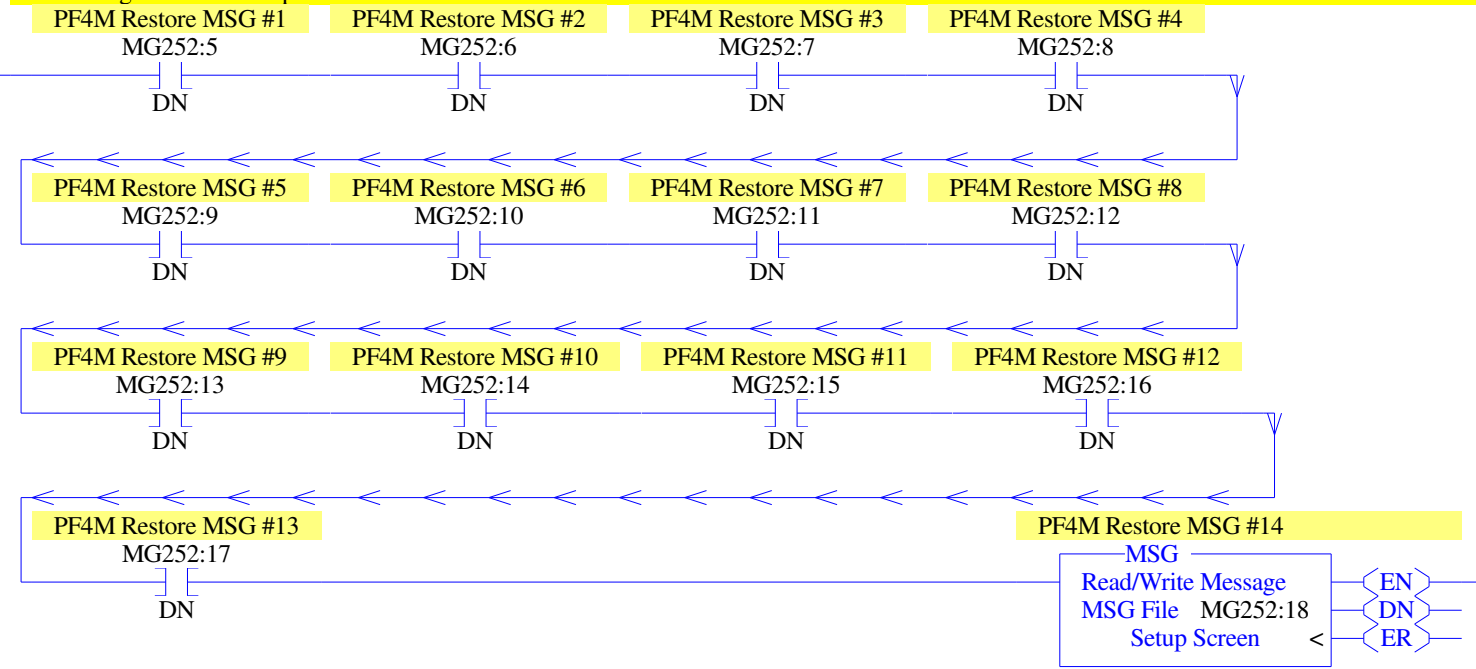
0013

This message writes PF4M parameter A446.



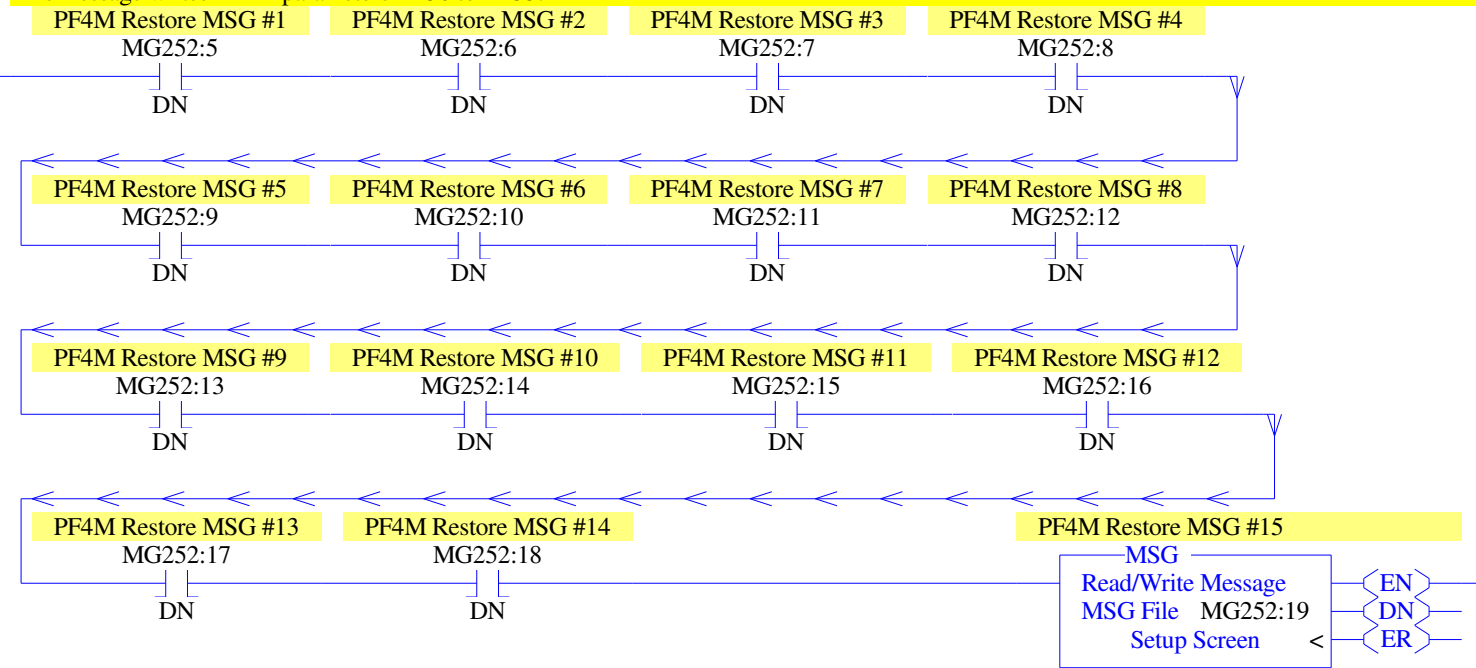
0014

This message writes PF4M parameter A448.

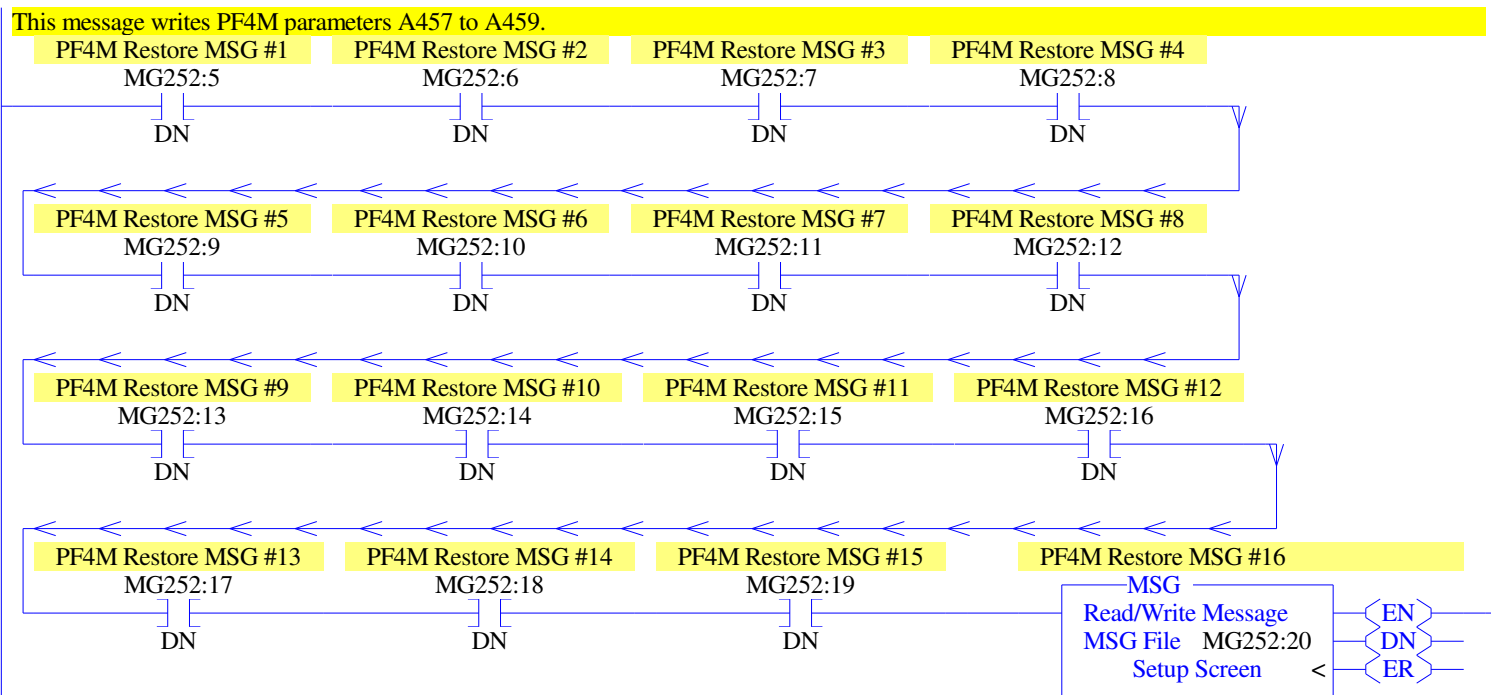


0015

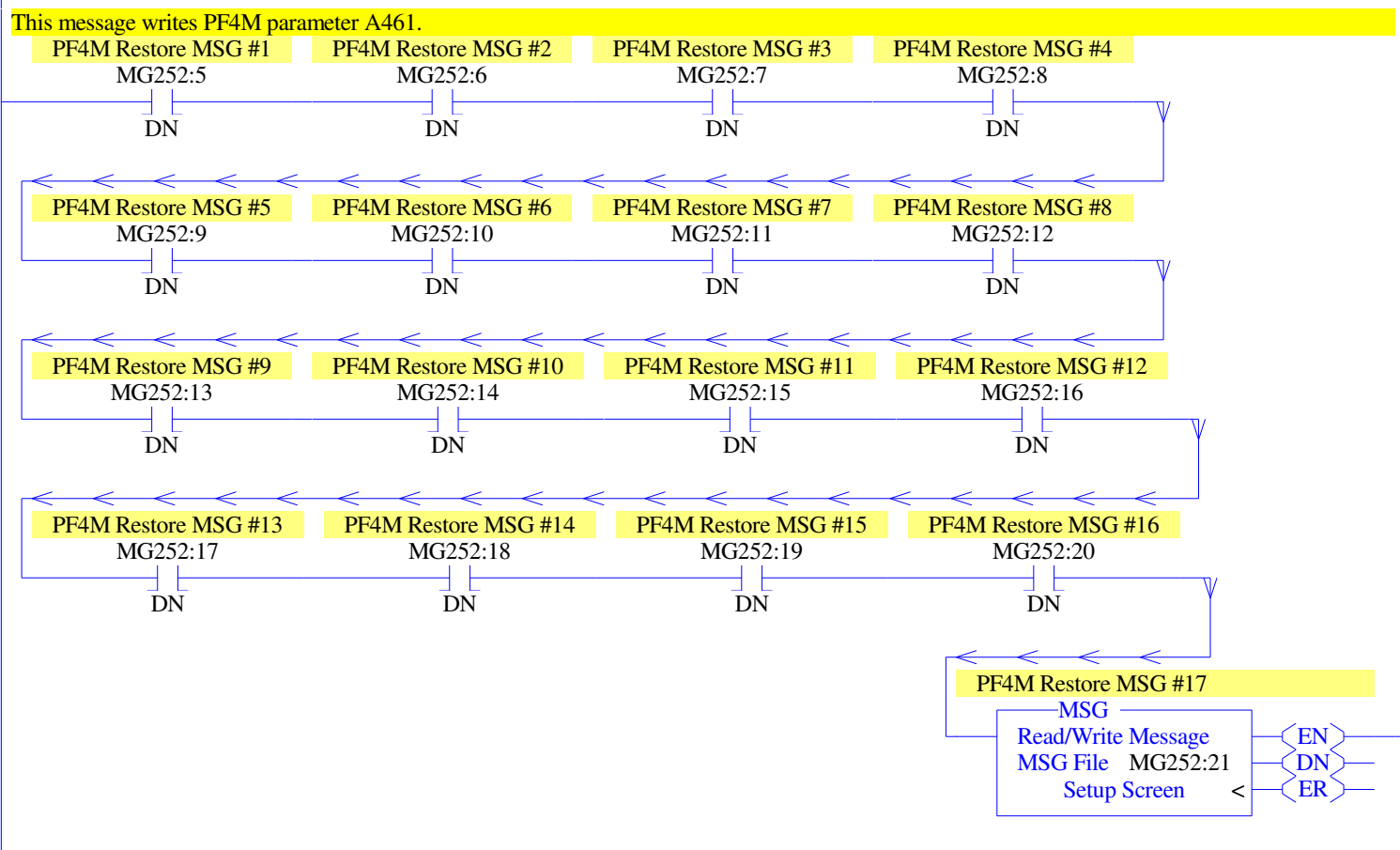
This message writes PF4M parameters A450 to A453.



0016

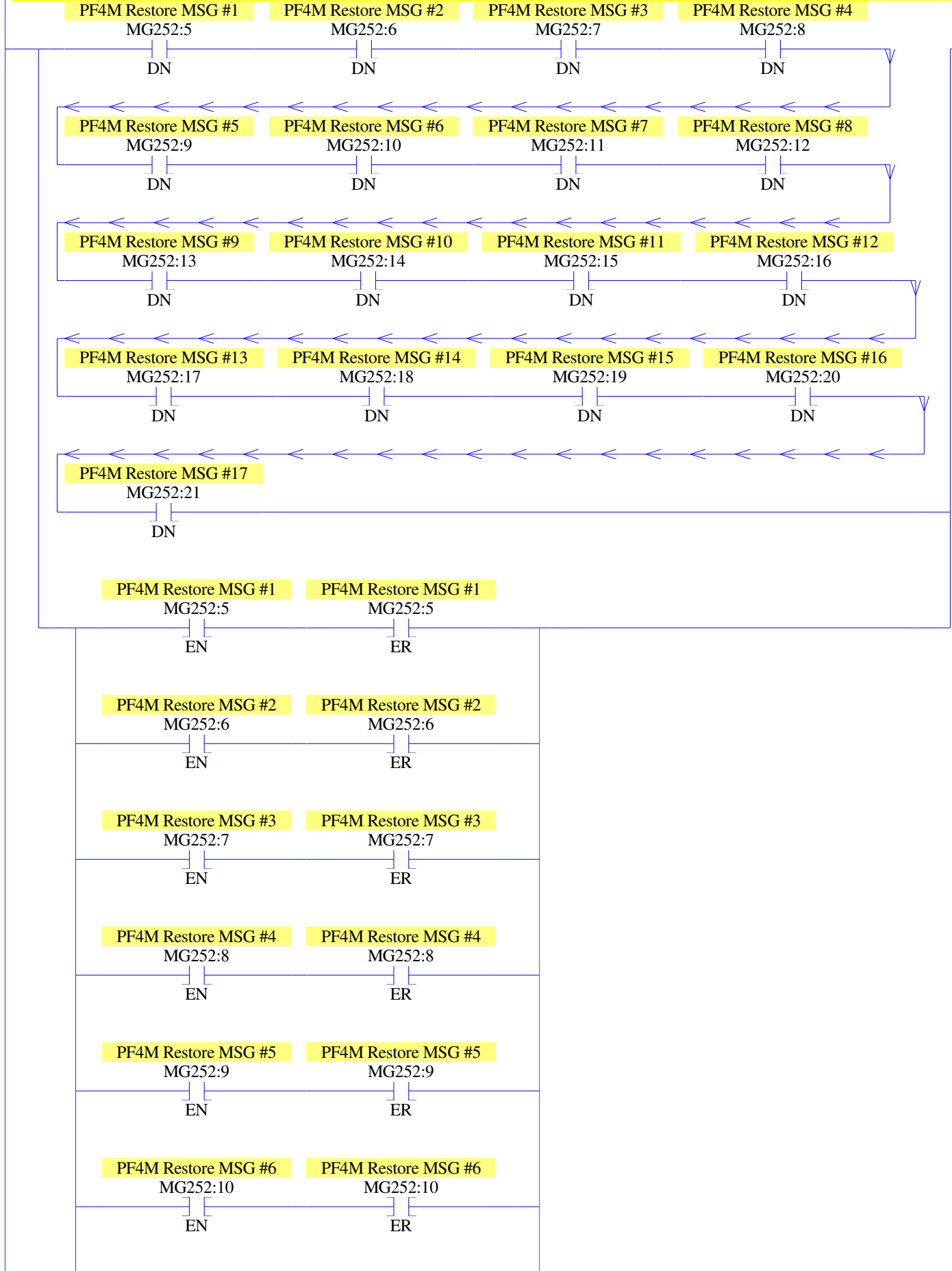


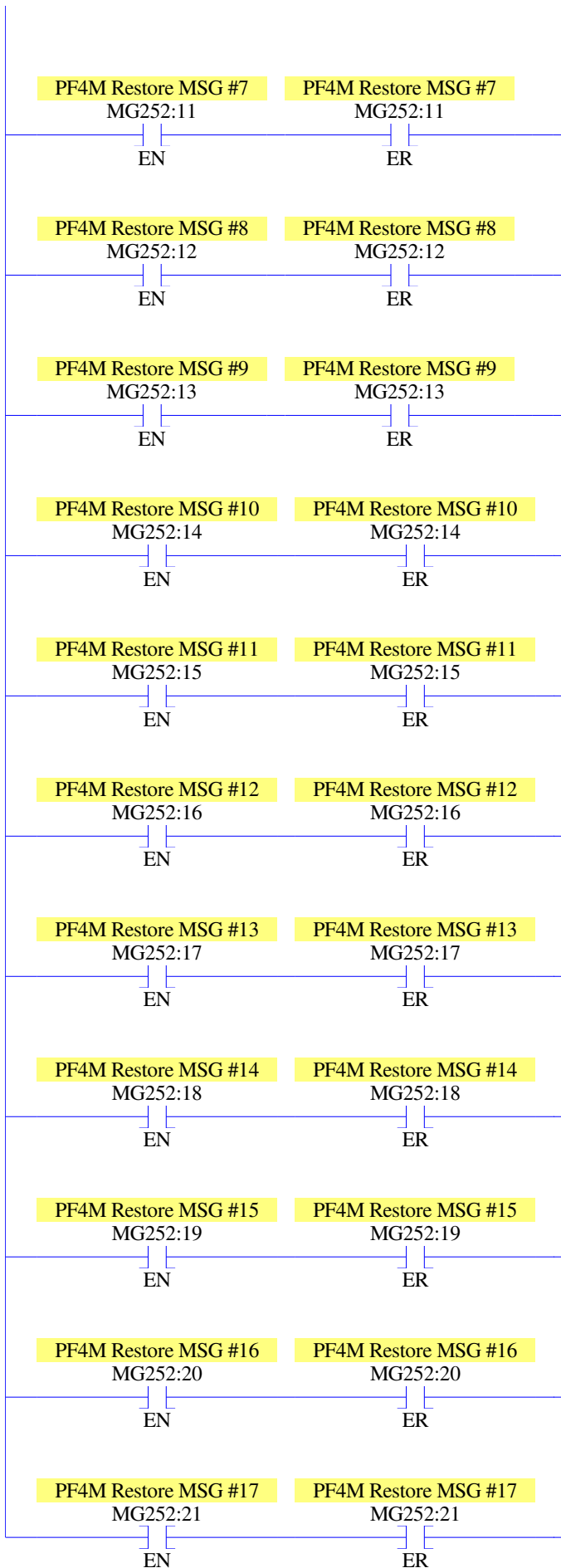
0017

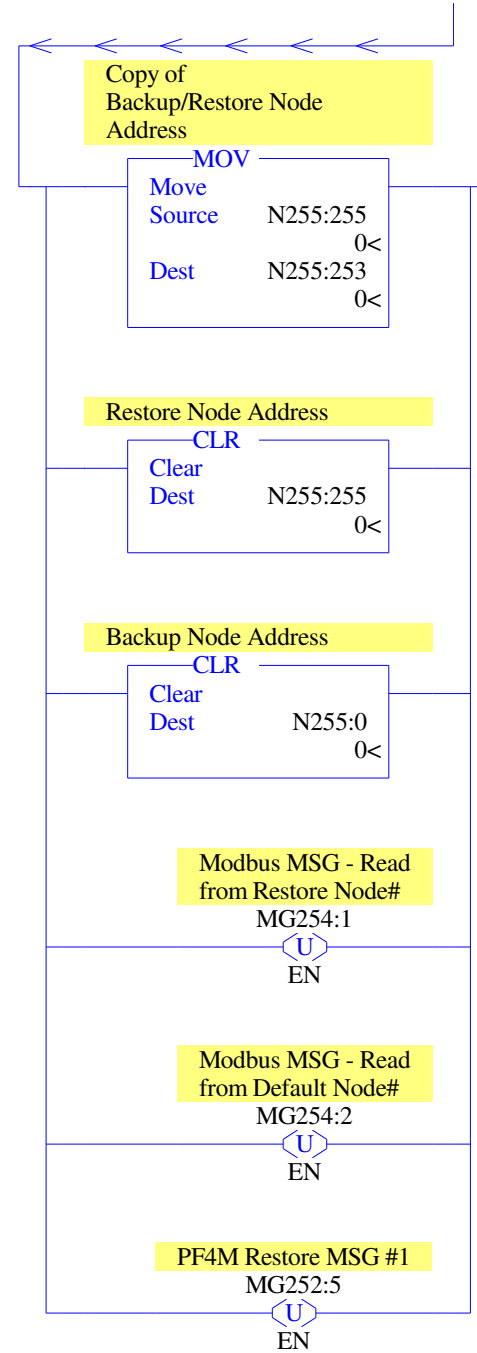


When either all of the write parameter messages are successful or when any of them fails, this rung copies the Restore node # into N255:253, so that it can be displayed as part of the LCD Backup successful or failed screen, clears both the Restore and Backup node addresses, and resets both the initial Restore MSG instruction enable bit, as well as the first PF4M Restore MSG instruction enable bit.

0018

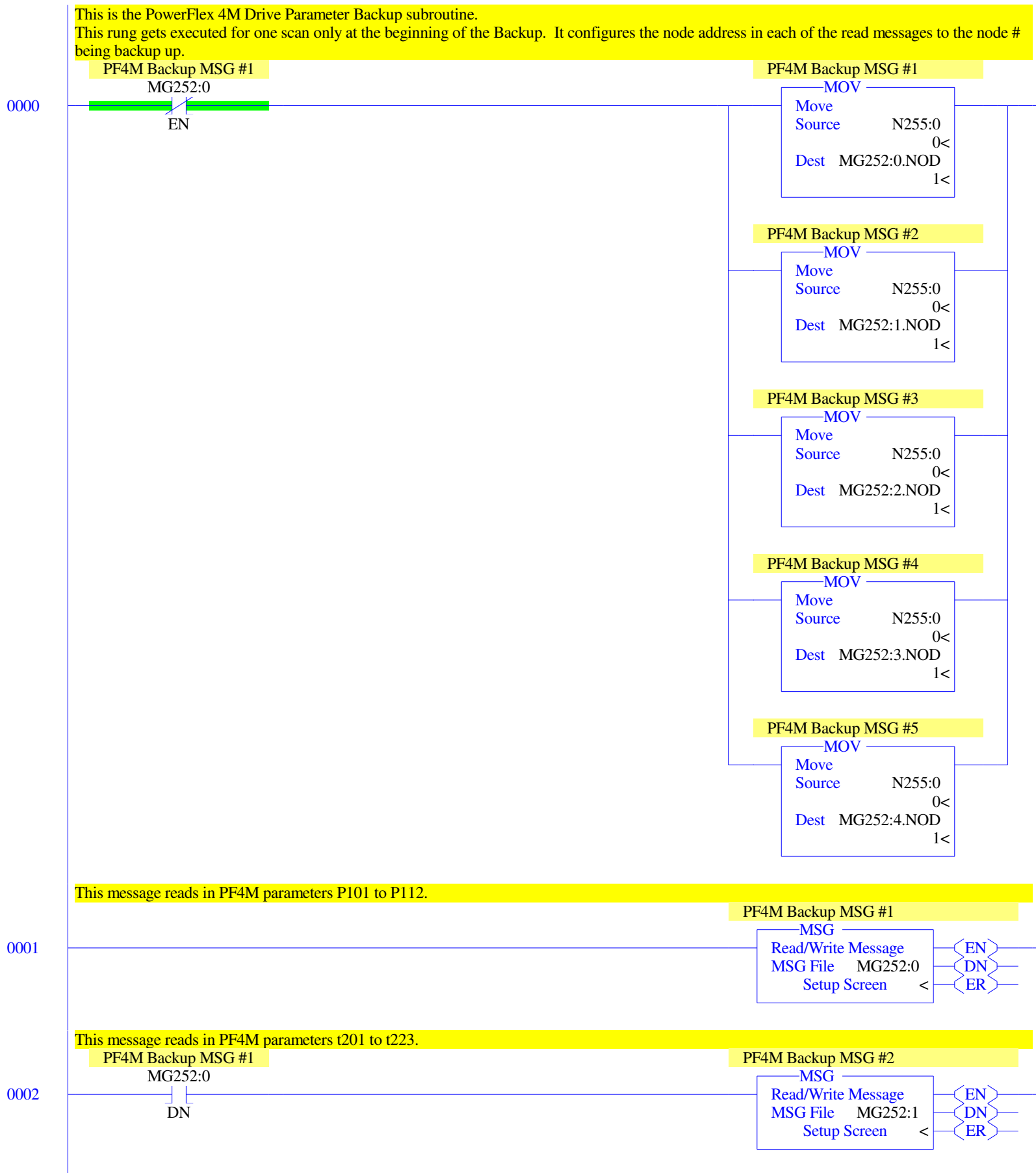


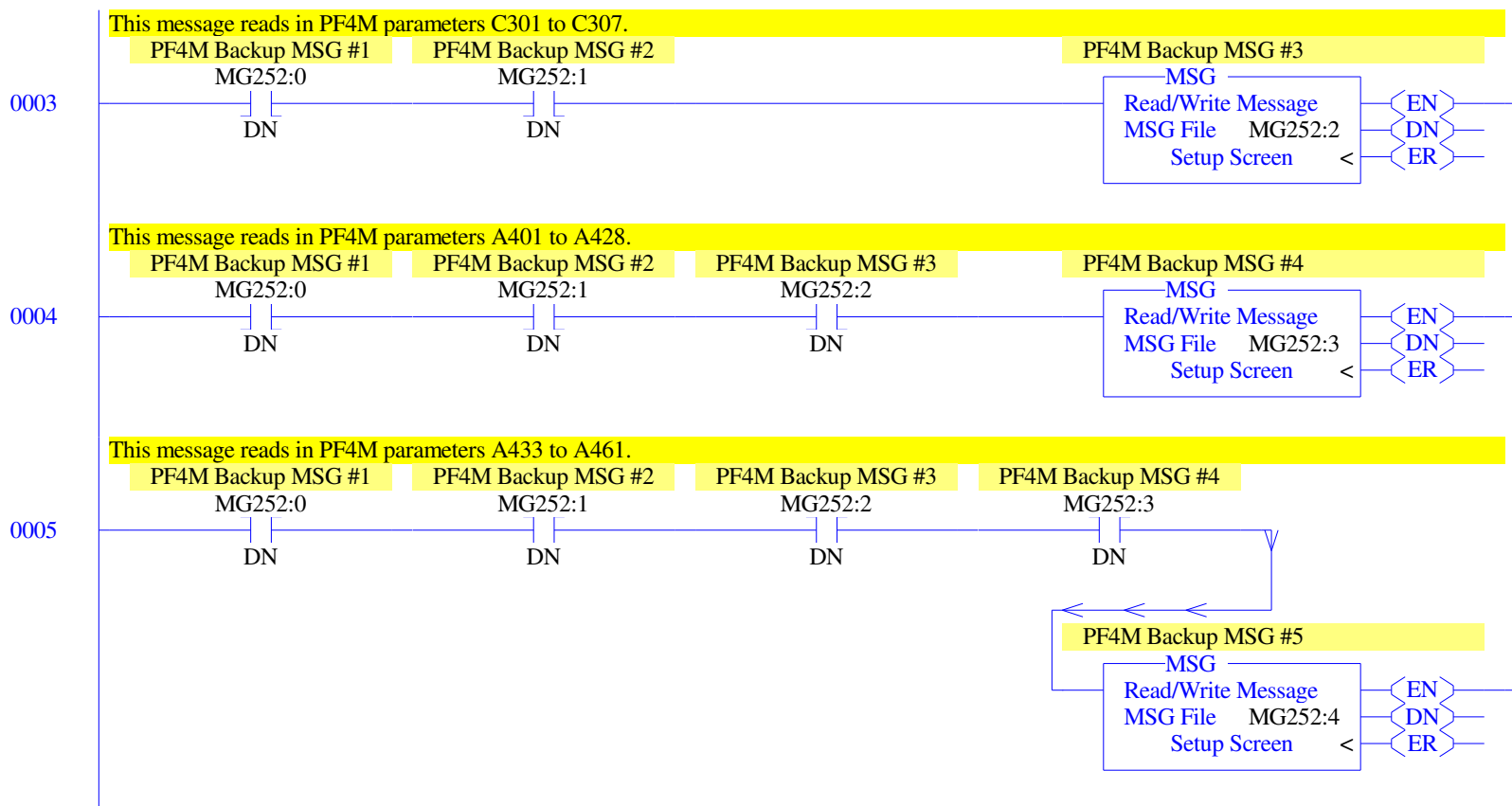




0019

END





If all of the parameter reads are successful, this rung stores the PF4M drive parameters into Recipe Number x, where x equals the Node # being backed up (stored in N255:0). Each Recipe File Number holds 32 words of Recipe Number x:

Recipe File Number 0: N255:0-31

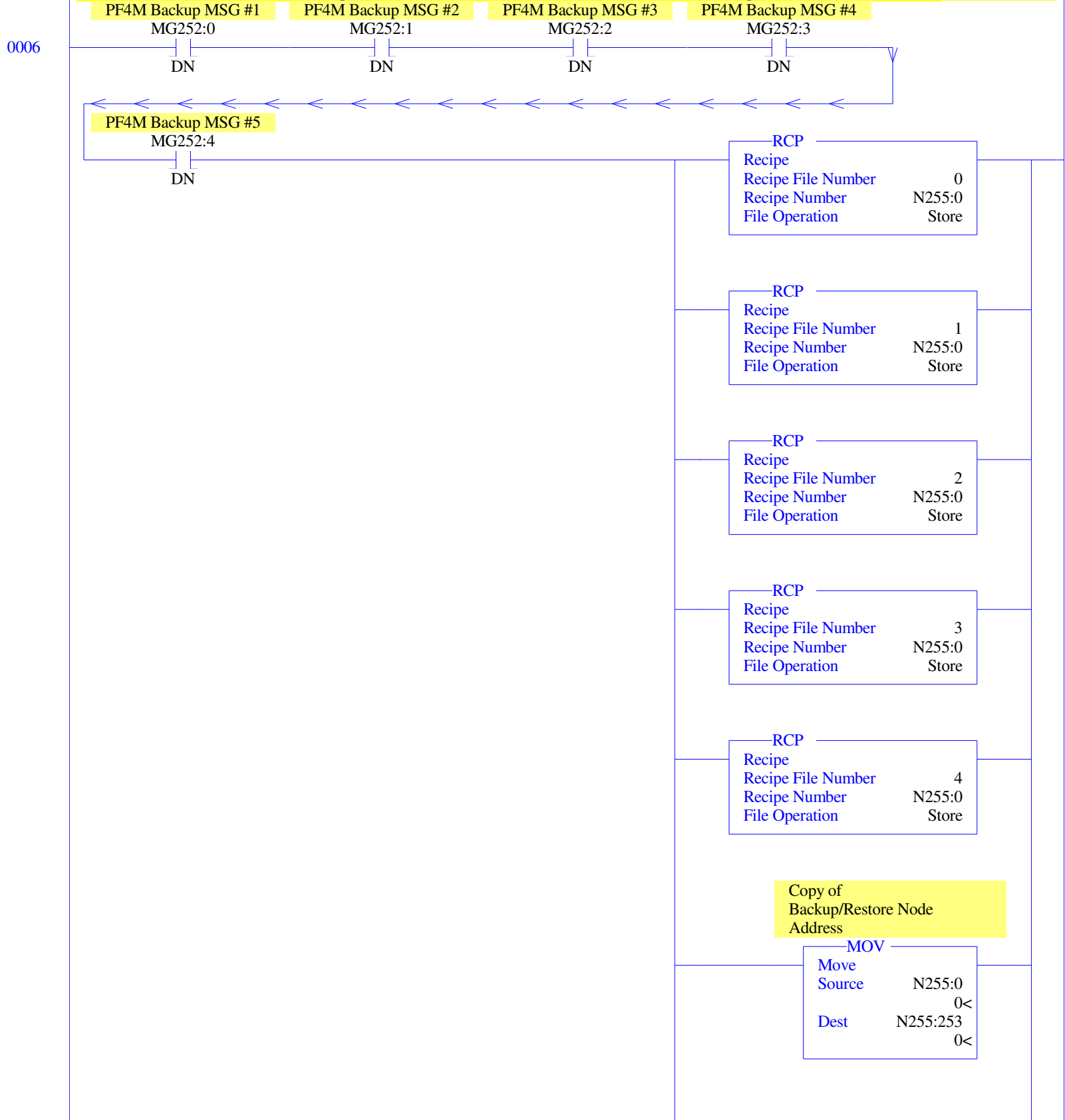
Recipe File Number 1: N255:32-63

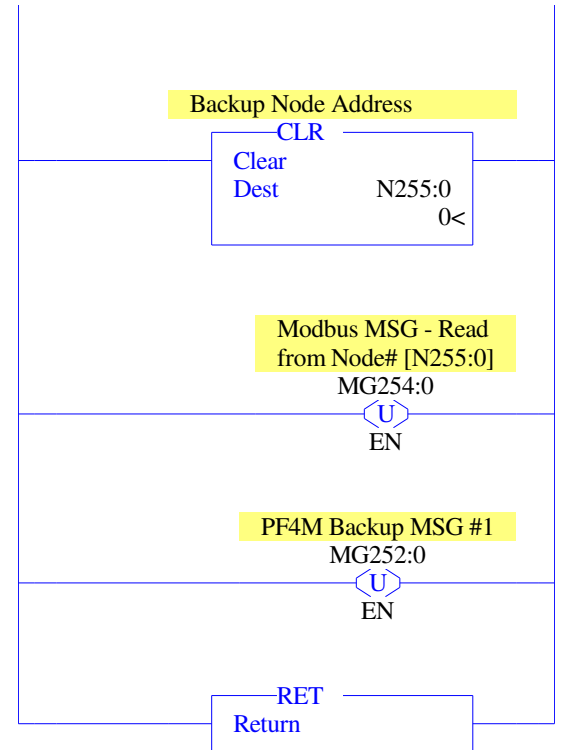
Recipe File Number 2: N255:64-95

Recipe File Number 3: N255:96-127

Recipe File Number 4: N255:128-159

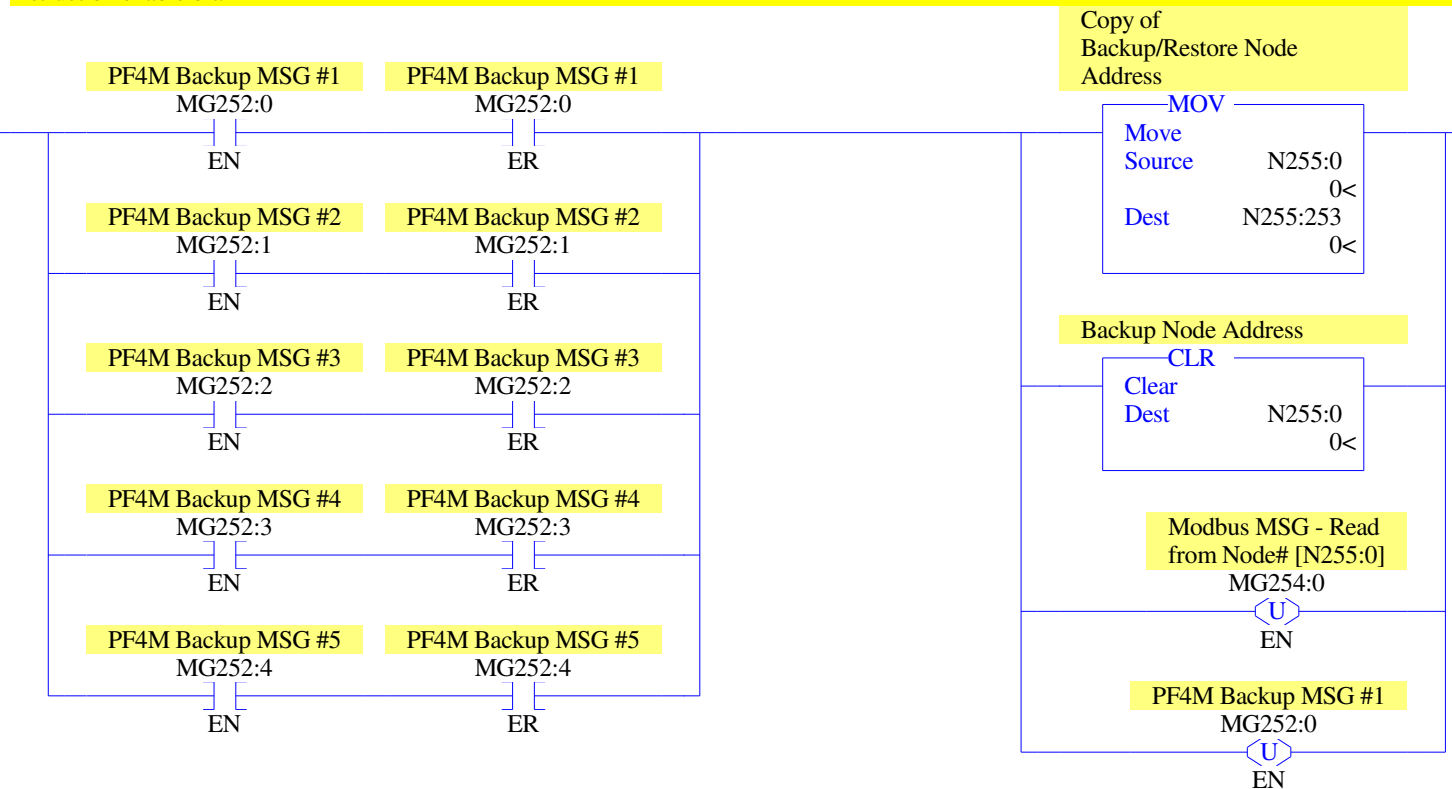
Then it copies the Backup node # into N255:253, so that it can be displayed as part of the LCD Backup successful screen, clears the Backup node address and resets both the initial Backup MSG instruction enable bit, as well as the first PF4M Backup MSG instruction enable bit.





If any of the parameter reads fail, this rung copies the Backup node # into N255:253, so that it can be displayed as part of the LCD Backup error screen, clears the Backup node address and resets both the initial Backup MSG instruction enable bit, as well as the first PF4M Backup MSG instruction enable bit.

0007



0008

END

This is the User Display/LCD subroutine that supports initiating the PowerFlex 4-Class Drives Parameter Backup & Restore functionality using the ML1100 LCD and keypad. This subroutine assumes that no other subroutines are attempting to use the User Display/LCD - therefore, search and verify that no other LCD instructions are found in the existing ladder logic before copying this subroutine into your controller. This rung ensures that all of the control bits and words used by this subroutine are reset at every Program to Run transition.

0000

User Display/LCD ESC
Key Indicator

LCD:0

ESC

First Pass

S:1

15

User Display/LCD OK
Key Indicator

LCD:0

OK

User Display/LCD ESC
Key Indicator

LCD:0

ESC

Copy of
Backup/Restore Node
Address

CLR

Clear
Dest

N255:253
0<

LCD Backup/Restore
Control

CLR

Clear
Dest

N255:252
0<

Product Family Code

CLR

Clear
Dest

N255:1
0<

If a value outside the valid range of 0-24 is entered in for the backup node address (N255:0), this rung will clear N255:0.

Backup Node Address

LIM

Limit Test
Low Lim

25
25<

Test N255:0

0<

High Lim

-1
-1<

Backup Node Address

CLR

Clear
Dest

N255:0
0<

0001

If a value outside the valid range of 0-24 is entered in for the restore node address (N255:255), this rung will clear N255:255.

Restore Node Address

LIM

Limit Test
Low Lim

25
25<

Test N255:255

0<

High Lim

-1
-1<

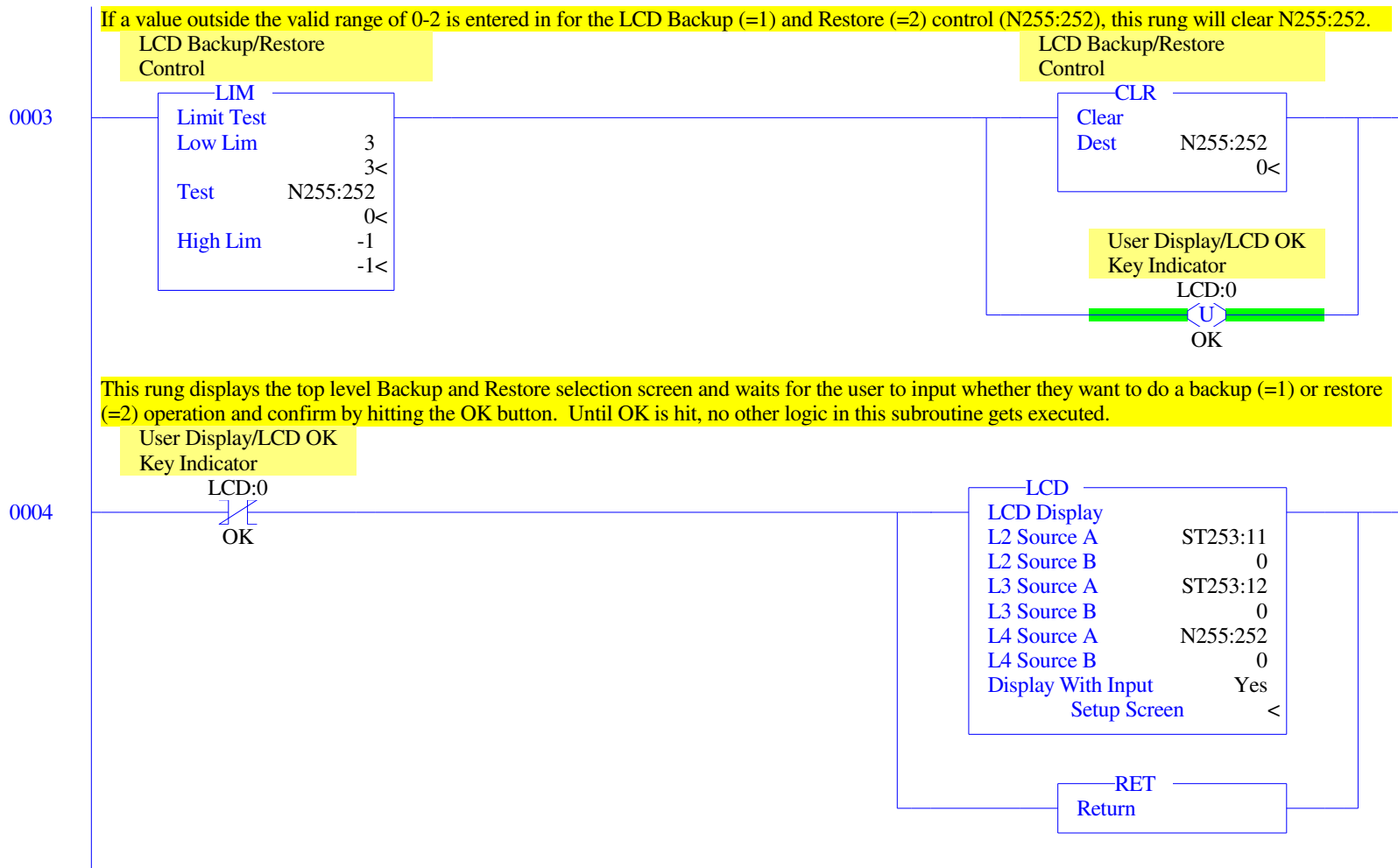
Restore Node Address

CLR

Clear
Dest

N255:255
0<

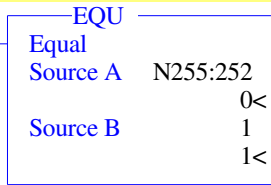
0002



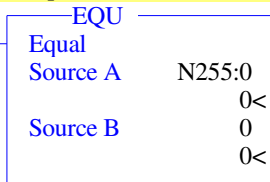
This rung displays one of three device-independent Backup screens:

- 1) Backup node address selection screen.
- 2) Node #[N255:0] didn't respond error screen, where N255:0=1-24.
- 3) Node #[N255:0] responded with an unknown product family code error screen, where N255:0=1-24.

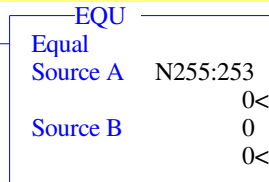
LCD Backup/Restore
Control



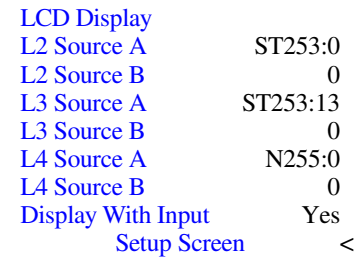
Backup Node Address



Copy of
Backup/Restore Node
Address



LCD



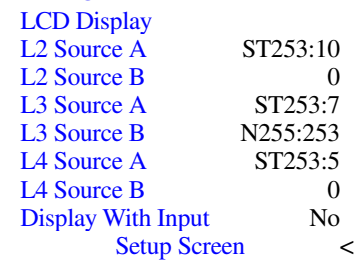
RET
Return

Modbus MSG - Read
from Node# [N255:0]

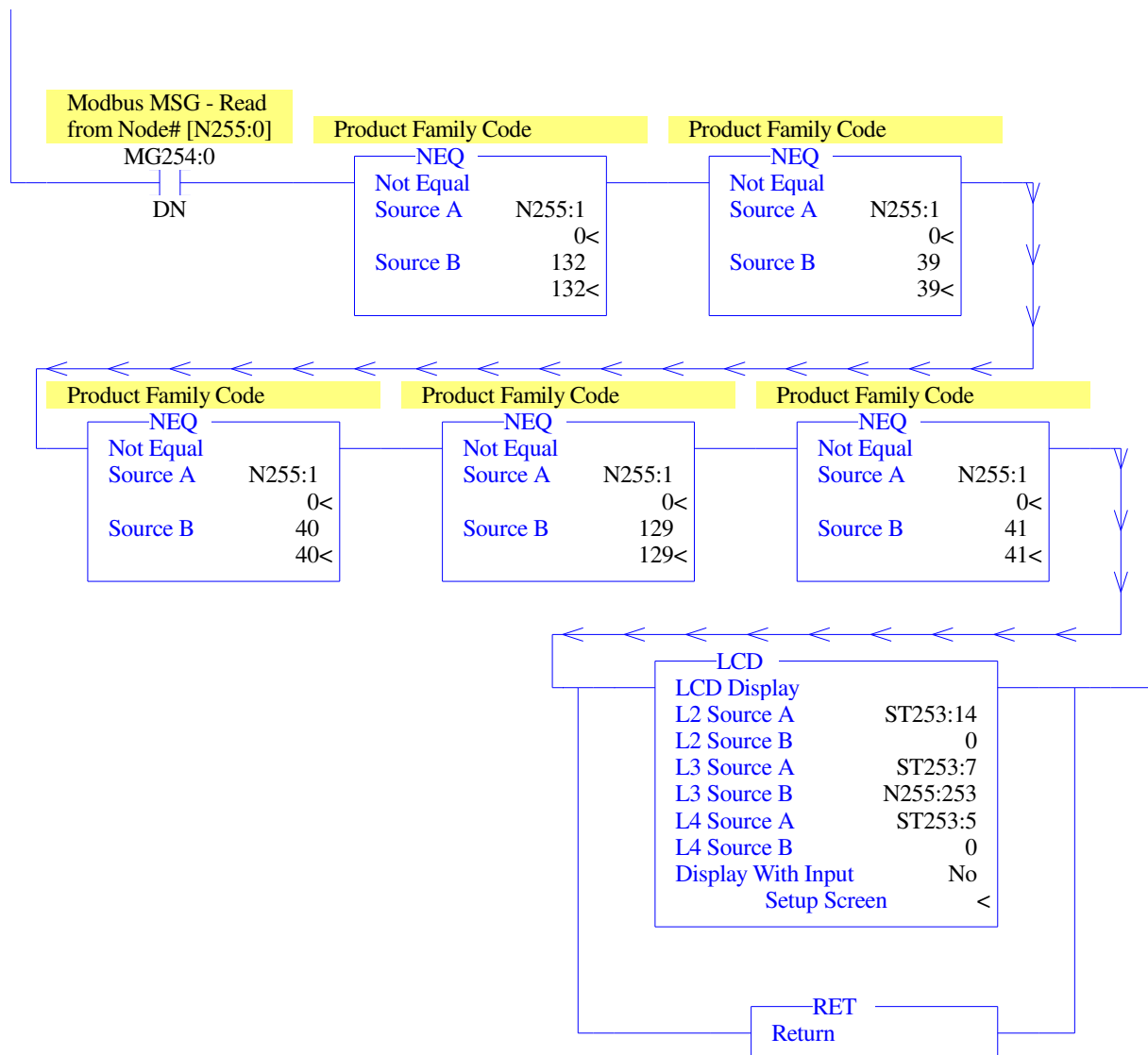
MG254:0

ER

LCD



RET
Return

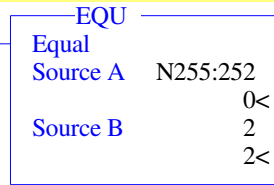


This rung displays one of three Modbus device-independent Restore screens:

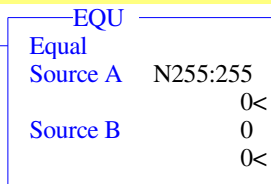
- 1) Restore node address selection screen.
- 2) Neither Restore or Default Modbus address responded error screen.
- 3) Node responded with a Product Family Code that differs from what was backed up error screen.

LCD Backup/Restore
Control

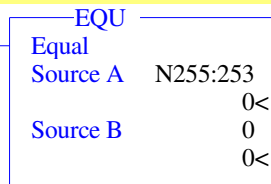
0006



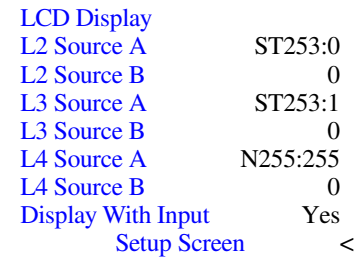
Restore Node Address



Copy of
Backup/Restore Node
Address



LCD



RET
Return

Modbus MSG - Read
from Restore Node#

MG254:1

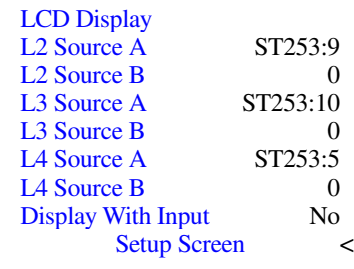
ER

Modbus MSG - Read
from Default Node#

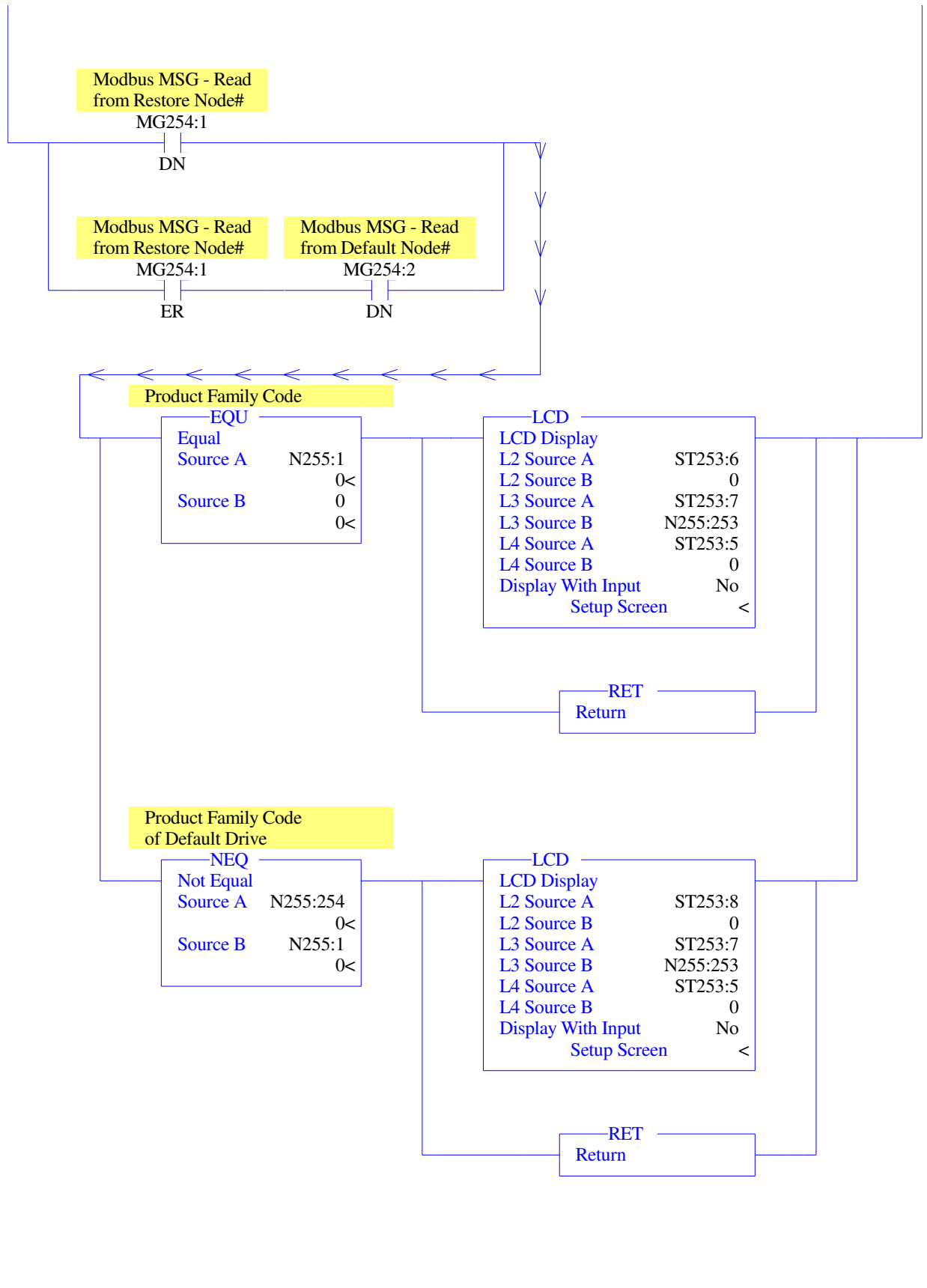
MG254:2

ER

LCD



RET
Return



This rung is specific to PowerFlex 4M drives and may be deleted if this drive type is not installed on the network. It displays the screens indicating whether the attempted backup or restore to a particular PF4M drive was successful or whether it failed.

Product Family Code

0007

EQU
Equal
Source A N255:1
0<
Source B 132
132<

LCD Backup/Restore
Control

EQU
Equal
Source A N255:252
0<
Source B 1
1<

Modbus MSG - Read
from Node# [N255:0]
MG254:0

DN

PF4M Backup MSG #1
MG252:0

DN

PF4M Backup MSG #2
MG252:1

DN

PF4M Backup MSG #3
MG252:2

DN

PF4M Backup MSG #4
MG252:3

DN

PF4M Backup MSG #5
MG252:4

DN

LCD

LCD Display
L2 Source A ST253:16
L2 Source B 0
L3 Source A ST253:7
L3 Source B N255:253
L4 Source A ST253:5
L4 Source B 0
Display With Input No
Setup Screen <

RET

Return

PF4M Backup MSG #1
MG252:0

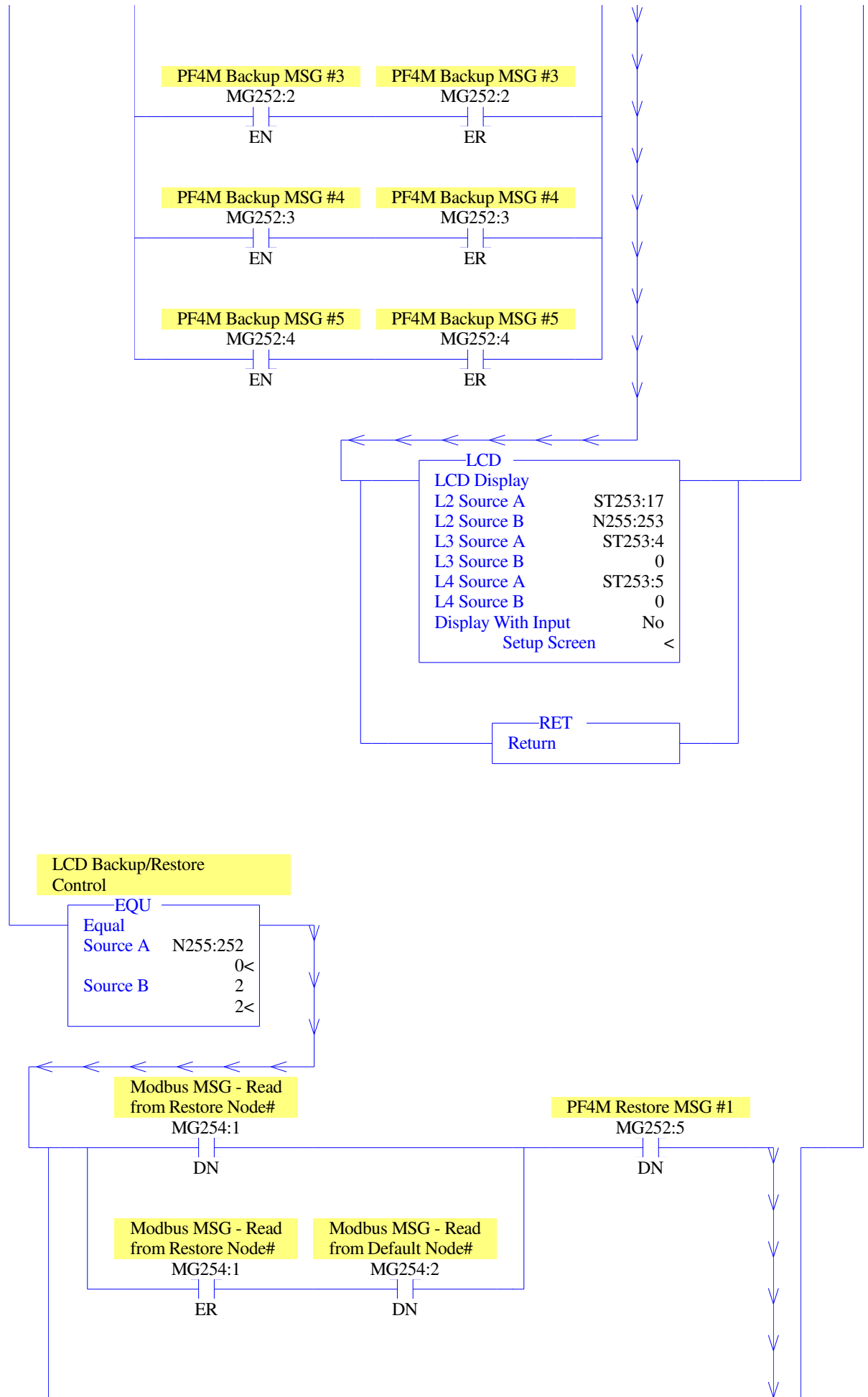
ER

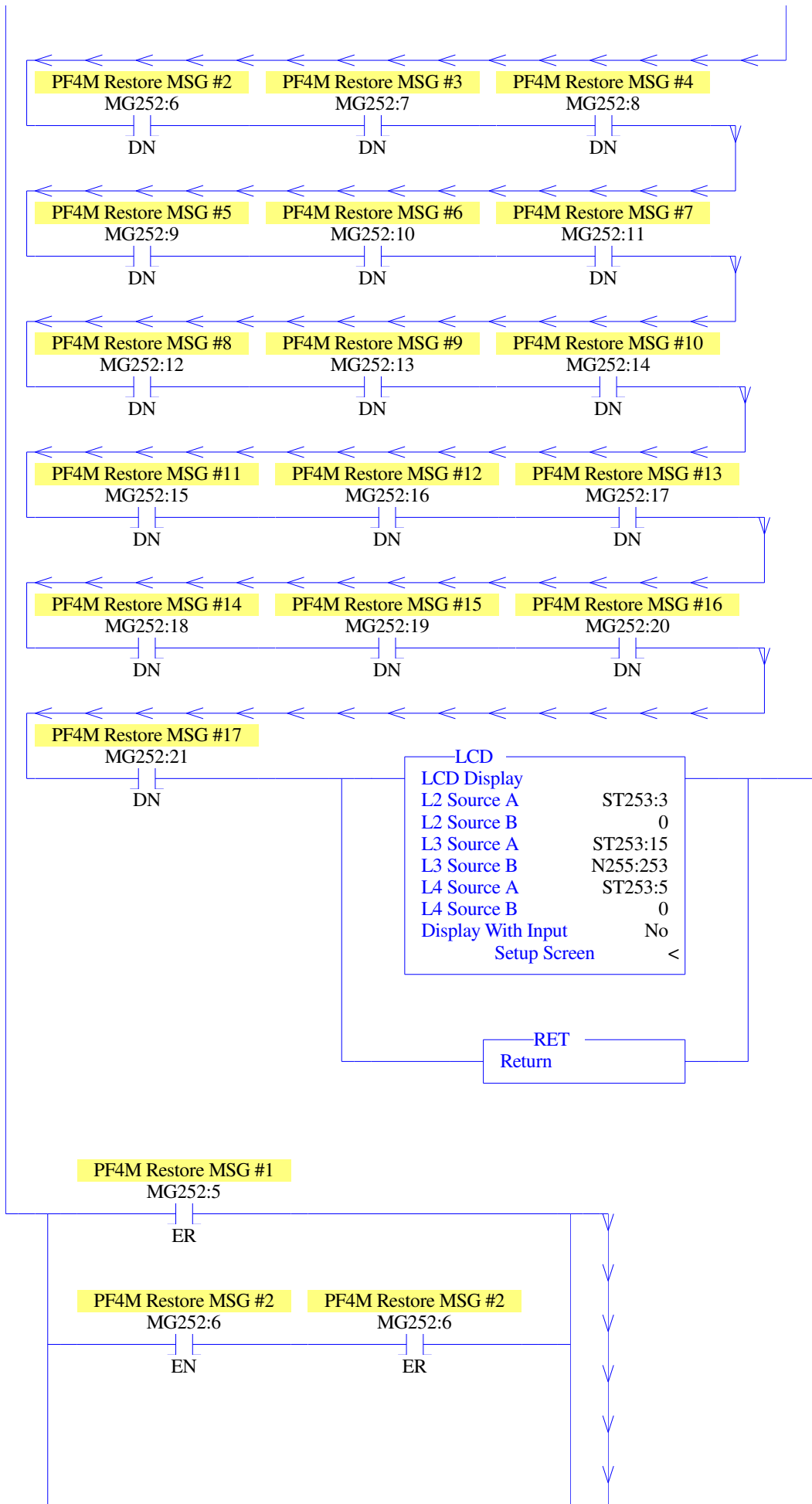
PF4M Backup MSG #2
MG252:1

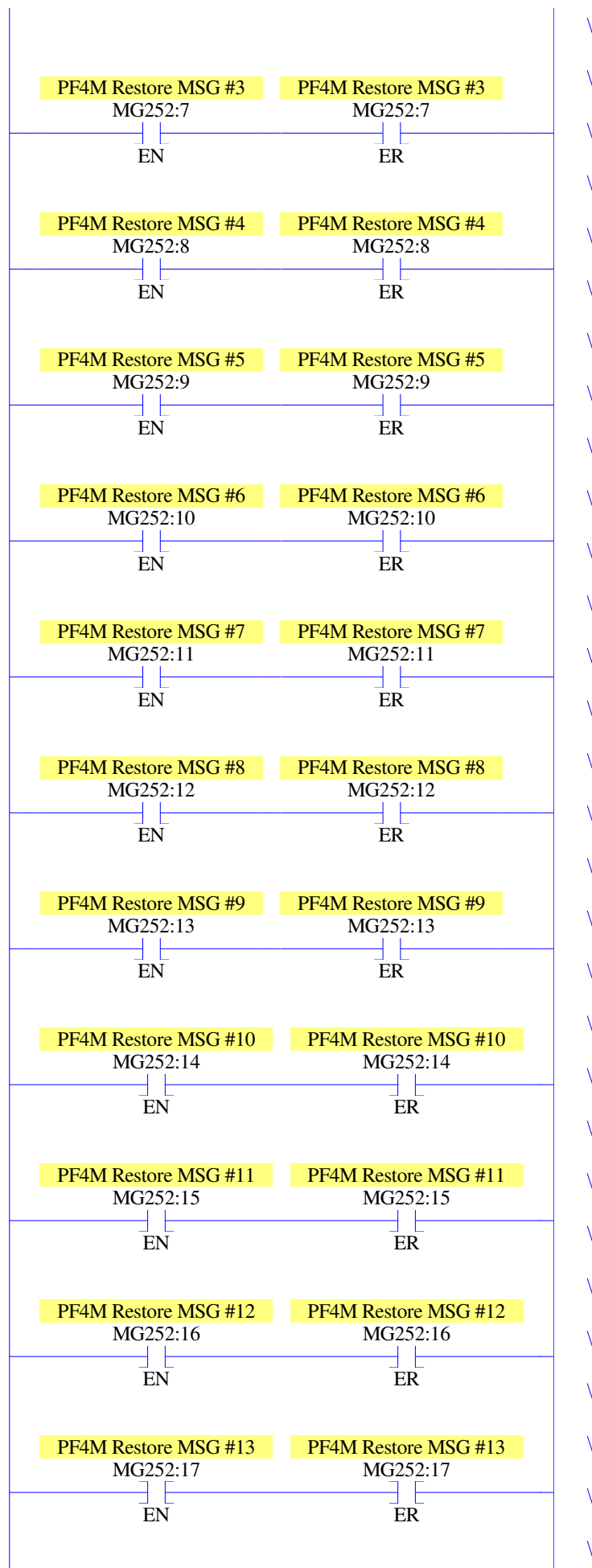
EN

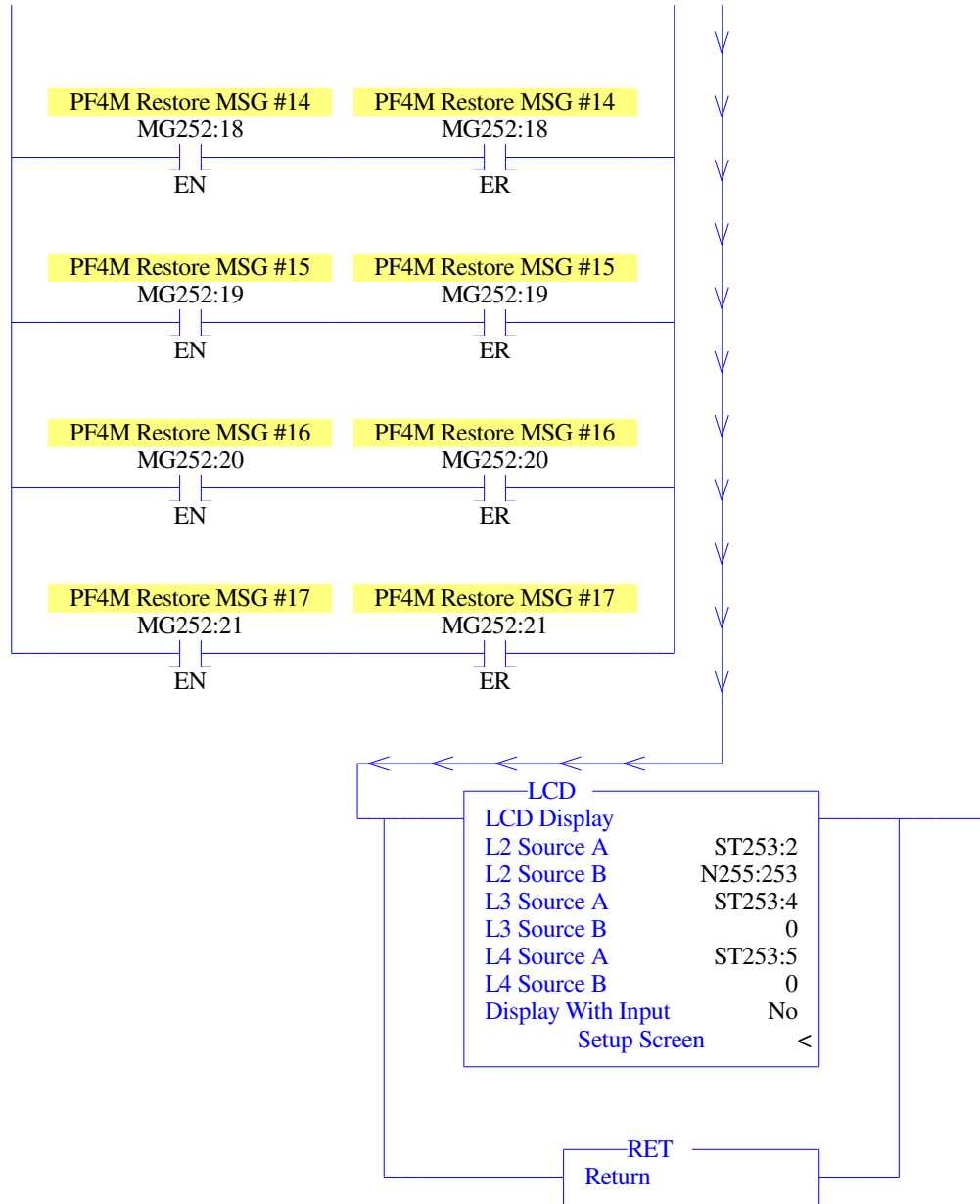
PF4M Backup MSG #2
MG252:1

ER









This is the main Modbus Device Parameter Backup subroutine.

This rung gets executed for one scan only at the beginning of a Backup. It clears out file N255 and copies a timestamp from the RTC into N255:2-7 (as long as the RTC is not disabled):

N255:2 - Year

N255:3 - Month

N255:4 - Day

N255:5 - Hour

N255:6 - Minute

N255:7 - Second

Modbus MSG - Read
from Node# [N255:0]

MG254:0

EN

Product Family Code

FLL

Fill File

Source 0

Dest #N255:1

Length 127

FLL

Fill File

Source 0

Dest #N255:128

Length 124

Backup Timestamp
Year

RTC:0

DS

CPW

Copy Word

Source #RTC:0.YR

Dest #N255:2

Length 6

This rung configures the initial Backup drive read MSG with the node # that was entered to be backed up and the Modbus register address to read the Product Family Code from.

This rung must be located before the MG254:0 message instruction rung.

MSG Target Node#

NEQ

Not Equal

Source A MG254:0.NOD

9<

Source B N255:0

0<

Backup Node Address

LIM

Limit Test

Low Lim 1

1<

Test N255:0

0<

High Lim 16

16<

Modbus MSG - Read
from Node# [N255:0]

MOV

Move

Source 16385

16385<

Dest MG254:0.TFN

16385<

MSG Target Node#

MOV

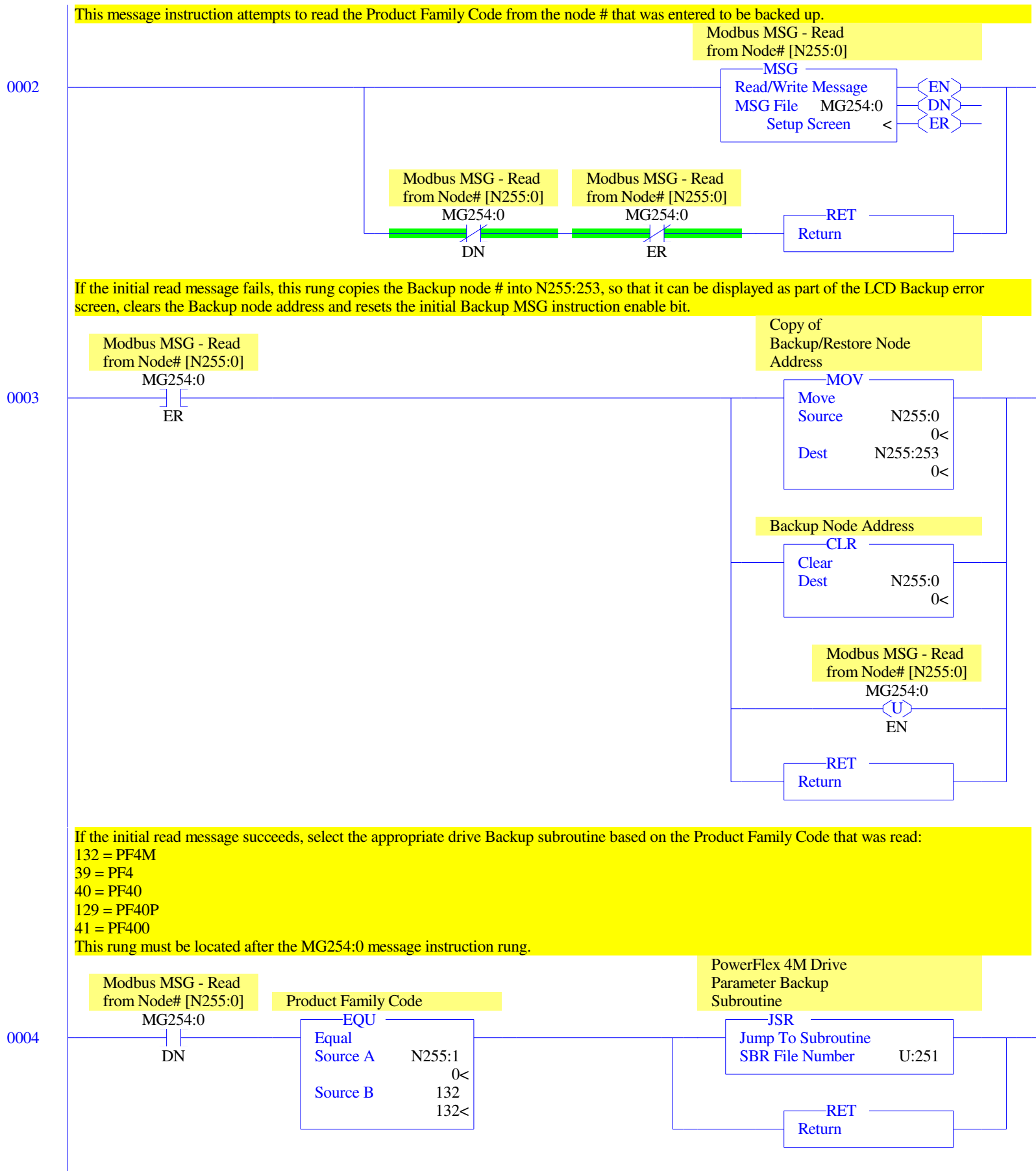
Move

Source N255:0

0<

Dest MG254:0.NOD

9<



This should be the last rung in the PB&R Backup Subroutine.

If an unknown Product Family Code is returned, this rung copies the Backup node # into N255:253, so that it can be displayed as part of the LCD Backup error screen, clears the Backup node address and resets the initial Backup MSG instruction enable bit.

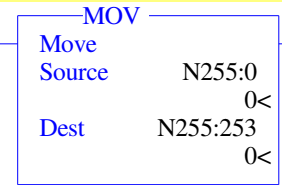
0005

Modbus MSG - Read
from Node# [N255:0]

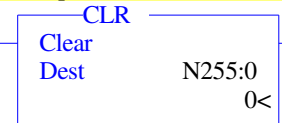
MG254:0

DN

Copy of
Backup/Restore Node
Address



Backup Node Address



Modbus MSG - Read
from Node# [N255:0]

MG254:0

U
EN

0006

END

