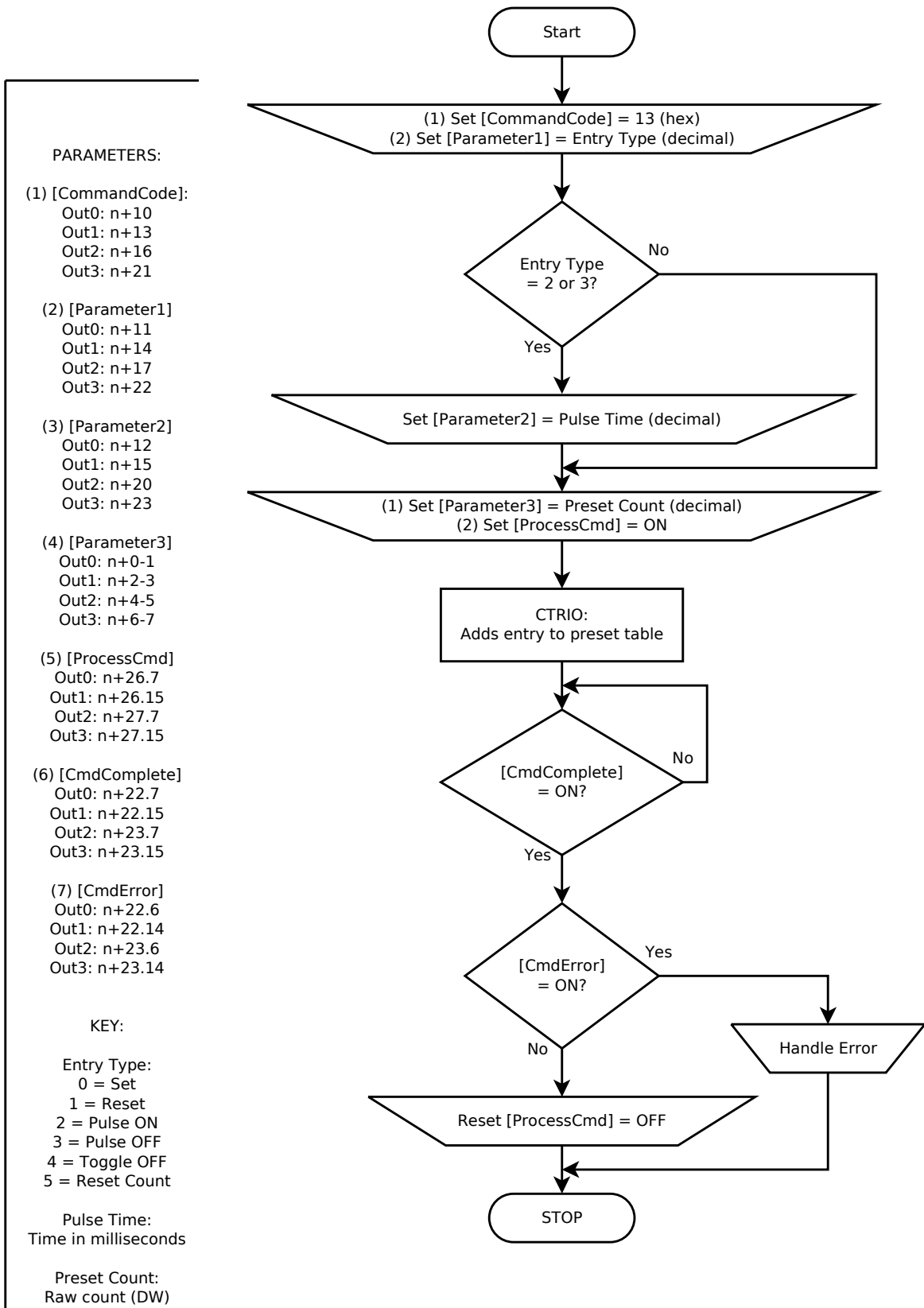


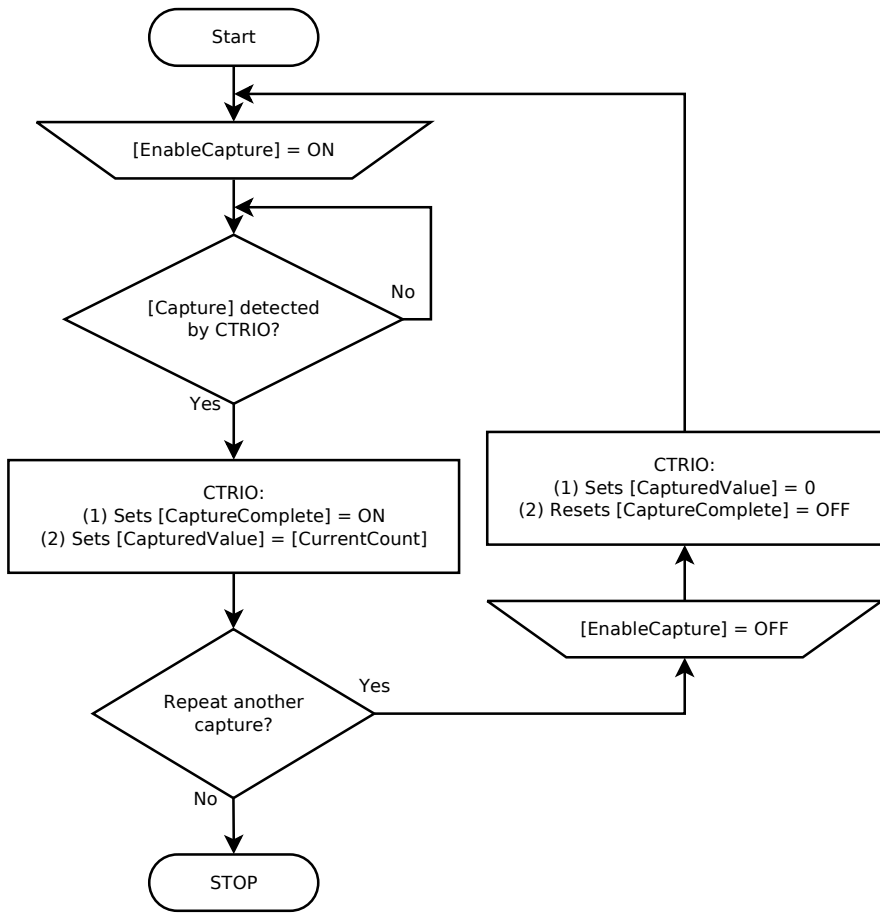
# CTRIO2 FLOW CHARTS for DL-PLC

## Add Entry to Preset Table (DL-PLC)



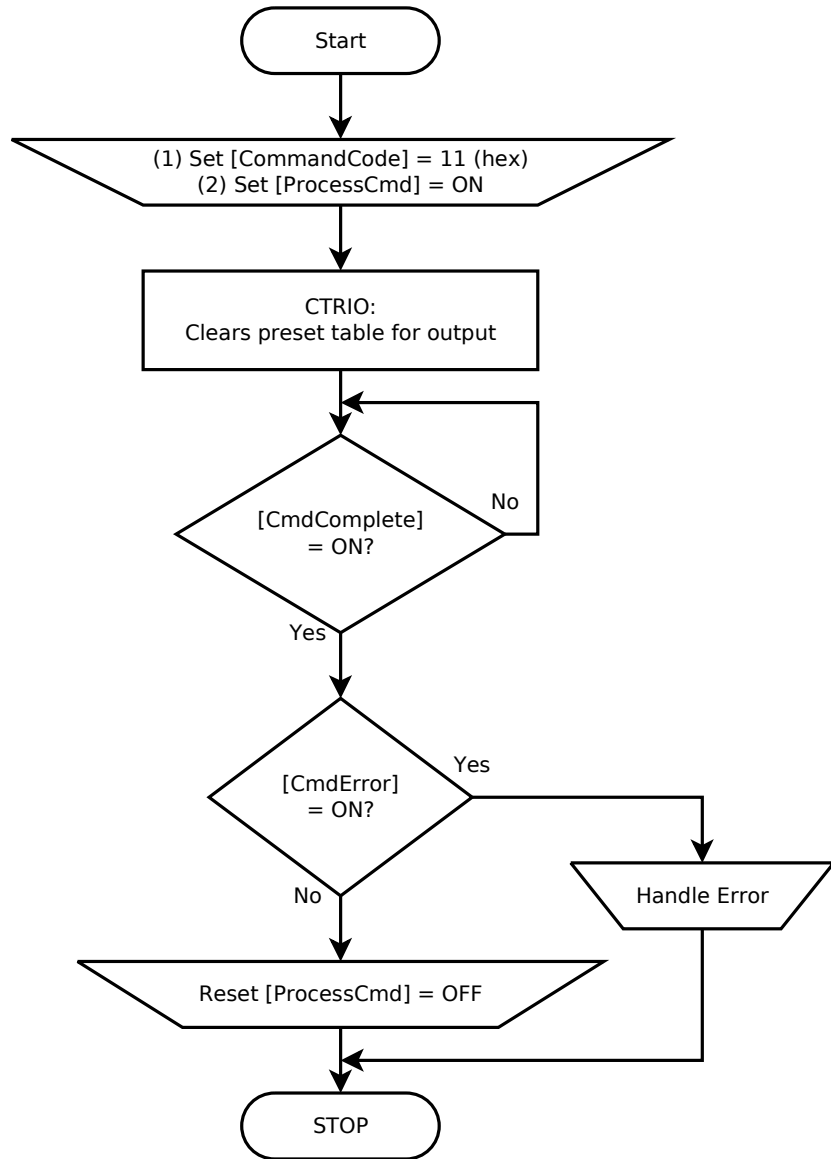
## Capture Count Function (DL-PLC)

- PARAMETERS:**
- (1) [EnableCapture]:  
Ch1/Fn1: n+24.0  
Ch1/Fn2: n+24.8  
Ch2/Fn1: n+25.0  
Ch2/Fn2: n+25.8
  - (2) [Capture]  
Channel 1 Input D  
Channel 2 Input D
  - (3) [CaptureComplete]  
Ch1/Fn1: n+20.0  
Ch2/Fn1: n+21.0
  - (4) [CapturedValue]  
Ch1/Fn1: n+2-3  
Ch2/Fn1: n+12-13
  - (5) [CurrentCount]  
Ch1/Fn1: n+0-1  
Ch2/Fn1: n+10-11



# Clear Preset Table (DL-PLC)

PARAMETERS:	
(1) [CommandCode]:	
Out0:	n+10
Out1:	n+13
Out2:	n+16
Out3:	n+21
(2) [ProcessCmd]	
Out0:	n+26.7
Out1:	n+26.15
Out2:	n+27.7
Out3:	n+27.15
(3) [CmdComplete]	
Out0:	n+22.7
Out1:	n+22.15
Out2:	n+23.7
Out3:	n+23.15
(4) [CmdError]	
Out0:	n+22.6
Out1:	n+22.14
Out2:	n+23.6
Out3:	n+23.14



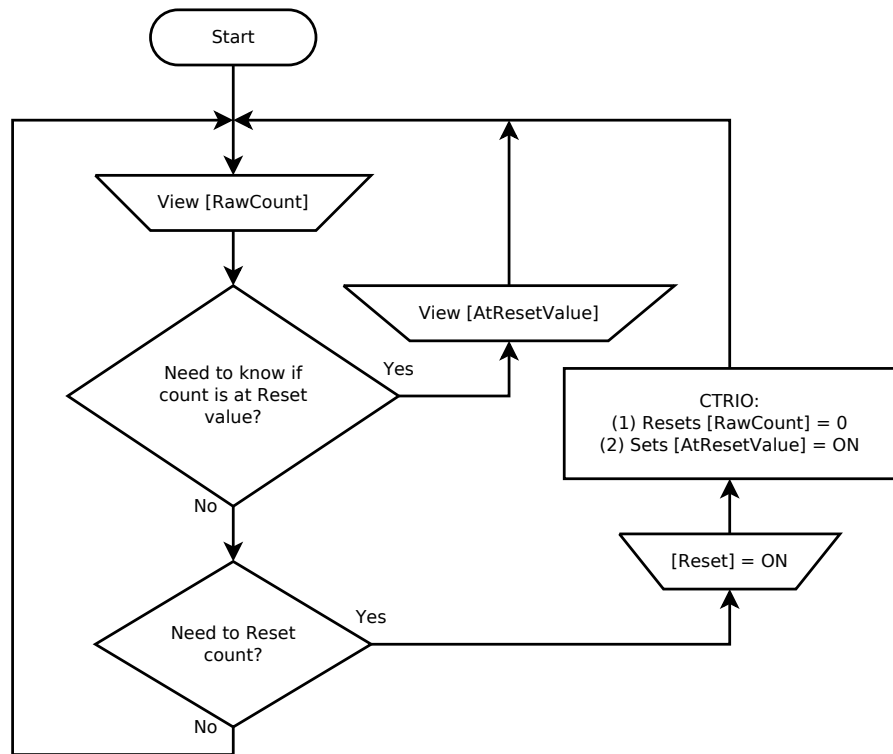
## Counter Function (DL-PLC)

**PARAMETERS:**

(1) [RawCount]:  
 Ch1/Fn1: n+0-1  
 Ch1/Fn2: n+4-5  
 Ch2/Fn1: n+10-11  
 Ch2/Fn2: n+14-15

(2) [AtResetValue]  
 Ch1/Fn1: n+20.1  
 Ch1/Fn2: n+20.9  
 Ch2/Fn1: n+21.1  
 Ch2/Fn2: n+21.9

(3) [Reset]  
 Ch1/Fn1: n+24.1  
 Ch1/Fn2: n+24.9  
 Ch2/Fn1: n+25.1  
 Ch2/Fn2: n+25.9



## Counter Function (Scaled) (DL-PLC)

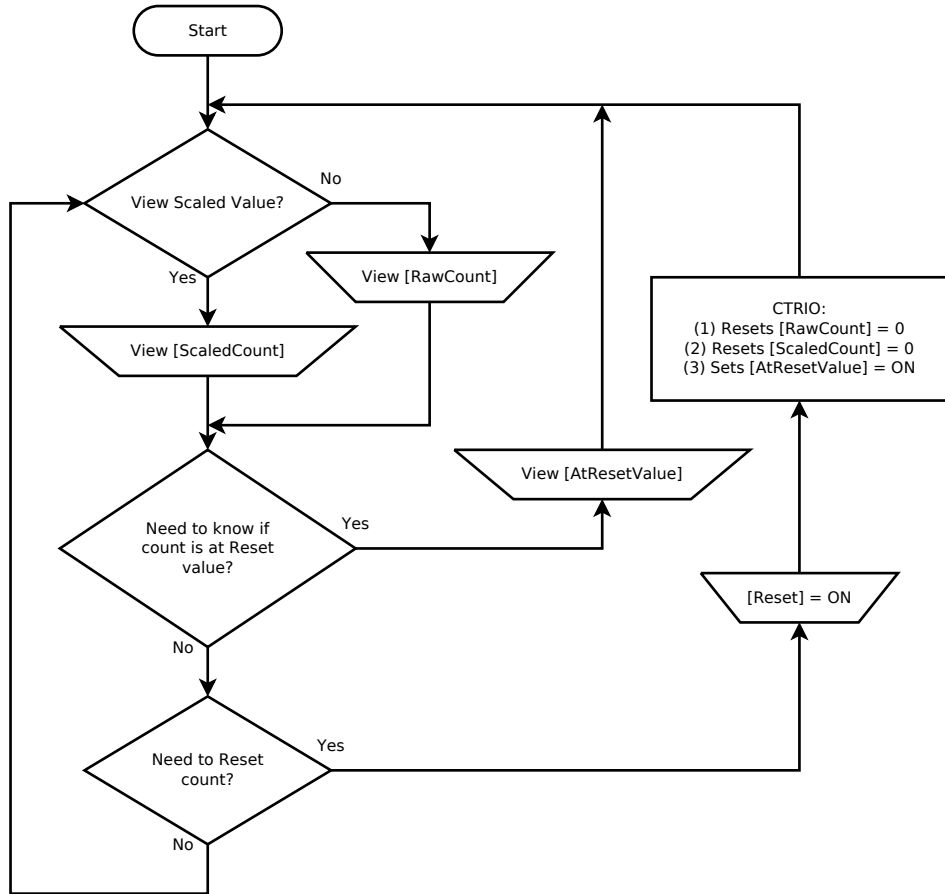
**PARAMETERS:**

(1) [ScaledCount]:  
Ch1/Fn1: n+0-1  
Ch1/Fn2: n+4-5  
Ch2/Fn1: n+10-11  
Ch2/Fn2: n+14-15

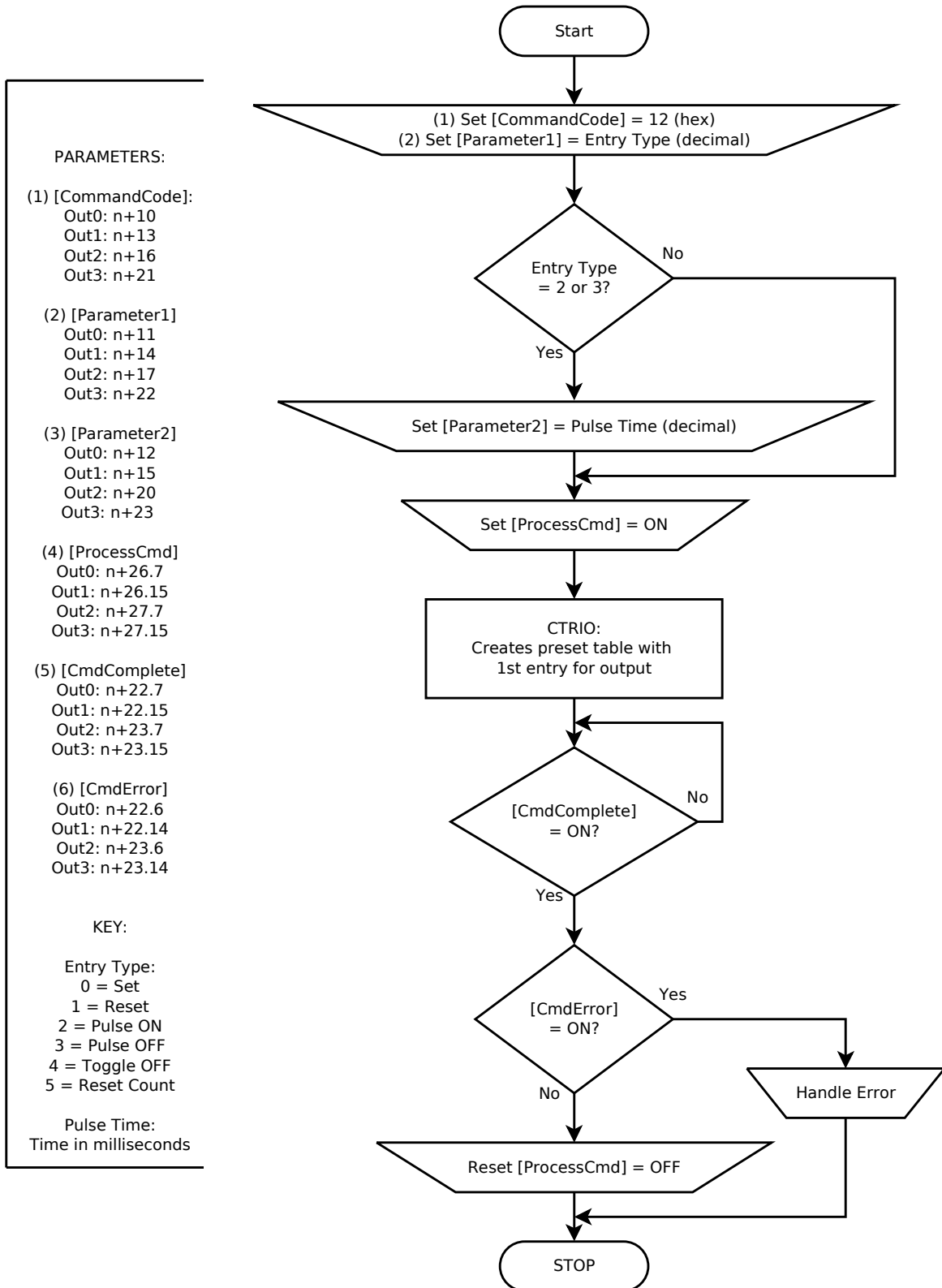
(2) [RawCount]  
Ch1/Fn1: n+2-3  
Ch1/Fn2: n+6-7  
Ch2/Fn1: n+12-13  
Ch2/Fn2: n+16-17

(3) [AtResetValue]  
Ch1/Fn1: n+20.1  
Ch1/Fn2: n+20.9  
Ch2/Fn1: n+21.1  
Ch2/Fn2: n+21.9

(4) [Reset]  
Ch1/Fn1: n+24.1  
Ch1/Fn2: n+24.9  
Ch2/Fn1: n+25.1  
Ch2/Fn2: n+25.9



## Create Preset Table (DL-PLC)



## Create Preset Table on Reset (DL-PLC)

**PARAMETERS:**

(1) [CommandCode]:  
 Out0: n+10  
 Out1: n+13  
 Out2: n+16  
 Out3: n+21

(2) [Parameter1]:  
 Out0: n+11  
 Out1: n+14  
 Out2: n+17  
 Out3: n+22

(3) [Parameter2]:  
 Out0: n+12  
 Out1: n+15  
 Out2: n+20  
 Out3: n+23

(4) [ProcessCmd]:  
 Out0: n+26.7  
 Out1: n+26.15  
 Out2: n+27.7  
 Out3: n+27.15

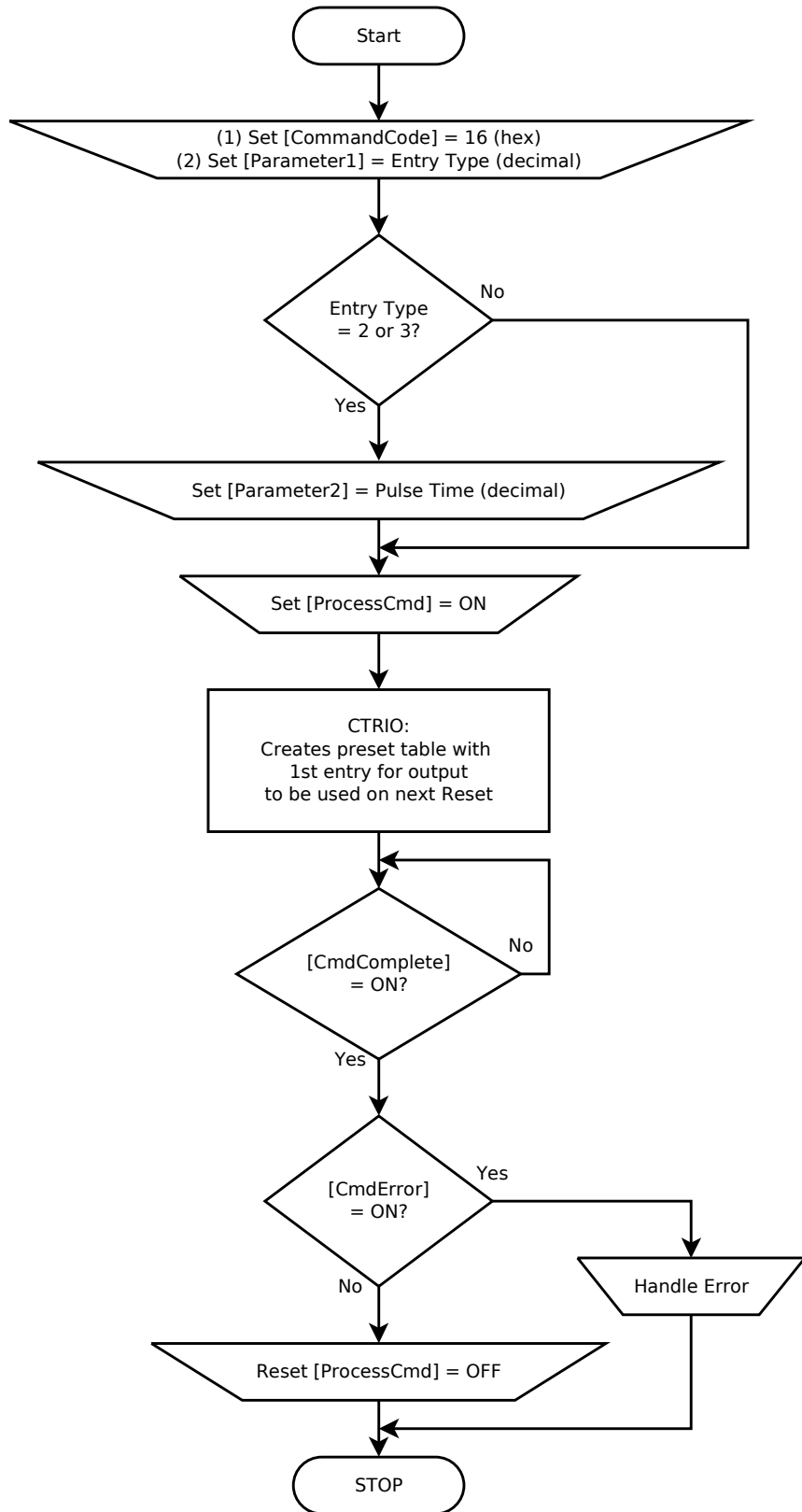
(5) [CmdComplete]:  
 Out0: n+22.7  
 Out1: n+22.15  
 Out2: n+23.7  
 Out3: n+23.15

(6) [CmdError]:  
 Out0: n+22.6  
 Out1: n+22.14  
 Out2: n+23.6  
 Out3: n+23.14

**KEY:**

Entry Type:  
 0 = Set  
 1 = Reset  
 2 = Pulse ON  
 3 = Pulse OFF  
 4 = Toggle OFF  
 5 = Reset Count

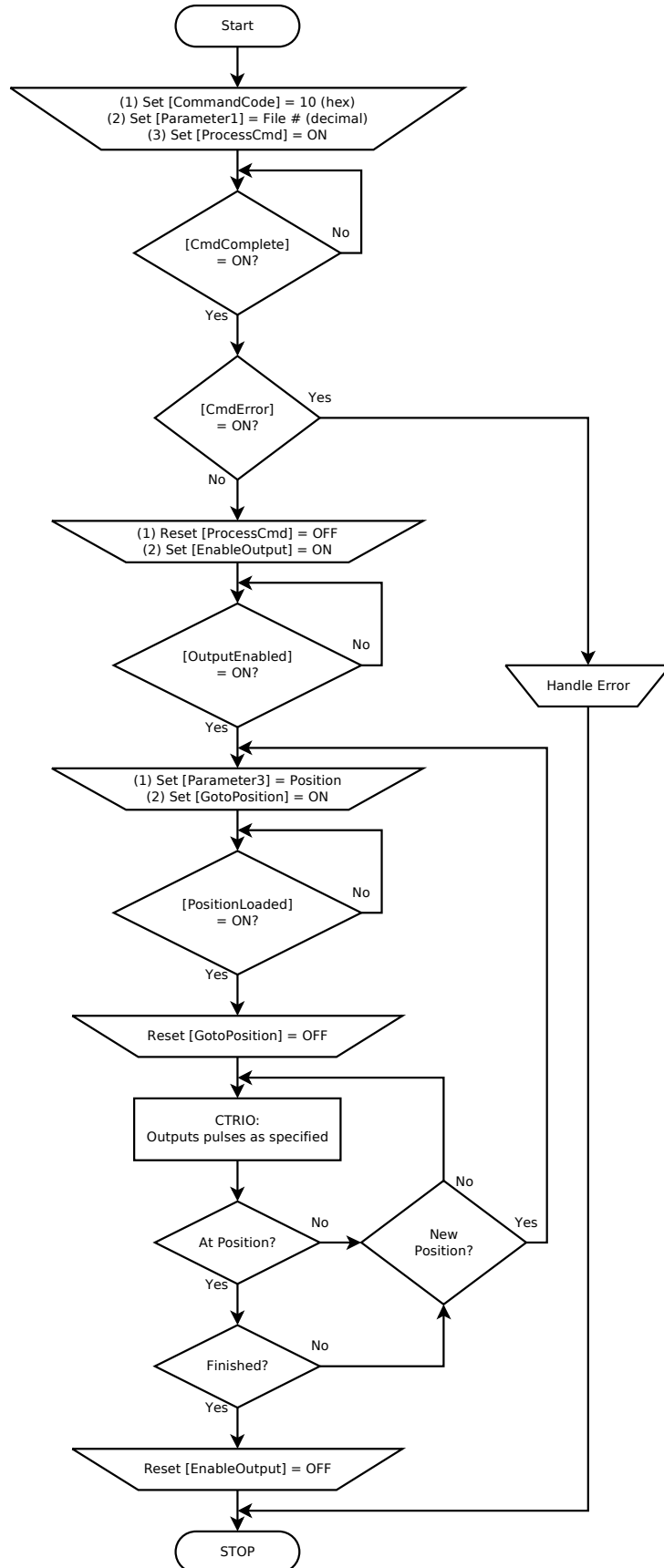
Pulse Time:  
 Time in milliseconds





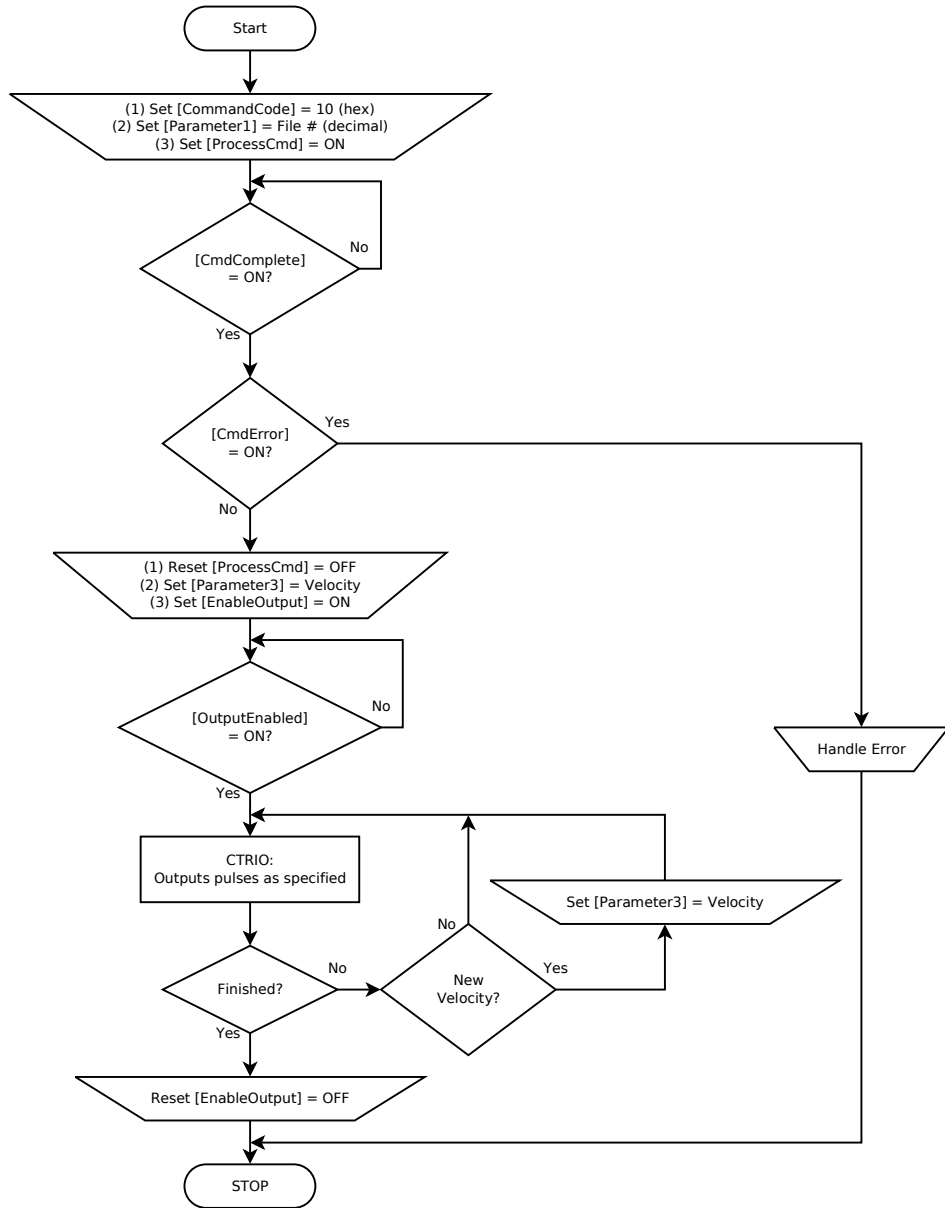
## Dynamic Position or Dynamic Position PLUS (DL-PLC)

PARAMETERS:	
(1) [CommandCode]:	Out0-1: n+10 Out2-3: n+16
(2) [Parameter1]	Out0-1: n+11 Out2-3: n+17
(3) [ProcessCmd]	Out0-1: n+26.7 Out2-3: n+27.7
(4) [CmdComplete]	Out0-1: n+22.7 Out2-3: n+23.7
(5) [CmdError]	Out0-1: n+22.6 Out2-3: n+23.6
(6) [EnableOutput]	Out0-1: n+26.0 Out2-3: n+27.0
(7) [Outputenabled]	Out0-1: n+22.0 Out2-3: n+23.0
(8) [Parameter3]	Out0-1: n+0-1 Out2-3: n+4-5
(9) [GotoPosition]	Out0-1: n+26.1 Out2-3: n+27.1
(10) [PositionLoaded]	Out0-1: n+22.1 Out2-3: n+23.1

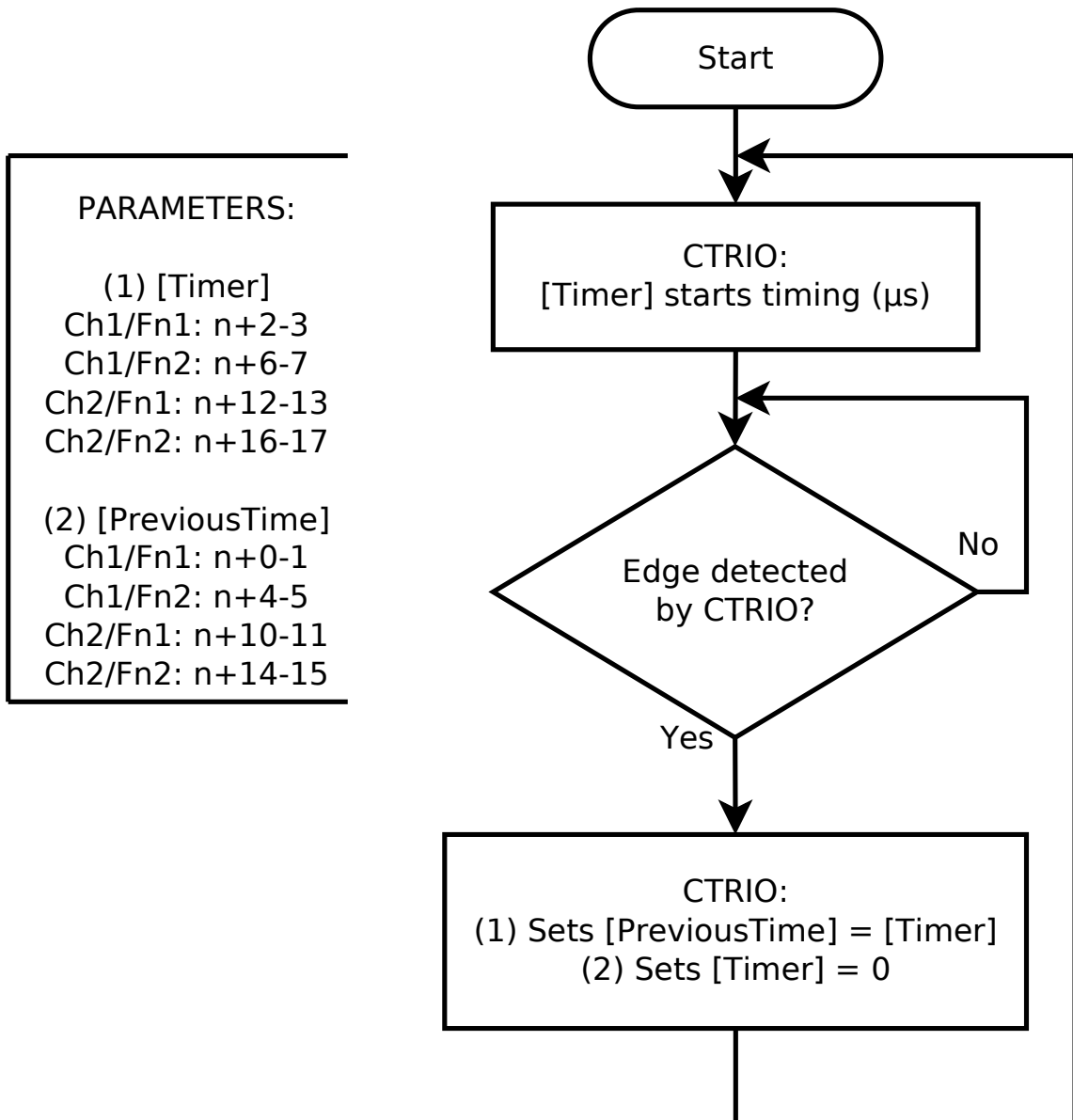


## Dynamic Velocity (DL-PLC)

PARAMETERS:	
(1) [CommandCode]:	
Out0-1: n+10	
Out2-3: n+16	
(2) [Parameter1]	
Out0-1: n+11	
Out2-3: n+17	
(3) [ProcessCmd]	
Out0-1: n+26.7	
Out2-3: n+27.7	
(4) [CmdComplete]	
Out0-1: n+22.7	
Out2-3: n+23.7	
(5) [CmdError]	
Out0-1: n+22.6	
Out2-3: n+23.6	
(6) [Parameter3]	
Out0-1: n+0-1	
Out2-3: n+4-5	
(7) [EnableOutput]	
Out0-1: n+26.0	
Out2-3: n+27.0	
(8) [OutputEnabled]	
Out0-1: n+22.0	
Out2-3: n+23.0	



# Edge Timer Function (Free Run, No Timeout) (DL-PLC)



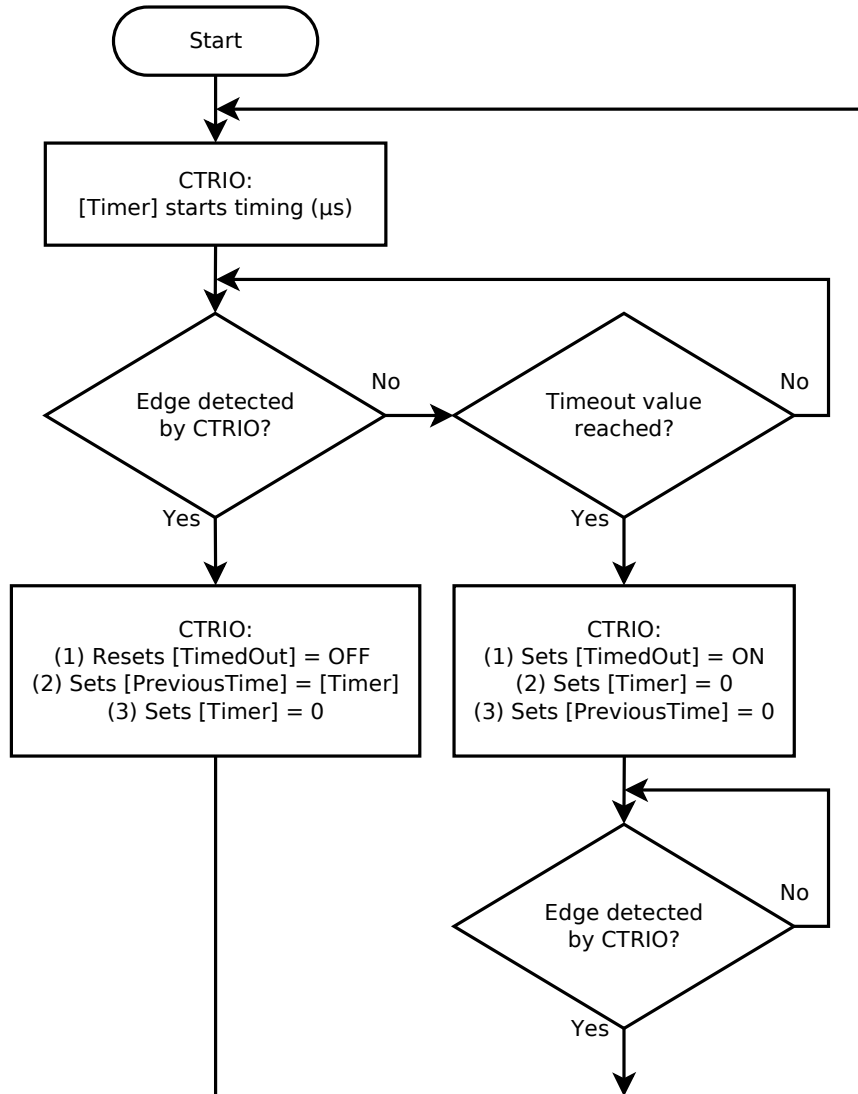
# Edge Timer Function (Free Run, Timeout) (DL-PLC)

**PARAMETERS:**

(1) [Timer]  
Ch1/Fn1: n+2-3  
Ch1/Fn2: n+6-7  
Ch2/Fn1: n+12-13  
Ch2/Fn2: n+16-17

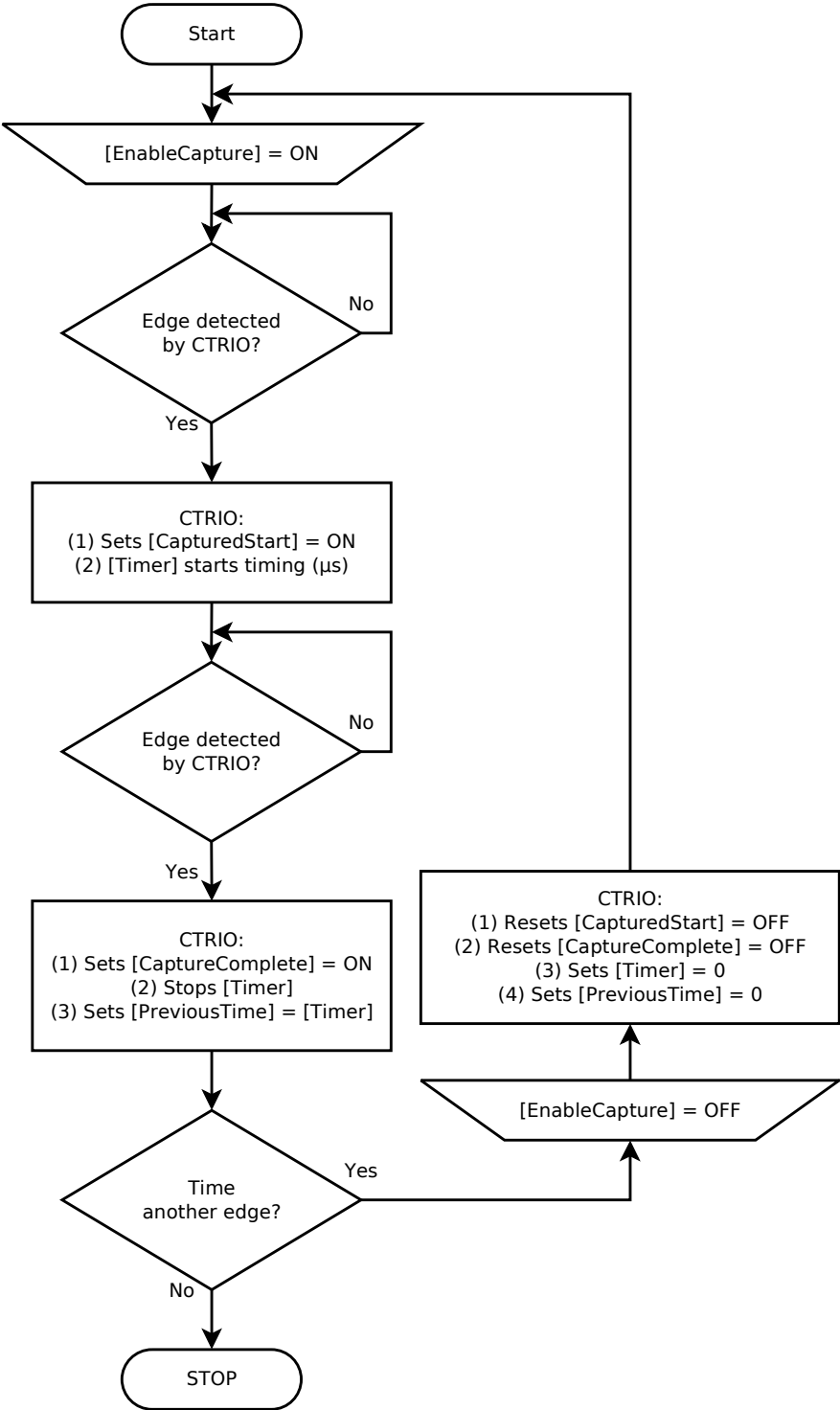
(2) [PreviousTime]  
Ch1/Fn1: n+0-1  
Ch1/Fn2: n+4-5  
Ch2/Fn1: n+10-11  
Ch2/Fn2: n+14-15

(3) [TimedOut]  
Ch1/Fn1: n+20.2  
Ch1/Fn2: n+20.10  
Ch2/Fn1: n+21.2  
Ch2/Fn2: n+21.10

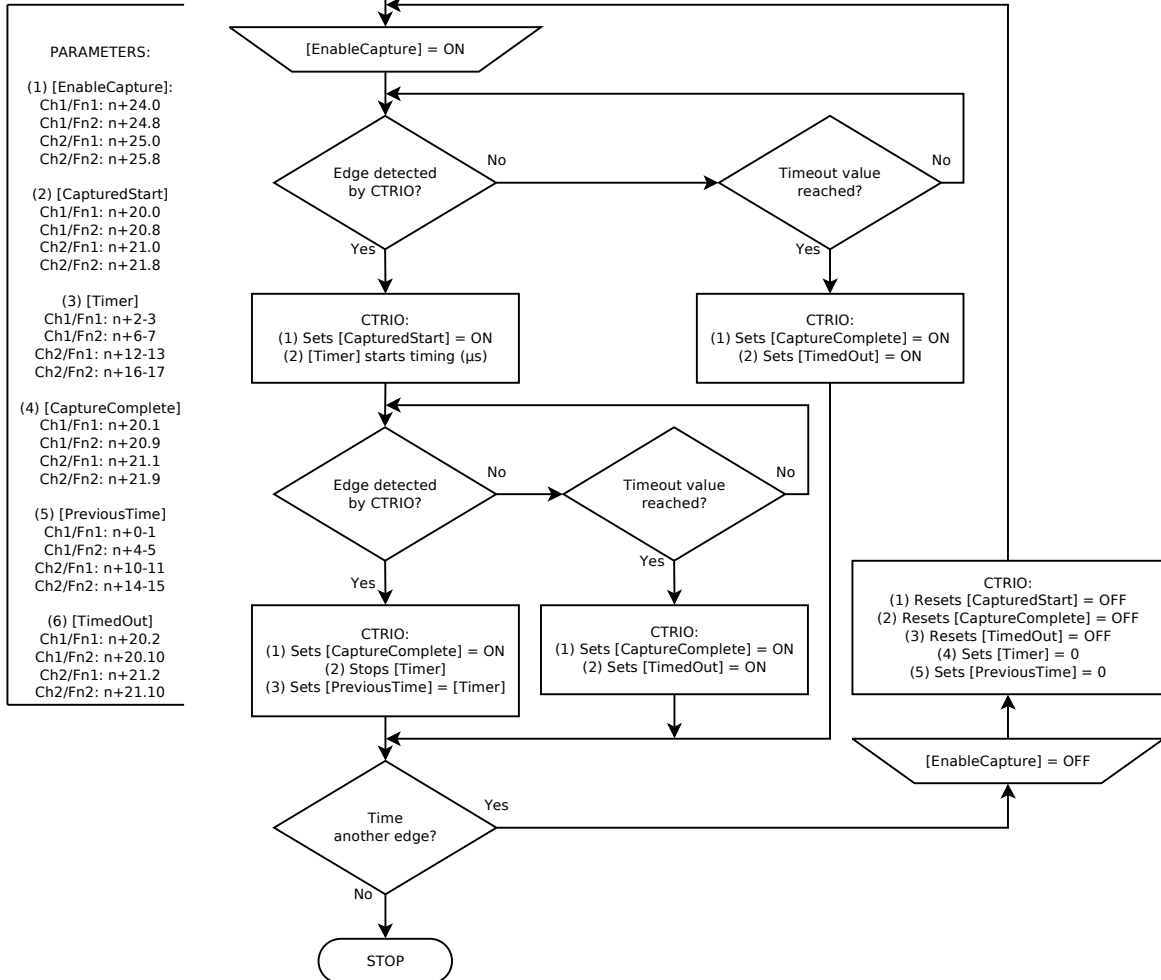


# Edge Timer Function (Manual, No Timeout) (DL-PLC)

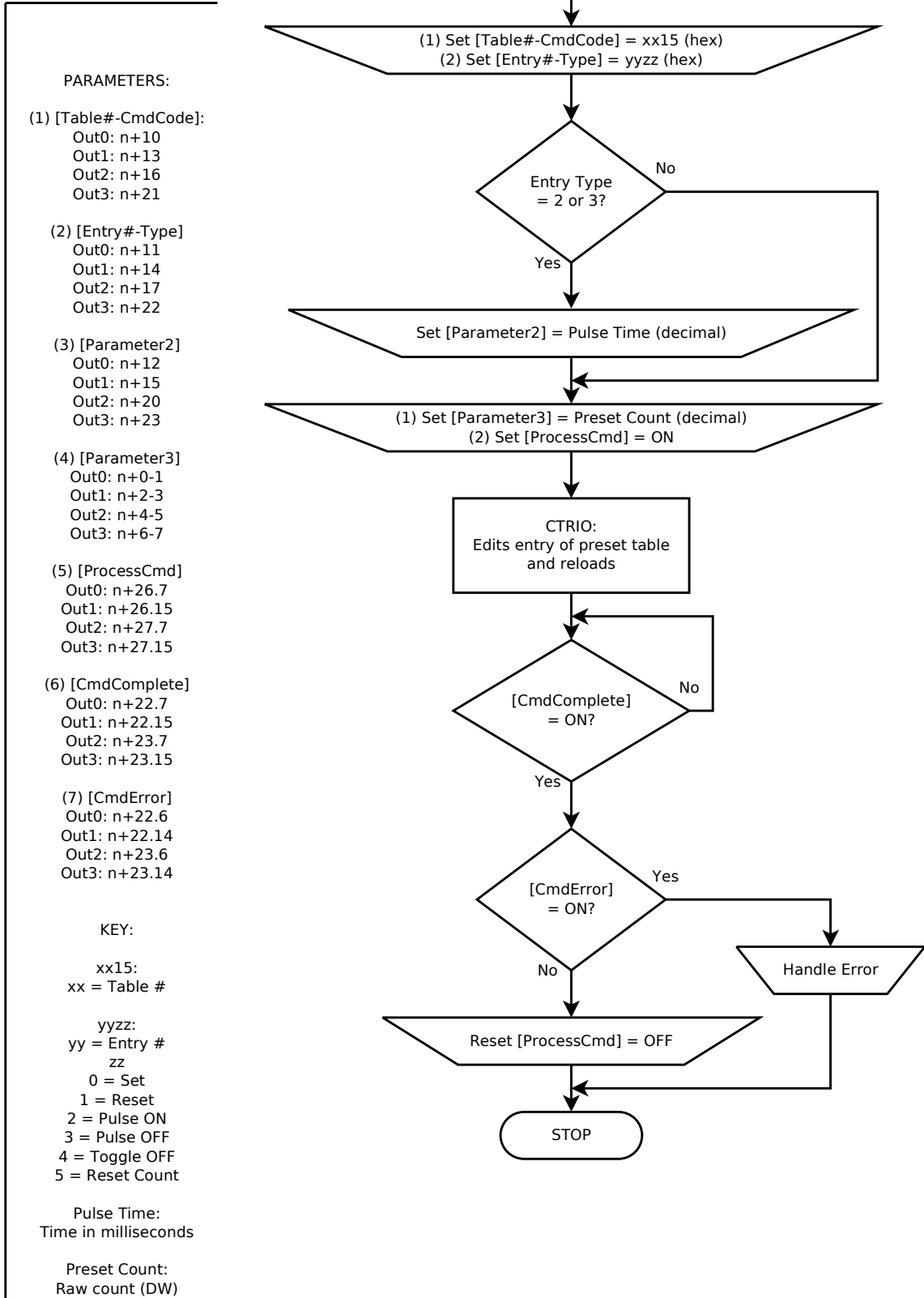
- PARAMETERS:**
- (1) [EnableCapture]:  
Ch1/Fn1: n+24.0  
Ch1/Fn2: n+24.8  
Ch2/Fn1: n+25.0  
Ch2/Fn2: n+25.8
  - (2) [CapturedStart]:  
Ch1/Fn1: n+20.0  
Ch1/Fn2: n+20.8  
Ch2/Fn1: n+21.0  
Ch2/Fn2: n+21.8
  - (3) [Timer]:  
Ch1/Fn1: n+2-3  
Ch1/Fn2: n+6-7  
Ch2/Fn1: n+12-13  
Ch2/Fn2: n+16-17
  - (4) [CaptureComplete]:  
Ch1/Fn1: n+20.1  
Ch1/Fn2: n+20.9  
Ch2/Fn1: n+21.1  
Ch2/Fn2: n+21.9
  - (5) [PreviousTime]:  
Ch1/Fn1: n+0-1  
Ch1/Fn2: n+4-5  
Ch2/Fn1: n+10-11  
Ch2/Fn2: n+14-15



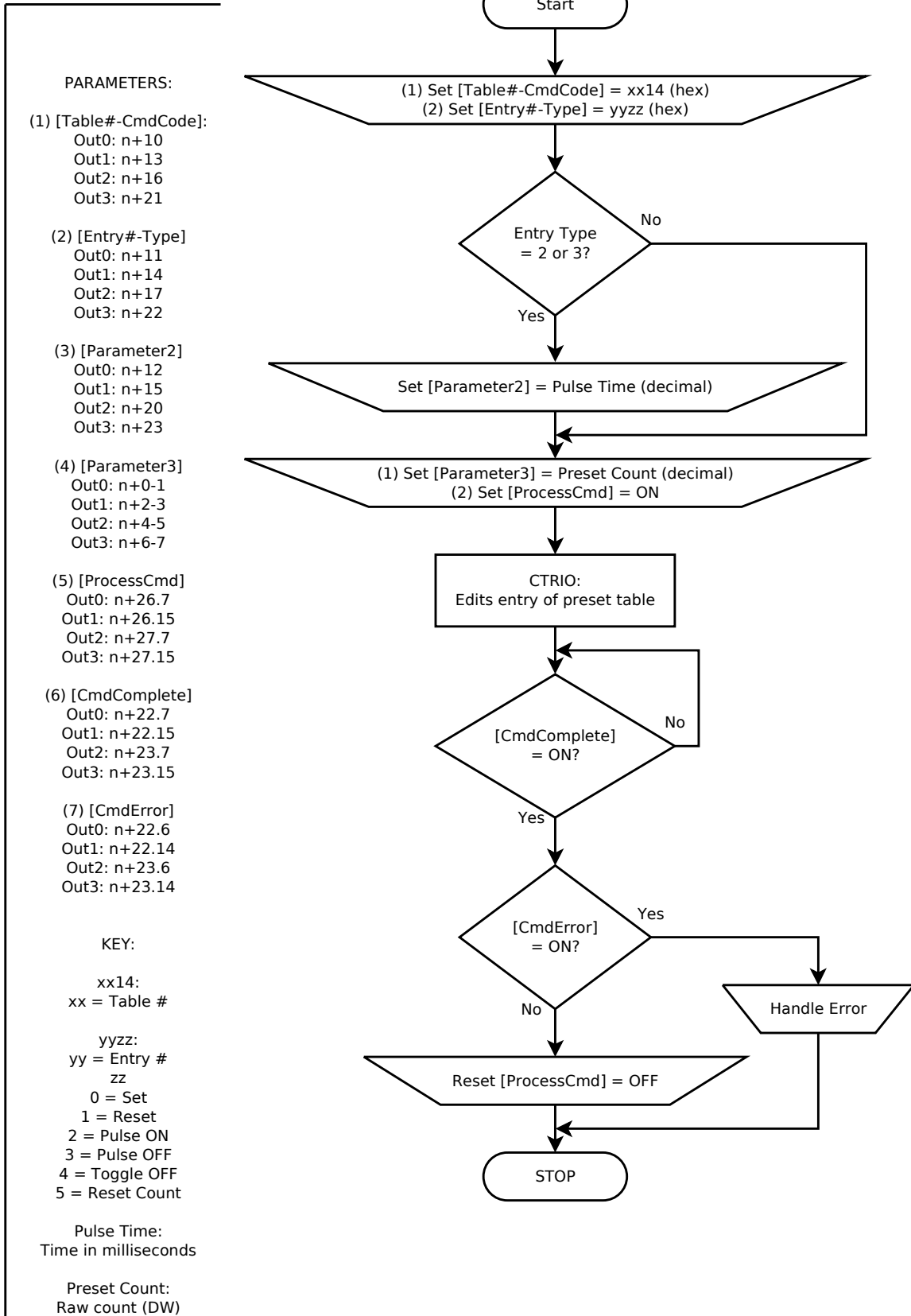
## Edge Timer Function (Manual, Timeout) (DL-PLC)



## Edit Preset Table Entry & Reload (DL-PLC)



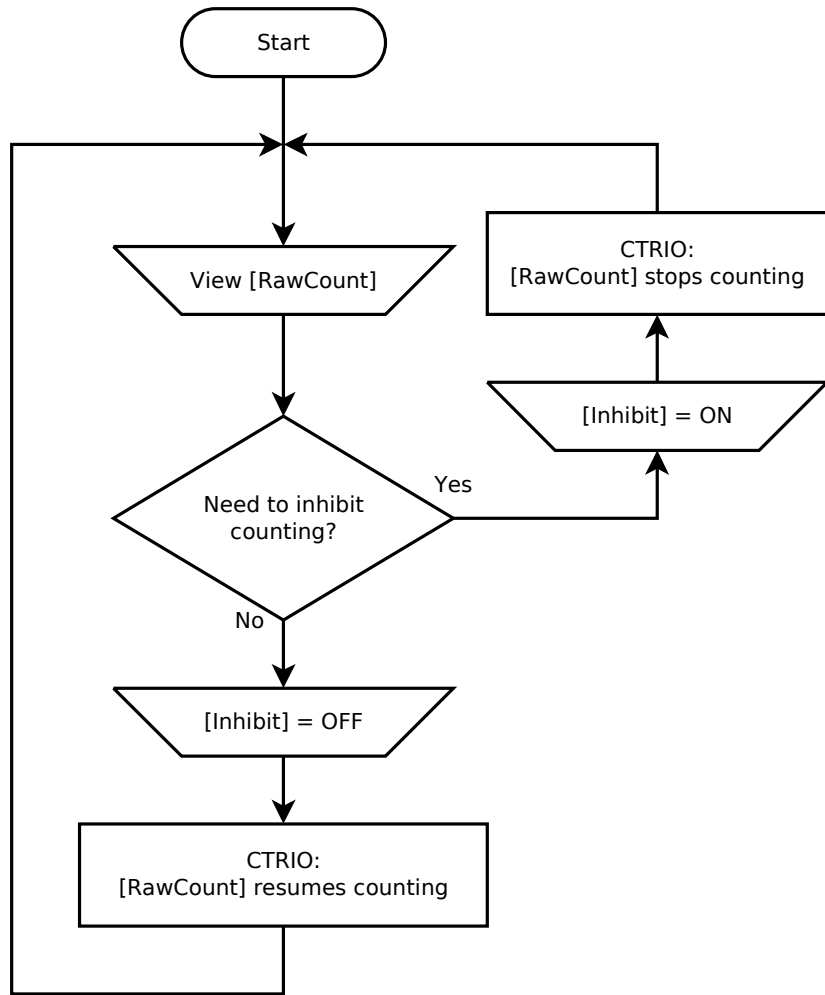
## Edit Preset Table Entry (DL-PLC)





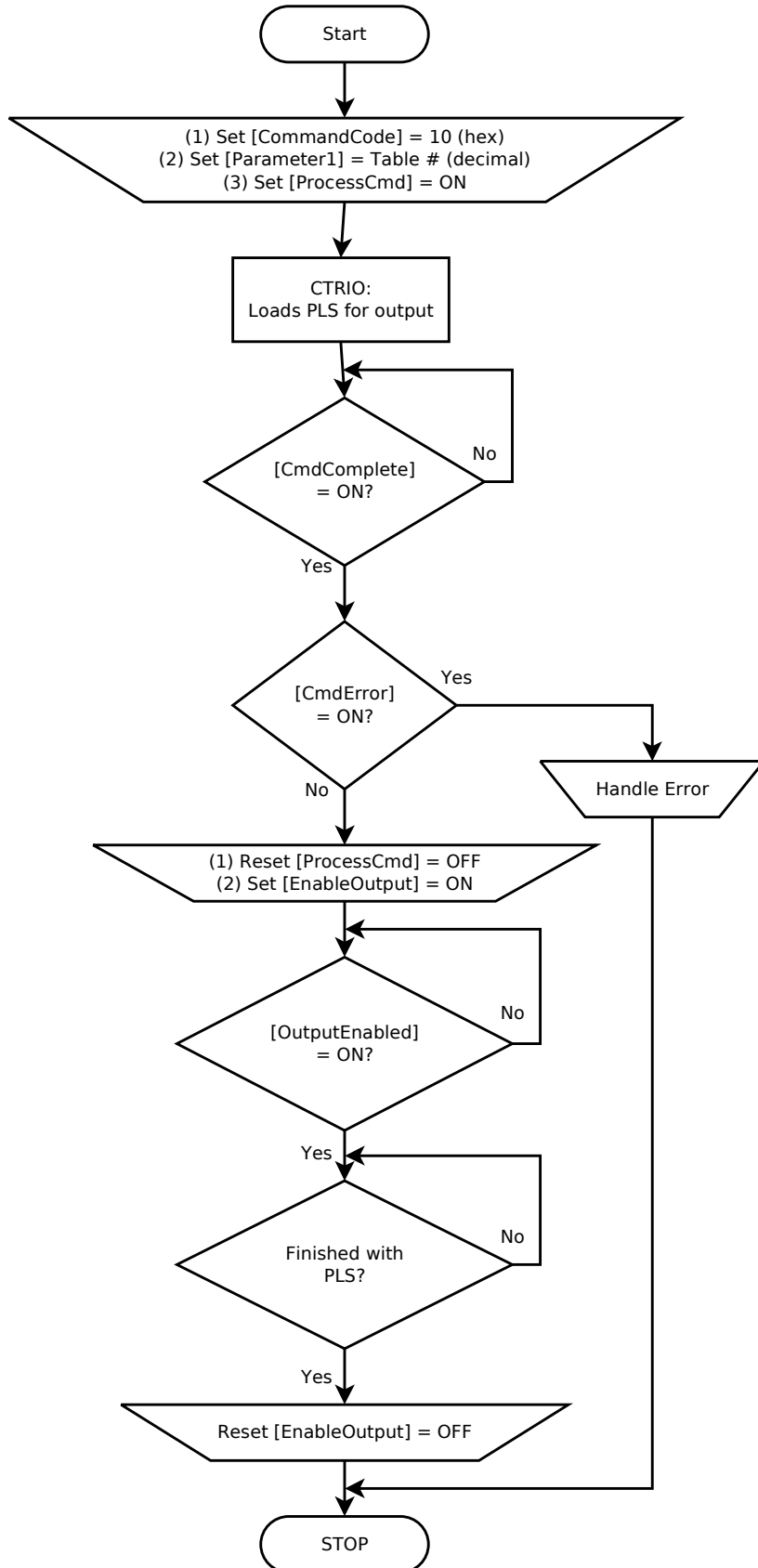
# Inhibit Function (DL-PLC)

PARAMETERS:  
  
(1) [RawCount]:  
Ch1/Fn1: n+0-1  
Ch1/Fn2: n+4-5  
Ch2/Fn1: n+10-11  
Ch2/Fn2: n+14-15  
  
(2) [Inhibit]  
Ch1 Input D  
Ch2 Input D

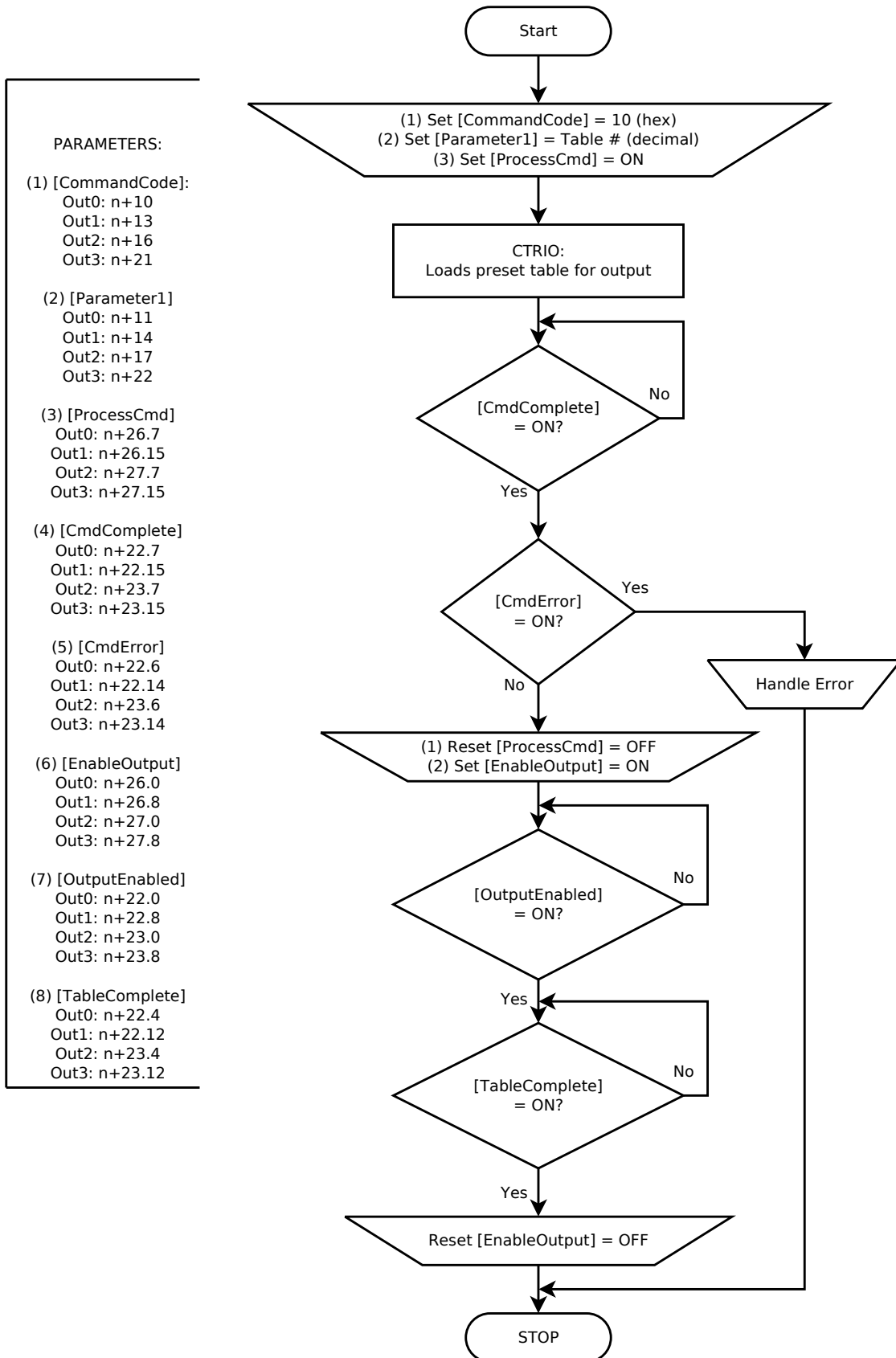


## Load PLS & Run (DL-PLC)

PARAMETERS:	
(1) [CommandCode]:	Out0: n+10 Out1: n+13 Out2: n+16 Out3: n+21
(2) [Parameter1]	Out0: n+11 Out1: n+14 Out2: n+17 Out3: n+22
(3) [ProcessCmd]	Out0: n+26.7 Out1: n+26.15 Out2: n+27.7 Out3: n+27.15
(4) [CmdComplete]	Out0: n+22.7 Out1: n+22.15 Out2: n+23.7 Out3: n+23.15
(5) [CmdError]	Out0: n+22.6 Out1: n+22.14 Out2: n+23.6 Out3: n+23.14
(6) [EnableOutput]	Out0: n+26.0 Out1: n+26.8 Out2: n+27.0 Out3: n+27.8
(7) [OutputEnabled]	Out0: n+22.0 Out1: n+22.8 Out2: n+23.0 Out3: n+23.8



## Load Preset Table & Run (DL-PLC)



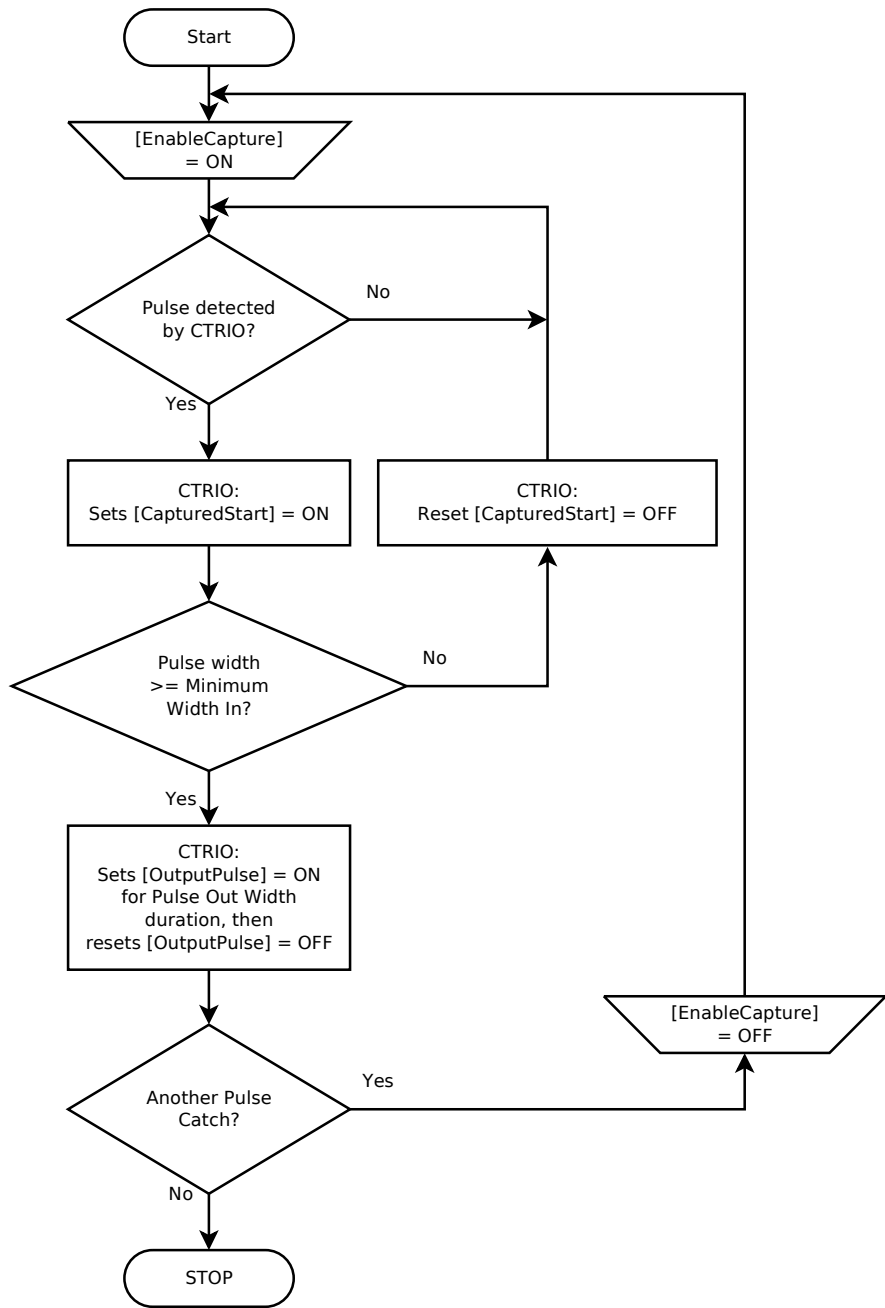
## Pulse Catch Function (DL-PLC)

**PARAMETERS:**

(1) [EnableCapture]:  
 Ch1/Fn1: n+24.0  
 Ch1/Fn2: n+24.8  
 Ch2/Fn1: n+25.0  
 Ch2/Fn2: n+25.8

(2) [CapturedStart]:  
 Ch1/Fn1: n+20.1  
 Ch1/Fn2: n+20.9  
 Ch2/Fn1: n+21.1  
 Ch2/Fn2: n+21.9

(3) [OutputPulse]:  
 Ch1/Fn1: n+20.0  
 Ch1/Fn2: n+20.8  
 Ch2/Fn1: n+21.0  
 Ch2/Fn2: n+21.8



# Raw Output (DL-PLC)

PARAMETERS:

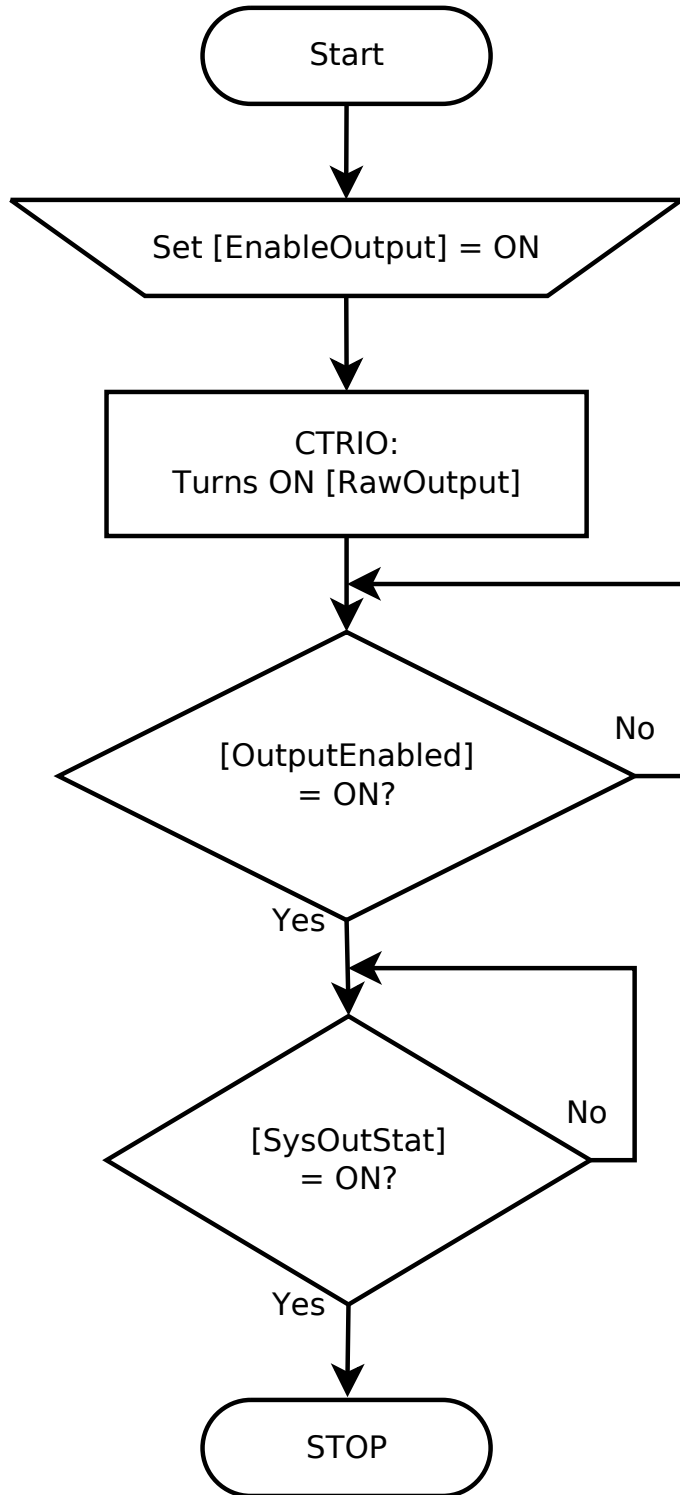
(1) [EnableOutput]  
Out0: n+26.0  
Out1: n+26.8  
Out2: n+27.0  
Out3: n+27.8

(2) [RawOutput]  
Output 0  
Output 1  
Output 2  
Output 3

(3) [OutputEnabled]  
Out0: n+22.0  
Out1: n+22.8  
Out2: n+23.0  
Out3: n+23.8

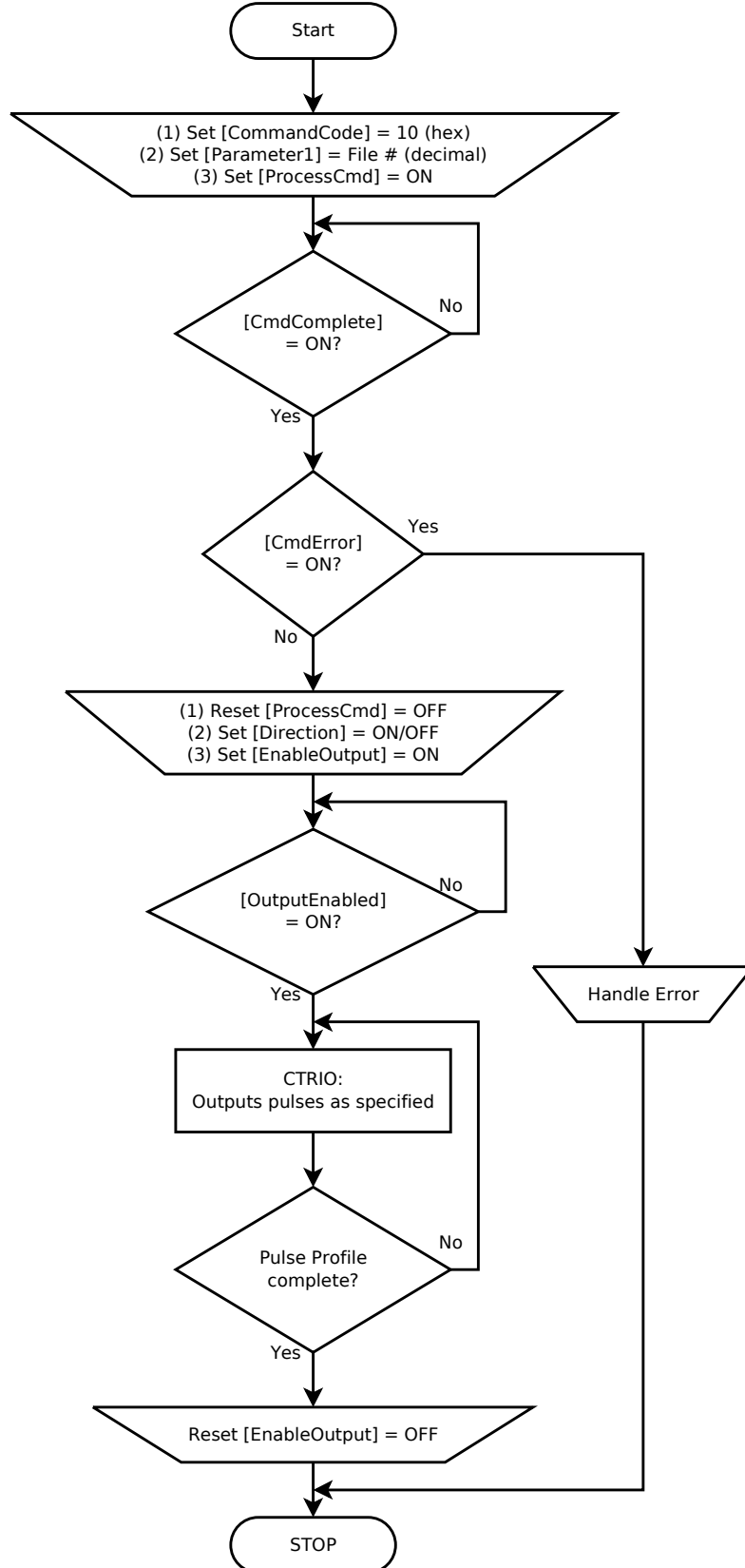
\*(4) [SysOutStat]  
Out0: n+25.8  
Out1: n+25.10  
Out2: n+25.12  
Out3: n+25.14

\*Optional way  
of monitoring  
output



# Run Pulse Profile (Trapezoid, S-Curve, Symmetrical S-Curve, Home Search, Free Form) (DL-PLC)

PARAMETERS:	
(1) [CommandCode]:	Out0-1: n+10 Out2-3: n+16
(2) [Parameter1]	Out0-1: n+11 Out2-3: n+17
(3) [ProcessCmd]	Out0-1: n+26.7 Out2-3: n+27.7
(4) [CmdComplete]	Out0-1: n+22.7 Out2-3: n+23.7
(5) [CmdError]	Out0-1: n+22.6 Out2-3: n+23.6
(6) [Direction]	Out0-1: n+26.4 Out2-3: n+27.4
(7) [EnableOutput]	Out0-1: n+26.0 Out2-3: n+27.0
(8) [OutputEnabled]	Out0-1: n+22.0 Out2-3: n+23.0



## Run To Limit Mode (DL-PLC)

**PARAMETERS:**

(1) [CommandCode]:  
Out0-1: n+10  
Out2-3: n+16

(2) [Parameter1]  
Out0-1: n+11  
Out2-3: n+17

(3) [Limit-Duty]  
Out0-1: n+12  
Out2-3: n+20

(4) [ProcessCmd]  
Out0-1: n+26.7  
Out2-3: n+27.7

(5) [CmdComplete]  
Out0-1: n+22.7  
Out2-3: n+23.7

(6) [CmdError]  
Out0-1: n+22.6  
Out2-3: n+23.6

(7) [Direction]  
Out0-1: n+26.4  
Out2-3: n+27.4

(8) [EnableOutput]  
Out0-1: n+26.0  
Out2-3: n+27.0

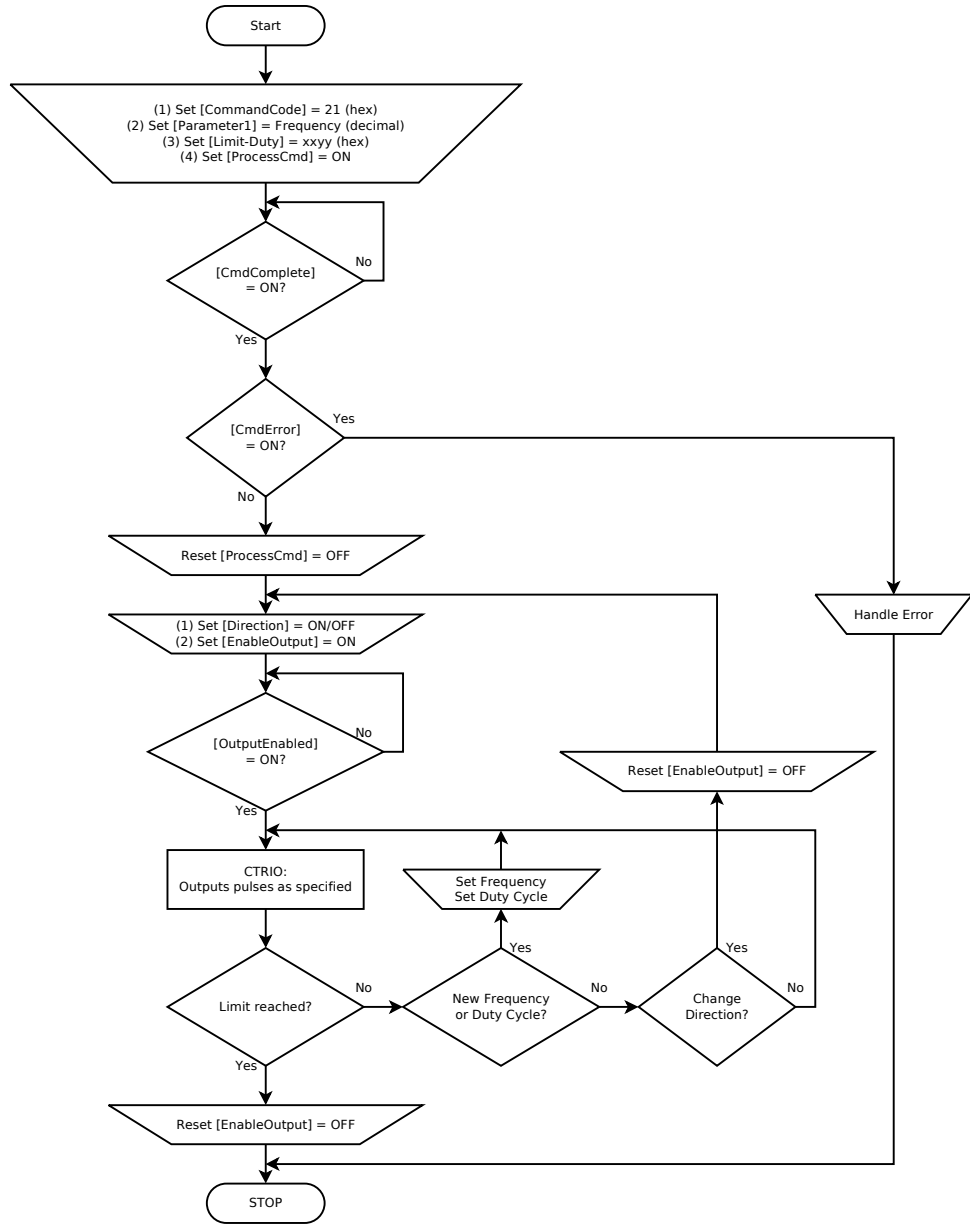
(9) [OutputEnabled]  
Out0-1: n+22.0  
Out2-3: n+23.0

**KEY:**

xyyy (hex):

xx: Limit  
00 = Ch1 Input C High  
10 = Ch1 Input C Low  
01 = Ch1 Input D High  
11 = Ch1 Input D Low  
02 = Ch2 Input C High  
12 = Ch2 Input C Low  
03 = Ch2 Input D High  
13 = Ch2 Input D Low

yy: Duty Cycle



## Run To Position Mode (DL-PLC)

**PARAMETERS:**

(1) [CommandCode]:  
Out0-1: n+10  
Out2-3: n+16

(2) [Parameter1]  
Out0-1: n+11  
Out2-3: n+17

(3) [Funct-Duty]  
Out0-1: n+12  
Out2-3: n+20

(4) [Parameter3]  
Out0-1: n+0-1  
Out2-3: n+4-5

(5) [ProcessCmd]  
Out0-1: n+26.7  
Out2-3: n+27.7

(6) [CmdComplete]  
Out0-1: n+22.7  
Out2-3: n+23.7

(7) [CmdError]  
Out0-1: n+22.6  
Out2-3: n+23.6

(8) [Direction]  
Out0-1: n+26.4  
Out2-3: n+27.4

(9) [EnableOutput]  
Out0-1: n+26.0  
Out2-3: n+27.0

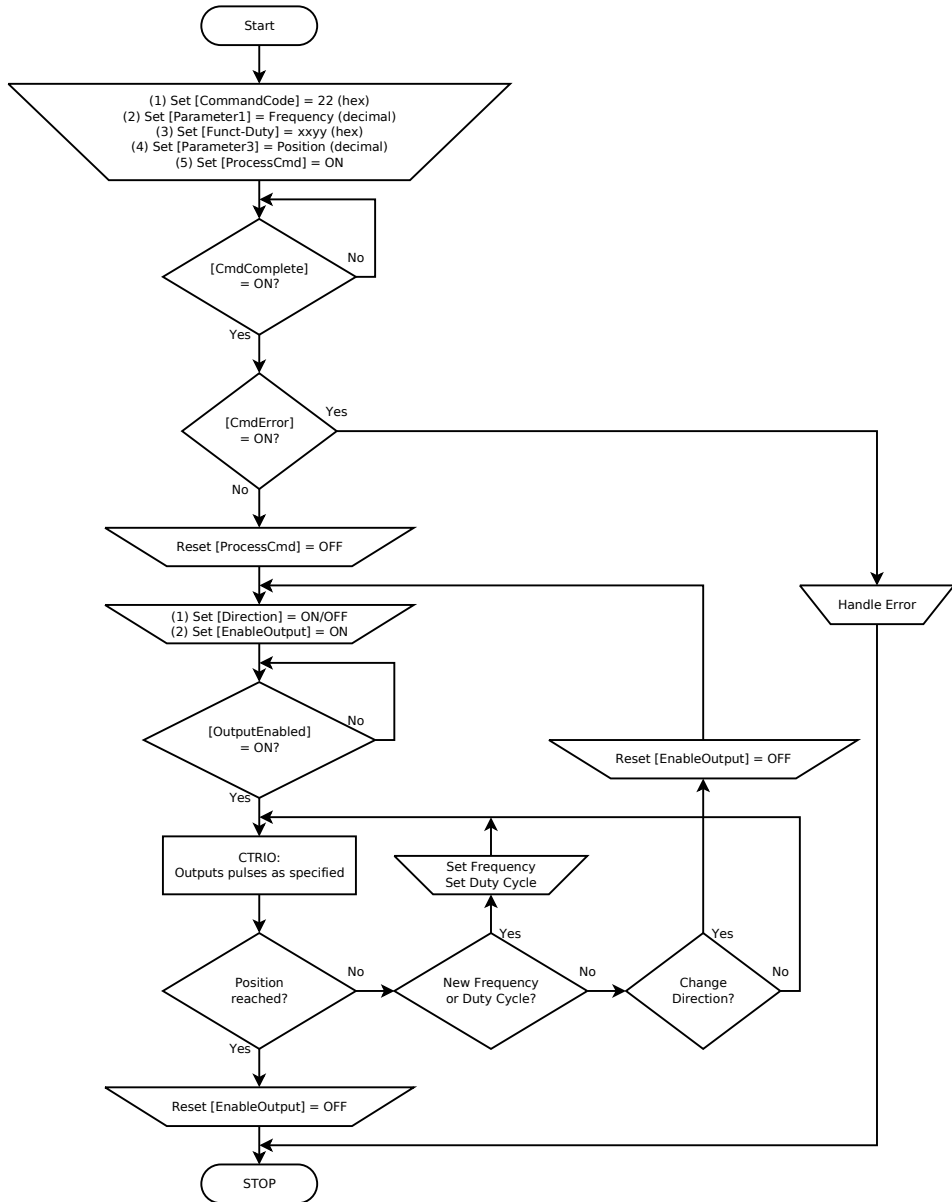
(10) [OutputEnabled]  
Out0-1: n+22.0  
Out2-3: n+23.0

**KEY:**

xxyy (hex):

xx: Funct  
00 = <Ch1/Fn1  
10 = >Ch1/Fn1  
01 = <Ch1/Fn2  
11 = >Ch1/Fn2  
02 = <Ch2/Fn1  
12 = >Ch2/Fn1  
03 = <Ch2/Fn2  
13 = >Ch2/Fn2

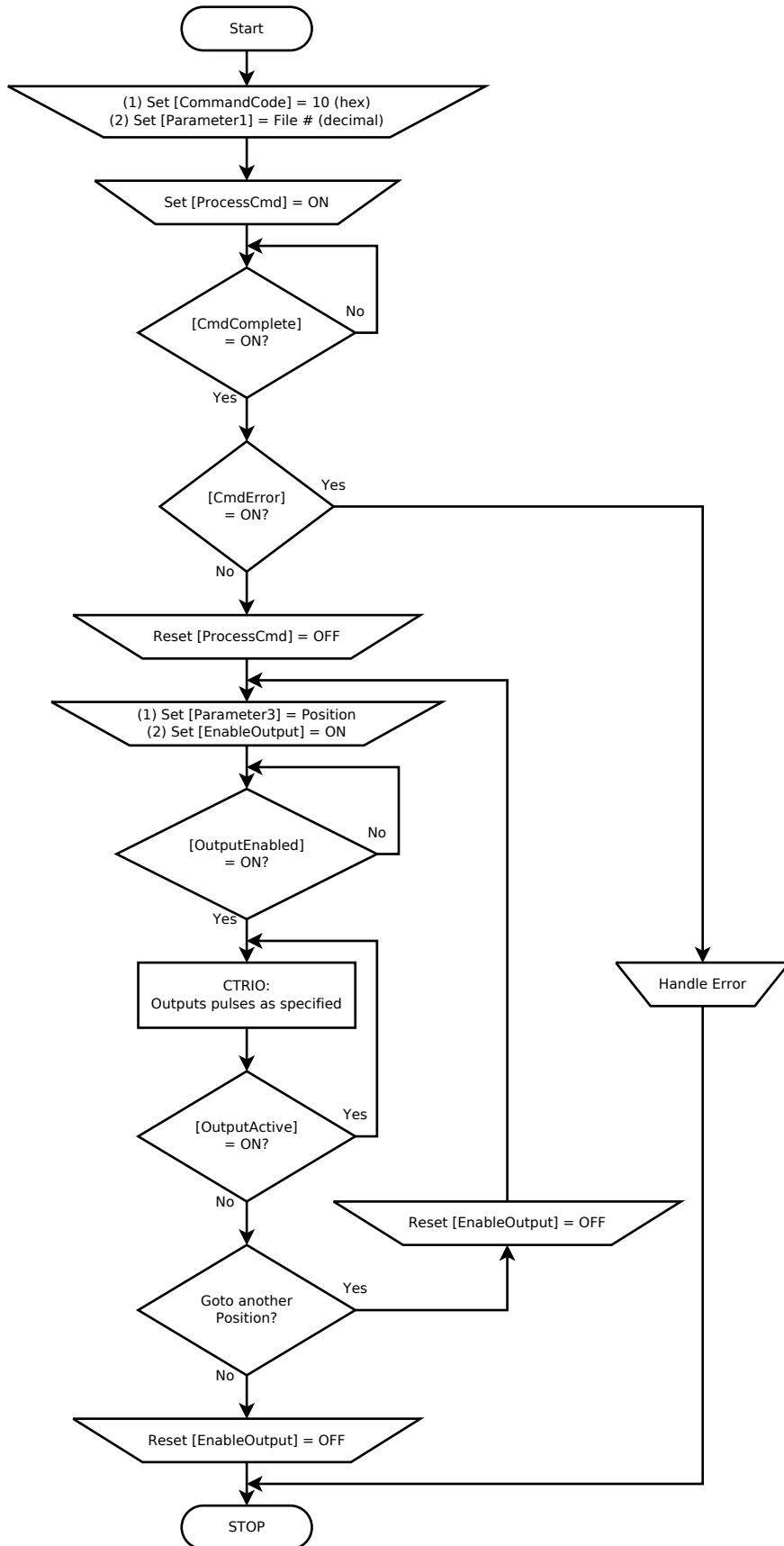
yy: Duty Cycle





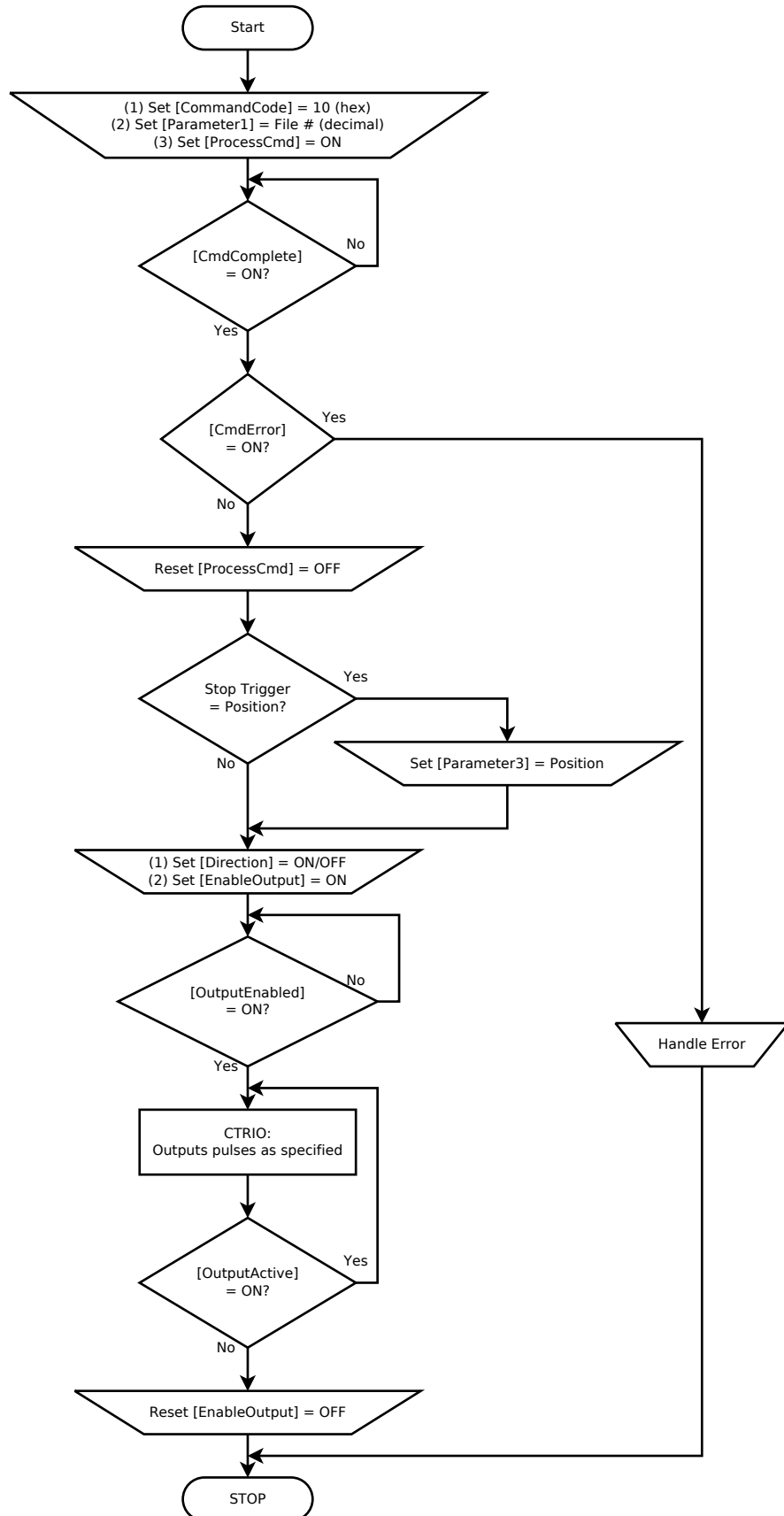
## Run Trapezoid PLUS (DL-PLC)

PARAMETERS:	
(1) [CommandCode]:	Out0-1: n+10 Out2-3: n+16
(2) [Parameter1]	Out0-1: n+11 Out2-3: n+17
(3) [Parameter3]	Out0-1: n+0-1 Out2-3: n+4-5
(4) [ProcessCmd]	Out0-1: n+26.7 Out2-3: n+27.7
(5) [CmdComplete]	Out0-1: n+22.7 Out2-3: n+23.7
(6) [CmdError]	Out0-1: n+22.6 Out2-3: n+23.6
(7) [EnableOutput]	Out0-1: n+26.0 Out2-3: n+27.0
(8) [OutputEnabled]	Out0-1: n+22.0 Out2-3: n+23.0
(9) [OutputActive]	Out0-1: n+22.4 Out2-3: n+23.4



## Run Trapezoid With Limits (DL-PLC)

PARAMETERS:	
(1) [CommandCode]:	Out0-1: n+10 Out2-3: n+16
(2) [Parameter1]	Out0-1: n+11 Out2-3: n+17
(3) [Parameter3]	Out0-1: n+0-1 Out2-3: n+4-5
(4) [ProcessCmd]	Out0-1: n+26.7 Out2-3: n+27.7
(5) [CmdComplete]	Out0-1: n+22.7 Out2-3: n+23.7
(6) [CmdError]	Out0-1: n+22.6 Out2-3: n+23.6
(7) [Direction]	Out0-1: n+26.4 Out2-3: n+27.4
(8) [EnableOutput]	Out0-1: n+26.0 Out2-3: n+27.0
(9) [OutputEnabled]	Out0-1: n+22.0 Out2-3: n+23.0
(10) [OutputActive]	Out0-1: n+22.4 Out2-3: n+23.4



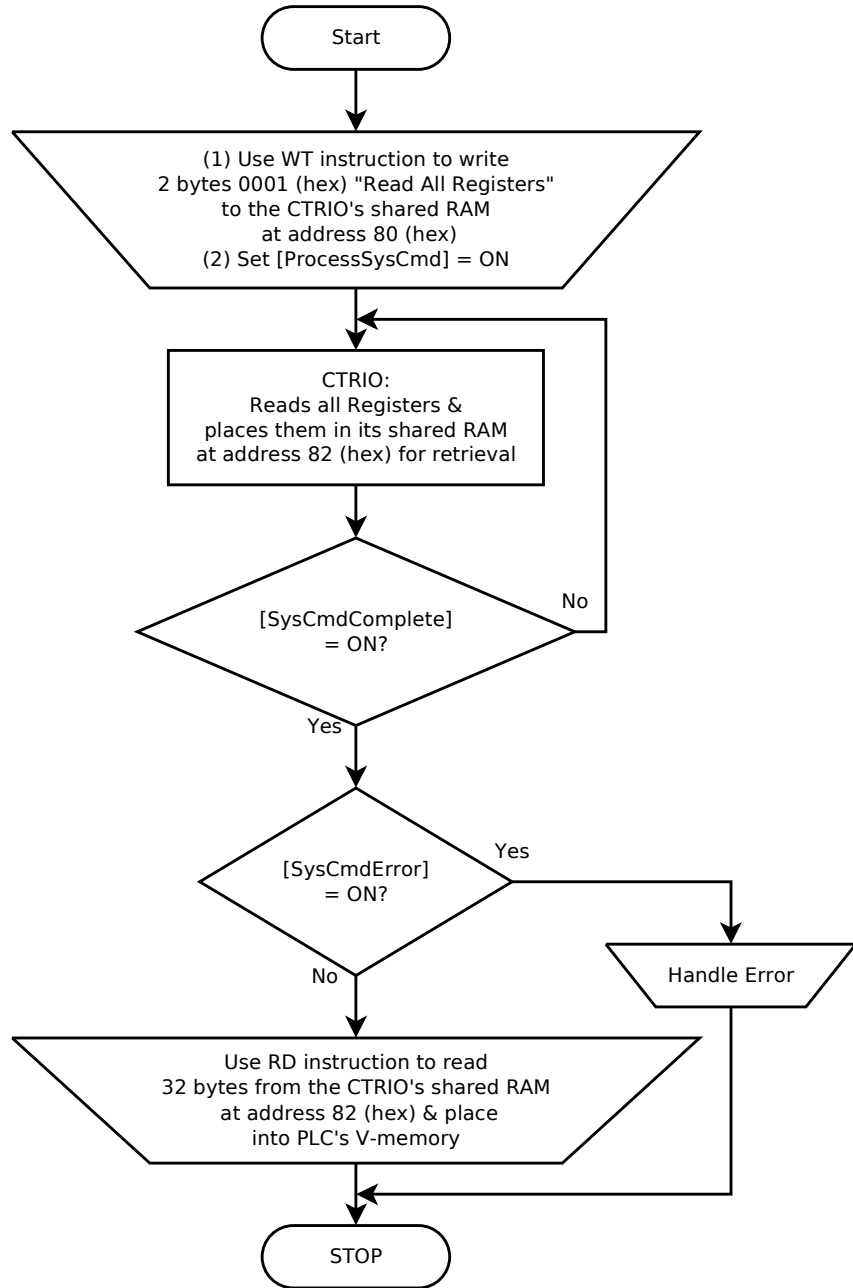
## System Function (Read All Registers) (DL-PLC)

**PARAMETERS:**

- (1) [ProcessSysCmd]  
n+30.7
- (2) [SysCmdComplete]  
n+24.7
- (3) [SysCmdError]  
n+24.6

**DATA:**

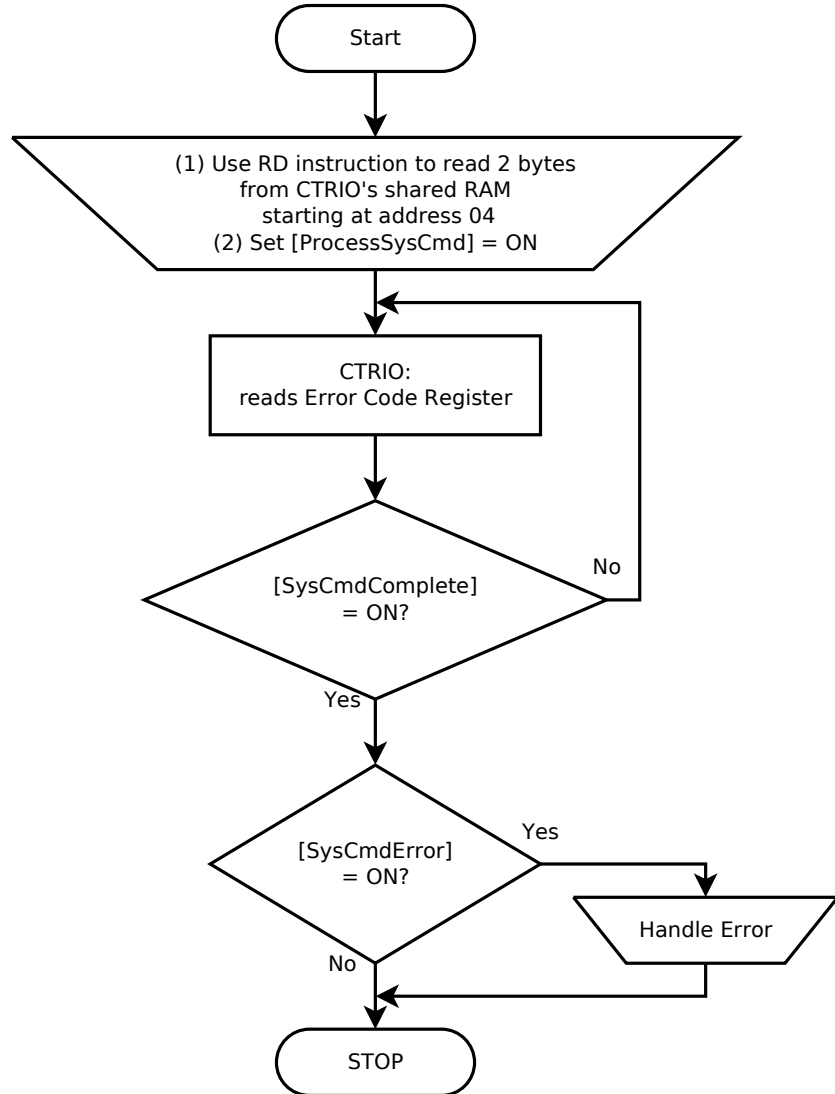
- Bytes 0-3: Ch1/Fn1
- Bytes 4-7: Ch1/Fn2
- Bytes 10-13: Ch2/Fn1
- Bytes 14-17: Ch2/Fn2
- Bytes 20-23: Output0
- Bytes 24-27: Output1
- Bytes 30-33: Output2
- Bytes 34-37: Output3



# System Function (Read Error Code) (DL-PLC)

PARAMETERS:

- (1) [ProcessSysCmd]  
n+30.7
- (2) [SysCmdComplete]  
n+24.7
- (3) [SysCmdError]  
n+24.6



# System Function (Read One Register) (DL-PLC)

**PARAMETERS:**

(1) [ProcessSysCmd]  
n+30.7

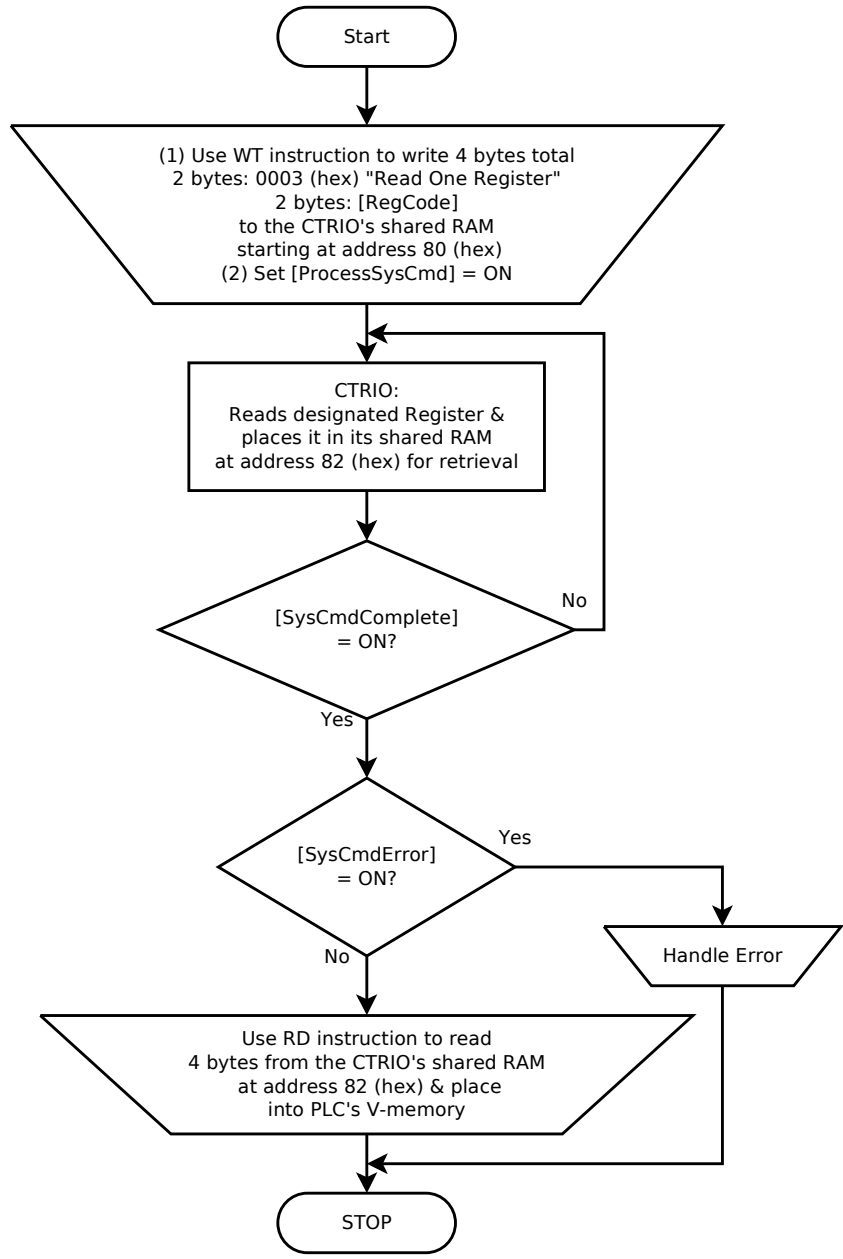
(2) [SysCmdComplete]  
n+24.7

(3) [SysCmdError]  
n+24.6

**KEY:**

[RegCode]  
(hex value):

0000 = Ch1/Fn1  
0001 = Ch1/Fn2  
0002 = Ch2/Fn1  
0003 = Ch2/Fn2  
0004 = Output0  
0005 = Output1  
0006 = Output2  
0007 = Output3  
0008 = Ch1/Fn1 Reset  
0009 = Ch1/Fn2 Reset  
000A = Ch2/Fn1 Reset  
000B = Ch2/Fn2 Reset  
000C = Ch1A Filter  
000D = Ch1B Filter  
000E = Ch1C Filter  
000F = Ch1D Filter  
0010 = Ch2A Filter  
0011 = Ch2B Filter  
0012 = Ch2C Filter  
0013 = Ch2D Filter



# System Function (Write All Registers) (DL-PLC)

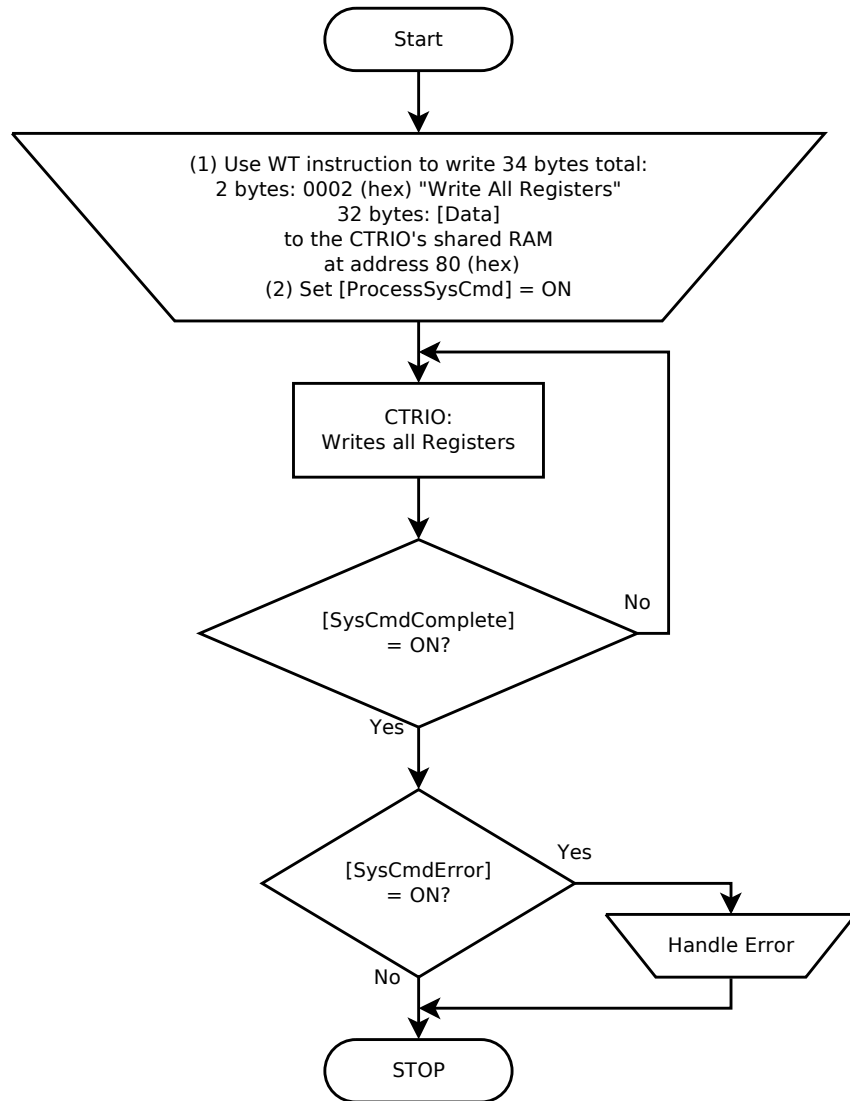
**PARAMETERS:**

- (1) [ProcessSysCmd]  
n+30.7
- (2) [SysCmdComplete]  
n+24.7
- (3) [SysCmdError]  
n+24.6

**KEY:**

[Data]:

- Bytes 1-4: Ch1/Fn1
- Bytes 5-8: Ch1/Fn2
- Bytes 9-12: Ch2/Fn1
- Bytes 13-16: Ch2/Fn2
- Bytes 17-20: Output0
- Bytes 21-24: Output1
- Bytes 25-28: Output2
- Bytes 29-32: Output3



# System Function (Write One Register) (DL-PLC)

**PARAMETERS:**

(1) [ProcessSysCmd]  
n+30.7

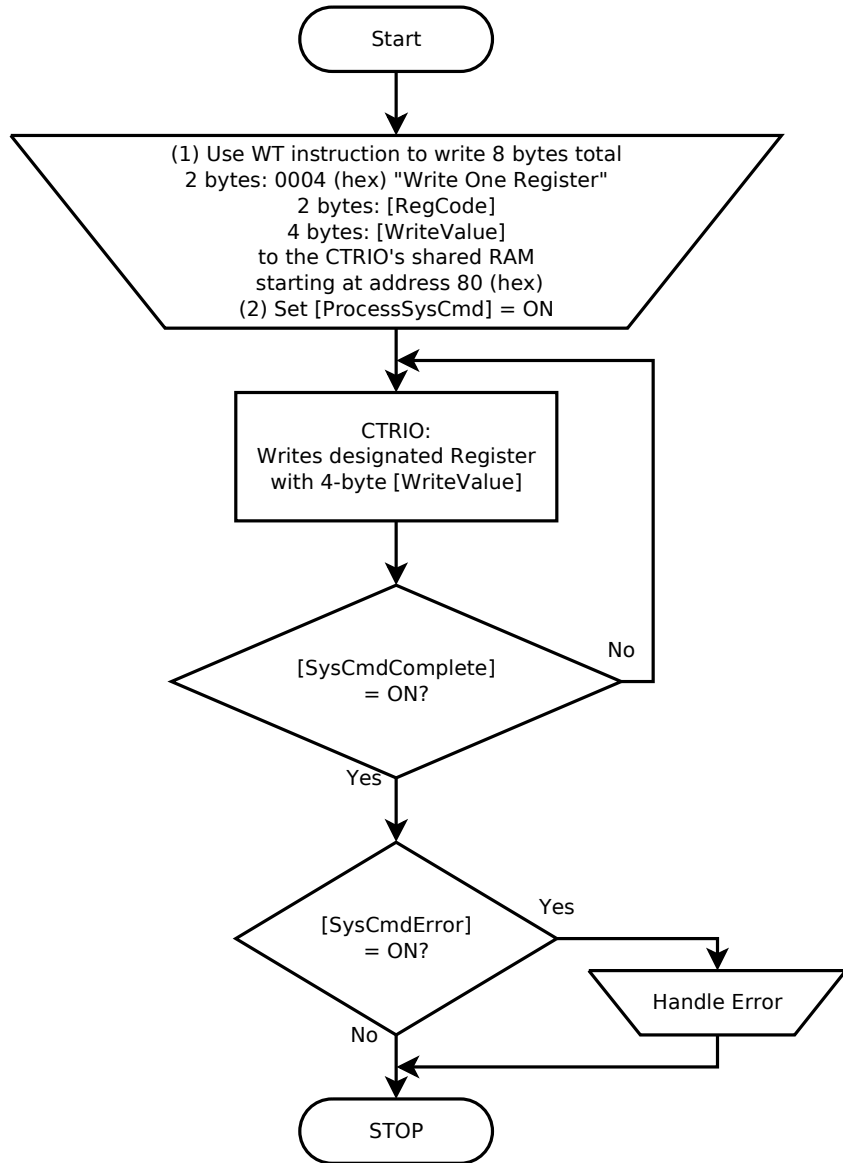
(2) [SysCmdComplete]  
n+24.7

(3) [SysCmdError]  
n+24.6

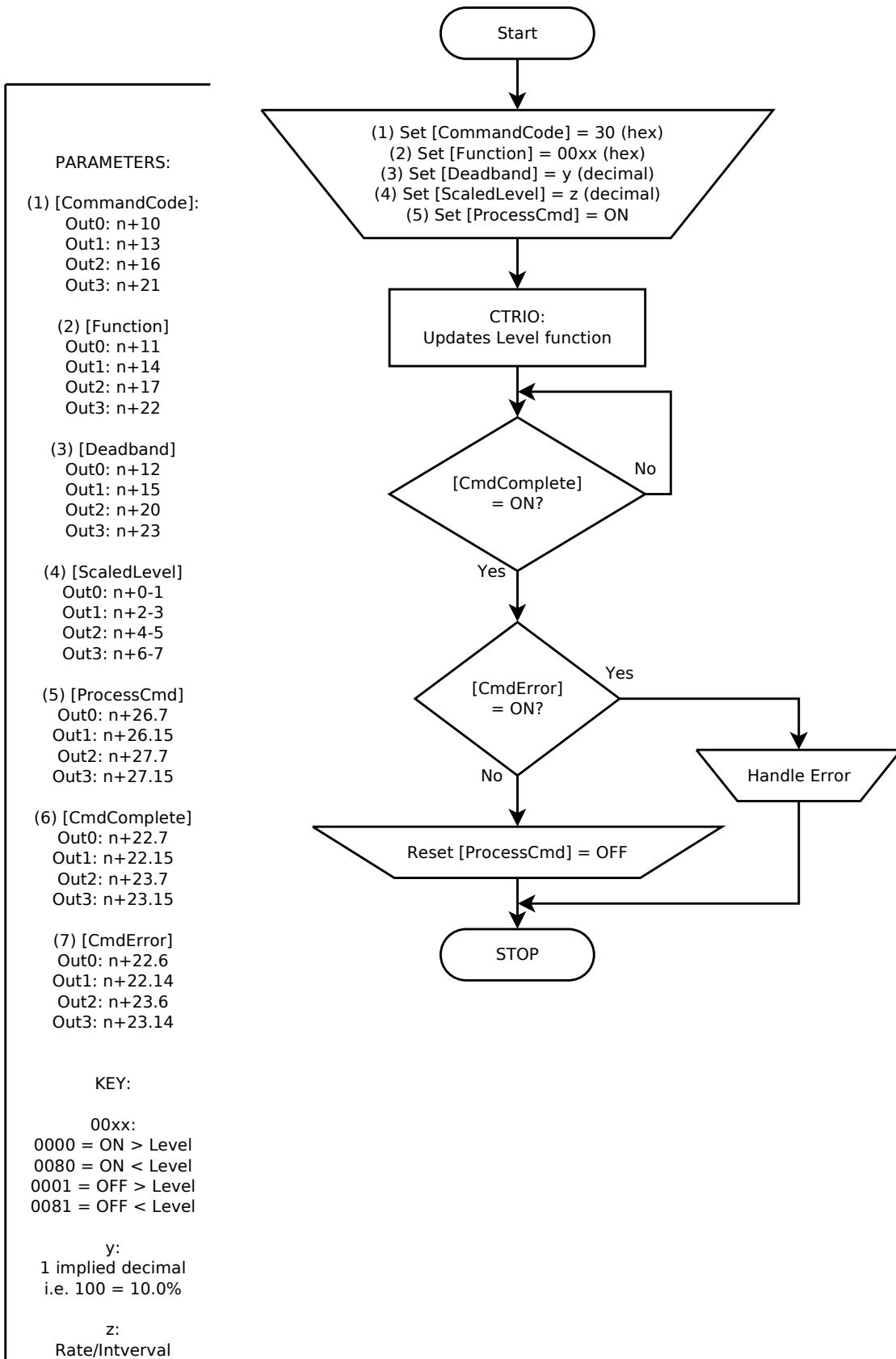
**KEY:**

[RegCode]  
(hex value):

0000 = Ch1/Fn1  
 0001 = Ch1/Fn2  
 0002 = Ch2/Fn1  
 0003 = Ch2/Fn2  
 0004 = Output0  
 0005 = Output1  
 0006 = Output2  
 0007 = Output3  
 0008 = Ch1/Fn1 Reset  
 0009 = Ch1/Fn2 Reset  
 000A = Ch2/Fn1 Reset  
 000B = Ch2/Fn2 Reset  
 000C = Ch1A Filter  
 000D = Ch1B Filter  
 000E = Ch1C Filter  
 000F = Ch1D Filter  
 0010 = Ch2A Filter  
 0011 = Ch2B Filter  
 0012 = Ch2C Filter  
 0013 = Ch2D Filter

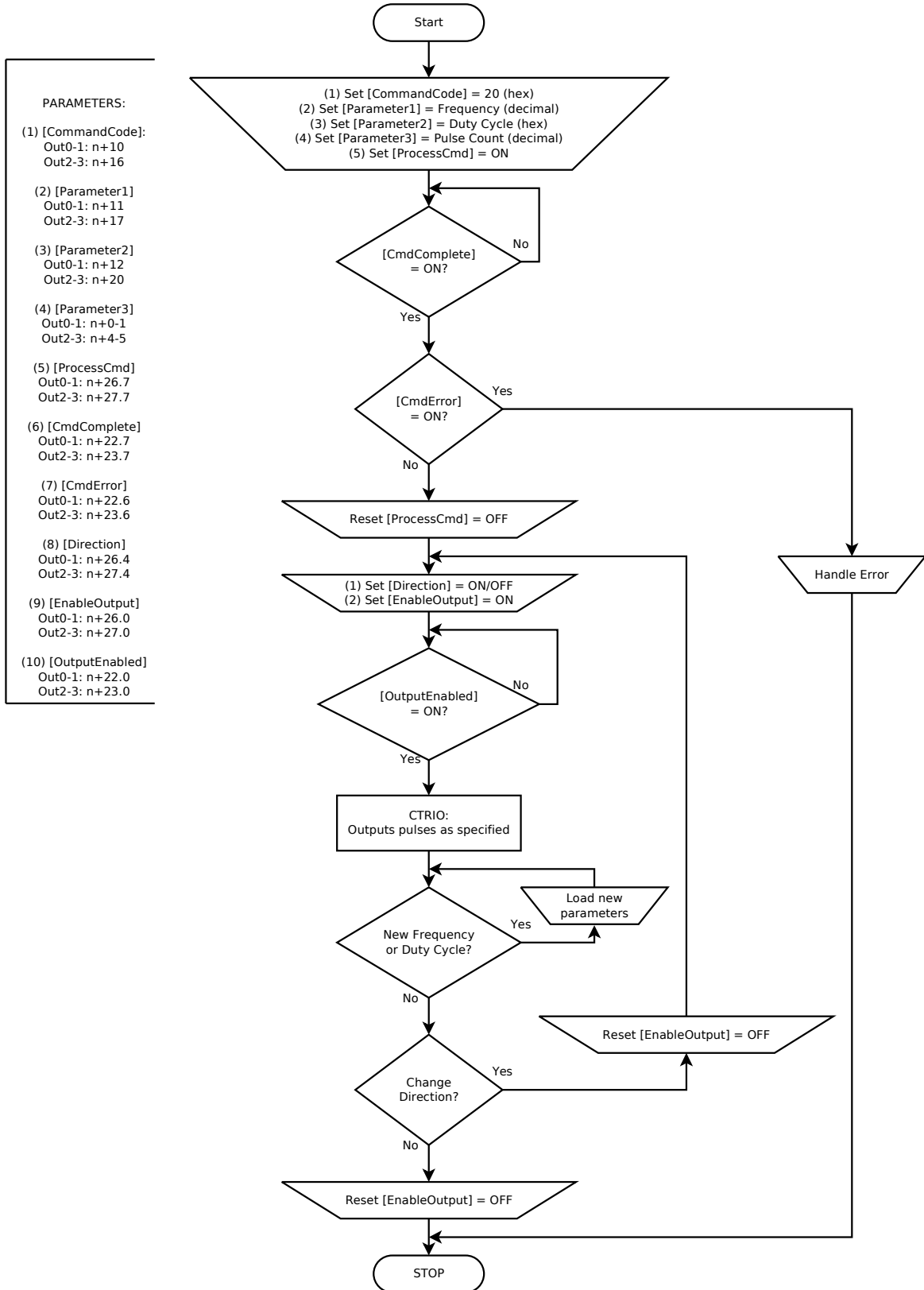


# Update Level (DL-PLC)





## Velocity Mode (DL-PLC)



# Write File to ROM (DL-PLC)

PARAMETERS:	
(1) [CommandCode]:	
Out0:	n+10
Out1:	n+13
Out2:	n+16
Out3:	n+21
(2) [ProcessCmd]	
Out0:	n+26.7
Out1:	n+26.15
Out2:	n+27.7
Out3:	n+27.15
(3) [CmdComplete]	
Out0:	n+22.7
Out1:	n+22.15
Out2:	n+23.7
Out3:	n+23.15
(4) [CmdError]	
Out0:	n+22.6
Out1:	n+22.14
Out2:	n+23.6
Out3:	n+23.14

