

## Example 7.5 - Operator Interface for Simple tank level control

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Convert level measurement into units of feet

0000

SCP	
Scale w/Parameters	
Input	I:1.0
	0<
Input Min.	6241
	6241<
Input Max.	31206
	31206<
Scaled Min.	100
	100<
Scaled Max.	1500
	1500<
Output	N7:0
	0<

Level of tank in  
feet

LT428\_VAL

DIV	
Divide	
Source A	N7:0
	0<
Source B	100.0
	100.0<
Dest	F8:20
	10.5<

## Control of Physical Outputs

Level of tank in  
feet

LT428\_VAL

Level of tank in  
feet

LT428\_VAL

Enables level  
control

T428\_CNTRL

Inlet valve control

XV427\_OPEN

0001

LES	
Less Than (A<B)	
Source A	F8:20
	10.5<
Source B	F8:21
	0.0<

Inlet valve control

XV427\_OPEN

O:0/0

LEQ	
Less Than or Eql (A<=B)	
Source A	F8:20
	10.5<
Source B	F8:22
	0.0<

B3/121

O:0/0

0002

## Additional ladder logic for Example 7.5

Calculate level for operator display

Current level in  
tenths of feet for  
operator display  
LT428\_DISP

MUL

Multiply

Source A	F8:20
	10.5<
Source B	10.0
	10.0<
Dest	N7:10
	105<

0003

Get minimum level from operator, convert to feet and calculate maximum level

Minimum tank level  
for control

T428\_MIN

DIV

Divide

Source A	N7:11
	16383<
Source B	10.0
	10.0<
Dest	F8:21
	0.0<

Maximum tank level  
for control

T428\_MAX

ADD

Add

Source A	F8:21
	0.0<
Source B	1.5
	1.5<
Dest	F8:22
	0.0<

0004

Low alarm lamp when level &lt; 4 feet

Level of tank in  
feet

LT428\_VAL

Low alarm indication

T428\_LOLA

B3/10

LES

Less Than (A&lt;B)

Source A	F8:20
	10.5<
Source B	4.0
	4.0<

0005

Level &lt; 2 activates horn

Level of tank in  
feet

LT428\_VAL

Activate horn

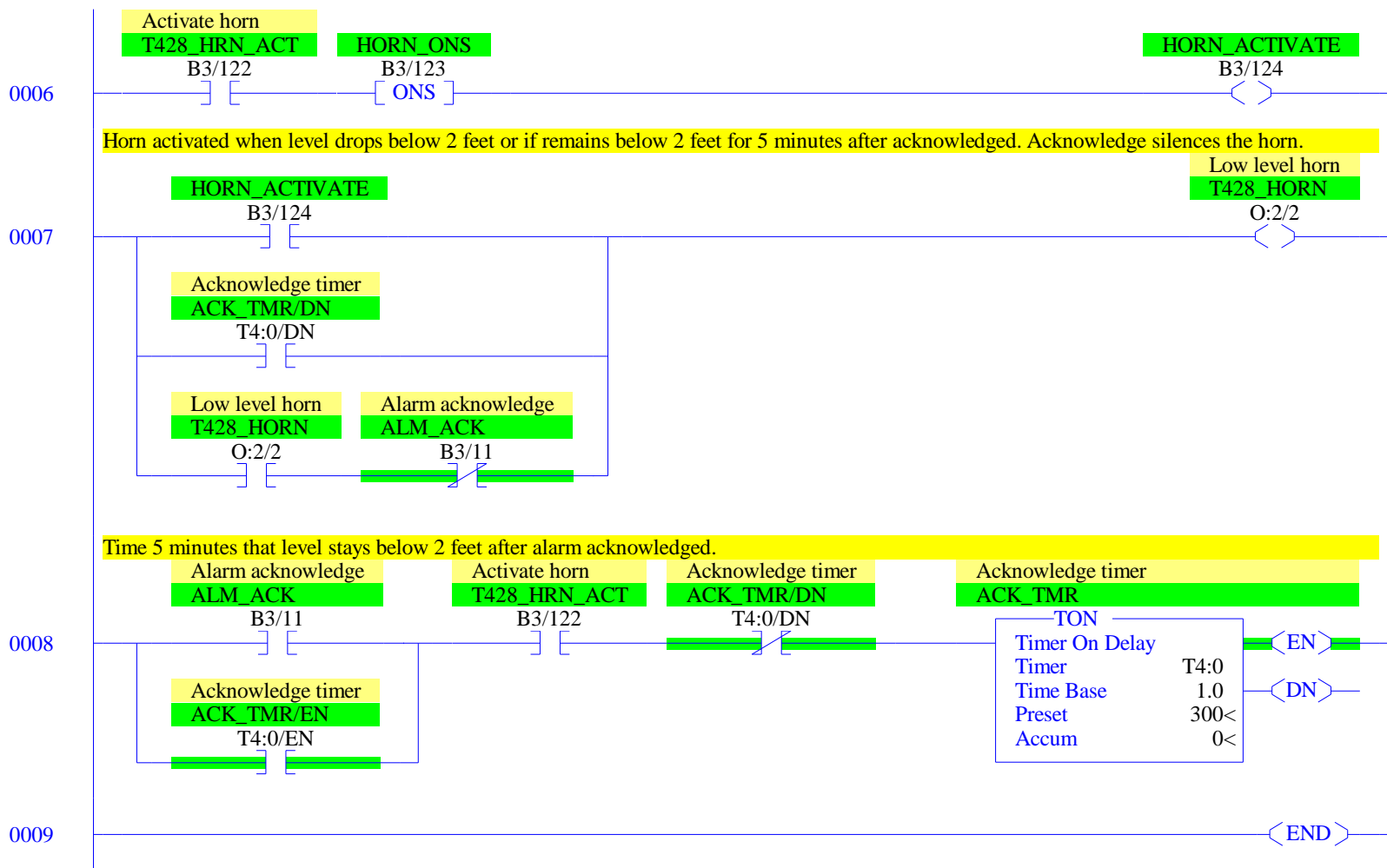
T428\_HRN\_ACT

B3/122

LES

Less Than (A&lt;B)

Source A	F8:20
	10.5<
Source B	2.0
	2.0<



## RSLogix 500 Cross Reference Report - Sorted by Address

O:0/0	- {XV427_OPEN} Inlet valve control OTE - File #2 - 1 XIC - File #2 - 1
O:2/2	- {T428_HORN} Low level horn OTE - File #2 - 7 XIC - File #2 - 7
I:1.0	- {LT428_MEAS} Level measurement SCP - File #2 - 0
B3/10	- {T428_LOLA} Low alarm indication OTE - File #2 - 4
B3/11	- {ALM_ACK} Alarm acknowledge XIC - File #2 - 8 XIO - File #2 - 7
B3/121	- {T428_CNTRL} Enables level control XIC - File #2 - 1
B3/122	- {T428_HRN_ACT} Activate horn OTE - File #2 - 5 XIC - File #2 - 6, 8
B3/123	- {HORN_ONS} ONS - File #2 - 6
B3/124	- {HORN_ACTIVATE} OTE - File #2 - 6 XIC - File #2 - 7
T4:0	- {ACK_TMR} Acknowledge timer TON - File #2 - 8
T4:0/DN	- XIC - File #2 - 7 XIO - File #2 - 8
T4:0/EN	- XIC - File #2 - 8
N7:0	- SCP - File #2 - 0 DIV - File #2 - 0
N7:10	- {LT428_DISP} Current level in tenths of feet for operator display MUL - File #2 - 2
N7:11	- {LT428_MINDP} Minimum control in tenths of feet. From operator. DIV - File #2 - 3
F8:20	- {LT428_VAL} Level of tank in feet MUL - File #2 - 2 LES - File #2 - 1, 4, 5 LEQ - File #2 - 1 DIV - File #2 - 0
F8:21	- {T428_MIN} Minimum tank level for control ADD - File #2 - 3 DIV - File #2 - 3 LES - File #2 - 1
F8:22	- {T428_MAX} Maximum tank level for control ADD - File #2 - 3 LEQ - File #2 - 1