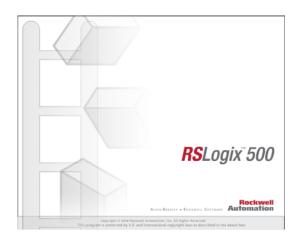
RSLogix 500 Project Report



Processor Information

Processor Type: 1747-L531E 5/03 CPU - 8K Mem. OS302 Series C FRN 3-8

Processor Name: UNTITLED

Total Memory Used: 55 Instruction Words Used - 42 Data Table Words Used

Total Memory Left: 4041 Instruction Words Left

Program Files: 6

Data Files: 9

Program ID: 79ac

I/O Configuration

0	1747-L531E	5/03 CPU - 8K Mem. OS302 Series C F
1	1746-IB16	16-Input (SINK) 24 VDC
2	1746-OW16	16-Output (RLY) 240 VAC
3	1746-IO4	2-Input 100/120 VAC, 2-Output (RLY)
4		
5		
6		

Channel Configuration

GENERAL Channel 0 Write Protected: No

Channel 0 Edit Resource/Owner Timeout(x1 sec): 60 Channel O Passthru Link ID(dec): 1 Channel O Current Mode: System Channel O Mode Change Enabled: No Channel 0 Mode Change Attention Character: \1b Channel O Mode Change System Character: S Channel O Mode Change User Character: U CHANNEL 1 (SYSTEM) - Driver: Shutdown CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex Source ID: 9 (decimal) Baud: 19200 Parity: NONE Stop Bits: 1 Control Line : No Handshaking Error Detection: CRC Embedded Responses: Enabled Duplicate Packet Detect: Yes ACK Timeout(x20 ms): 50 NAK Retries: 3 ENQ Retries: 3

CHANNEL 0 (USER) - Driver: Shutdown

${\tt FINALCODEHEATEXCHANGER}$

Program File List

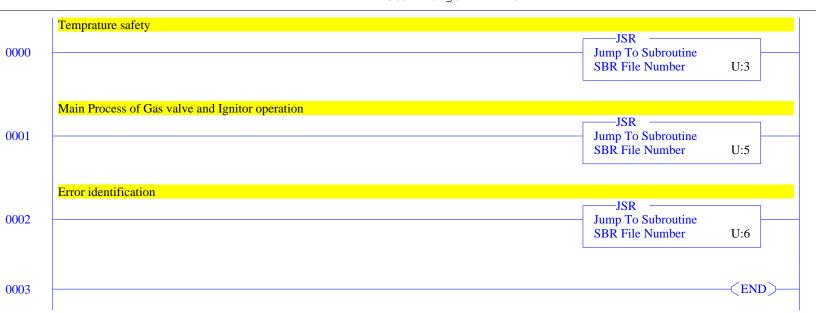
Name	Number	Type	Rungs	Debug	Bytes	
[SYSTEM]	0	SYS	0	No	0	
	1	SYS	0	No	0	
MAIN	2	LADDER	4	No	30	
SAFETY	3	LADDER	3	No	23	
GAS + IGIN	5	LADDER	4	No	94	
ERROR	6	LADDER	6	No	105	

Data File List

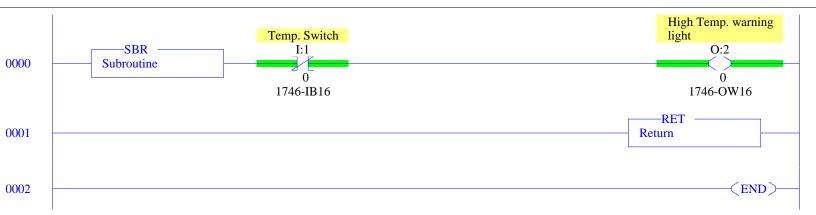
Name	Number	Type	Scope	Debug	Words	Element	s Last		
OUTPUT	0	0	Global	No	6	2	O:1		
INPUT	1	I	Global	No	6	2	I:1		
STATUS	2	S	Global	No	0	83	S:82		
BINARY	3	В	Global	No	2	2	B3:1		
TIMER	4	T	Global	No	9	3	T4:2		
COUNTER	5	C	Global	No	3	1	C5:0		
CONTROL	6	R	Global	No	3	1	R6:0		
INTEGER	7	N	Global	No	11	11	N7:10		
FLOAT	8	F	Global	No	2	1	F8:0		

${\tt FINALCODEHEATEXCHANGER}$

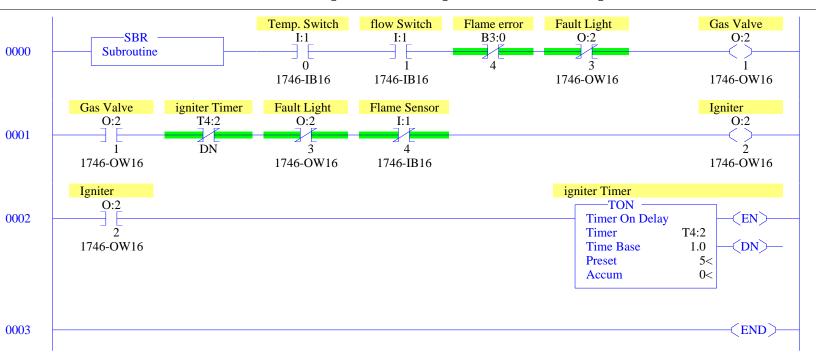
LAD 2 - MAIN --- Total Rungs in File = 4



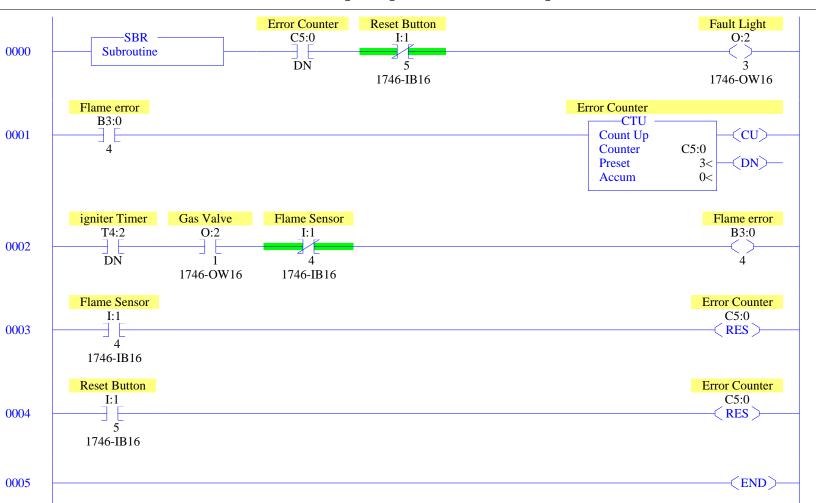
LAD 3 - SAFETY --- Total Rungs in File = 3



LAD 5 - GAS + IGIN - Routine for gas value and ignitier --- Total Rungs in File = 4



LAD 6 - ERROR - Flame not igniting error --- Total Rungs in File = 6



Data File O0 (bin) -- OUTPUT

Offset 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

0:2.0

0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1746-OW16 - 16-Output (RLY) 240 VAC 0 0 1746-IO4 - 2-Input 100/120 VAC, 2-Output (RL 0:3.0

Data File I1 (bin) -- INPUT

Offset 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

I:1.0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 1746-IB16 - 16-Input (SINK) 24 VDC

I:3.0 0 0 1746-IO4 - 2-Input 100/120 VAC, 2-Output (RL

Data File S2 (hex) -- STATUS

Main

```
First Pass S:1/15 = No
                                                                        DD / MM / YYYY
                                                          Date S:39-37 = 4 / 4 / 1913
Index Register S:24 = 0
Free Running Clock S:4 = 1000-0010-1000-0011
Index Across Data Files S:2/3 = No
                                                                      HH : MM : SS
CIF Addressing Mode S:2/8 = 0
                                                           Time S:40-42 = 17 : 5 : 32
Online Edits S:33/11 - S:33/12 = No online edits exist
Proc
OS Catalog Number S:57 = 302
                                      User Program Type S:63 = 1
OS Series S:58 = C
                                      User Program Functionality Index S:64 = 95
OS FRS S:59 = 6
                                      User RAM Size S:66 = 8
Processor Catalog Number S:60 = 531
                                      OS Memory Size S:66 = 480
Processor Series S:61 = E
Processor FRN S:62 = 8
Scan Times
Maximum (x10 ms) S:22 = 1
Average (x10 ms) S:23 = 0
Current (x10 ms) S:3 (low byte) = 0
Watchdog (x10 ms) S:3 (high byte) = 10
Last 1ms Scan Time S:35 = 3
Scan Toggle Bit S:33/9 = 1
Time Base Selection S:33/13 = 0
Math
Math Overflow Selected S:2/14 = 0
                                           Math Register (lo word) S:13 = 0
                                           Math Register (high word) S:14-S:13 = 0
Overflow Trap S:5/0 = 0
                                           Math Register (32 Bit) S:14-S:13 = 0
Carry S:0/0 = 0
Overflow S:0/1 = 0
Zero Bit S:0/2 = 0
Sign Bit S:0/3 = 0
IO
                                            Interrrupt Latency Control S:33/8 = 0
I/O Interrupt Executing S:32 = 0
                                             Event Interrupt 10 uS Time Stamp S:44 = 0
I/O Slot Enables: S:11 _S:12
               10
                                20
                                               30
              11111111
11111111
                                            11111111
                            11111111
I/O Slot Interrupt Enables: S:27 _S:28
              10
                                2.0
                                               30
Ω
11111111
              11111111
                            11111111
                                            11111111
I/O Slot Interrupt Pending: S:25 _S:26
              10 20
0
                                               30
00000000
              00000000
                             00000000
                                            00000000
Chan 0
Processor Mode S:1/0- S:1/4 = Remote Run
Channel Mode S:33/3 = 1
                                            DTR Control Bit S:33/14 = 0
Comms Active S:33/4 = 0
                                           DTR Force Bit S:33/15 = 0
Incoming Cmd Pending S:33/0 = 0
                                           Outgoing Msg Cmd Pending S:33/2 = 0
Msg Reply Pending S:33/1 = 0
                                           Comms Servicing Sel S:33/5 = 0
DH485 Pass-Thru Disabled Bit S:34/0 = 0
                                           Msg Servicing Sel S:33/6 = 0
```

Modem Lost S:5/14 = 0

DF1 Pass-Thru Enable Bit S:34/5 = 0

Data File S2 (hex) -- STATUS

Chan 1

```
Processor Mode S:1/0- S:1/4 = Remote Run
                                             Outgoing Msg Cmd Pending S:2/7 = 0
Node Address S:15 (low byte) = 1
Baud Rate S:15 (high byte) = 19200
                                             Comms Servicing Sel S:2/15 = 1
Comms Active S:1/7 = 0
                                             Msg Servicing Sel S:33/7 = 0
Incoming Cmd Pending S:2/5 = 0
Msg Reply Pending S:2/6 = 0
Active Nodes: S:9 _S:10
00000000
              00000000
                             00000000
                                             00000000
Debug
Suspend Code S:7 = 0
                                             Test Single Step Breakpoint
Suspend File S:8 = 0
                                             Rung \# S:18 = 0
Compiled For Single Step S:2/4 = Yes
                                             File # S:19 = 0
Fault/Powerdown
                                             Test Single Step
Fault/Powerdown (Rung #) S:20 = 0
                                             Rung \# S:16 = 0
(File #) S:21 = 0
                                             File # S:17 = 2
Errors
Fault Override At Power Up S:1/8 = 0
                                             ASCII String Manipulation error S:5/15 = 0
Startup Protection Fault S:1/9 = 0
                                             Fault Routine S:29 = 0
Major Error Halt S:1/13 = 0
                                             Major Error S:6 = 0h
Overflow Trap S:5/0 = 0
Control Register Error S:5/2 = 0
                                             Error Description:
Major Error Executing User Fault Rtn. S:5/3 = 0
MO/M1 Referenced On Disabled Slot S:5/4 = 0
Battery Low S:5/11 = 0
Fault/Powerdown (Rung #) S:20 = 0
(File #) S:21 = 0
STI
Setpoint (x10ms) S:30 = 0
                                             Resolution Select Bit S:2/10 = 0
File Number S:31 = 0
                                             Executing Bit S:2/2 = 0
10 uS Time Stamp S:43 = 0
                                             Overflow Bit S:5/10 = 0
Pending Bit S:2/0 = 0
                                             Lost S:36/9 = 0
Enable Bit S:2/1 = 1
                                             Interrrupt Latency Control S:33/8 = 0
DII
                                             File Number S:46 = 0
Preset S:50 = 0
Accumulator S:52 = 0
                                             Slot Number S:47 = 0
Pending Bit S:2/11 = 0
                                             Bit Mask S:48 = 0h
                                             Compare Value S:49 = 0h
Enable Bit S:2/12 = 1
Executing Bit S:2/13 = 0
                                            Return Mask S:51 = 0h
Reconfiguration Bit S:33/10 = 0
                                             Last Scan Time (x1 ms) S:55 = 0
Overflow Bit S:5/12 = 0
                                             Max Observed Scan Time (x1 ms) S:56 = 0
Lost S:36/8 = 0
                                             Interrrupt Latency Control S:33/8 = 0
10 uS Time Stamp S:45 = 0
Protection
Deny Future Access S:1/14 = No
Mem Module
Memory Module Loaded On Boot S:5/8 = 0
Password Mismatch S:5/9 = 0
Load Memory Module On Memory Error S:1/10 = 0
Load Memory Module Always S:1/11 = 0
Load Memory Module and RUN S:1/12 = 0
Program Compare S:2/9 = 0
Data File Overwrite Protection Lost S:36/10 = 0
```

Data File S2 (hex) -- STATUS

Forces

Forces Enabled S:1/5 = No Forces Installed S:1/6 = No

Data File B3 (bin) -- BINARY

Offset 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 (Symbol) Description

B3:0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1

B3:1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Data File T4 -- TIMER

Offset	EN	TT	DN	BASE	PRE	ACC	(Symbol) Description
т4:0	0	0	0	1.0 sec	20	20	
T4:1	0	0	0	.01 sec	0	0	
т4:2	0	0	0	1.0 sec	5	0	igniter Timer

Data File C5 -- COUNTER

Offset CU CD DN OV UN UA PRE ACC (Symbol) Description
C5:0 0 0 0 0 0 3 0 Error Counter

Data File R6 -- CONTROL

Offset EN EU DN EM ER UL IN FD LEN POS (Symbol) Description R6:0 0 0 0 0 0 0 0 0 0

Data File N7 (dec) -- INTEGER

Offset	0	1	2	3	4	5	6	7	8	9
N7:0 N7:10	0 0	0	0	0	0	0	0	0	0	0

Data File F8 -- FLOAT

Offset 0 1 2 3 4

F8:0 0

CDM 0 - Untitled

Address (Symbol) = Value [Description]

Address/Symbol Database

Address	Symbol	Scope	Description	Sym Group	Dev.	Code	ABV	BLW
B3:0 B3:0/0								
B3:0/3								
B3:0/4			Flame error					
B3:3/0								
C5:0			Error Counter					
I:1/0			Temp. Switch					
I:1/1			flow Switch					
I:1/4			Flame Sensor					
I:1/5			Reset Button					
O:2/0 O:2/1			High Temp. warning light Gas Valve					
0:2/1			Igniter					
0:2/3			Fault Light					
S:0			Arithmetic Flags					
S:0/0			Processor Arithmetic Carry Flag					
S:0/1			Processor Arithmetic Underflow/ Overflow F	lag				
S:0/2			Processor Arithmetic Zero Flag					
S:0/3			Processor Arithmetic Sign Flag					
S:1 S:1/0			Processor Mode Status/ Control Processor Mode Bit 0					
S:1/0 S:1/1			Processor Mode Bit 1					
S:1/2			Processor Mode Bit 2					
S:1/3			Processor Mode Bit 3					
S:1/4			Processor Mode Bit 4					
S:1/5			Forces Enabled					
S:1/6			Forces Present					
S:1/7 S:1/8			Comms Active Fault Override at Powerup					
S:1/8 S:1/9			Startup Protection Fault					
S:1/10			Load Memory Module on Memory Error					
S:1/11			Load Memory Module Always					
S:1/12			Load Memory Module and RUN					
S:1/13			Major Error Halted					
S:1/14			Access Denied					
S:1/15 S:2/0			First Pass STI Pending					
S:2/0 S:2/1			STI Fending STI Enabled					
S:2/2			STI Executing					
S:2/3			Index Addressing File Range					
S:2/4			Saved with Debug Single Step					
S:2/5			DH-485 Incoming Command Pending					
S:2/6			DH-485 Message Reply Pending					
S:2/7 S:2/15			DH-485 Outgoing Message Command Pending Comms Servicing Selection					
S:3			Current Scan Time/ Watchdog Scan Time					
S:4			Time Base					
S:5/0			Overflow Trap					
S:5/2			Control Register Error					
S:5/3			Major Err Detected Executing UserFault Rou	tine				
S:5/4 S:5/8			M0-M1 Referenced on Disabled Slot Memory Module Boot					
S:5/9			Memory Module Password Mismatch					
S:5/10			STI Overflow					
S:5/11			Battery Low					
S:6			Major Error Fault Code					
S:7			Suspend Code					
S:8 S:9			Suspend File Active Nodes					
S:10			Active Nodes					
S:11			I/O Slot Enables					
S:12			I/O Slot Enables					
S:13			Math Register					
S:14			Math Register					
S:15			Node Address/ Baud Rate					
S:16 S:17			Debug Single Step Rung Debug Single Step File					
S:18			Debug Single Step Breakpoint Rung					
S:19			Debug Single Step Breakpoint File					
S:20			Debug Fault/ Powerdown Rung					
S:21			Debug Fault/ Powerdown File					
S:22			Maximum Observed Scan Time					
S:23			Average Scan Time					
S:24 S:25			Index Register I/O Interrupt Pending					
S:26			I/O Interrupt Pending					
S:27			I/O Interrupt Enabled					
S:28			I/O Interrupt Enabled					
S:29			User Fault Routine File Number					
S:30			STI Setpoint					
S:31 S:32			STI File Number I/O Interrupt Executing					
S:33			Extended Proc Status Control Word					
S:33/0			Incoming Command Pending					
S:33/1			Message Reply Pending					

Address/Symbol Database

Address	Symbol	Scope	Description	Sym Group	Dev.	Code	ABV	BLW
S:33/2 S:33/3 S:33/4 S:33/5 S:33/6 S:33/7 S:33/10 S:33/11 S:33/12 S:33/13 S:33/13 S:33/14 S:34/2 S:34/0 S:34/1 S:34/2 S:35 S:36/8 S:36/9 S:36/10 S:37 S:38/9 S:36/10 S:37 S:38/9 S:36/10 S:37 S:38/9 S:38/9 S:36/10 S:37 S:38/9 S:40 S:41 S:42 S:45 S:44 S:45 S:47 S:48 S:49 S:50 S:55 S:55 S:55 S:55 S:55 S:55 S:55	Symbol	Scope	Outgoing Message Command Pending Selection Status User/DF1 Communicat Active Communicat Servicing Selection Message Servicing Selection Channel 0 Message Servicing Selection Channel 1 Interrupt Latency Control Flag Scan Toggle Flag Discrete Input Interrupt Reconfigur Flag Online Edit Status Scan Time Timebase Selection DTR Control Bit DTR Force Bit Pass-thru Disabled Pass-Thru Disabled Flag DH+ Active Node Table Enable Flag Floating Point Math Flag Disable,Fl Last 1 ms Scan Time Extended Minor Error Bits DII Lost STI Lost Memory Module Data File Overwrite Protection Clock Calendar Year Clock Calendar Month Clock Calendar Hours Clock Calendar Minutes Clock Calendar Minutes Clock Calendar Seconds STI Interrupt Time DII Interrupt Time DII Interrupt Time Discrete Input Interrupt- File Number Discrete Input Interrupt- Slot Number Discrete Input Interrupt- Compare Value Processor Catalog Number Discrete Input Interrupt- Return Number Discrete Input Interrupt- Recumulat Reserved/ Clock Calendar Day of the Week Last DII Scan Time Maximum Observed DII Scan Time Operating System Series Operating System FRN	Sym Group	Dev.	Code	ABV	BLW
S:57 S:58 S:59 S:61 S:62 S:63 S:64 S:65 S:66 S:67 S:68 S:70 S:71 S:72 S:73 S:74 S:75 S:75 S:75 S:76 S:77 S:78 S:78 S:79 S:80 S:81 S:82			Operating System Catalog Number Operating System Series					
S:83 S:84 S:85 S:86 T4:0 T4:0.ACC T4:0/DN T4:2	Т4	Global	DH+ Active Nodes DH+ Active Nodes DH+ Active Nodes DH+ Active Nodes					

Instruction Comment Database

Address Instruction Description

Group_Name Description