

OEM-PLC

Memory:

The memory of OEM-PLC is separated between bit memory and word memory .

Bit memory is 448 bits in total

80 Inputs : I 0 – I 79

80 Outputs : O 0 – O 79

32 timer : T 0 – T 31

256 flag : F 0 – F 255

Word memory is 256 words (16 bits) – DW 0 – DW 255.

The first 32 DW is actual value of timers

DW 32- DW 39 is Analog – Digital Converter values

The rest is free to use

OEM-PLC also has 2 -16 bit and 2 -32 bit accumulators

for doing mathematical and logical operations

OEM-PLC PC Utility Program

PC utility program is a DOS software written in Turbo Pascal 6

It can also be run under Win98

It uses COM1 port of PC

To start it run prov27.exe

It is controlled by Function Keys F1-F10

when the program is run at first it asks about the speed of computer

type a value (100- 2000) according to the speed of computer

If there is no communication between PLC and PC it says (Haberlesme Yok ...)

then give a value higher for speed of computer

For exiting from utility program press Esc in main menu

F1(YUKLE):with this function the PLC program is loaded into RAM memory of PLC.

The PLC is stopped when loading a program to PLC. The PLC program need to be

resident in Harddisk and it must be compiled already by F8. . The PLC program name is asked (Dosya :.....)When the loading is finished press Spacebar to return to main menu.

F2(KARSI) : Compare function compares the PLC program in PC with the program in PLC.The PLC program need to be resident in Harddisk and it must be compiled already by F8. . The PLC program name is asked (Dosya :.....)if the programs are identical it says (Program Ayni...) If the programs are different it gives the message (Program Farkli...).For returning to main menu hit Spacebar.

F3(START):With this function the PLC is run again if it is stopped .When the PLC is running the green LED blinks with frequency of $\frac{1}{2}$ Hz . If the PLC is stopped the green LED is on continuously.

F4(STOP): This function stops the PLC

F5(HATA) : This function returns the reason why the PLC is stopped

The reason why PLC is stopped maybe 1 of the following :

(Program Bozuk) :There is a corrupted program in the PLC

(RAM- Ariza) : RAM-Chip is faulty

(Hatali Emir) : There is an instruction in PLC program which is unknown by the PLC

(PC-Stop) : The PLC is stopped with PC (F4)

(Watchdog) : The watchdog of PLC stopped the PLC

F6(IZLE) : With this function the PLC is monitored during operation . The PLC program name is asked (Dosya :.....) The PLC program need to be resident in Harddisk . The program also asks the page of the PLC program to be monitored .The following keys can be used to see different parts of program : PageUp,PageDown,Up,Down.If the Enter Key is pressed the DW can be seen in 3 different formats : Decimal , Hex , Binary . To return to main menu press Spacebar

F7(EDITOR):With this function the PLC program is edited . The EDIT.COM program need to be resident in C:\dos directory.Press Spacebar to return to main menu

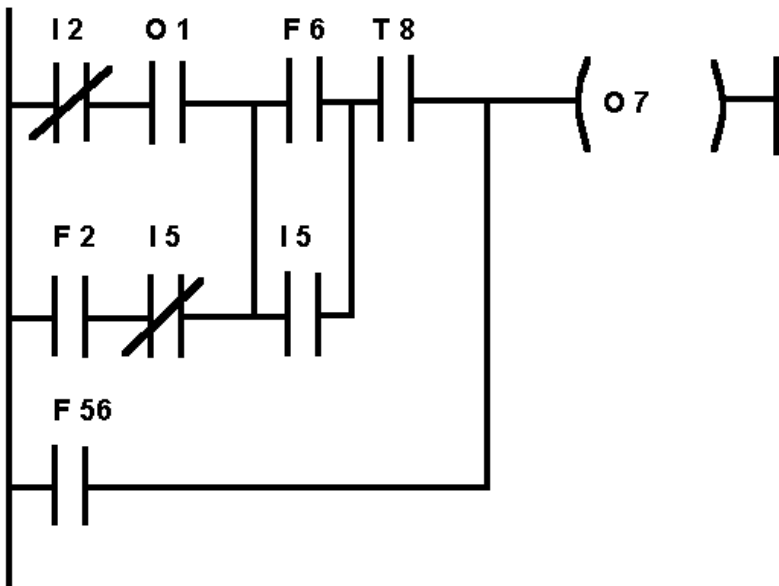
F8(CEVIR) : with this function the program written in Editor is compiled into PLC machine language .Press Spacebar to return to main menu

F9(EEPROM) : with this function the PLC program is transferred into EEPROM of PLC the PLC program to be transfered into EEPROM must have been already loaded into PLC –RAM . When this function is run wait until the green LED turns off and then on again . Press Spacebar to return to main menu

F10(TUSTKM) : with this function it is posibel to monitor the PLC as well as emulate the operator panel .The operator panel is displayed above the screen and the keys 0...9 and F1....F6 is also functioning .Press Spacebar to return to main menu .

Translation from Ladder to OEM-PLC

It is very easy to write program in OEM-PLC language .To translate from Ladder language follow the next example



```

A      O 1
(
AF     F 2
AN     I 5
)O
(
AF     F 6
O      I 5
)A
A      T 8
O      F 56
=      O 7

```

Basic Programming Examples

A PLC program consists of logic circuits .
RLO : Result of logic operation

```

...
...           Previous logic circuit
...
=   O 5           If RLO '1' then O 5 = '1'
      *****
AF  I 20          I 20 = '1'   RLO = '1'
AN  I 21          I 21 = '0'   RLO = '1'
A   I 22          I 22 = '0'   RLO = '0'
O   I 23          I 23 = '0'   RLO = '0'
O   I 24          I 24 = '1'   RLO = '1'
A   I 25          I 25 = '1'   RLO = '1'
=   O 6          O 6 = RLO = '1'
      *****
ANF I 33
...           Next logic circuit
...

```

Program Example:

```

AF  F 0
AN  F 0
=   F 0          F 0 always 0

AF  F 1
ON  F 1
=   F 1          F 1 always 1

```

D	F 2	F 2 1 in first scan then 0
AF	F 1	
AN	T 1	
L	20	2 Sec
ST	0	timer 0
AF	T 0	
L	30	3 Sec
ST	T 1	timer 1
AF	T 0	
=	O 0	O 0 3 Sec ON 2Sec OFF
NOT		
=	O 1	O 1 2 Sec ON 3Sec OFF
AF	F 2	
L	0	
TDW	20	DW 20 force to 0 in first scan
AF	I 3	at positive edge of I 3
D	F 3	F 3 is 1 for 1 scan
IDW	20	DW 20 incremented 1
LDW	20	
L	30	
F>		
S	F 5	when the counter DW20 is 31
L	0	F 5 becomes 1
TDW	20	and the counter is reset
ANF	I 4	I 4 when I 4 is 0
R	F 5	F 5 is reset