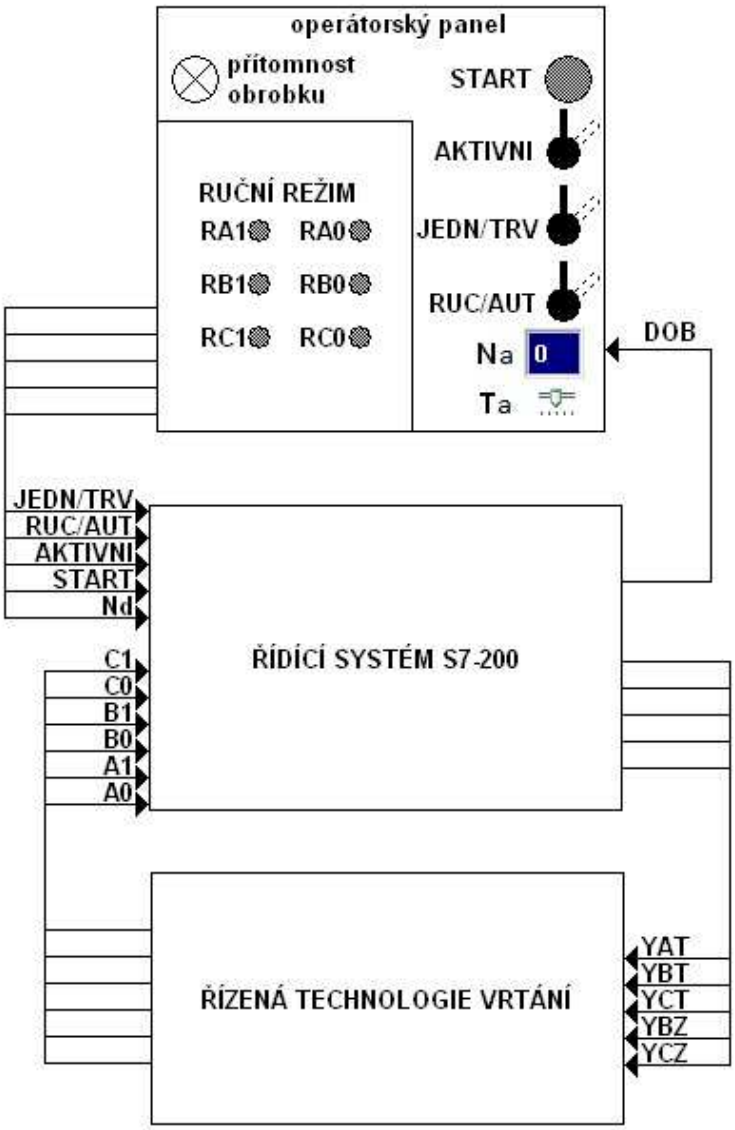
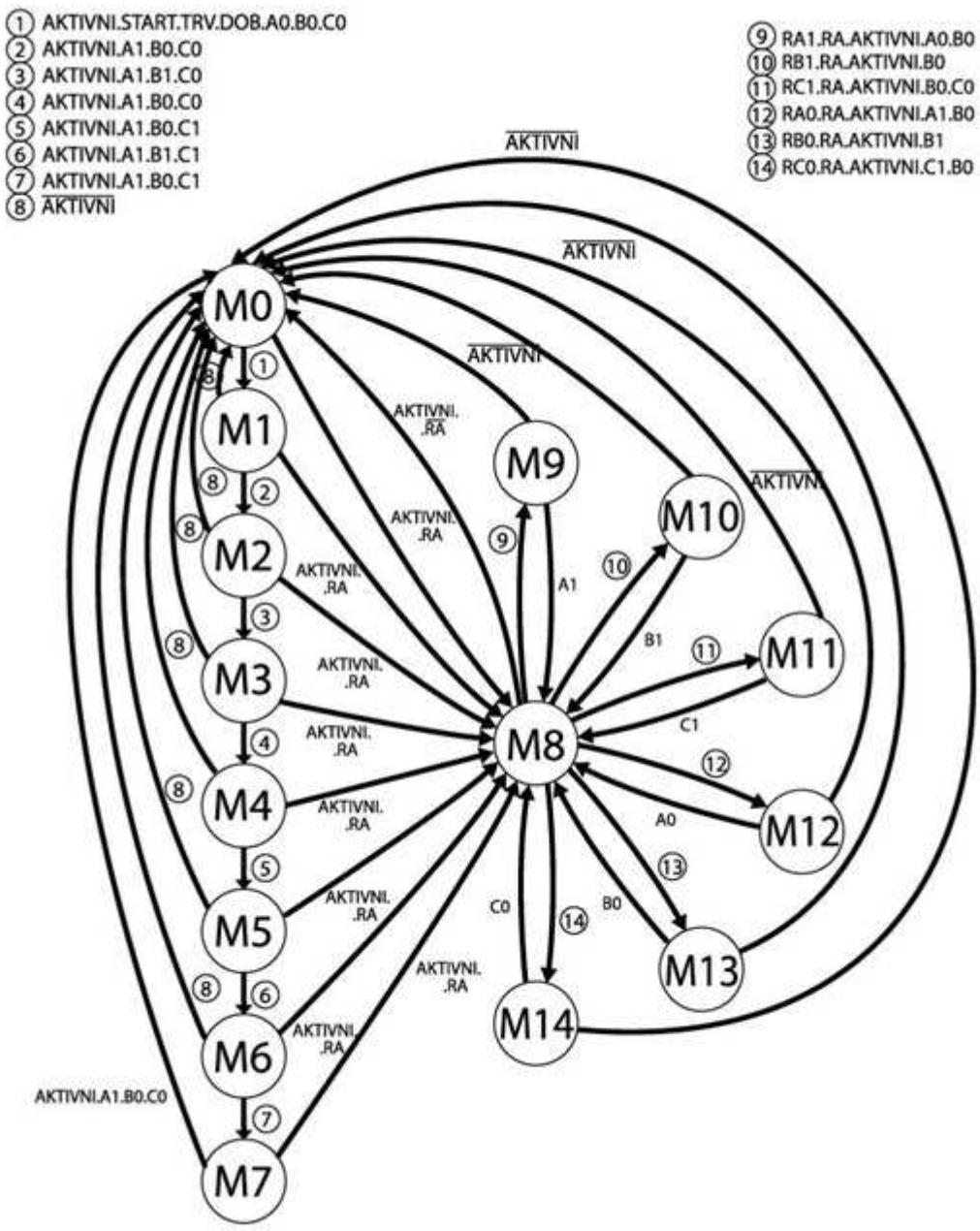
Přílohy

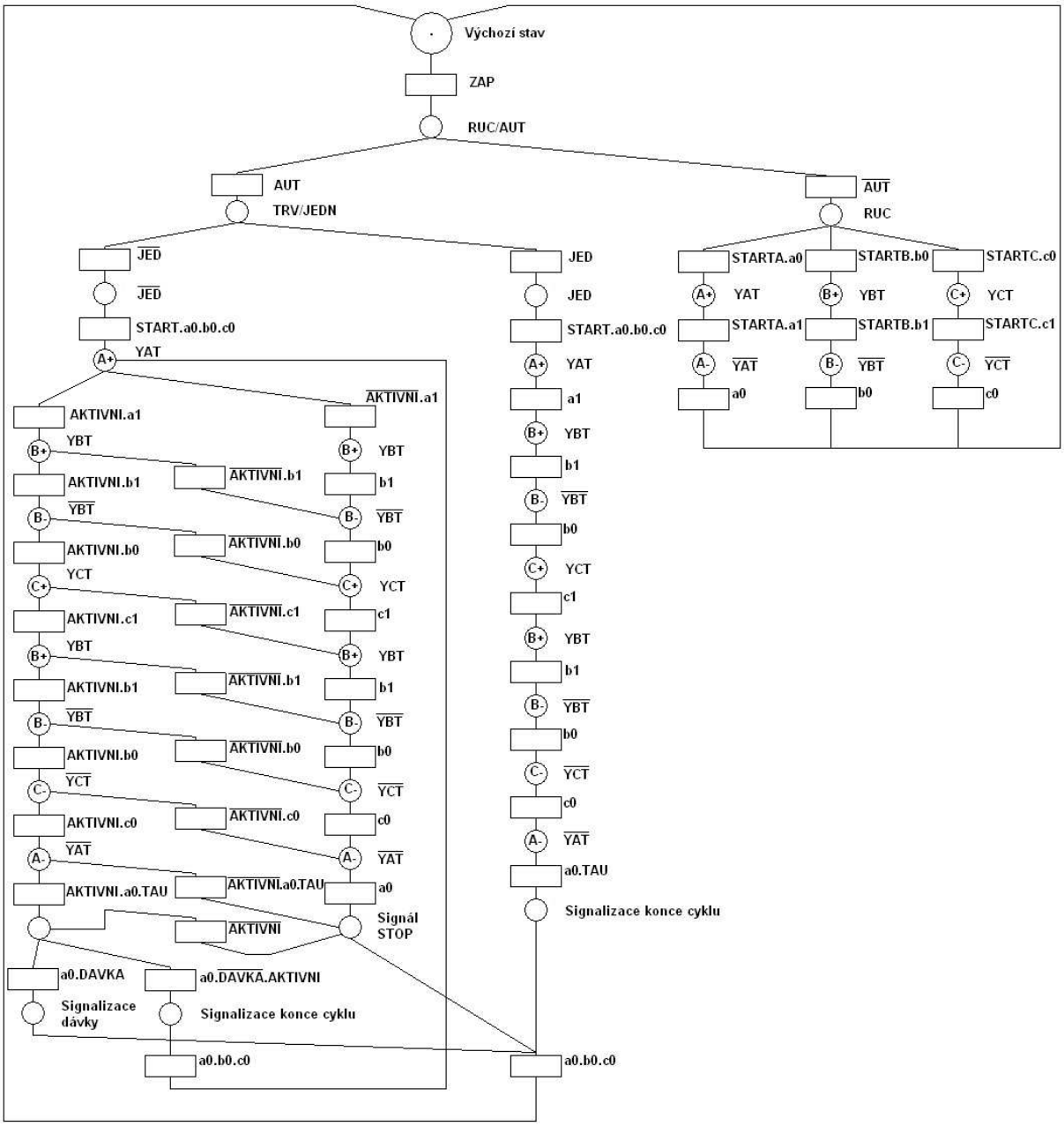
Úloha A – Vrtací přípravek



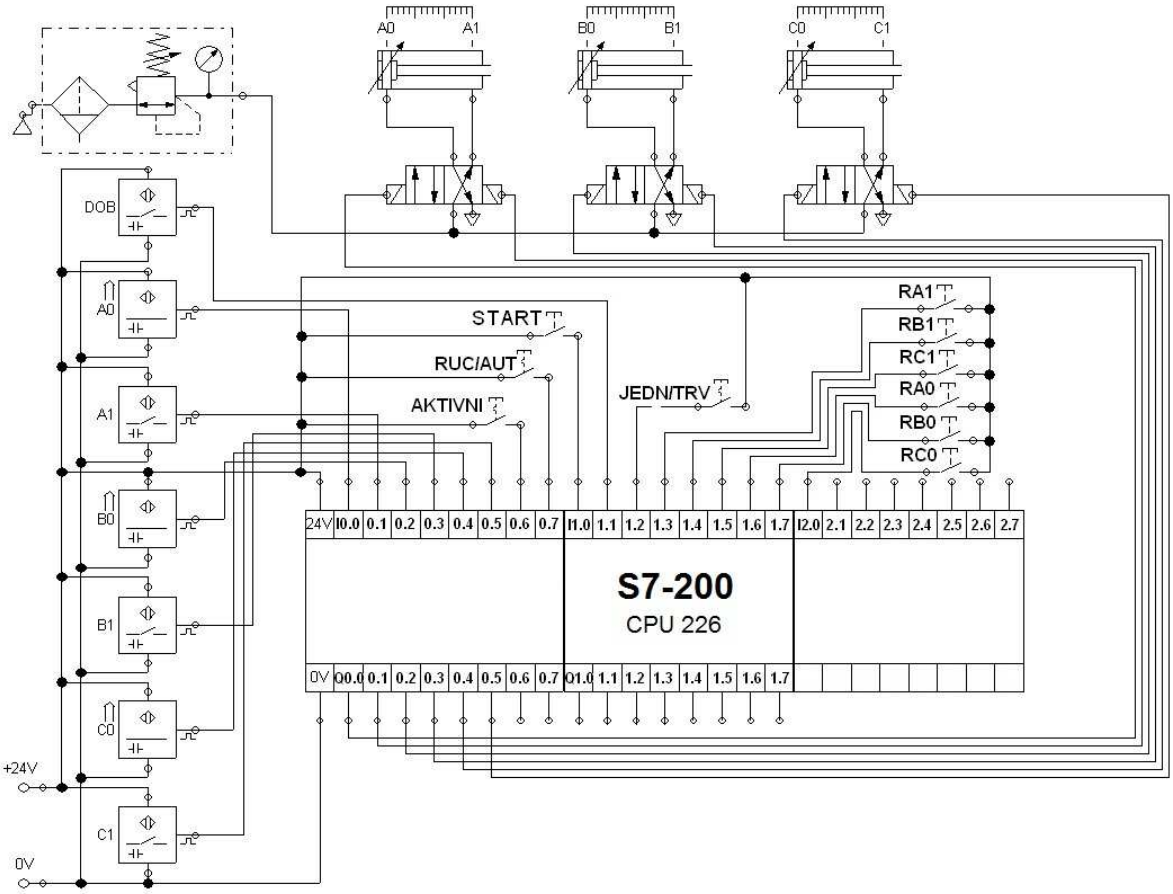
A1 – Blokové schéma řízeného a řídícího systému s operátorským panelem



A2 – Stavový diagram



A3 – Petriho síť



A4 – Schéma zapojení automatu, senzorů a pneumomotorů

VrtaniGoj / MAIN (OB1)

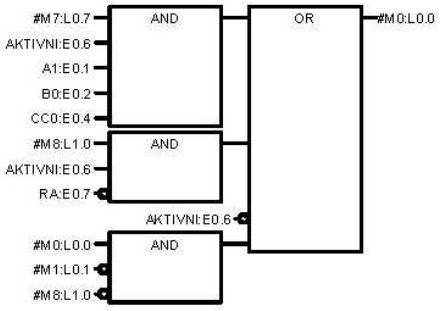
Block: MAIN
Author:
Created: 07/27/2010 13:00:25
Last Modified: 08/05/2010 14:08:05

	Symbol	Var Type	Data Type	Comm
L0.0	M0	TEMP	BOOL	
L0.1	M1	TEMP	BOOL	
L0.2	M2	TEMP	BOOL	
L0.3	M3	TEMP	BOOL	
L0.4	M4	TEMP	BOOL	
L0.5	M5	TEMP	BOOL	
L0.6	M6	TEMP	BOOL	
L0.7	M7	TEMP	BOOL	
L1.0	M8	TEMP	BOOL	
L1.1	M9	TEMP	BOOL	
L1.2	M10	TEMP	BOOL	
L1.3	M11	TEMP	BOOL	
L1.4	M12	TEMP	BOOL	
L1.5	M13	TEMP	BOOL	
L1.6	M14	TEMP	BOOL	
L1.7	TRVALE	TEMP	BOOL	
		TEMP		

PROGRAM COMMENTS

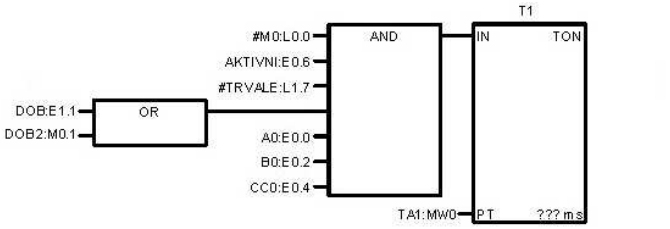
Network 1 Network Title

Network Comment



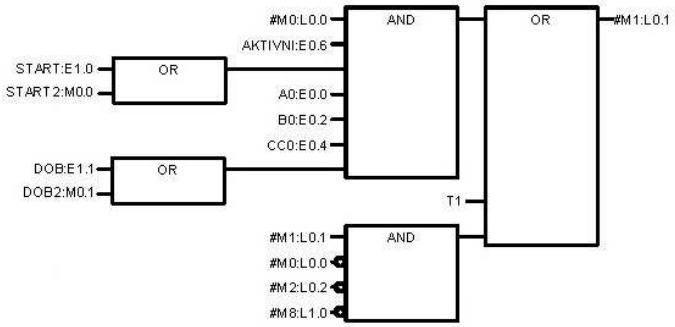
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	
RA	E0.7	

Network 2



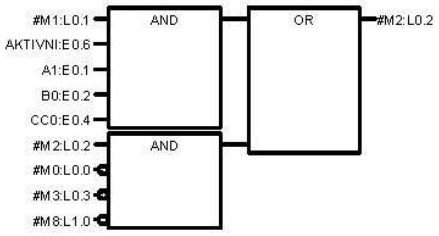
		Comment
A0	E0.0	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	
DOB	E1.1	
DOB2	M0.1	
TA	MW0	

Network 3



Symbol	Address	Comment
A0	E0.0	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	
DOB	E1.1	
START	E1.0	
START2	M0.0	
DOB2	M0.1	

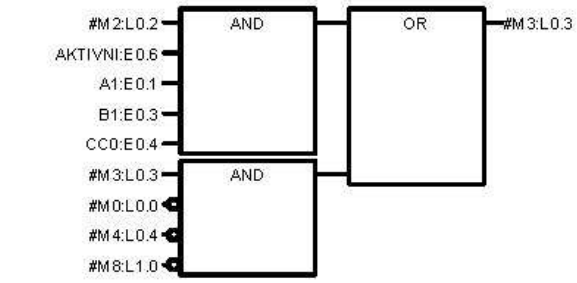
Network 4



Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	

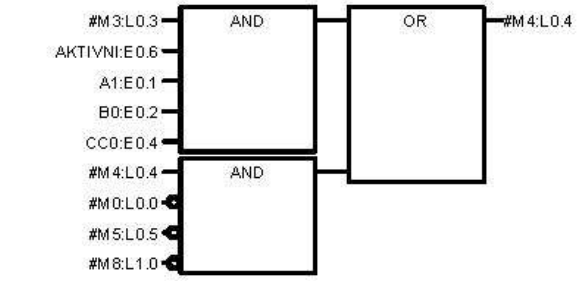
A5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 1/5

Network 5



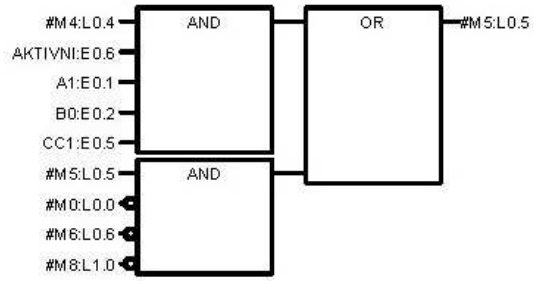
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B1	E0.3	
CC0	E0.4	

Network 6



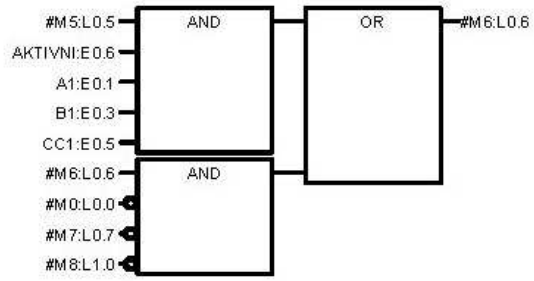
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	

Network 7



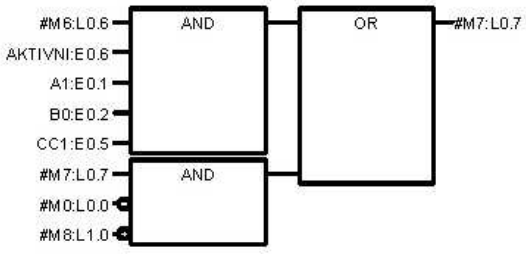
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC1	E0.5	

Network 8



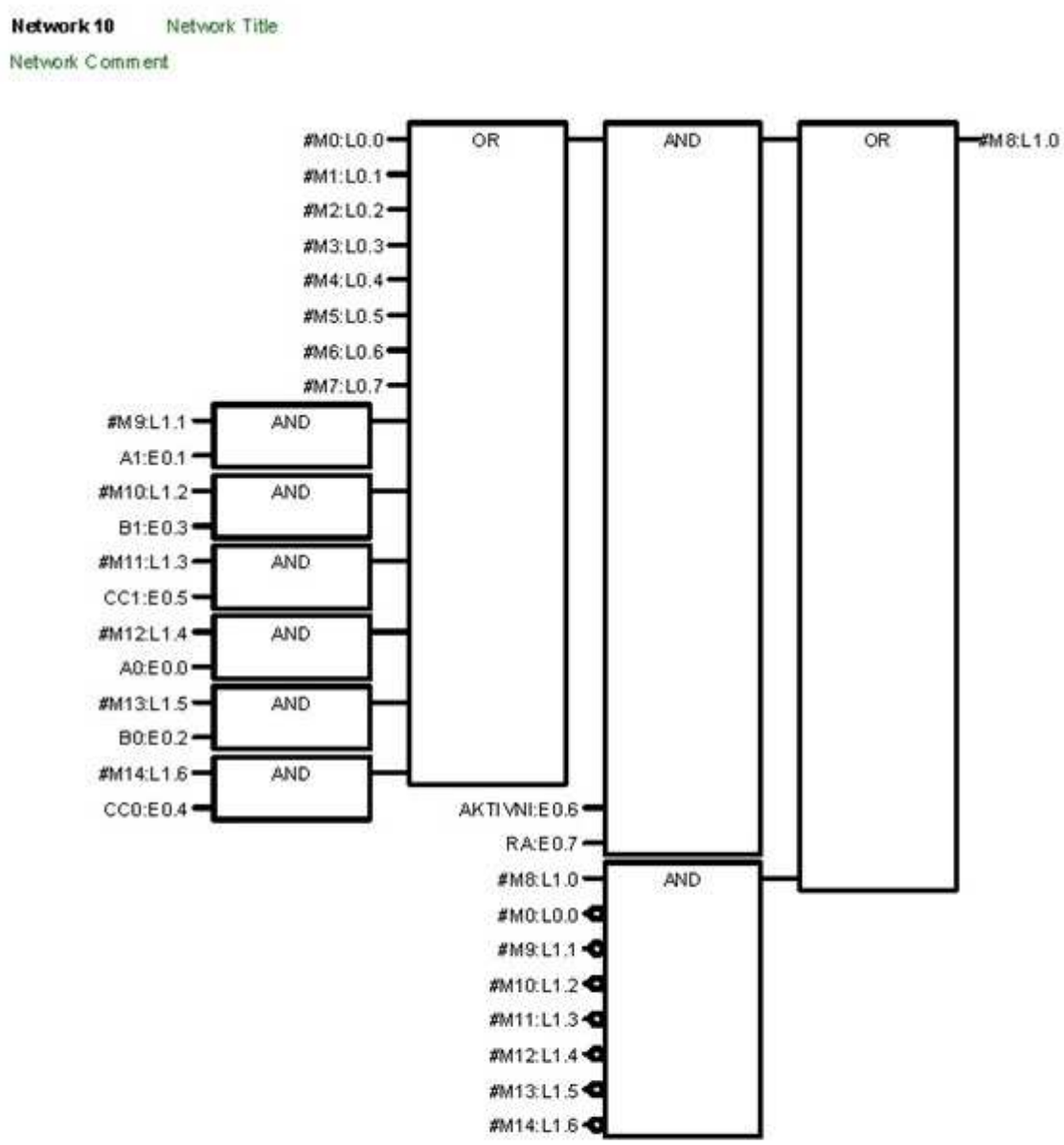
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B1	E0.3	
CC1	E0.5	

Network 9



Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC1	E0.5	

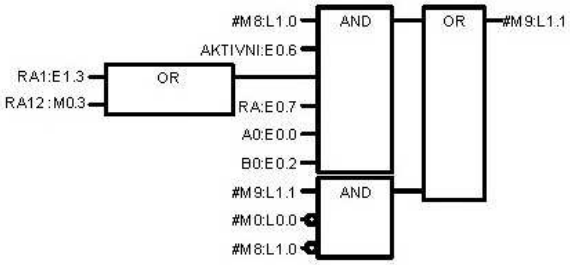
A5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 2/5



Symbol	Address	Comment
A0	E0.0	
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
B1	E0.3	
CC0	E0.4	
CC1	E0.5	
RA	E0.7	

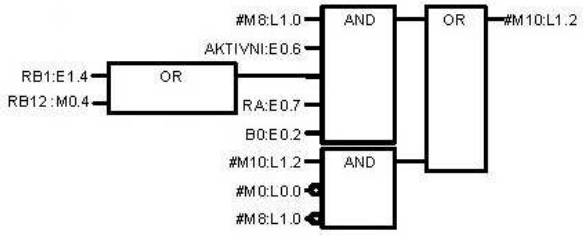
A5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 3/5

Network 11



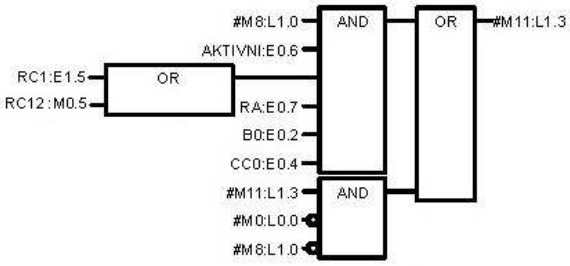
Symbol	Address	Comment
A0	E0.0	
AKTIVNI	E0.6	
B0	E0.2	
RA	E0.7	
RA1	E1.3	
RA12	M0.3	

Network 12



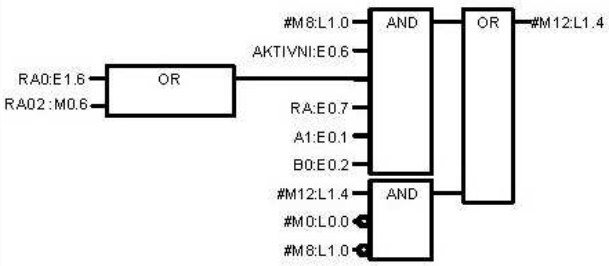
Symbol	Address	Comment
AKTIVNI	E0.6	
B0	E0.2	
RA	E0.7	
RB1	E1.4	
RB12	M0.4	

Network 13



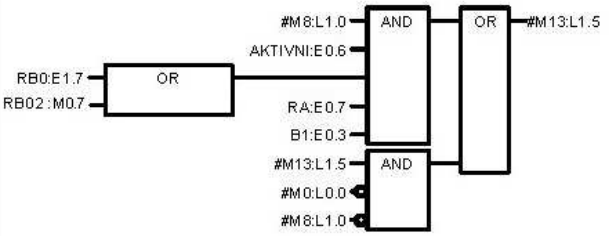
Symbol	Address	Comment
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	
RA	E0.7	
RC1	E1.5	
RC12	M0.5	

Network 14



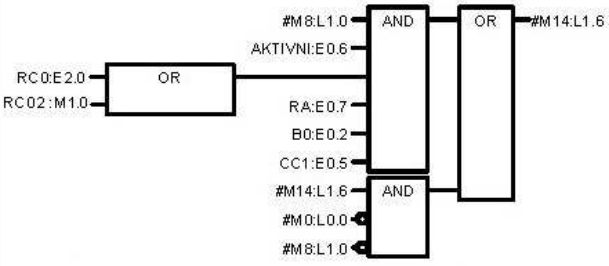
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
RA	E0.7	
RA0	E1.6	
RA02	M0.6	

Network 15



Symbol	Address	Comment
AKTIVNI	E0.6	
B1	E0.3	
RA	E0.7	
RB0	E1.7	
RB02	M0.7	

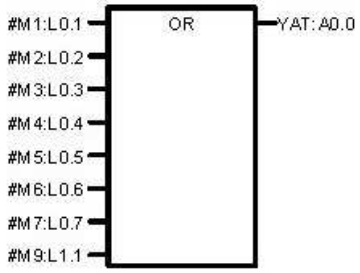
Network 16



Symbol	Address	Comment
AKTIVNI	E0.6	
B0	E0.2	
CC1	E0.5	
RA	E0.7	
RC0	E2.0	
RC02	M1.0	

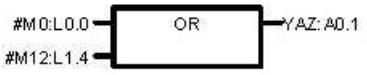
A5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 4/5

Network 17



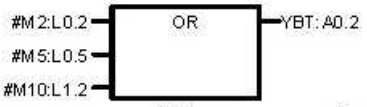
Symbol	Address	Comment
YAT	A0.0	

Network 18



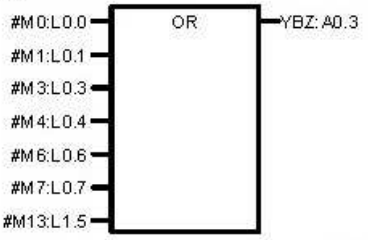
Symbol	Address	Comment
YAZ	A0.1	

Network 19



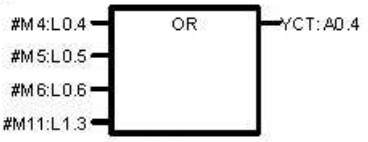
Symbol	Address	Comment
YBT	A0.2	

Network 20



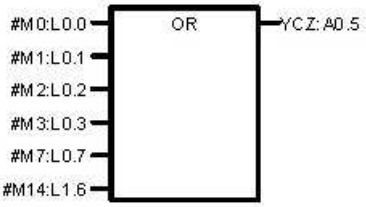
Symbol	Address	Comment
YBZ	A0.3	

Network 21



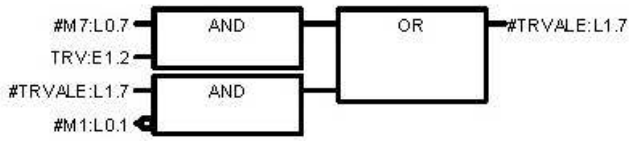
Symbol	Address	Comment
YCT	A0.4	

Network 22



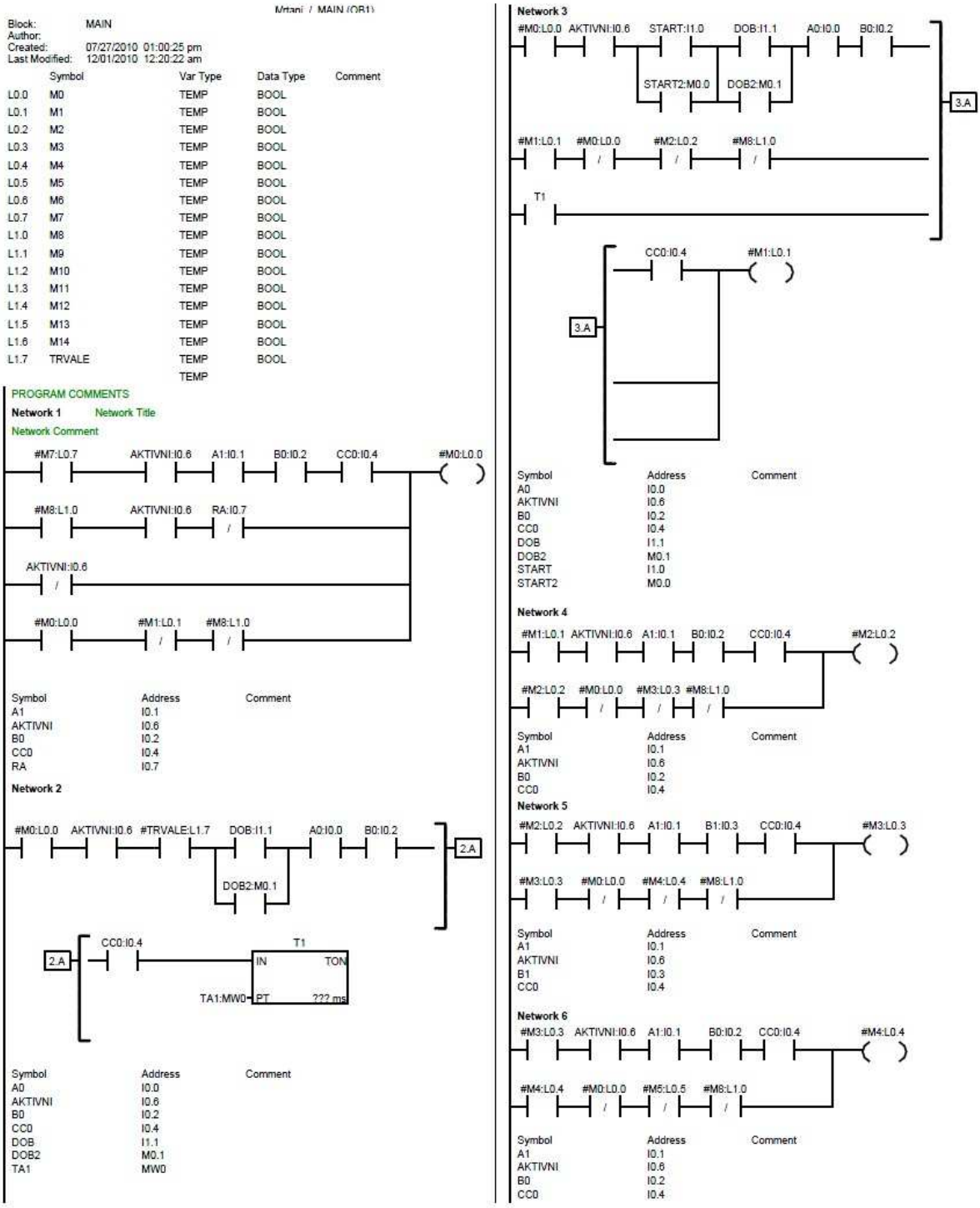
Symbol	Address	Comment
YCZ	A0.5	

Network 23

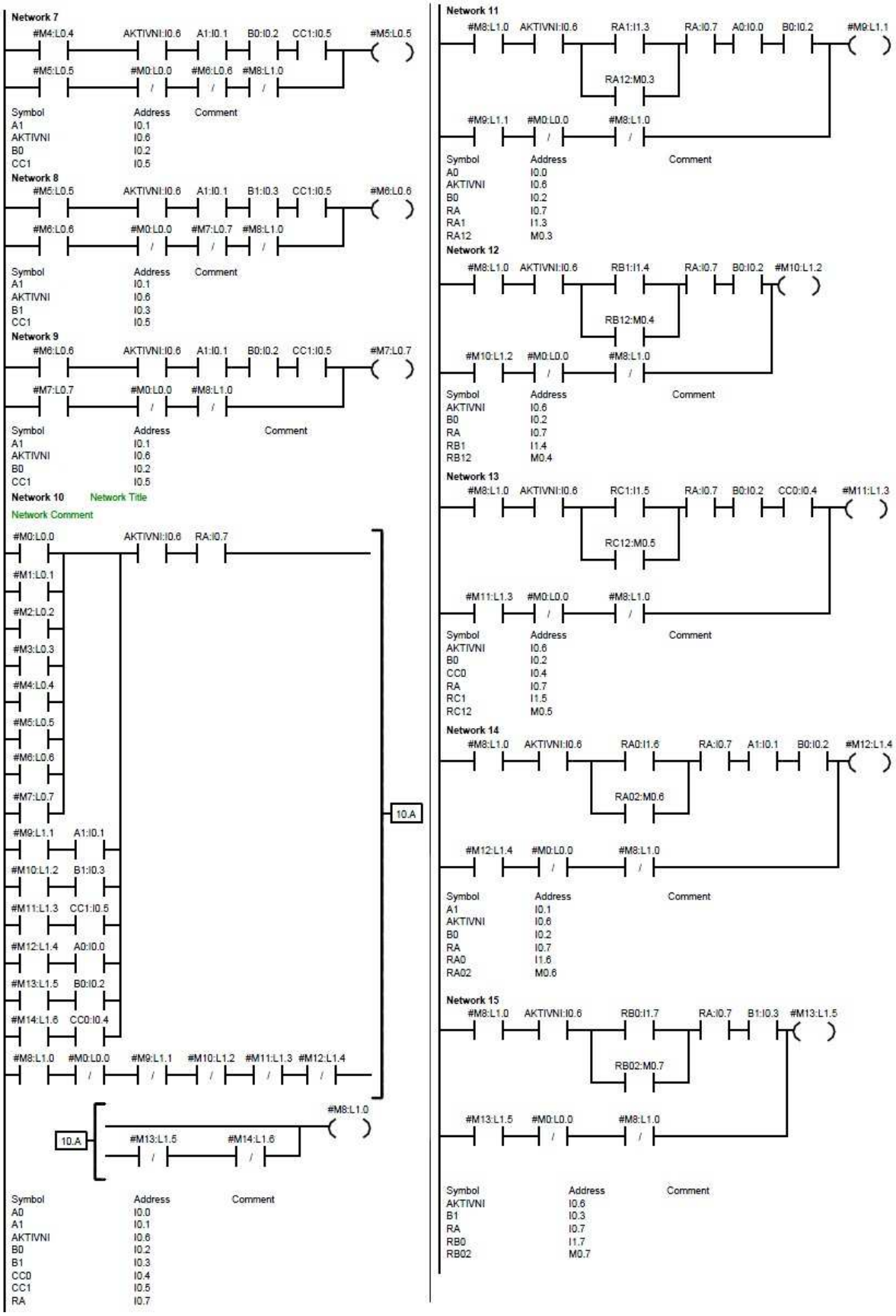


Symbol	Address	Comment
TRV	E1.2	

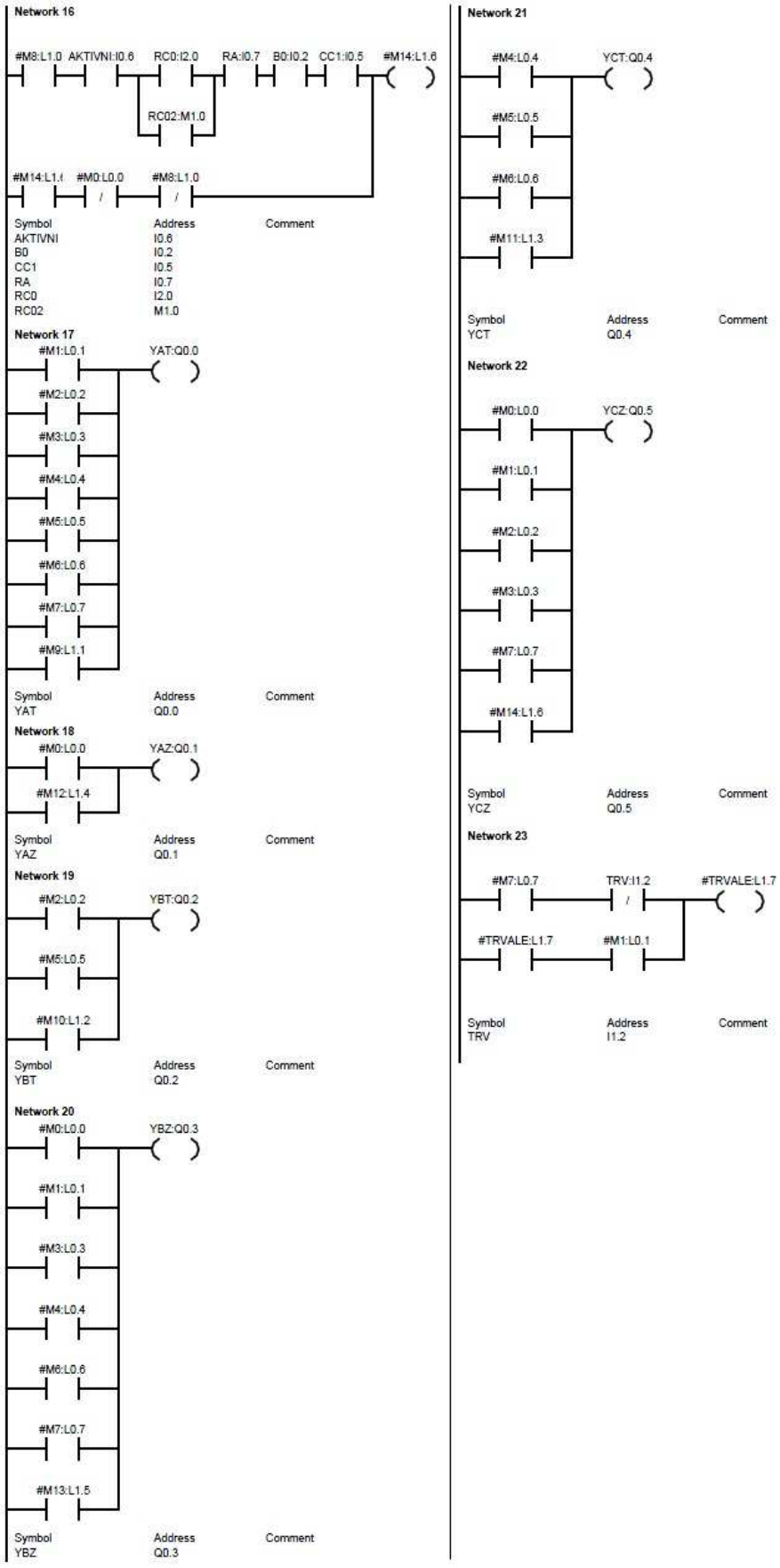
A5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 5/5



A6 – Algoritmus v grafickém jazyku LAD v prostředí STEP7 1/3



A5 – Algoritmus v grafickém jazyku LAD v prostředí STEP7 2/3



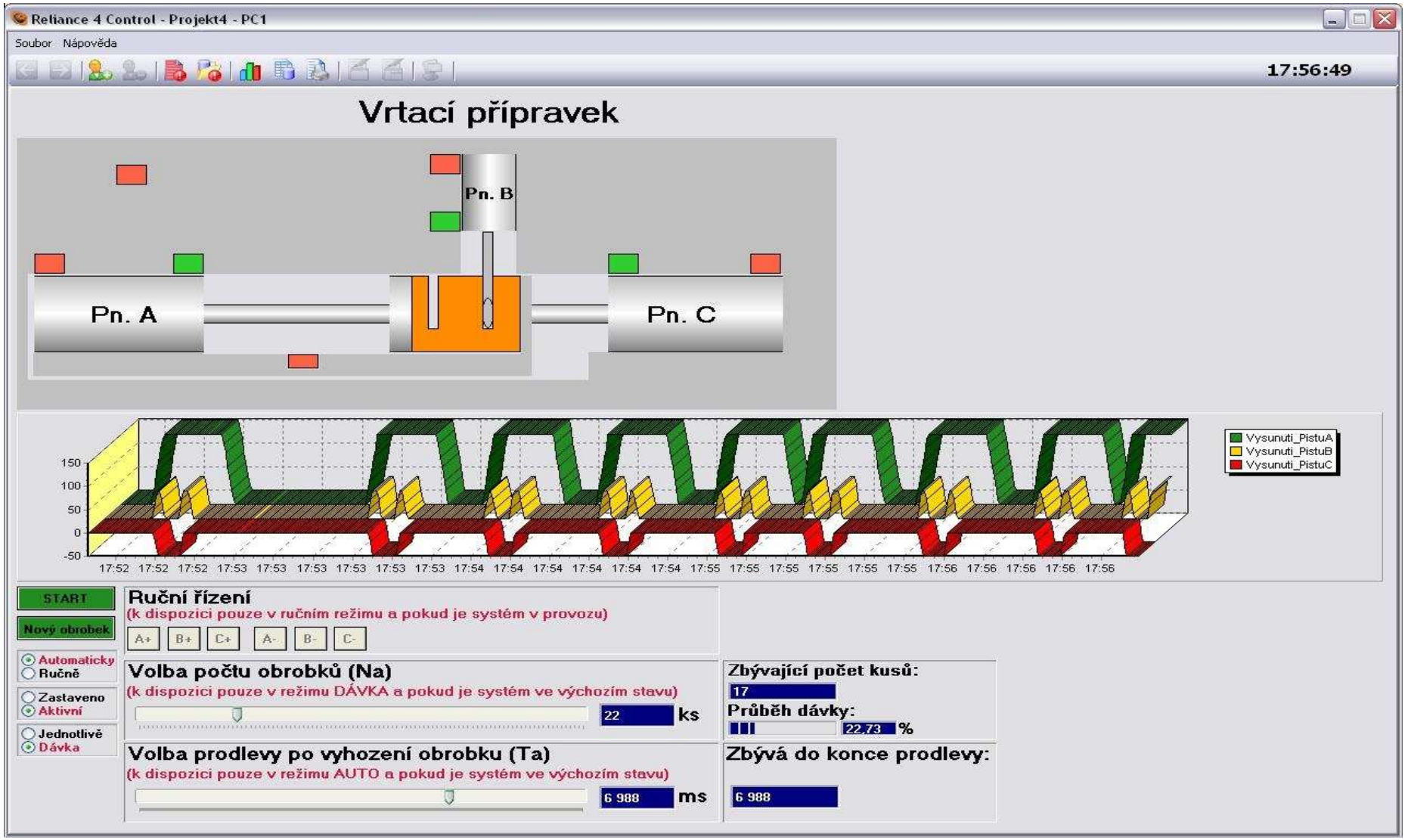
A5 – Algoritmus v grafickém jazyku LAD v prostředí STEP7 3/3

A7 - Výpis skriptu z prostředí Reliance

```
rem ************************************************
rem Reliance 4
rem Projekt: Projekt4
rem Uživatel: Stepan
rem Datum: 26.6.2010
rem Čas: 23:20:20
rem ************************************************

Option Explicit
Dim aktiv, vpca, vpa, vpb, vpc, ob_x, start, novy, obp, auto, p10, p11, p20, p21, p30, p31, a0,
a1, b0, b1, c0, c1, trv

'Nacteni promennych
vpa = RTag.GetTagValue("System", "Vysunuti_PistuA")
vpb = RTag.GetTagValue("System", "Vysunuti_PistuB")
vpc = RTag.GetTagValue("System", "Vysunuti_PistuC")
vpca = RTag.GetTagValue("System", "Vysunuti_PistuCA")
p10 = RTag.GetTagValue("OPC1", "YAT")
p11 = RTag.GetTagValue("OPC1", "YAZ")
p20 = RTag.GetTagValue("OPC1", "YBT")
p21 = RTag.GetTagValue("OPC1", "YBZ")
p30 = RTag.GetTagValue("OPC1", "YCT")
p31 = RTag.GetTagValue("OPC1", "YCZ")
a0 = RTag.GetTagValue("System", "PAD")
a1 = RTag.GetTagValue("System", "PAH")
b0 = RTag.GetTagValue("System", "PBD")
b1 = RTag.GetTagValue("System", "PBH")
c0 = RTag.GetTagValue("System", "PCD")
c1 = RTag.GetTagValue("System", "PCH")
ob_x = RTag.GetTagValue("System", "Obrobek_x")
start = RTag.GetTagValue("System", "Start")
novy = RTag.GetTagValue("System", "Novy_obrobek")
obp = RTag.GetTagValue("System", "Obrobek_pripraven")
auto = RTag.GetTagValue("System", "Auto")
aktiv = RTag.GetTagValue("System", "Aktivni")
trv = RTag.GetTagValue("OPC1", "TRV")

vpc=vpc*(-1)

if trv=true then
novy=true
end if

if novy=true and vpca=0 then
ob_x=0
end if

if (ob_x=0) then obp=true else obp=false end if
```

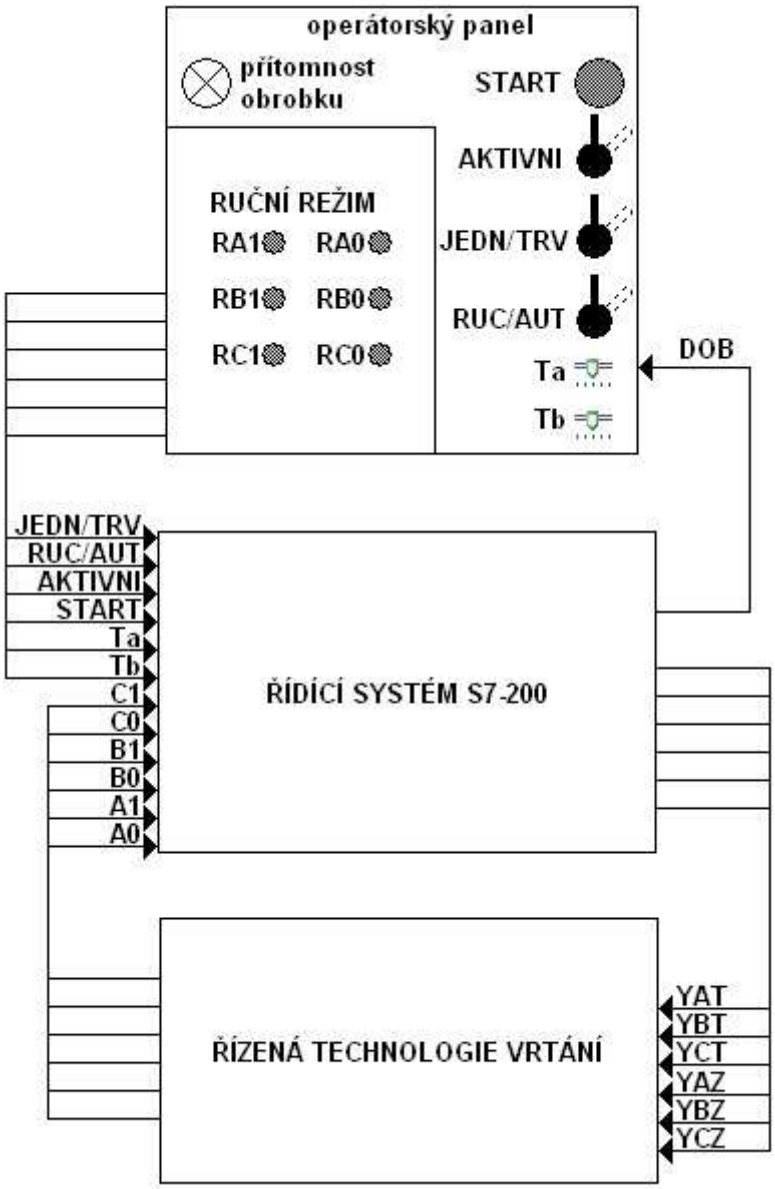
```
'posuny motoru a obrobku
if (p10=true) then
if vpa<150 then
vpa=vpa+10
ob_x=ob_x+10
end if
if vpa=150 then
p10=false
end if
end if

if (p11=true) then
if trv=false then
novy=false
end if
if vpa>0 then
vpa=vpa-10
ob_x=10000
end if
if vpca=0 then
p11=false
end if
end if

if (p20=true) then
if vpb<70 then
vpb=vpb+10
end if
if vpb=70 then
p21=true
end if
end if

if (p21=true) then
if vpb>0 then
vpb=vpb-10
end if
if vpb=0 then
p21=false
end if
end if

if (p30=true) then
if vpc<50 then
vpc=vpc+10
ob_x=ob_x-10
end if
if vpc=50 then
p30=false
```

```
end if
end if

if (p31=true) then
if vpc>0 then
vpc=vpc-10
ob_x=ob_x+10
else
p31=false
end if
end if

'Ulozeni promennych
vpc=vpc*(-1)
vpca=vpa+vpc

RTag.SetTagValue "System", "Vysunuti_PistuA" , vpa
RTag.SetTagValue "System", "Vysunuti_PistuB" , vpb
RTag.SetTagValue "System", "Vysunuti_PistuC" , vpc
RTag.SetTagValue "System", "Vysunuti_PistuCA" , vpca
RTag.SetTagValue "System", "Obrobek_x" , ob_x
RTag.SetTagValue "OPC1", "START" , start
RTag.SetTagValue "System", "Start" , start
RTag.SetTagValue "System", "Novy_obrobek" , novy
RTag.SetTagValue "System", "Obrobek_pripraven" , obp
RTag.SetTagValue "OPC1", "RA" , auto
RTag.SetTagValue "OPC1", "DOB" , obp
RTag.SetTagValue "OPC1", "AKTIVNI" , aktiv
RTag.SetTagValue "OPC1", "A0" , a0
RTag.SetTagValue "OPC1", "A1" , a1
RTag.SetTagValue "OPC1", "B0" , b0
RTag.SetTagValue "OPC1", "B1" , b1
RTag.SetTagValue "OPC1", "C0" , c0
RTag.SetTagValue "OPC1", "C1" , c1
```

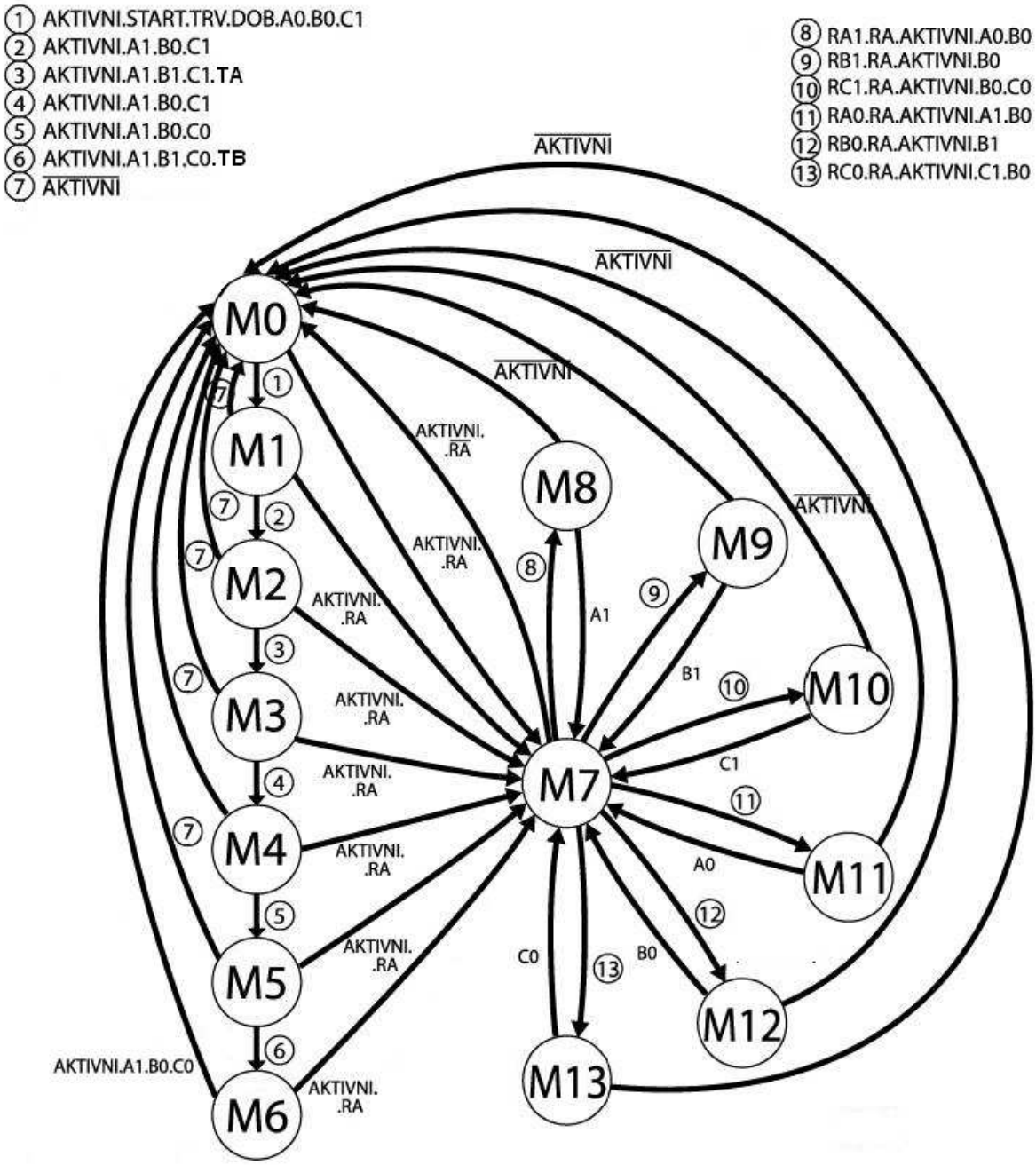


A8 – Vizualizační okno úlohy Vrtání v runtime režimu

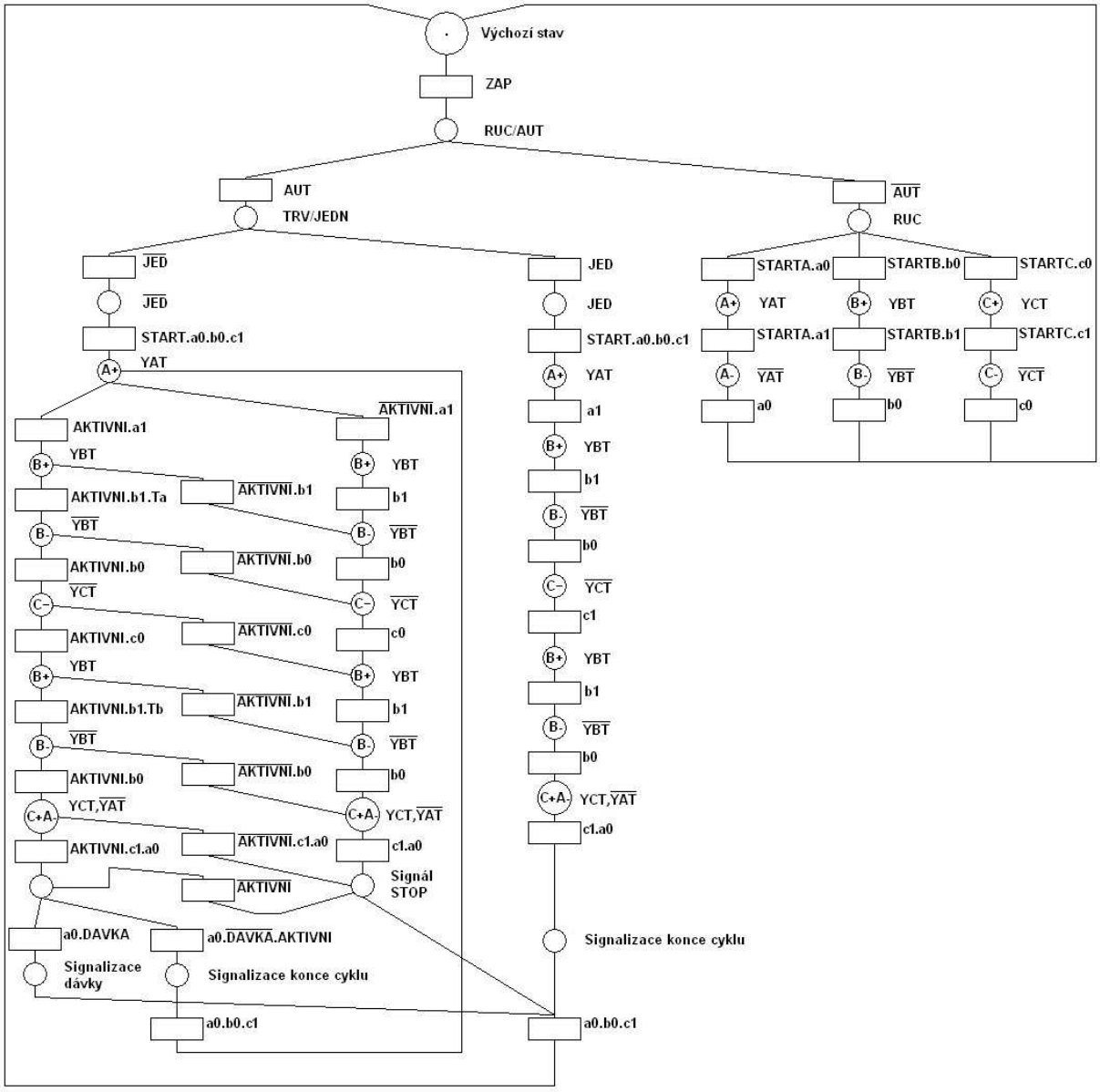
Úloha B – Přípravek pro opískování



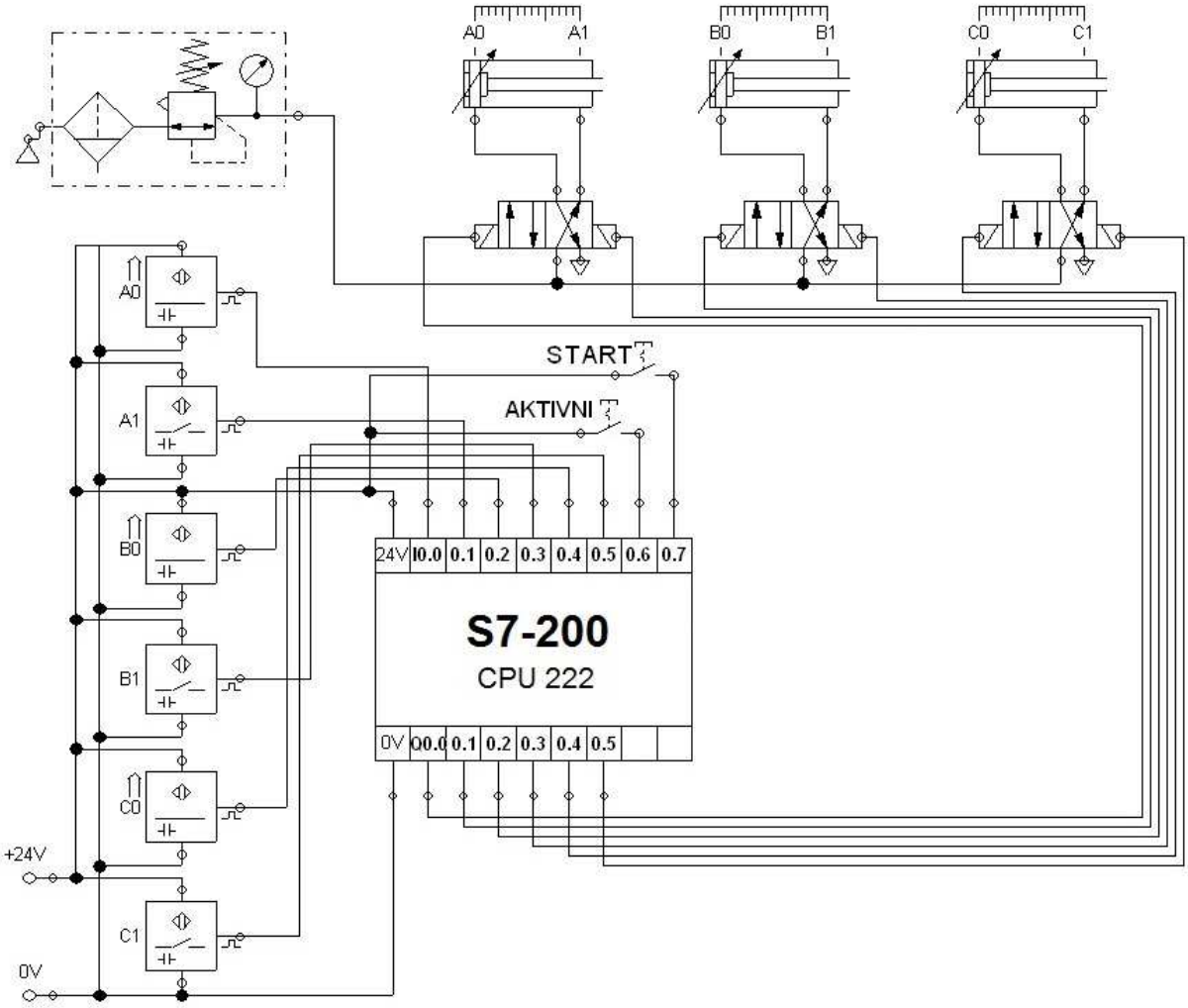
B1 - Blokové schéma řízeného a řídicího systému



B2 - Stavový diagram



B3 – Petriho síť



B4 – Schéma zapojení automatu, senzorů a pneumomotorů

OpiskovaniGoj / MAIN (OB1)

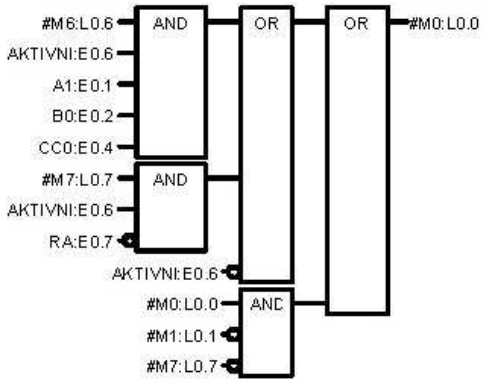
Block: MAIN
Author:
Created: 08/05/2010 13:12:19
Last Modified: 08/05/2010 14:04:00

	Symbol	Var Type	Data Type	Comment
L0.0	M0	TEMP	BOOL	
L0.1	M1	TEMP	BOOL	
L0.2	M2	TEMP	BOOL	
L0.3	M3	TEMP	BOOL	
L0.4	M4	TEMP	BOOL	
L0.5	M5	TEMP	BOOL	
L0.6	M6	TEMP	BOOL	
L0.7	M7	TEMP	BOOL	
L1.0	M8	TEMP	BOOL	
L1.1	M9	TEMP	BOOL	
L1.2	M10	TEMP	BOOL	
L1.3	M11	TEMP	BOOL	
L1.4	M12	TEMP	BOOL	
L1.5	M13	TEMP	BOOL	
L1.6	TRVALE	TEMP	BOOL	

PROGRAM COMMENTS

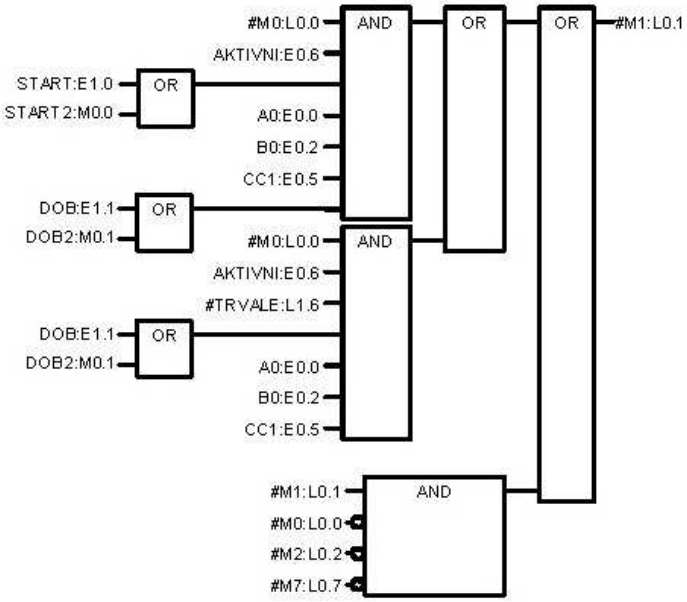
Network 1 Network Title

Network Comment



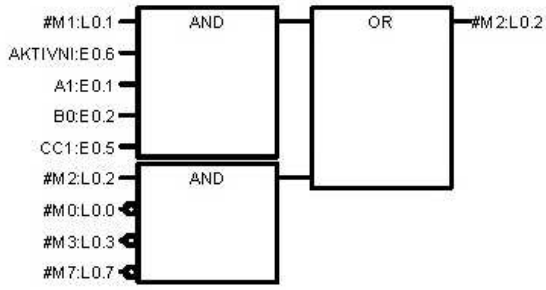
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	
RA	E0.7	

Network 2



Symbol	Address	Comment
A0	E0.0	
AKTIVNI	E0.6	
B0	E0.2	
CC1	E0.5	
DOB	E1.1	
DOB2	M0.1	
START	E1.0	
START2	M0.0	

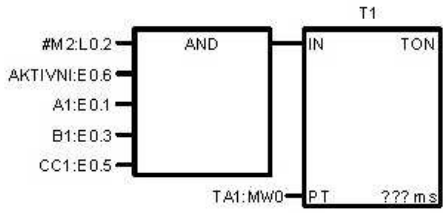
Network 3



Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC1	E0.5	

B5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 1/5

Network 4



Symbol	Address	Comment
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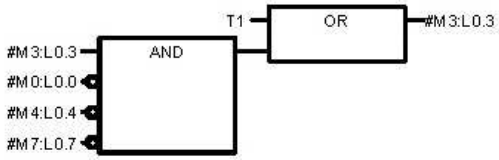
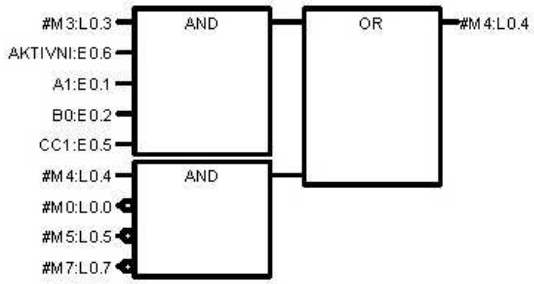
AKTIVNI	E0.6	
B1	E0.3	
CC1	E0.5	
TA1	MW0	

Network 5

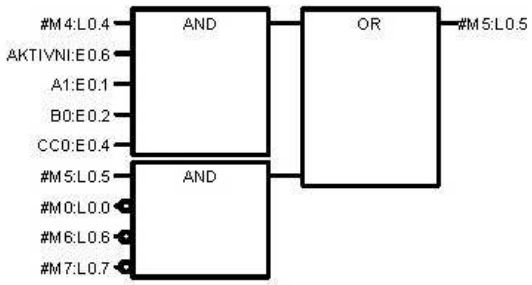


Network 6



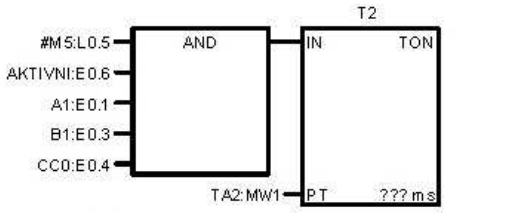
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC1	E0.5	

Network 7



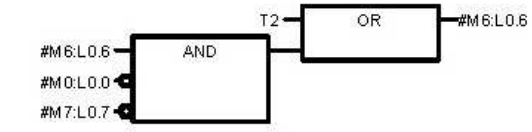
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	

Network 8



Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B1	E0.3	
CC0	E0.4	
TA2	MW1	

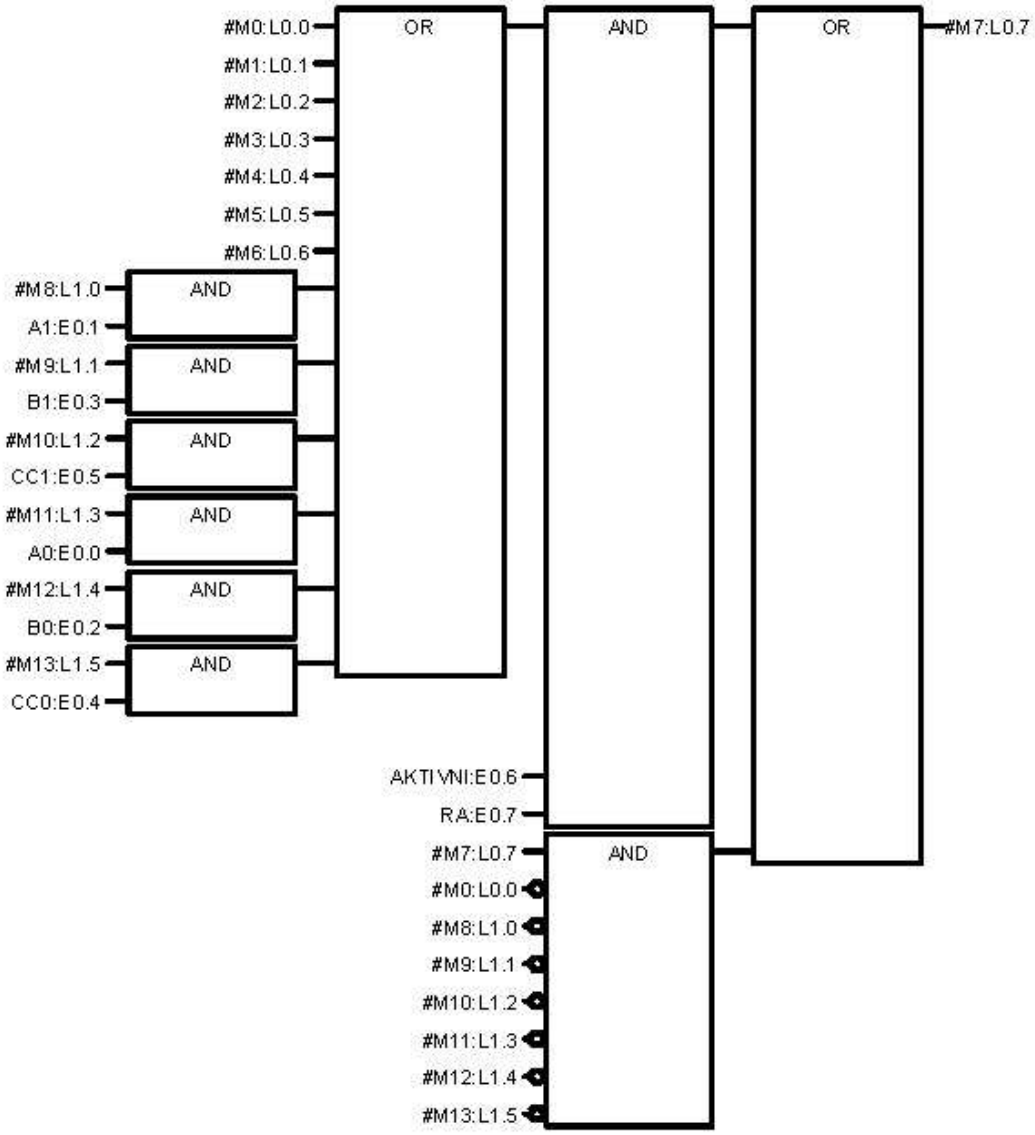
Network 9



B5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 2/5

Network 10 Network Title

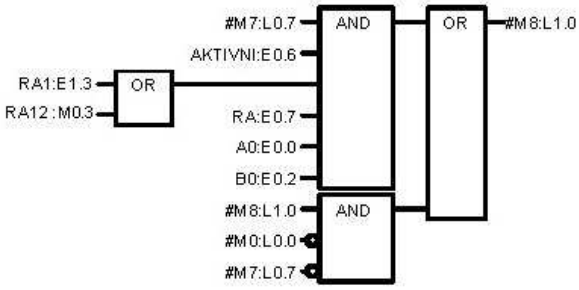
Network Comment



Symbol	Address	Comment
A0	E0.0	
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
B1	E0.3	
CC0	E0.4	
CC1	E0.5	
RA	E0.7	

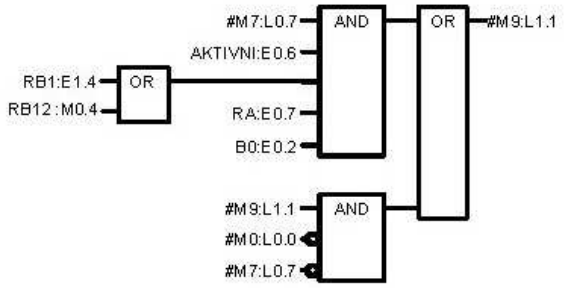
B5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 3/5

Network 11



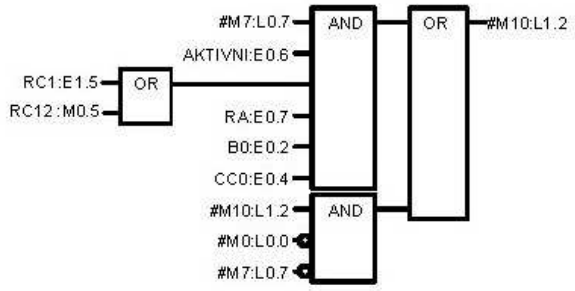
Symbol	Address	Comment
A0	E0.0	
AKTIVNI	E0.6	
B0	E0.2	
RA	E0.7	
RA1	E1.3	
RA12	M0.3	

Network 12



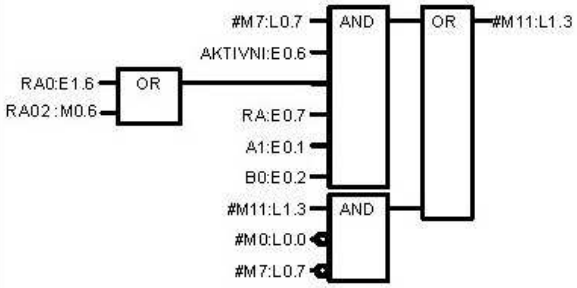
Symbol	Address	Comment
AKTIVNI	E0.6	
B0	E0.2	
RA	E0.7	
RB1	E1.4	
RB12	M0.4	

Network 13



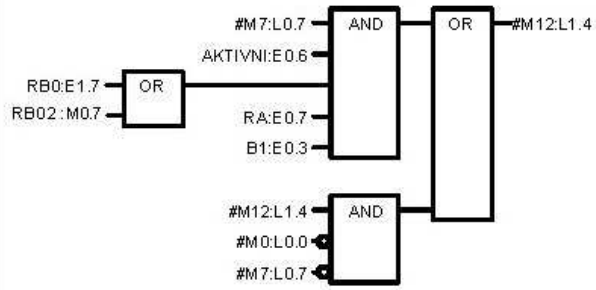
Symbol	Address	Comment
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	
RA	E0.7	
RC1	E1.5	
RC12	M0.5	

Network 14



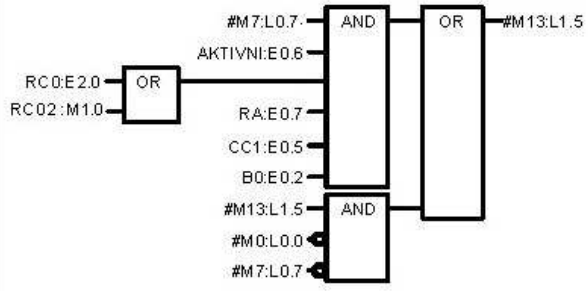
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
RA	E0.7	
RA0	E1.6	
RA02	M0.6	

Network 15



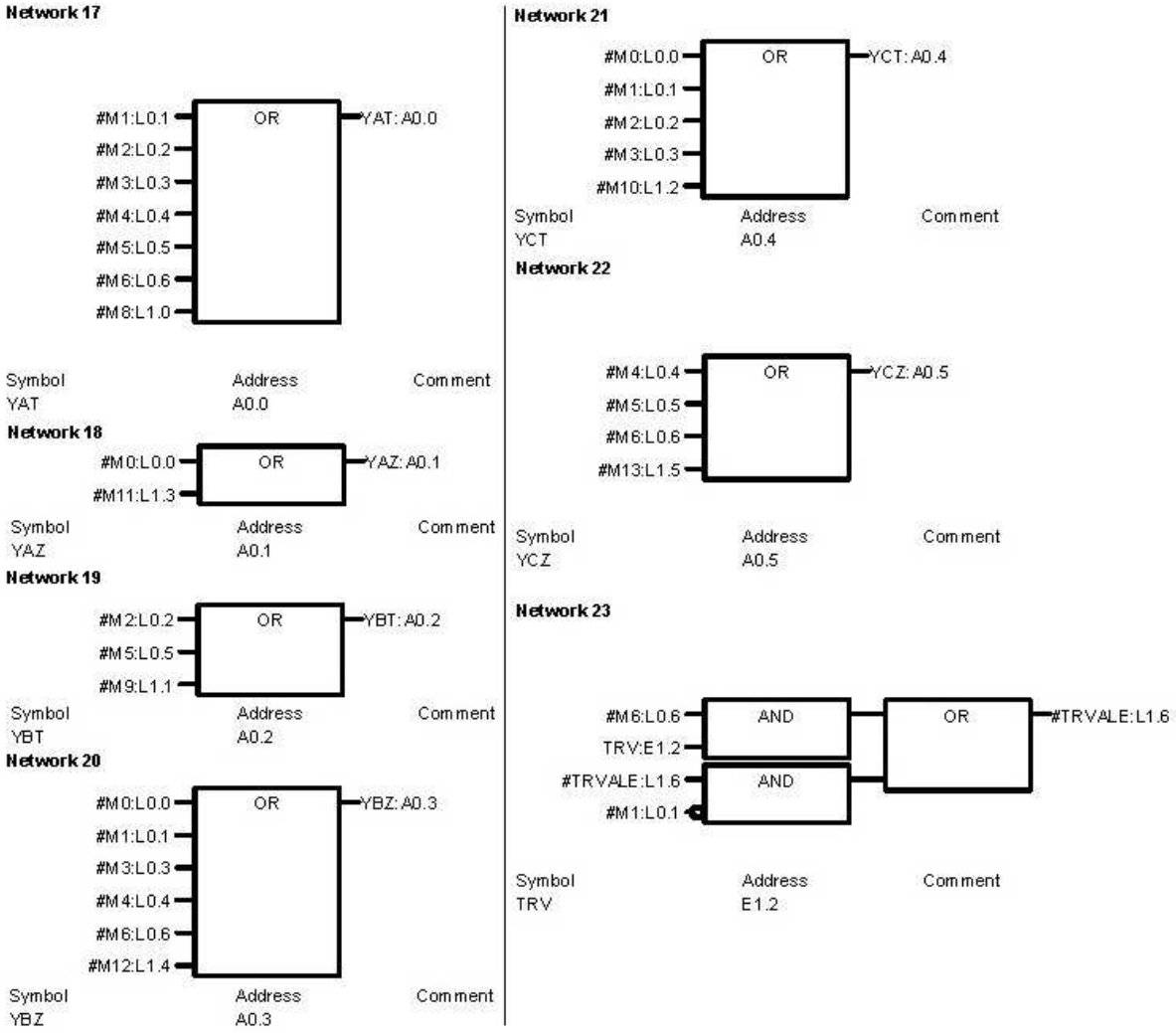
Symbol	Address	Comment
AKTIVNI	E0.6	
B1	E0.3	
RA	E0.7	
RB0	E1.7	
RB02	M0.7	

Network 16

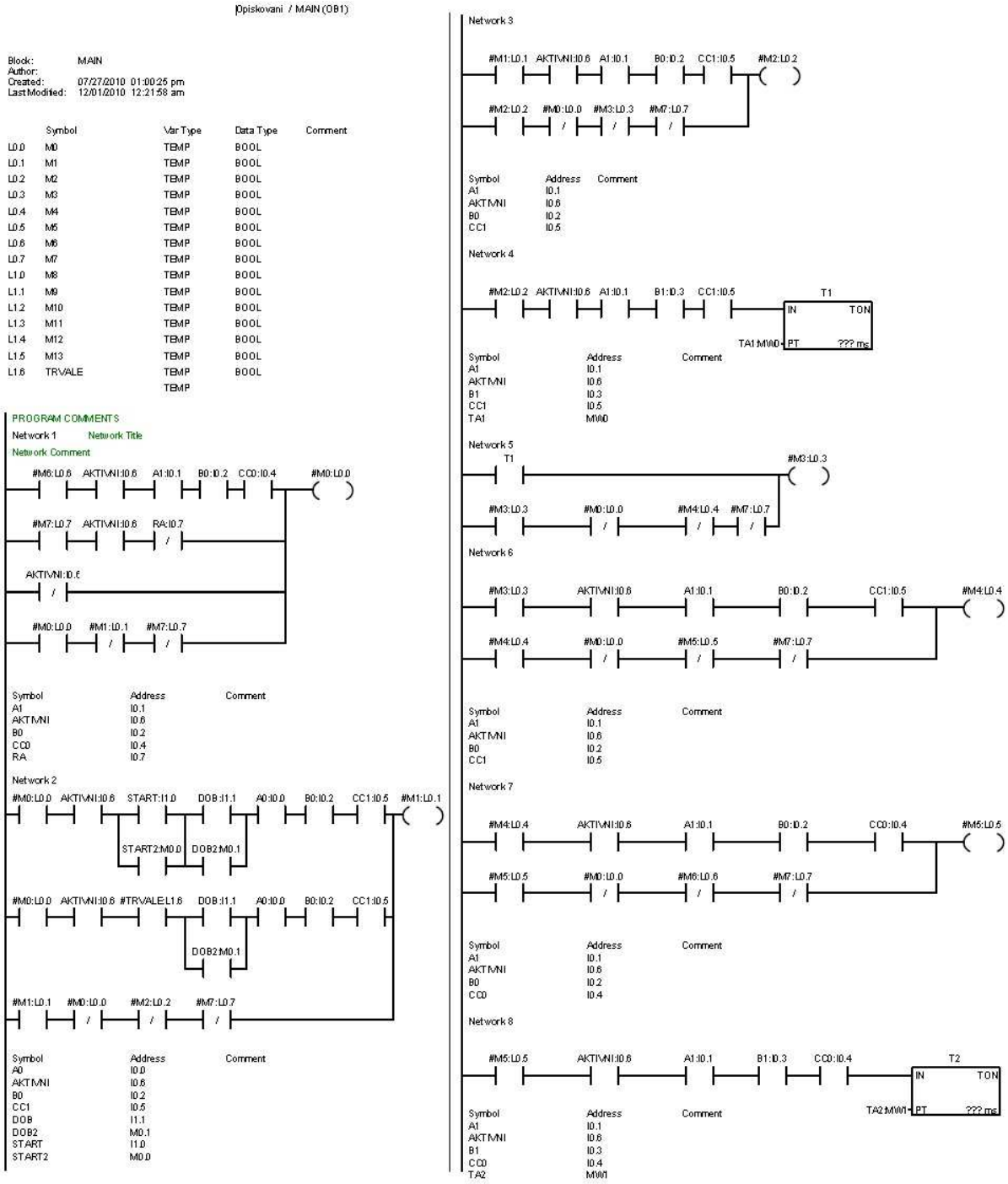


Symbol	Address	Comment
AKTIVNI	E0.6	
B0	E0.2	
CC1	E0.5	
RA	E0.7	
RC0	E2.0	
RC02	M1.0	

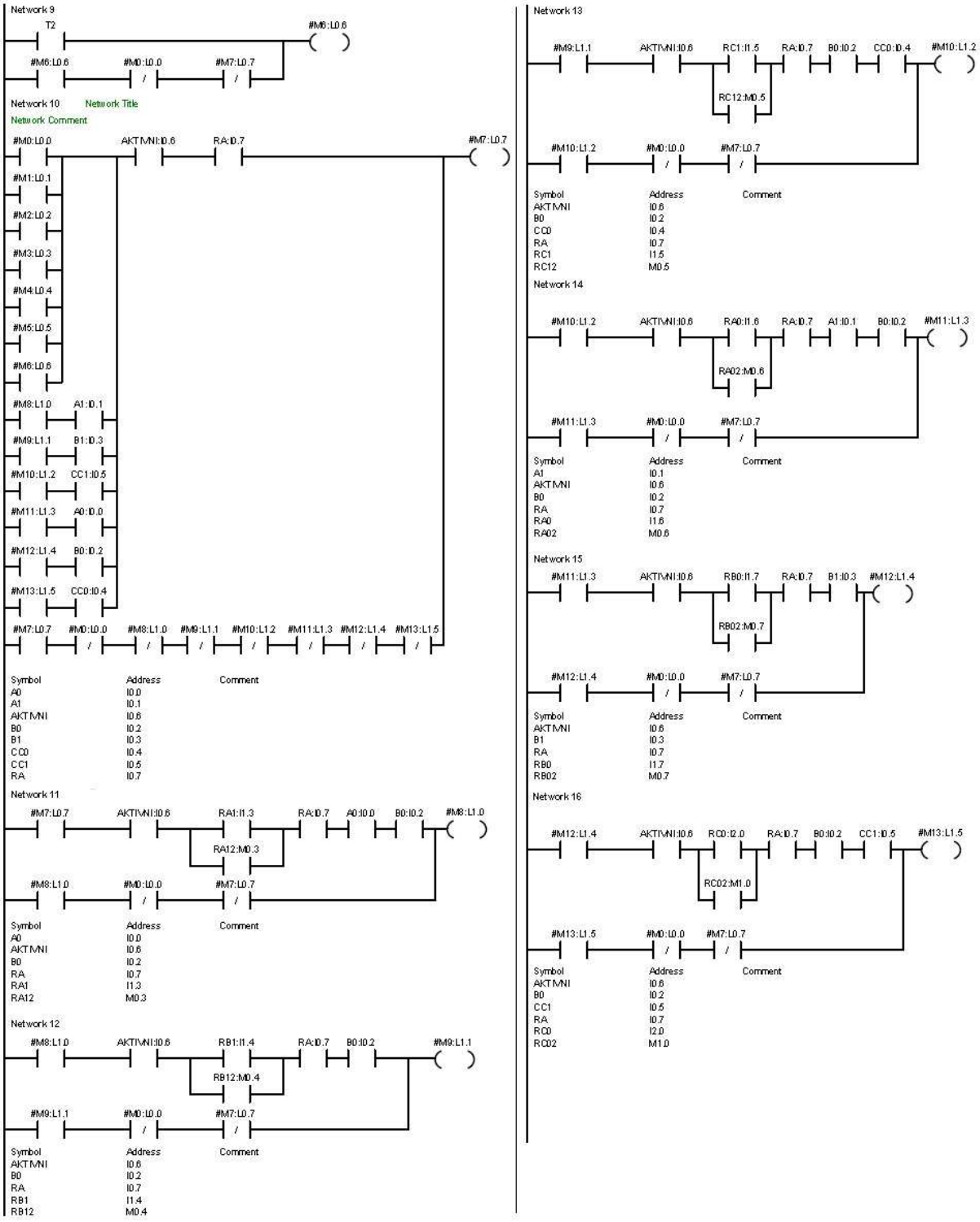
B5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 4/5



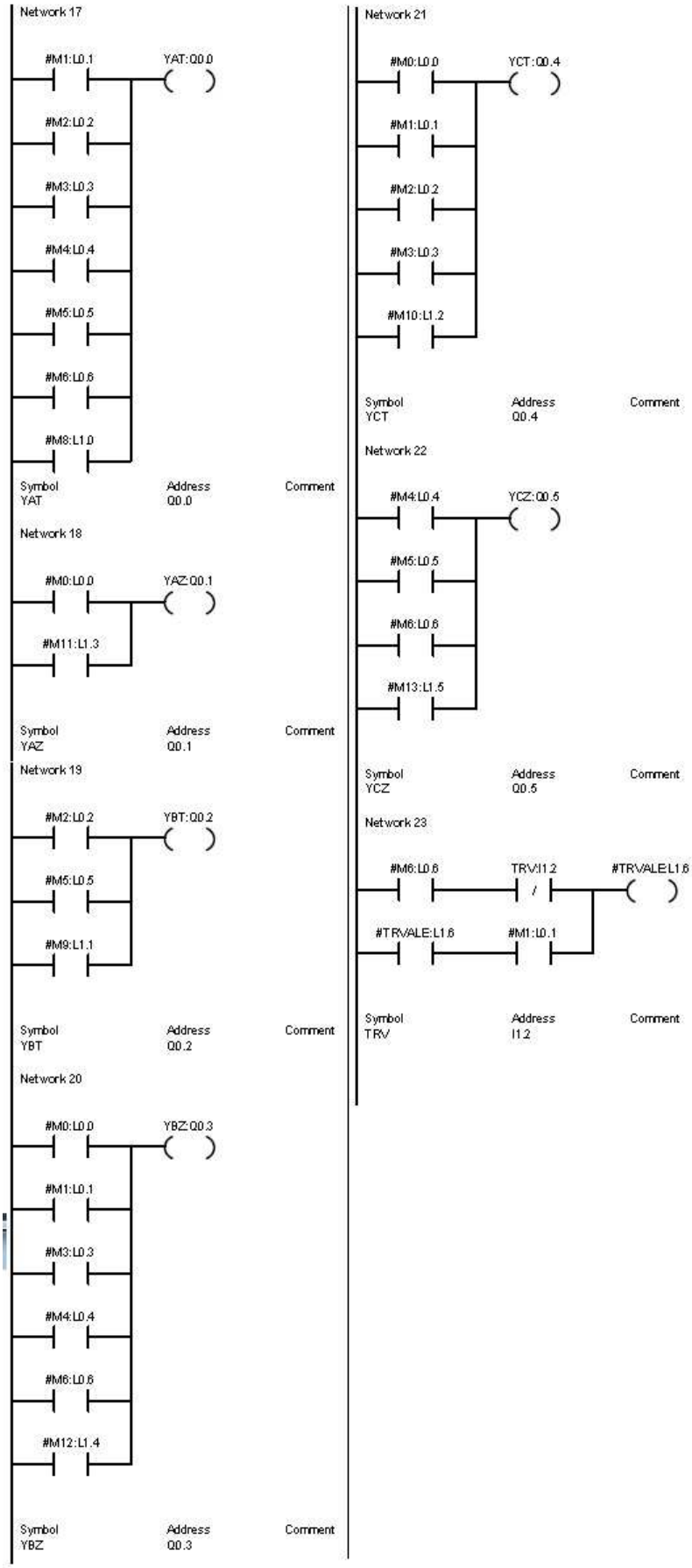
B5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 5/5



B6 – Algoritmus v grafickém jazyku LAD v prostředí STEP7 1/3



B6 – Algoritmus v grafickém jazyku LAD v prostředí STEP7 2/3



B6 – Algoritmus v grafickém jazyku LAD v prostředí STEP7 3/3

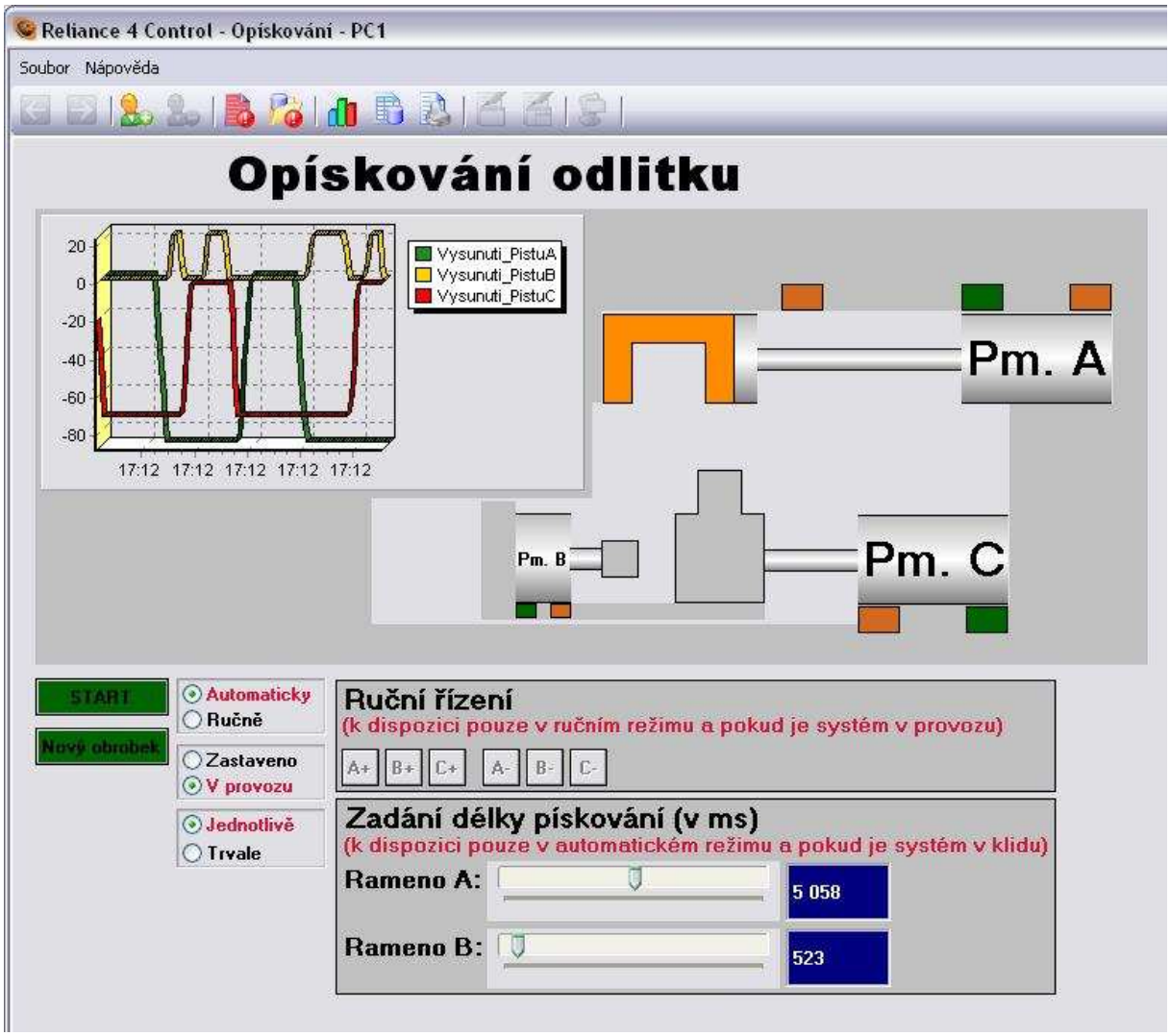
B7 – Výpis skriptu z prostředí Reliance

```
rem ************************************************
rem Reliance 4
rem Projekt: Opískování
rem Uživatel: Stepan
rem Datum: 30.8.2010
rem Čas: 13:08:15
rem ************************************************

Option Explicit
Dim aktiv, vpcb, vpa, vpb, vpc, ob_x, start, novy, obp, rucne, p10, p11, p20, p21, p30, p31,
a0, a1, b0, b1, c0, c1, trv, piska, piskb, povnastpisk, provruc, provaut

'Nacteni promennych
vpa = RTag.GetTagValue("System", "Vysunuti_PistuA")
vpb = RTag.GetTagValue("System", "Vysunuti_PistuB")
vpc = RTag.GetTagValue("System", "Vysunuti_PistuC")
vpcb = RTag.GetTagValue("System", "Vysunuti_PistuCB")
p10 = RTag.GetTagValue("OPC1", "YAT")
p11 = RTag.GetTagValue("OPC1", "YAZ")
p20 = RTag.GetTagValue("OPC1", "YBT")
p21 = RTag.GetTagValue("OPC1", "YBZ")
p30 = RTag.GetTagValue("OPC1", "YCT")
p31 = RTag.GetTagValue("OPC1", "YCZ")
a0 = RTag.GetTagValue("System", "PAD")
a1 = RTag.GetTagValue("System", "PAH")
b0 = RTag.GetTagValue("System", "PBD")
b1 = RTag.GetTagValue("System", "PBH")
c0 = RTag.GetTagValue("System", "PCD")
c1 = RTag.GetTagValue("System", "PCH")
ob_x = RTag.GetTagValue("System", "Obrobek_x")
start = RTag.GetTagValue("System", "Start")
novy = RTag.GetTagValue("System", "Novy_obrobek")
obp = RTag.GetTagValue("System", "Obrobek_pripraven")
rucne = RTag.GetTagValue("System", "Rucne")
aktiv = RTag.GetTagValue("System", "Aktivni")
trv = RTag.GetTagValue("System", "Trvale")
piska = RTag.GetTagValue("System", "PiskA")
piskb = RTag.GetTagValue("System", "PiskB")
povnastpisk = RTag.GetTagValue("System", "PovNastPisk")
provruc = RTag.GetTagValue("System", "ProvRuc")
provaut = RTag.GetTagValue("System", "ProvAut")

vpc=vpc*(-1)
vpa=vpa*(-1)
ob_x=ob_x*(-1)

if trv=true then
novy=true
```

```
end if

if novy=true and vpa=0 then
ob_x=0
end if

if (ob_x=0) then obp=true else obp=false end if

'posuny motoru a obrobku
if (p10=true) then
if vpa<88 then
vpa=vpa+8
ob_x=ob_x+8
end if
if vpa=88 then
p10=false
end if
end if

if (p11=true) then
if trv=false then
novy=false
end if
if vpa>0 then
vpa=vpa-8
ob_x=10000
end if
if vpa=0 then
p11=false
end if
end if

if (p20=true) then
if vpb<24 then
vpb=vpb+6
end if
if vpb=30 then
p21=true
end if
end if

if (p21=true) then
if vpb>0 then
vpb=vpb-6
end if
if vpb=0 then
p21=false
end if
end if
```

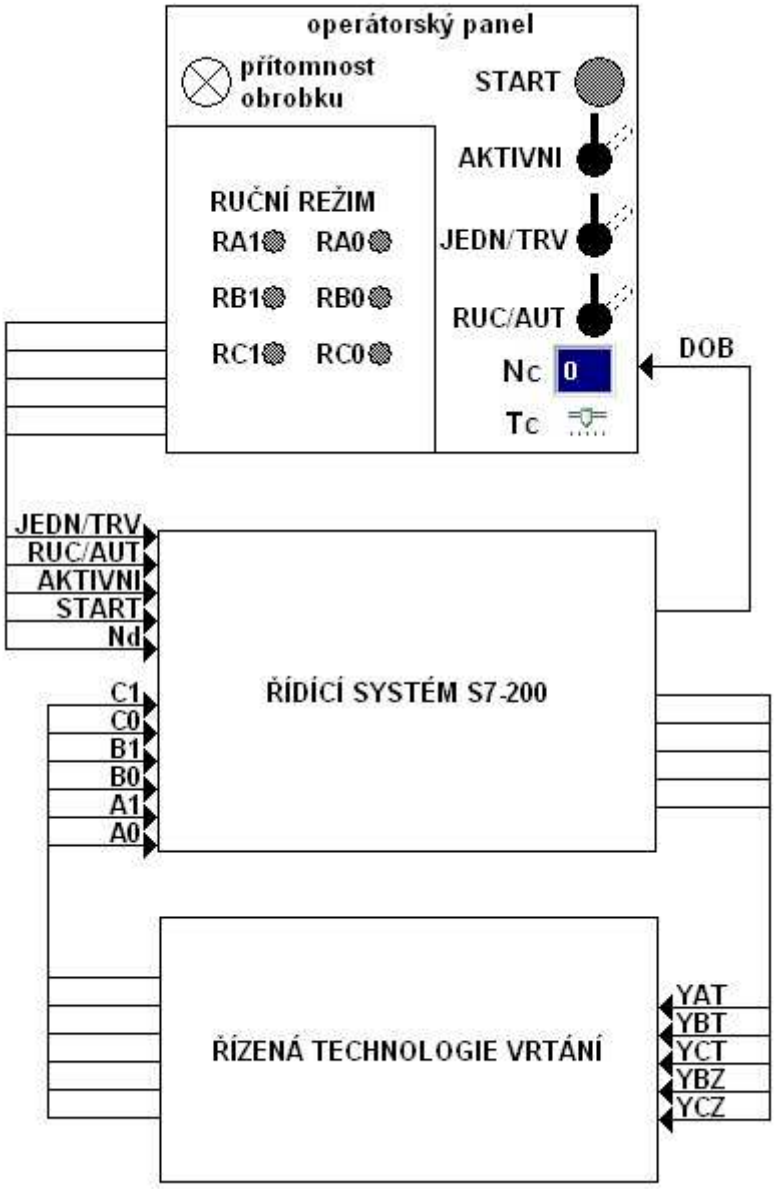
```
if (p30=true) then
if vpc<70 then
vpc=vpc+10
end if
if vpc=70 then
p30=false
end if
end if

if (p31=true) then
if vpc>0 then
vpc=vpc-10
else
p31=false
end if
end if

if a1=true and c1=true and b1=true then
piska=true
else
piska=false
end if

if a1=true and c0=true and b1=true then
piskb=true
else
piskb=false
end if

if rucne=false and a0=true then
povnastpisk=true
else
povnastpisk=false
end if

if rucne=true and aktiv=true then
provruc=true
else
provruc=false
end if

if rucne=false and aktiv=true then
provaut=true
else
provaut=false
end if

'Ulozeni promennych
vpc=vpc*(-1)
vpa=vpa*(-1)
```

```
ob_x=ob_x*(-1)
vpcb=vpb+vpc

RTag.SetTagValue "System", "Vysunuti_PistuA" , vpa
RTag.SetTagValue "System", "Vysunuti_PistuB" , vpb
RTag.SetTagValue "System", "Vysunuti_PistuC" , vpc
RTag.SetTagValue "System", "Vysunuti_PistuCB" , vpcb
RTag.SetTagValue "System", "Obrobek_x" , ob_x
RTag.SetTagValue "OPC1", "START" , start
RTag.SetTagValue "System", "Start" , start
RTag.SetTagValue "System", "Novy_obrobek" , novy
RTag.SetTagValue "System", "Obrobek_pripraven" , obp
RTag.SetTagValue "OPC1", "RA" , rucne
RTag.SetTagValue "OPC1", "DOB" , obp
RTag.SetTagValue "OPC1", "AKTIVNI" , aktiv
RTag.SetTagValue "OPC1", "A0" , a0
RTag.SetTagValue "OPC1", "A1" , a1
RTag.SetTagValue "OPC1", "B0" , b0
RTag.SetTagValue "OPC1", "B1" , b1
RTag.SetTagValue "OPC1", "C0" , c0
RTag.SetTagValue "OPC1", "C1" , c1
RTag.SetTagValue "System", "PiskA" , piska
RTag.SetTagValue "System", "PiskB" , piskb
RTag.SetTagValue "OPC1", "TRV" , trv
RTag.SetTagValue "System", "PovNastPisk" , povnastpisk
RTag.SetTagValue "System", "ProvRuc" , provruc
RTag.SetTagValue "System", "ProvAut" , provanut
```

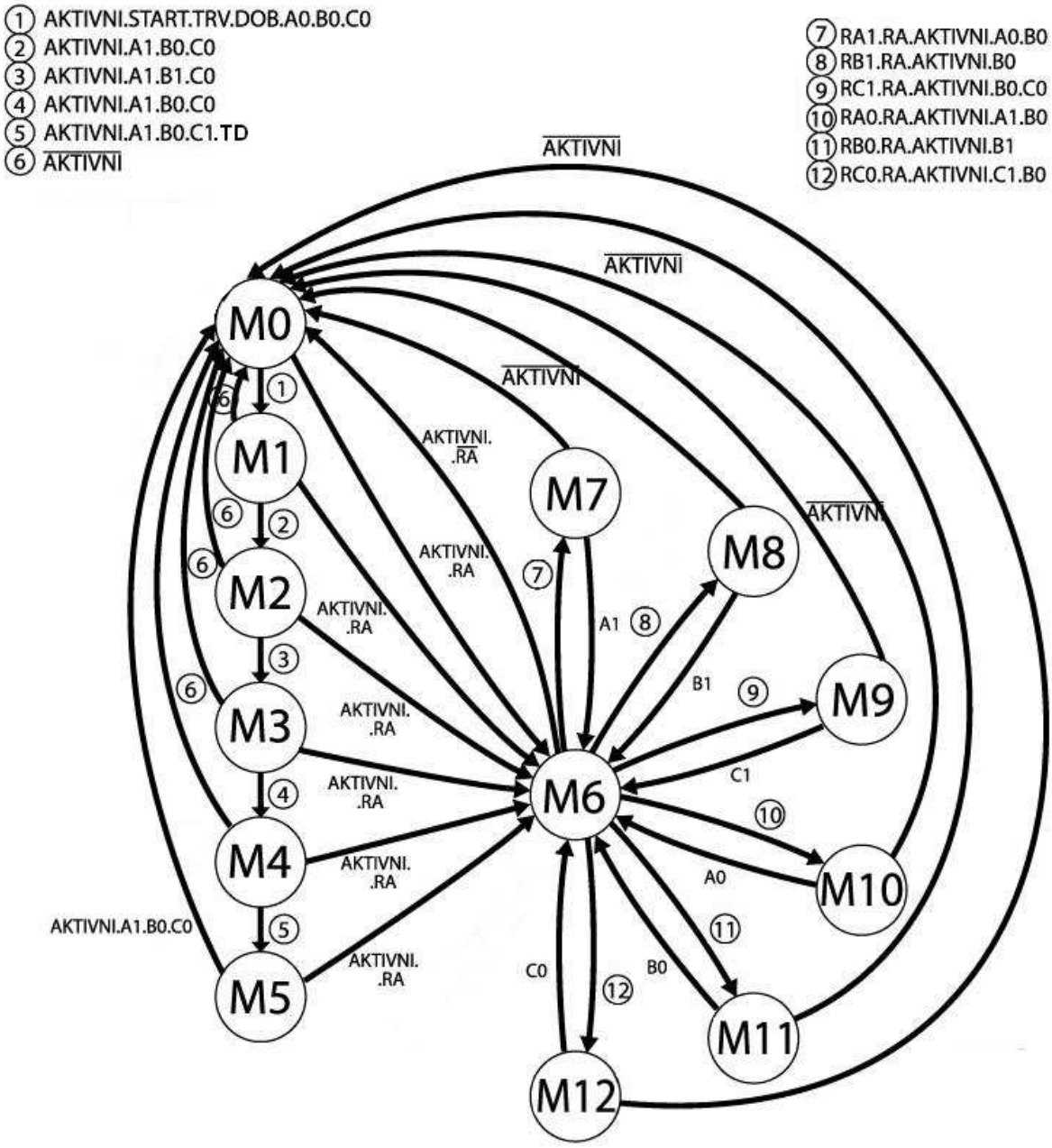


B8 – Vizualizační okno úlohy Opískování v runtime režimu

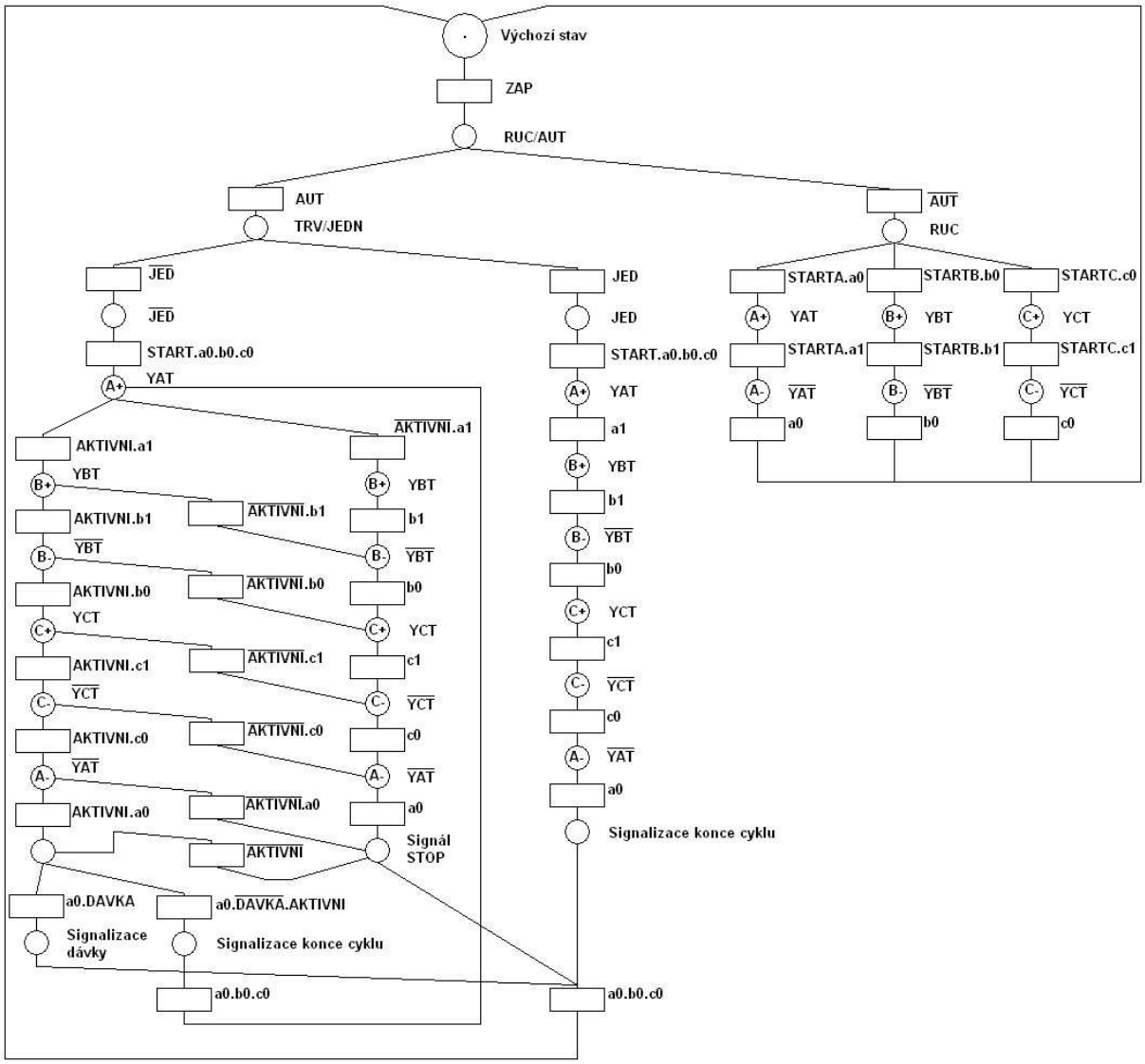
Úloha C – Přípravek pro ohýbání



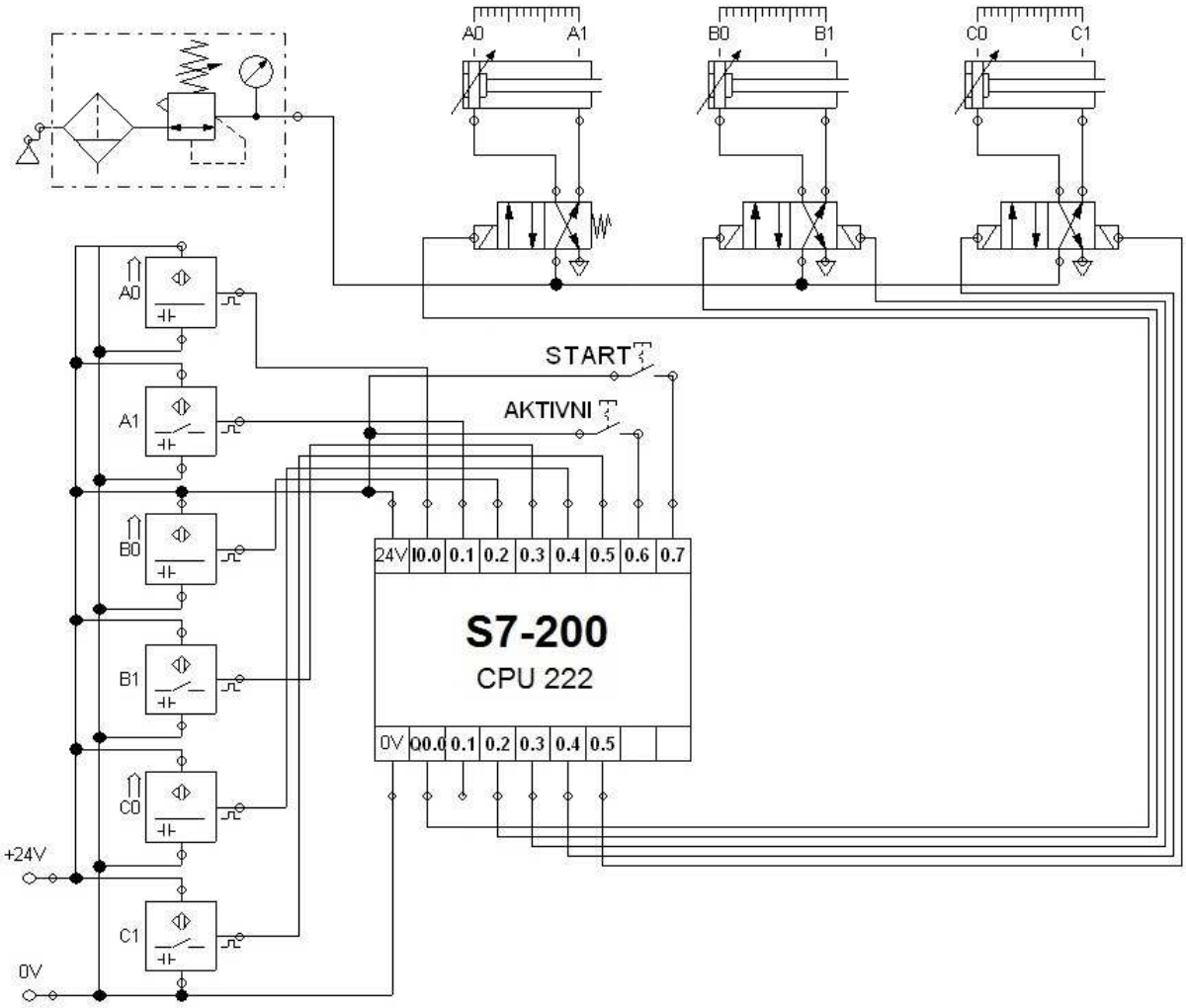
C1 – Blokové schéma řízeného a řídícího systému s operátorským panelem



C2 – Stavový diagram



C3 – Petriho síť



C4 – Schéma zapojení automatu, senzorů a pneumomotorů

OhybaniGoj / MAIN (OB1)

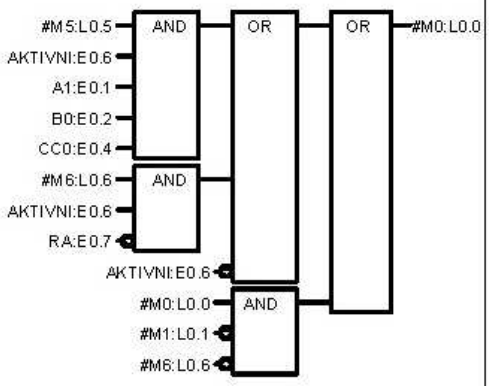
Block: MAIN
Author:
Created: 08/05/2010 12:17:08
Last Modified: 08/05/2010 14:05:43

	Symbol	Var Type	Data Type	Comment
L0.0	M0	TEMP	BOOL	
L0.1	M1	TEMP	BOOL	
L0.2	M2	TEMP	BOOL	
L0.3	M3	TEMP	BOOL	
L0.4	M4	TEMP	BOOL	
L0.5	M5	TEMP	BOOL	
L0.6	M6	TEMP	BOOL	
L0.7	M7	TEMP	BOOL	
L1.0	M8	TEMP	BOOL	
L1.1	M9	TEMP	BOOL	
L1.2	M10	TEMP	BOOL	
L1.3	M11	TEMP	BOOL	
L1.4	M12	TEMP	BOOL	
L1.5	TRVALE	TEMP	BOOL	

PROGRAM COMMENTS

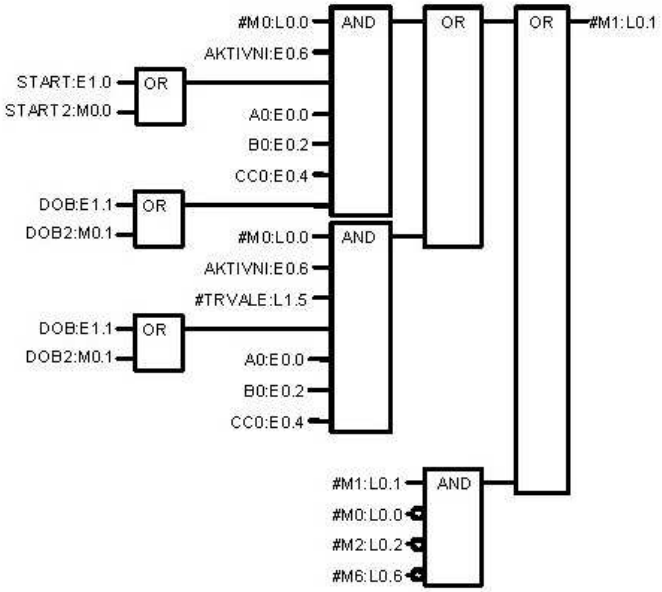
Network 1 Network Title

Network Comment



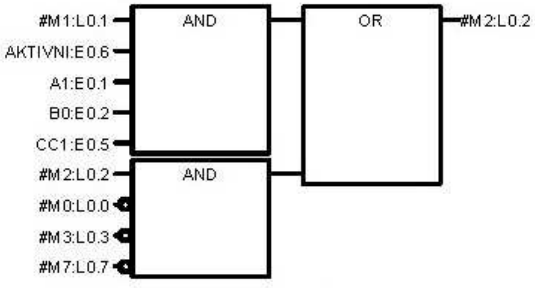
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	
RA	E0.7	

Network 2



Symbol	Address	Comment
A0	E0.0	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	
DOB	E1.1	
DOB2	M0.1	
START	E1.0	
START2	M0.0	

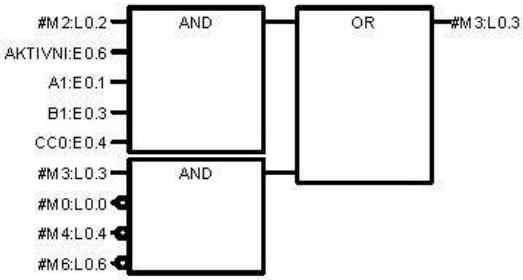
Network 3



Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC1	E0.5	

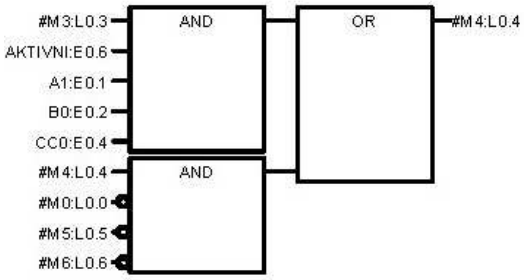
C5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 1/3

Network 4



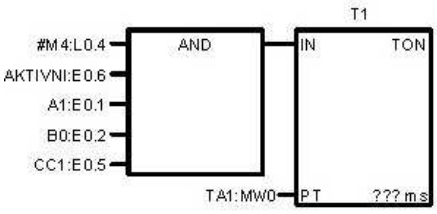
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B1	E0.3	
CC0	E0.4	

Network 5



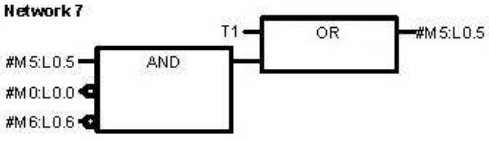
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	

Network 6

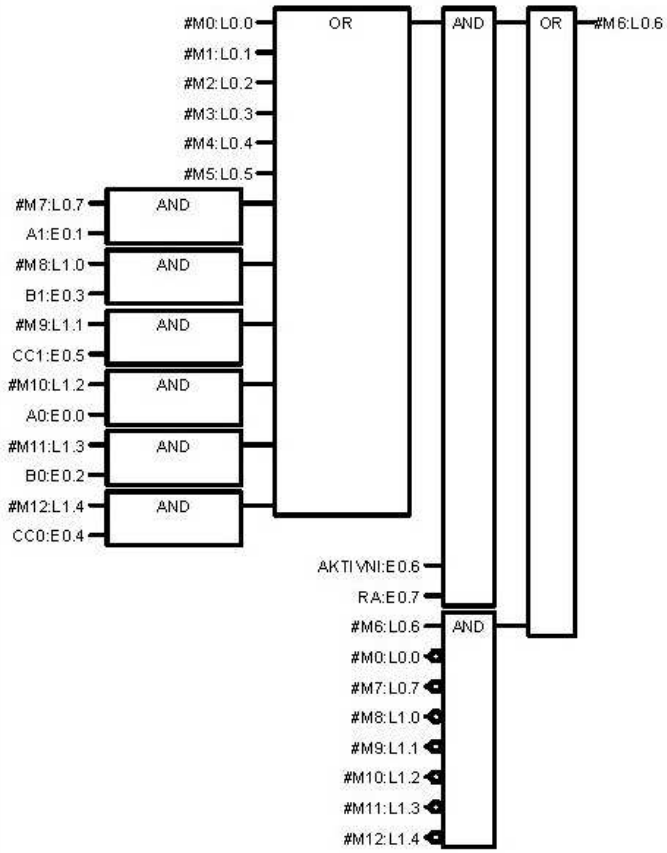


Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC1	E0.5	

Network 7

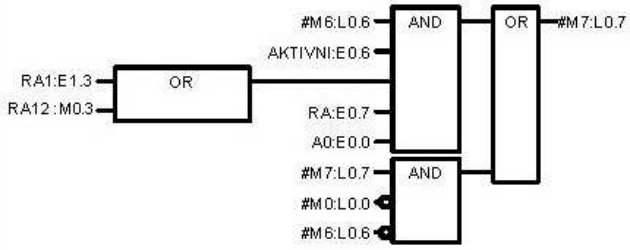


Network 8



Symbol	Address	Comment
A0	E0.0	
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
B1	E0.3	
CC0	E0.4	
CC1	E0.5	
RA	E0.7	

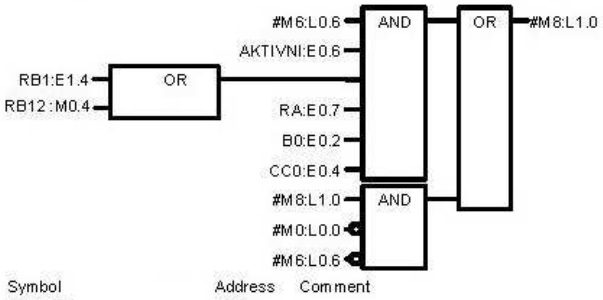
Network 9



Symbol	Address	Comment
A0	E0.0	
AKTIVNI	E0.6	
RA	E0.7	
RA1	E1.3	
RA12	M0.3	

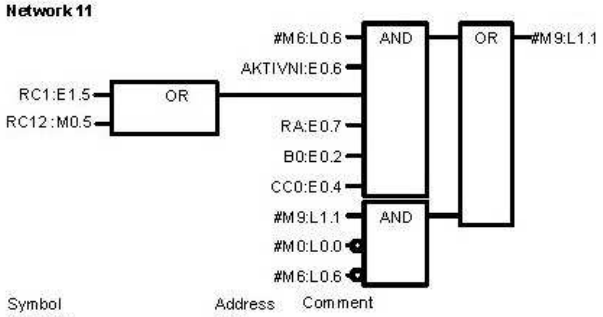
C5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 2/3

Network 10



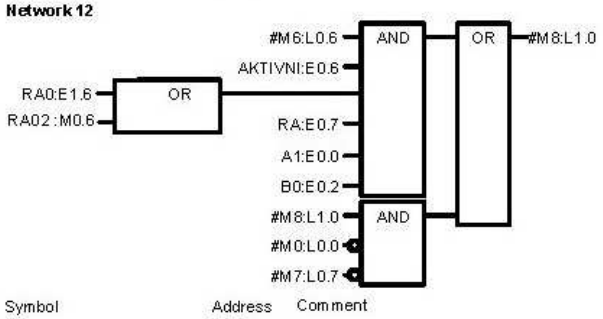
Symbol	Address	Comment
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	
RA	E0.7	
RB1	E1.4	
RB12	M0.4	

Network 11



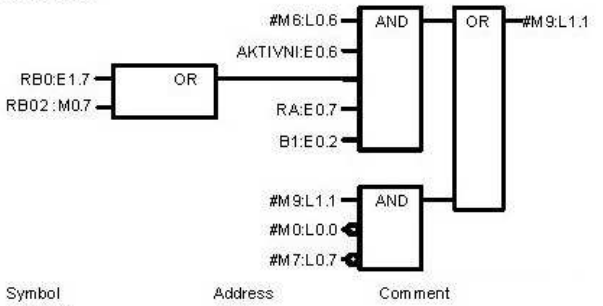
Symbol	Address	Comment
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	
RA	E0.7	
RC1	E1.5	
RC12	M0.5	

Network 12



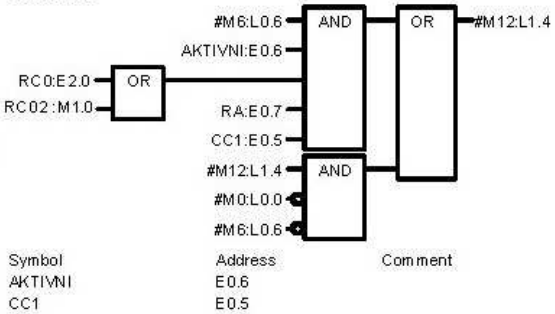
Symbol	Address	Comment
A0	E0.0	
AKTIVNI	E0.6	
B0	E0.2	
RA	E0.7	
RA0	E1.6	
RA02	M0.6	

Network 13



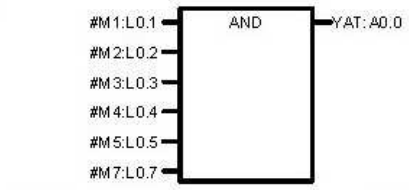
Symbol	Address	Comment
AKTIVNI	E0.6	
B0	E0.2	
RA	E0.7	
RB0	E1.7	
RB02	M0.7	

Network 14



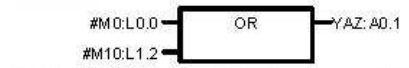
Symbol	Address	Comment
AKTIVNI	E0.6	
CC1	E0.5	
RA	E0.7	
RC0	E2.0	
RC02	M1.0	

Network 15



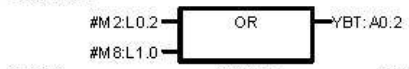
Symbol	Address	Comment
YAT	A0.0	

Network 16



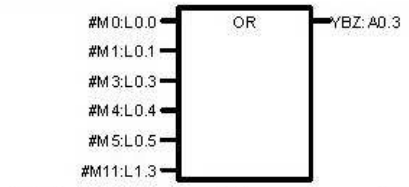
Symbol	Address	Comment
YAZ	A0.1	

Network 17



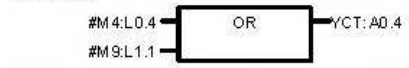
Symbol	Address	Comment
YBT	A0.2	

Network 18



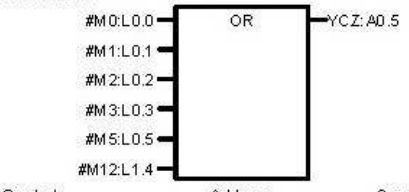
Symbol	Address	Comment
YBZ	A0.3	

Network 19



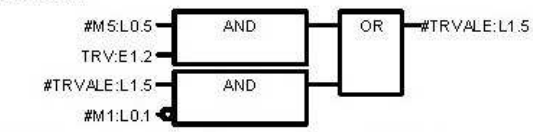
Symbol	Address	Comment
YCT	A0.4	

Network 20



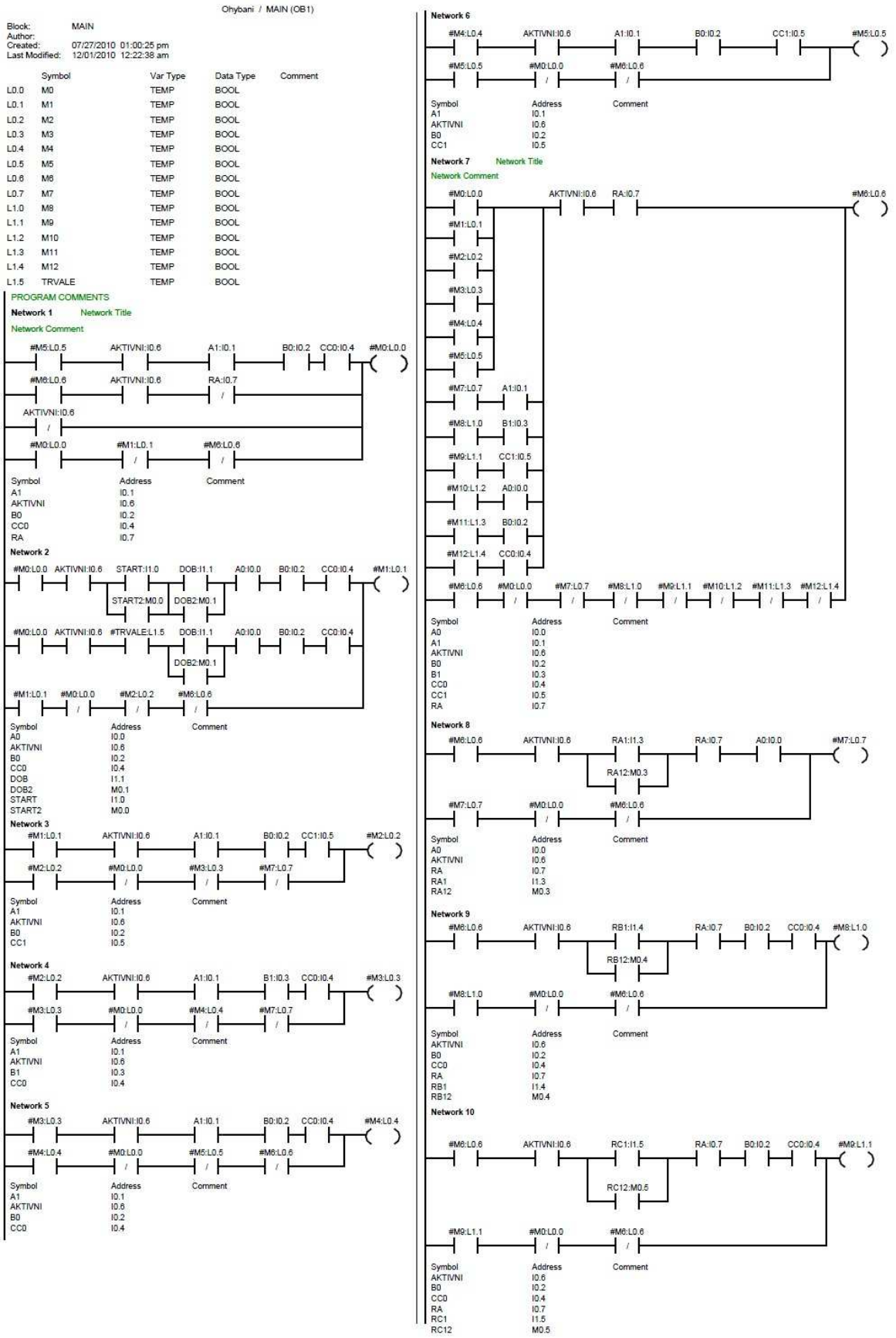
Symbol	Address	Comment
YCZ	A0.5	

Network 21

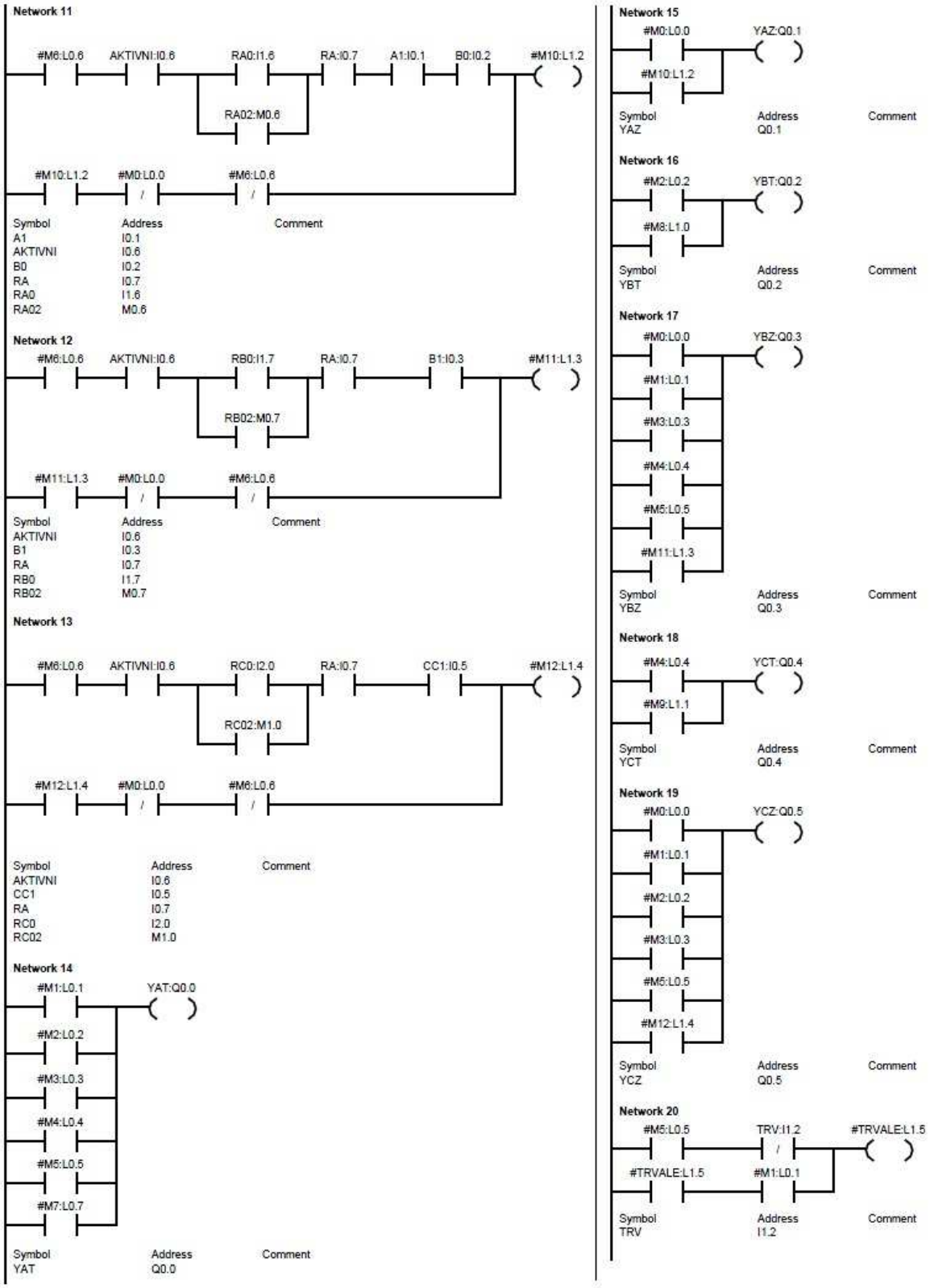


Symbol	Address	Comment
TRV	E1.2	

C5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 3/3



C6 – Algoritmus v grafickém jazyku LAD v prostředí STEP7 1/2



C6 – Algoritmus v grafickém jazyku LAD v prostředí STEP7 2/2

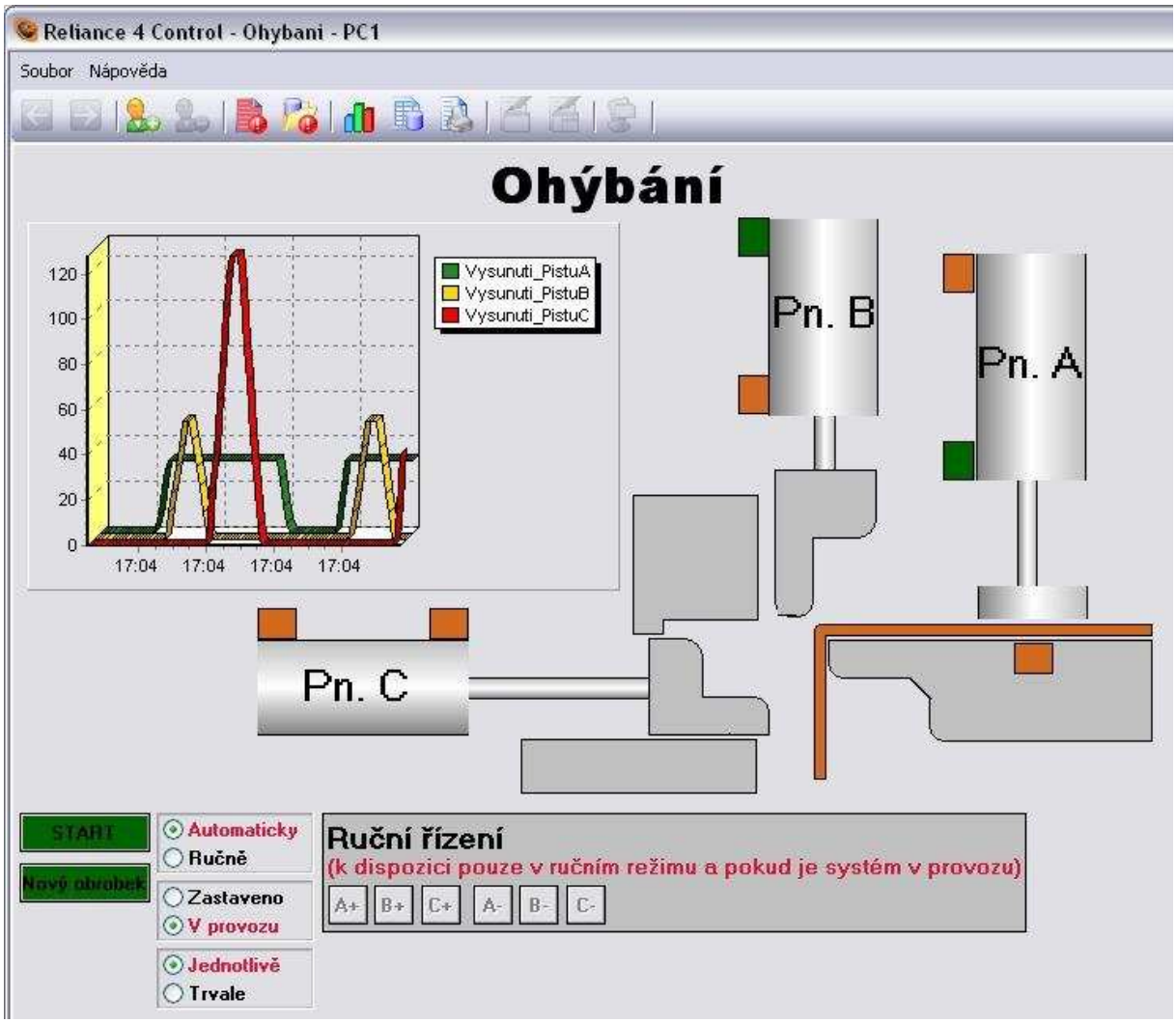
C7 – Výpis skriptu z prostředí Reliance

```
rem ************************************************
rem Reliance 4
rem Projekt: Ohybani
rem Uživatel: Stepan
rem Datum: 31.8.2010
rem Čas: 18:59:39
rem ************************************************

Option Explicit
Dim aktiv, vpa, vpb, vpc, start, novy, obp, rucne, p10, p11, p20, p21, p30, p31, a0, a1, b0, b1,
c0, c1, trv, provruc, provaut, ob1, ob2, ob3

'Nacteni promennych
vpa = RTag.GetTagValue("System", "Vysunuti_PistuA")
vpb = RTag.GetTagValue("System", "Vysunuti_PistuB")
vpc = RTag.GetTagValue("System", "Vysunuti_PistuC")
p10 = RTag.GetTagValue("OPC1", "YAT")
p11 = RTag.GetTagValue("OPC1", "YAZ")
p20 = RTag.GetTagValue("OPC1", "YBT")
p21 = RTag.GetTagValue("OPC1", "YBZ")
p30 = RTag.GetTagValue("OPC1", "YCT")
p31 = RTag.GetTagValue("OPC1", "YCZ")
a0 = RTag.GetTagValue("System", "PAD")
a1 = RTag.GetTagValue("System", "PAH")
b0 = RTag.GetTagValue("System", "PBD")
b1 = RTag.GetTagValue("System", "PBH")
c0 = RTag.GetTagValue("System", "PCD")
c1 = RTag.GetTagValue("System", "PCH")
start = RTag.GetTagValue("System", "Start")
novy = RTag.GetTagValue("System", "Novy_obrobek")
obp = RTag.GetTagValue("System", "Obrobek_pripraven")
rucne = RTag.GetTagValue("System", "Rucne")
aktiv = RTag.GetTagValue("System", "Aktivni")
trv = RTag.GetTagValue("System", "Trvale")
provruc = RTag.GetTagValue("System", "ProvRuc")
provaut = RTag.GetTagValue("System", "ProvAut")
ob1 = RTag.GetTagValue("System", "Ob1")
ob2 = RTag.GetTagValue("System", "Ob2")
ob3 = RTag.GetTagValue("System", "Ob3")

if trv=true then
novy=true
end if

if novy=true and vpa=0 then
ob1=true
ob2=false
```

```
ob3=false
end if

if ob1=true then obp=true else obp=false end if

'posuny motoru a zobrazeni obrobku
if (p10=true) then
if vpa<32 then
vpa=vpa+4
ob1=true
ob2=false
ob3=false
end if
if vpa=32 then
p10=false
end if
end if

if (p11=true) then
if trv=false then
novy=false
end if
if vpa>0 then
ob1=false
ob2=false
ob3=false
vpa=vpa-4
end if
if vpa=0 then
p11=false
end if
end if

if (p20=true) then
if vpb<52 then
vpb=vpb+4
if vpb>4 then
ob1=false
ob2=true
ob3=false
end if
end if
if vpb=56 then
p21=true
end if
end if

if (p21=true) then
if vpb>0 then
ob1=false
```

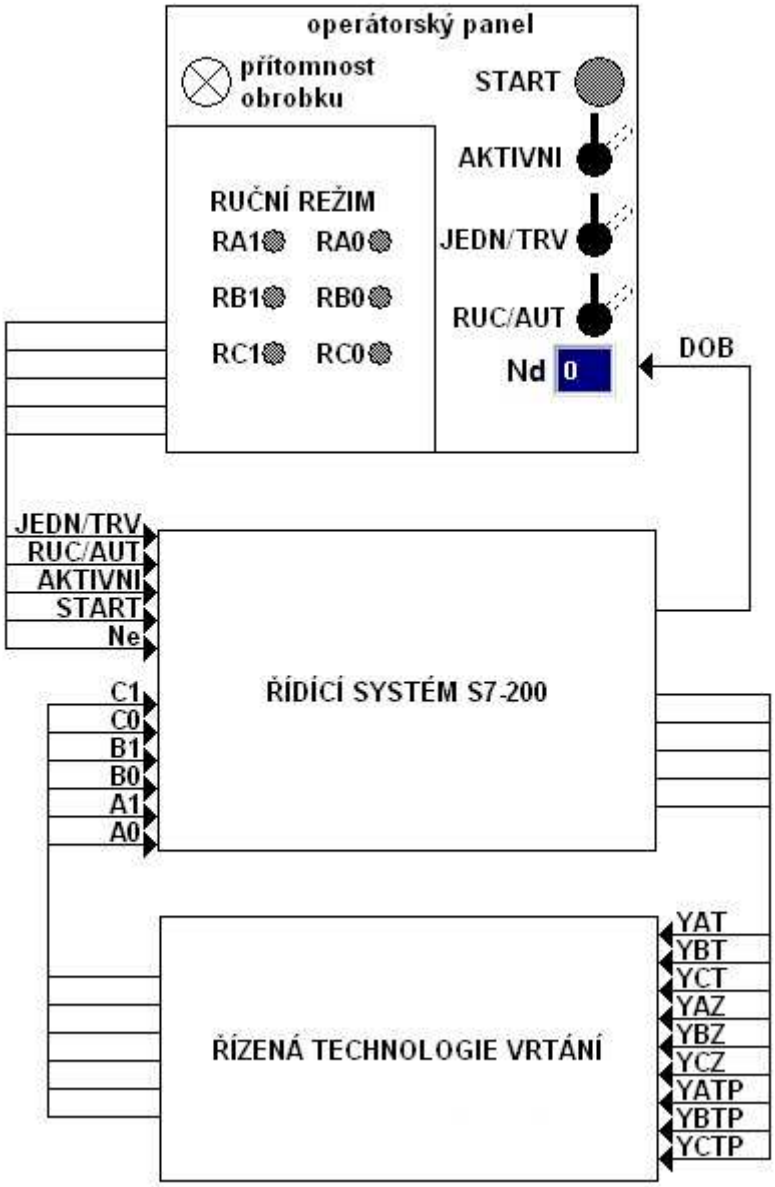
```
ob2=true
ob3=false
vpb=vpb-4
end if
if vpb=0 then
p21=false
end if
end if

if (p30=true) then
if vpc<124 then
vpc=vpc+8
if vpc>98 then
ob1=false
ob2=false
ob3=true
end if
end if
if vpc=124 then
p30=false
end if
end if

if (p31=true) then
if vpc>0 then
vpc=vpc-8
ob1=false
ob2=false
ob3=true
else
p31=false
end if
end if

if rucne=true and aktiv=true then
provruc=true
else
provruc=false
end if

if rucne=false and aktiv=true then
provaut=true
else
provaut=false
end if

RTag.SetTagValue "System", "Vysunuti_PistuA" , vpa
RTag.SetTagValue "System", "Vysunuti_PistuB" , vpb
RTag.SetTagValue "System", "Vysunuti_PistuC" , vpc
RTag.SetTagValue "OPC1", "START" , start
```

```
RTag.SetTagValue "System", "Start" , start
RTag.SetTagValue "System", "Novy_obrobek" , novy
RTag.SetTagValue "System", "Obrobek_pripraven" , obp
RTag.SetTagValue "OPC1", "RA" , rucne
RTag.SetTagValue "OPC1", "DOB" , obp
RTag.SetTagValue "OPC1", "AKTIVNI" , aktiv
RTag.SetTagValue "OPC1", "A0" , a0
RTag.SetTagValue "OPC1", "A1" , a1
RTag.SetTagValue "OPC1", "B0" , b0
RTag.SetTagValue "OPC1", "B1" , b1
RTag.SetTagValue "OPC1", "C0" , c0
RTag.SetTagValue "OPC1", "C1" , c1
RTag.SetTagValue "OPC1", "TRV" , trv
RTag.SetTagValue "System", "ProvRuc" , provruc
RTag.SetTagValue "System", "Ob1" , ob1
RTag.SetTagValue "System", "Ob2" , ob2
RTag.SetTagValue "System", "Ob3" , ob3
```

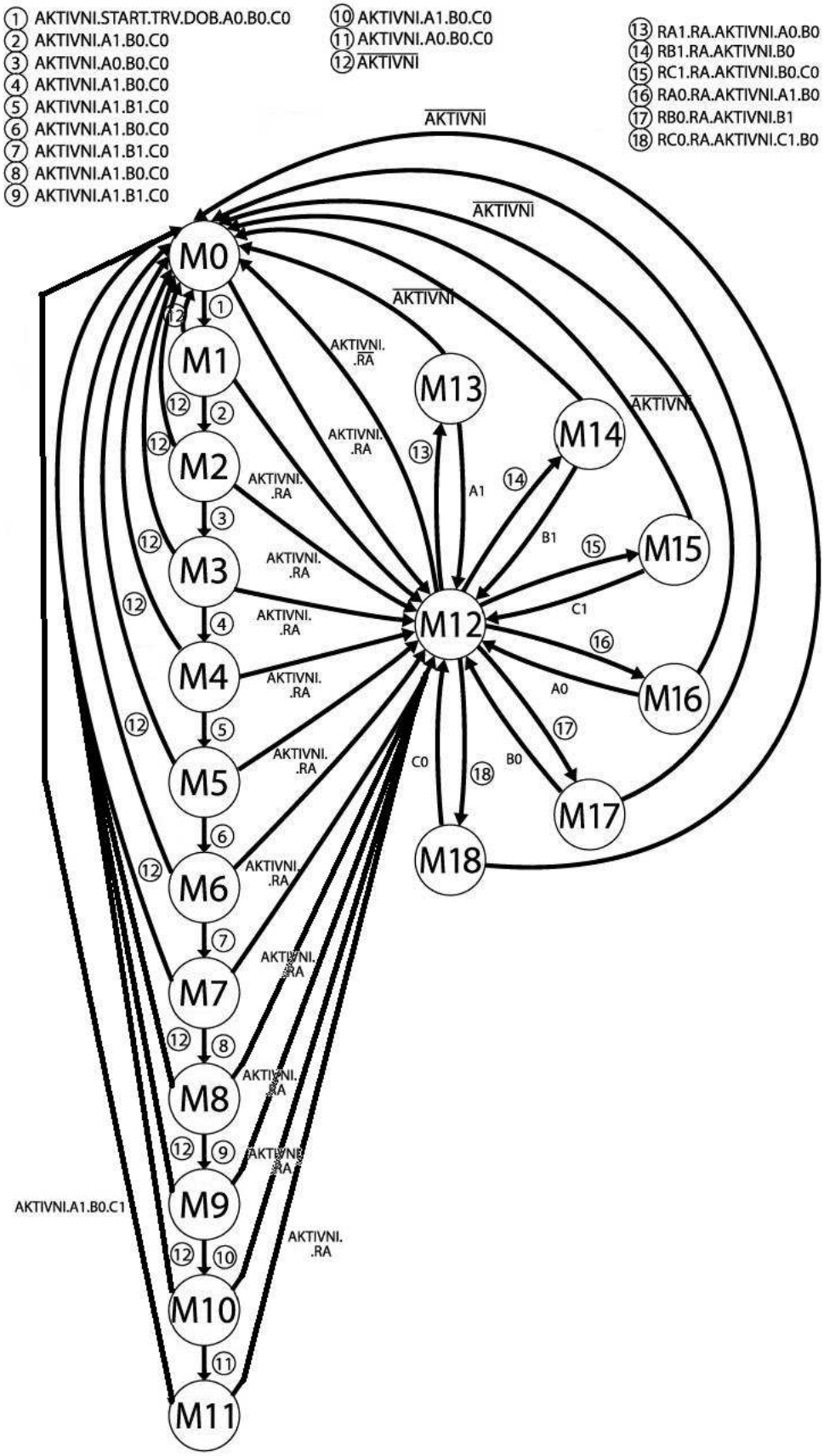


C8 – Vizualizační okno úlohy Ohýbání v runtime režimu

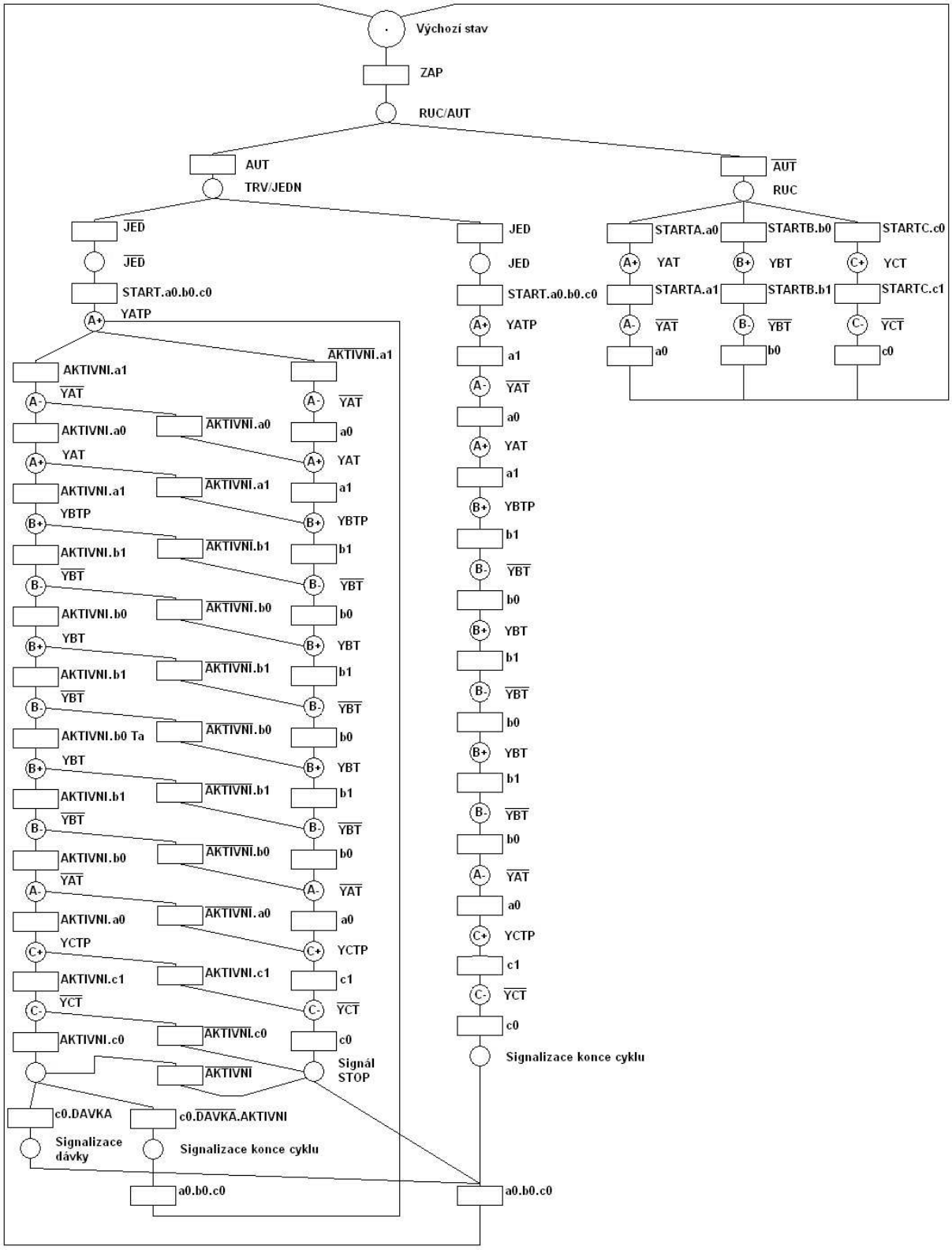
Úloha D – Přípravek pro zalisování



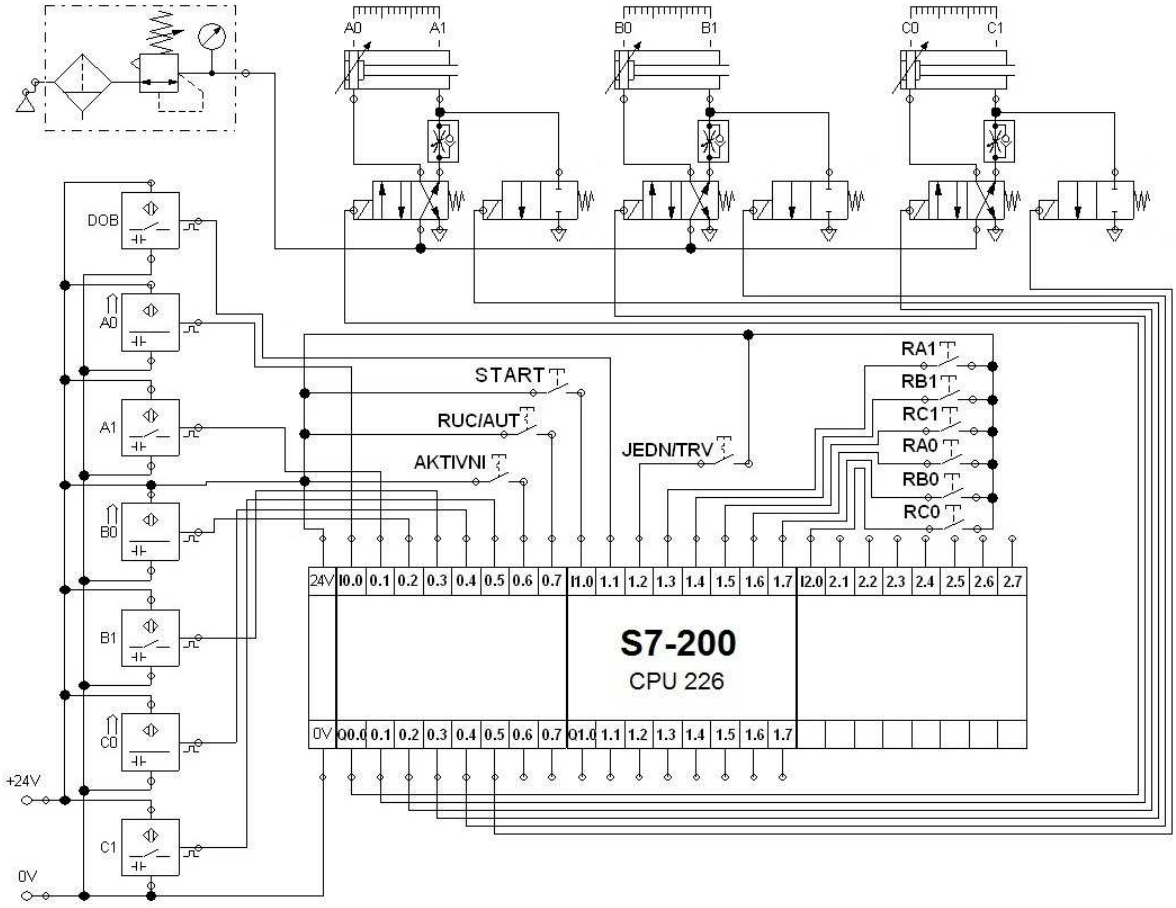
D1 – Blokové schéma řízeného a řídícího systému s operátorským panelem



D2 – Stavový diagram



D3 – Petriho síť



D4 – Schéma zapojení automatu, senzorů a pneumomotorů

ZalisovaniGoj / MAIN (OB1)

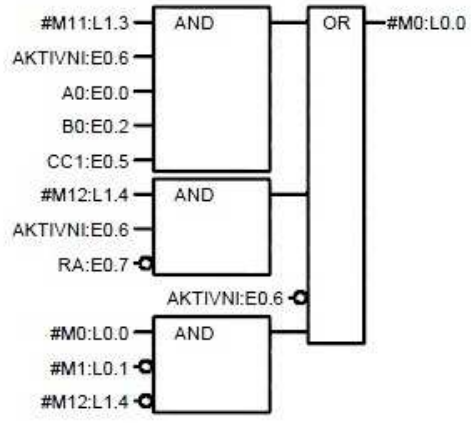
Block: MAIN
Author:
Created: 08/04/2010 13:44:34
Last Modified: 08/06/2010 11:44:26

	Symbol	Var Type	Data Type	Comment
L0.0	M0	TEMP	BOOL	
L0.1	M1	TEMP	BOOL	
L0.2	M2	TEMP	BOOL	
L0.3	M3	TEMP	BOOL	
L0.4	M4	TEMP	BOOL	
L0.5	M5	TEMP	BOOL	
L0.6	M6	TEMP	BOOL	
L0.7	M7	TEMP	BOOL	
L1.0	M8	TEMP	BOOL	
L1.1	M9	TEMP	BOOL	
L1.2	M10	TEMP	BOOL	
L1.3	M11	TEMP	BOOL	
L1.4	M12	TEMP	BOOL	
L1.5	M13	TEMP	BOOL	
L1.6	M14	TEMP	BOOL	
L1.7	M15	TEMP	BOOL	
L2.0	M16	TEMP	BOOL	
L2.1	M17	TEMP	BOOL	
L2.2	M18	TEMP	BOOL	
L2.3	TRVALE	TEMP	BOOL	
L2.4	P	TEMP	BOOL	

PROGRAM COMMENTS

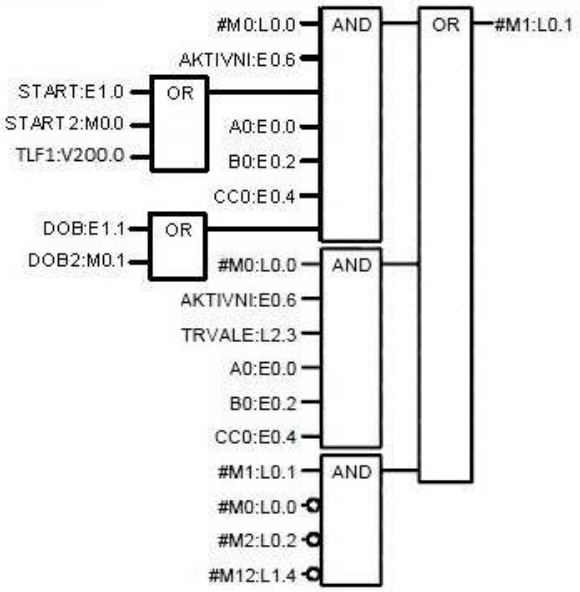
Network 1 Network Title

Network Comment



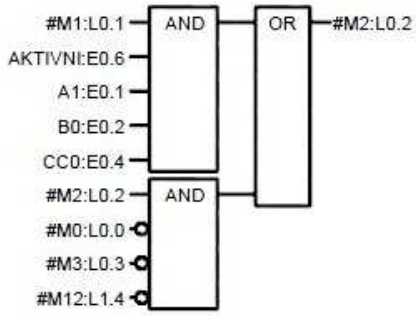
Symbol	Address	Comment
A0	E0.0	
AKTIVNI	E0.6	
B0	E0.2	
CC1	E0.5	
RA	E0.7	

Network 2



Symbol	Address	Comment
A0	E0.0	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	
DOB	E1.1	
START	E1.0	

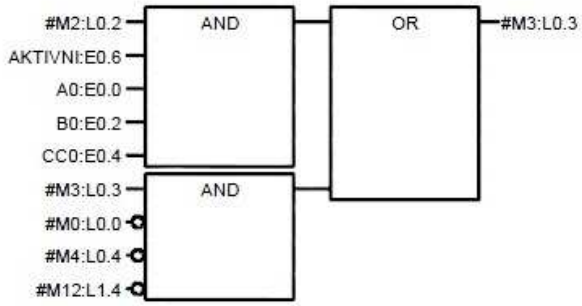
Network 3



Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	

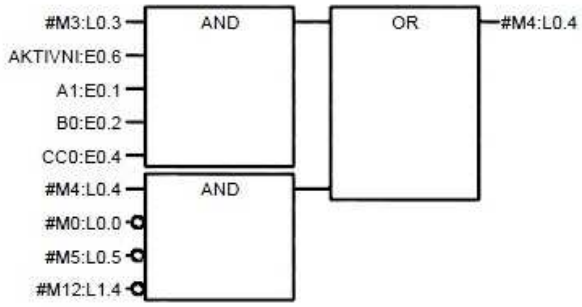
D5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 1/5

Network 4



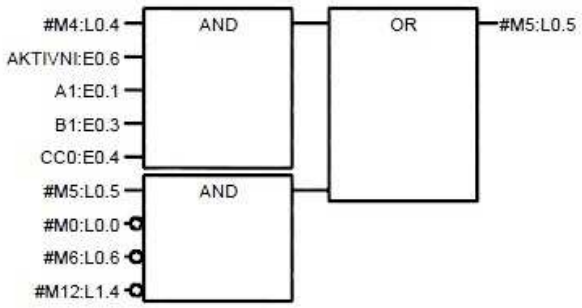
Symbol	Address	Comment
A0	E0.0	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	

Network 5



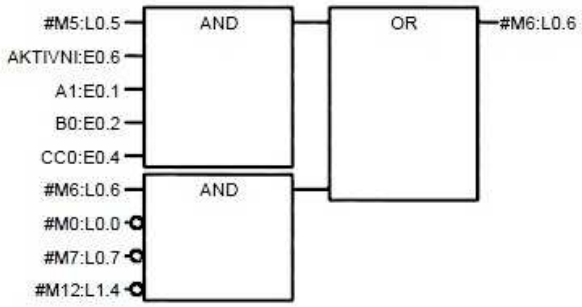
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	

Network 6



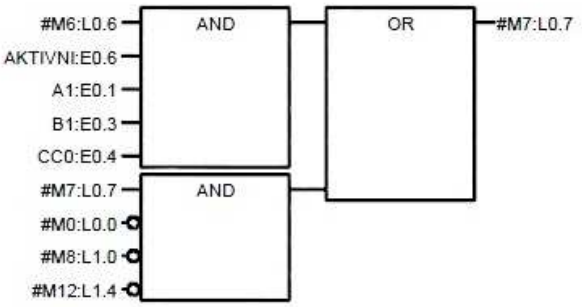
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B1	E0.3	
CC0	E0.4	

Network 7



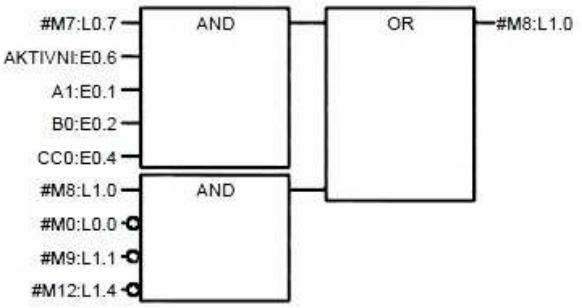
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	

Network 8



Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B1	E0.3	
CC0	E0.4	

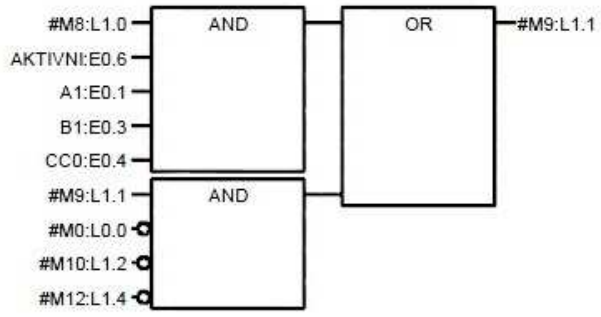
Network 9



Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	

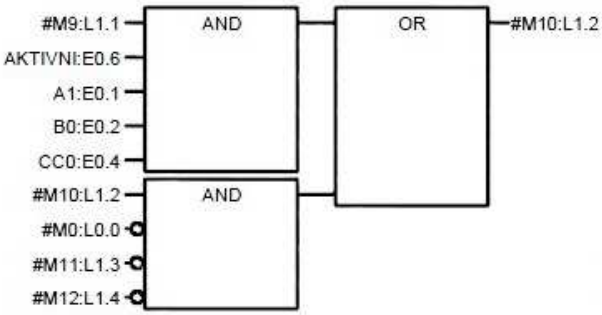
D5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 2/5

Network 10



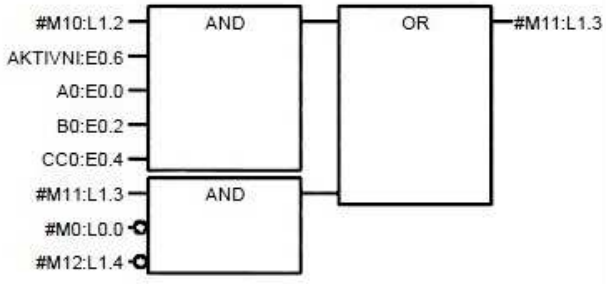
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B1	E0.3	
CC0	E0.4	

Network 11



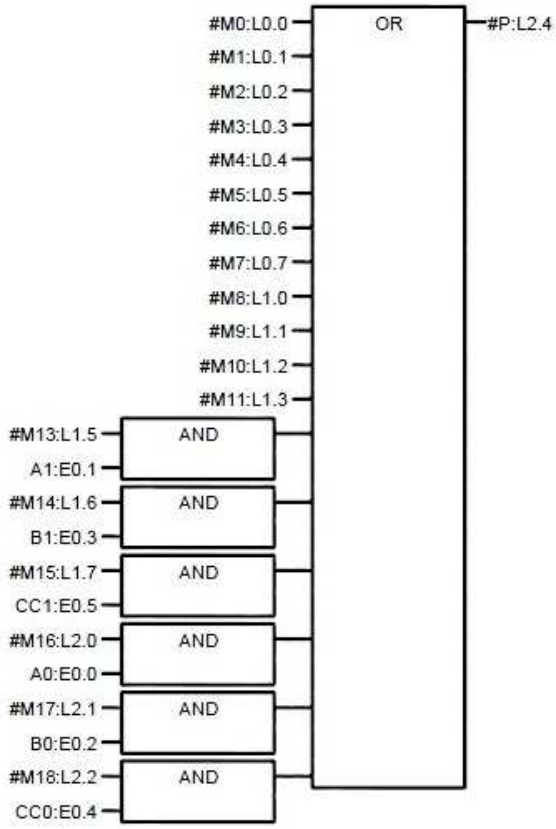
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	

Network 12



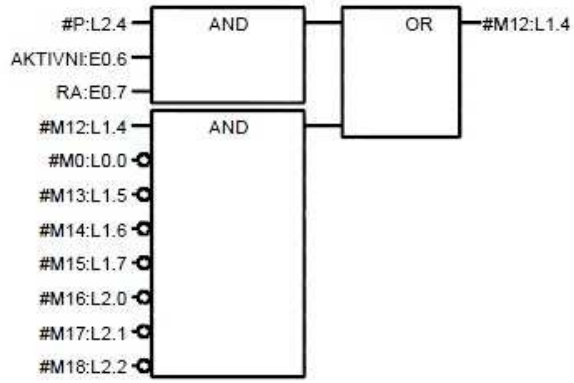
Symbol	Address	Comment
A0	E0.0	
AKTIVNI	E0.6	
B0	E0.2	
CC0	E0.4	

Network 13



Symbol	Address	Comment
A0	E0.0	
A1	E0.1	
B0	E0.2	
B1	E0.3	
CC0	E0.4	
CC1	E0.5	

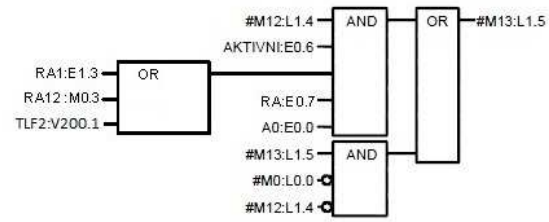
Network 14



Symbol	Address	Comment
AKTIVNI	E0.6	
RA	E0.7	

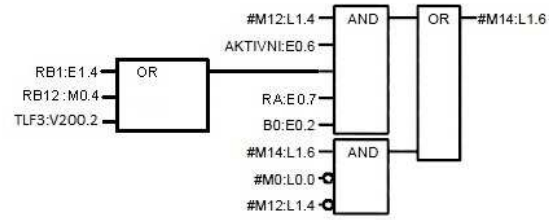
D5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 3/5

Network 15



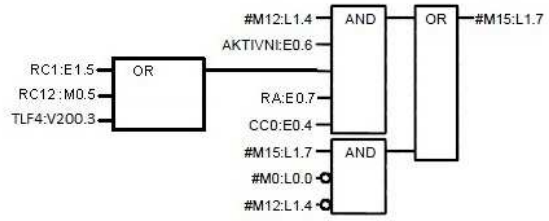
Symbol	Address	Comment
A0	E0.0	
AKTIVNI	E0.6	
RA	E0.7	
RA1	E1.3	
RA12	M0.3	

Network 16



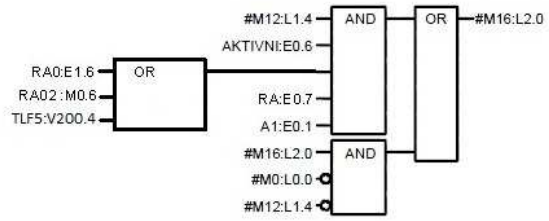
Symbol	Address	Comment
AKTIVNI	E0.6	
B0	E0.2	
RA	E0.7	
RB1	E1.4	
RB12	M0.4	

Network 17



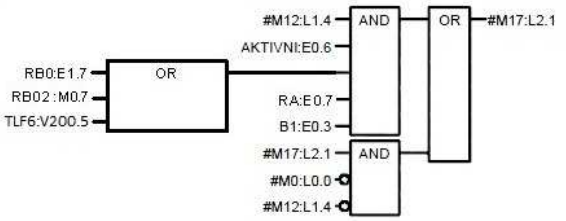
Symbol	Address	Comment
AKTIVNI	E0.6	
CC0	E0.4	
RA	E0.7	
RC1	E1.5	
RC12	M0.5	

Network 18



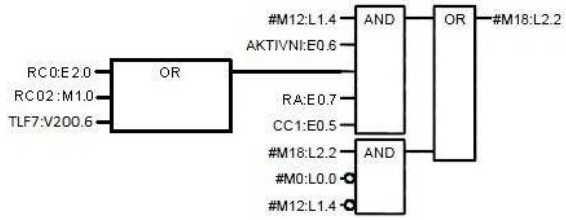
Symbol	Address	Comment
A1	E0.1	
AKTIVNI	E0.6	
RA	E0.7	
RA0	E1.6	
RA02	M0.6	

Network 19



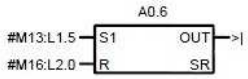
Symbol	Address	Comment
AKTIVNI	E0.6	
B1	E0.3	
RA	E0.7	
RB0	E1.7	
RB02	M0.7	

Network 20

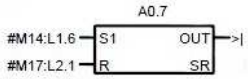


Symbol	Address	Comment
AKTIVNI	E0.6	
CC1	E0.5	
RA	E0.7	
RC0	E2.0	
RC02	M1.0	

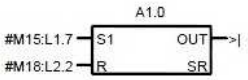
Network 21



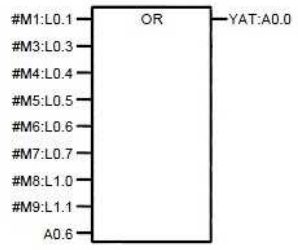
Network 22



Network 23

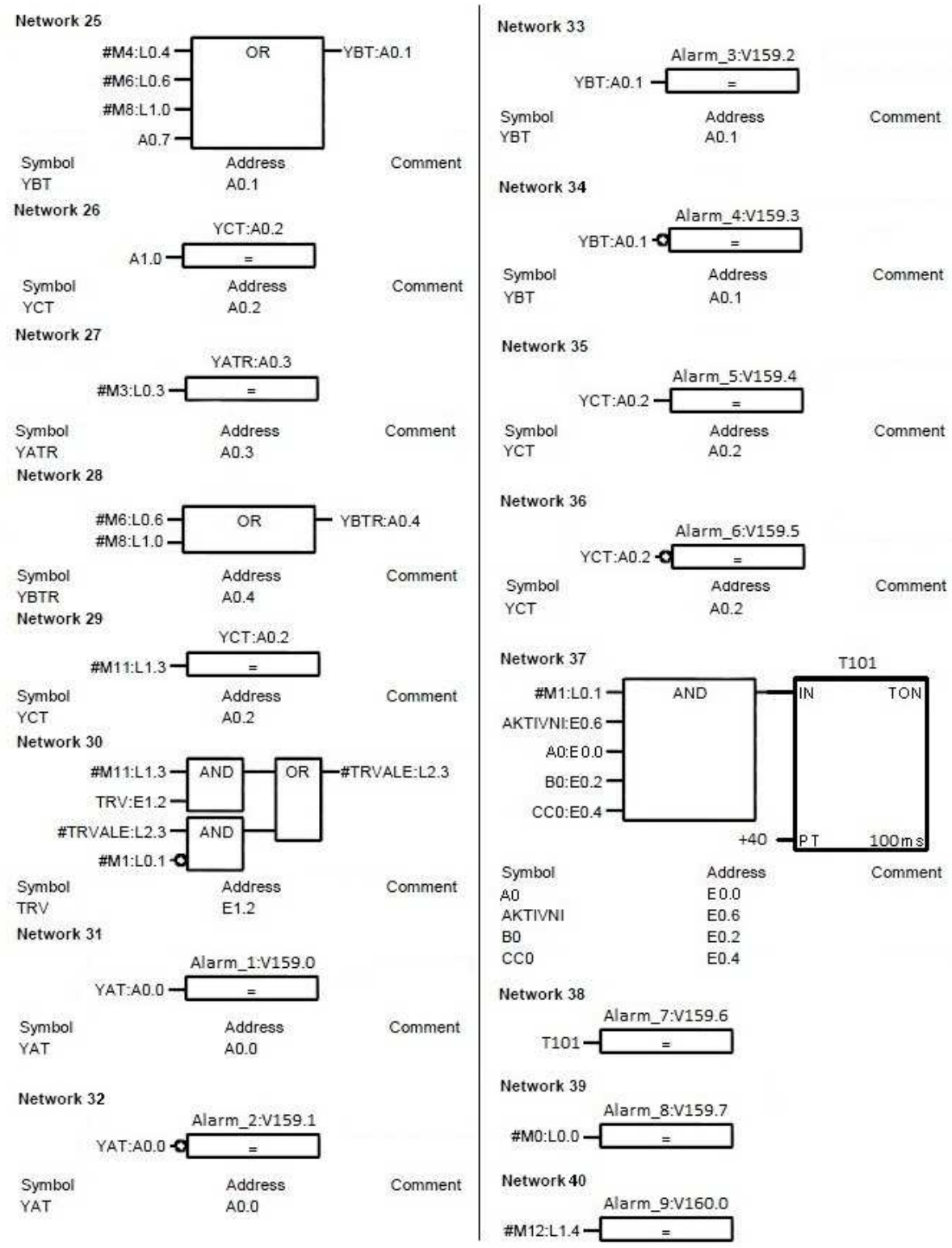


Network 24

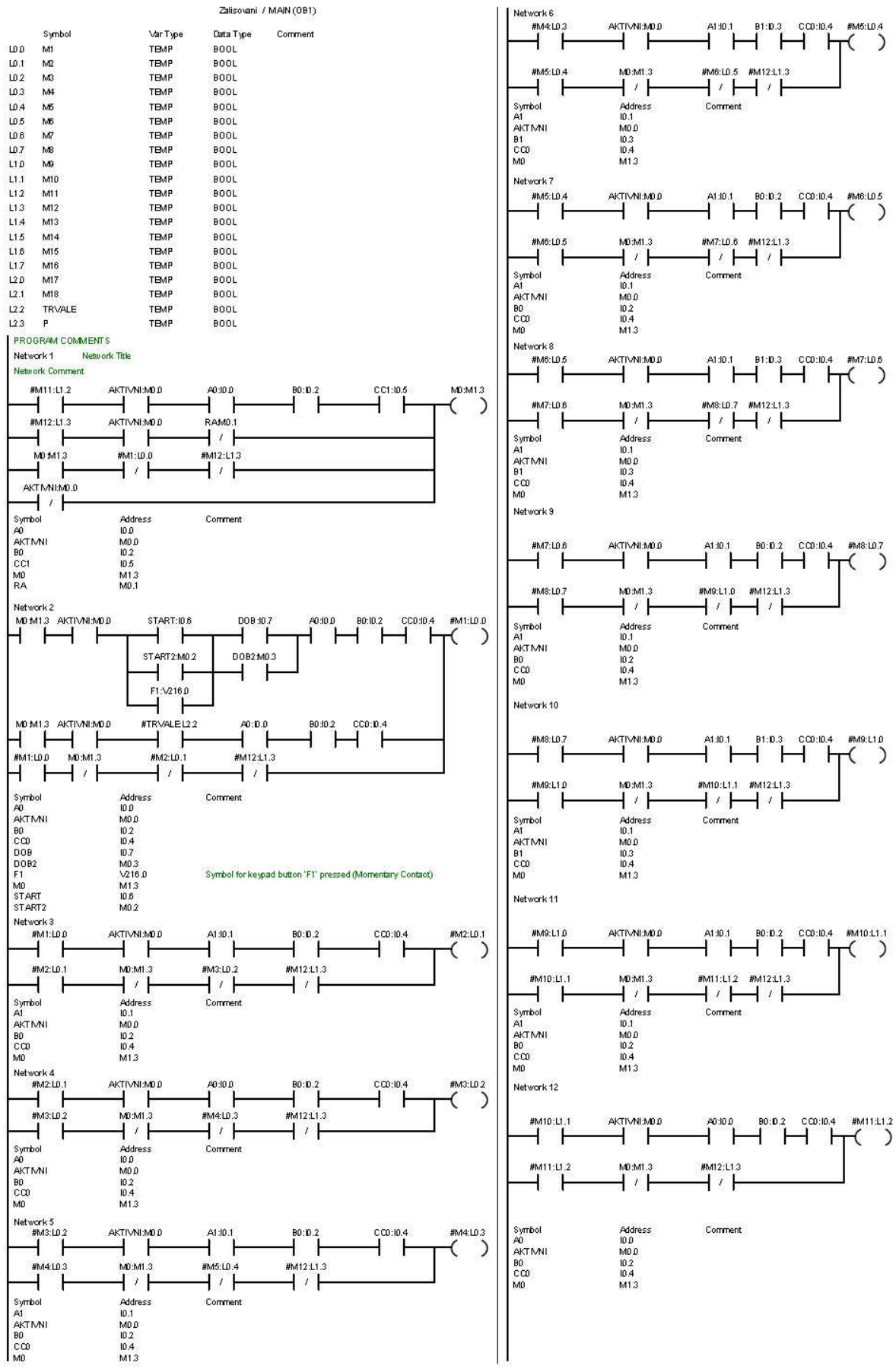


Symbol	Address	Comment
YAT	A0.0	

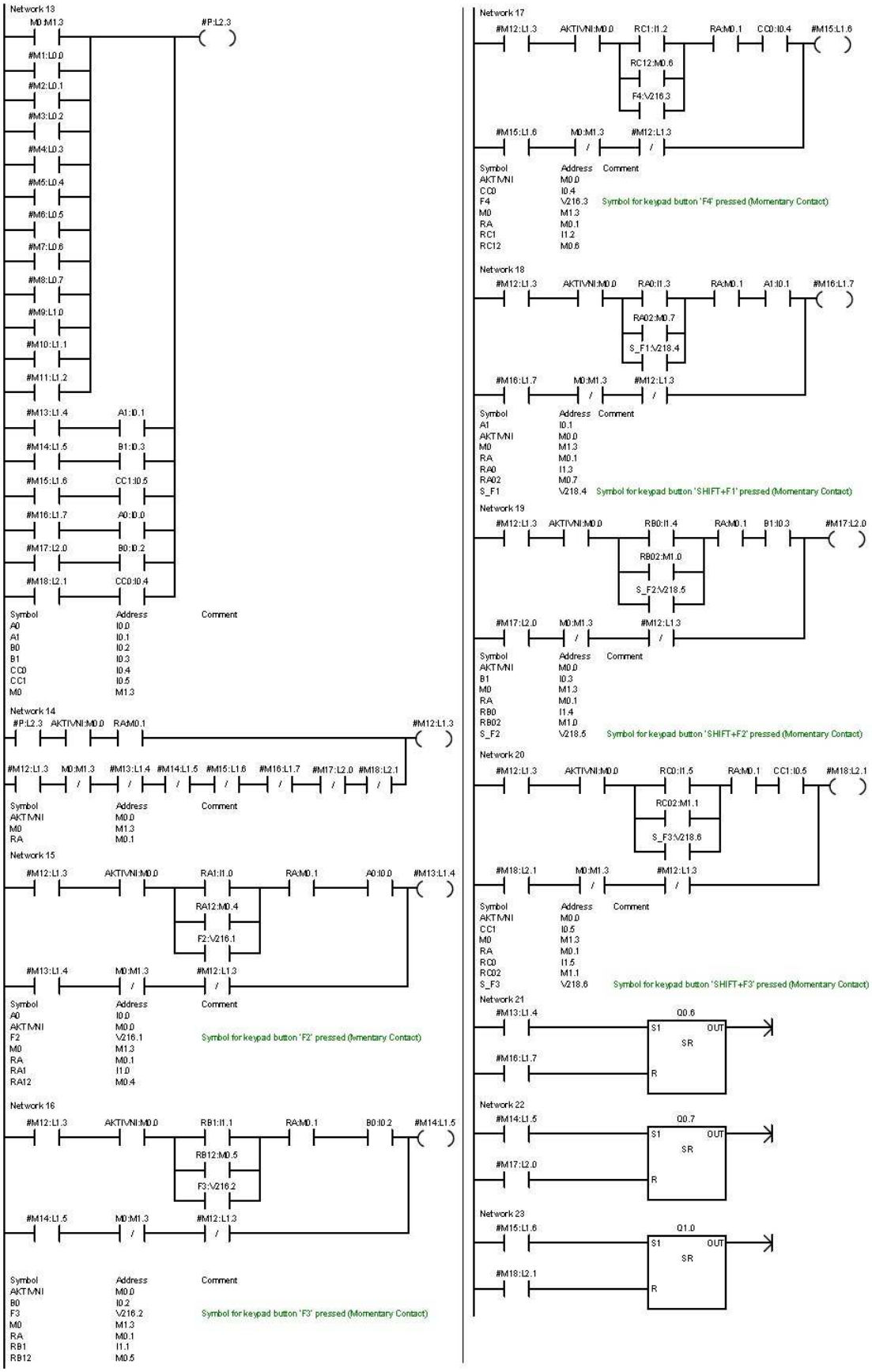
D5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 4/5



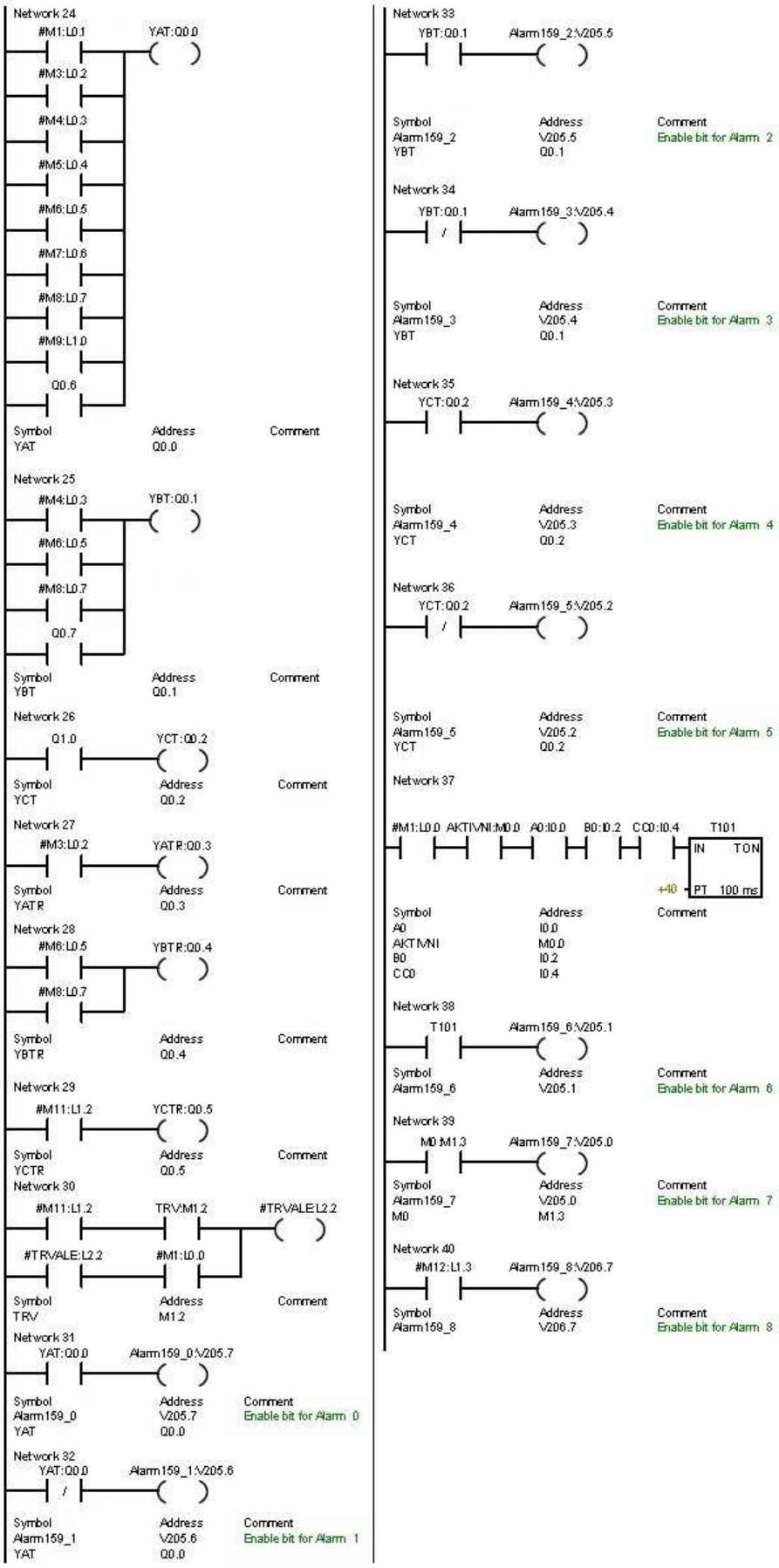
D5 – Algoritmus v grafickém jazyku FBD v prostředí STEP7 5/5



D6 – Algoritmus v grafickém jazyku LAD v prostředí STEP7 1/3



D6 – Algoritmus v grafickém jazyku LAD v prostředí STEP7 2/3



D6 – Algoritmus v grafickém jazyku LAD v prostředí STEP7 3/3

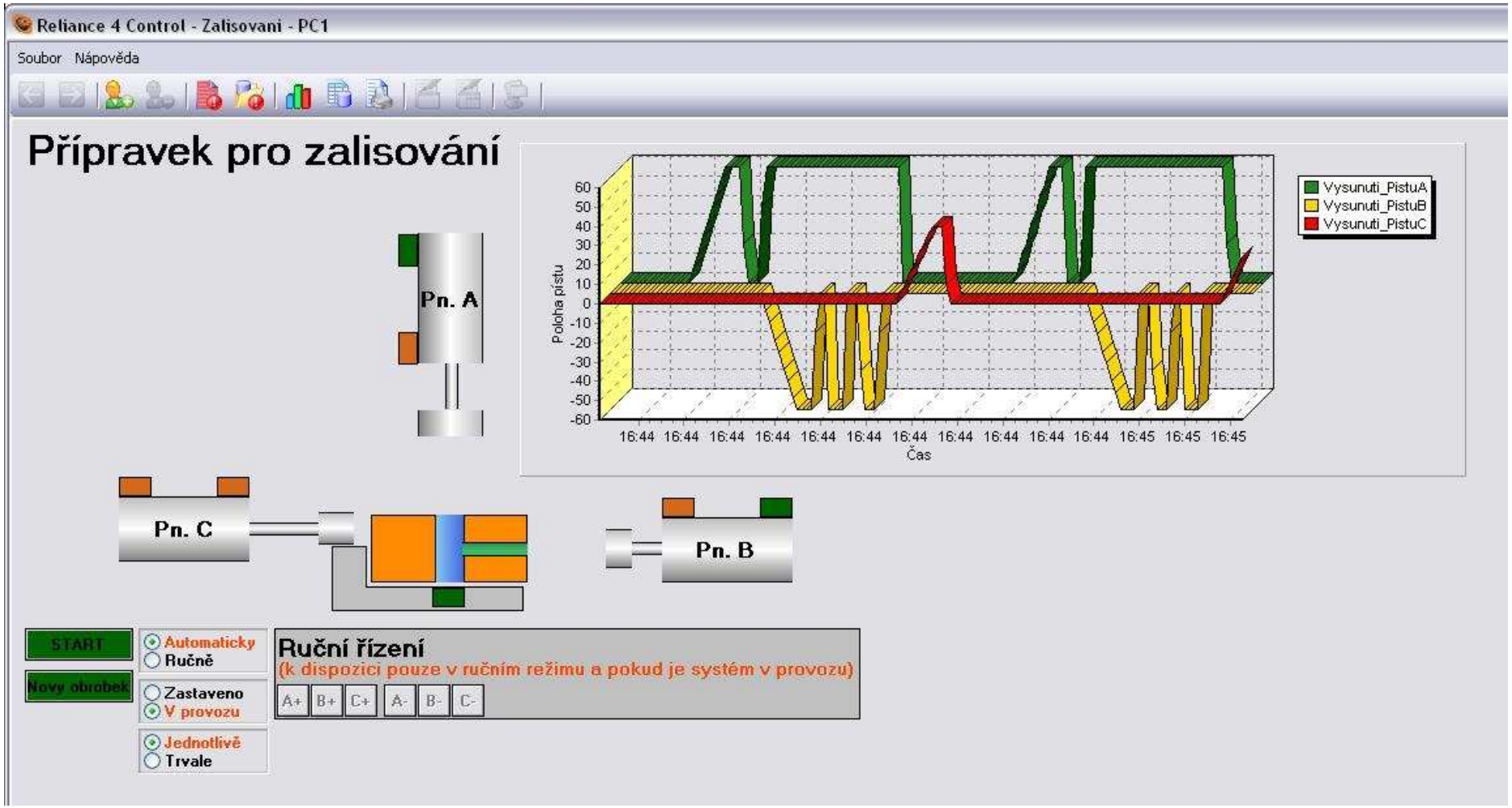
D7 – Výpis skriptu z prostředí Reliance

```
rem ***************************************************
rem Reliance 4
rem Projekt: Zalisovani
rem Uživatel: Stepan
rem Datum: 2.9.2010
rem Čas: 13:38:26
rem ***************************************************

Option Explicit
Dim aktiv, vpa, vpb, vpc, k1y, k2x, start, novy, obp, rucne, p10, p10p, p11, p20, p20p, p21,
p30p, p31, a0, a1, b0, b1, c0, c1, trv, provruc, provaut, count1, count2, m0

'Nacteni promennych
vpa = RTag.GetTagValue("System", "Vysunuti_PistuA")
vpb = RTag.GetTagValue("System", "Vysunuti_PistuB")
vpc = RTag.GetTagValue("System", "Vysunuti_PistuC")
p10 = RTag.GetTagValue("OPC1", "YAT")
p10p = RTag.GetTagValue("OPC1", "YATR")
p11 = RTag.GetTagValue("OPC1", "YAZ")
p20 = RTag.GetTagValue("OPC1", "YBT")
p20p = RTag.GetTagValue("OPC1", "YBTR")
p21 = RTag.GetTagValue("OPC1", "YBZ")
p30p = RTag.GetTagValue("OPC1", "YCTR")
p31 = RTag.GetTagValue("OPC1", "YCZ")
a0 = RTag.GetTagValue("System", "PAD")
a1 = RTag.GetTagValue("System", "PAH")
b0 = RTag.GetTagValue("System", "PBD")
b1 = RTag.GetTagValue("System", "PBH")
c0 = RTag.GetTagValue("System", "PCD")
c1 = RTag.GetTagValue("System", "PCH")
k1y = RTag.GetTagValue("System", "k1y")
k2x = RTag.GetTagValue("System", "k2x")
start = RTag.GetTagValue("System", "Start")
novy = RTag.GetTagValue("System", "Novy_obrobek")
obp = RTag.GetTagValue("System", "Obrobek_pripraven")
rucne = RTag.GetTagValue("System", "Rucne")
aktiv = RTag.GetTagValue("System", "Aktivni")
trv = RTag.GetTagValue("System", "Trvale")
provruc = RTag.GetTagValue("System", "ProvRuc")
provaut = RTag.GetTagValue("System", "ProvAut")
count1 = RTag.GetTagValue("System", "Count1")
count2 = RTag.GetTagValue("System", "Count2")
m0 = RTag.GetTagValue("OPC1", "M0")

vpb=vpb*(-1)
k2x=k2x*(-1)

if m0=true then
```

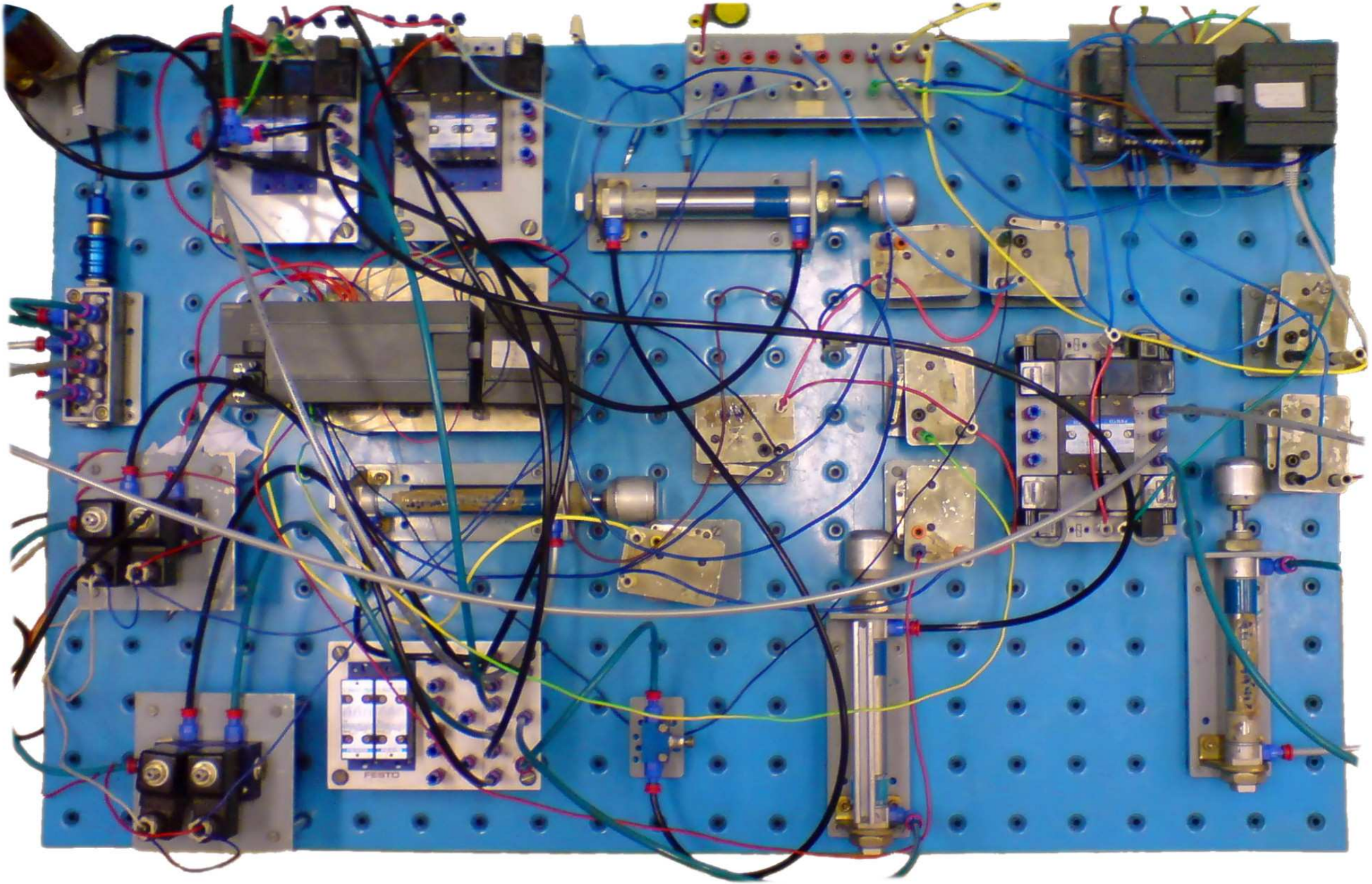
```
count1=0
count2=0
end if

if trv=true then
novy=true
end if

if novy=true and vpa=0 and vpb=0 and vpc=0 and rucne=false then
obp=true
end if

'posuny motoru a obrobku
if (p10=true) then
if vpa<60 then
vpa=vpa+20
end if
if vpa=60 then
count1=count1+1
p10=false
end if
end if

if (p10p=true) then
if vpa<60 then
vpa=vpa+5
end if
if vpa=60 then
count1=count1+1
p10p=false
end if
end if

if (p11=true) then
if vpa>0 then
vpa=vpa-20
end if
if vpa=0 then
p11=false
end if
end if

if (p20=true) then
if vpb<60 then
vpb=vpb+20
count2=count2+1
end if
if vpb>60 then
p20=false
end if
```

```
end if

if (p20p=true) then
if vpb<60 then
vpb=vpb+5
count2=count2+1
end if
if vpb>60 then
p20p=false
end if
end if

if (p21=true) then
if vpb>0 then
vpb=vpb-20
end if
if vpb=0 then
p21=false
end if
end if

if (p30p=true) then
if vpc<40 then
vpc=vpc+4
end if
if vpc=40 then
p30p=false
end if
end if

if (p31=true) then
if trv=false then
novy=false
end if
if vpc>0 then
vpc=vpc-10
obp=false
else
p31=false
end if
end if

if p10p=true then
k1y=vpa-4
elseif count1=0 then
k1y=0
else
k1y=57
end if
```

```
if p20p=true then
k2x=vpb-6
elseif count2=0 then
k2x=0
else
k2x=54
end if

if rucne=true and aktiv=true then
provruc=true
obp=false
else
provruc=false
end if

if rucne=false and aktiv=true then
provaut=true
else
provaut=false
end if

'Ulozeni promennych
vpb=vpb*(-1)
k2x=k2x*(-1)

RTag.SetTagValue "System", "Vysunuti_PistuA" , vpa
RTag.SetTagValue "System", "Vysunuti_PistuB" , vpb
RTag.SetTagValue "System", "Vysunuti_PistuC" , vpc
RTag.SetTagValue "System", "k1y" , k1y
RTag.SetTagValue "System", "k2x" , k2x
RTag.SetTagValue "OPC1", "START" , start
RTag.SetTagValue "System", "Start" , start
RTag.SetTagValue "System", "Novy_obrobek" , novy
RTag.SetTagValue "System", "Obrobek_pripraven" , obp
RTag.SetTagValue "OPC1", "RA" , rucne
RTag.SetTagValue "OPC1", "DOB" , obp
RTag.SetTagValue "OPC1", "AKTIVNI" , aktiv
RTag.SetTagValue "OPC1", "A0" , a0
RTag.SetTagValue "OPC1", "A1" , a1
RTag.SetTagValue "OPC1", "B0" , b0
RTag.SetTagValue "OPC1", "B1" , b1
RTag.SetTagValue "OPC1", "C0" , c0
RTag.SetTagValue "OPC1", "C1" , c1
RTag.SetTagValue "OPC1", "TRV" , trv
RTag.SetTagValue "System", "ProvRuc" , provruc
RTag.SetTagValue "System", "ProvAut" , provaut
RTag.SetTagValue "System", "Count1" , count1
RTag.SetTagValue "System", "Count2" , count2
```



D8 – Vizualizační okno úlohy Zalisování v runtime režimu



D9 – Úloha Zalisování sestavená z prvků FESTO v laboratoři