S7-1500_ET200_DT1

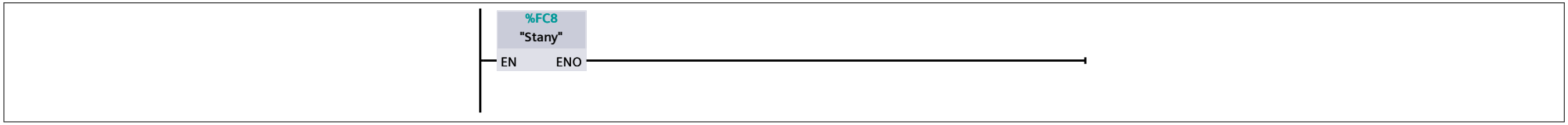
Program blocks

Main [OB1]

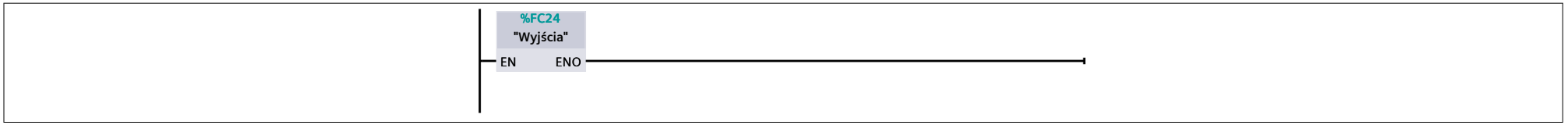
Main Properties							
General							
Name	Main	**Number**	1	**Type**	OB	**Language**	LAD
Numbering	Automatic						
Information							
Title	"Main Program Sweep (Cycle)"	**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
▼ Input		
Initial_Call	Bool	
Remanence	Bool	
▼ Temp		
temperatura	Real	
Constant		

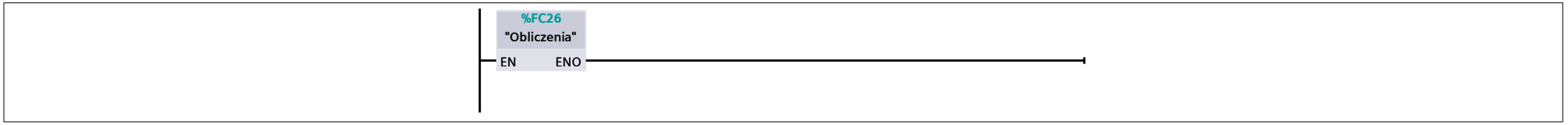
Network 1:



Network 2:



Network 3:



Program blocks

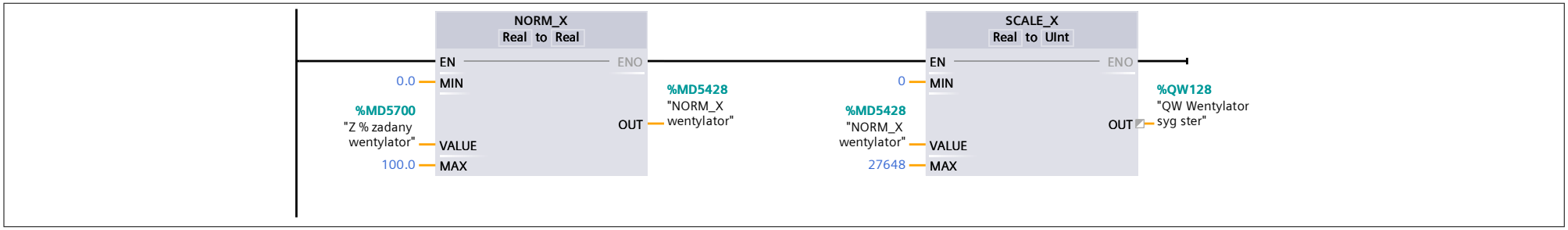
Obliczenia WENTYLATOR [FC1]

Obliczenia WENTYLATOR Properties							
General							
Name	Obliczenia WENTYLATOR	**Number**	1	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Obliczenia WENTYLATOR	Void	

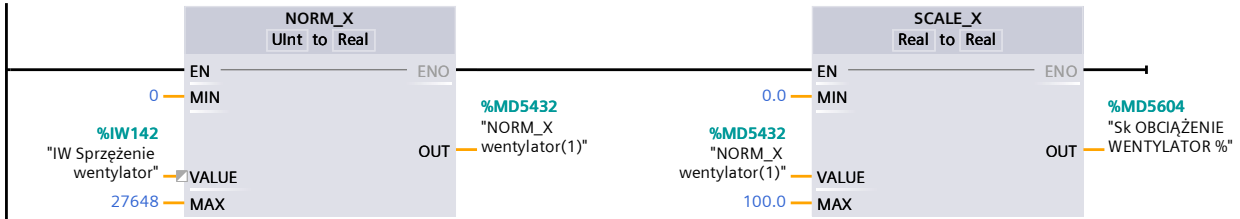
Network 1:

wentylator syg sterowania

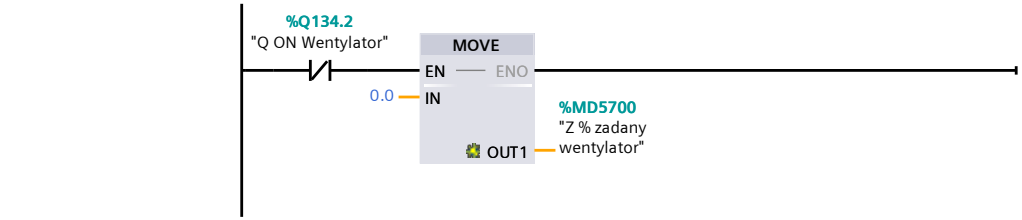


Network 2: Odczyt wejścia analogowego

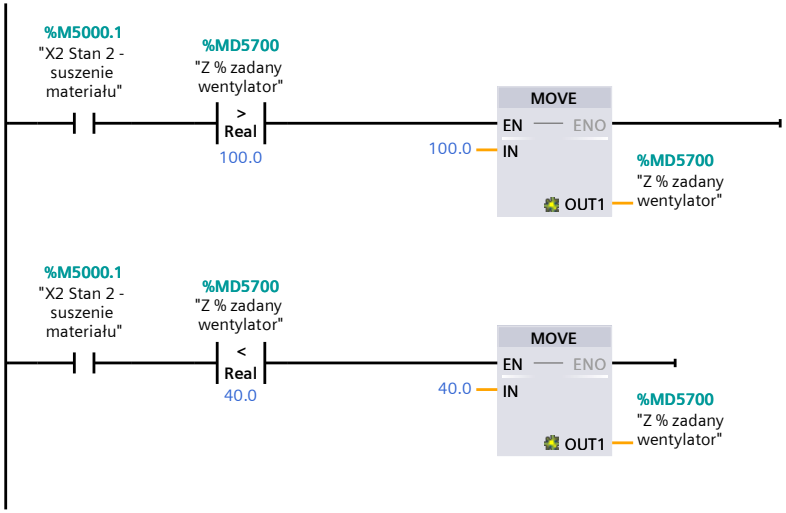
Normalizuję wartość na wejściu rozszerzenia (od 0 do 27648), a następnie przedstawiam ją jako wartość od 0-100 (jako procent obciążenia wentylatora)



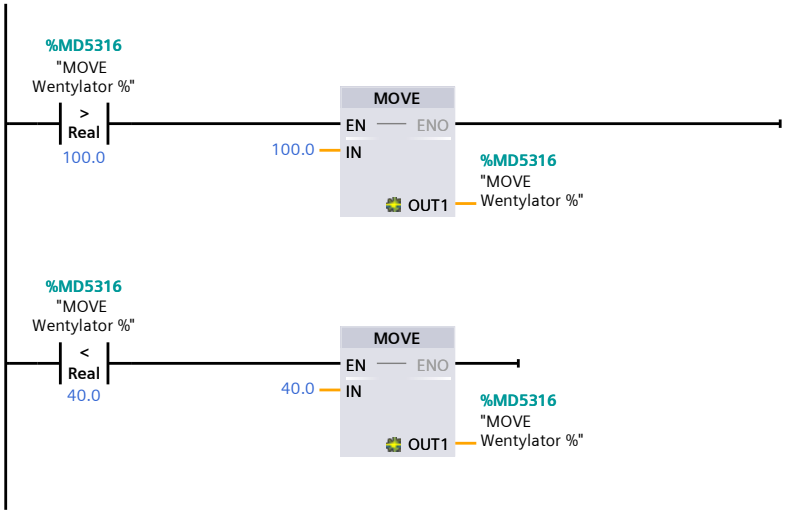
Network 3:



Network 4:



Network 5: Ograniczenia wentylatora



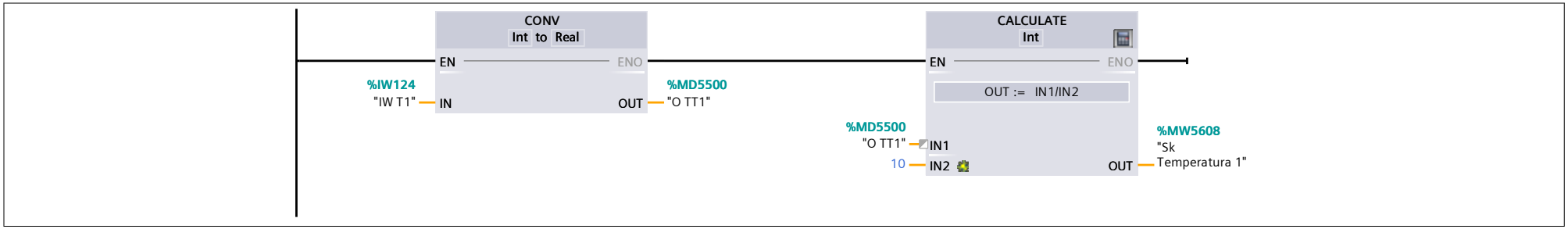
Program blocks

Obliczenia Odczyt temperatury [FC2]

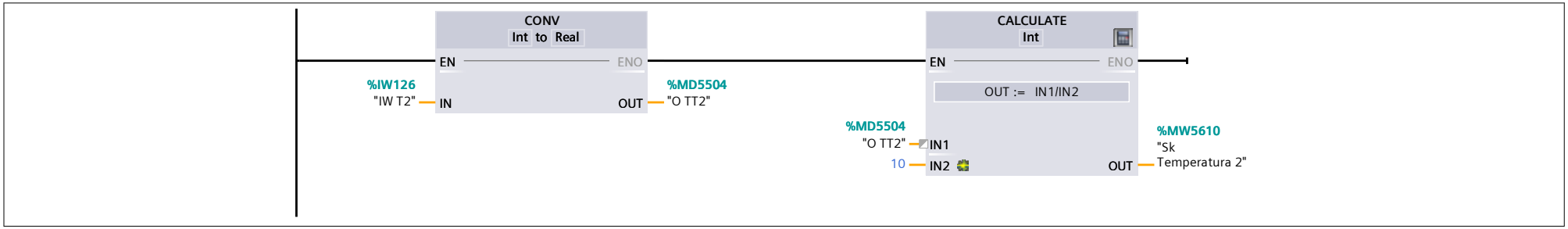
Obliczenia Odczyt temperatury Properties							
General							
Name	Obliczenia Odczyt tempera-tury	**Number**	2	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Obliczenia Odczyt temperatury	Void	

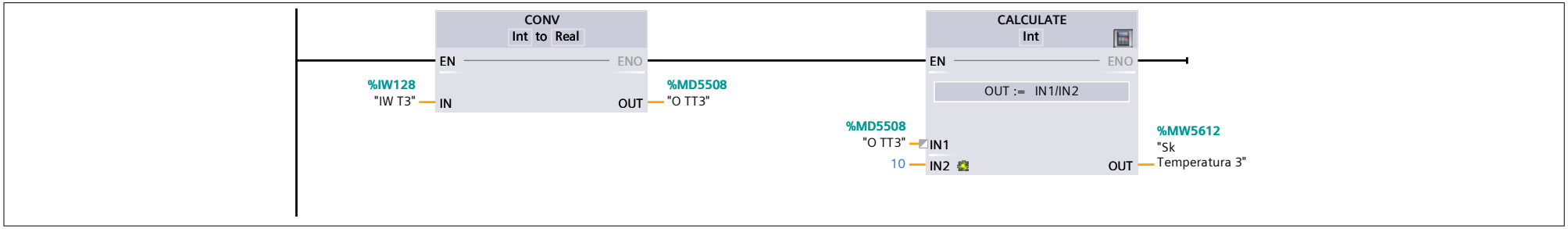
Network 1:



Network 2:

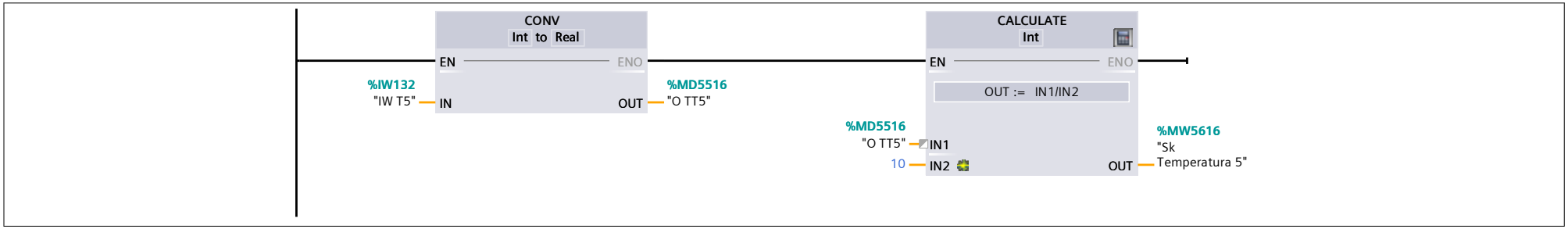


Network 3:

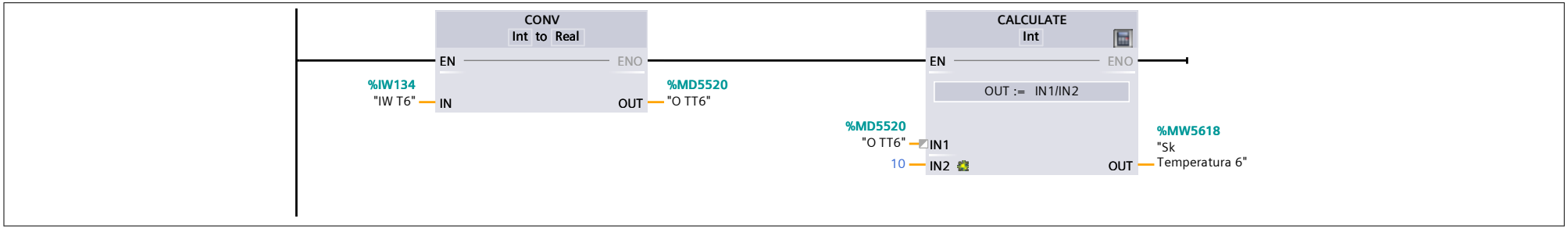


Network 4:

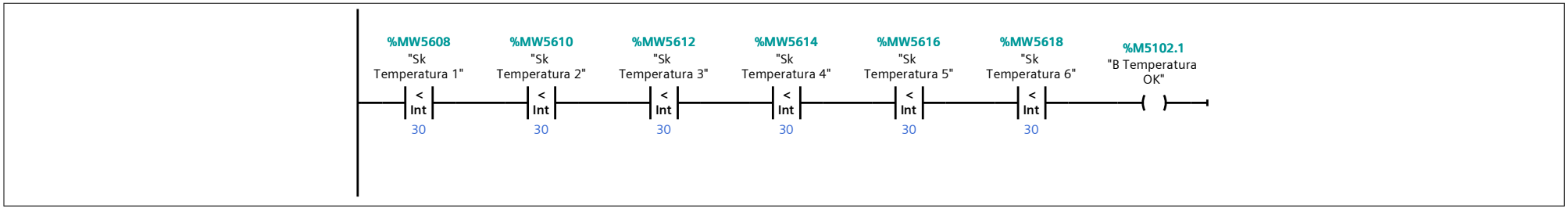
Network 5:



Network 6:



Network 7: Sprawdzenie temperatury



Program blocks

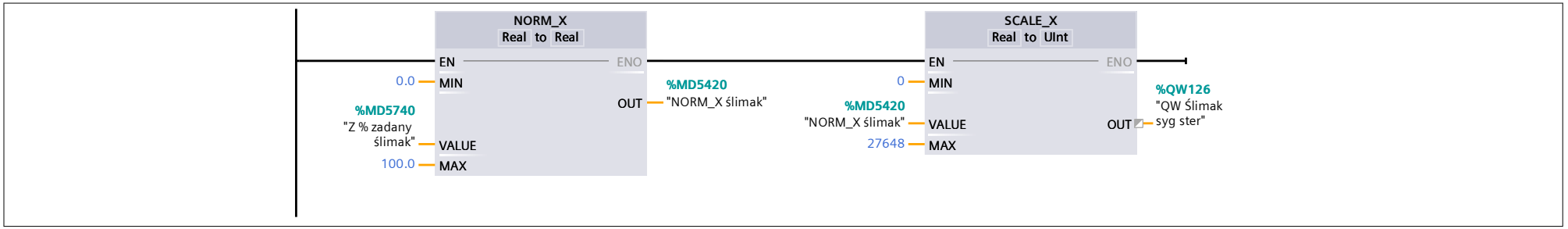
Obliczenia ŚLIMAK FALOWNIK [FC3]

Obliczenia ŚLIMAK FALOWNIK Properties							
General							
Name	Obliczenia ŚLIMAK FALOW-NIK	**Number**	3	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Obliczenia ŚLIMAK FALOWNIK	Void	

Network 1:

wentylator syg sterowania

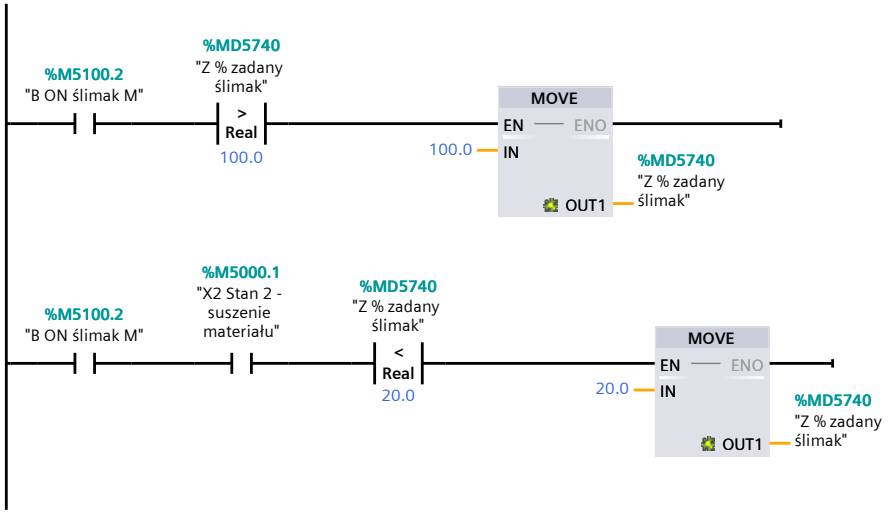


Network 2: Odczyt wejścia analogowego

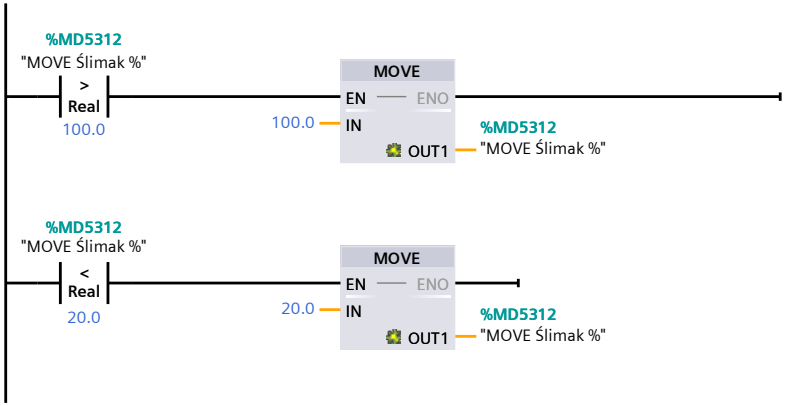
Normalizuję wartość na wejściu rozszerzenia (od 0 do 27648), a następnie przedstawiam ją jako wartość od 0-100 (jako procent obciążenia wentylatora)

Network 3:

Jeśli ślimak jest włączony to wartość zadana znajduje się w przedziale <20;100>



Network 4:


%MD5312
"MOVE Ślimak %"
>
Real
100.0
MOVE
EN
ENO
100.0
IN
OUT1
%MD5312
"MOVE Ślimak %"
%MD5312
"MOVE Ślimak %"
<
Real
20.0
MOVE
EN
ENO
20.0
IN
OUT1
%MD5312
"MOVE Ślimak %"

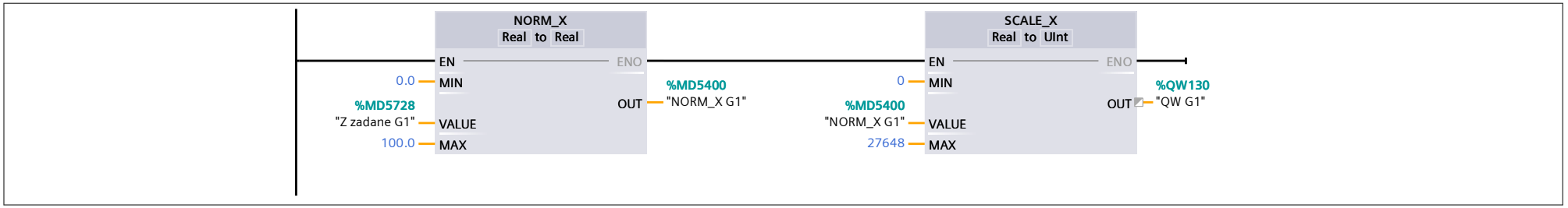
Program blocks

Obliczenia GRZAŁKI [FC5]

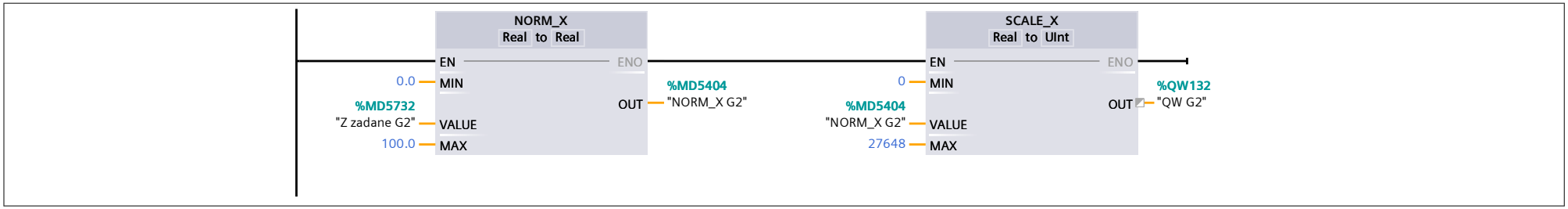
Obliczenia GRZAŁKI Properties							
General							
Name	Obliczenia GRZAŁKI	**Number**	5	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Obliczenia GRZAŁKI	Void	

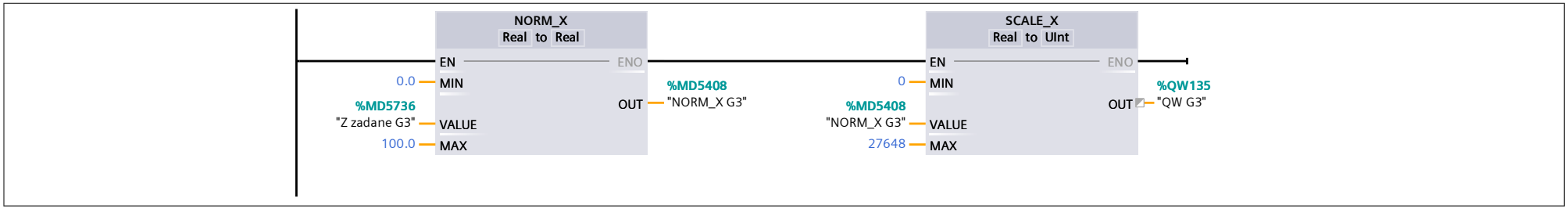
Network 1: Grzałka 1



Network 2: Grzałka 2



Network 3: Grzałka 3



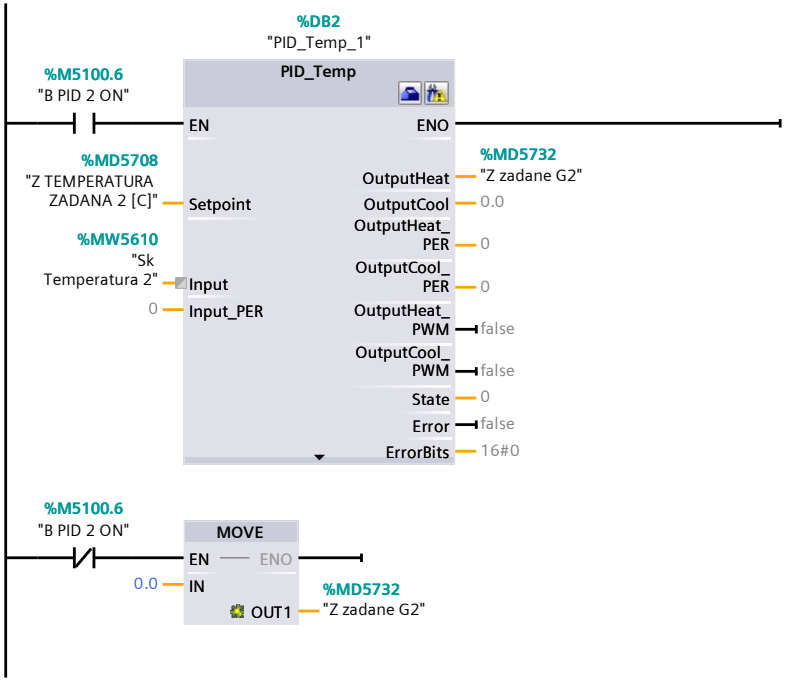
Program blocks

Cyclic interrupt PID 2 [OB30]

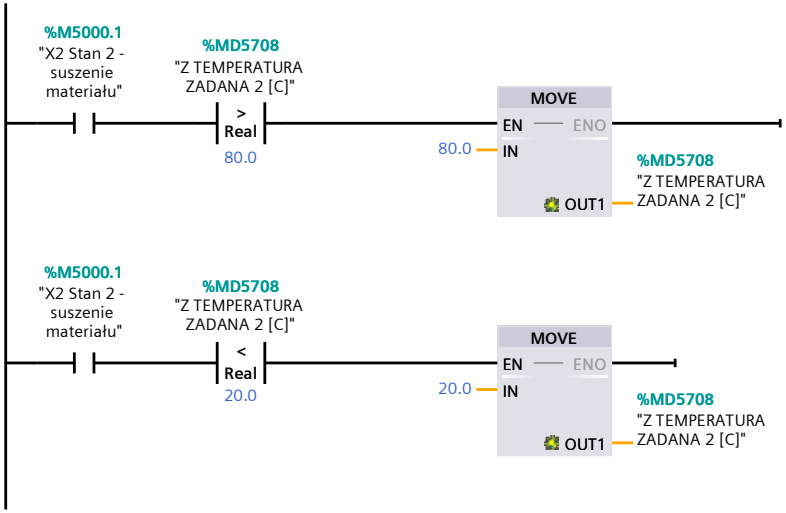
Cyclic interrupt PID 2 Properties							
General							
Name	Cyclic interrupt PID 2	**Number**	30	**Type**	OB	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
▼ Input		
Initial_Call	Bool	
Event_Count	Int	
Temp		
Constant		

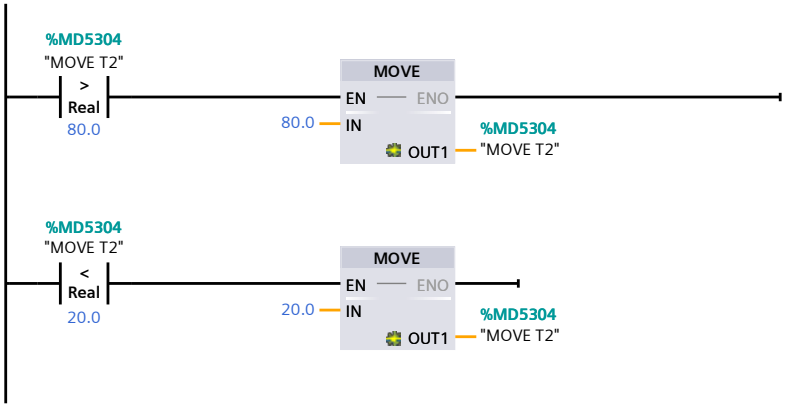
Network 1:


%DB2
"PID_Temp_1"
PID_Temp
%M5100.6
"B PID 2 ON"
EN
ENO
%MD5708
"Z TEMPERATURA ZADANA 2 [C]"
Setpoint
%MD5732
"Z zadane G2"
OutputHeat
OutputCool
0.0
OutputHeat_PER
0
%MW5610
"Sk Temperatura 2"
Input
OutputCool_PER
0
Input_PER
OutputHeat_PWM
false
OutputCool_PWM
false
State
0
Error
false
ErrorBits
16#0
%M5100.6
"B PID 2 ON"
MOVE
EN
ENO
0.0
IN
%MD5732
"Z zadane G2"
OUT1

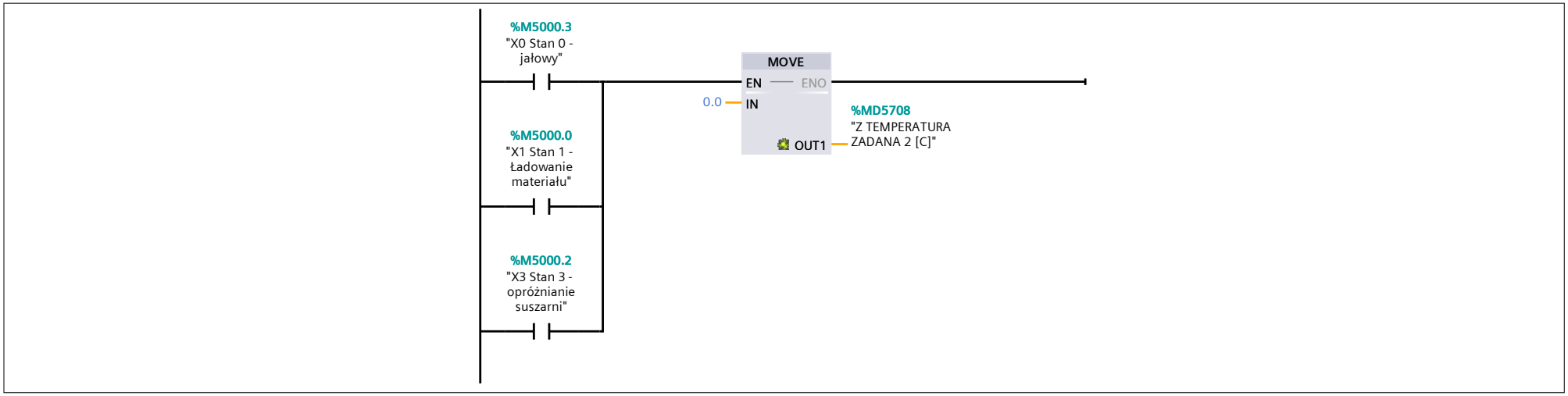
Network 2:



Network 3:



Network 4:


%M5000.3
"X0 Stan 0 - jałowy"
%M5000.0
"X1 Stan 1 - Ładowanie materiału"
%M5000.2
"X3 Stan 3 - opróżnianie suszarni"
MOVE
EN
ENO
0.0
IN
OUT1
%MD5708
"Z TEMPERATURA ZADANA 2 [C]"

Program blocks

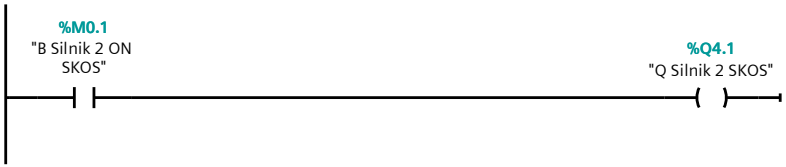
Wyjścia Silników [FC6]

Wyjścia Silników Properties							
General							
Name	Wyjścia Silników	**Number**	6	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

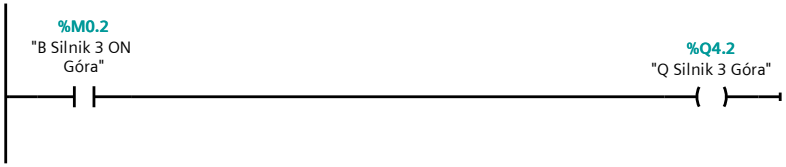
Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Wyjścia Silników	Void	

Network 1:

Network 2:


%M0.1
"B Silnik 2 ON
SKOS"
%Q4.1
"Q Silnik 2 SKOS"

Network 3:


%M0.2
"B Silnik 3 ON
Góra"
%Q4.2
"Q Silnik 3 Góra"

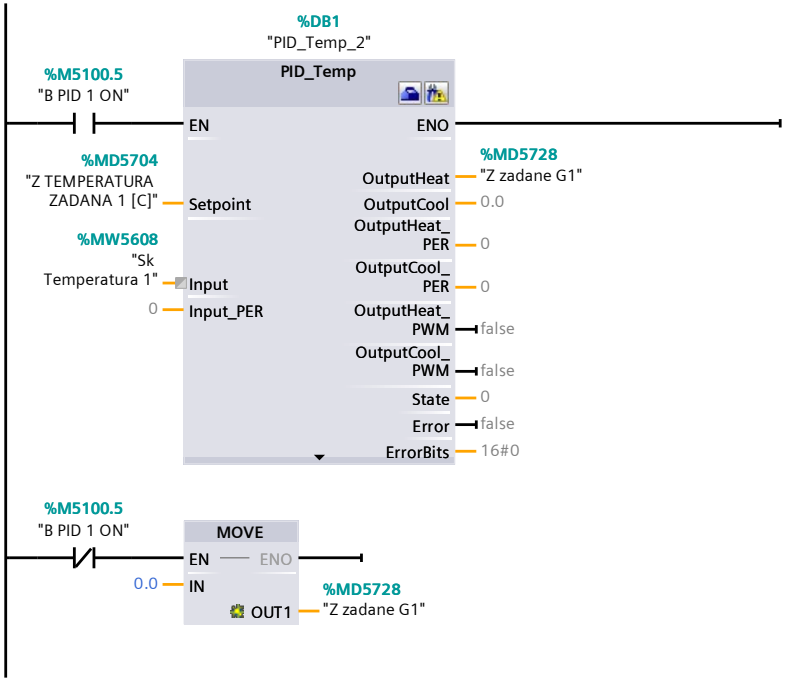
Program blocks

Cyclic interrupt PID 1 [OB31]

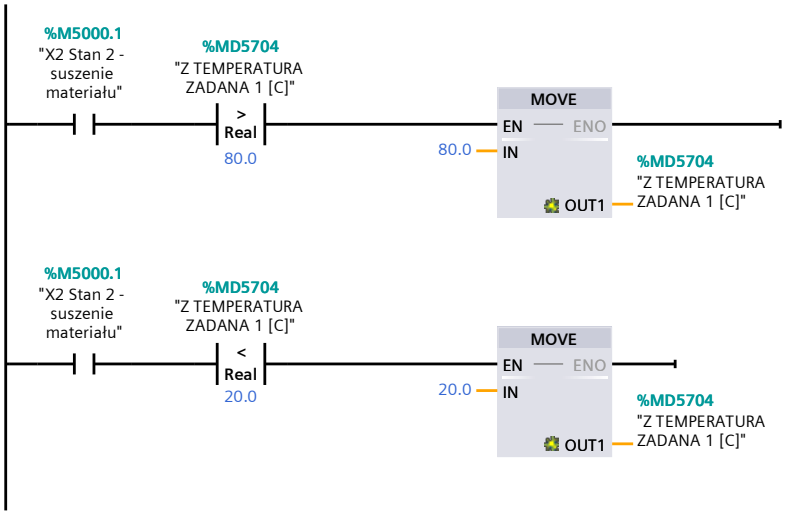
Cyclic interrupt PID 1 Properties							
General							
Name	Cyclic interrupt PID 1	**Number**	31	**Type**	OB	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
▼ Input		
Initial_Call	Bool	
Event_Count	Int	
Temp		
Constant		

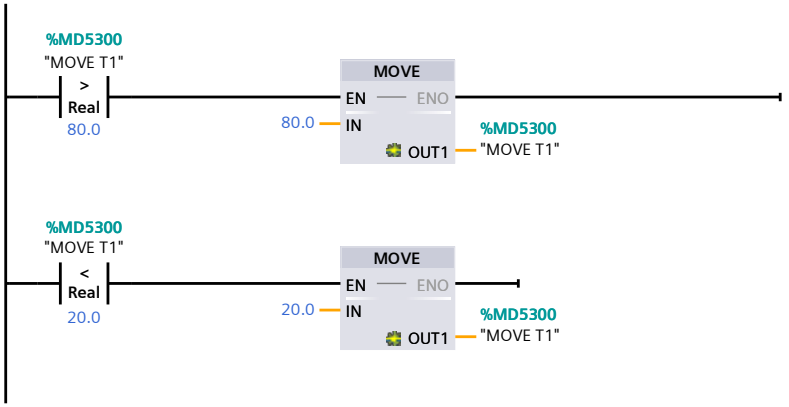
Network 1:


%DB1
"PID_Temp_2"
PID_Temp
%M5100.5
"B PID 1 ON"
EN
ENO
%MD5704
"Z TEMPERATURA ZADANA 1 [C]"
Setpoint
%MW5608
"Sk Temperatura 1"
Input
0
Input_PER
OutputHeat
%MD5728
"Z zadane G1"
OutputCool
0.0
OutputHeat_PER
0
OutputCool_PER
0
OutputHeat_PWM
false
OutputCool_PWM
false
State
0
Error
false
ErrorBits
16#0
%M5100.5
"B PID 1 ON"
MOVE
EN
ENO
0.0
IN
OUT1
%MD5728
"Z zadane G1"

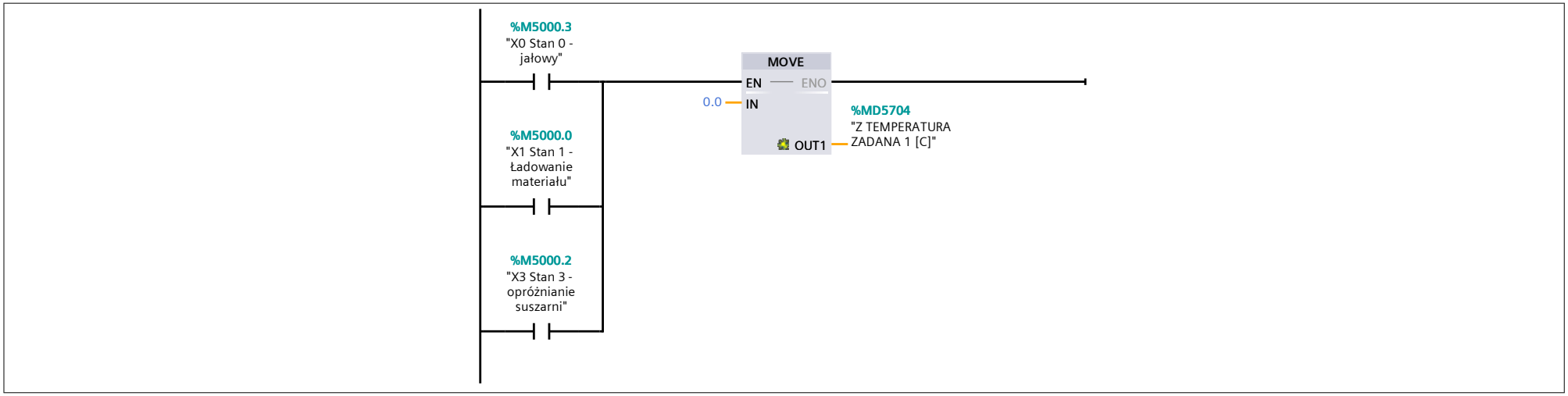
Network 2:



Network 3:



Network 4:


%M5000.3
"X0 Stan 0 - jałowy"
%M5000.0
"X1 Stan 1 - Ładowanie materiału"
%M5000.2
"X3 Stan 3 - opróżnianie suszarni"
MOVE
EN
ENO
0.0
IN
OUT1
%MD5704
"Z TEMPERATURA ZADANA 1 [C]"

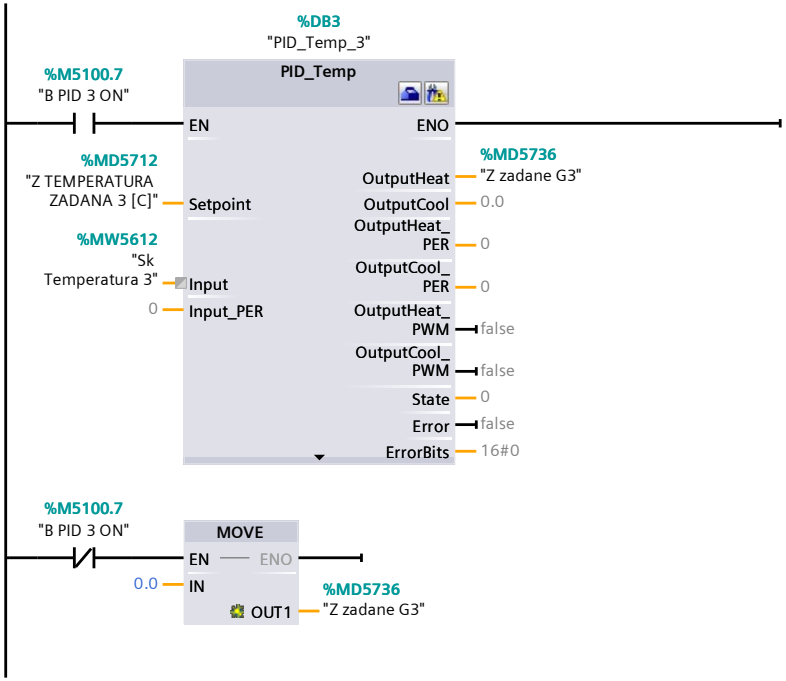
Program blocks

Cyclic interrupt PID 3 [OB32]

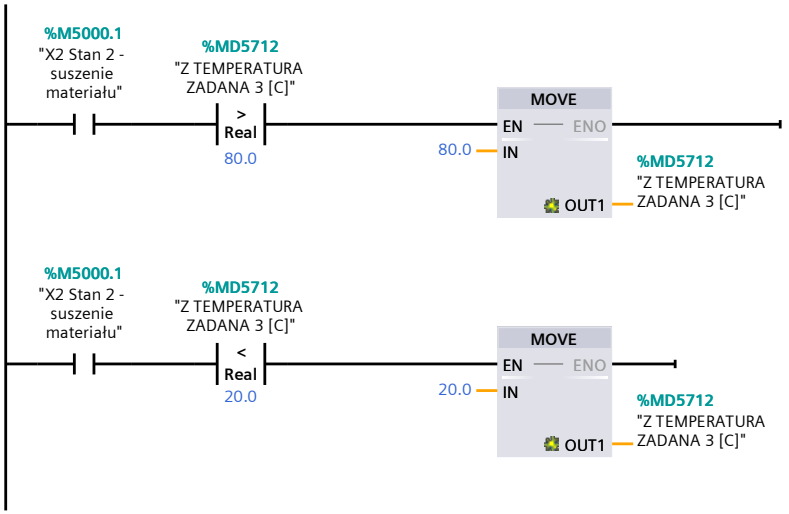
Cyclic interrupt PID 3 Properties							
General							
Name	Cyclic interrupt PID 3	**Number**	32	**Type**	OB	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
▼ Input		
Initial_Call	Bool	
Event_Count	Int	
Temp		
Constant		

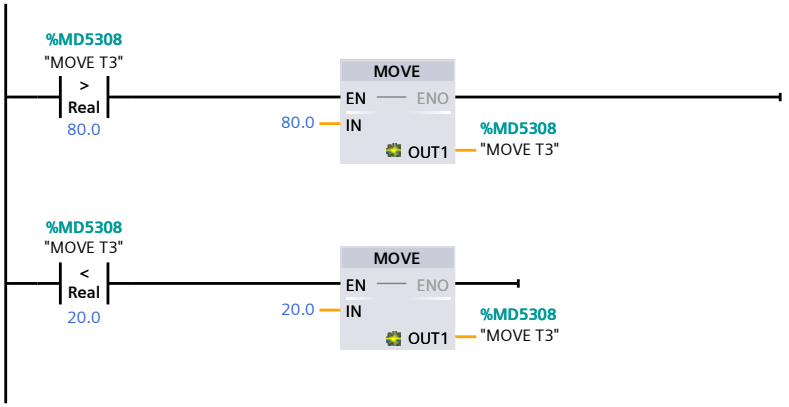
Network 1:


%DB3
"PID_Temp_3"
PID_Temp
%M5100.7
"B PID 3 ON"
EN
ENO
%MD5712
"Z TEMPERATURA ZADANA 3 [C]"
Setpoint
%MW5612
"Sk Temperatura 3"
Input
0
Input_PER
%MD5736
"Z zadane G3"
OutputHeat
OutputCool
0.0
OutputHeat_PER
0
OutputCool_PER
0
OutputHeat_PWM
false
OutputCool_PWM
false
State
0
Error
false
ErrorBits
16#0
%M5100.7
"B PID 3 ON"
MOVE
EN
ENO
0.0
IN
OUT1
%MD5736
"Z zadane G3"

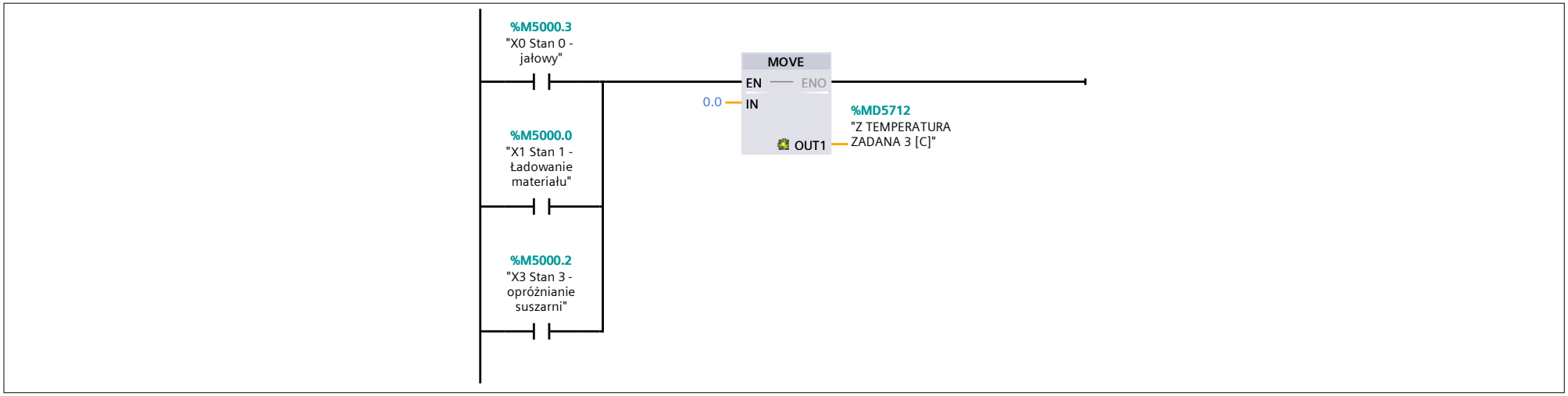
Network 2:



Network 3:



Network 4:


%M5000.3
"X0 Stan 0 - jałowy"
%M5000.0
"X1 Stan 1 - Ładowanie materiału"
%M5000.2
"X3 Stan 3 - opróżnianie suszarni"
MOVE
EN
ENO
0.0
IN
OUT1
%MD5712
"Z TEMPERATURA ZADANA 3 [C]"

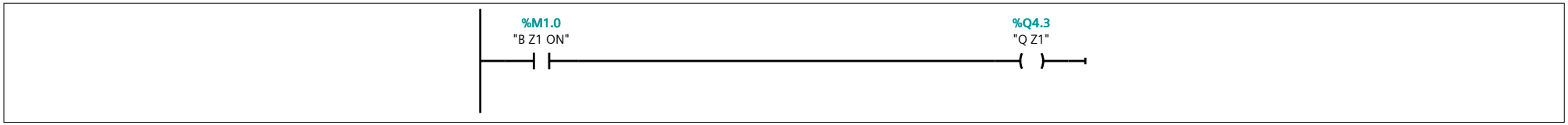
Program blocks

Wyjścia Zasuw [FC4]

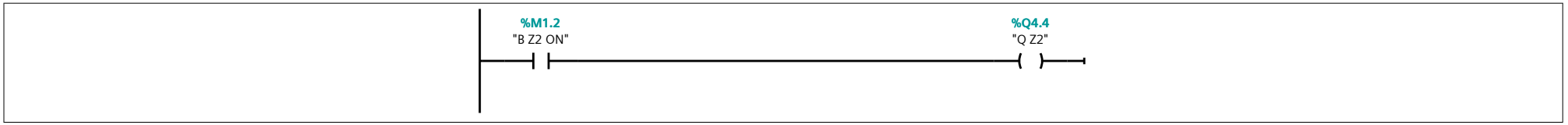
Wyjścia Zasuw Properties							
General							
Name	Wyjścia Zasuw	**Number**	4	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Wyjścia Zasuw	Void	

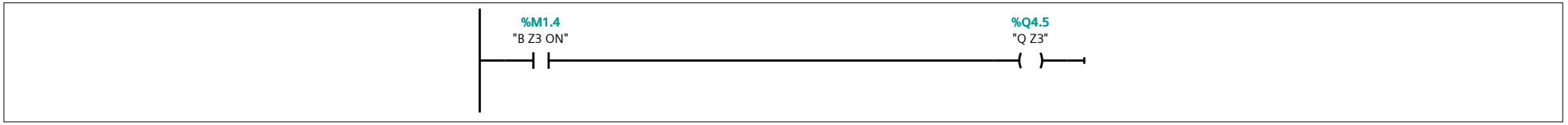
Network 1:



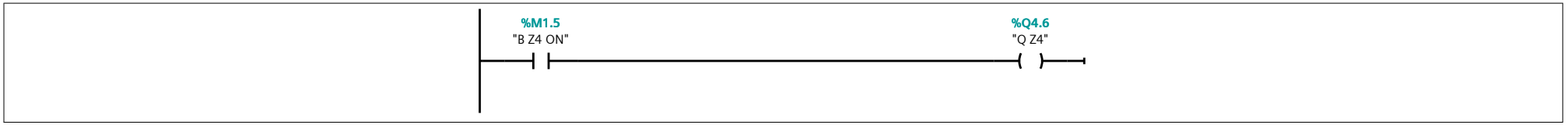
Network 2:



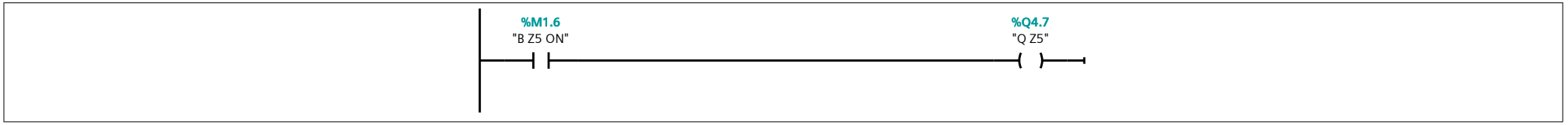
Network 3:



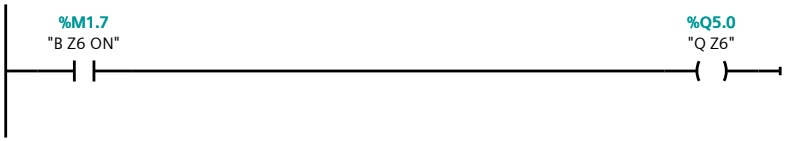
Network 4:



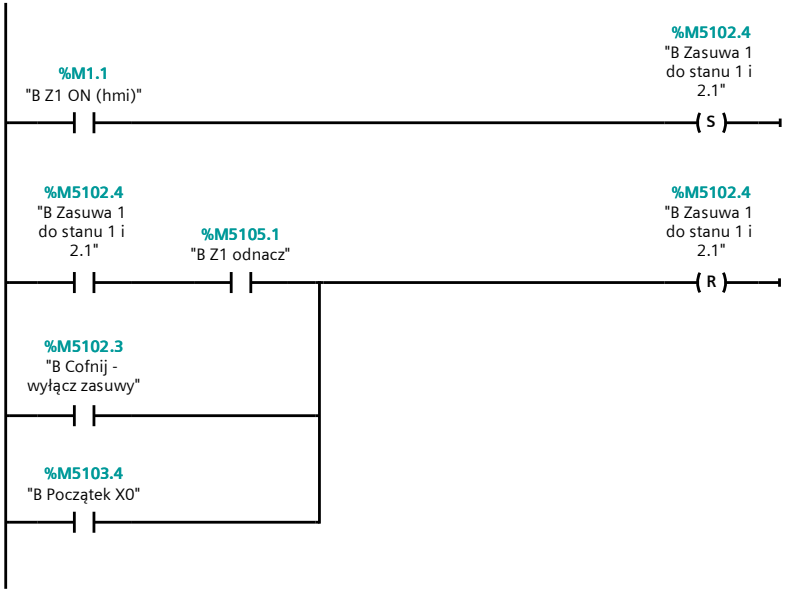
Network 5:



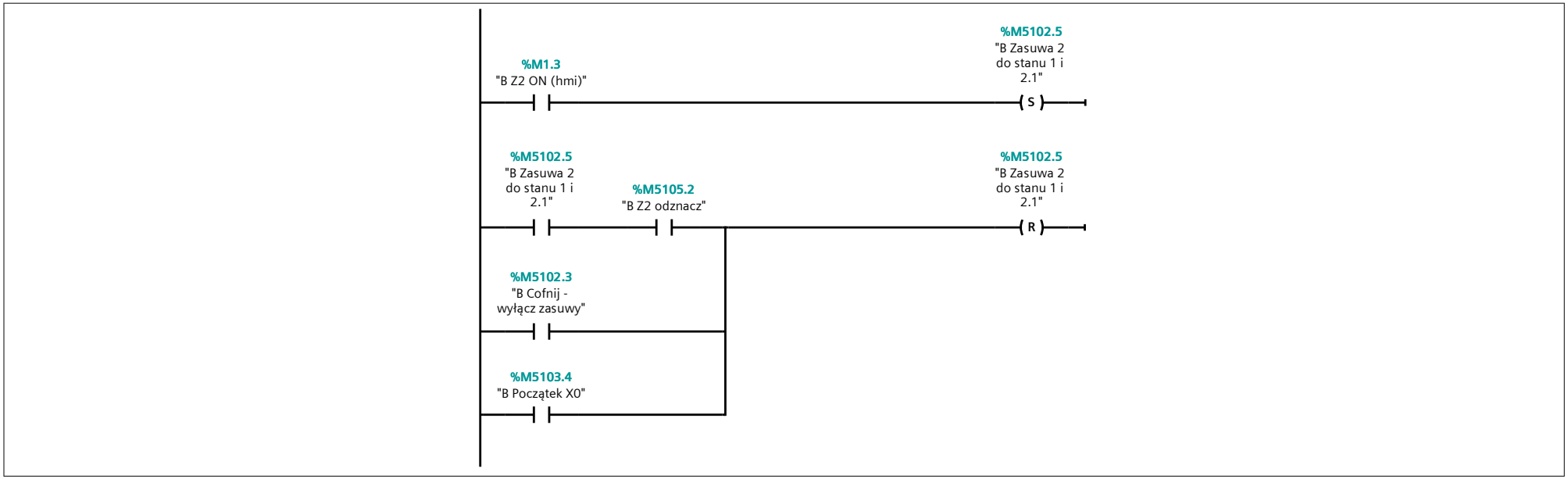
Network 6:



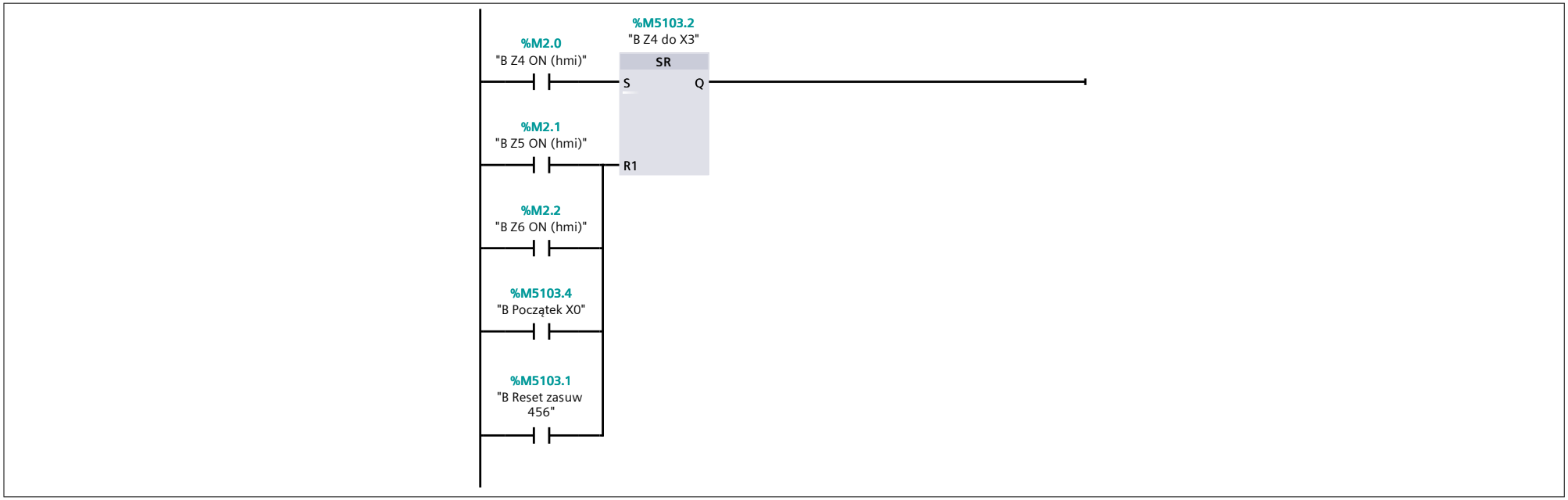
Network 7: Zapamiętuje, czy zasuwa1 ma się otworzyć w stanie X1



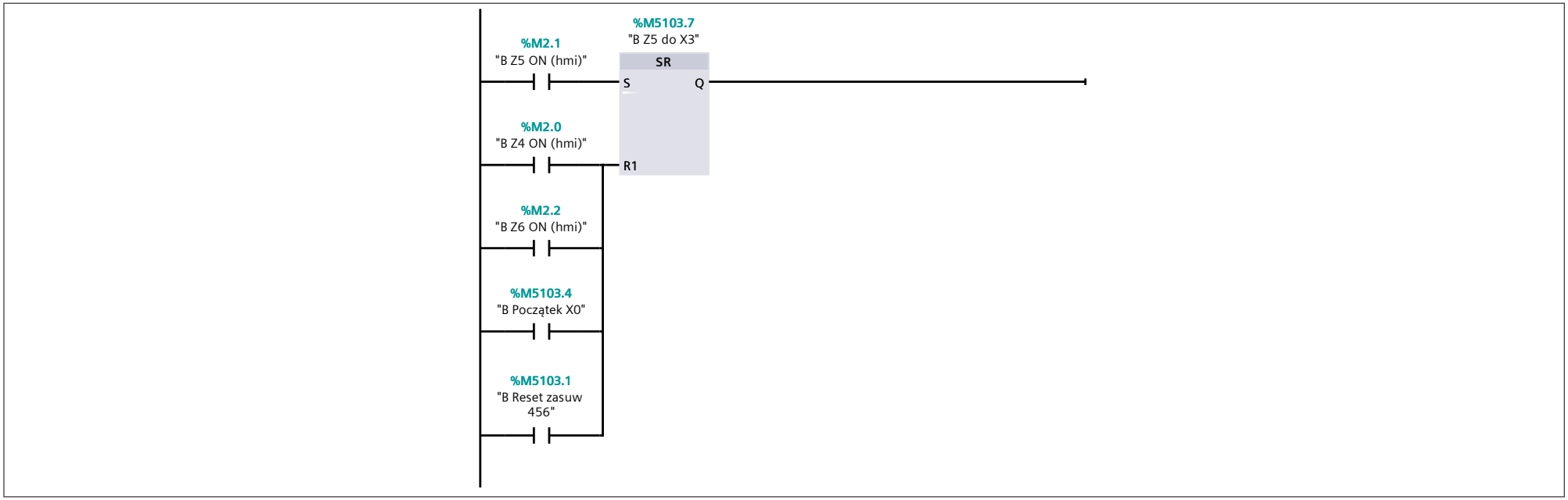
Network 8: Zapamiętuje, czy zasuwa 2 ma się otworzyć w stanie X1



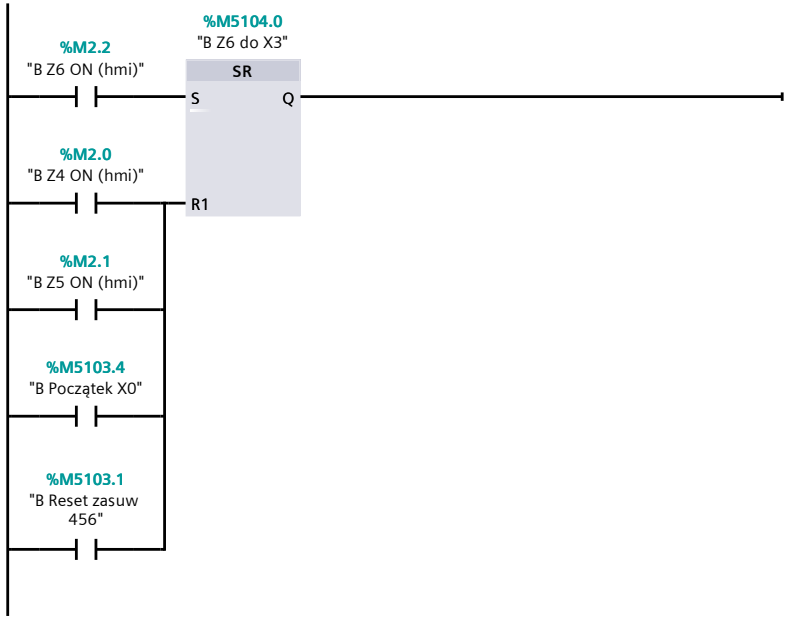
Network 9: Zapamiętuje, czy zasuwa Z4 ma się otworzyć w X3



Network 10: Zapamiętuje, czy zasuwa Z5 ma się otworzyć w X3



Network 11: Zapamiętuje, czy zasuwa Z6 ma się otworzyć w X3


%M2.2
"B Z6 ON (hmi)"
%M5104.0
"B Z6 do X3"
SR
S
Q
%M2.0
"B Z4 ON (hmi)"
R1
%M2.1
"B Z5 ON (hmi)"
%M5103.4
"B Początek X0"
%M5103.1
"B Reset zasuw
456"

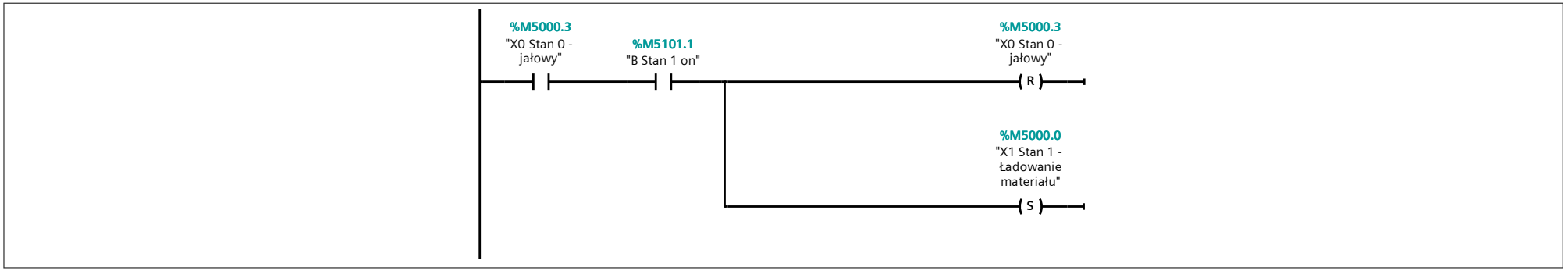
Program blocks

Stany [FC8]

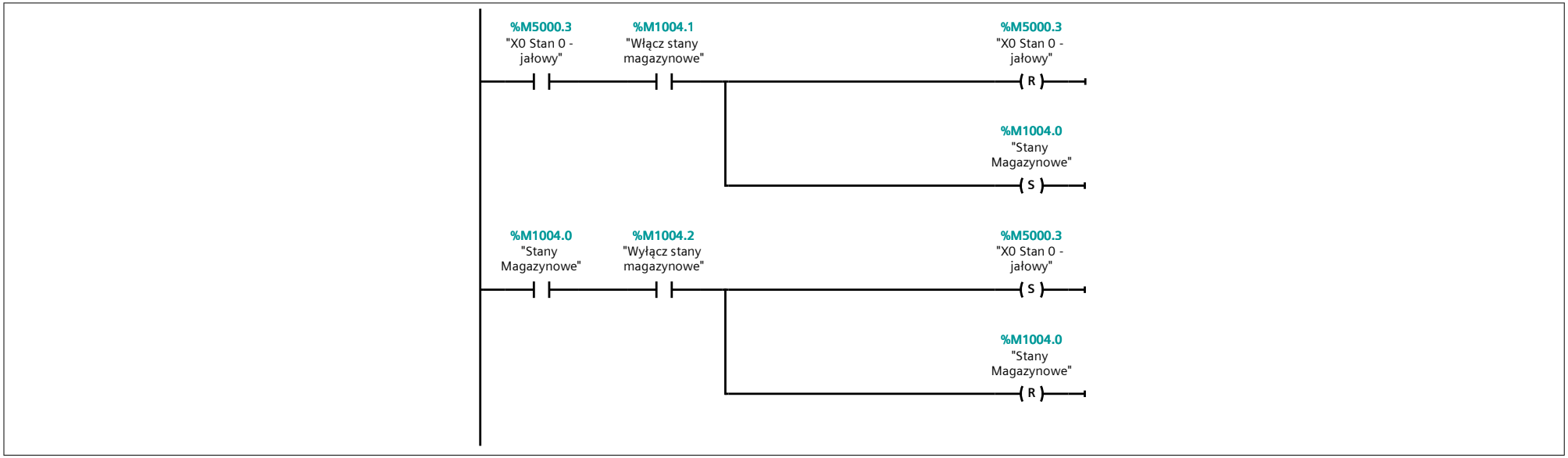
Stany Properties							
General							
Name	Stany	**Number**	8	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Stany	Void	

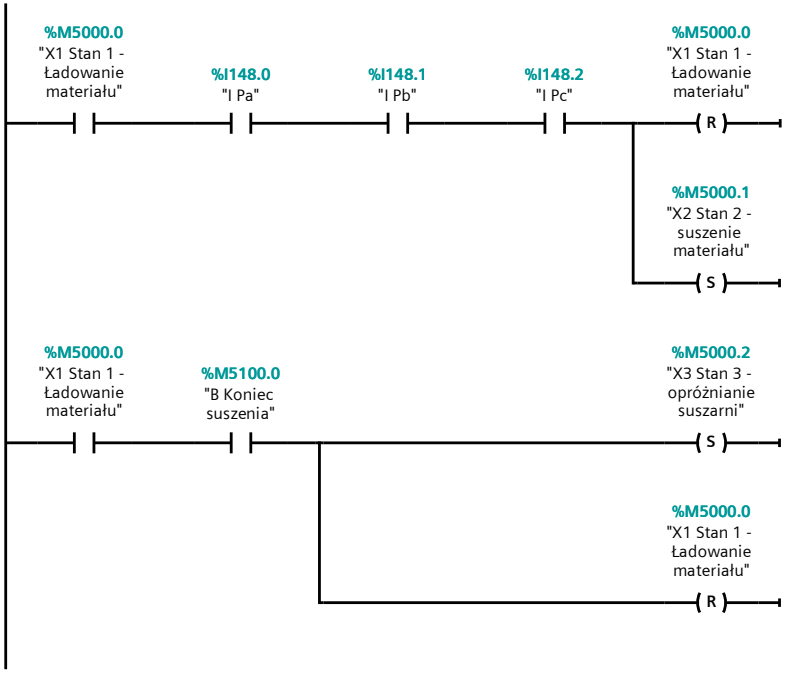
Network 1:



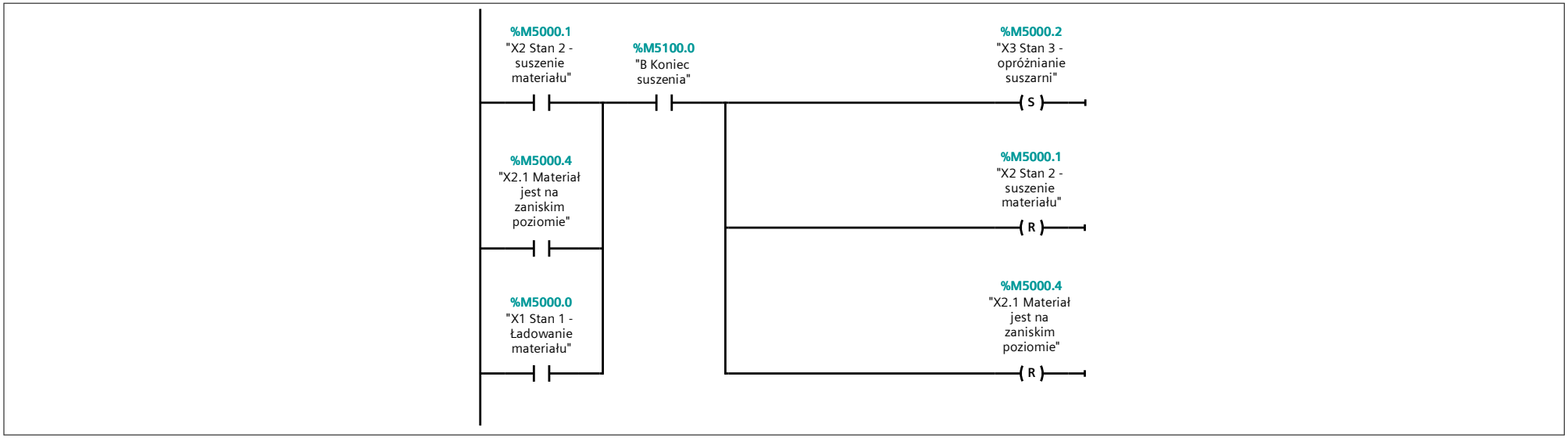
Network 2:



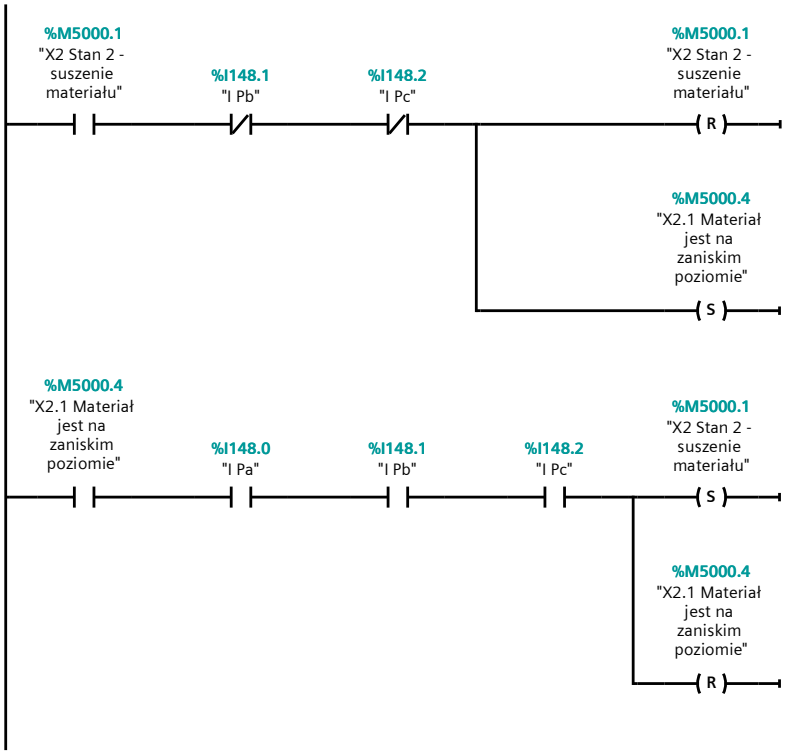
Network 3:



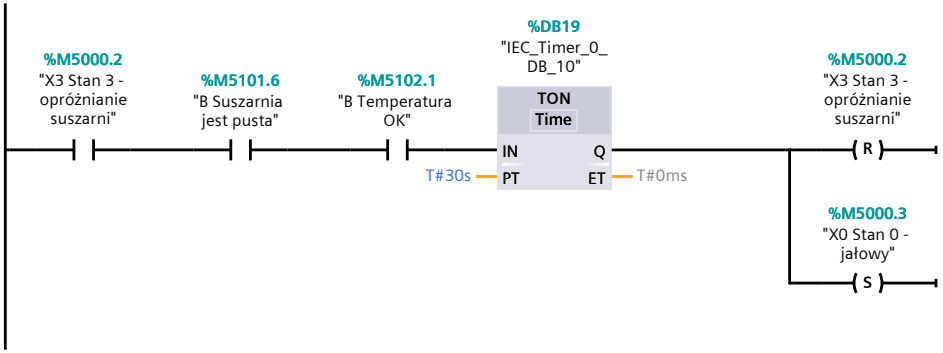
Network 4: Stan 2 i 2.1 waruni końcowe



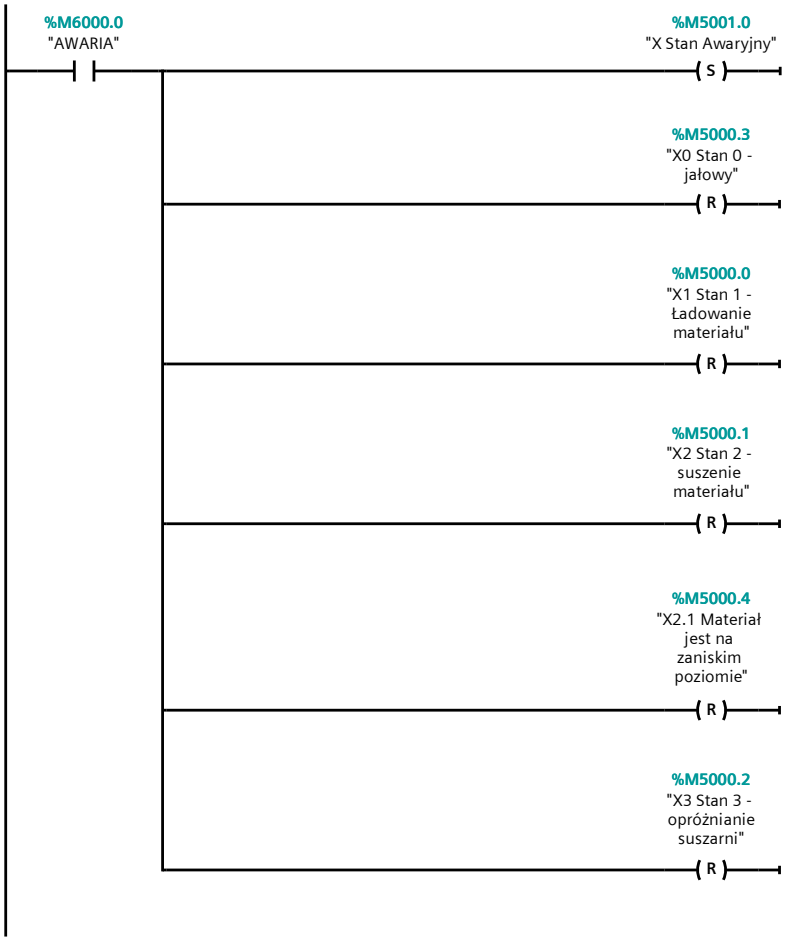
Network 5: Zmiana między stanami 2 i 2.1


%M5000.1
"X2 Stan 2 - suszenie materiału"
%I148.1
"I Pb"
%I148.2
"I Pc"
%M5000.1
"X2 Stan 2 - suszenie materiału"
R
%M5000.4
"X2.1 Materiał jest na zaniskim poziomie"
S
%M5000.4
"X2.1 Materiał jest na zaniskim poziomie"
%I148.0
"I Pa"
%I148.1
"I Pb"
%I148.2
"I Pc"
%M5000.1
"X2 Stan 2 - suszenie materiału"
S
%M5000.4
"X2.1 Materiał jest na zaniskim poziomie"
R

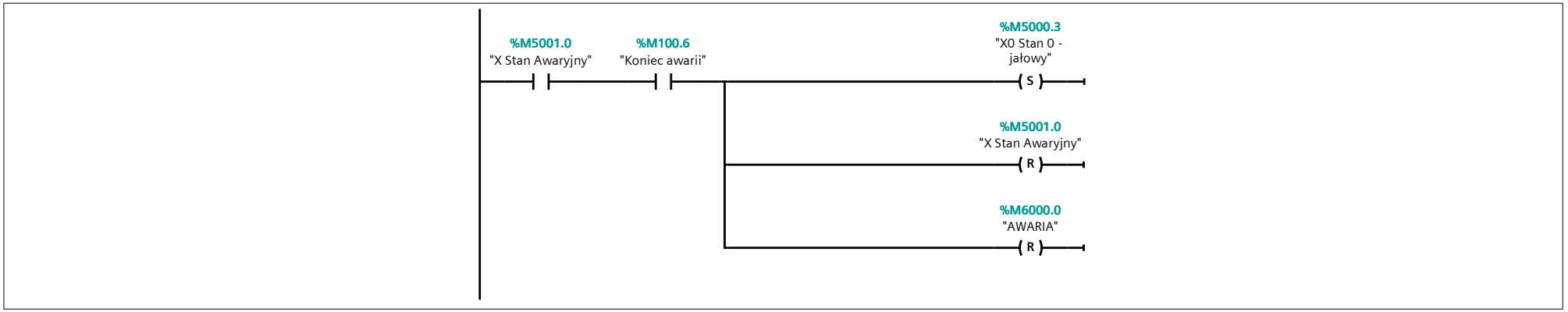
Network 6:


%M5000.2
"X3 Stan 3 - opróżnianie suszarni"
%M5101.6
"B Suszarnia jest pusta"
%M5102.1
"B Temperatura OK"
%DB19
"IEC_Timer_0_DB_10"
TON
Time
IN
Q
T#30s
PT
ET
T#0ms
%M5000.2
"X3 Stan 3 - opróżnianie suszarni"
R
%M5000.3
"X0 Stan 0 - jałowy"
S

Network 7:

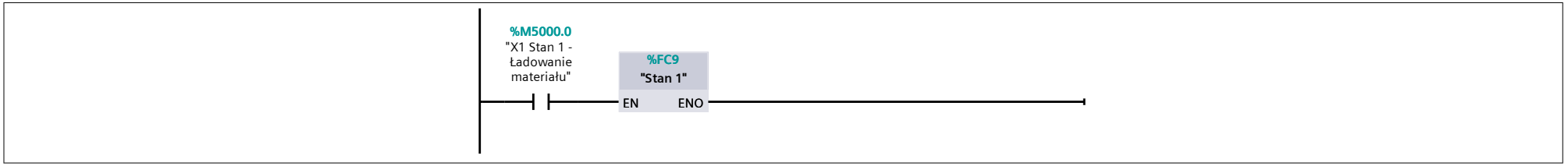

%M6000.0
"AWARIA"
%M5001.0
"X Stan Awaryjny"
S
%M5000.3
"X0 Stan 0 - jałowy"
R
%M5000.0
"X1 Stan 1 - Ładowanie materiału"
R
%M5000.1
"X2 Stan 2 - suszenie materiału"
R
%M5000.4
"X2.1 Materiał jest na zaniskim poziomie"
R
%M5000.2
"X3 Stan 3 - opróżnianie suszarni"
R

Network 8:

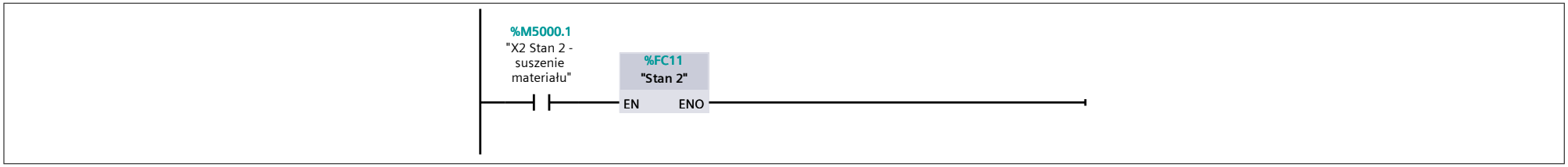


Network 9:

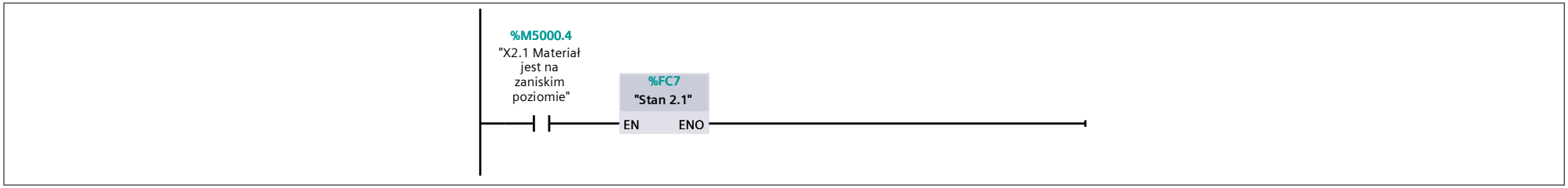
Network 10:



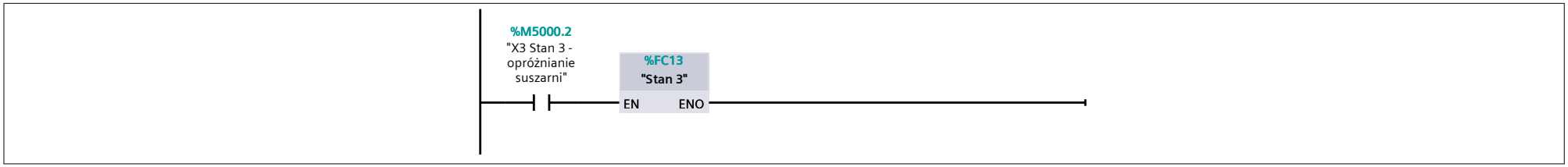
Network 11:



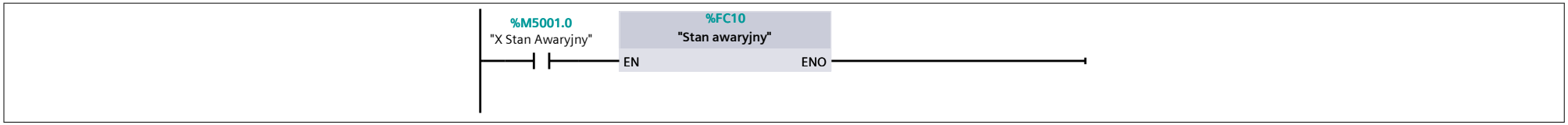
Network 12:



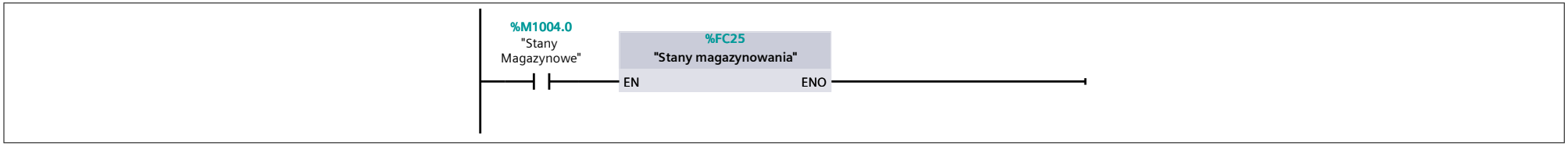
Network 13:



Network 14:



Network 15:



Program blocks

Stan 1 [FC9]

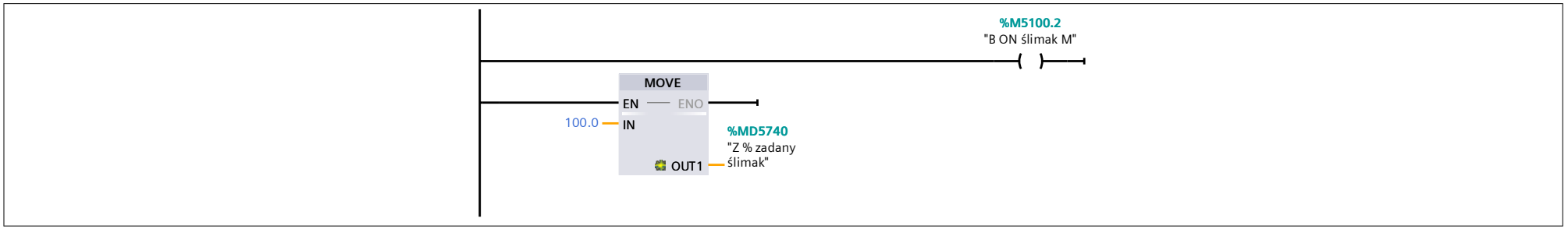
Stan 1 Properties							
General							
Name	Stan 1	**Number**	9	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Stan 1	Void	

Network 1: Silniki

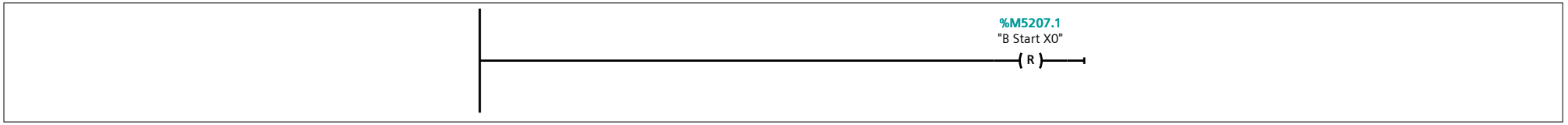
M trzeba usunąć będzie jakk już silniki mogą działać

Network 2: Falownik ślimaka

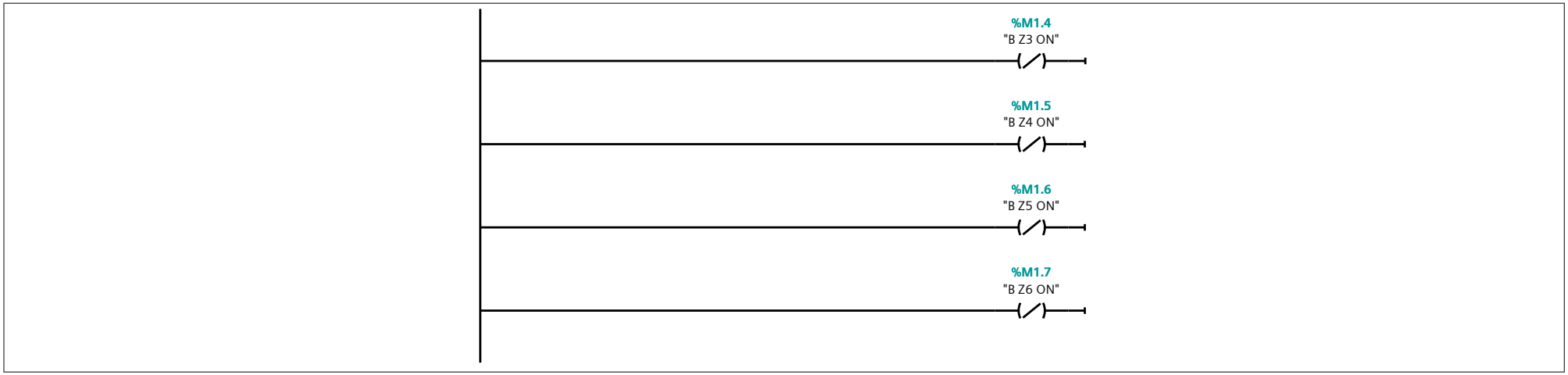


Network 3: Otwiera wybrane zasuwy wybrane przy pomocy hmi w X0

Network 4: Resetuje CTU w X0 NW1



Network 5:


%M1.4
"B Z3 ON"
%M1.5
"B Z4 ON"
%M1.6
"B Z5 ON"
%M1.7
"B Z6 ON"

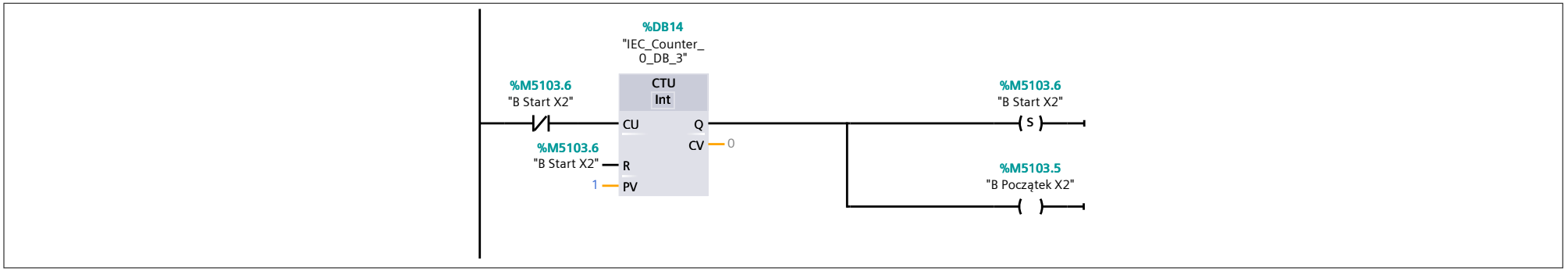
Program blocks

Stan 2 [FC11]

Stan 2 Properties							
General							
Name	Stan 2	**Number**	11	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

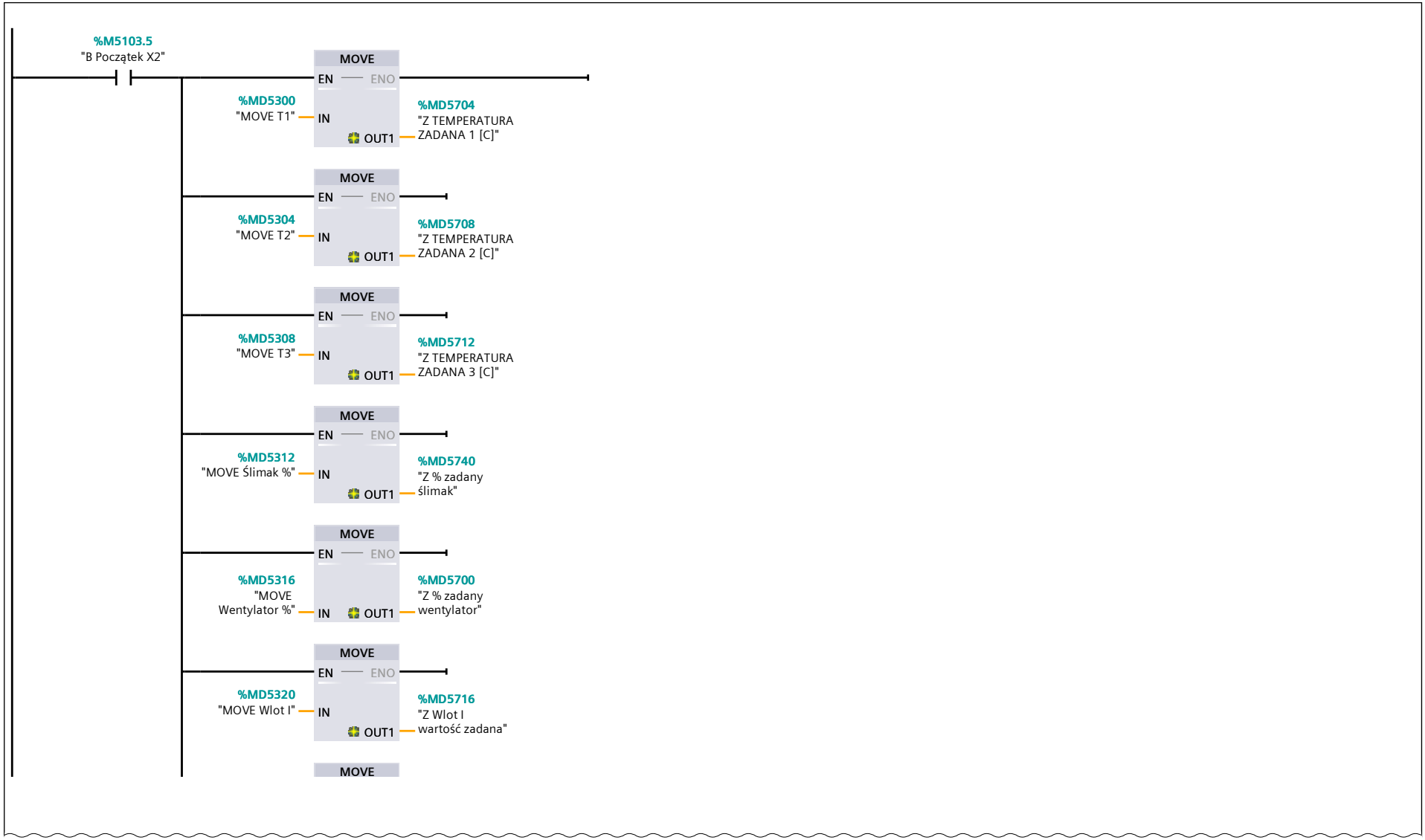
Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Stan 2	Void	

Network 1: Daje napięcie na cewkę B Ustaw X2 tylko raz przy włączeniu stanu X2



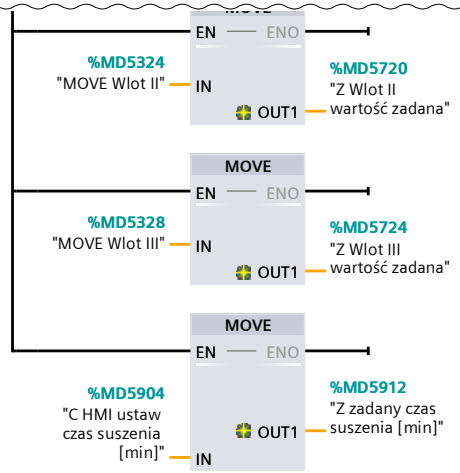
Network 2: Ustawia wartości zadane po włączeniu X2

Network 2: Ustawia wartości zadane po włączeniu X2 (1.1 / 2.1)

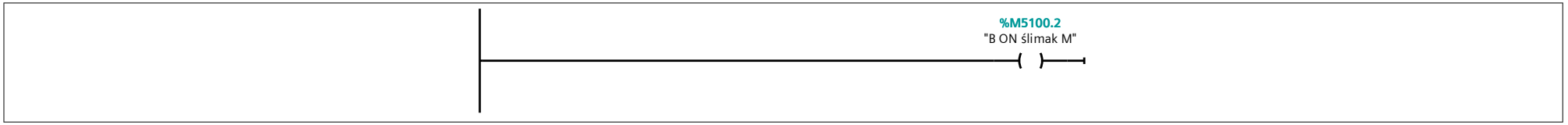


Network 2: Ustawia wartości zadane po włączeniu X2 (2.1 / 2.1)

1.1 (Page14 - 3)



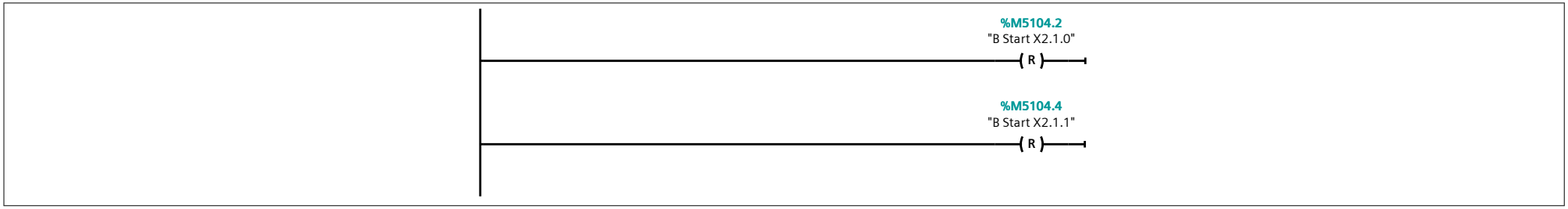
Network 3: Ślimak jest włączony



Network 4: Silniki

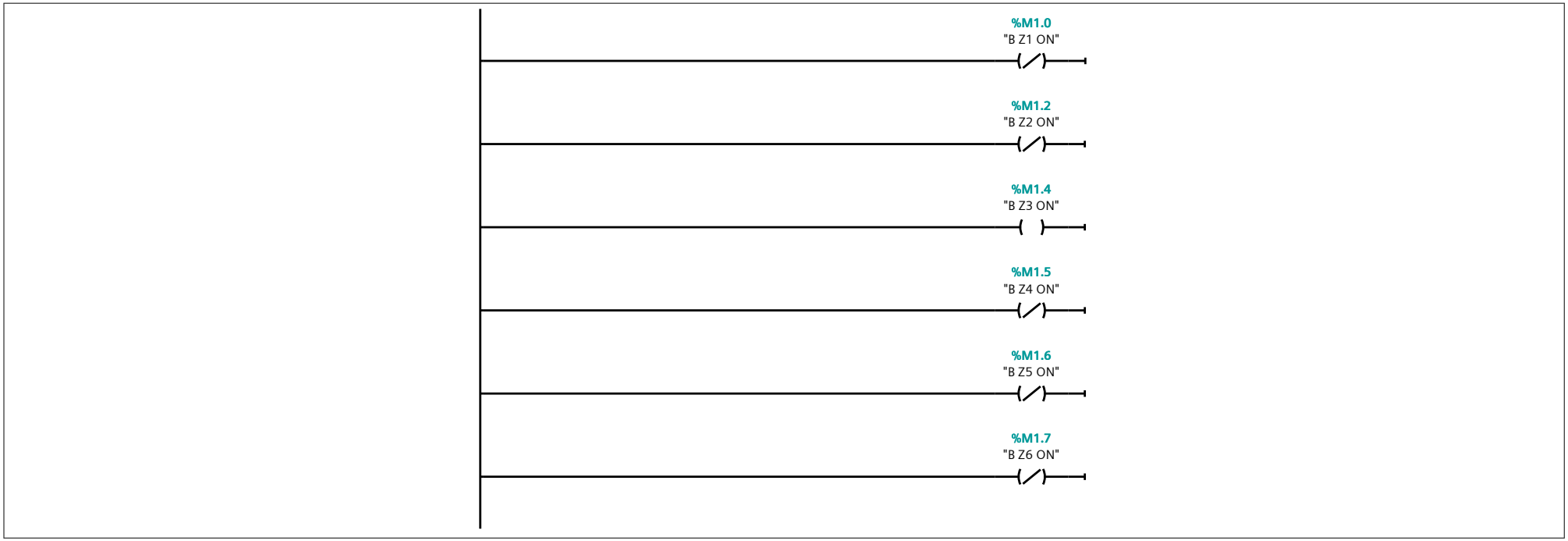
Network 5: Wentylator

Network 6:



Network 7:

Network 8:


%M1.0
"B Z1 ON"
%M1.2
"B Z2 ON"
%M1.4
"B Z3 ON"
%M1.5
"B Z4 ON"
%M1.6
"B Z5 ON"
%M1.7
"B Z6 ON"

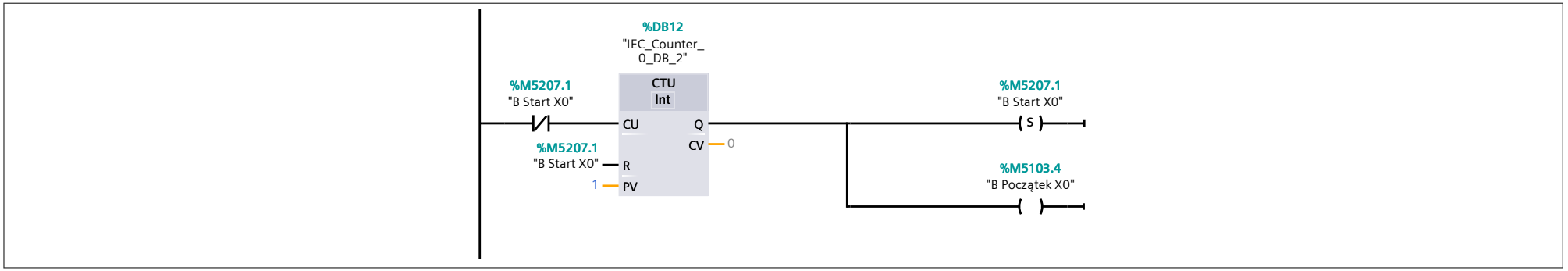
Program blocks

Stan 0 [FC12]

Stan 0 Properties							
General							
Name	Stan 0	**Number**	12	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

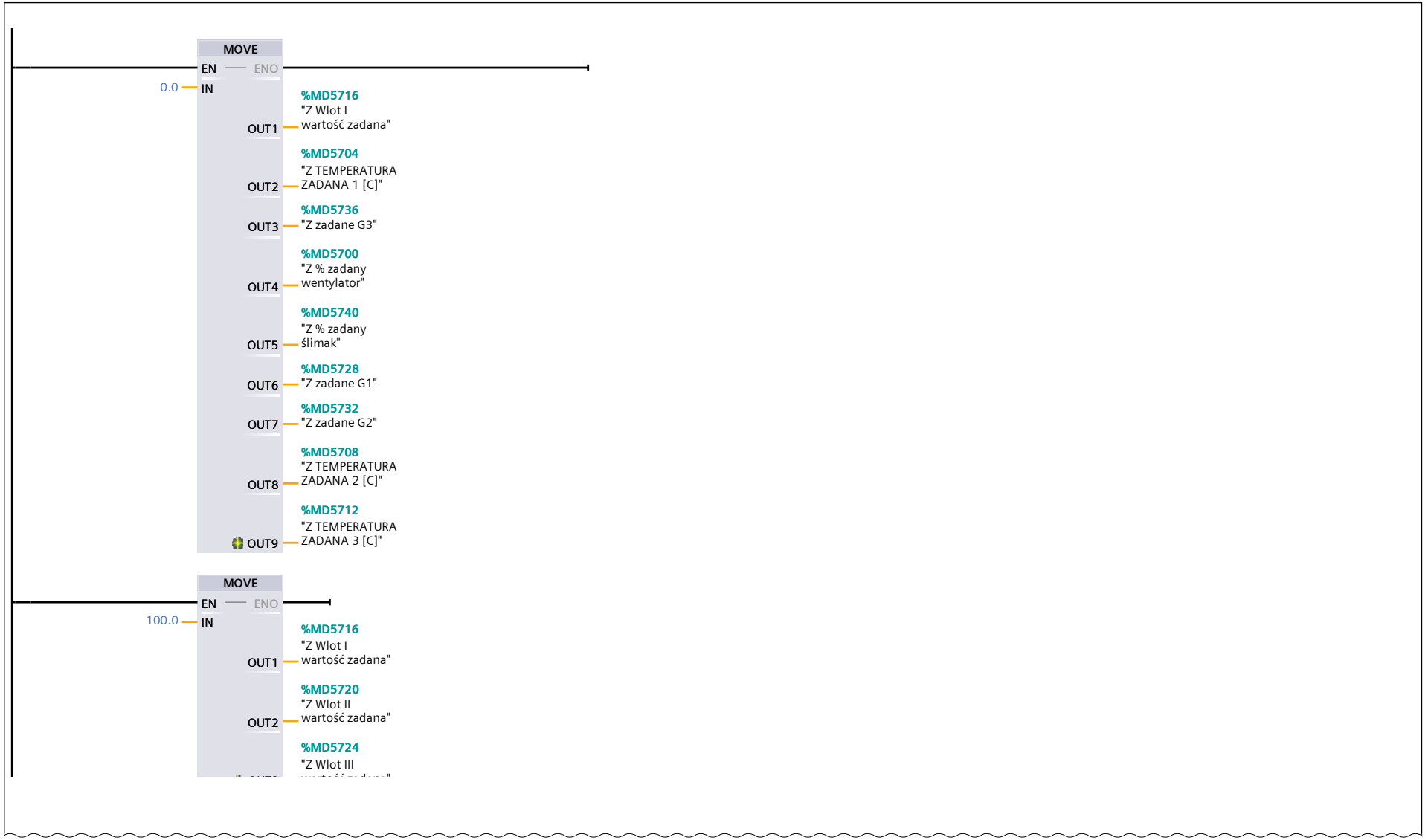
Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Stan 0	Void	

Network 1: Daje napięcie na cewkę B wyczyść move tylko raz przy włączeniu stanu X0



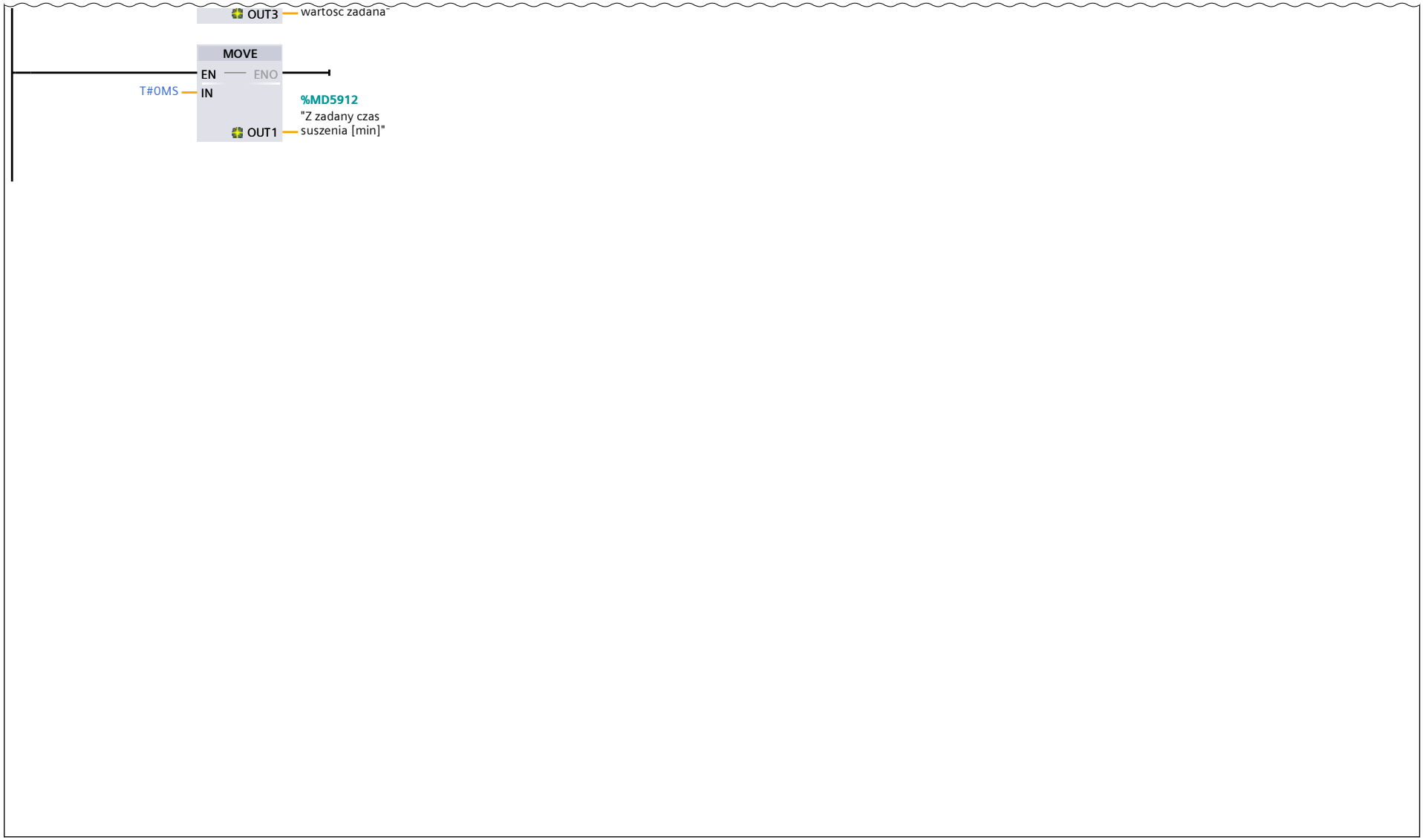
Network 2:

Network 2: (1.1 / 2.1)

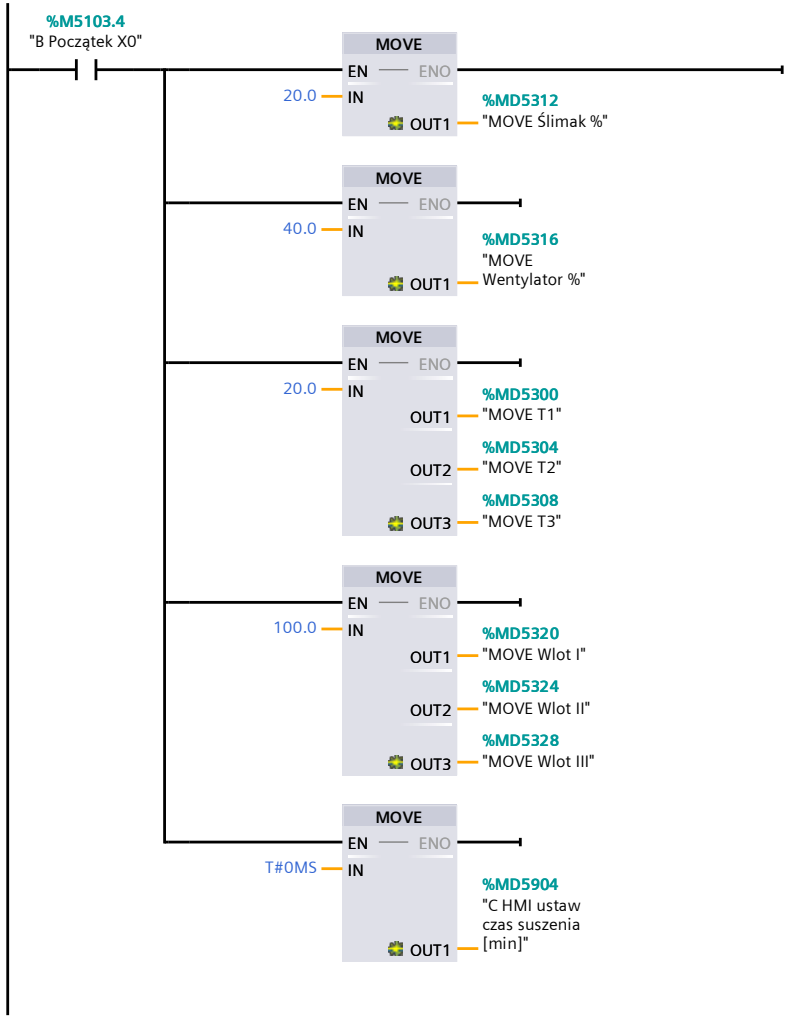


Network 2: (2.1 / 2.1)

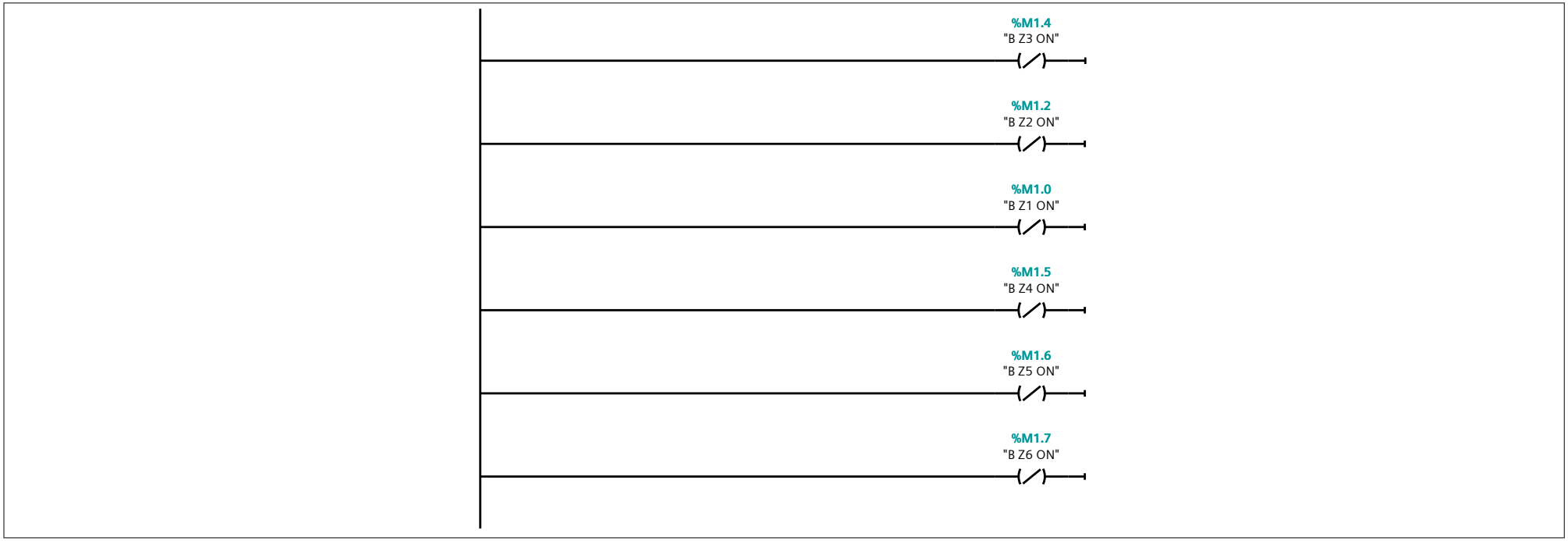
1.1 (Page15 - 3)



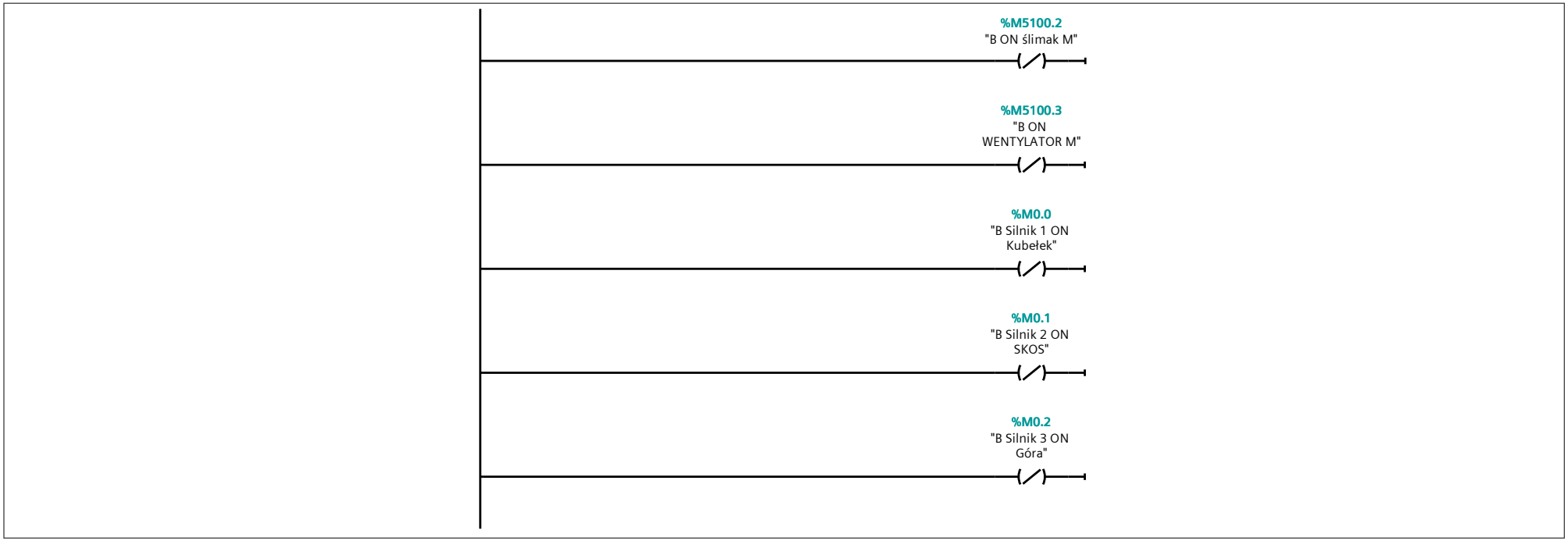
Network 3: Wyczyszczenie wartości



Network 4: zamnąć zasuwy



Network 5: Silniki są wyłączone


%M5100.2
"B ON ślimak M"
%M5100.3
"B ON
WENTYLATOR M"
%M0.0
"B Silnik 1 ON
Kubełek"
%M0.1
"B Silnik 2 ON
SKOS"
%M0.2
"B Silnik 3 ON
Góra"

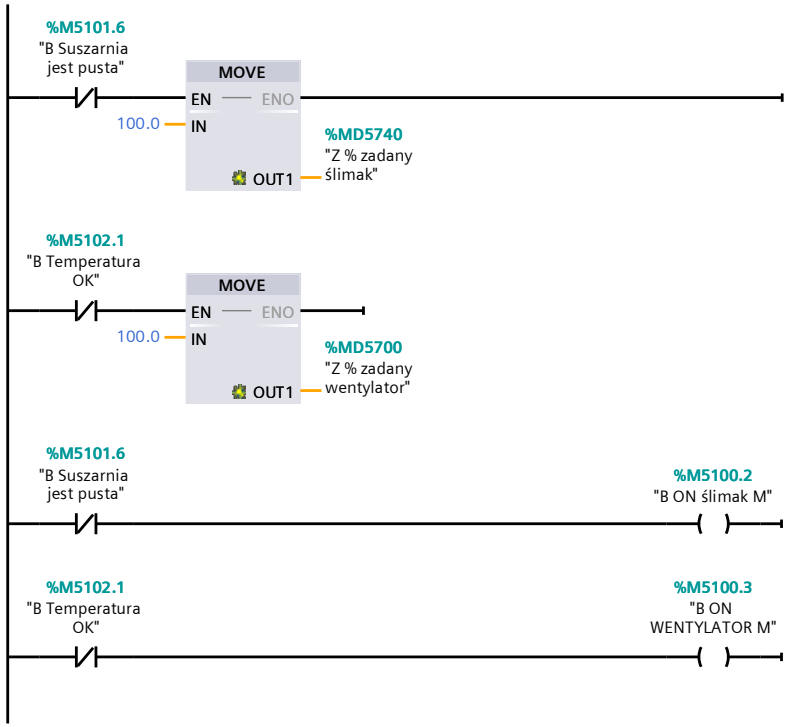
Program blocks

Stan 3 [FC13]

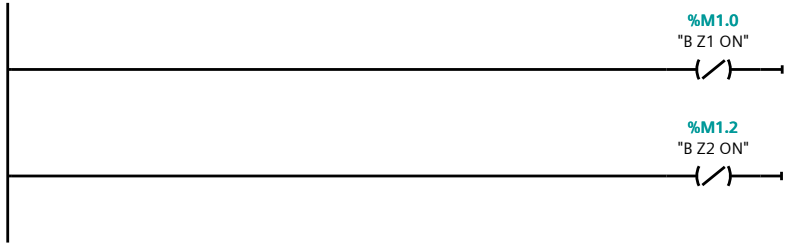
Stan 3 Properties							
General							
Name	Stan 3	**Number**	13	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Stan 3	Void	

Network 1: Ustalenie wartości max wentylatora i ślimaka

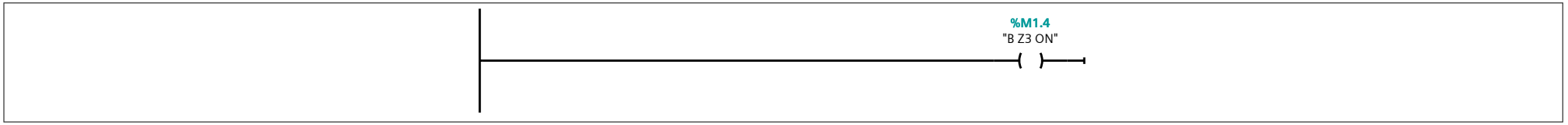


Network 2: Zamknięcie dolnych zasuw zbiorniów

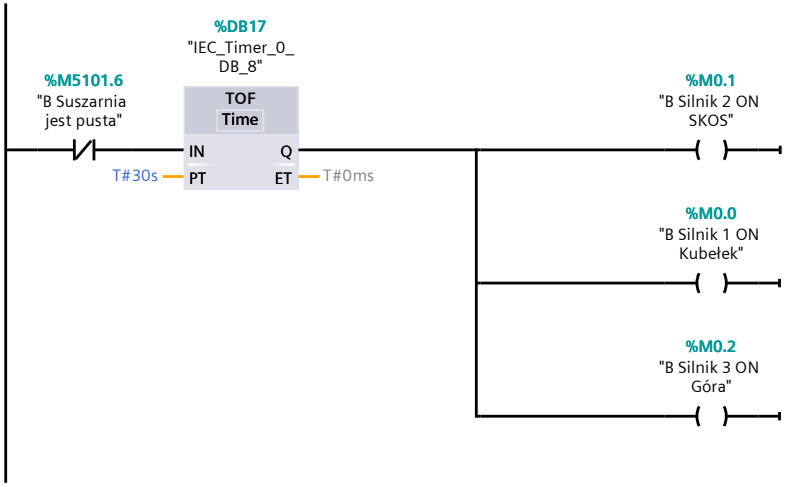


Network 3:

Network 4: Zasuwa suszarni jest otwarta



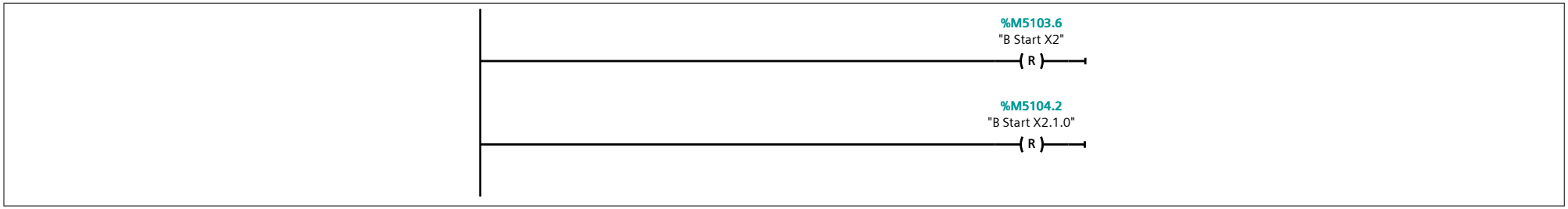
Network 5: Silniki



Network 6: Zasuwy Z4 Z5 Z6

Network 7:

Resetuje CTU w X2 i X2.1


%M5103.6
"B Start X2"
R
%M5104.2
"B Start X2.1.0"
R

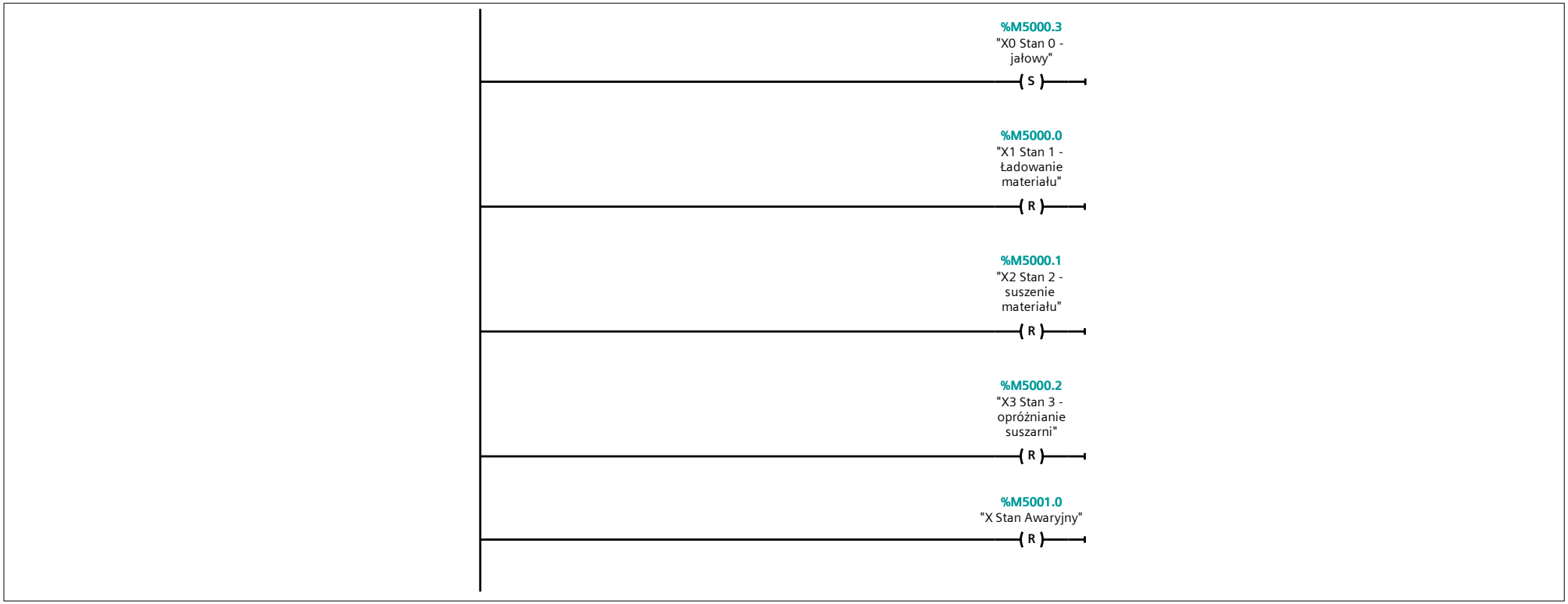
Program blocks

Startup [OB100]

Startup Properties							
General							
Name	Startup	**Number**	100	**Type**	OB	**Language**	LAD
Numbering	Automatic						
Information							
Title	"Complete Restart"	**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
▼ Input		
LostRetentive	Bool	
LostRTC	Bool	
Temp		
Constant		

Network 1: Stan początkowy



Network 2: Włączenie ekranu głównego

Program blocks

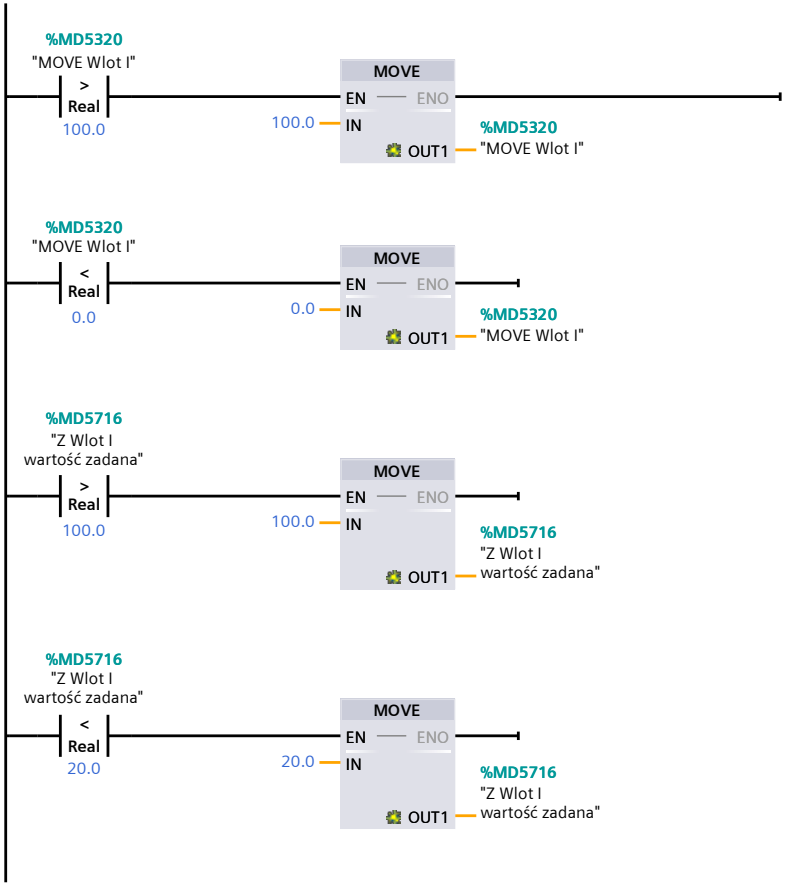
Obliczenia Wloty powietrza [FC15]

Obliczenia Wloty powietrza Properties							
General							
Name	Obliczenia Wloty powietrza	**Number**	15	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Obliczenia Wloty powietrza	Void	

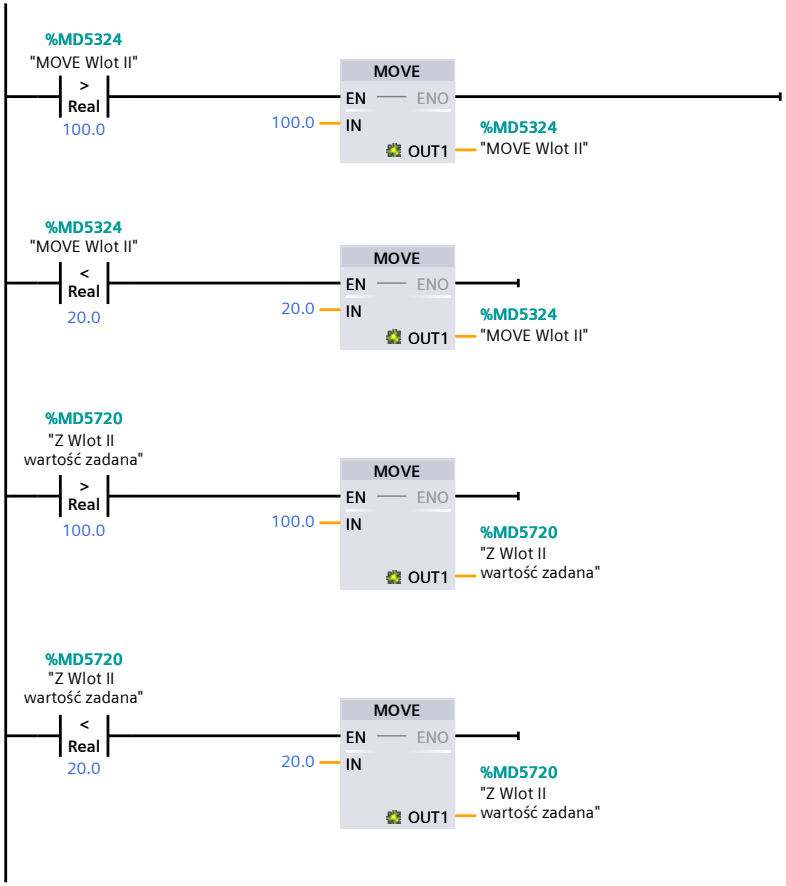
Network 1:

Ograniczenia wartości zadanej wlotu I



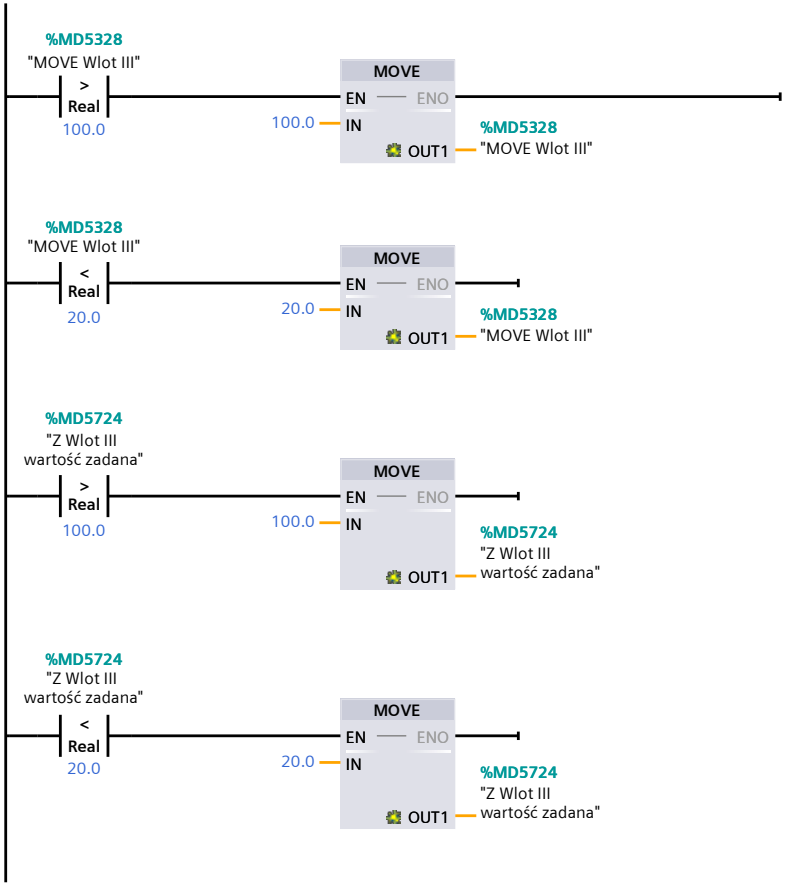
Network 2:

Ograniczenia wartości zadanej wlotu II

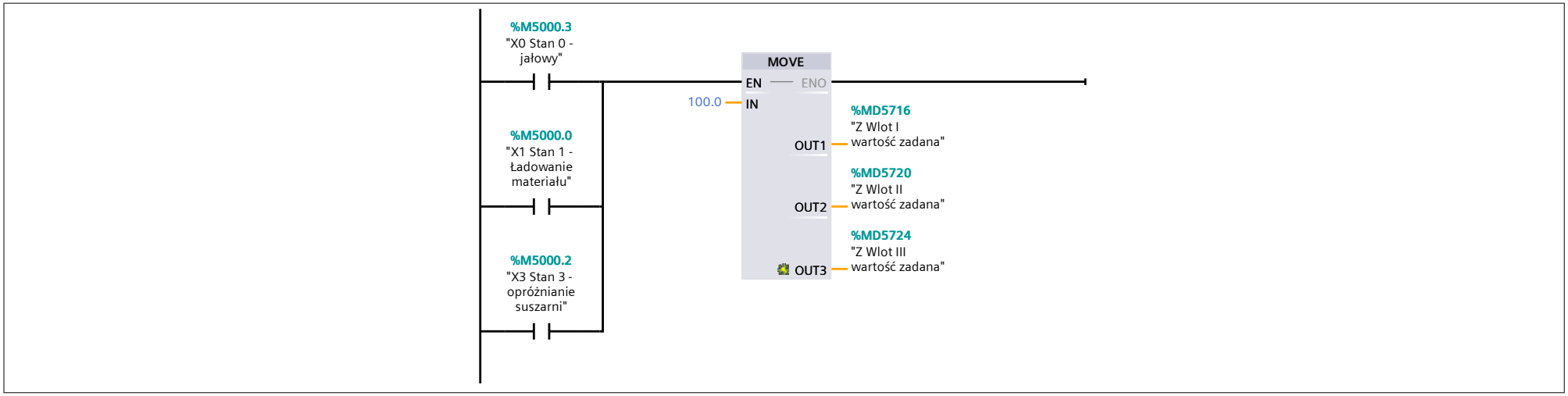


Network 3:

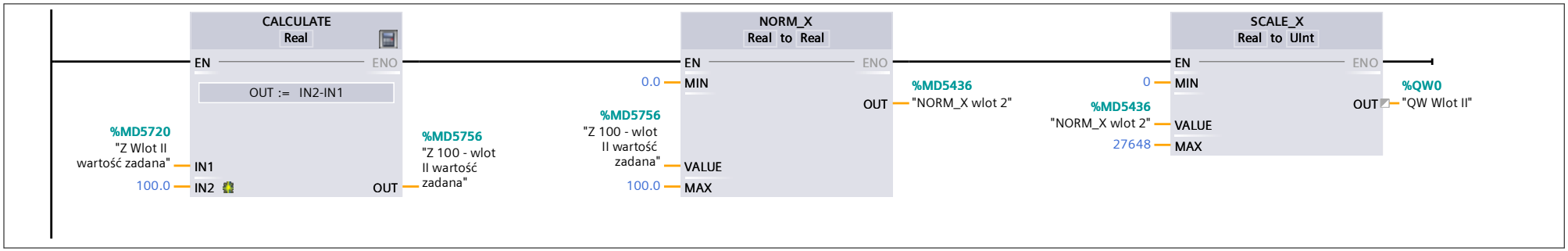
Ograniczenia wartości zadanej wlotu III



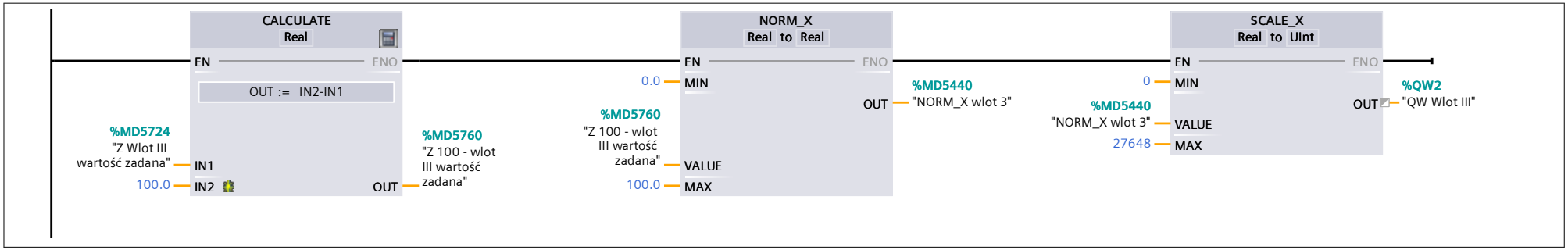
Network 4: OTWARCIE KLAP W X0 X1 i X3



Network 5:



Network 6:


CALCULATE
Real
EN
ENO
OUT := IN2-IN1
%MD5724
"Z Wlot III
wartość zadana"
IN1
100.0
IN2
OUT
%MD5760
"Z 100 - wlot
III wartość
zadana"
NORM_X
Real to Real
EN
ENO
0.0
MIN
%MD5760
"Z 100 - wlot
III wartość
zadana"
VALUE
100.0
MAX
OUT
%MD5440
"NORM_X wlot 3"
SCALE_X
Real to UInt
EN
ENO
0
MIN
%MD5440
"NORM_X wlot 3"
VALUE
27648
MAX
OUT
%QW2
"QW Wlot III"

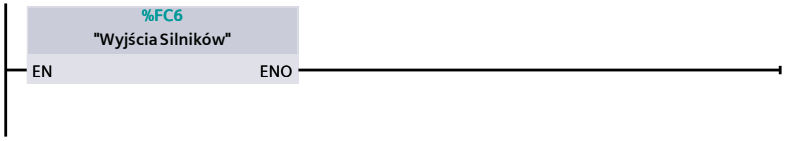
Program blocks

Wyjścia [FC24]

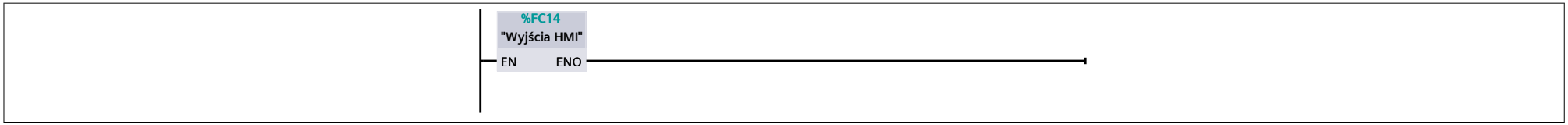
Wyjścia Properties							
General							
Name	Wyjścia	**Number**	24	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Wyjścia	Void	

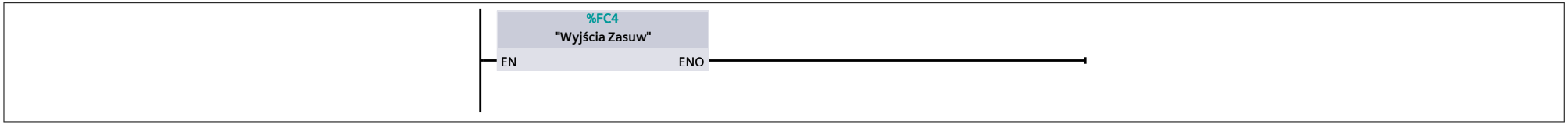
Network 1:



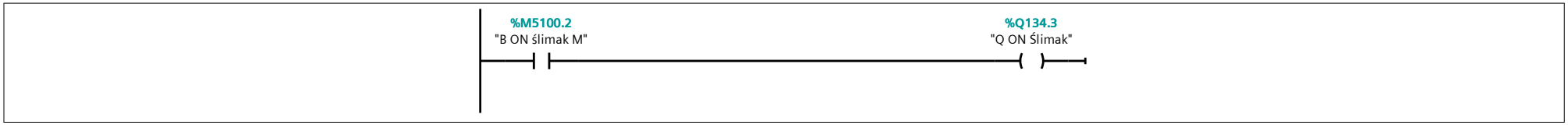
Network 2:



Network 3:



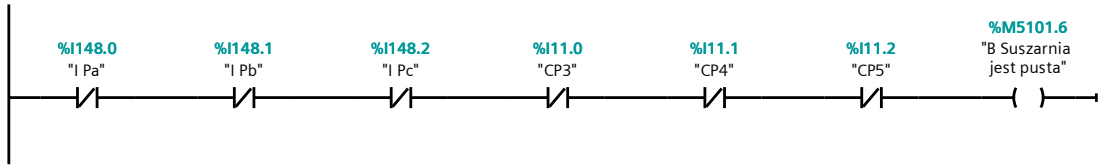
Network 4: Ślimak falownik



Network 5: Wentylator

Network 6: Wykrywanie, czy suszarnia jest pusta

Suszarnia jest pusta, gdy czujniki Pa Pb Pc i zamontowane przy kubełkach pokazują 0 logiczne


%I148.0
"I Pa"
%I148.1
"I Pb"
%I148.2
"I Pc"
%I11.0
"CP3"
%I11.1
"CP4"
%I11.2
"CP5"
%M5101.6
"B Suszarnia
jest pusta"

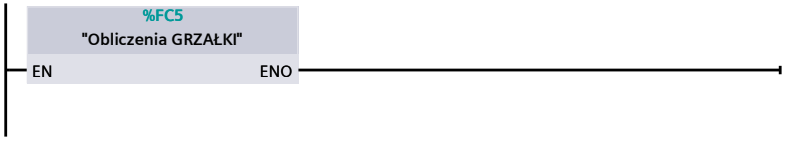
Program blocks

Obliczenia [FC26]

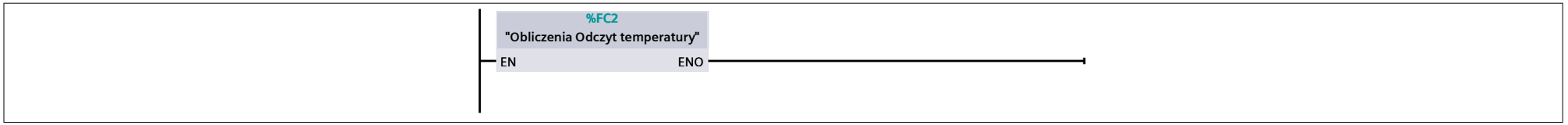
Obliczenia Properties							
General							
Name	Obliczenia	**Number**	26	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Obliczenia	Void	

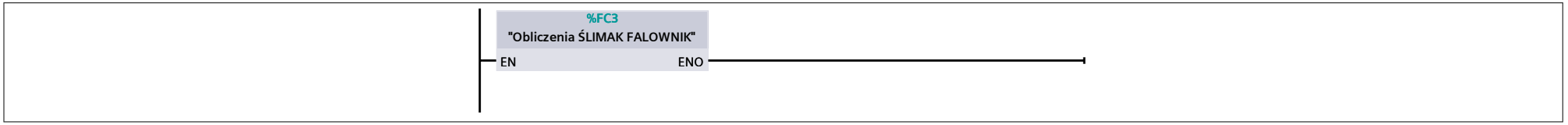
Network 1:



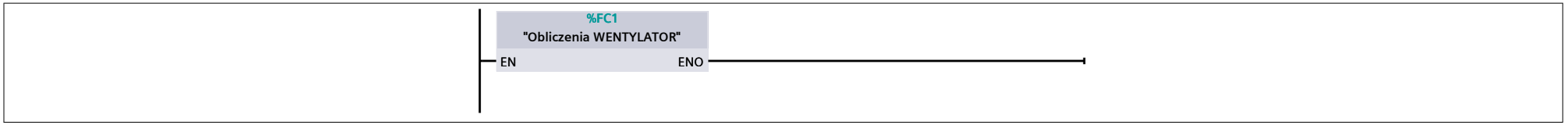
Network 2:



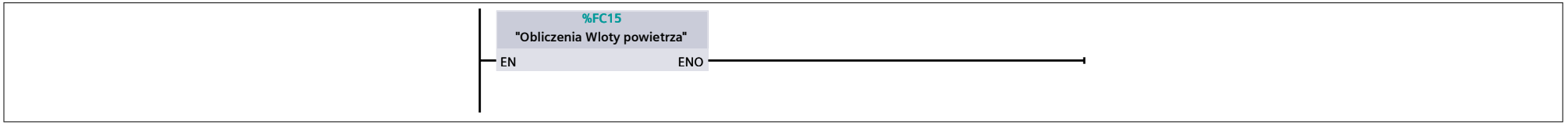
Network 3:



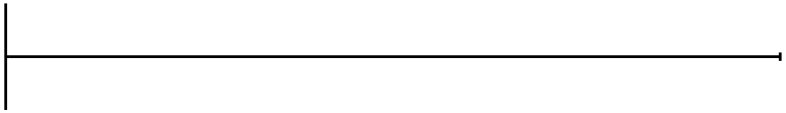
Network 4:



Network 5:



Network 6:



Program blocks

Data_block_1 [DB6]

Data_block_1 Properties							
General							
Name	Data_block_1	**Number**	6	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Start value	Retain
▼ Static			
hardware intererer	Int	0	False

Program blocks

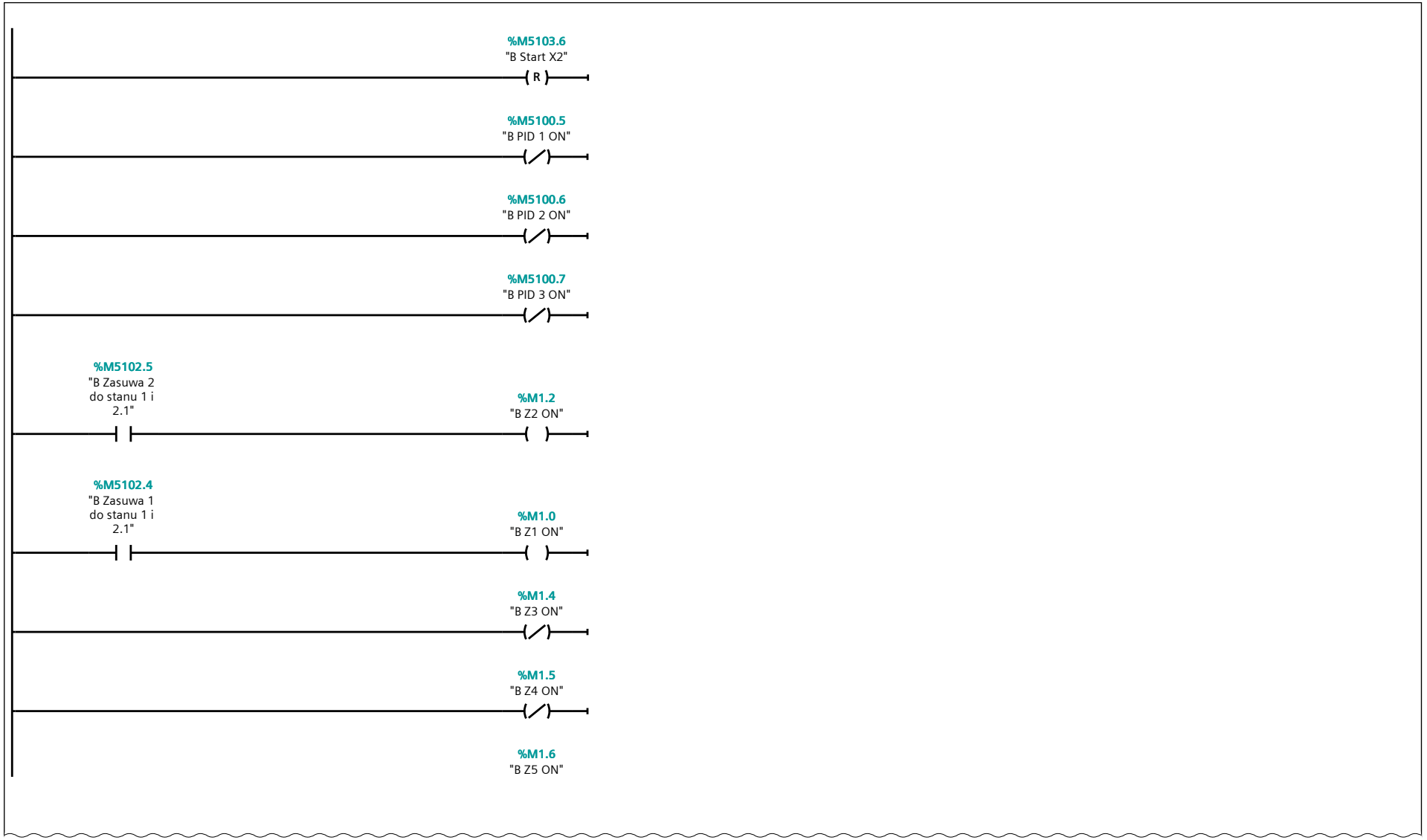
Stan 2.1 [FC7]

Stan 2.1 Properties							
General							
Name	Stan 2.1	**Number**	7	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Stan 2.1	Void	

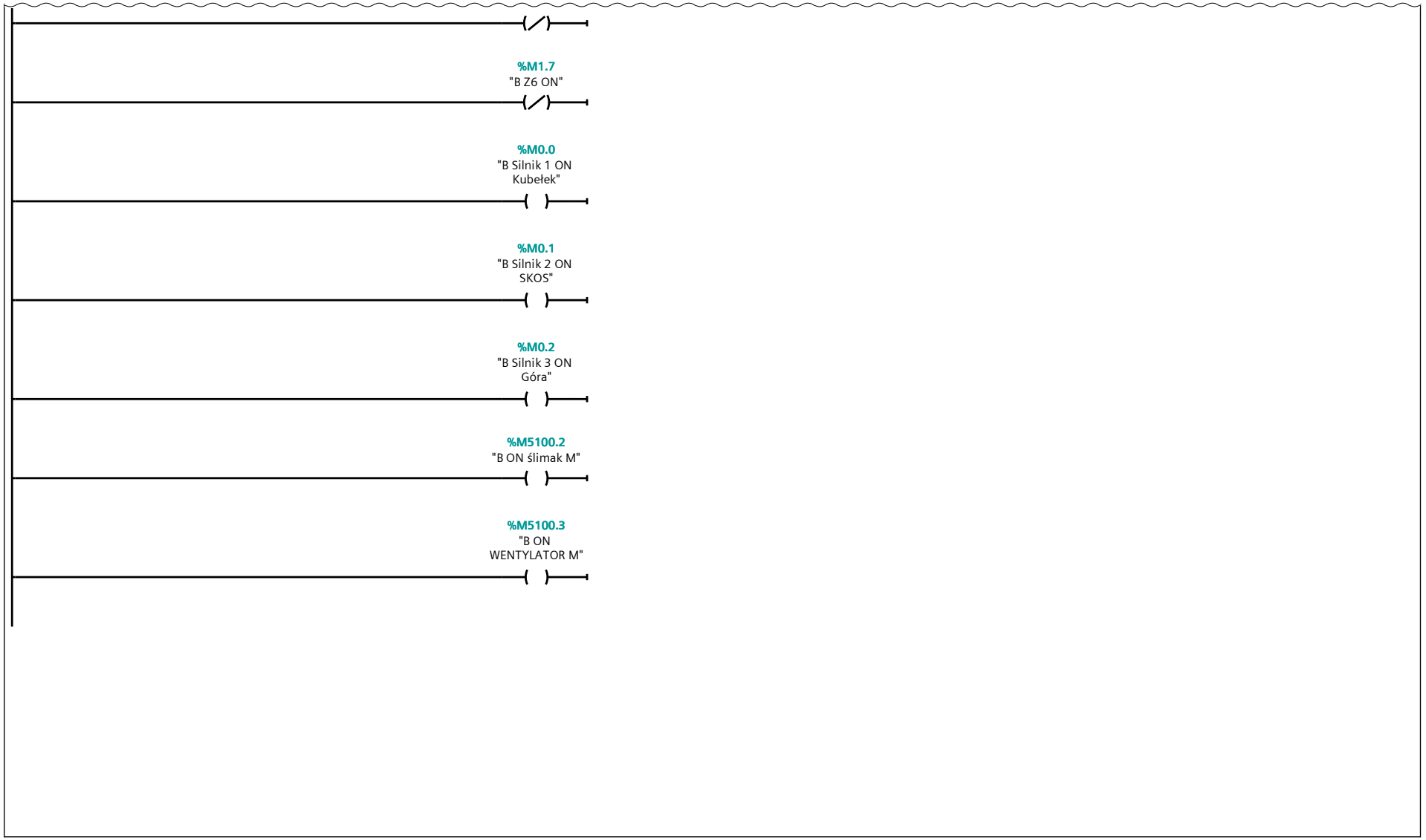
Network 1:

Network 1: (1.1 / 2.1)



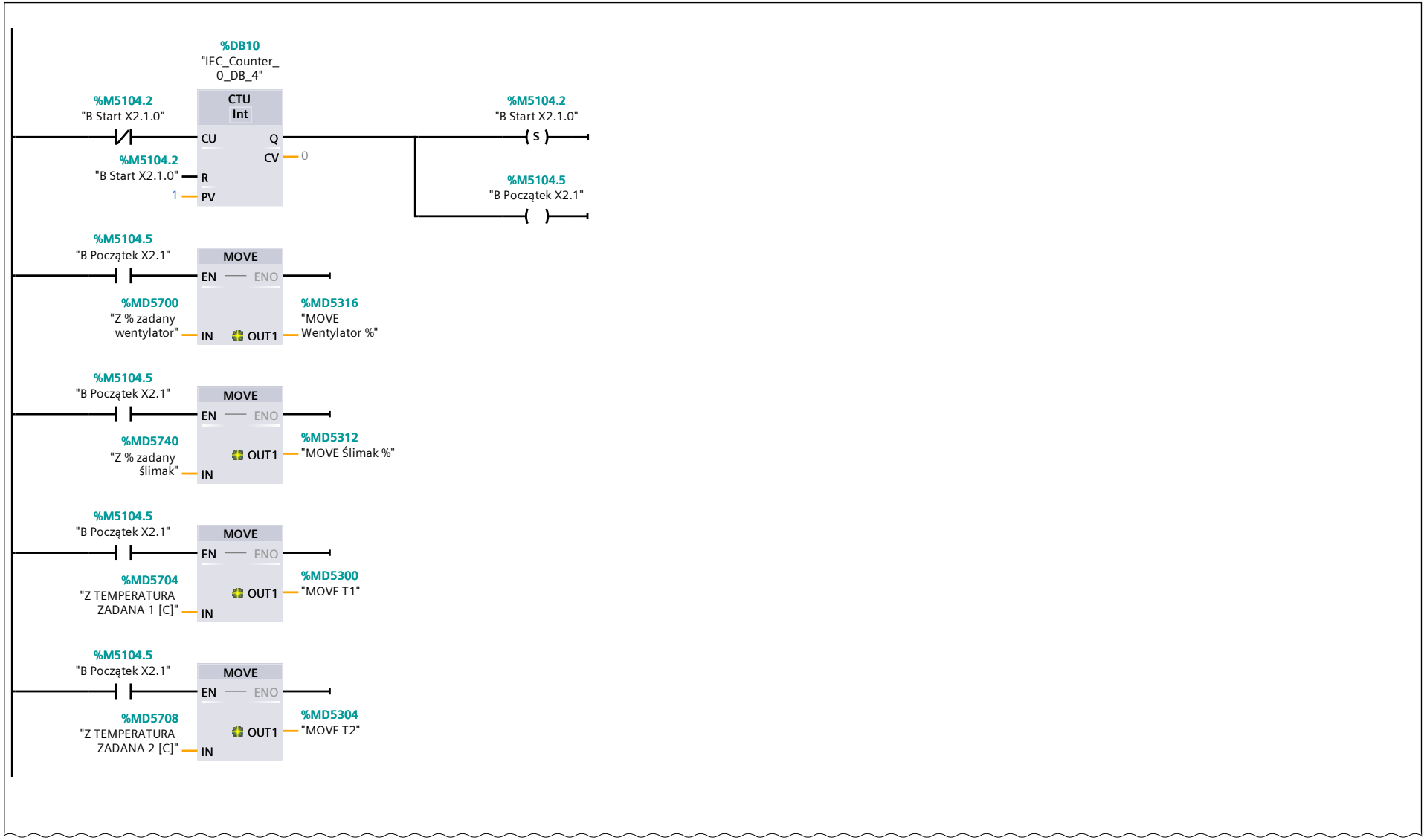
Network 1: (2.1 / 2.1)

1.1 (Page22 - 2)



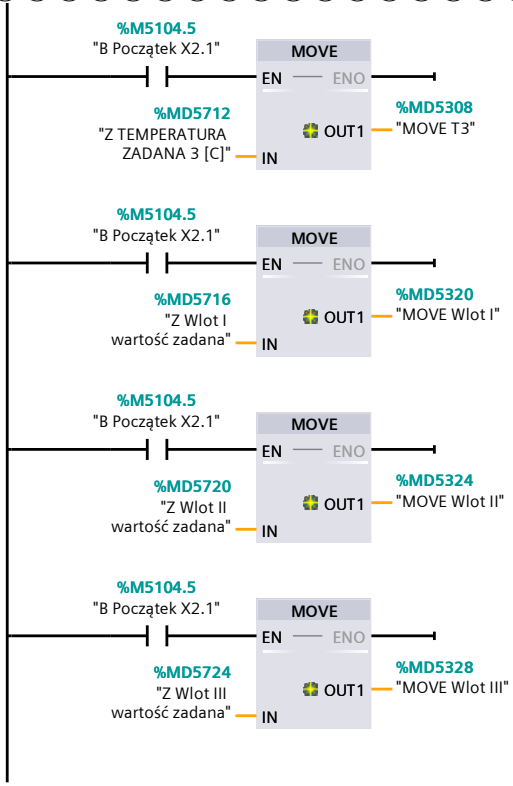
Network 2: Zapisanie wartości

Network 2: Zapisanie wartości (1.1 / 2.1)



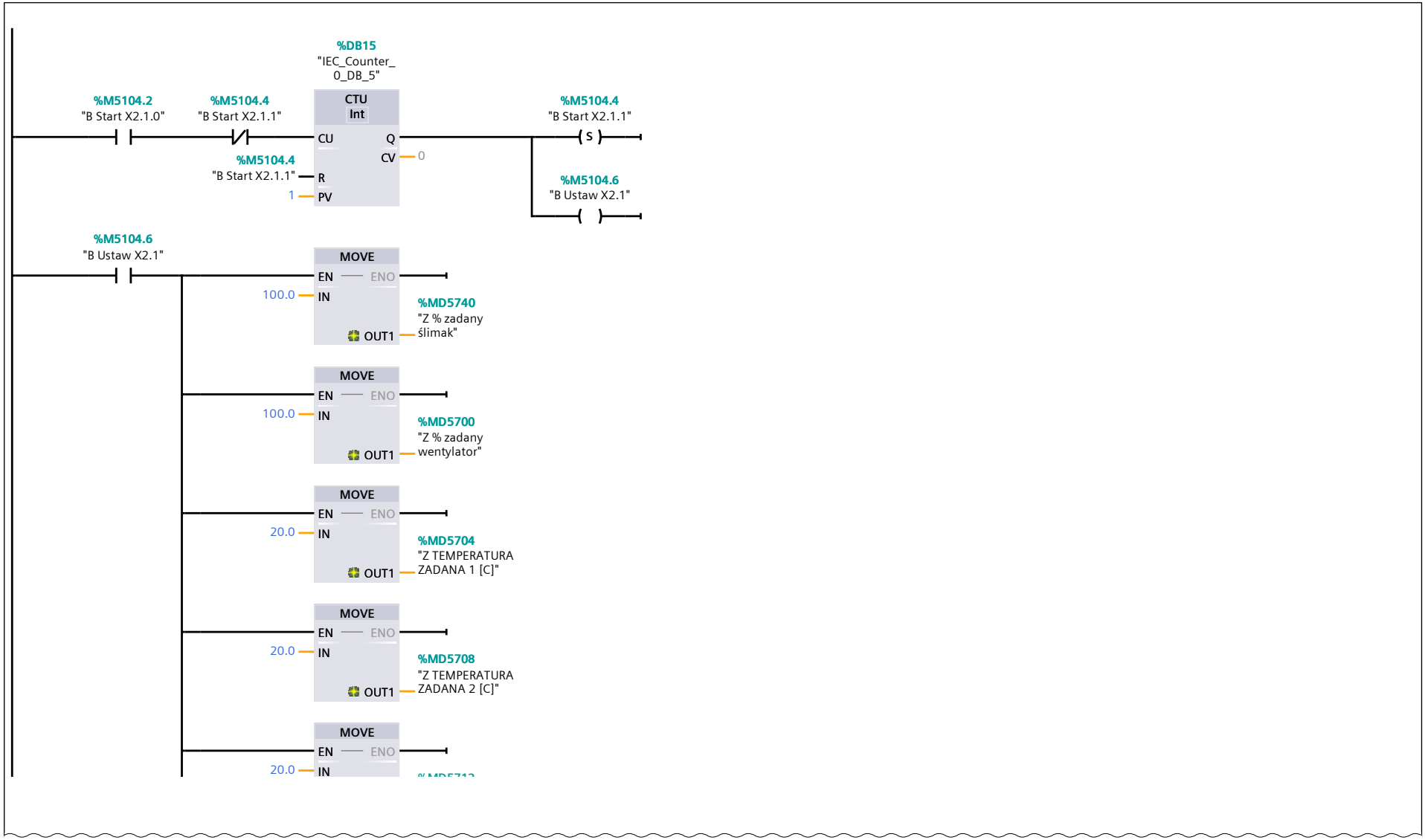
Network 2: Zapisanie wartości (2.1 / 2.1)

1.1 (Page22 - 5)



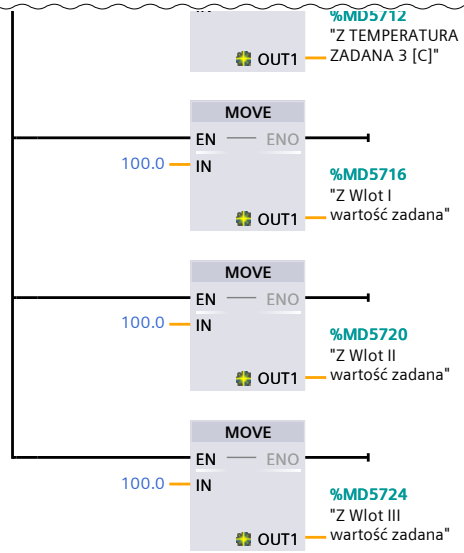
Network 3: Ustawienie wartości zadanych

Network 3: Ustawienie wartości zadanych (1.1 / 2.1)



Network 3: Ustawienie wartości zadanych (2.1 / 2.1)

1.1 (Page22 - 8)



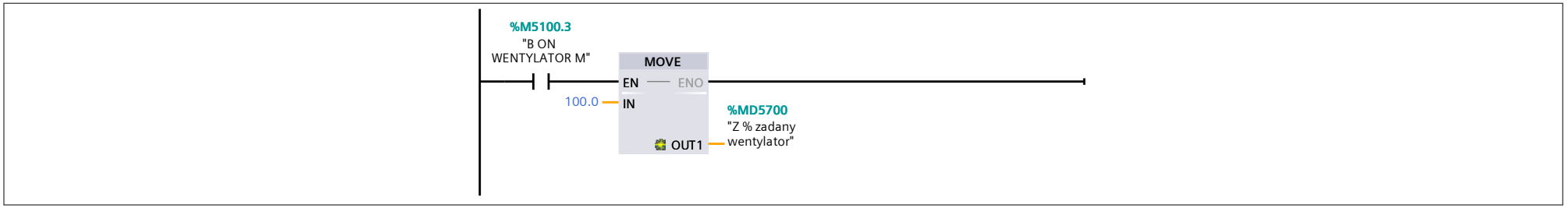
Program blocks

Stan awaryjny [FC10]

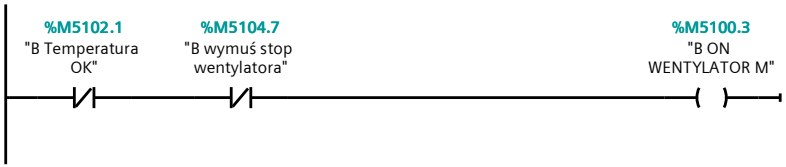
Stan awaryjny Properties							
General							
Name	Stan awaryjny	**Number**	10	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Stan awaryjny	Void	

Network 1: Temperatura jest za wysoka

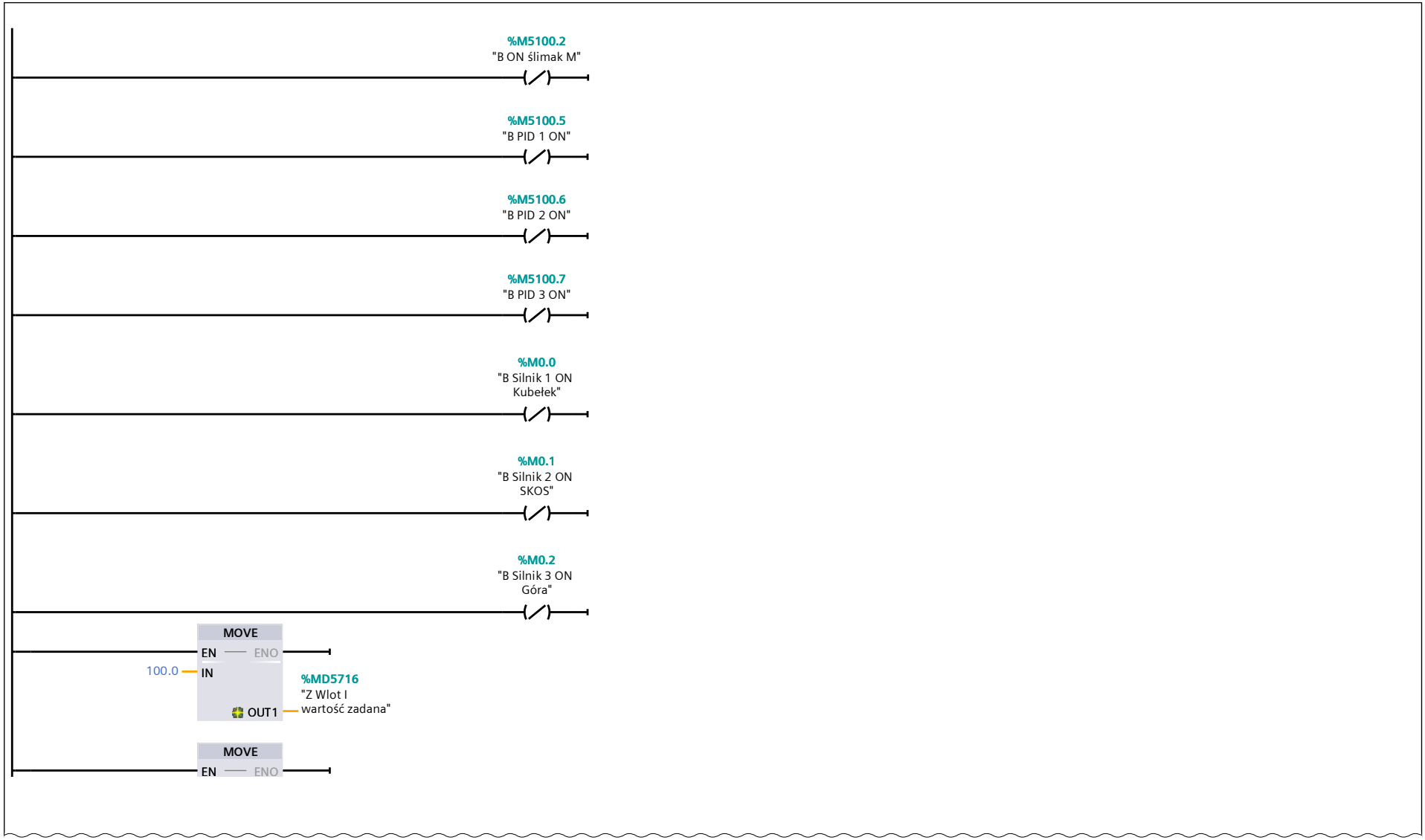


Network 2: Wentylator


%M5102.1
"B Temperatura OK"
%M5104.7
"B wymuś stop wentylatora"
%M5100.3
"B ON WENTYLATOR M"

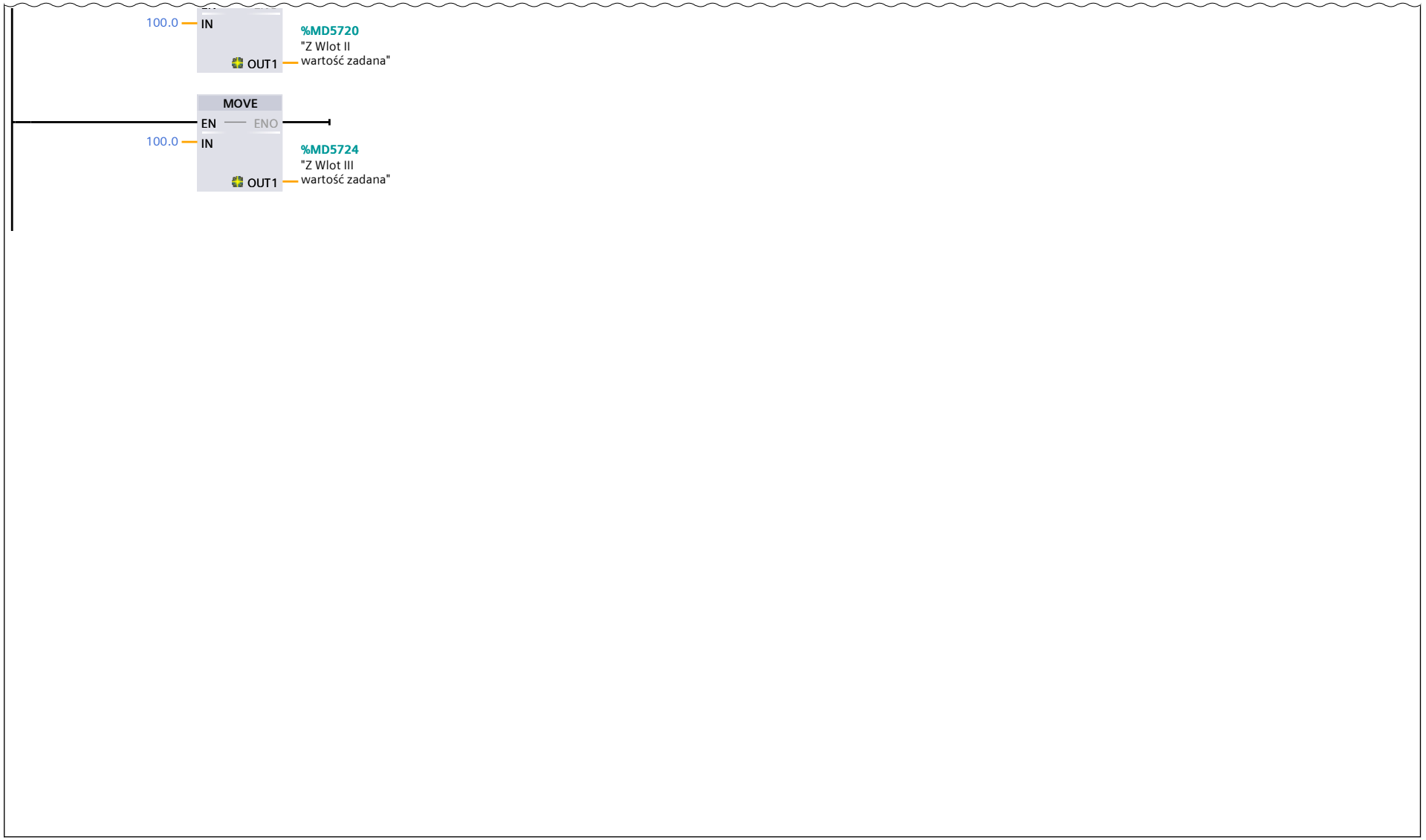
Network 3:

Network 3: (1.1 / 2.1)

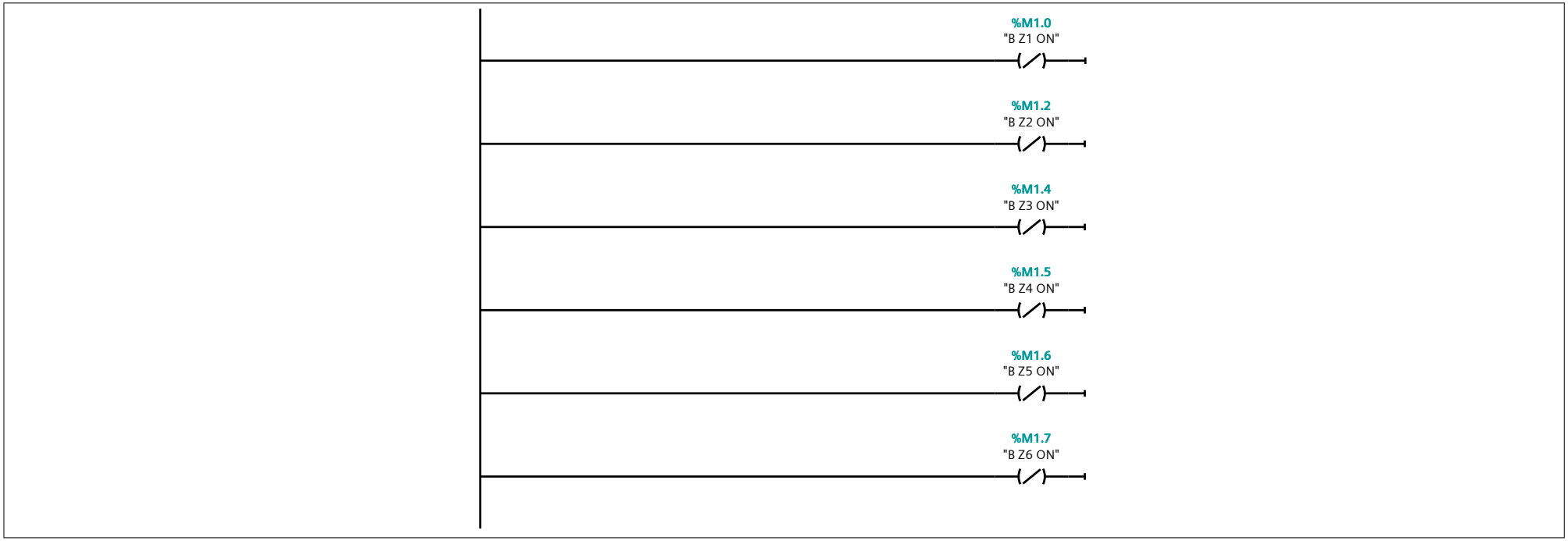


Network 3: (2.1 / 2.1)

1.1 (Page23 - 3)



Network 4:



Network 5:

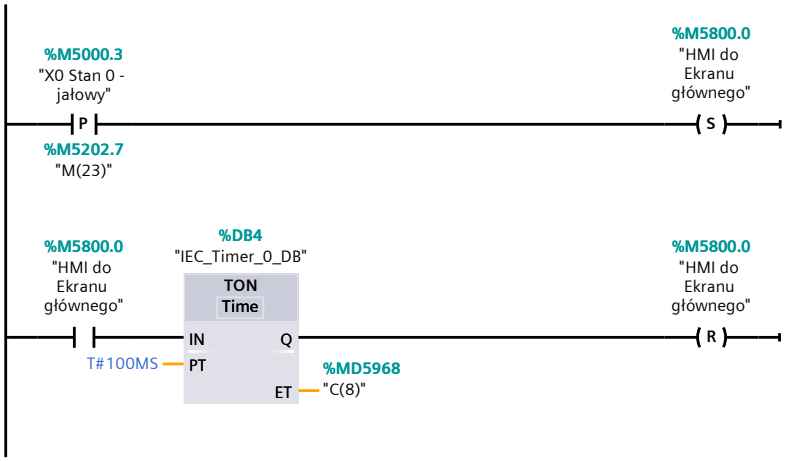
Program blocks

Wyjścia HMI [FC14]

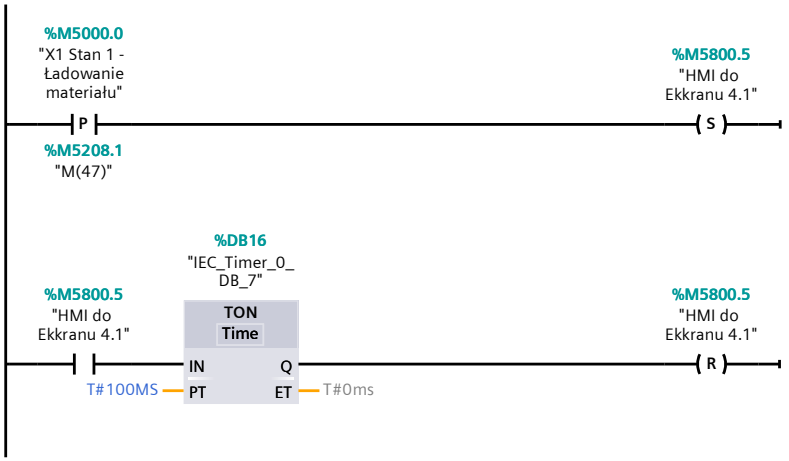
Wyjścia HMI Properties							
General							
Name	Wyjścia HMI	**Number**	14	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Wyjścia HMI	Void	

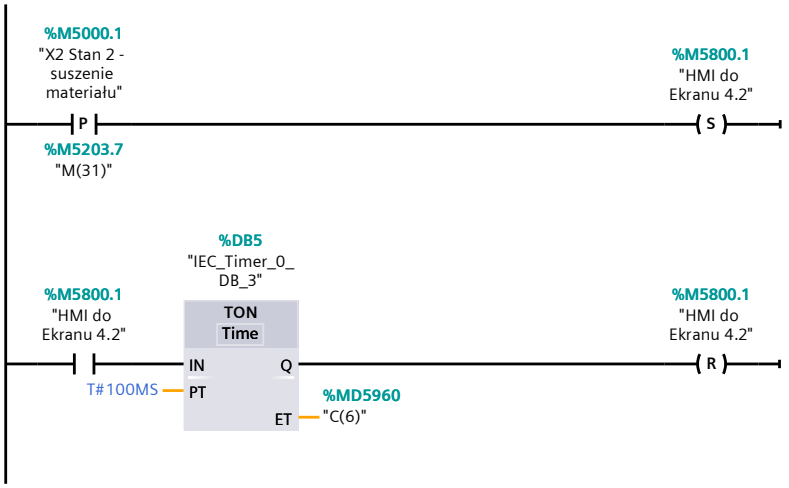
Network 1: Ustaw Ekran główny na hmi



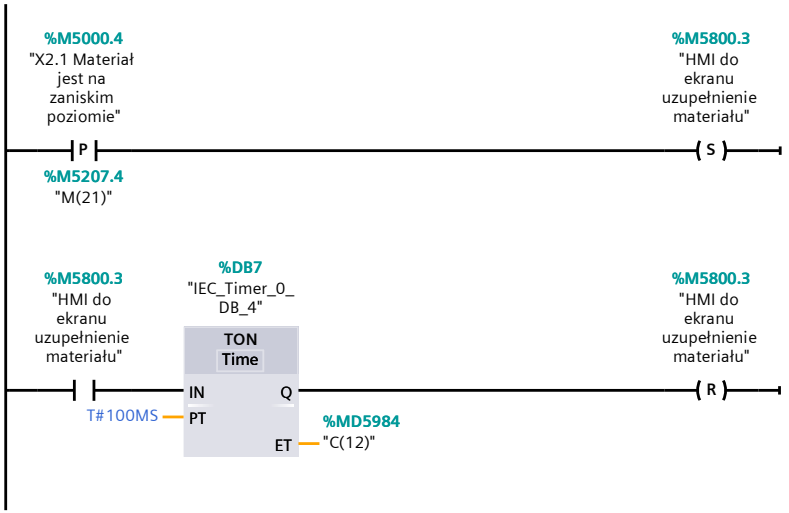
Network 2:



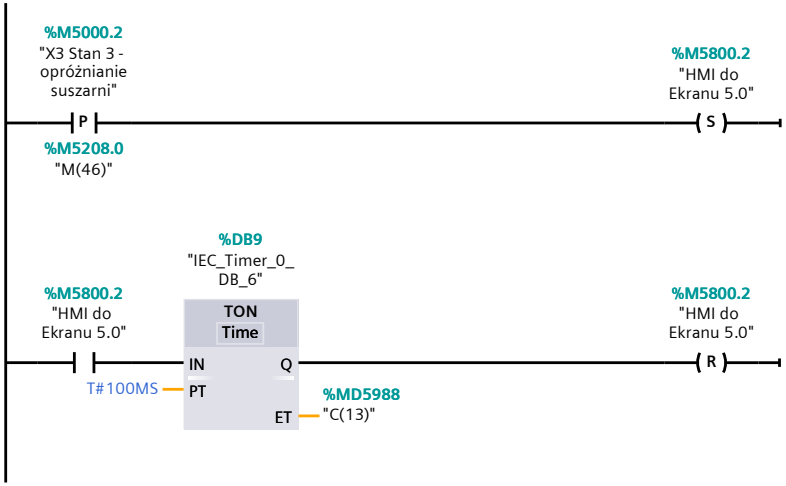
Network 3:


%M5000.1
"X2 Stan 2 - suszenie materiału"
P
%M5203.7
"M(31)"
%M5800.1
"HMI do Ekranu 4.2"
S
%DB5
"IEC_Timer_0_ DB_3"
%M5800.1
"HMI do Ekranu 4.2"
TON
Time
IN
Q
T#100MS
PT
ET
%MD5960
"C(6)"
%M5800.1
"HMI do Ekranu 4.2"
R

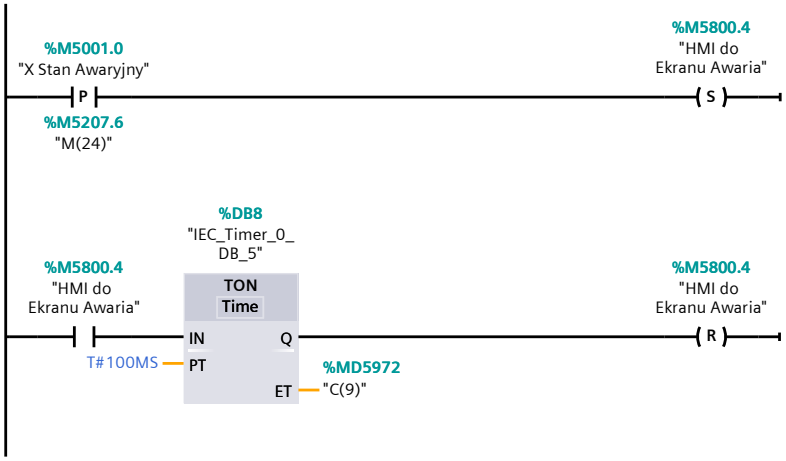
Network 4:


%M5000.4
"X2.1 Materiał jest na zaniskim poziomie"
P
%M5207.4
"M(21)"
%M5800.3
"HMI do ekranu uzupełnienie materiału"
S
%DB7
"IEC_Timer_0_ DB_4"
%M5800.3
"HMI do ekranu uzupełnienie materiału"
TON
Time
IN
Q
T#100MS
PT
ET
%MD5984
"C(12)"
%M5800.3
"HMI do ekranu uzupełnienie materiału"
R

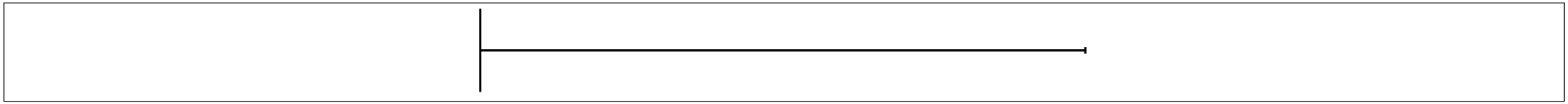
Network 5:



Network 6:



Network 7:



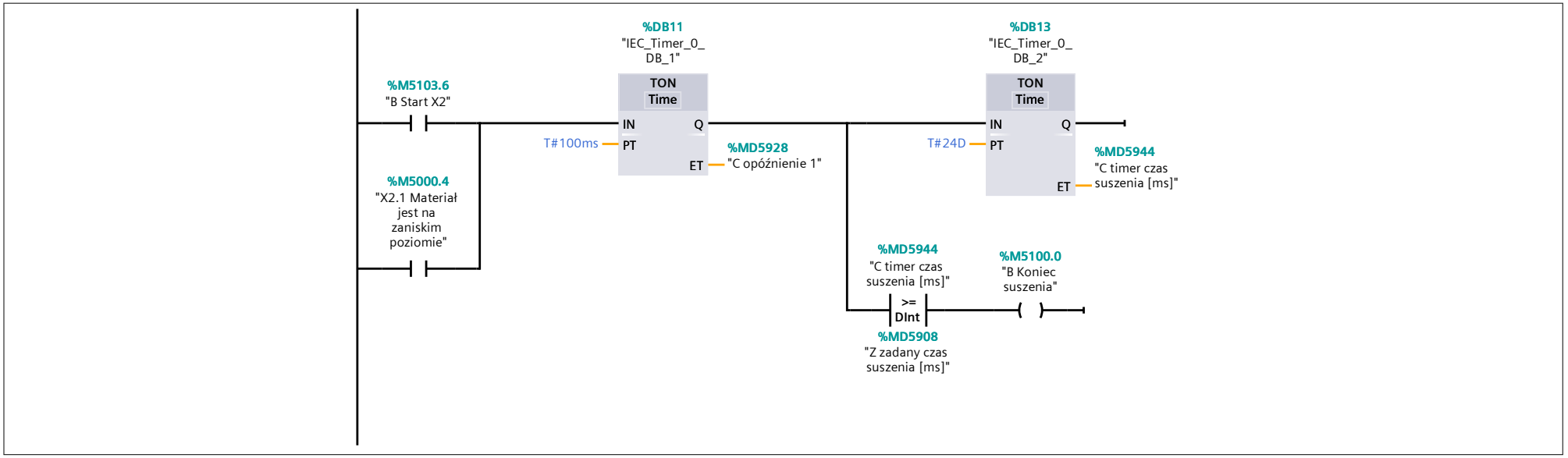
Program blocks

Cyclic interrupt Czas suszenia [OB33]

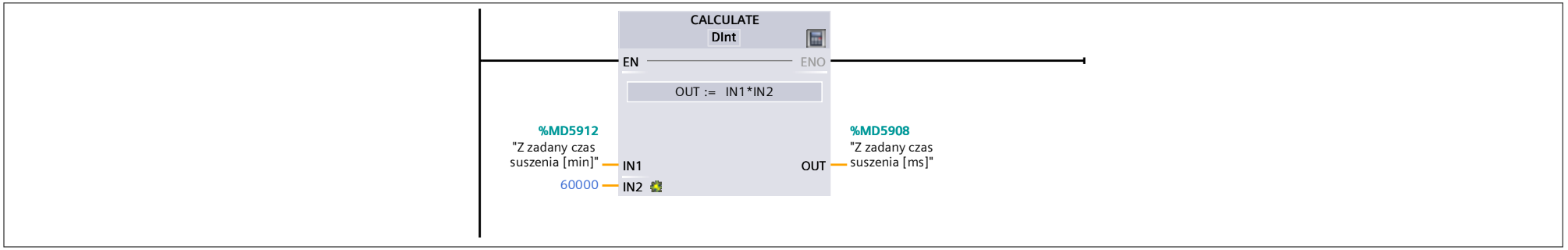
Cyclic interrupt Czas suszenia Properties							
General							
Name	Cyclic interrupt Czas susze-nia	**Number**	33	**Type**	OB	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
▼ Input		
Initial_Call	Bool	
Event_Count	Int	
Temp		
Constant		

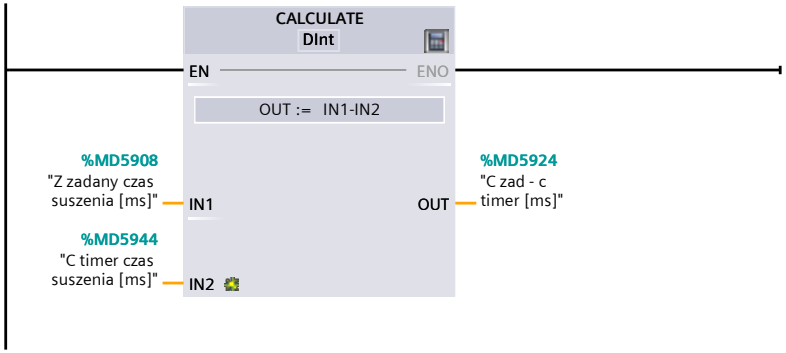
Network 1: Odliczanie do końca suszenia



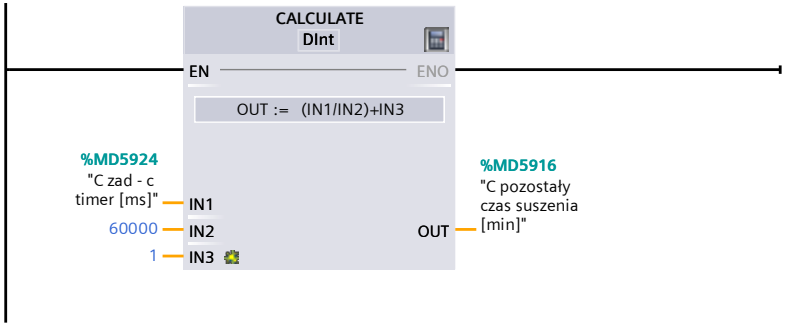
Network 2: Przeliczenie zadanego czasu suszenia na ms



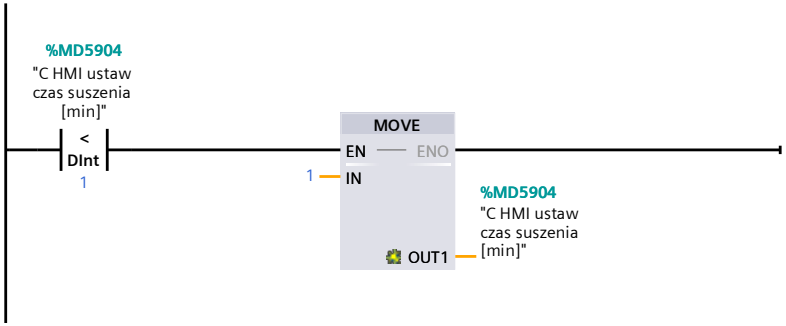
Network 3: Obliczenie pozostałego czasu suszenia [ms]



Network 4: Pozostały czas suszenia [min]



Network 5: Ograniczenia czasu suszenia


%MD5904
"C HMI ustaw
czas suszenia
[min]"
<
DInt
1
MOVE
EN
ENO
1
IN
%MD5904
"C HMI ustaw
czas suszenia
[min]"
OUT1

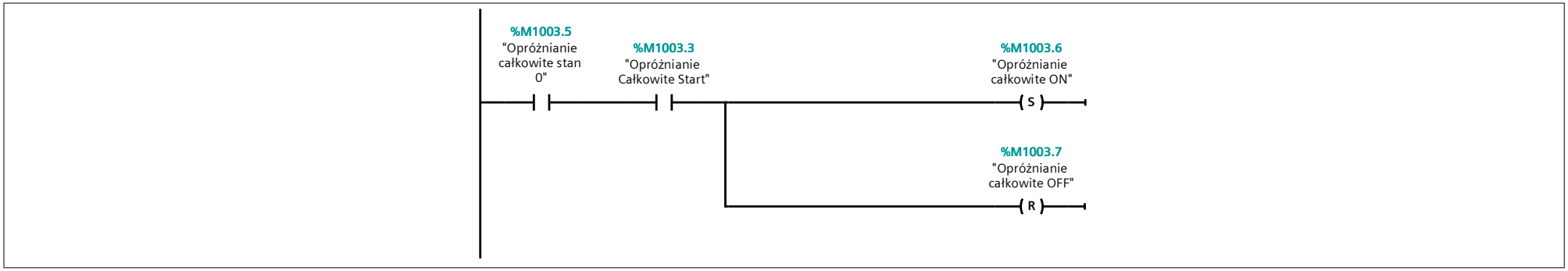
Program blocks

Opróżnianie Całego stanowiska [FC23]

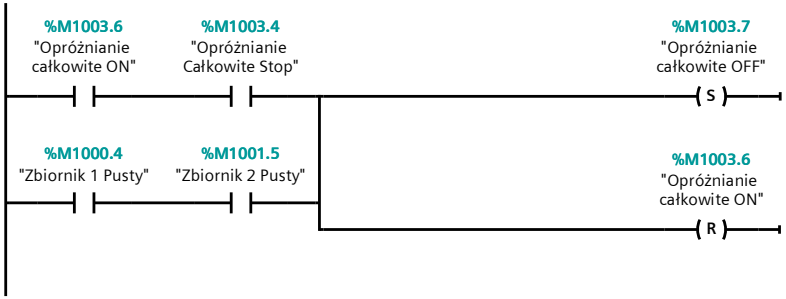
Opróżnianie Całego stanowiska Properties							
General							
Name	Opróżnianie Całego stano-wiska	**Number**	23	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Opróżnianie Całego stanowiska	Void	

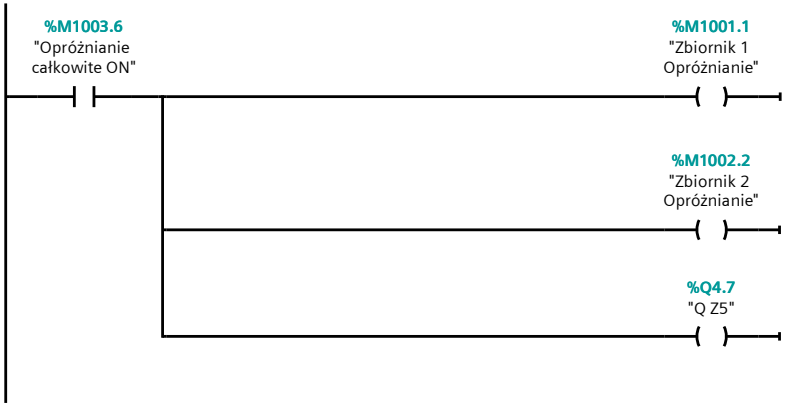
Network 1:



Network 2:



Network 3:



Network 4: Logika stanu 0


%M1002.0
"Zbiornik 2
stan 0"
%M1000.7
"Zbiornik 1
stan 0"
%M1003.5
"Opróżnianie
całkowite stan
0"
S

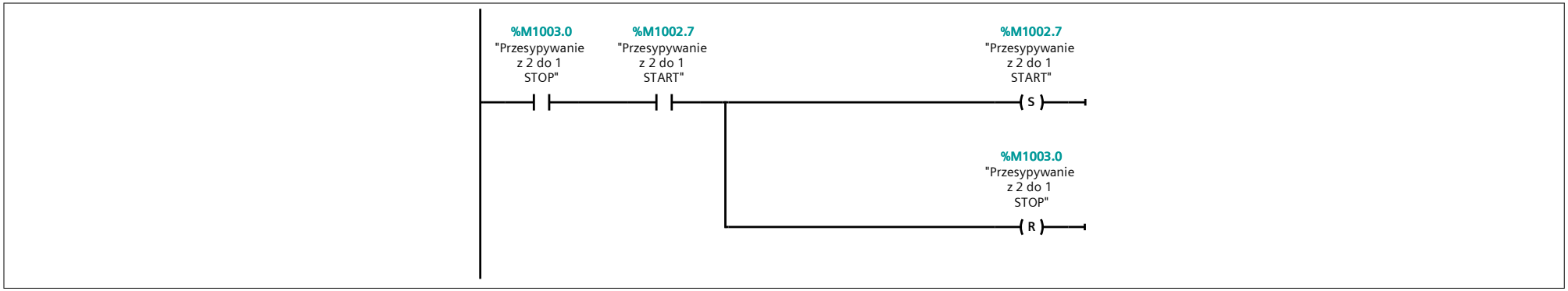
Program blocks

Przesypywanie z 2 do 1 zbiornika [FC21]

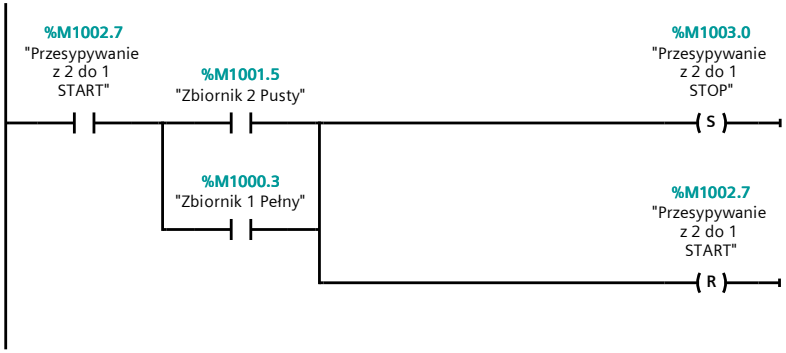
Przesypywanie z 2 do 1 zbiornika Properties							
General							
Name	Przesypywanie z 2 do 1 zbiornika	**Number**	21	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Przesypywanie z 2 do 1 zbiornika	Void	

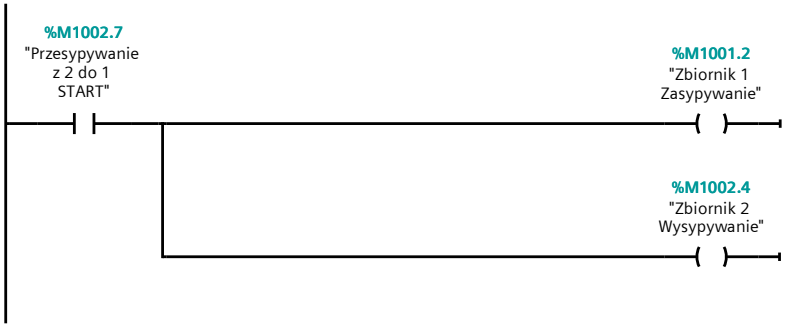
Network 1:



Network 2:



Network 3: Przycisk startujący proces opróżniania



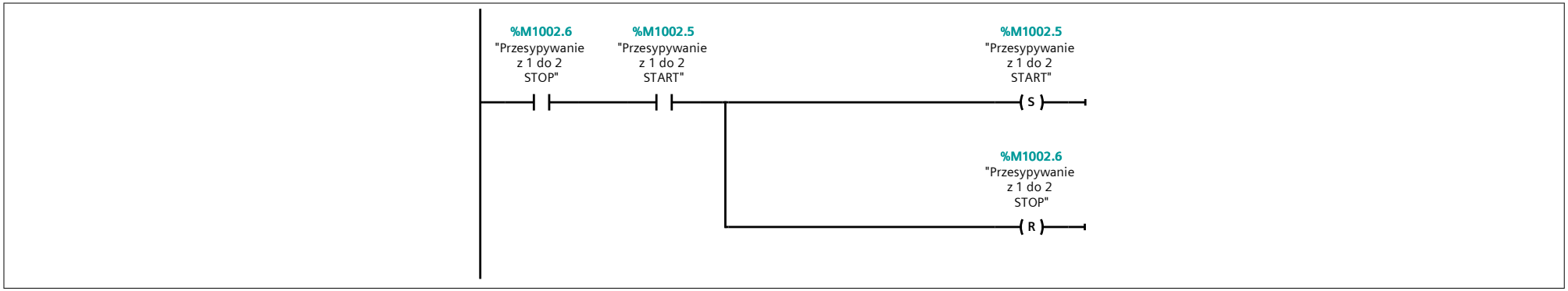
Program blocks

Przesypywanie z 1 do 2 zbiornika [FC20]

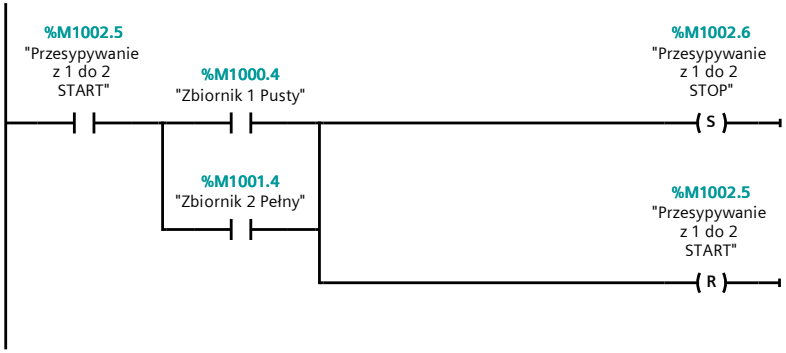
Przesypywanie z 1 do 2 zbiornika Properties							
General							
Name	Przesypywanie z 1 do 2 zbiornika	**Number**	20	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Przesypywanie z 1 do 2 zbiornika	Void	

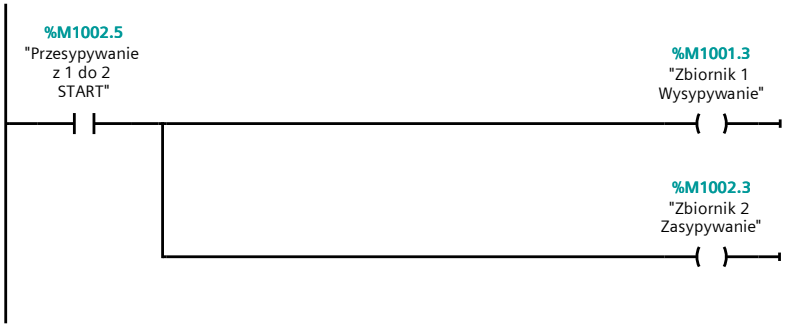
Network 1: Start Przesypywania



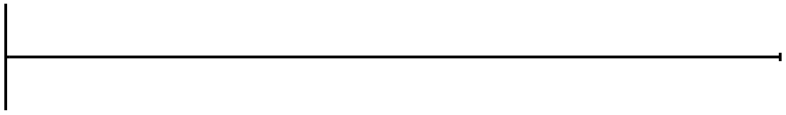
Network 2: Stop przesypywania



Network 3: Przycisk startujący proces opróżniania



Network 4:



Program blocks

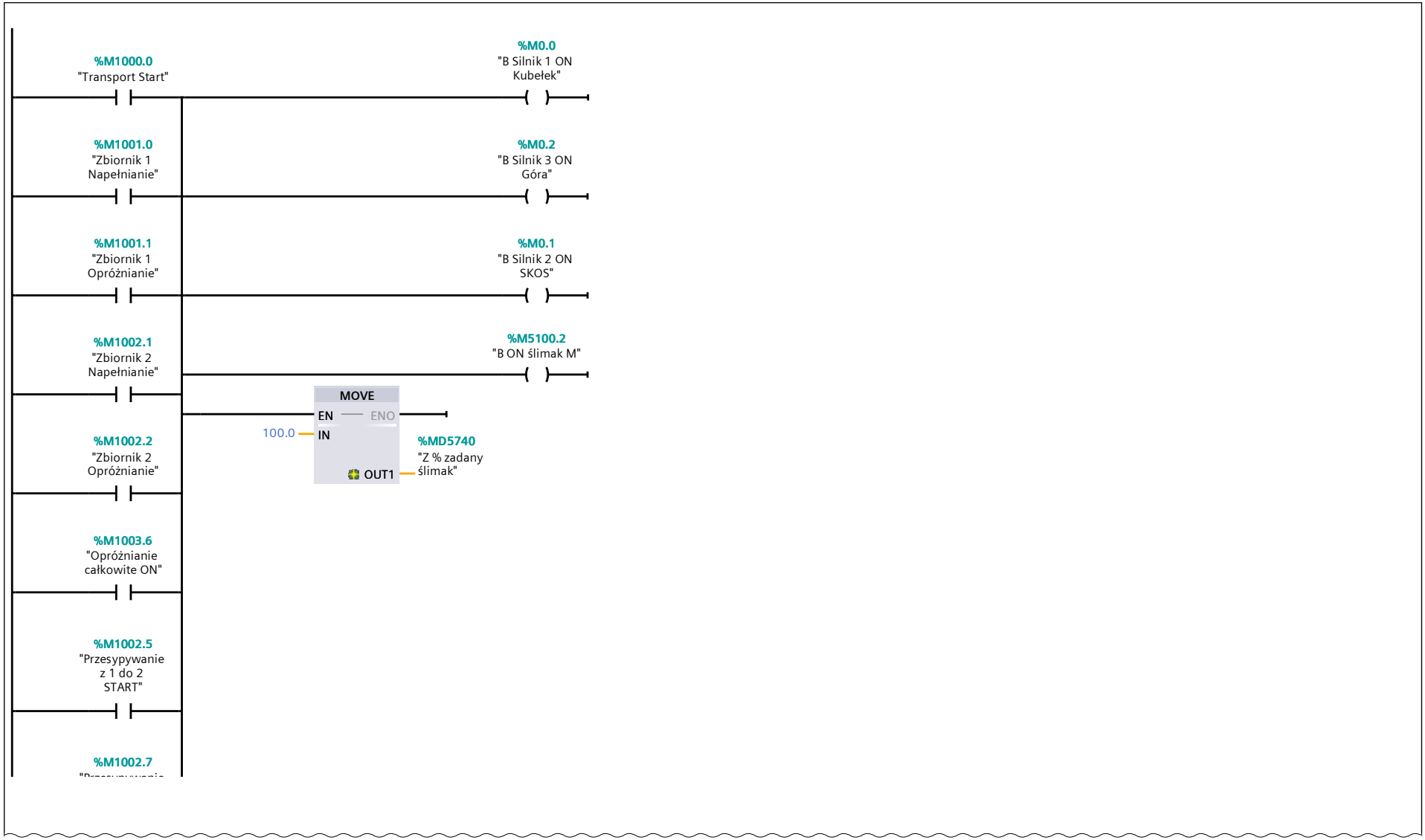
Transport [FC16]

Transport Properties							
General							
Name	Transport	**Number**	16	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Transport	Void	

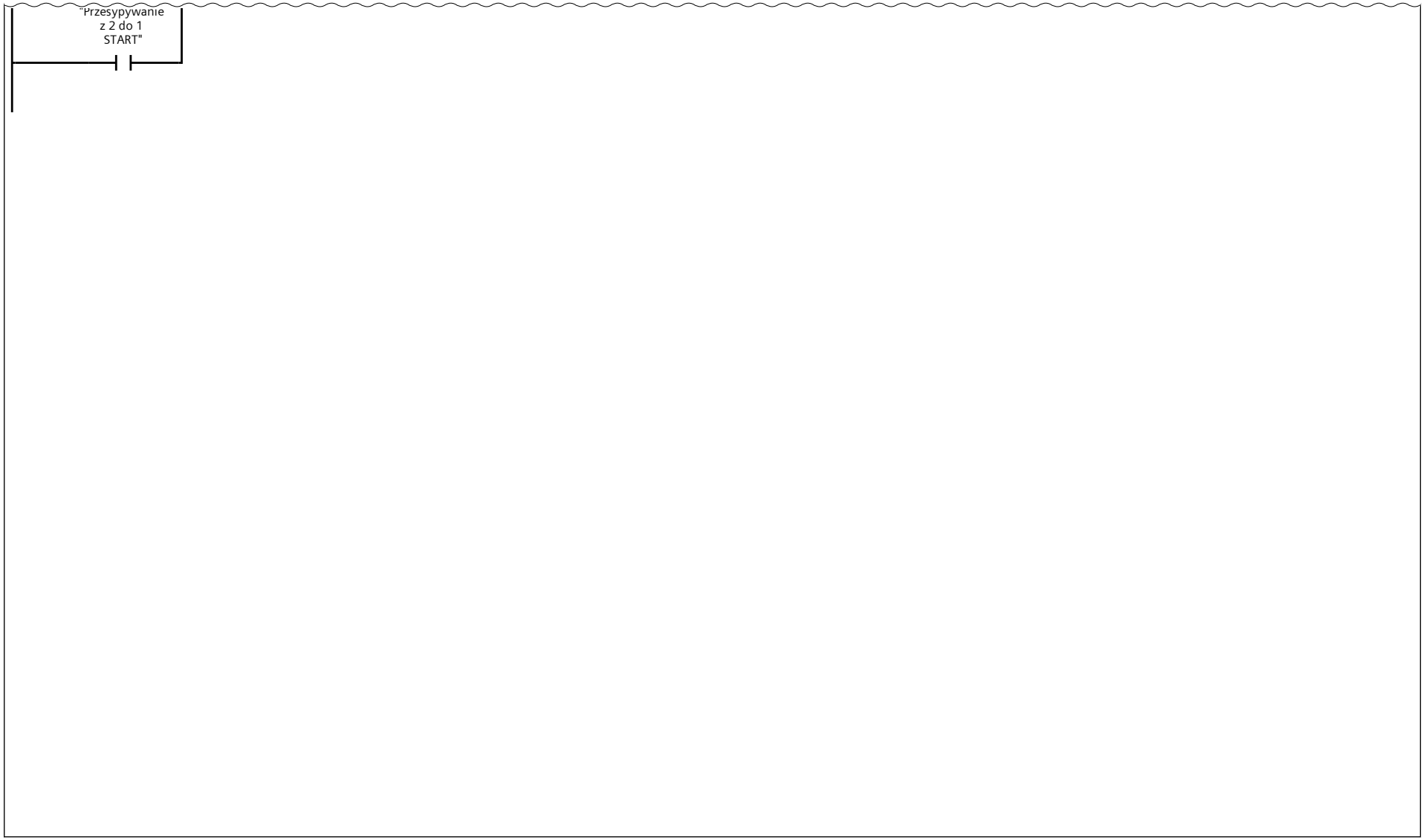
Network 1:

Network 1: (1.1 / 2.1)



Network 1: (2.1 / 2.1)

1.1 (Page29 - 2)



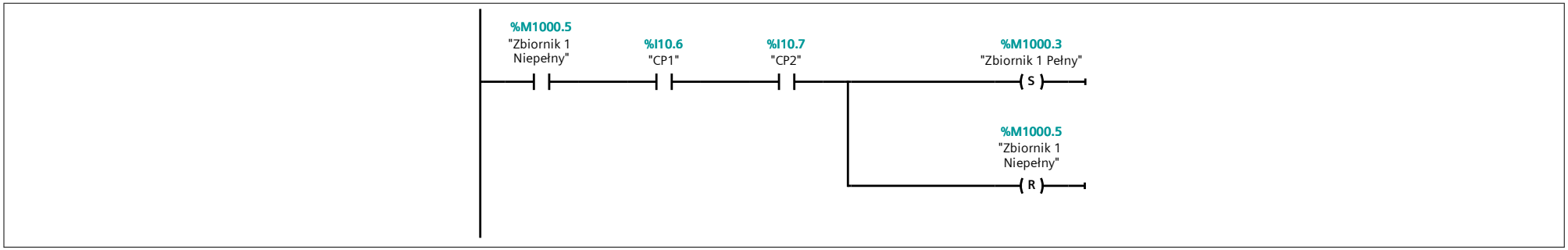
Program blocks

Zbiornik1 - Stany [FC17]

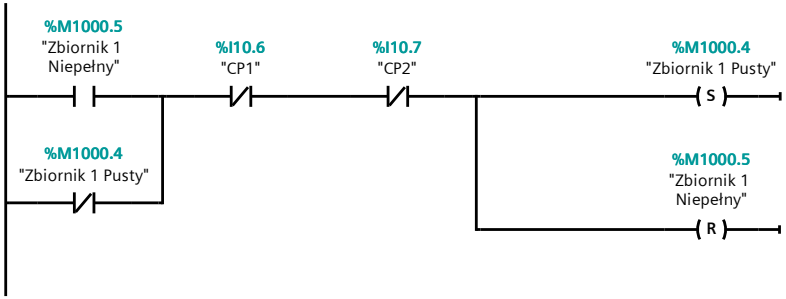
Zbiornik1 - Stany Properties							
General							
Name	Zbiornik1 - Stany	**Number**	17	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Zbiornik1 - Stany	Void	

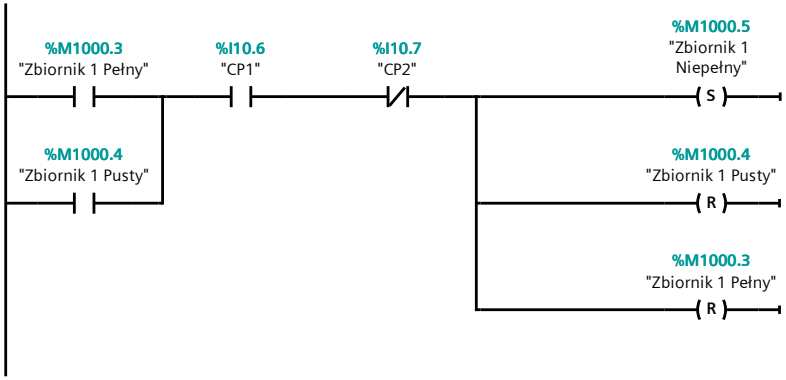
Network 1: Stan Pełny



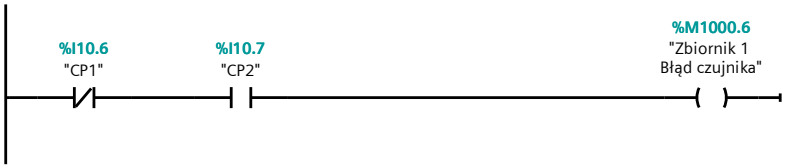
Network 2: Stan Pusty



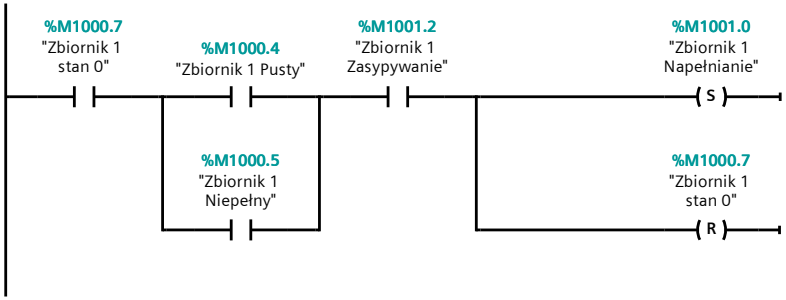
Network 3: Stan Niepełny



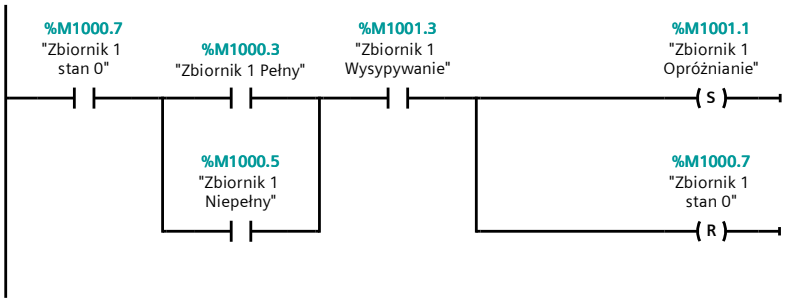
Network 4: Błąd czujnika



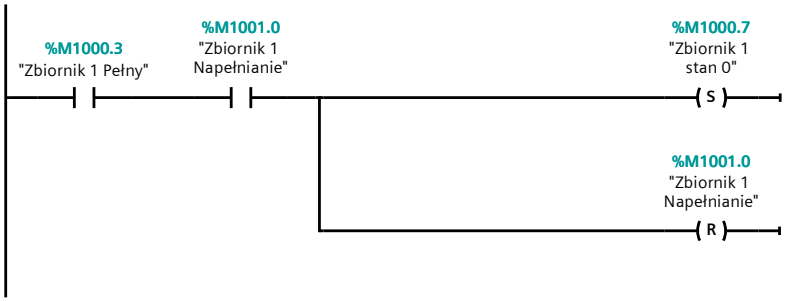
Network 5: Napełnianie Zbiornika 1



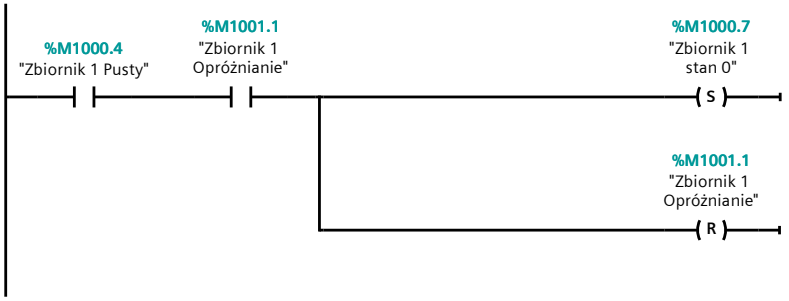
Network 6: Opróżnianie Zbiornika 1



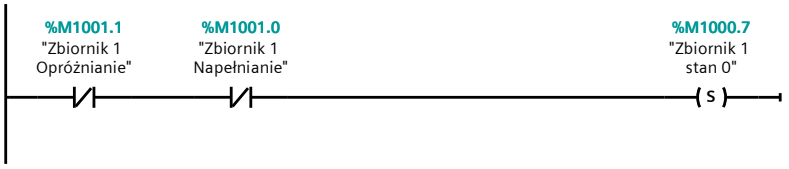
Network 7: Przerwanie Zasypywania



Network 8: Przerwanie Opróżniania



Network 9: Logika stanu 0



Program blocks

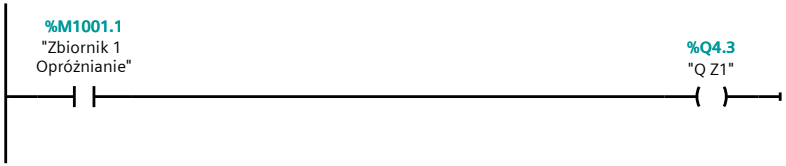
Zbiornik 1 - Wyjścia [FC19]

Zbiornik 1 - Wyjścia Properties							
General							
Name	Zbiornik 1 - Wyjścia	**Number**	19	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Zbiornik 1 - Wyjścia	Void	

Network 1:

Network 2:


%M1001.1
"Zbiornik 1
Opróżnianie"
%Q4.3
"Q Z1"

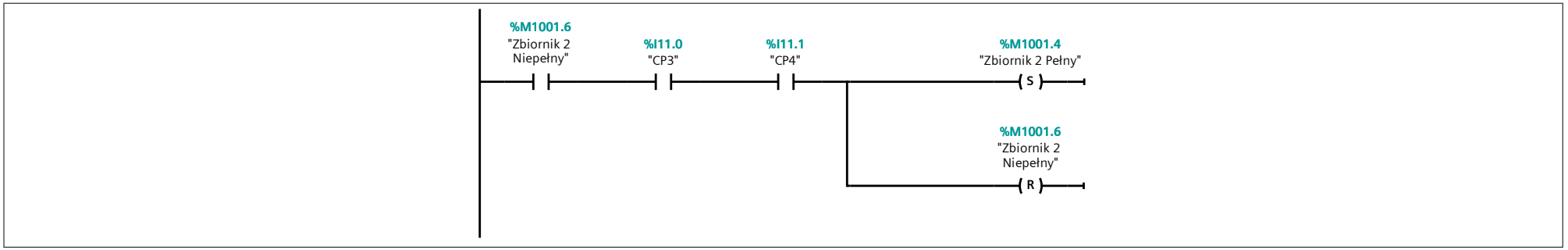
Program blocks

Zbiornik 2 - Stany [FC18]

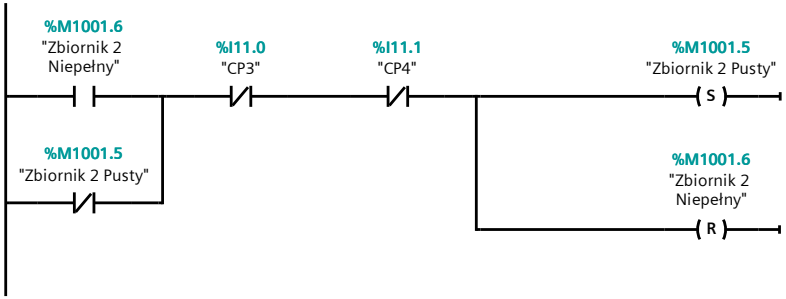
Zbiornik 2 - Stany Properties							
General							
Name	Zbiornik 2 - Stany	**Number**	18	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Zbiornik 2 - Stany	Void	

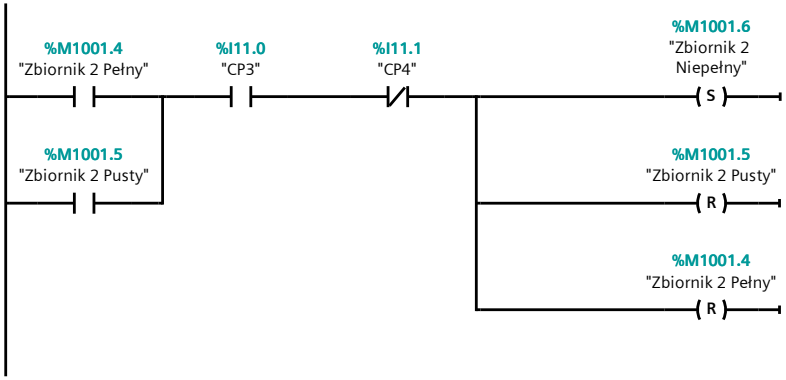
Network 1: Stan Pełny



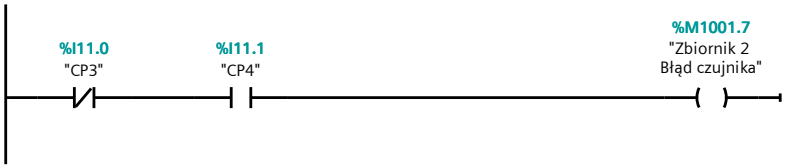
Network 2: Stan Pusty



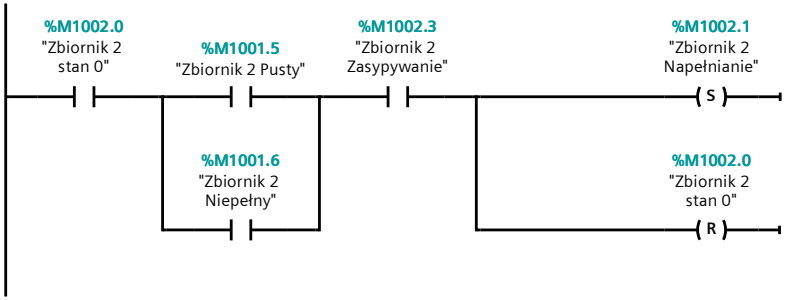
Network 3: Stan Niepełny



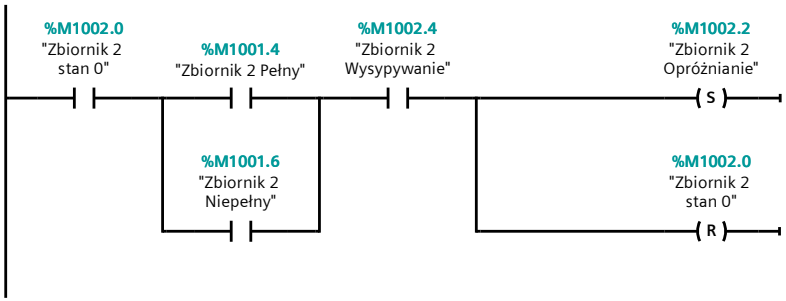
Network 4: Błąd czujnika



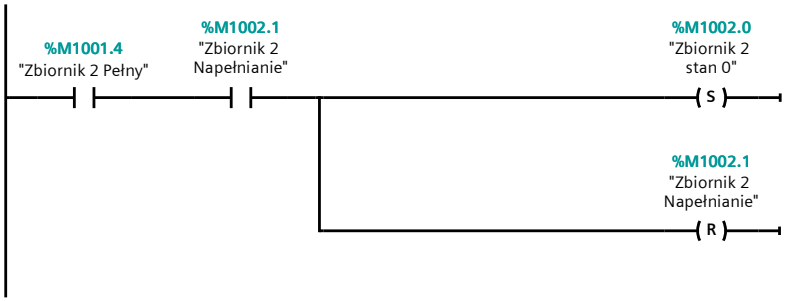
Network 5: Napełnianie Zbiornika 1



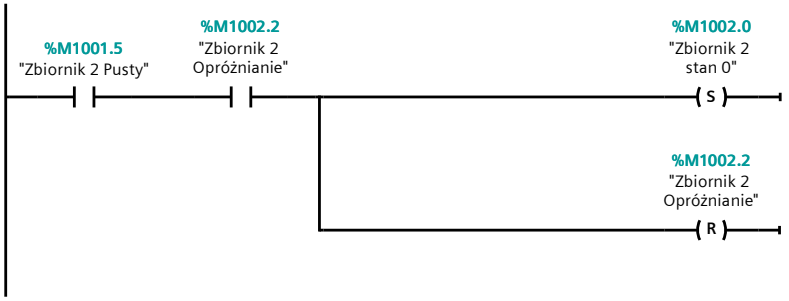
Network 6: Opróżnianie Zbiornika 1



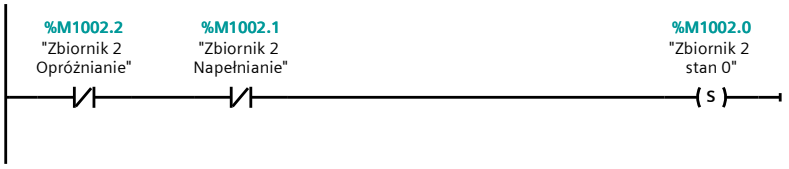
Network 7: Przerwanie Zasypywania



Network 8: Przerwanie Opróżniania



Network 9: Logika stanu 0



Program blocks

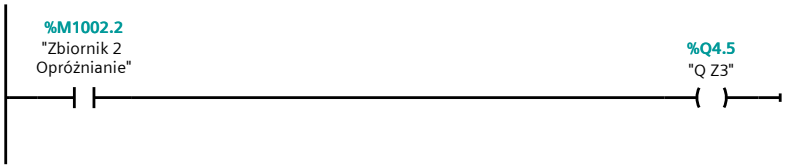
Zbiornik 2 - Wyjścia [FC22]

Zbiornik 2 - Wyjścia Properties							
General							
Name	Zbiornik 2 - Wyjścia	**Number**	22	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Zbiornik 2 - Wyjścia	Void	

Network 1:

Network 2:


%M1002.2
"Zbiornik 2
Opróżnianie"
%Q4.5
"Q Z3"

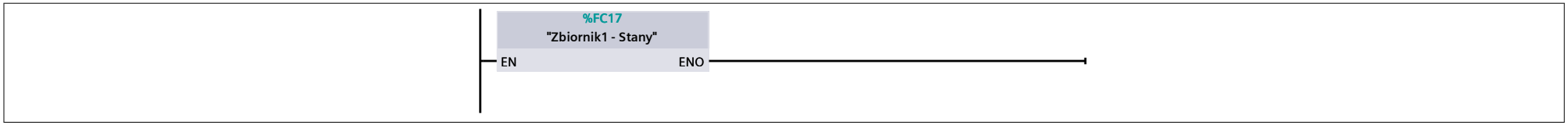
Program blocks

Stany magazynowania [FC25]

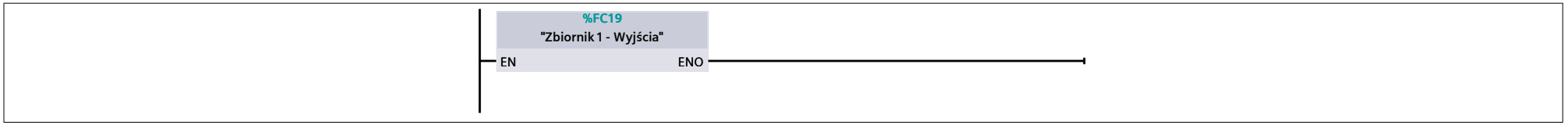
Stany magazynowania Properties							
General							
Name	Stany magazynowania	**Number**	25	**Type**	FC	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
Output		
InOut		
Temp		
Constant		
▼ Return		
Stany magazynowania	Void	

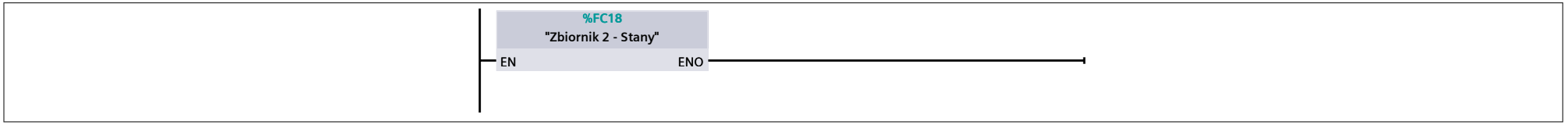
Network 1:



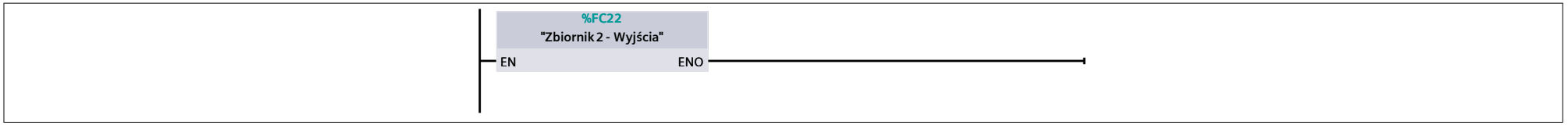
Network 2:



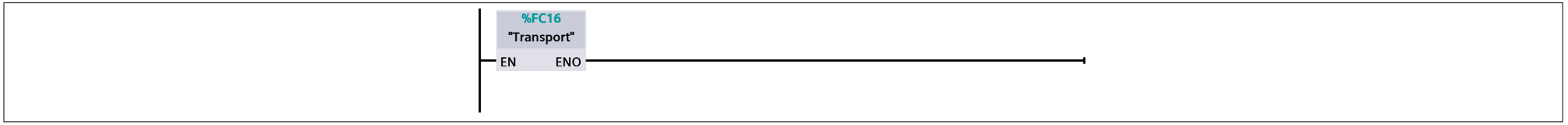
Network 3:



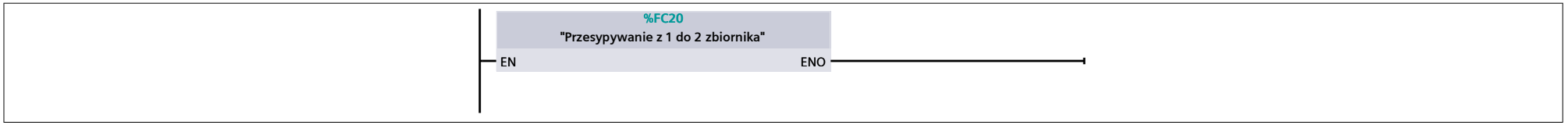
Network 4:



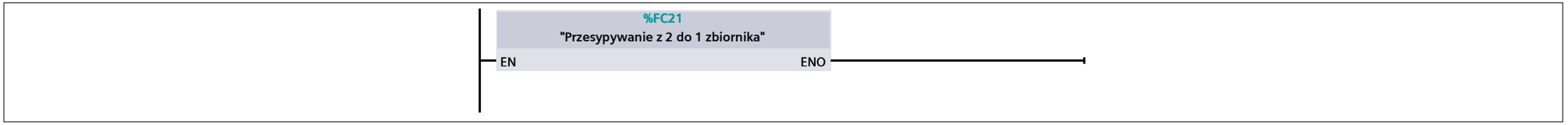
Network 5:



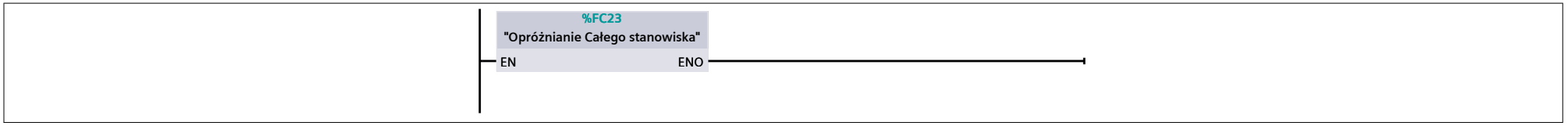
Network 6:



Network 7:



Network 8:



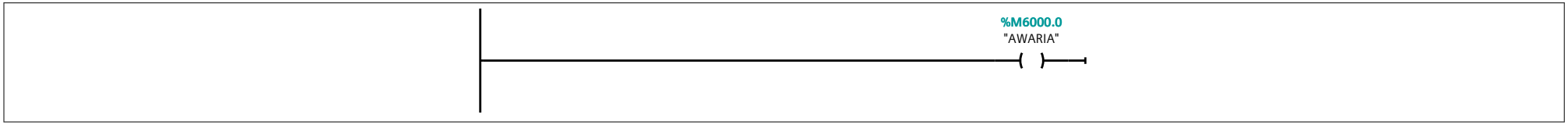
Program blocks

Hardware interrupt [OB40]

Hardware interrupt Properties							
General							
Name	Hardware interrupt	**Number**	40	**Type**	OB	**Language**	LAD
Numbering	Automatic						
Information							
Title		**Author**		**Comment**		**Family**	
Version	0.1	**User-defined ID**					

Name	Data type	Default value
Input		
LADDR	HW_IO	
USI	Word	
IChannel	USInt	
EventType	Byte	
PointAddr	DWord	
Temp		
Constant		

Network 1:



Program blocks / System blocks / Program resources

PID_Temp [FB1132]

PID_Temp Properties							
General							
Name	PID_Temp	**Number**	1132	**Type**	FB	**Language**	SCL
Numbering	Automatic						
Information							
Title	Compact Temperature Controller with Self-Tuning	**Author**	SIMATIC	**Comment**		**Family**	COMPPID
Version	1.1	**User-defined ID**	PID_Temp				

Name	Data type	Default value	Retain
▼ Input			
Setpoint	Real	0.0	Non-retain
Input	Real	0.0	Non-retain
Input_PER	Int	0	Non-retain
Disturbance	Real	0.0	Non-retain
ManualEnable	Bool	false	Non-retain
ManualValue	Real	0.0	Non-retain
ErrorAck	Bool	false	Non-retain
Reset	Bool	false	Non-retain
ModeActivate	Bool	false	Non-retain
▼ Output			
ScaledInput	Real	0.0	Non-retain
OutputHeat	Real	0.0	Non-retain
OutputCool	Real	0.0	Non-retain
OutputHeat_PER	Int	0	Non-retain
OutputCool_PER	Int	0	Non-retain
OutputHeat_PWM	Bool	false	Non-retain
OutputCool_PWM	Bool	false	Non-retain
SetpointLimit_H	Bool	false	Non-retain
SetpointLimit_L	Bool	false	Non-retain
InputWarning_H	Bool	false	Non-retain

Name	Data type	Default value	Retain
InputWarning_L	Bool	false	Non-retain
State	Int	0	Non-retain
Error	Bool	false	Non-retain
ErrorBits	DWord	16#0	Retain
▼ InOut			
Mode	Int	4	Retain
Master	DWord	16#0	Non-retain
Slave	DWord	16#0	Non-retain
▼ Static			
InternalDiagnostic	DWord	0	Non-retain
InternalVersion	DWord	DW#16#02010003	Non-retain
InternalRTVersion	DWord	0	Non-retain
IntegralResetMode	Int	4	Non-retain
OverwriteInitialOutputValue	Real	0.0	Non-retain
RunModeByStartup	Bool	true	Non-retain
LoadBackUp	Bool	false	Non-retain
SetSubstituteOutput	Bool	true	Non-retain
PhysicalUnit	Int	0	Non-retain
PhysicalQuantity	Int	1	Non-retain
ActivateRecoverMode	Bool	true	Non-retain
Warning	DWord	16#0	Retain
WarningInternal	DWord	16#0	Retain
Progress	Real	0.0	Non-retain
CurrentSetpoint	Real	0.0	Non-retain
CancelTuningLevel	Real	10.0	Non-retain
SubstituteOutput	Real	0.0	Non-retain
PidOutputSum	Real	0.0	Non-retain
PidOutputOffsetHeat	Real	0.0	Non-retain
PidOutputOffsetCool	Real	0.0	Non-retain
SubstituteSetpointOn	Bool	false	Non-retain
SubstituteSetpoint	Real	0.0	Non-retain
DisableCooling	Bool	false	Non-retain
AllSlaveAutomaticState	Bool	true	Non-retain

Name	Data type	Default value	Retain
NoSlaveSubstituteSetpoint	Bool	true	Non-retain
Heat	PID_TempBasicOutputData		Non-retain
Cool	PID_TempBasicOutputData		Non-retain
Config	PID_TempConfig		Non-retain
CycleTime	PID_CycleTime		Non-retain
CtrlParamsBackUp	PID_TempControlParam-sHeatCool		Non-retain
PIDSelfTune	PID_TempSelfTune		Non-retain
PIDCtrl	PID_TempControl		Non-retain
Retain	PID_TempRetain		Retain

Program blocks / System blocks / Program resources

IEC_Timer_0_DB_1 [DB11]

IEC_Timer_0_DB_1 Properties							
General							
Name	IEC_Timer_0_DB_1	**Number**	11	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	IEC_TMR				

Name	Data type	Start value	Retain
▼ Static			
PT	Time	T#0ms	False
ET	Time	T#0ms	False
IN	Bool	false	False
Q	Bool	false	False

Program blocks / System blocks / Program resources

IEC_Timer_0_DB_2 [DB13]

IEC_Timer_0_DB_2 Properties							
General							
Name	IEC_Timer_0_DB_2	**Number**	13	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	IEC_TMR				

Name	Data type	Start value	Retain
▼ Static			
PT	Time	T#0ms	False
ET	Time	T#0ms	False
IN	Bool	false	False
Q	Bool	false	False

Program blocks / System blocks / Program resources

IEC_Counter_0_DB_2 [DB12]

IEC_Counter_0_DB_2 Properties							
General							
Name	IEC_Counter_0_DB_2	**Number**	12	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	CNTR				

Name	Data type	Start value	Retain
▼ Static			
CU	Bool	false	True
CD	Bool	false	True
R	Bool	false	True
LD	Bool	false	True
QU	Bool	false	True
QD	Bool	false	True
PV	Int	0	True
CV	Int	0	True

Program blocks / System blocks / Program resources

IEC_Counter_0_DB_3 [DB14]

IEC_Counter_0_DB_3 Properties							
General							
Name	IEC_Counter_0_DB_3	**Number**	14	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	CNTR				

Name	Data type	Start value	Retain
▼ Static			
CU	Bool	false	True
CD	Bool	false	True
R	Bool	false	True
LD	Bool	false	True
QU	Bool	false	True
QD	Bool	false	True
PV	Int	0	True
CV	Int	0	True

Program blocks / System blocks / Program resources

IEC_Counter_0_DB_4 [DB10]

IEC_Counter_0_DB_4 Properties							
General							
Name	IEC_Counter_0_DB_4	**Number**	10	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	CNTR				

Name	Data type	Start value	Retain
▼ Static			
CU	Bool	false	True
CD	Bool	false	True
R	Bool	false	True
LD	Bool	false	True
QU	Bool	false	True
QD	Bool	false	True
PV	Int	0	True
CV	Int	0	True

Program blocks / System blocks / Program resources

IEC_Counter_0_DB_5 [DB15]

IEC_Counter_0_DB_5 Properties							
General							
Name	IEC_Counter_0_DB_5	**Number**	15	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	CNTR				

Name	Data type	Start value	Retain
▼ Static			
CU	Bool	false	True
CD	Bool	false	True
R	Bool	false	True
LD	Bool	false	True
QU	Bool	false	True
QD	Bool	false	True
PV	Int	0	True
CV	Int	0	True

Program blocks / System blocks / Program resources

IEC_Timer_0_DB [DB4]

IEC_Timer_0_DB Properties							
General							
Name	IEC_Timer_0_DB	**Number**	4	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	IEC_TMR				

Name	Data type	Start value	Retain
▼ Static			
PT	Time	T#0ms	False
ET	Time	T#0ms	False
IN	Bool	false	False
Q	Bool	false	False

Program blocks / System blocks / Program resources

IEC_Timer_0_DB_3 [DB5]

IEC_Timer_0_DB_3 Properties							
General							
Name	IEC_Timer_0_DB_3	**Number**	5	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	IEC_TMR				

Name	Data type	Start value	Retain
▼ Static			
PT	Time	T#0ms	False
ET	Time	T#0ms	False
IN	Bool	false	False
Q	Bool	false	False

Program blocks / System blocks / Program resources

IEC_Timer_0_DB_4 [DB7]

IEC_Timer_0_DB_4 Properties							
General							
Name	IEC_Timer_0_DB_4	**Number**	7	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	IEC_TMR				

Name	Data type	Start value	Retain
▼ Static			
PT	Time	T#0ms	False
ET	Time	T#0ms	False
IN	Bool	false	False
Q	Bool	false	False

Program blocks / System blocks / Program resources

IEC_Timer_0_DB_5 [DB8]

IEC_Timer_0_DB_5 Properties							
General							
Name	IEC_Timer_0_DB_5	**Number**	8	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	IEC_TMR				

Name	Data type	Start value	Retain
▼ Static			
PT	Time	T#0ms	False
ET	Time	T#0ms	False
IN	Bool	false	False
Q	Bool	false	False

Program blocks / System blocks / Program resources

IEC_Timer_0_DB_6 [DB9]

IEC_Timer_0_DB_6 Properties							
General							
Name	IEC_Timer_0_DB_6	**Number**	9	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	IEC_TMR				

Name	Data type	Start value	Retain
▼ Static			
PT	Time	T#0ms	False
ET	Time	T#0ms	False
IN	Bool	false	False
Q	Bool	false	False

Program blocks / System blocks / Program resources

IEC_Timer_0_DB_7 [DB16]

IEC_Timer_0_DB_7 Properties							
General							
Name	IEC_Timer_0_DB_7	**Number**	16	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	IEC_TMR				

Name	Data type	Start value	Retain
▼ Static			
PT	Time	T#0ms	False
ET	Time	T#0ms	False
IN	Bool	false	False
Q	Bool	false	False

Program blocks / System blocks / Program resources

IEC_Timer_0_DB_8 [DB17]

IEC_Timer_0_DB_8 Properties							
General							
Name	IEC_Timer_0_DB_8	**Number**	17	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	IEC_TMR				

Name	Data type	Start value	Retain
▼ Static			
PT	Time	T#0ms	False
ET	Time	T#0ms	False
IN	Bool	false	False
Q	Bool	false	False

Program blocks / System blocks / Program resources

IEC_Timer_0_DB_10 [DB19]

IEC_Timer_0_DB_10 Properties							
General							
Name	IEC_Timer_0_DB_10	**Number**	19	**Type**	DB	**Language**	DB
Numbering	Automatic						
Information							
Title		**Author**	Simatic	**Comment**		**Family**	IEC
Version	1.0	**User-defined ID**	IEC_TMR				

Name	Data type	Start value	Retain
▼ Static			
PT	Time	T#0ms	False
ET	Time	T#0ms	False
IN	Bool	false	False
Q	Bool	false	False