

Totally Integrated Automation Portal

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	Comment
▼ Input			
Initial_Call	Bool		Initial call of this OB
Remanence	Bool		=True, if remanent data are available
Temp			
Constant			

Network 1: LED que avisa sobre a pressão no tanque separador

%FC18
"Logica conjunta"

EN

ENO

Program blocks

Aciona valvulas - MS1 [FC1]

Aciona valvulas - MS1 Properties

General

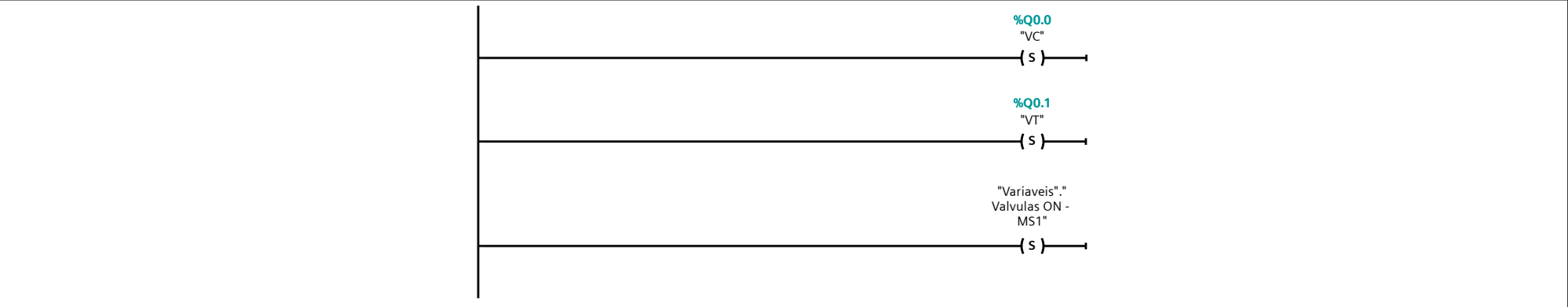
Name	Aciona valvulas - MS1	Number	1	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Aciona valvulas - MS1	Void		

Network 1: Válvula on/off da entrada do sistema de compressores



Totally Integrated Automation Portal

Program blocks

Variaveis [DB1]

Variaveis Properties

General

Name

Variaveis

Number

1

Type

DB

Language

DB

Numbering

Automatic

Information

Title

Author

Comment

Family

Version

0.1

User-defined ID

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
Valvulas ON - MS1	Bool	false	False	True	True	True	False		
n	Int	0	False	True	True	True	False		
MS1	Bool	false	False	True	True	True	False		
Estado anterior - MS1	Bool	false	False	True	True	True	False		
Pisca LED1	Bool	false	False	True	True	True	False		
Inadmissivel	Bool	false	False	True	True	True	False		
Emergencia	Bool	false	False	True	True	True	False		
Reset delay 1	Bool	false	False	True	True	True	False		
Decisao automatica	Bool	true	False	True	True	True	False		
VC ON	Bool	false	False	True	True	True	False		
Reset delay VC 1	Bool	false	False	True	True	True	False		
Aciona compressores	Bool	false	False	True	True	True	False		
Reset delay VC 2	Bool	false	False	True	True	True	False		
Desliga compressores	Bool	false	False	True	True	True	False		
MS2	Bool	false	False	True	True	True	False		
Estado anterior - MS2	Bool	false	False	True	True	True	False		
Aciona VD2	Bool	false	False	True	True	True	False		
Transiciona etapa	Bool	false	False	True	True	True	False		
VD2 ON	Bool	false	False	True	True	True	False		
Desliga VD2	Bool	false	False	True	True	True	False		
Tempo estourado	Bool	false	False	True	True	True	False		
EB iniciada	Bool	false	False	True	True	True	False		
Verifica T igual TA	Bool	false	False	True	True	True	False		
Verifica PN e PSF6	Bool	false	False	True	True	True	False		
Estado anterior VD2	Bool	false	False	True	True	True	False		
EB	Bool	false	False	True	True	True	False		
EC	Bool	false	False	True	True	True	False		
EC iniciada	Bool	false	False	True	True	True	False		
Verifica PN e PNlim	Bool	false	False	True	True	True	False		
Aciona VC e compressores	Bool	false	False	True	True	True	False		
Desliga VC e compressores	Bool	false	False	True	True	True	False		
Estado anterior VC e comp	Bool	false	False	True	True	True	False		
VC e compressores ON	Bool	false	False	True	True	True	False		
Pisca LED3	Bool	false	False	True	True	True	False		
Decide etapa	Bool	false	False	True	True	True	False		
Etapa pausada	Bool	false	False	True	True	True	False		
Estado anterior BP	Bool	false	False	True	True	True	False		
BP toggled	Bool	false	False	True	True	True	False		
VD1 ON	Bool	false	False	True	True	True	False		
Reset delay VD1 VD2 VC	Bool	false	False	True	True	True	False		
T inadmissivel	Bool	false	False	True	True	True	False		
Pisca LED3 aux	Bool	false	False	True	True	True	False		
Realiza EB	Bool	false	False	True	True	True	False		
Realiza EC	Bool	false	False	True	True	True	False		
LED1 - Piscar	Bool	false	False	True	True	True	False		
LED1 - Continuo	Bool	false	False	True	True	True	False		
LED1 - Desligar	Bool	false	False	True	True	True	False		
Nao desliga BD	Bool	false	False	True	True	True	False		
Nao desliga BE	Bool	false	False	True	True	True	False		
Nao desliga Inad P	Bool	false	False	True	True	True	False		
Nao desliga Inad PS	Bool	false	False	True	True	True	False		
Nao desliga Inad PN	Bool	false	False	True	True	True	False		
Estado anterior - Emergencia	Bool	false	False	True	True	True	False		
Estado anterior - Toggle Inad P	Bool	false	False	True	True	True	False		
Estado anterior - Toggle Inad PS	Bool	false	False	True	True	True	False		
Estado anterior - Toggle Inad PN	Bool	false	False	True	True	True	False		
Toggle Emergencia	Bool	false	False	True	True	True	False		
Toggle Inad P	Bool	false	False	True	True	True	False		

Program blocks

Desliga valvulas - MS1 [FC2]

Desliga valvulas - MS1 Properties							
General							
Name	Desliga valvulas - MS1	Number	2	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Desliga valvulas - MS1	Void		

Network 1: Válvula on/off da entrada do sistema de compressores



Program blocks

Verifica valvulas 1 [FC3]

Verifica valvulas 1 Properties

General

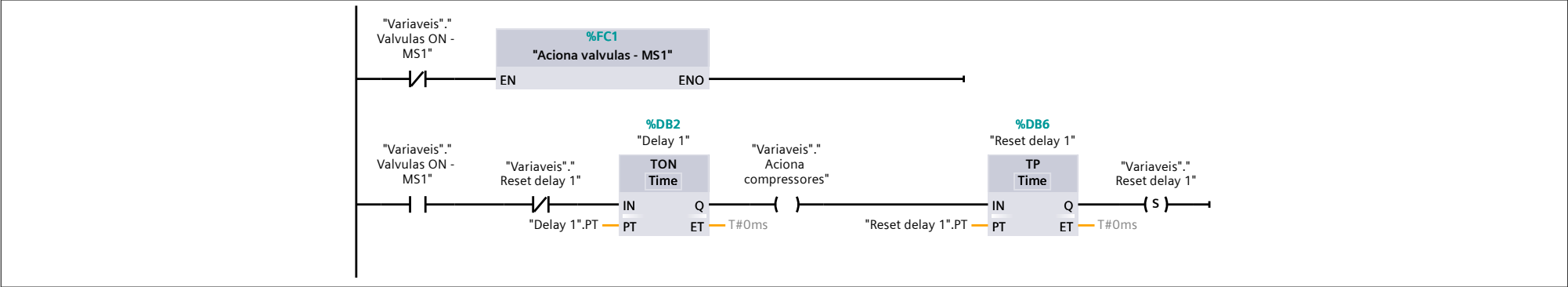
Name	Verifica valvulas 1	Number	3	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Verifica valvulas 1	Void		

Network 1:



Program blocks

Verifica valvulas 2 [FC4]

Verifica valvulas 2 Properties

General

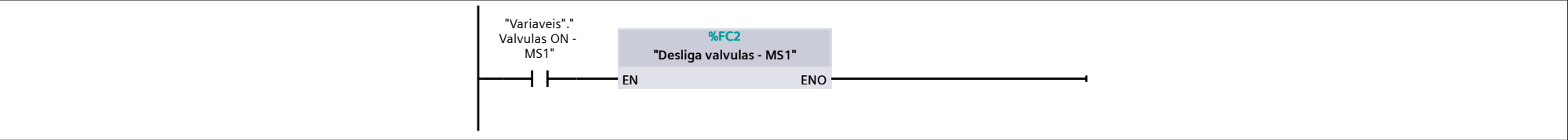
Name	Verifica valvulas 2	Number	4	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Verifica valvulas 2	Void		

Network 1:



Program blocks

Aciona compressores [FC5]

Aciona compressores Properties

General

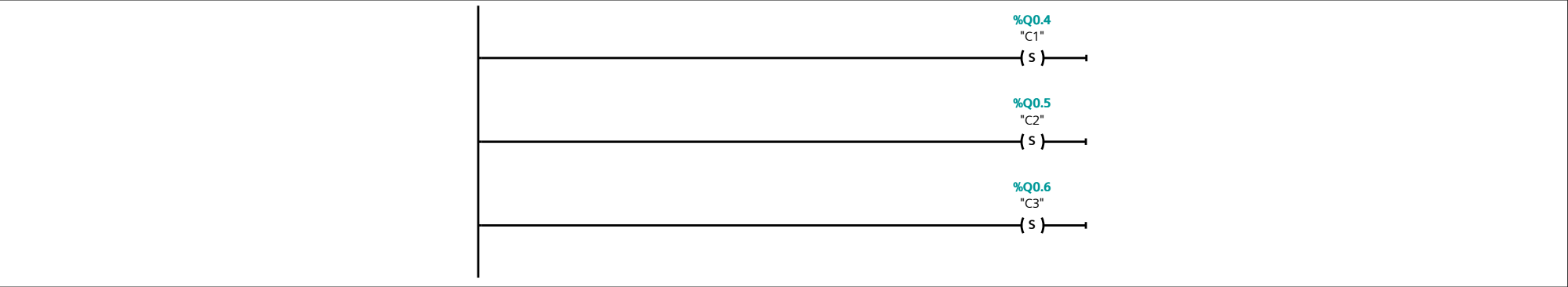
Name	Aciona compressores	Number	5	Type	FC	Language	LAD
Numbering	Automatic						

Information

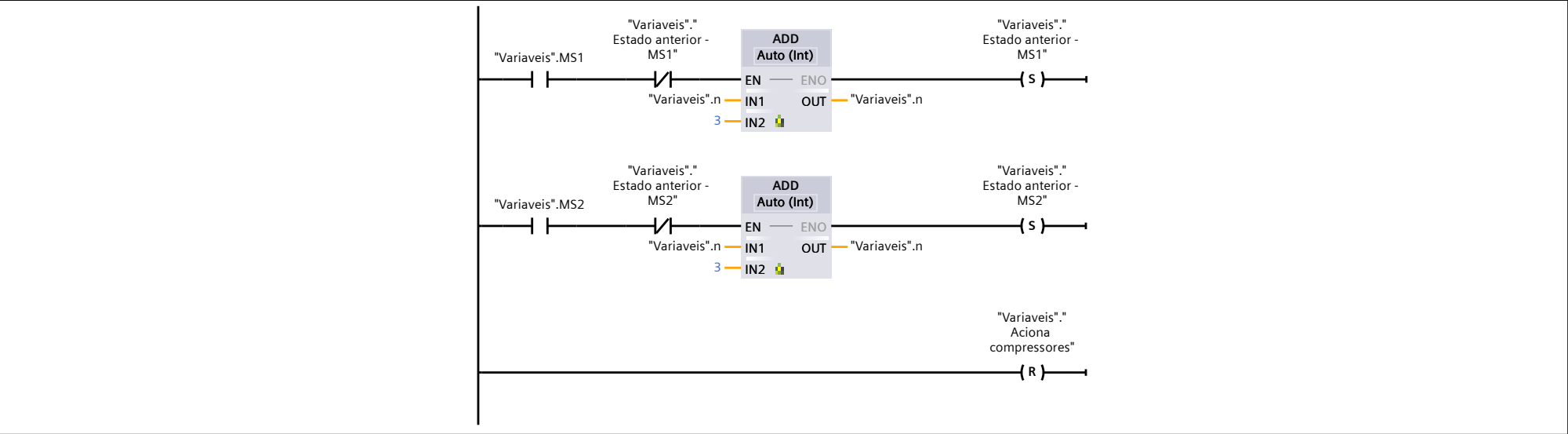
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Aciona compressores	Void		

Network 1: Compressor 1



Network 2:



Program blocks

Desliga compressores [FC6]

Desliga compressores Properties

General

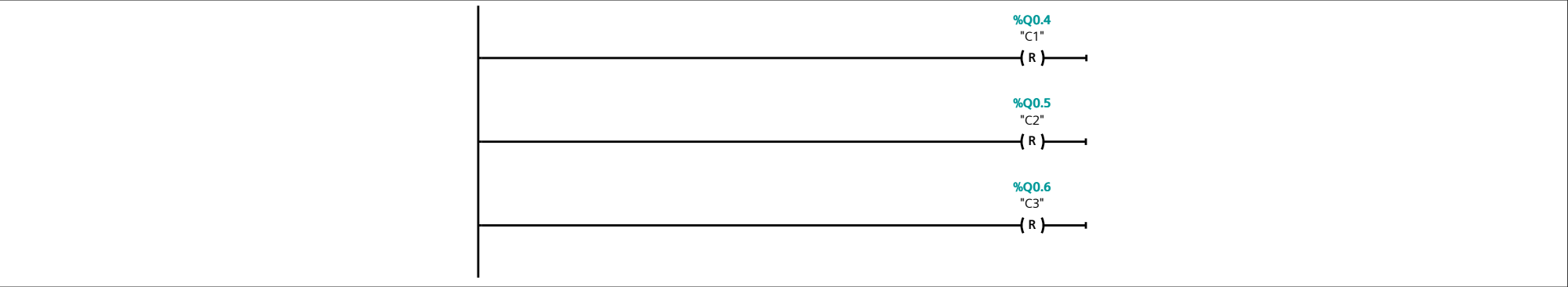
Name	Desliga compressores	Number	6	Type	FC	Language	LAD
Numbering	Automatic						

Information

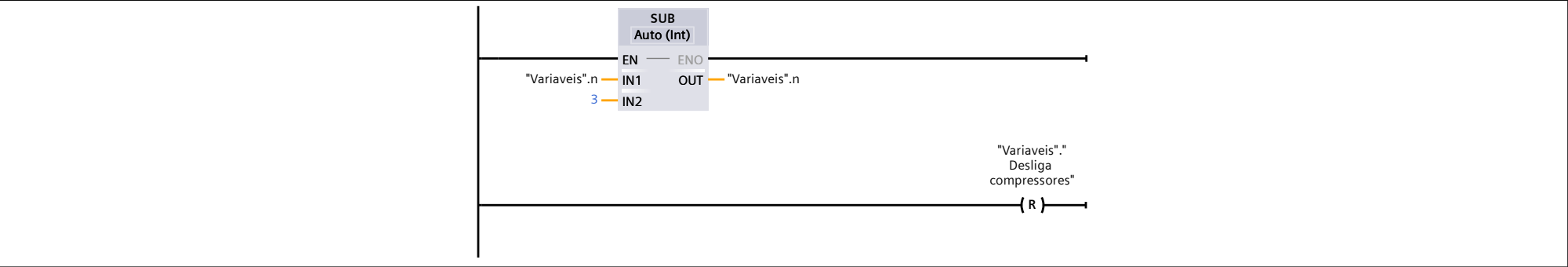
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Desliga compressores	Void		

Network 1: Compressor 1



Network 2:



Program blocks

Verifica compressores [FC7]

Verifica compressores Properties

General

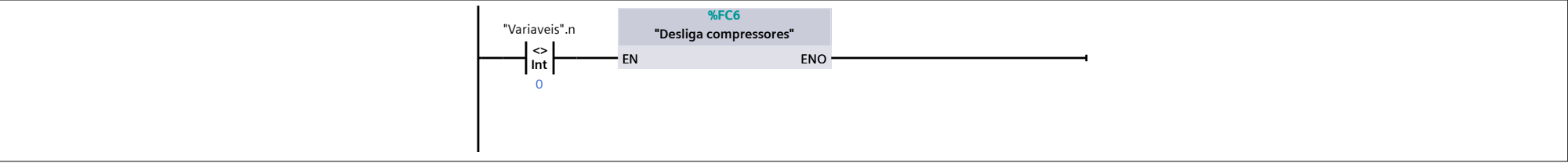
Name	Verifica compressores	Number	7	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Verifica compressores	Void		

Network 1:



Program blocks

Finaliza operacao - MS1 [FC8]

Finaliza operacao - MS1 Properties

General

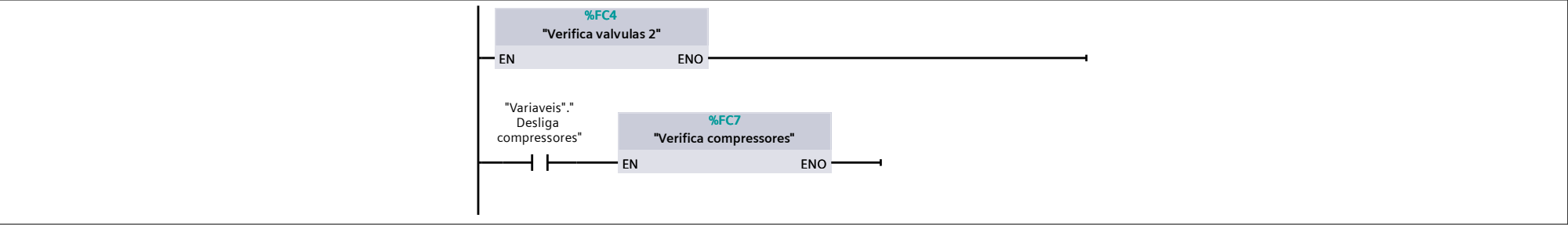
Name	Finaliza operacao - MS1	Number	8	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Finaliza operacao - MS1	Void		

Network 1:



Program blocks

MS1 - Operacao iniciada [FC9]

MS1 - Operacao iniciada Properties

General

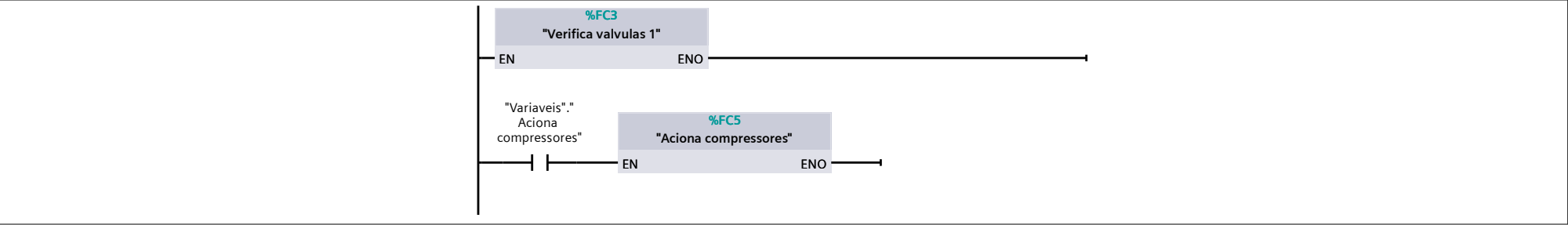
Name	MS1 - Operacao iniciada	Number	9	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
MS1 - Operacao iniciada	Void		

Network 1:



Program blocks

MS1 - Operacao finalizada [FC10]

MS1 - Operacao finalizada Properties

General

Name	MS1 - Operacao finalizada	Number	10	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
MS1 - Operacao finalizada	Void		

Network 1:



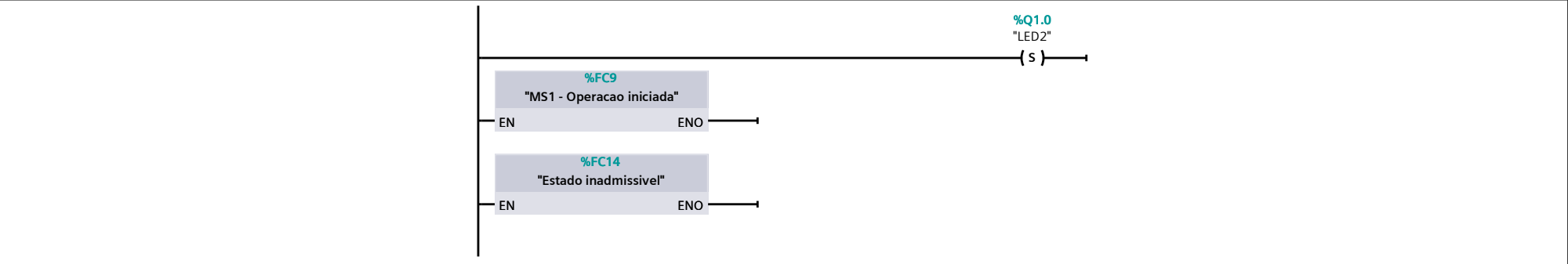
Program blocks

OPERACAO - MS1 [FC11]

OPERACAO - MS1 Properties							
General							
Name	OPERACAO - MS1	Number	11	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					
Name		Data type	Default value		Comment		
Input							
Output							
InOut							
Temp							
Constant							
▼ Return							
OPERACAO - MS1		Void					

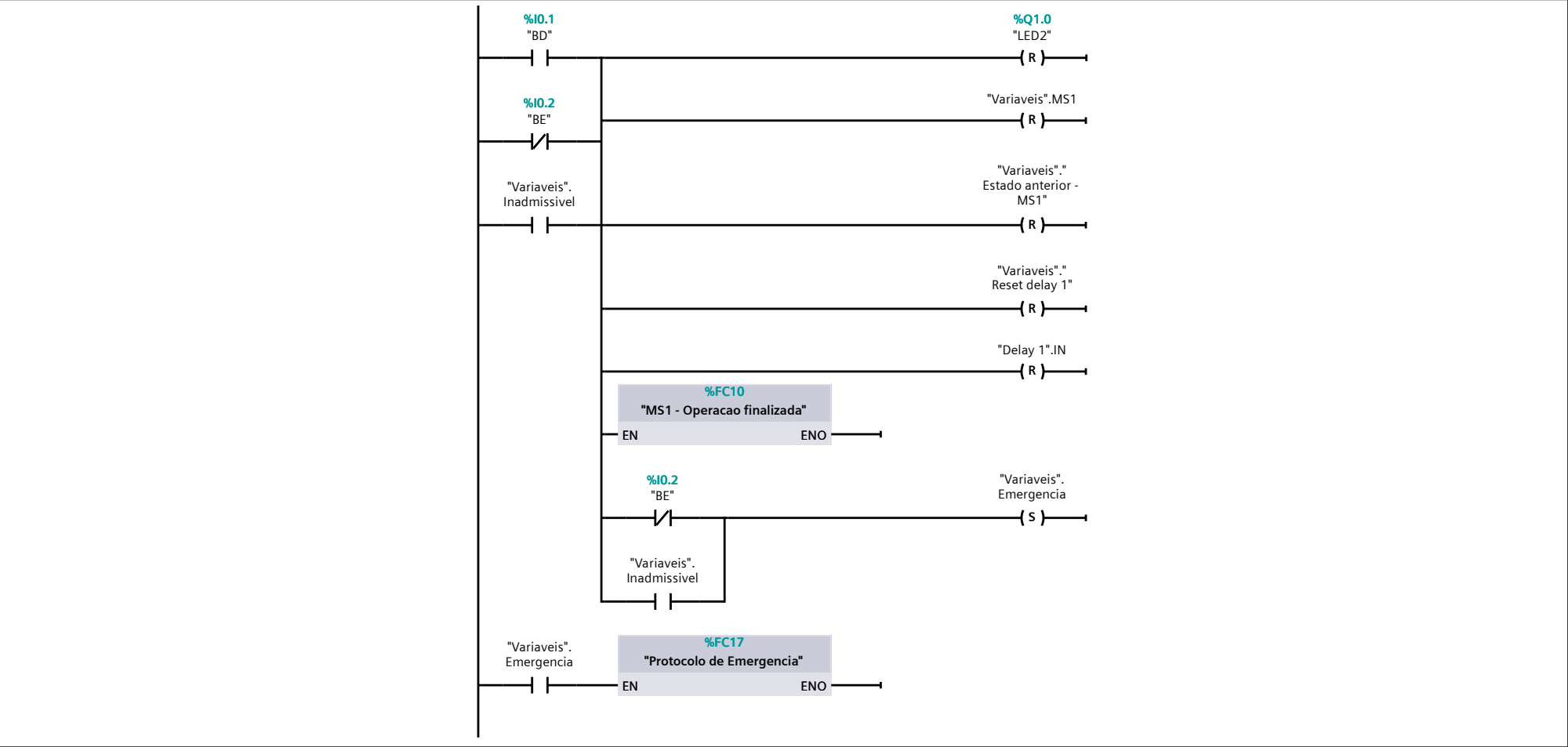
Network 1: LED que indica se há alguma operação em curso

Em operação



Network 2: LED que indica se há alguma operação em curso

Saindo da operação



Program blocks

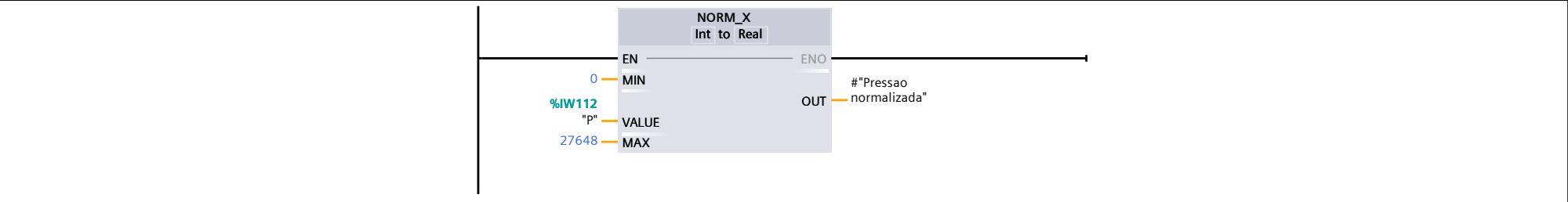
Obtem pressao P [FC13]

Obtem pressao P Properties							
General							
Name	Obtem pressao P	Number	13	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
▼ Output			
P	Real		Pressão obtida
InOut			
▼ Temp			
Pressao normalizada	Real		Pressão normalizada
Constant			
▼ Return			
Obtem pressao P	Void		

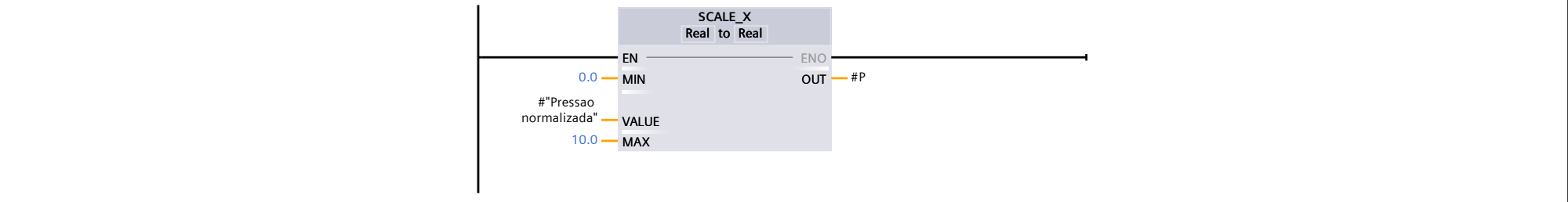
Network 1:

Normalização do valor de pressão lido do transmissor



Network 2:

Scale do valor da pressão normalizada



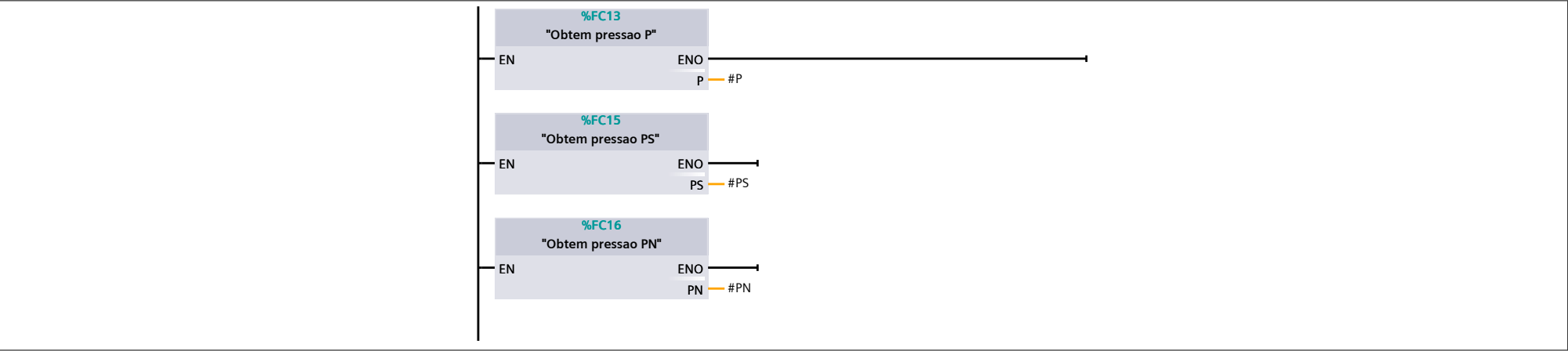
Program blocks

Estado inadmissivel [FC14]

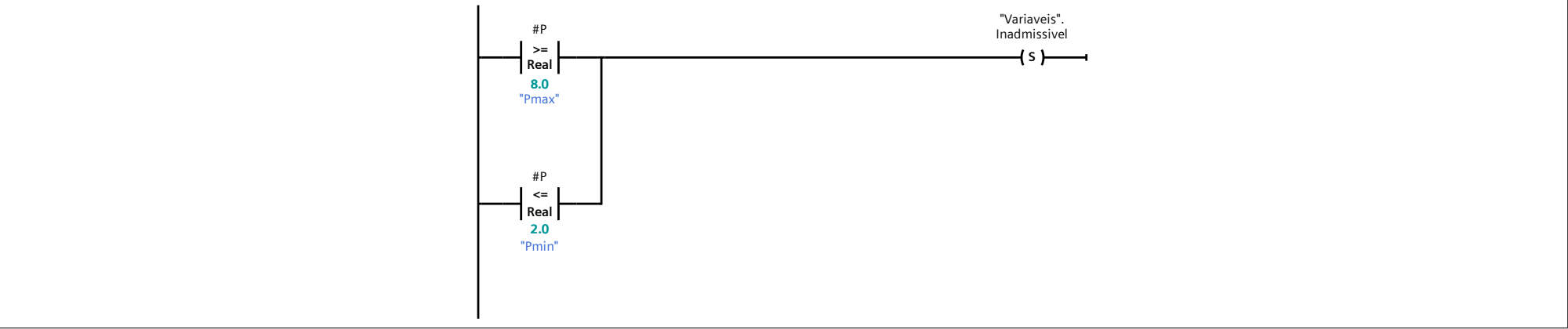
Estado inadmissivel Properties							
General							
Name	Estado inadmissivel	Number	14	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
▼ Temp			
P	Real		Pressão P
PS	Real		Pressão PS
PN	Real		Pressão PN
Constant			
▼ Return			
Estado inadmissivel	Void		

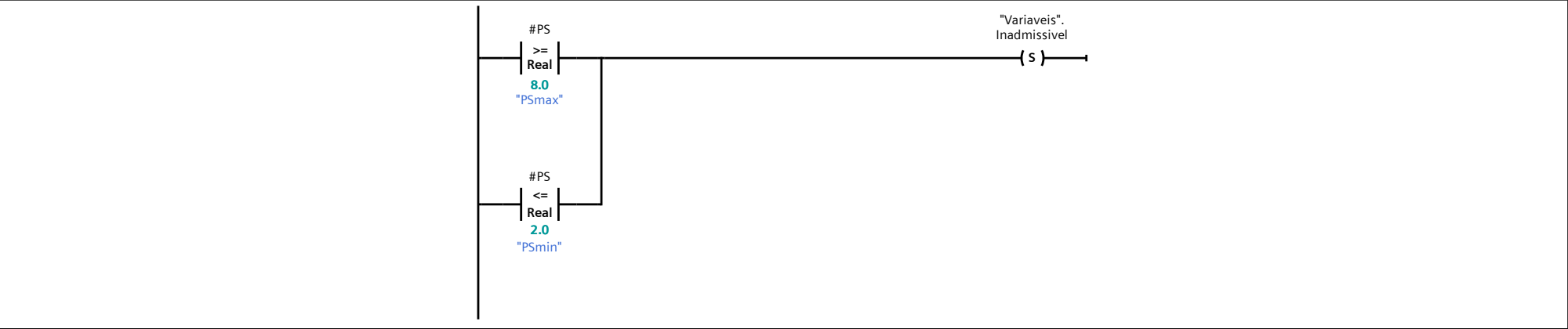
Network 1:



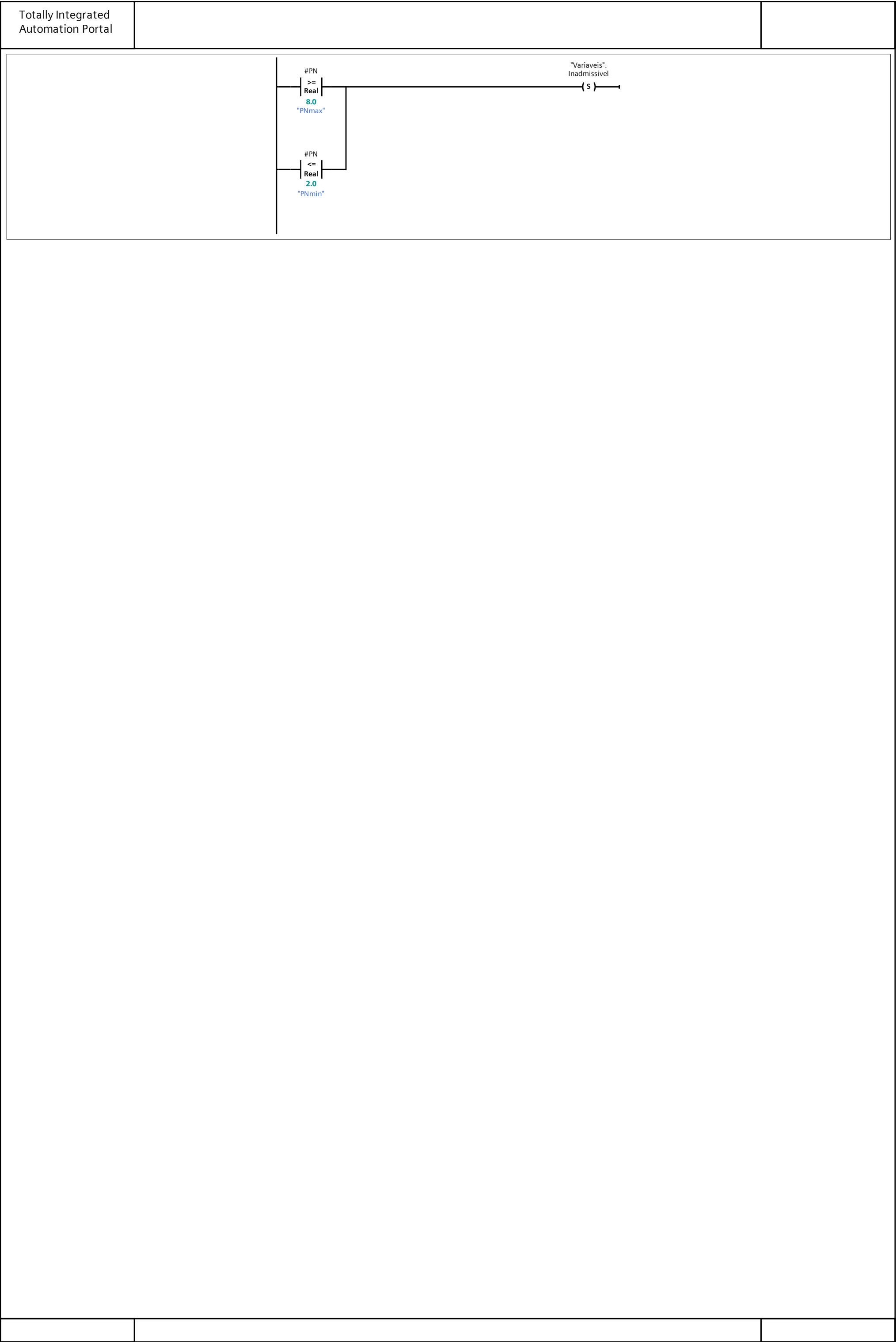
Network 2:



Network 3:



Network 4:



Program blocks

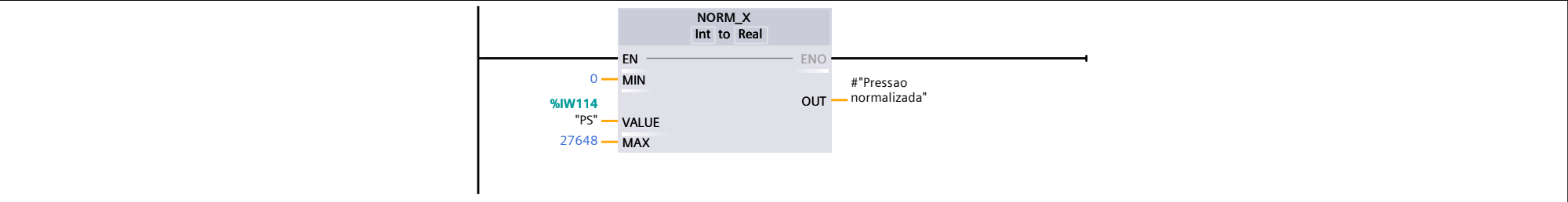
Obtem pressao PS [FC15]

Obtem pressao PS Properties							
General							
Name	Obtem pressao PS	Number	15	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
▼ Output			
PS	Real		Pressão obtida
InOut			
▼ Temp			
Pressao normalizada	Real		Pressão normalizada
Constant			
▼ Return			
Obtem pressao PS	Void		

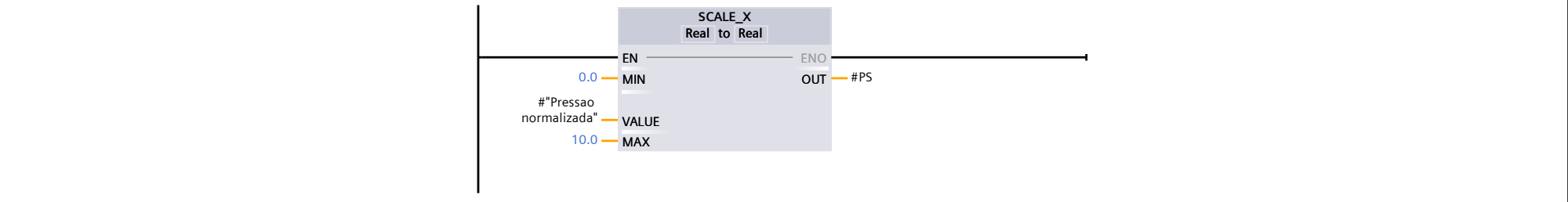
Network 1:

Normalização do valor de pressão lido do transmissor



Network 2:

Scale do valor da pressão normalizada



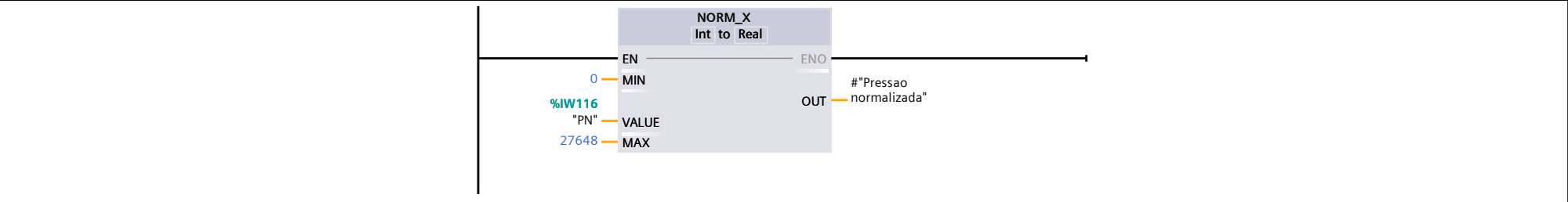
Program blocks

Obtem pressao PN [FC16]

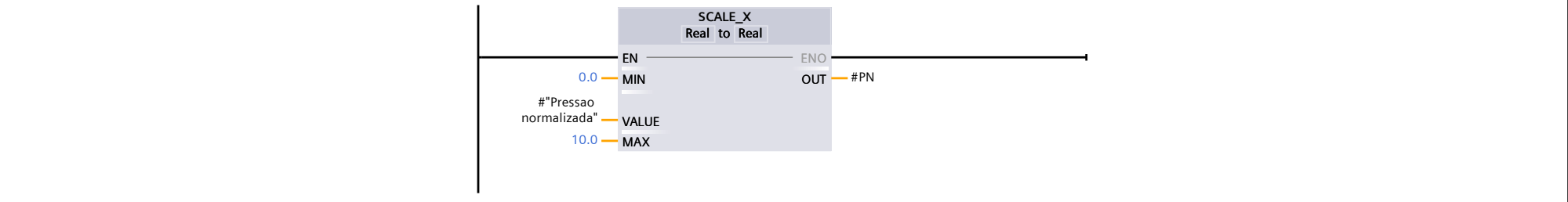
Obtem pressao PN Properties							
General							
Name	Obtem pressao PN	Number	16	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
▼ Output			
PN	Real		Pressão obtida
InOut			
▼ Temp			
Pressao normalizada	Real		Pressão normalizada
Constant			
▼ Return			
Obtem pressao PN	Void		

Network 1:



Network 2:



Program blocks

Protocolo de Emergencia [FC17]

Protocolo de Emergencia Properties

General

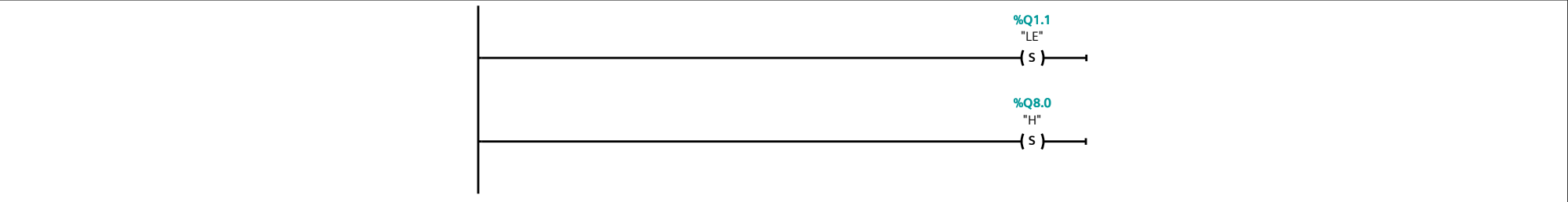
Name	Protocolo de Emergencia	Number	17	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Protocolo de Emergencia	Void		

Network 1: LED que indica o estado de Emergência



Program blocks

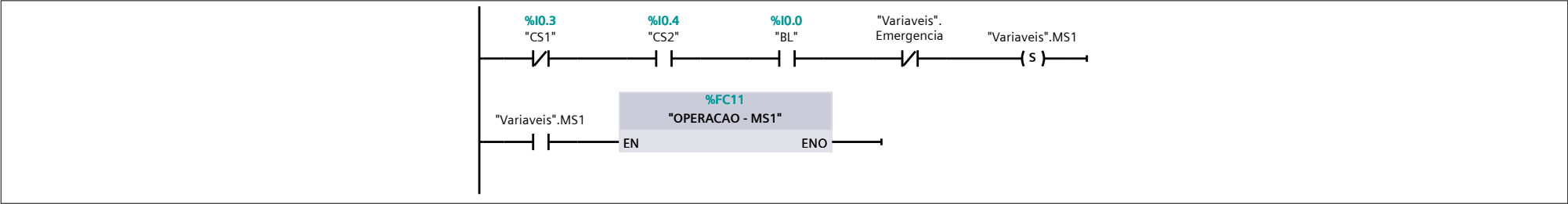
Logica conjunta [FC18]

Logica conjunta Properties							
General							
Name	Logica conjunta	Number	18	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
▼ Temp			
P	Real		
PS	Real		
PN	Real		
Constant			
▼ Return			
Logica conjunta	Void		

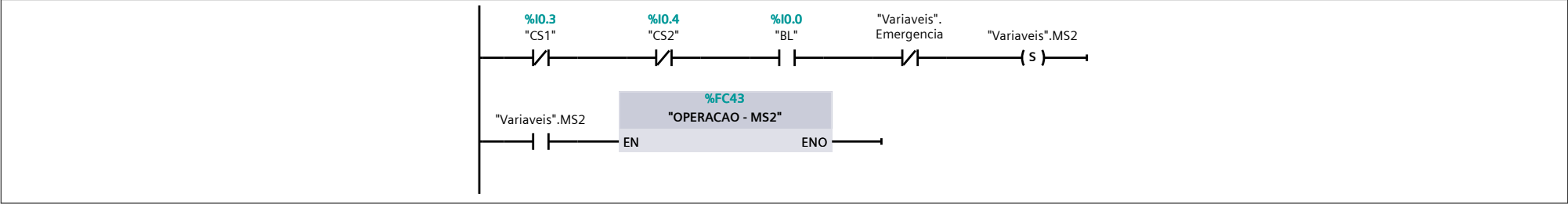
Network 1:

Chave seletora na posição 1

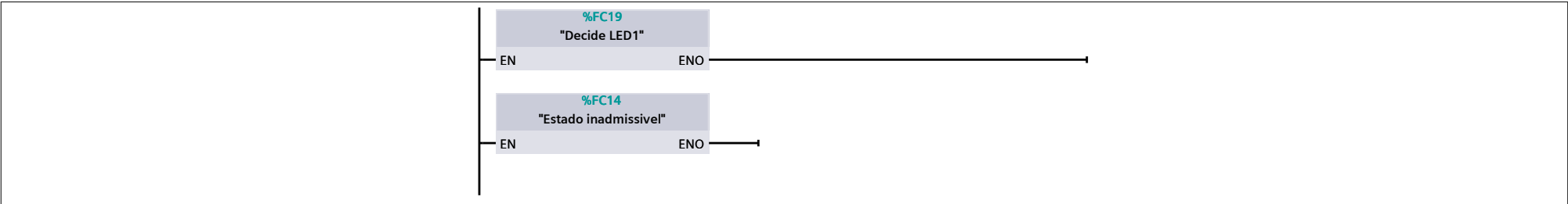


Network 2:

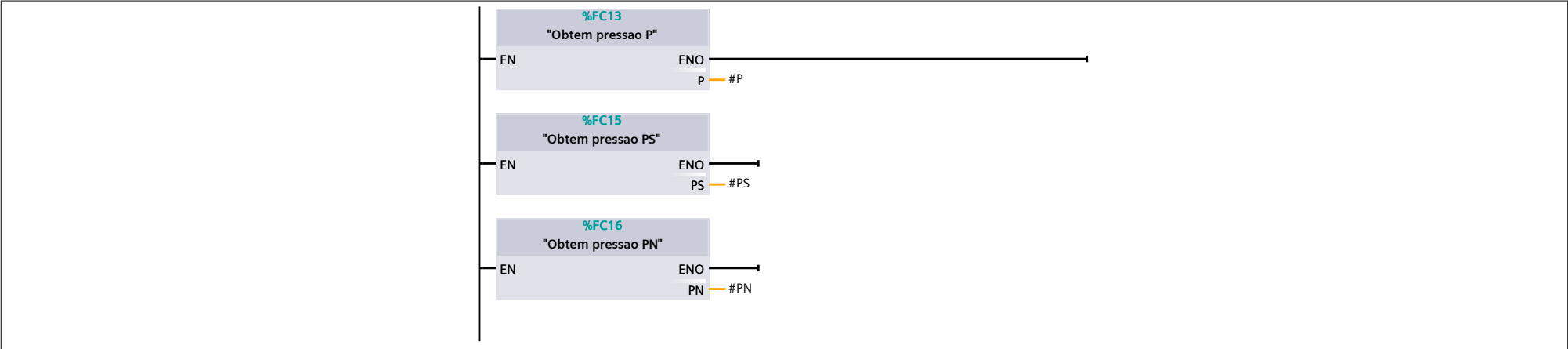
Chave seletora na posição 2



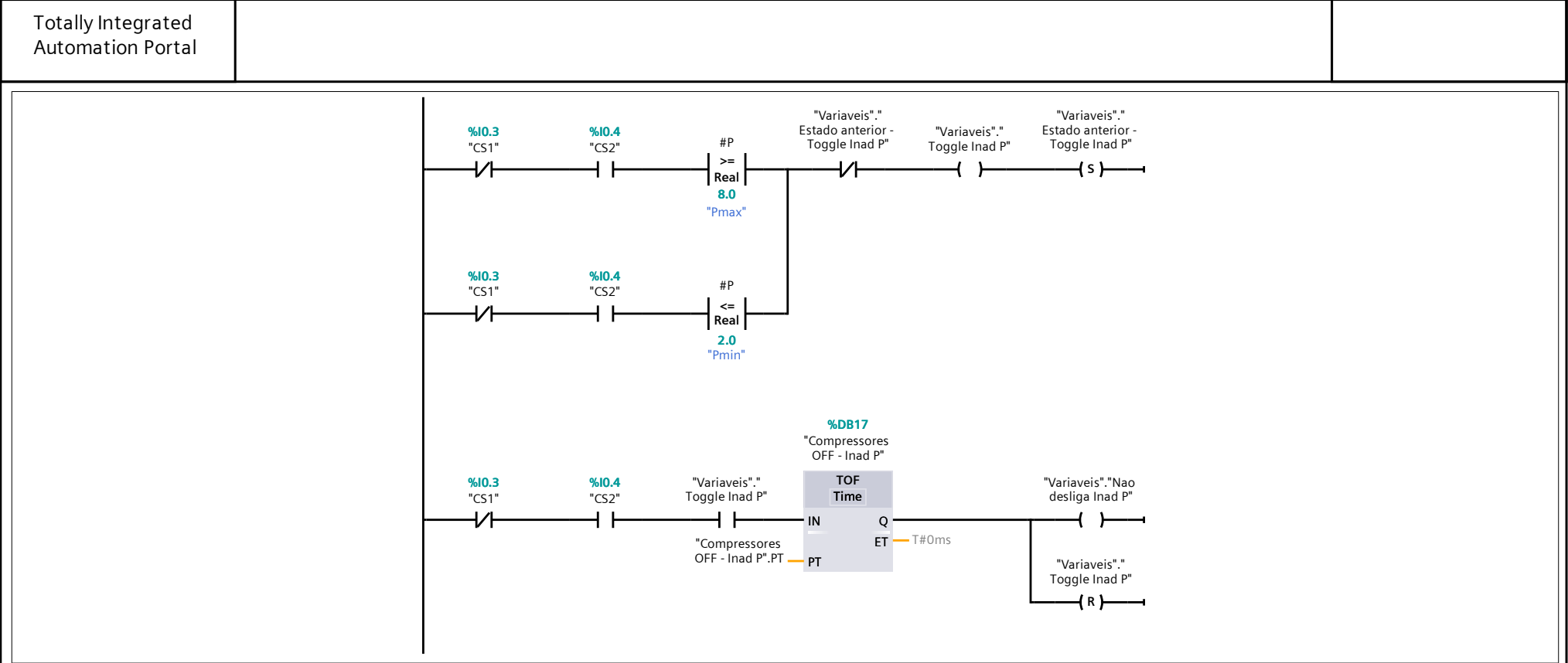
Network 3:



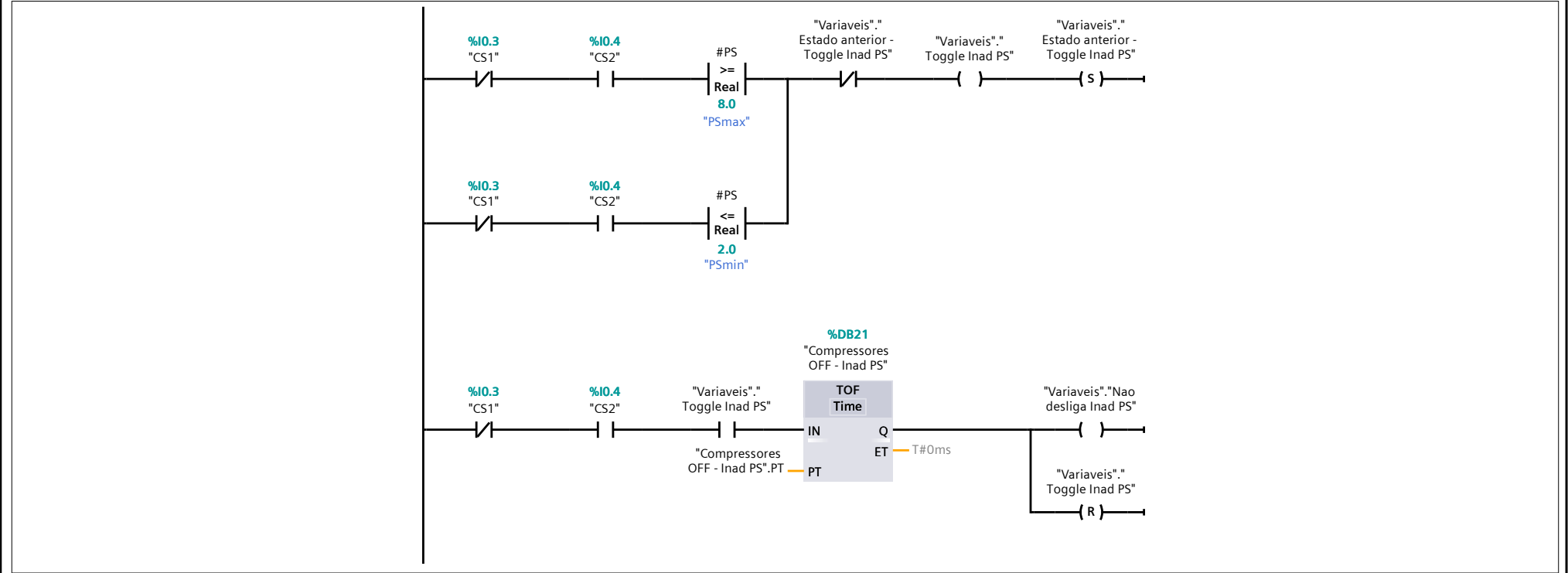
Network 4:



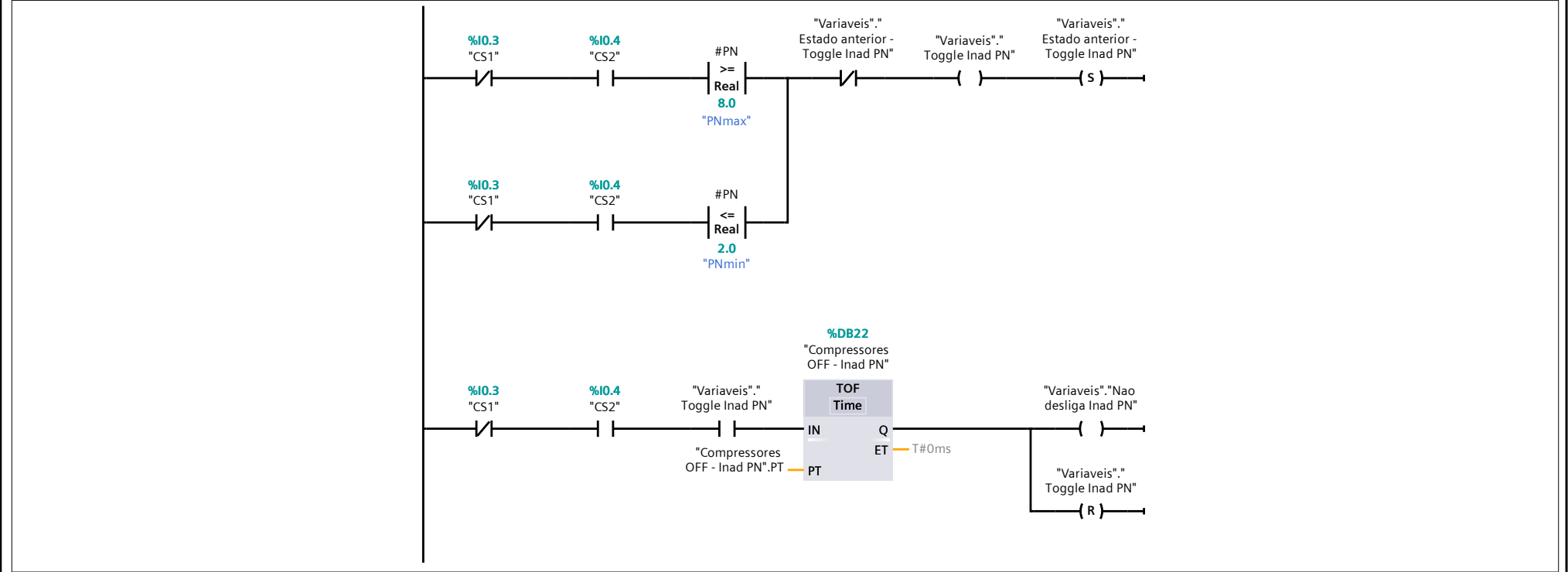
Network 5:



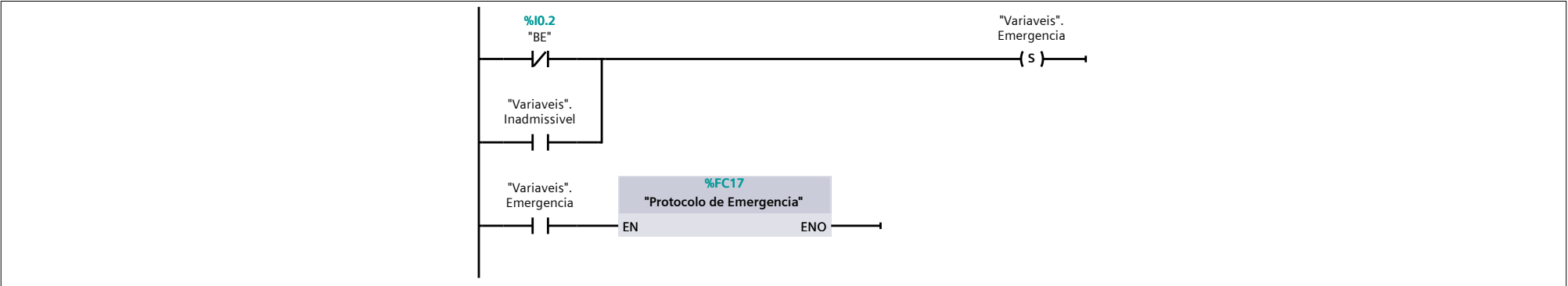
Network 6:



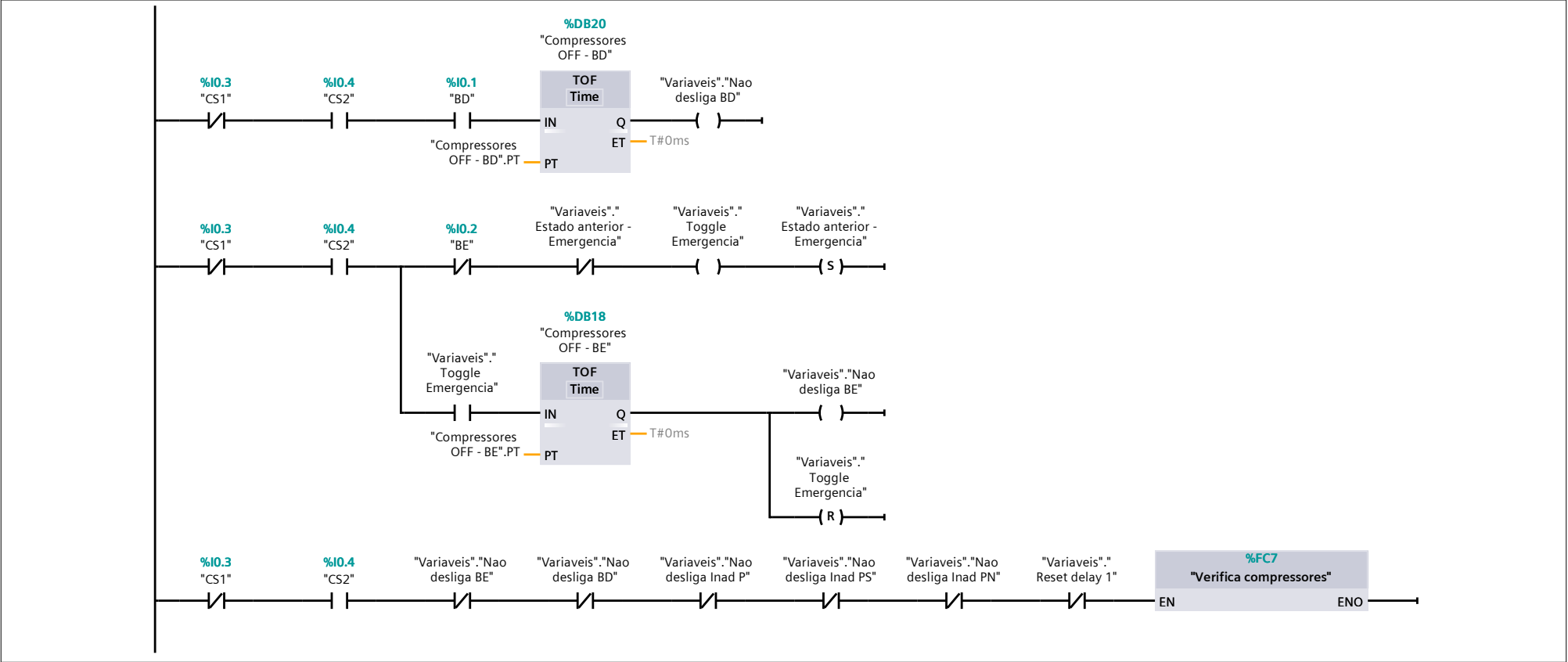
Network 7:



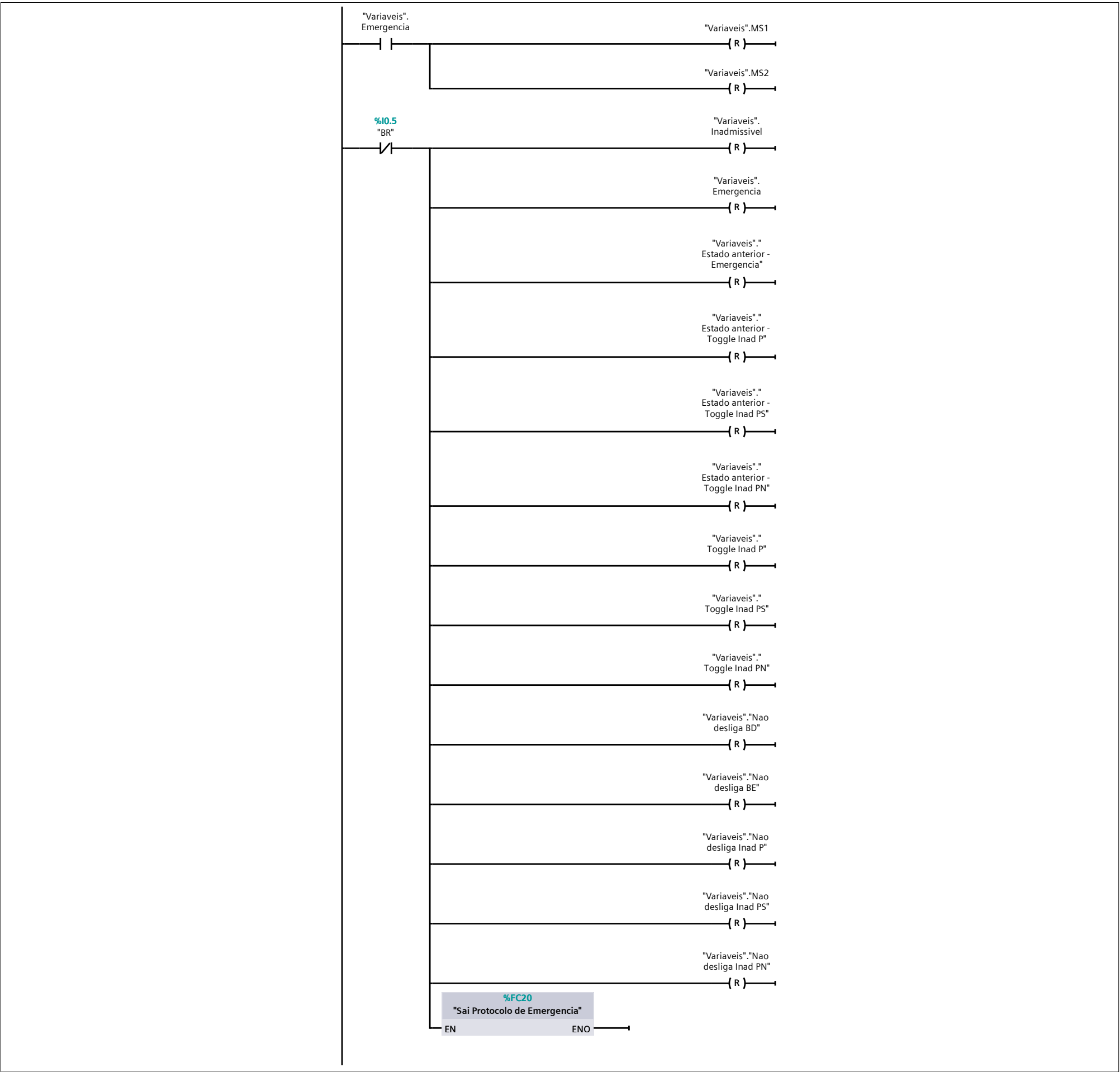
Network 8:



Network 9:



Network 10:



Program blocks

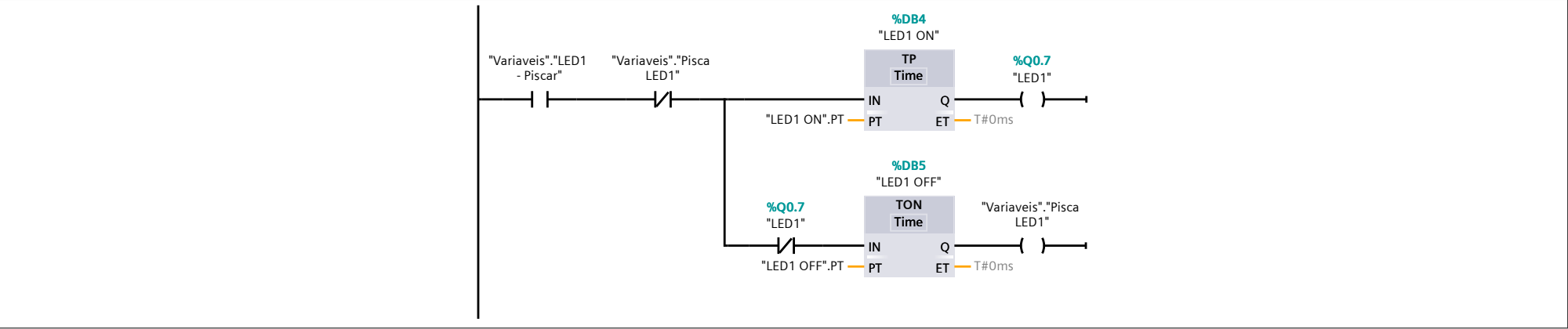
Decide LED1 [FC19]

Decide LED1 Properties							
General							
Name	Decide LED1	Number	19	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					
Name		Data type	Default value		Comment		
Input							
Output							
InOut							
▼ Temp							
P		Real			Pressao obtida no tanque separador		
Constant							
▼ Return							
Decide LED1		Void					

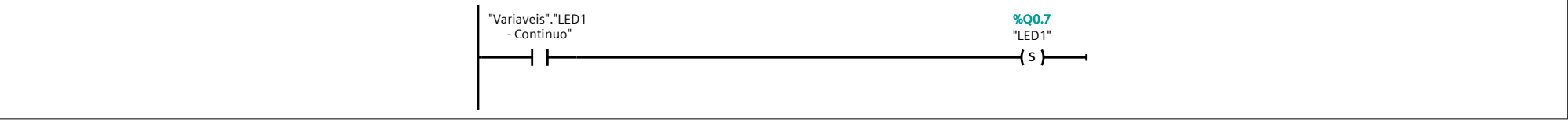
Network 1:



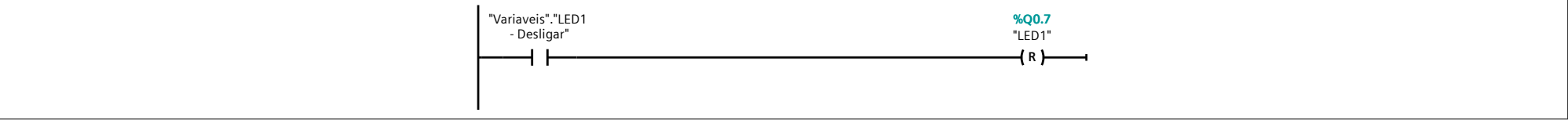
Network 2: LED que avisa sobre a pressão no tanque separador



Network 3: LED que avisa sobre a pressão no tanque separador



Network 4: LED que avisa sobre a pressão no tanque separador



Program blocks

Sai Protocolo de Emergencia [FC20]

Sai Protocolo de Emergencia Properties

General

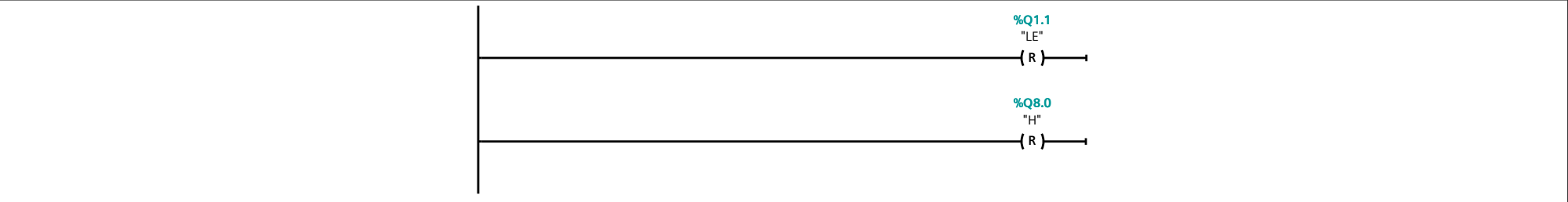
Name	Sai Protocolo de Emergencia	Number	20	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Sai Protocolo de Emergencia	Void		

Network 1: LED que indica o estado de Emergência



Program blocks

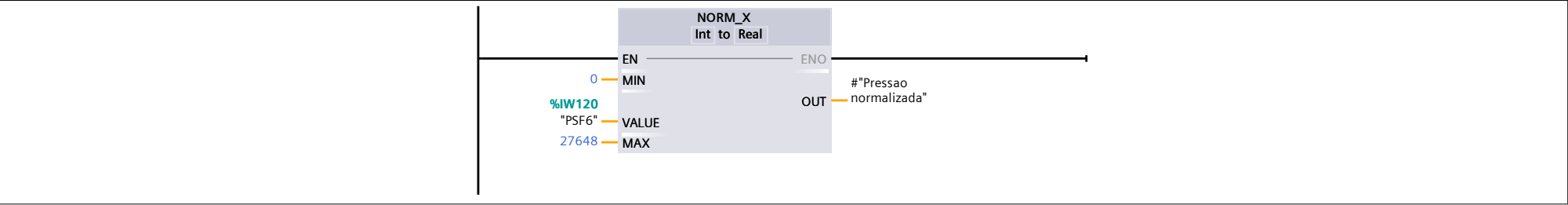
Obtem pressao PSF6 [FC21]

Obtem pressao PSF6 Properties							
General							
Name	Obtem pressao PSF6	Number	21	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
▼ Output			
PSF6	Real		Pressão obtida
InOut			
▼ Temp			
Pressao normalizada	Real		Pressão normalizada
Constant			
▼ Return			
Obtem pressao PSF6	Void		

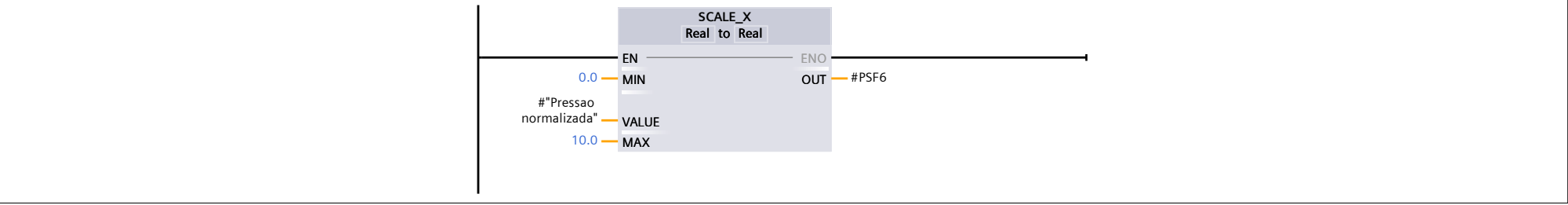
Network 1:

Normalização do valor de pressão lido do transmissor



Network 2:

Scale do valor da pressão normalizada



Program blocks

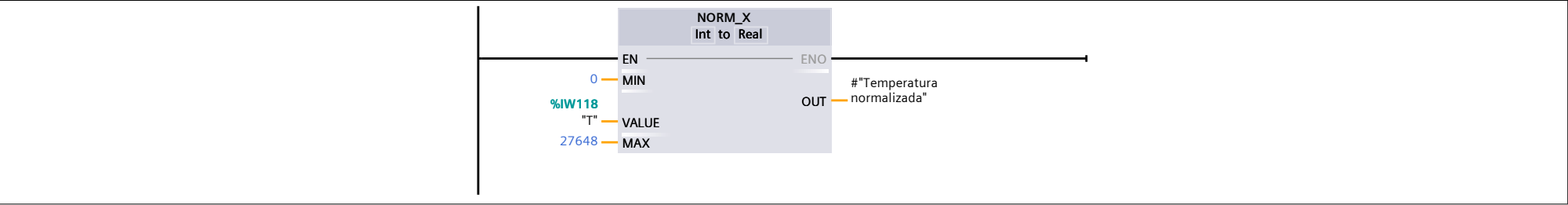
Obtem temperatura T [FC22]

Obtem temperatura T Properties							
General							
Name	Obtem temperatura T	Number	22	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
▼ Output			
T	Real		Temperatura obtida
InOut			
▼ Temp			
Temperatura normalizada	Real		Temperatura normalizada
Constant			
▼ Return			
Obtem temperatura T	Void		

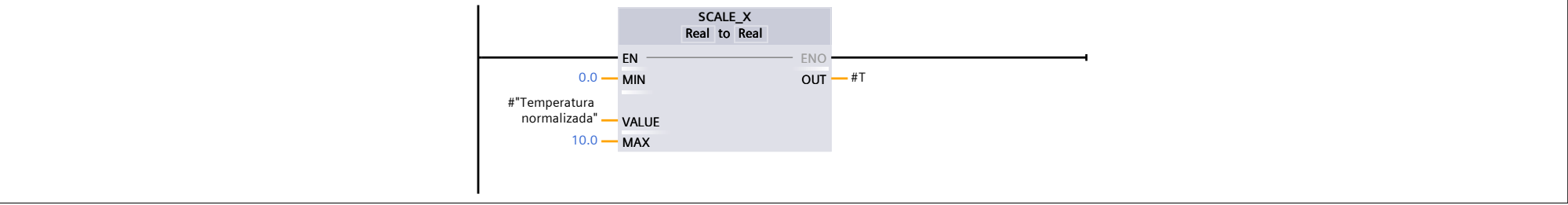
Network 1:

Normalização do valor de temperatura lido do transmissor



Network 2:

Scale do valor da temperatura normalizada



Program blocks

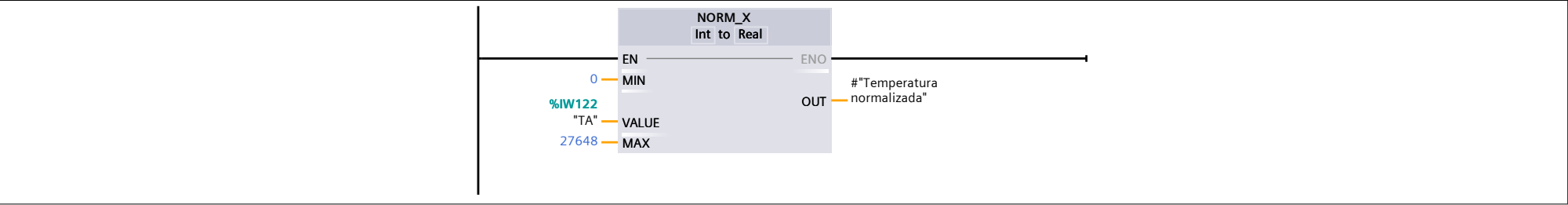
Obtem temperatura TA [FC23]

Obtem temperatura TA Properties							
General							
Name	Obtem temperatura TA	Number	23	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
▼ Output			
TA	Real		Temperatura obtida
InOut			
▼ Temp			
Temperatura normalizada	Real		Temperatura normalizada
Constant			
▼ Return			
Obtem temperatura TA	Void		

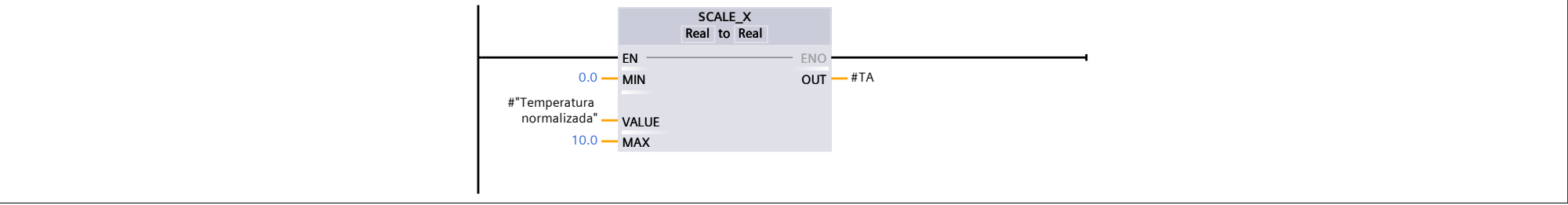
Network 1:

Normalização do valor de temperatura lido do transmissor



Network 2:

Scale do valor da temperatura normalizada



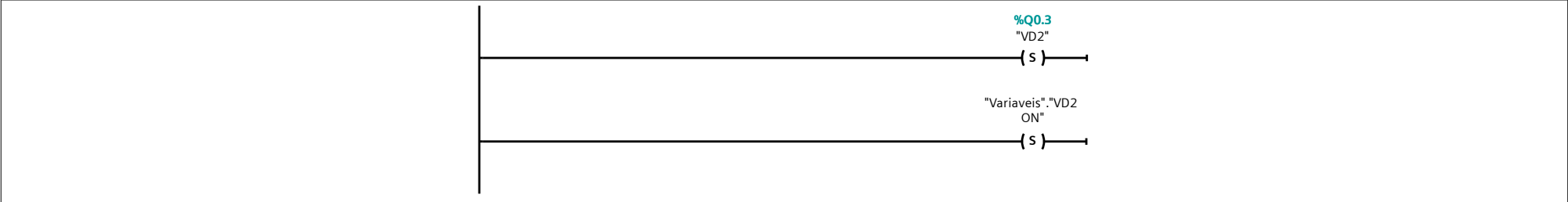
Program blocks

Aciona VD2 [FC24]

Aciona VD2 Properties							
General							
Name	Aciona VD2	Number	24	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Aciona VD2	Void		

Network 1: Válvula on/off da linha direta (segunda)



Program blocks

Desliga VD2 [FC25]

Desliga VD2 Properties

General

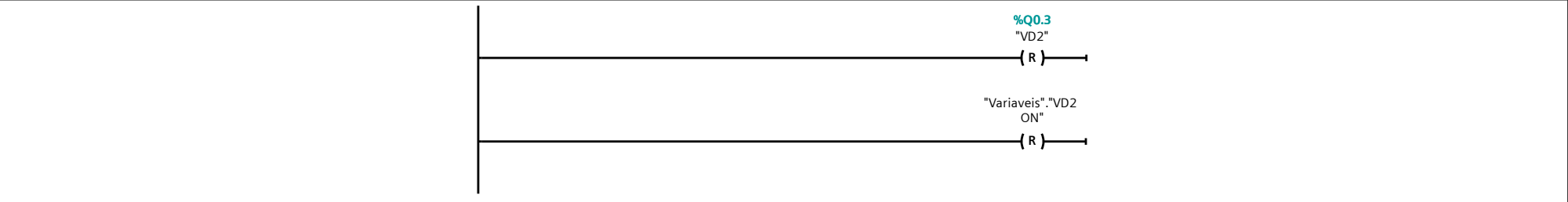
Name	Desliga VD2	Number	25	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Desliga VD2	Void		

Network 1: Válvula on/off da linha direta (segunda)



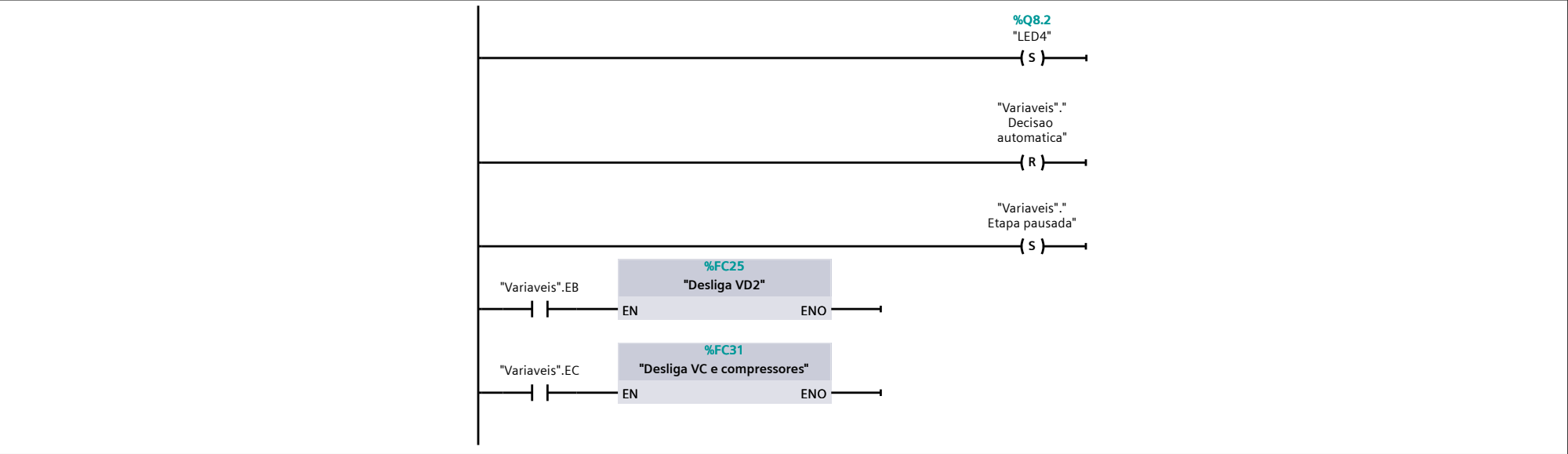
Program blocks

Etapa pausada [FC26]

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

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Etapa pausada	Void		

Network 1: LED que indica o estado de etapa pausada



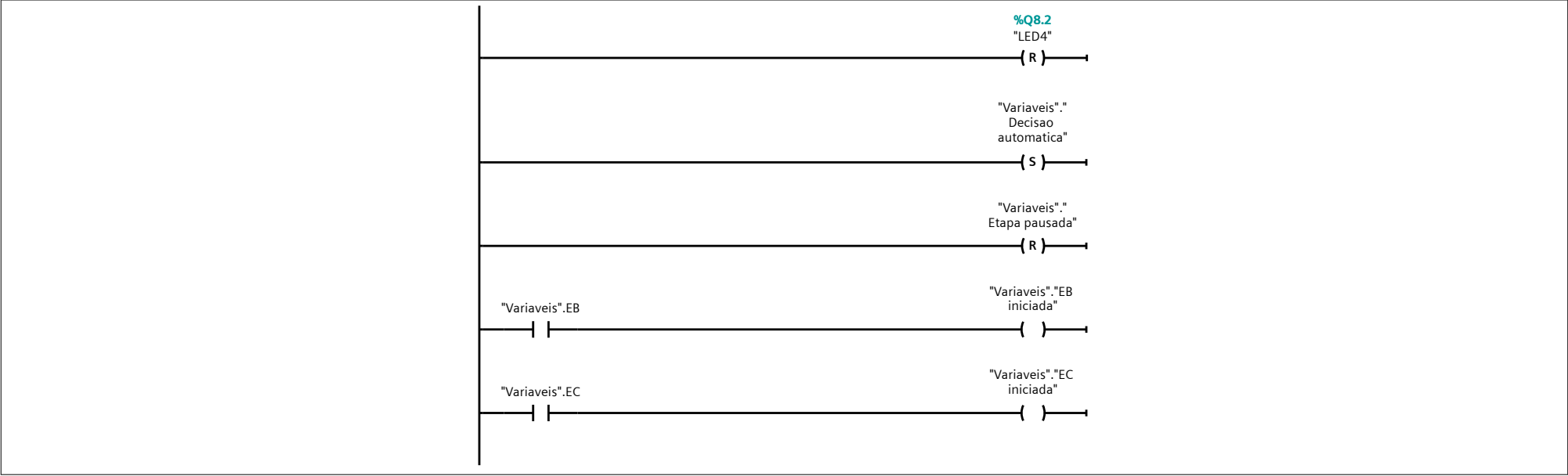
Program blocks

Etapa retomada [FC27]

Etapa retomada Properties							
General							
Name	Etapa retomada	Number	27	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Etapa retomada	Void		

Network 1: LED que indica o estado de etapa pausada



Program blocks

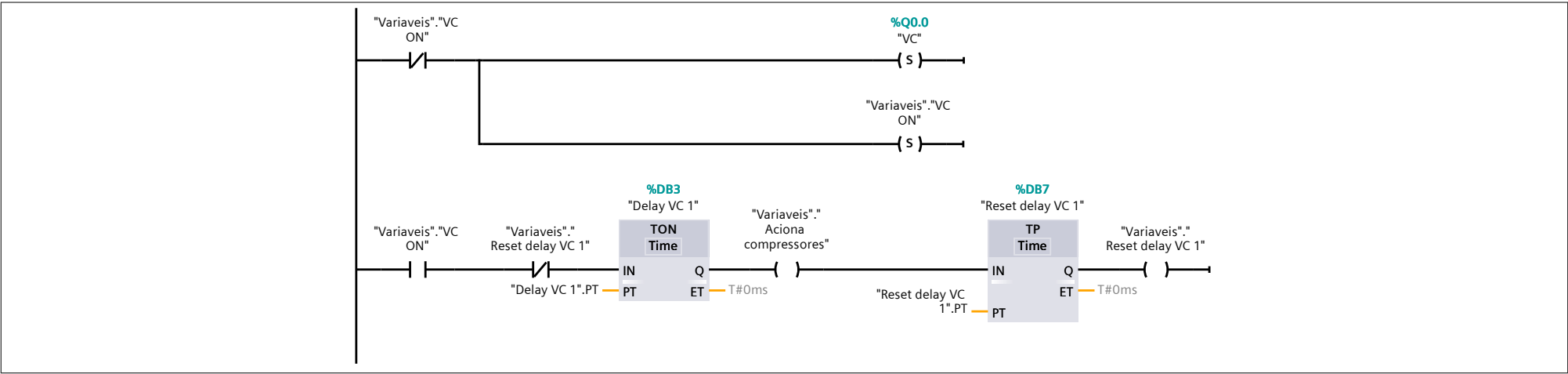
Verifica VC 1 [FC28]

Verifica VC 1 Properties

General							
Name	Verifica VC 1	Number	28	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Verifica VC 1	Void		

Network 1: Válvula on/off da entrada do sistema de compressores

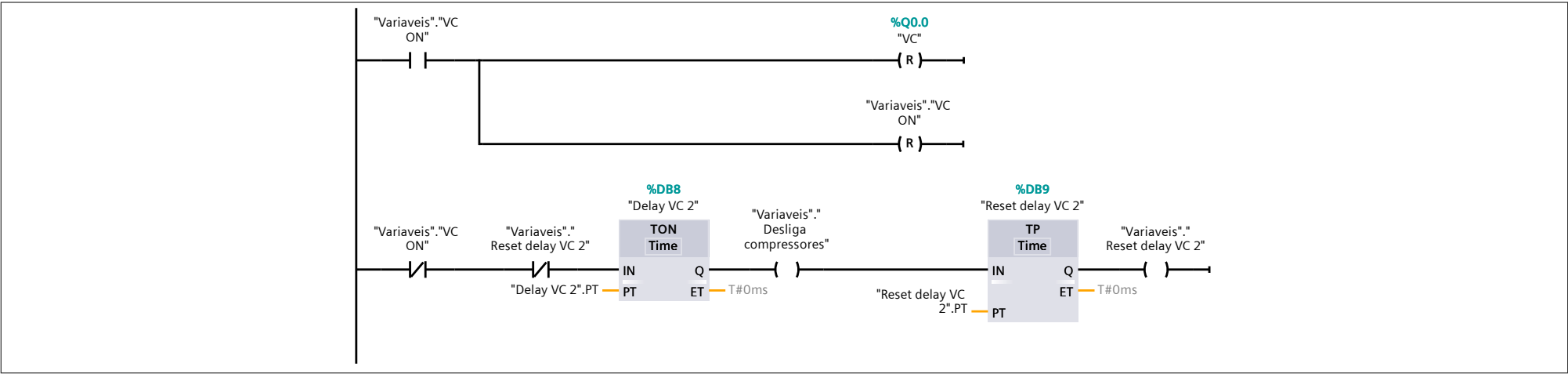


Program blocks

Verifica VC 2 [FC29]

Verifica VC 2 Properties							
General							
Name	Verifica VC 2	Number	29	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					
Name		Data type	Default value	Comment			
Input							
Output							
InOut							
Temp							
Constant							
▼ Return							
Verifica VC 2		Void					

Network 1: Válvula on/off da entrada do sistema de compressores



Program blocks

Aciona VC e compressores [FC30]

Aciona VC e compressores Properties

General

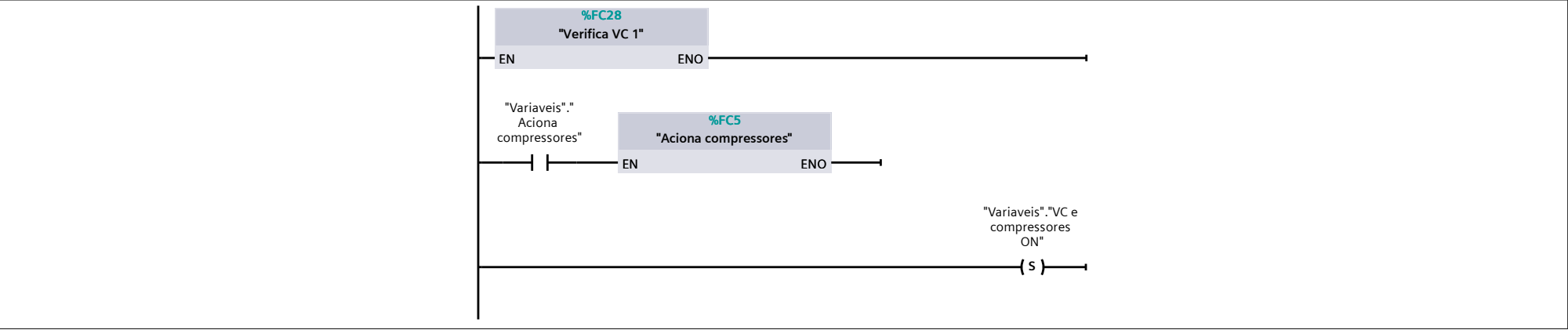
Name	Aciona VC e compressores	Number	30	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Aciona VC e compressores	Void		

Network 1:



Program blocks

Desliga VC e compressores [FC31]

Desliga VC e compressores Properties

General

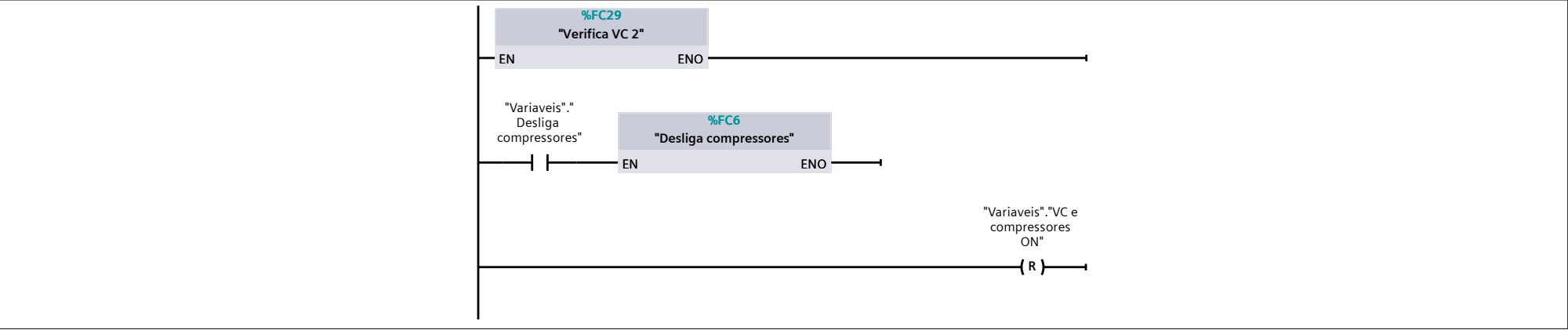
Name	Desliga VC e compressores	Number	31	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Desliga VC e compressores	Void		

Network 1:



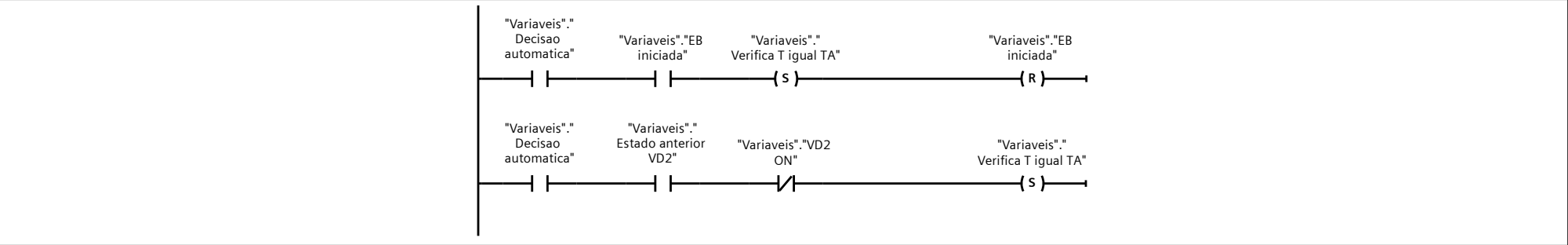
Program blocks

EB - Etapa iniciada [FC32]

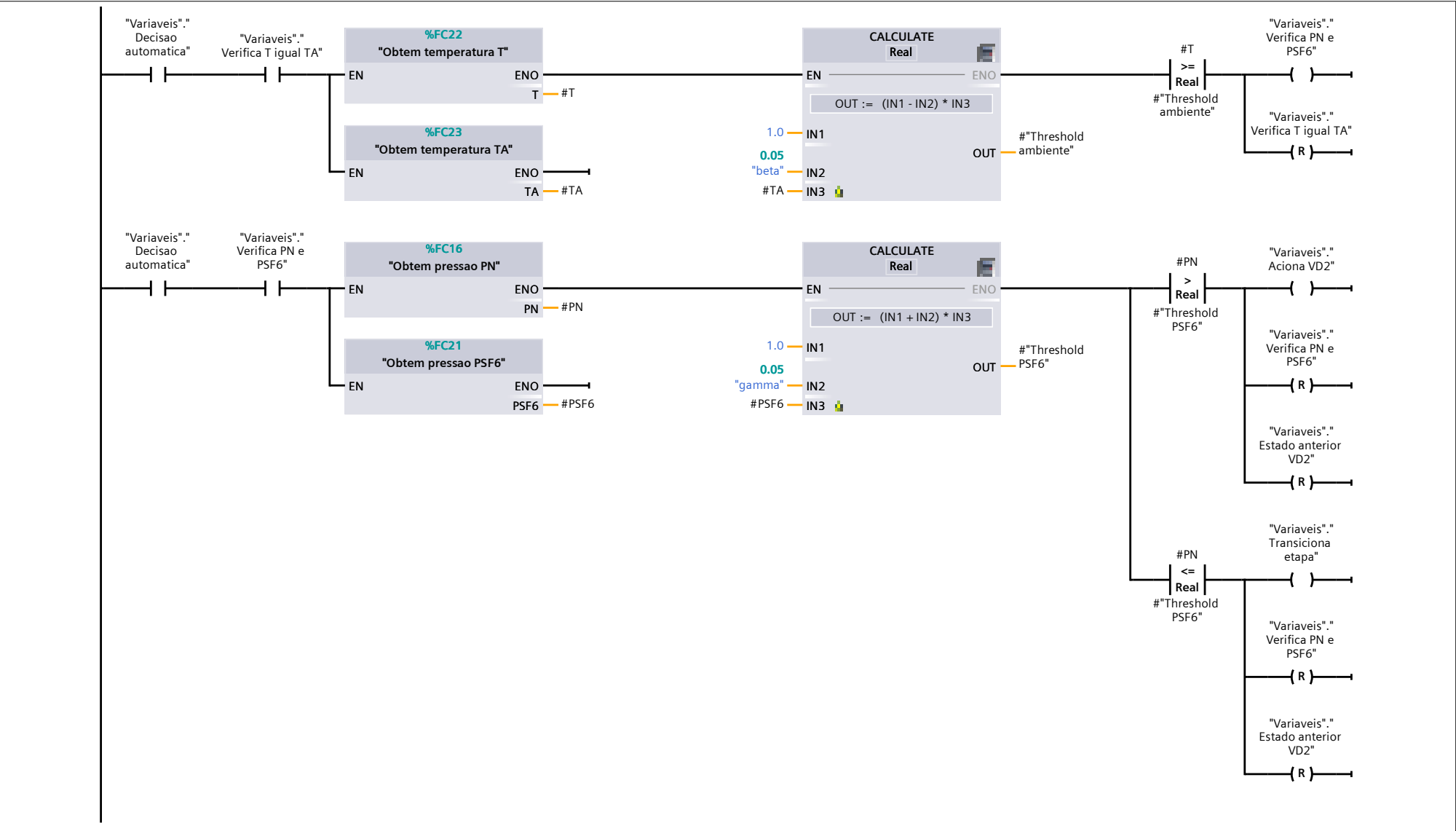
EB - Etapa iniciada Properties							
General							
Name	EB - Etapa iniciada	Number	32	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
▼ Temp			
T	Real		Temperatura no nó estendido
TA	Real		Temperatura ambiente
PN	Real		Pressão no nó estendido
PSF6	Real		Pressão do tanque de SF6
Threshold ambiente	Real		(1 - beta)*TA
Threshold PSF6	Real		(1 + gamma)*PSF6
Constant			
▼ Return			
EB - Etapa iniciada	Void		

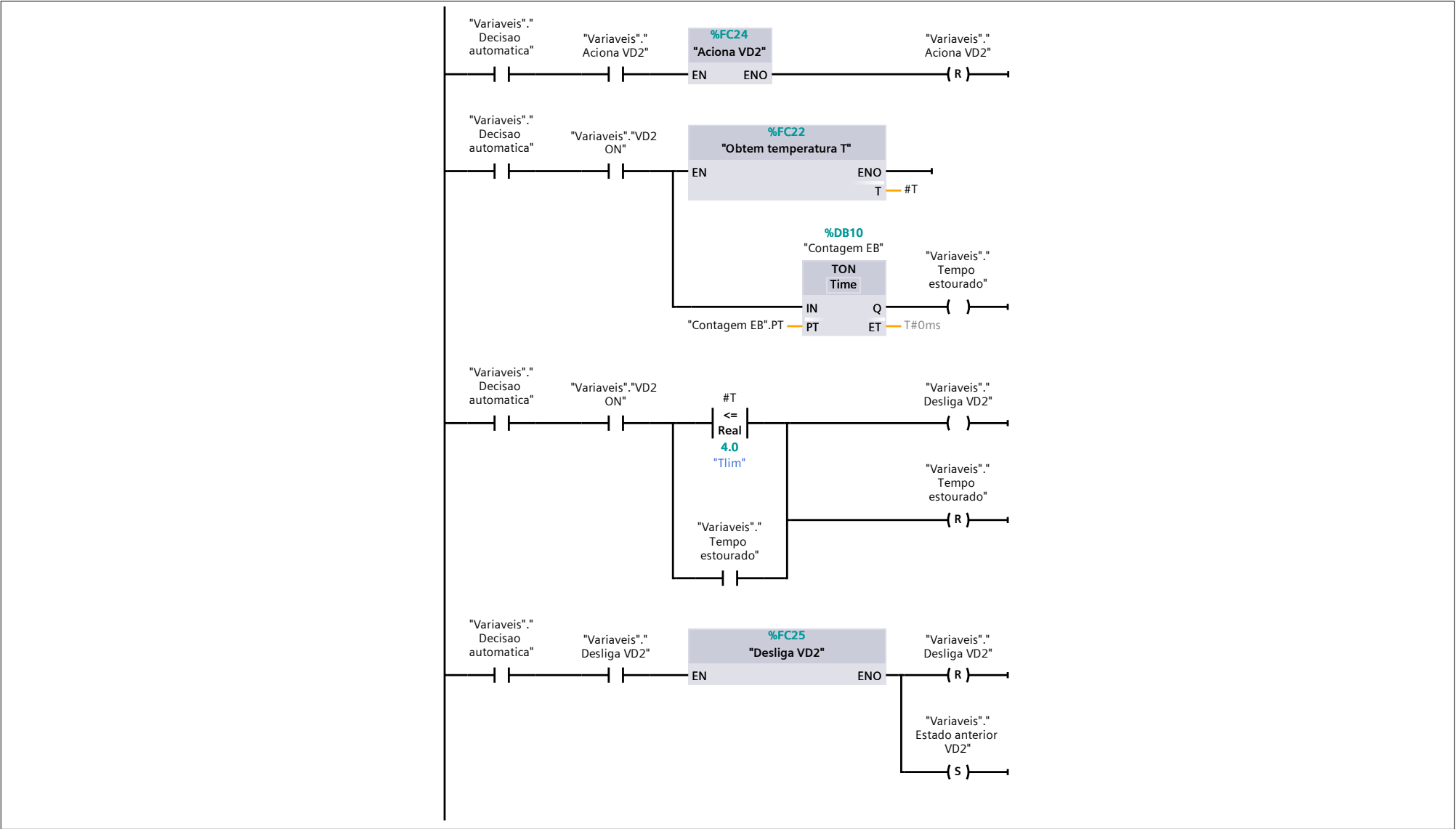
Network 1:



Network 2:



Network 3:



Program blocks

EB - Etapa finalizada [FC33]

EB - Etapa finalizada Properties

General

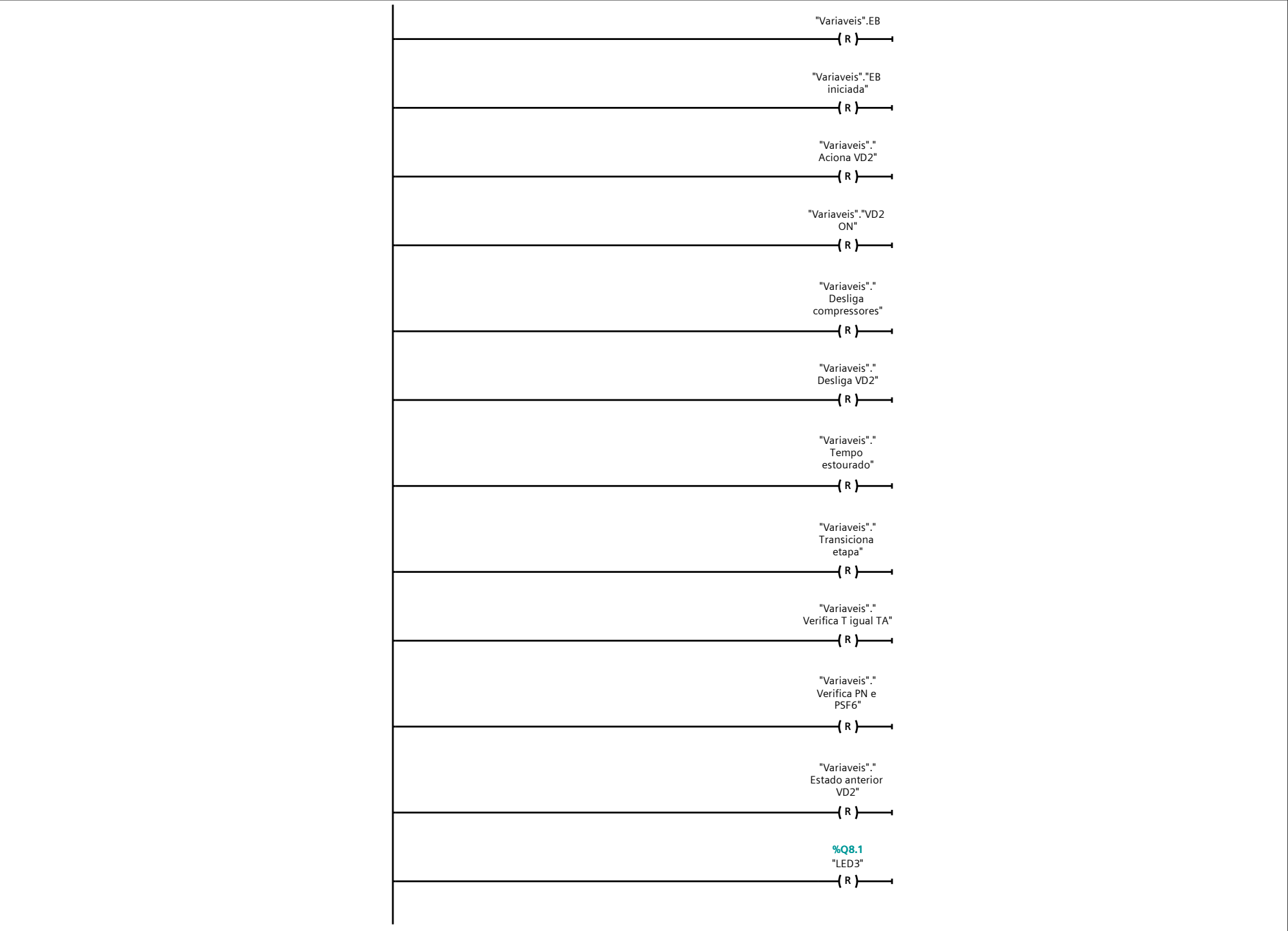
Name	EB - Etapa finalizada	Number	33	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
EB - Etapa finalizada	Void		

Network 1:



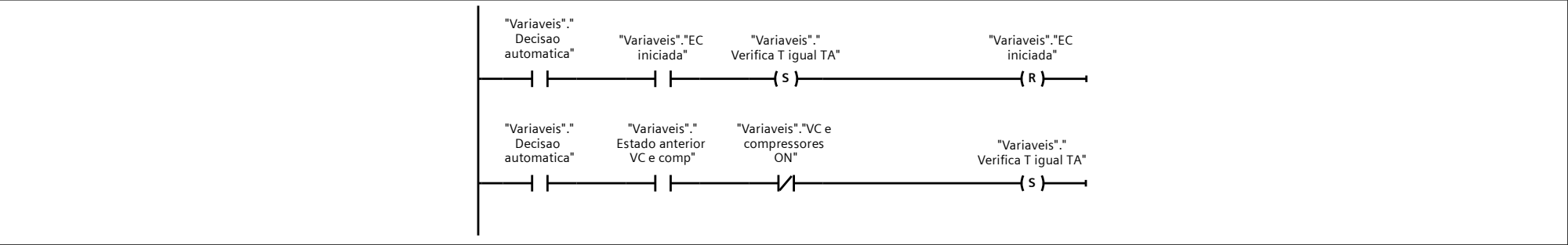
Program blocks

EC - Etapa iniciada [FC34]

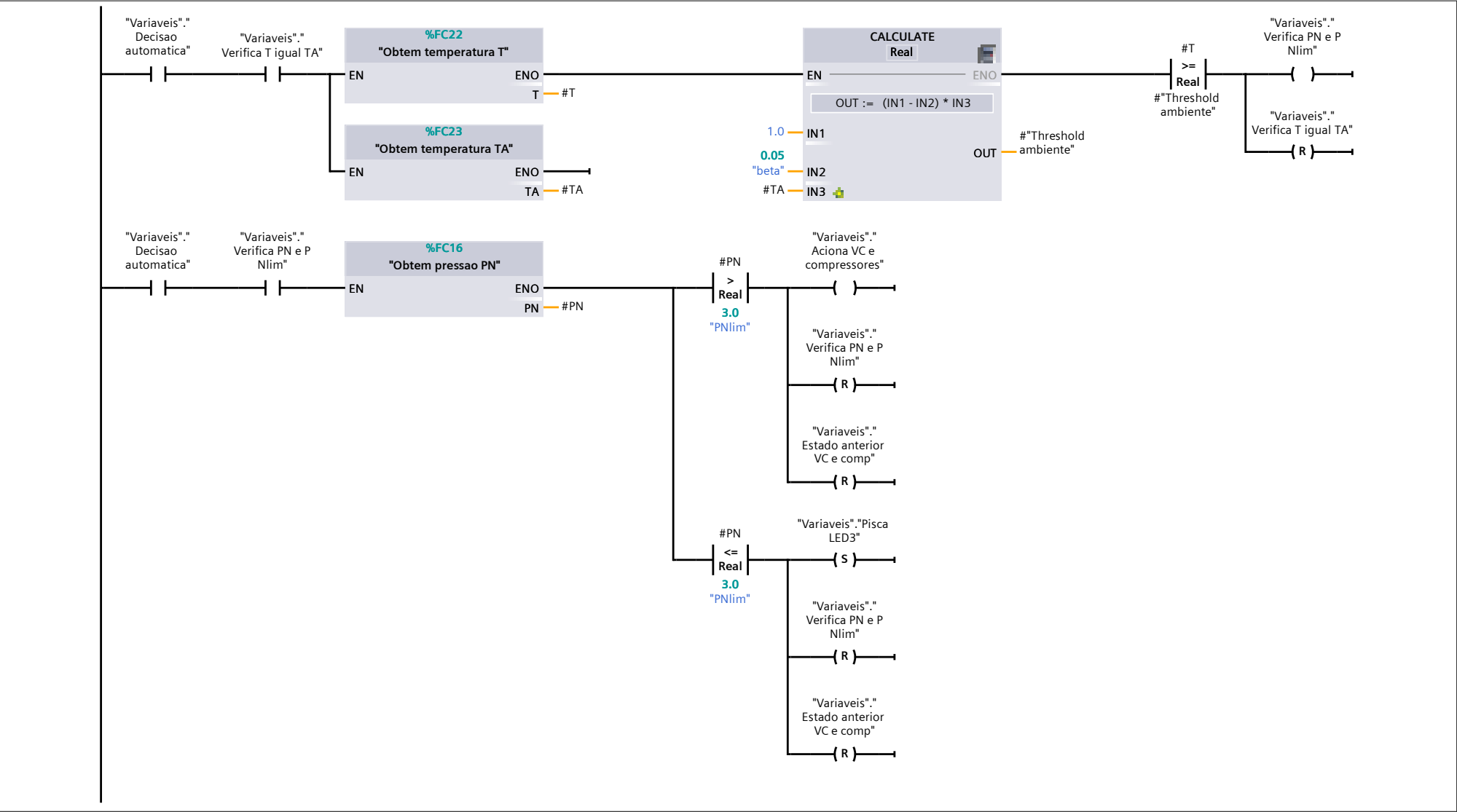
EC - Etapa iniciada Properties							
General							
Name	EC - Etapa iniciada	Number	34	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
▼ Temp			
T	Real		Temperatura no nó estendido
TA	Real		Temperatura ambiente
PN	Real		Pressão no nó estendido
PSF6	Real		Pressão do tanque de SF6
Threshold ambiente	Real		(1 - beta)*TA
Constant			
▼ Return			
EC - Etapa iniciada	Void		

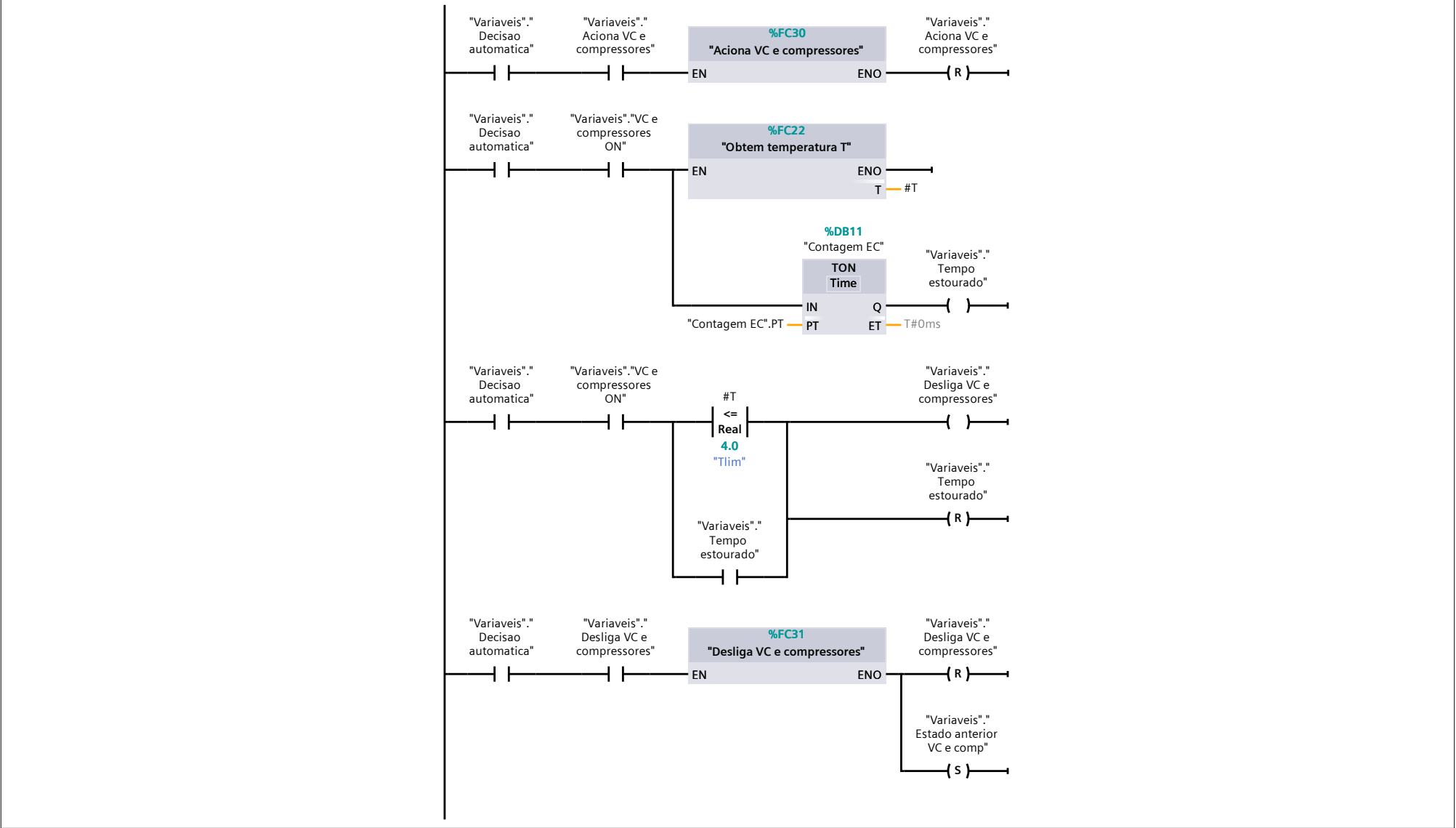
Network 1:



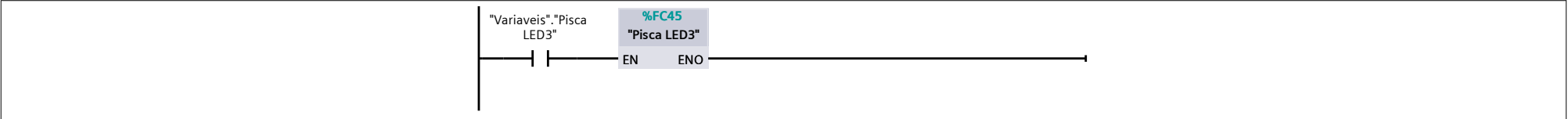
Network 2:



Network 3:



Network 4:



Program blocks

EC - Etapa finalizada [FC35]

EC - Etapa finalizada Properties

General

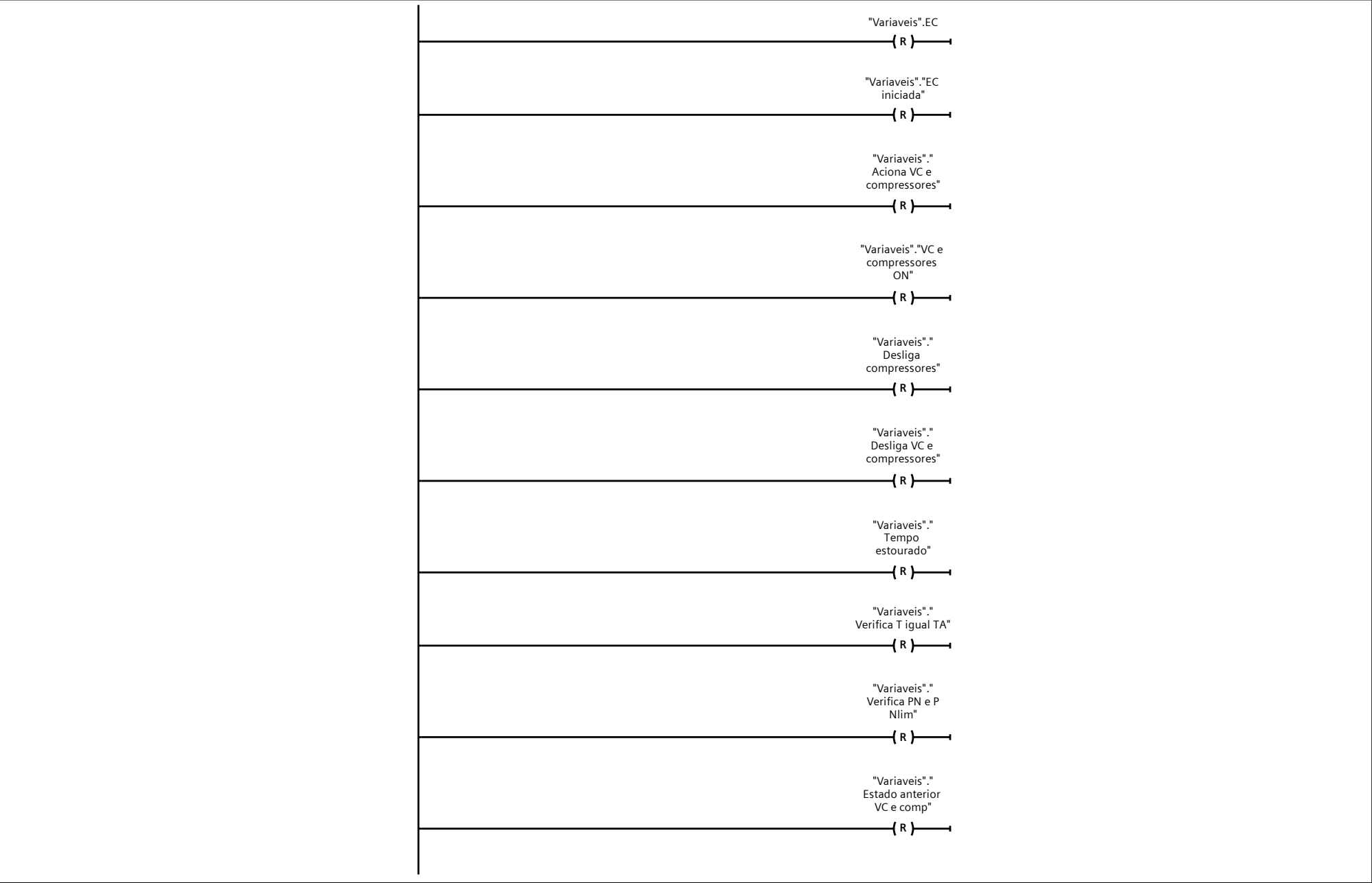
Name	EC - Etapa finalizada	Number	35	Type	FC	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
EC - Etapa finalizada	Void		

Network 1:



Program blocks

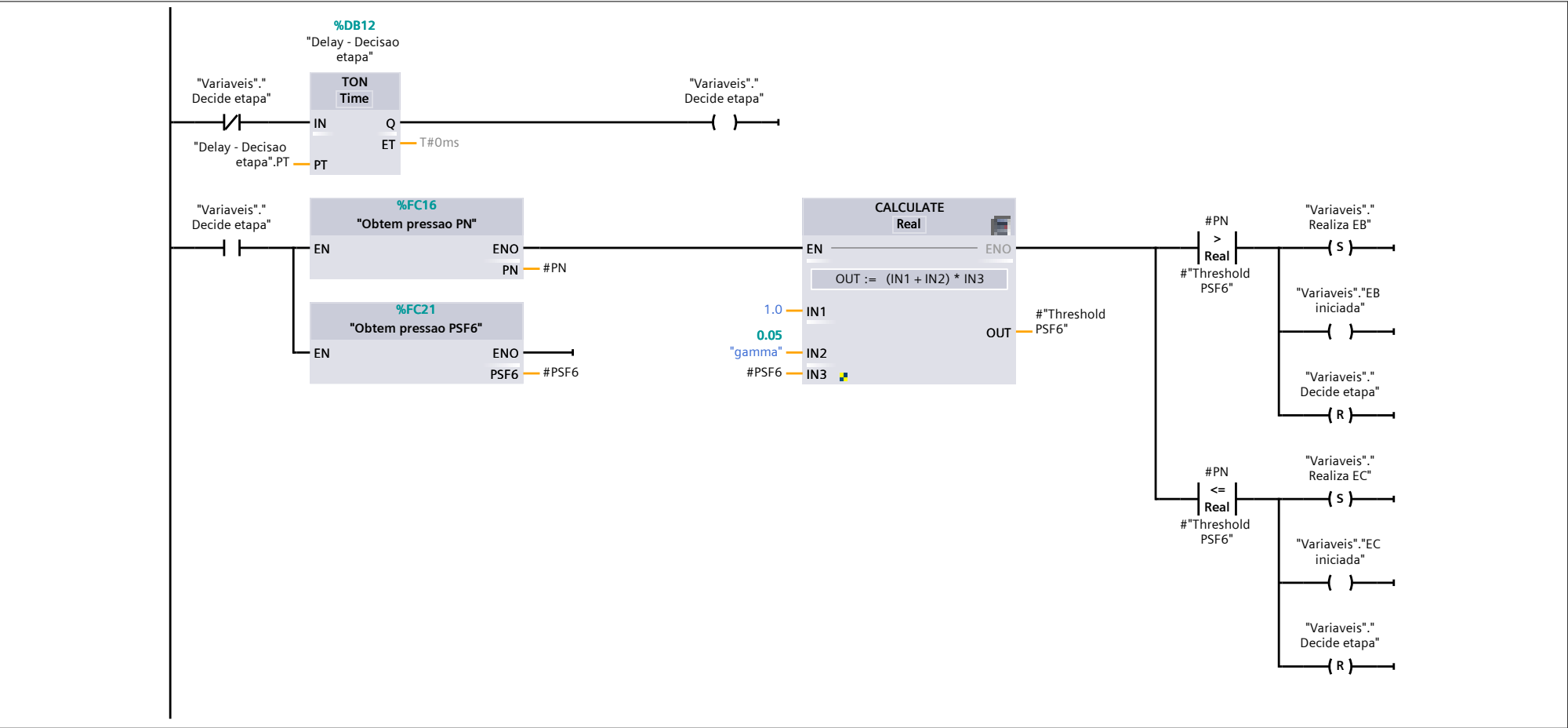
MS2 - Operacao iniciada [FC36]

MS2 - Operacao iniciada Properties							
General							
Name	MS2 - Operacao iniciada	Number	36	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					
Name		Data type	Default value		Comment		
Input							
Output							
InOut							
▼ Temp							
PN		Real			Pressão no nó estendido		
PSF6		Real			Pressão do tanque de SF6		
Threshold PSF6		Real			(1 + gamma)*PSF6		
Constant							
▼ Return							
MS2 - Operacao iniciada		Void					

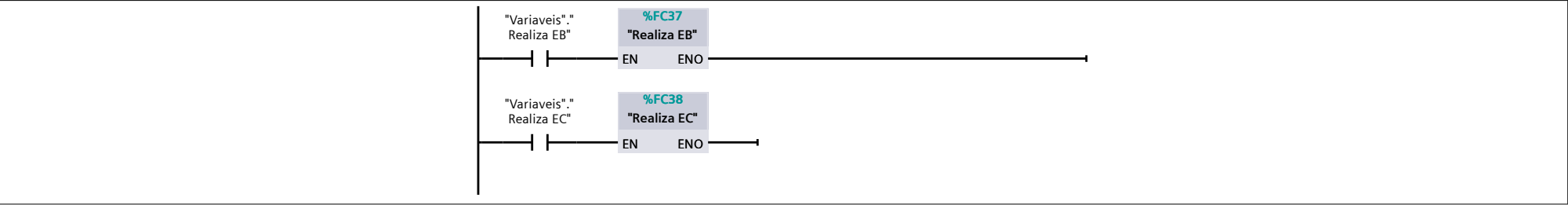
Network 1: Válvula on/off da linha direta (primeira)



Network 2:



Network 3:



Program blocks

Realiza EB [FC37]

Realiza EB Properties

General

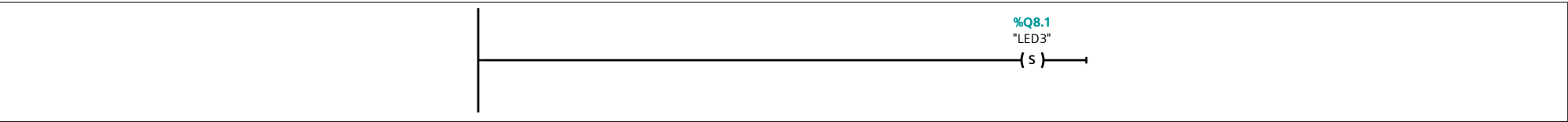
Name	Realiza EB	Number	37	Type	FC	Language	LAD
Numbering	Automatic						

Information

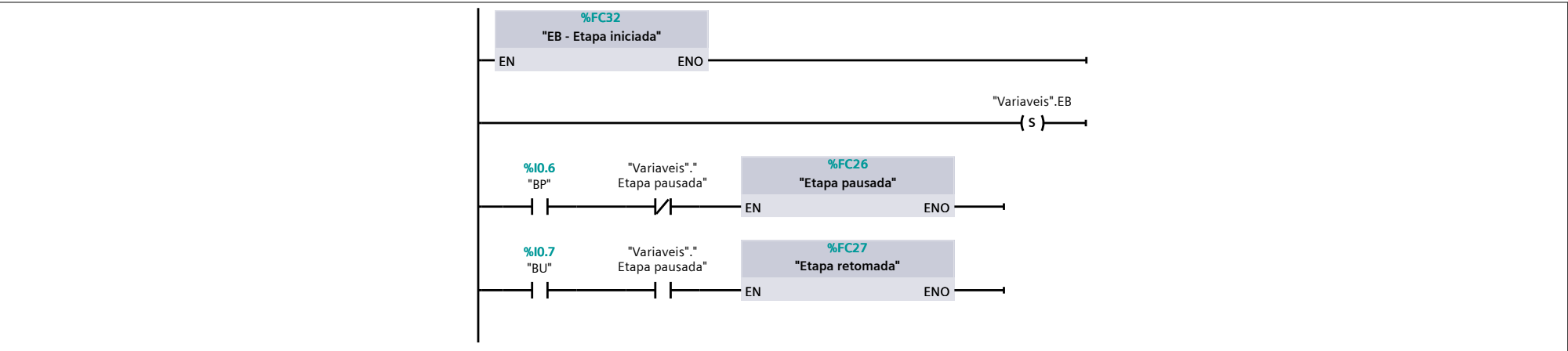
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Realiza EB	Void		

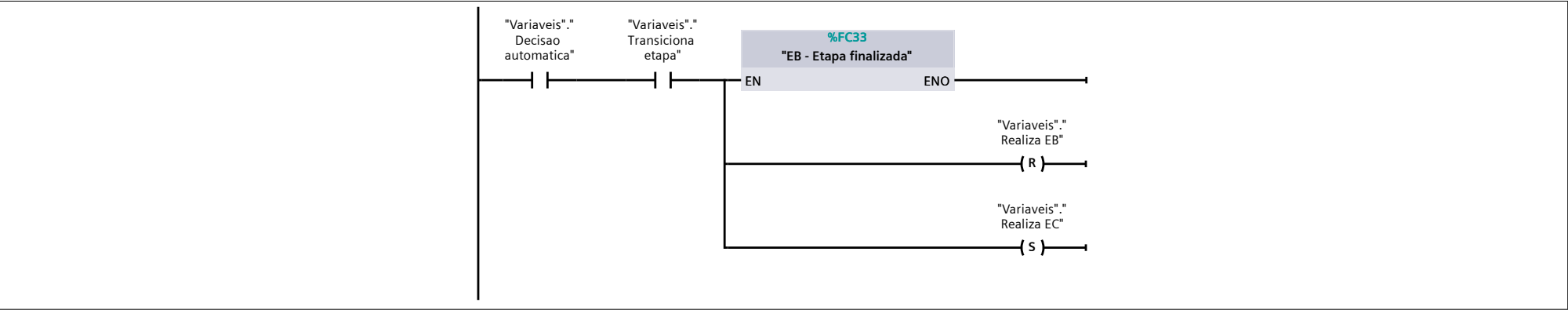
Network 1: LED que indica início/fim das etapas do MS2



Network 2:



Network 3:

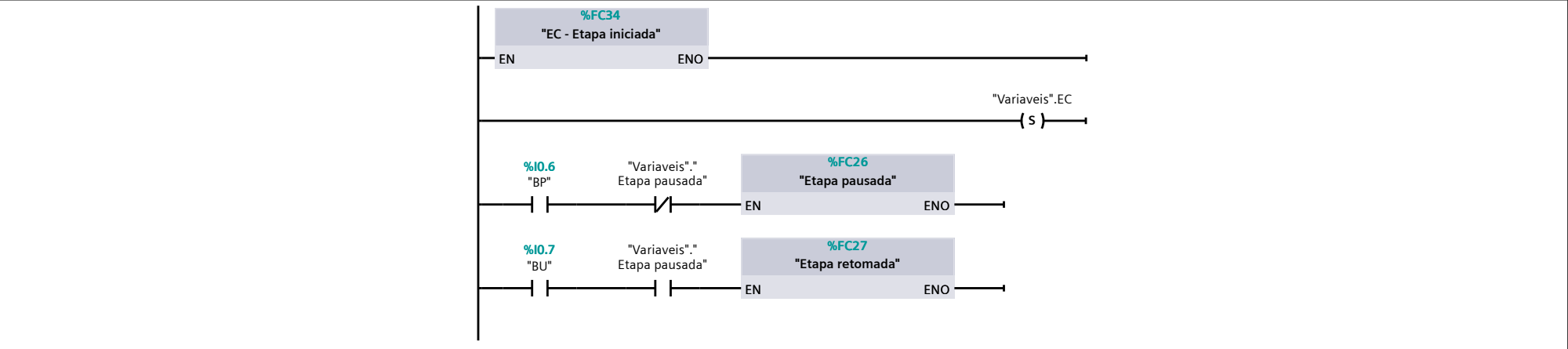


Program blocks

Realiza EC [FC38]

Realiza EC Properties							
General							
Name	Realiza EC	Number	38	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					
Name		Data type	Default value		Comment		
Input							
Output							
InOut							
Temp							
Constant							
▼ Return							
Realiza EC		Void					

Network 1:

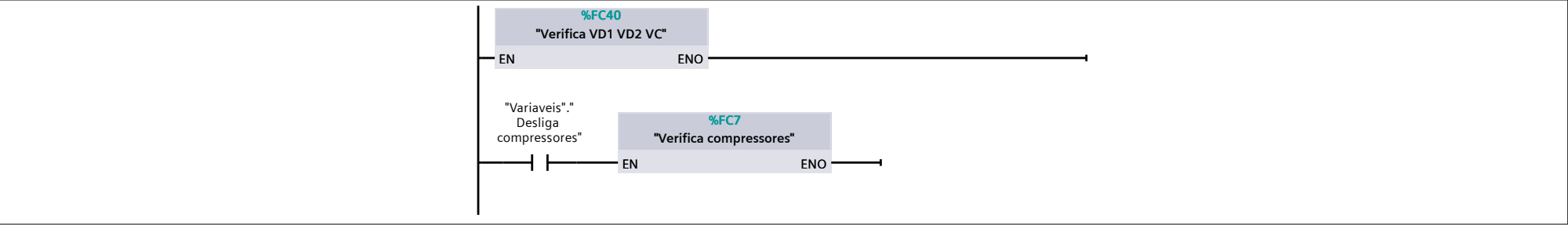


Program blocks

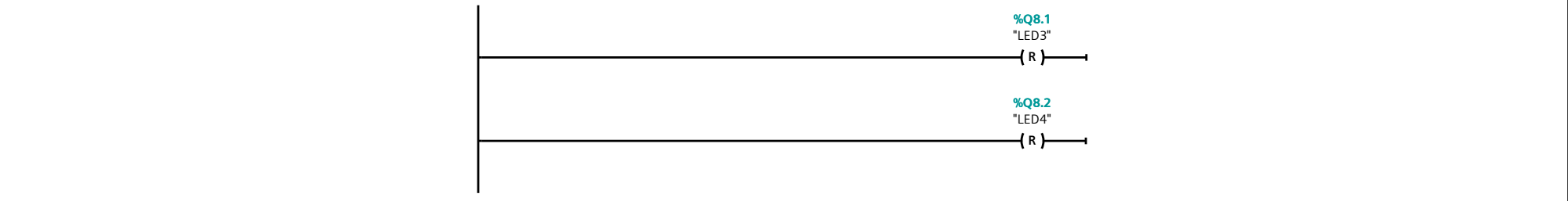
MS2 - Operacao finalizada [FC39]

MS2 - Operacao finalizada Properties							
General							
Name	MS2 - Operacao finalizada	Number	39	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					
Name		Data type	Default value		Comment		
Input							
Output							
InOut							
Temp							
Constant							
▼ Return							
MS2 - Operacao finalizada		Void					

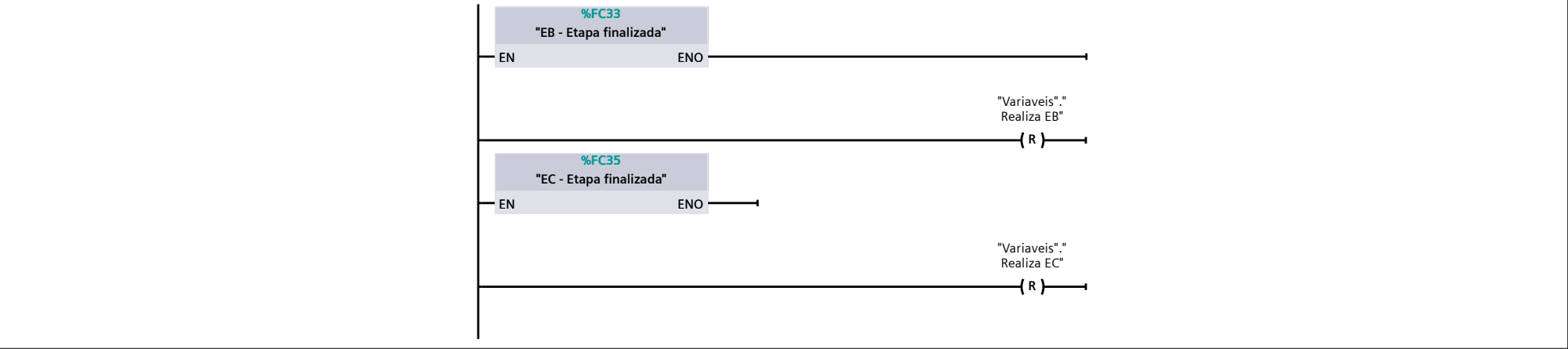
Network 1:



Network 2: LED que indica o estado de etapa pausada



Network 3:



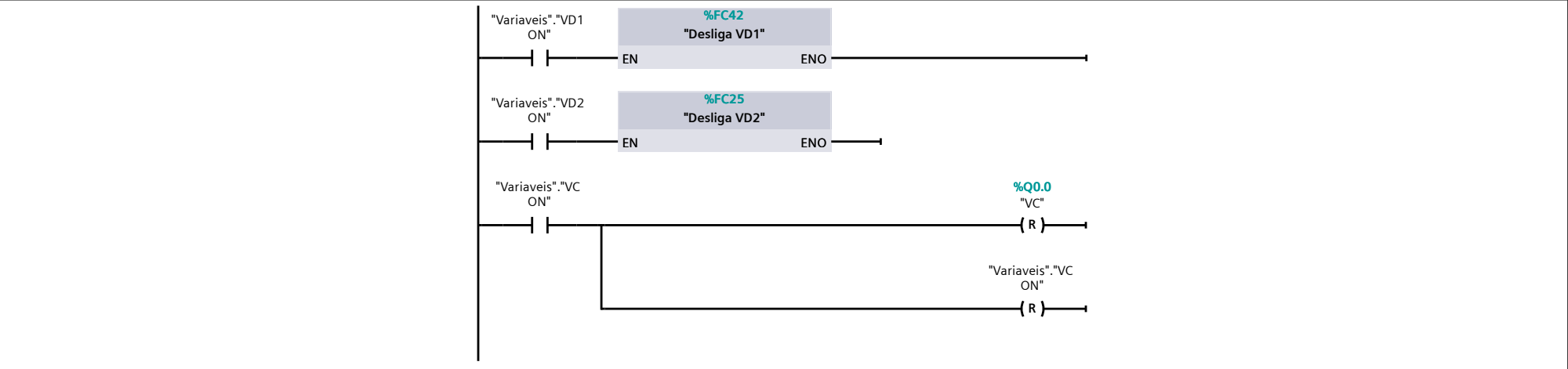
Program blocks

Verifica VD1 VD2 VC [FC40]

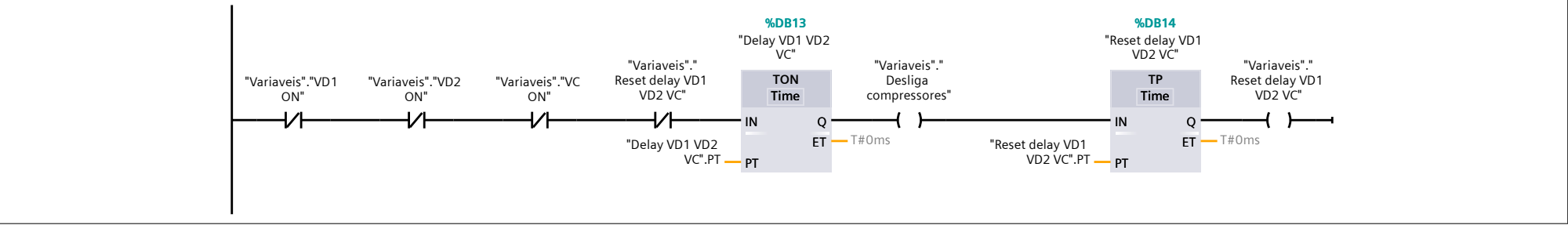
Verifica VD1 VD2 VC Properties							
General							
Name	Verifica VD1 VD2 VC	Number	40	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Verifica VD1 VD2 VC	Void		

Network 1: Válvula on/off da entrada do sistema de compressores



Network 2:



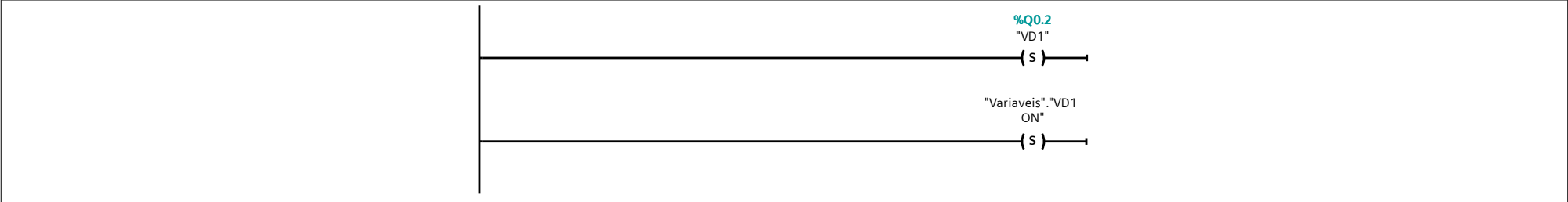
Program blocks

Aciona VD1 [FC41]

Aciona VD1 Properties							
General							
Name	Aciona VD1	Number	41	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Aciona VD1	Void		

Network 1: Válvula on/off da linha direta (primeira)



Program blocks

Desliga VD1 [FC42]

Desliga VD1 Properties							
General							
Name	Desliga VD1	Number	42	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Desliga VD1	Void		

Network 1: Válvula on/off da linha direta (primeira)

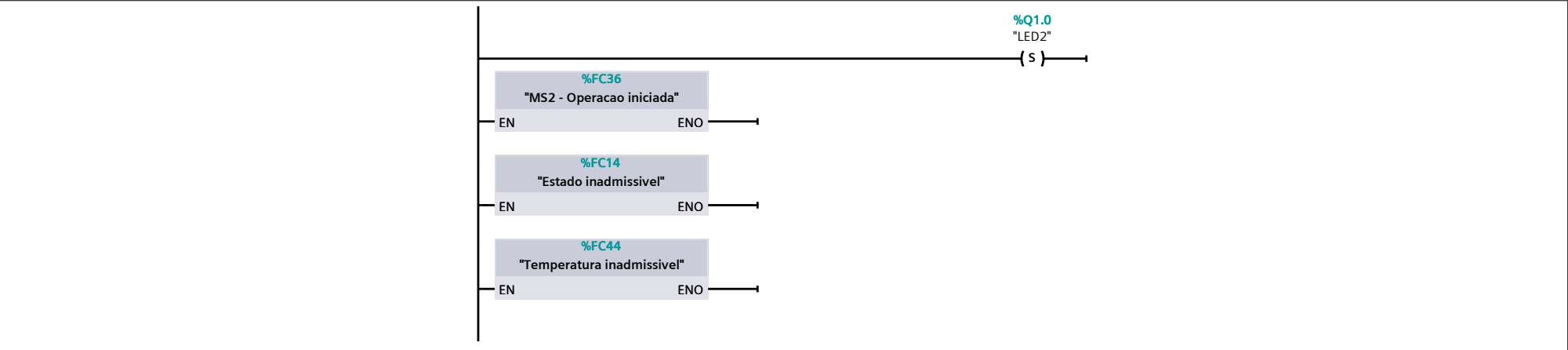


Program blocks

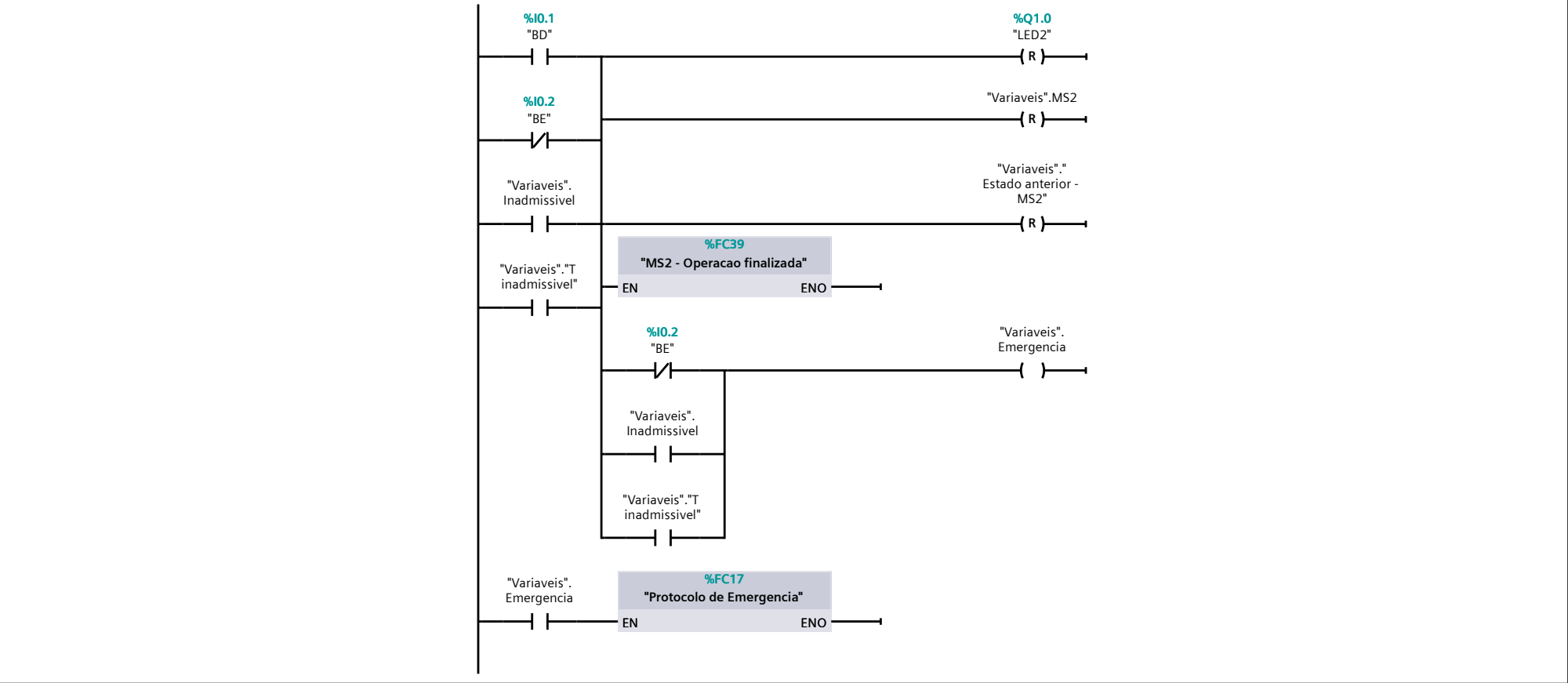
OPERACAO - MS2 [FC43]

OPERACAO - MS2 Properties							
General							
Name	OPERACAO - MS2	Number	43	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					
Name		Data type	Default value		Comment		
Input							
Output							
InOut							
▼ Temp							
T		Real			Temperatura no nó estendido		
Constant							
▼ Return							
OPERACAO - MS2		Void					

Network 1: LED que indica se há alguma operação em curso



Network 2: LED que indica se há alguma operação em curso

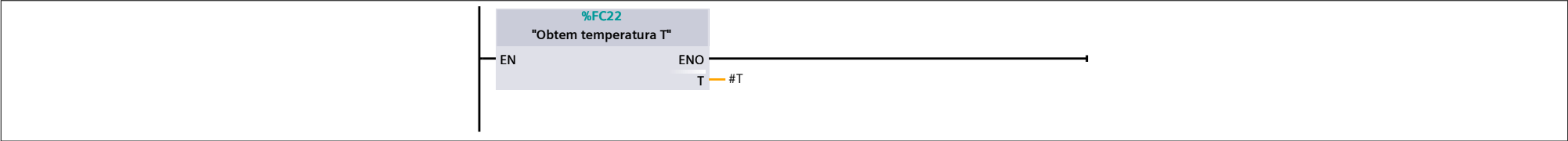


Program blocks

Temperatura inadmissivel [FC44]

Temperatura inadmissivel Properties							
General							
Name	Temperatura inadmissivel	Number	44	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					
Name		Data type	Default value		Comment		
Input							
Output							
InOut							
▼ Temp							
T		Real			Temperatura no nó estendido		
Constant							
▼ Return							
Temperatura inadmissivel		Void					

Network 1:



Network 2:



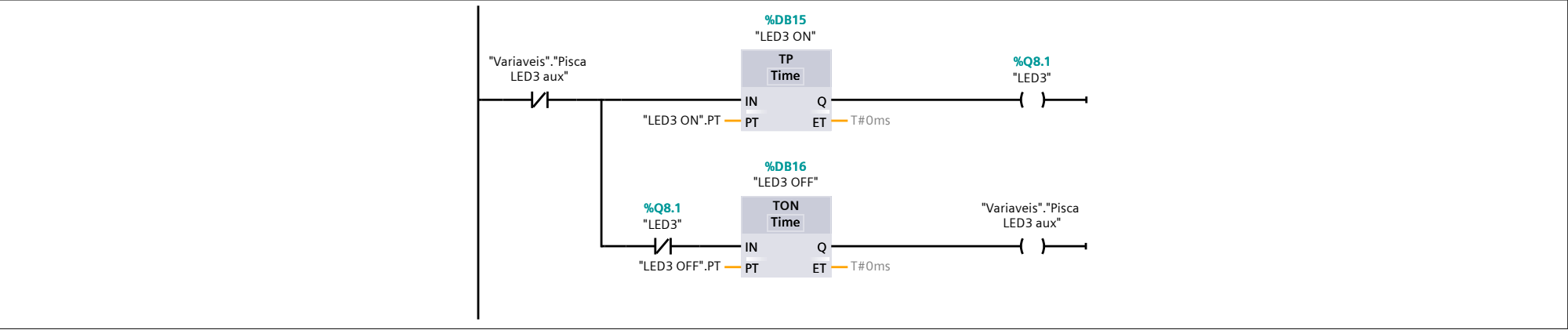
Program blocks

Pisca LED3 [FC45]

Pisca LED3 Properties							
General							
Name	Pisca LED3	Number	45	Type	FC	Language	LAD
Numbering	Automatic						
Information							
Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Comment
Input			
Output			
InOut			
Temp			
Constant			
▼ Return			
Pisca LED3	Void		

Network 1: LED que avisa sobre a pressão no tanque separador



Program blocks

Decide LED1 - FB [FB1]

Decide LED1 - FB Properties

General

Name	Decide LED1 - FB	Number	1	Type	FB	Language	LAD
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

Name	Data type	Default value	Retain	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion			Comment
▼ Input											
P	Real	0.0	Non-retain	True	True	True	False				Pressão no tanque separa-dor
Output											
InOut											
Static											
Temp											
Constant											

Network 1: LED que avisa sobre a pressão no tanque separador

```
0001 IF "Variaveis".MS1 = TRUE THEN
0002     IF #P >= "L2" THEN
0003         "Variaveis"."LED1 - Continuo" := TRUE;
0004         "Variaveis"."LED1 - Piscar" := FALSE;
0005         "Variaveis"."LED1 - Desligar" := FALSE;
0006     ELSIF #P <= "Lmin" THEN
0007         "Variaveis"."LED1 - Piscar" := TRUE;
0008         "Variaveis"."LED1 - Continuo" := FALSE;
0009         "Variaveis"."LED1 - Desligar" := FALSE;
0010     ELSE
0011         "Variaveis"."LED1 - Desligar" := TRUE;
0012         "Variaveis"."LED1 - Piscar" := FALSE;
0013         "Variaveis"."LED1 - Continuo" := FALSE;
0014     END_IF;
0015 ELSE
0016     IF #P >= "L2" THEN
0017         "Variaveis"."LED1 - Continuo" := TRUE;
0018         "Variaveis"."LED1 - Desligar" := FALSE;
0019     ELSE
0020         "Variaveis"."LED1 - Desligar" := TRUE;
0021         "Variaveis"."LED1 - Continuo" := FALSE;
0022     END_IF;
0023 END_IF;
0024
```

Program blocks

Decide LED1 - DB [DB19]

Decide LED1 - DB Properties

General	
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Name	Decide LED1 - DB	Number	19	Type	DB	Language	DB
Numbering	Automatic						

Information

Title		Author		Comment		Family	
Version	0.1	User-defined ID					

[illegible]

Program blocks / System blocks / Program resources

LED1 ON [DB4]

LED1 ON Properties										
General										
Name	LED1 ON	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static										
PT		Time	T#1S	False	True	True	True	False		
ET		Time	T#0ms	False	True	False	True	False		
IN		Bool	false	False	True	True	True	False		
Q		Bool	false	False	True	False	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

LED1 OFF [DB5]

LED1 OFF Properties

General

Name	LED1 OFF	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#1S	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

Delay 1 [DB2]

Delay 1 Properties

General

Name	Delay 1	Number	2	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#3S	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

Reset delay 1 [DB6]

Reset delay 1 Properties

General

Name	Reset delay 1	Number	6	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion				Comment
▼ Static												
PT	Time	T#10MS	False	True	True	True	False					
ET	Time	T#0ms	False	True	False	True	False					
IN	Bool	false	False	True	True	True	False					
Q	Bool	false	False	True	False	True	False					

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Program blocks / System blocks / Program resources

Delay VC 1 [DB3]

Delay VC 1 Properties

General

Name	Delay VC 1	Number	3	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#5S	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

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Program blocks / System blocks / Program resources

Reset delay VC 1 [DB7]

Reset delay VC 1 Properties

General

Name	Reset delay VC 1	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#10MS	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

Delay VC 2 [DB8]

Delay VC 2 Properties

General

Name	Delay VC 2	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#5S	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

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Program blocks / System blocks / Program resources

Reset delay VC 2 [DB9]

Reset delay VC 2 Properties

General

Name	Reset delay VC 2	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#10MS	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

Program blocks / System blocks / Program resources

Contagem EB [DB10]

Contagem EB Properties										
General										
Name	Contagem EB	Number	10	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static										
PT		Time	T#20S	False	True	True	True	False		
ET		Time	T#0ms	False	True	False	True	False		
IN		Bool	false	False	True	True	True	False		
Q		Bool	false	False	True	False	True	False		

Program blocks / System blocks / Program resources

Contagem EC [DB11]

Contagem EC Properties										
General										
Name	Contagem EC	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static										
PT		Time	T#10S	False	True	True	True	False		
ET		Time	T#0ms	False	True	False	True	False		
IN		Bool	false	False	True	True	True	False		
Q		Bool	false	False	True	False	True	False		

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Program blocks / System blocks / Program resources

Delay - Decisao etapa [DB12]

Delay - Decisao etapa Properties

General

Name	Delay - Decisao etapa	Number	12	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#5S	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

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Program blocks / System blocks / Program resources

Delay VD1 VD2 VC [DB13]

Delay VD1 VD2 VC Properties

General

Name	Delay VD1 VD2 VC	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#5S	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

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Program blocks / System blocks / Program resources

Reset delay VD1 VD2 VC [DB14]

Reset delay VD1 VD2 VC Properties

General

Name	Reset delay VD1 VD2 VC	Number	14	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#10MS	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

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Program blocks / System blocks / Program resources

LED3 ON [DB15]

LED3 ON Properties

General

Name	LED3 ON	Number	15	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#1S	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

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Program blocks / System blocks / Program resources

LED3 OFF [DB16]

LED3 OFF Properties

General

Name	LED3 OFF	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#1S	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

Program blocks / System blocks / Program resources

Compressores OFF - BD [DB20]

Compressores OFF - BD Properties												
General												
Name	Compressores OFF - BD		Number	20		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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion			Comment
▼ Static												
PT		Time	T#3S	False	True	True	True	False				
ET		Time	T#0ms	False	True	False	True	False				
IN		Bool	false	False	True	True	True	False				
Q		Bool	false	False	True	False	True	False				

Program blocks / System blocks / Program resources

Compressores OFF - Inad P [DB17]

Compressores OFF - Inad P Properties										
General										
Name	Compressores OFF - Inad P		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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									<div><div></div><div></div><div></div><div></div></div>	
PT		Time	T#3S	False	True	True	True	False		
ET		Time	T#0ms	False	True	False	True	False		
IN		Bool	false	False	True	True	True	False		
Q		Bool	false	False	True	False	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

Compressores OFF - BE [DB18]

Compressores OFF - BE Properties

General

Name	Compressores OFF - BE	Number	18	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#3S	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

Program blocks / System blocks / Program resources

Compressores OFF - Inad PS [DB21]

Compressores OFF - Inad PS Properties										
General										
Name	Compressores OFF - Inad PS		Number	21		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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									<div><div></div><div></div><div></div><div></div></div>	
PT		Time	T#3S	False	True	True	True	False		
ET		Time	T#0ms	False	True	False	True	False		
IN		Bool	false	False	True	True	True	False		
Q		Bool	false	False	True	False	True	False		

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Program blocks / System blocks / Program resources

Compressores OFF - Inad PN [DB22]

Compressores OFF - Inad PN Properties

General

Name	Compressores OFF - Inad PN	Number	22	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	Accessible from HMI/OPC UA/Web API	Writ-able from HMI/ OPC UA/ Web API	Visible in HMI engi-neering	Setpoint	Supervi-sion	Comment
▼ Static									
PT	Time	T#3S	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		