

CONFIGURAÇÃO

RELÉ 857 ROCKWELL

Autor: Rodolfo Cintra

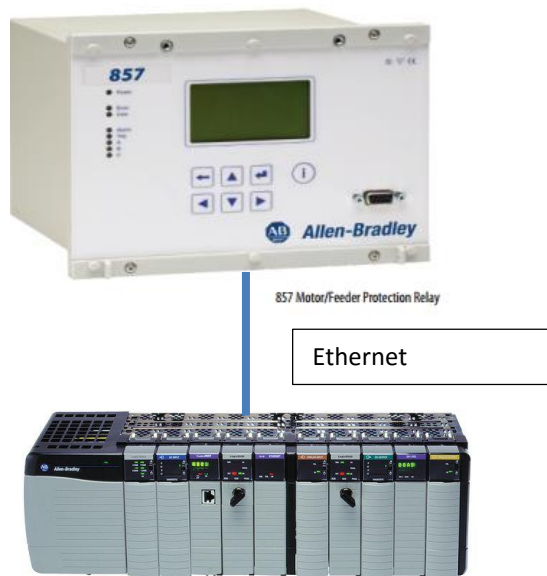
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Projeto :
Documento: Configurando o Relé 857 da Rockwell
Arquivo :

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Rev : 0
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1. ARQUITETURA



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2. CABO DE COMUNICAÇÃO

O cabo de comunicação entre o PC e o relé.

Front Panel Connector

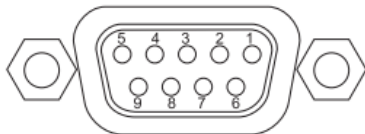


Figure 9.11 – Pin Numbering of the Front Panel D9S Connector

Table 9.4 – RS-232 Signals

Pin	RS-232 signal
1	Not connected
2	Rx in
3	Tx out
4	DTR out (+8 V)
5	GND
6	DSR in (activates this port and disables the X4 RS232 port)
7	RTS in (Internally connected to pin 8)
8	CTS out (Internally connected to pin 7)
9	No connected

NOTE: DSR must be connected to DTR to activate the front panel connector and disable the rear panel X4 RS232 port. (The other port in the same X4 connector will not be disabled.)

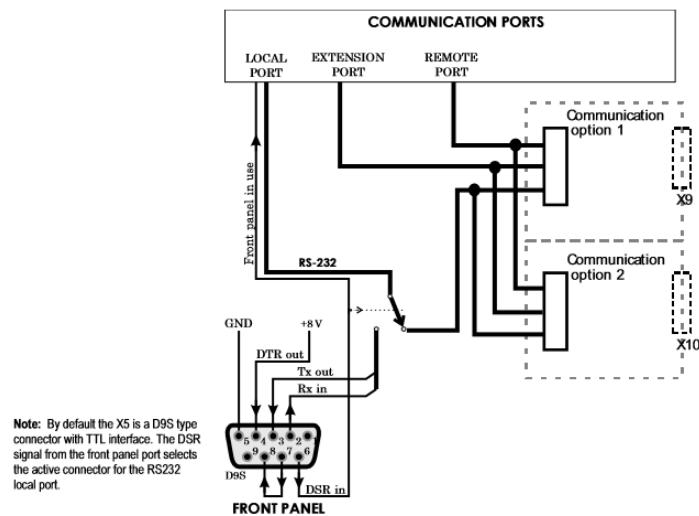


Figure 7.1 – Communication Ports and Connectors

3. SOFTWARE

O software utilizado para a configuração é o SetpointPS e pode ser encontrado no site abaixo..

<http://ab.rockwellautomation.com/circuit-and-load-protection/medium-voltage/857-medium-voltage-protection#software>

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4. DEFINIÇÕES DAS ENTRADAS E SAÍDAS DO PROJETO

Alimentadores - Definições I/O

Digital Input	Terminal	Função
DI7	X7:1	Disj Teste/Extraído
DI8	X7:2	Disj Inserido
DI9	X7:3	Disj Ligado
DI10	X7:4	Remoto
DI11	X7:5	Desliga Disjuntor
DI12	X7:6	Liga Disjuntor
DI13	X7:8	Reserva
DI14	X7:9	Reserva
DI15	X7:10	Seccion Aterrada
DI16	X7:11	Superv Bobina
DI17	X7:12	Disj Energizado
DI18	X7:13	Fonte FT2 Energizada

Relays	Terminal	Função
IF	X2:9/10/11	Falha Relé
T1	X3:14/15	Trip
T2	X3:12/13	Cmd Desliga
A1	X3:9/10/11	Cmd Liga
A2	X2:7/8	Cmd Extrair
A3	X2:5/6	Cmd Inserir

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Motores - Definições I/O

Digital Input	Terminal	Função
DI7	X7:1	Fusivel Queimado
DI8	X7:2	Contator Inserido
DI9	X7:3	Contator Extraído
DI10	X7:4	Reserva
DI11	X7:5	Contator Ligado
DI12	X7:6	Reserva
DI13	X7:8	Reserva
DI14	X7:9	Reserva
DI15	X7:10	Reserva
DI16	X7:11	Reserva
DI17	X7:12	Reserva
DI18	X7:13	Reserva

Relays	Terminal	Função
IF	X2:9/10/11	Falha Relé
T1	X3:14/15	Trip
T2	X3:12/13	Cmd Liga (1) Desliga (0)
A1	X3:9/10/11	Nao Usado
A2	X2:7/8	Cmd Extrair
A3	X2:5/6	Cmd Inserir

Input = 32 Bytes (SINT)

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Leitura	Offset	Função
Digital#169	000	DevStatus
ControlSupervisor#011	001	Warning
ControlSupervisor#003	002	Run1
1 byte padding	003	Nao Utilizado
ControlSupervisor#013	004	Fault Code
ControlSupervisor#014	006	Warning Code
ControlSupervisor#022	008	Cycle Count
Digital#001	012	Digital Inputs
Analog#058	016	Voltage Mean
Overload#005	018	AvgCurrent
Overload#007	020	%Thermal
Analog#018	021	PowerFactor
Analog#082	022	RMS Active Power
Analog#083	024	RMS Reactive Power
Analog#084	026	RMS Apparent Power
Analog#015	028	Imported Energy

Output = 12 Bytes (SINT)

Escrita	Offset	Função
ControlSupervisor#012	000	FaultRst
Digital#018	001	Close Selected Obj2 (Comando Extrair)
Digital#019	002	Execute Operation Obj2 (Comando Extrair)
Digital#024	003	Close Selected Obj3 (Comando Inserir)
Digital#025	004	Execute Operation Obj3 (Comando Inserir)
Digital#028	005	Close Selected Obj4 (Comando Desliga)
Digital#029	006	Execute Operation Obj4 (Comando Desliga)
Digital#079	007	Close Selected Obj5 (Comando Liga)
Digital#080	008	Execute Operation Obj5 (Comando Liga)
Digital#083	009	Close Selected Obj6 (Comando Parar)
Digital#084	010	Execute Operation Obj6 (Comando Parar)
Digital#107	011	Virtual Input 1

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5. CONFIGURAÇÕES BÁSICAS

DEVICE INFO

MEASUREMENTS

+ HARMONICS...

POWER

PQ-DIAGRAM

ENERGY

PHASOR DIAGRAM

RMS MEASURING

MONTH MAX

+ MINIMUMS and MAXIMUMS...

+ DEMAND VALUES...

+ DIGITAL INPUTS...

+ VIRTUAL INPUTS...

+ RELAYS...

+ VIRTUAL OUTPUTS...

EVENT BUFFER

+ DIST...

RUNNING HOUR COUNTER

+ VOLTAGE...

TIMERS

VALID PROTECTION STAGES

+ PRO...

COLD LOAD/INRUSH

+ OVERCURRENT STAGE...

+ DIRECTIONAL O/C STAGE...

+ REVERSE POWER STAGE...

UNDER CURRENT STAGE I< 37

UNBALANCE STAGE I2> 46

INCORRECT PHASE SEQUENCE I2>> 47

STALL PROTECTION Ist> 48

MOTOR STATUS

FREQUENT START PROTECTION N> 66

THERMAL OVERLOAD STAGE T> 49

+ EARTH-FAULT STAGE...

+ DIRECTIONAL E/F...

TRANSIENT INTERMITTENT E/F 67NI

+ OVERVOLTAGE STAGE...

DEVICE INFO

Main location	Substation
Sublocation	Bay
Name for this device	M1

Device name	M1
Device type	857
Application mode	Motor
Installed languages	Feeder
Enable language for PC	Motor

Serial number	1746
Order code	
Program version	V10.96
Boot-code version	

Minimum setting tool version	2.2.85
Current setting tool version	2.2.114

Date	2008-02-05
Time of day	00:00:10

Display contrast	95
Display backlight ctrl	-

Nome e área

Tipo : motor ou alimentador

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6. ESCALAS

Ajuste de escalas conforme projetos.

The screenshot displays the configuration interface for a Rockwell Relay 857. On the left, a menu tree lists various settings, with 'SCALING' highlighted. The main area on the right shows the 'SCALING' configuration page, which contains four tables of parameters.

SCALING

Motor nom current	400.0	A
CT primary	200	A
CT secondary	5	A
Nominal input	5	A

VT primary	4160	V
VT secondary	115	V

Io1 CT primary	100	A
Io1 CT secondary	1.0	A
Nominal Io1 input	1.0	A
Io2 CT primary	50	A
Io2 CT secondary	5.0	A
Nominal Io2 input	5.0	A

VTo secondary	100.000	V
Voltage meas. mode	2LL+Uo	
Frequency adaptation mode	Auto	
Adapted frequency	50.0	Hz

7. CONFIGURAÇÃO DE REDE

DEVICE INFO MEASUREMENTS + HARMONICS... POWER PQ-DIAGRAM ENERGY PHASOR DIAGRAM RMS MEASURING MONTH MAX + MINIMUMS and MAXIMUMS... + DEMAND VALUES... + DIGITAL INPUTS... + VIRTUAL INPUTS... + RELAYS... + VIRTUAL OUTPUTS... EVENT BUFFER + DIST... RUNNING HOUR COUNTER + VOLTAGE... TIMERS VALID PROTECTION STAGES + PRO... COLD LOAD/INRUSH + OVERCURRENT STAGE... + DIRECTIONAL O/C STAGE... + REVERSE POWER STAGE... UNDER CURRENT STAGE I< 37 UNBALANCE STAGE I2> 46 THERMAL OVERLOAD STAGE T> 49 + EARTH-FAULT STAGE... + DIRECTIONAL E/F... TRANSIENT INTERMITTENT E/F 67NI + OVERVOLTAGE STAGE... + UNDERVOLTAGE STAGE... + ZERO SEQ. VOLTAGE STAGE... + FREQUENCY STAGE... + UNDERFREQUENCY STAGE... FREQUENCY STAGE df/dt 81R + PROGRAMMABLE STAGE... CB FAILURE PROTECTION 50BF 2nd HARMONIC O/C STAGE If2> 51F2 5th HARMONIC O/C STAGE If5> 51F5 O B J E C T S AUTO RECLOSING 79 AR Shot settings 79 AR COUNTER TEXTS CEWEAR + SUPERVISOR... RELEASE OUTPUT MATRIX LATCHES OUTPUT MATRIX BLOCK MATRIX AUTO-RECLOSING MATRIX OBJECT BLOCK MATRIX L O G I C M I M I C + LOCAL... S C A L I N G STAGE EVENT ENABLING + EVENT MASKS for... DI EVENT TEXTS + EVENT ENABLING... CLOCK SYNC P R O T O C O L CONFIGURATION EtherNet/IP MAIN CONFIGURATION CIP I/O configuration DIAGNOSIS CMP RESULTS	REMOTE PORT <table> <tr> <td>Remote port protocol</td><td>None</td></tr> <tr> <td>-</td><td>9600/8N1</td></tr> <tr> <td>Message counter</td><td>0</td></tr> <tr> <td>Error counter</td><td>0</td></tr> <tr> <td>Timeout counter</td><td>0</td></tr> </table> LOCAL PORT <table> <tr> <td>Local port protocol</td><td>None</td></tr> <tr> <td>-</td><td>38400/8N1</td></tr> <tr> <td>Message counter</td><td>0</td></tr> <tr> <td>Error counter</td><td>0</td></tr> <tr> <td>Timeout counter</td><td>0</td></tr> </table> EXTENSION PORT <table> <tr> <td>Extension port protocol</td><td>GetSet</td></tr> <tr> <td>-</td><td>38400/8N1</td></tr> <tr> <td>Message counter</td><td>0</td></tr> <tr> <td>Error counter</td><td>0</td></tr> <tr> <td>Timeout counter</td><td>0</td></tr> </table> ETHERNET PORT <table> <tr> <td>IP Address</td><td>192.168.1.20</td></tr> <tr> <td>NetMask</td><td>255.255.255.0</td></tr> <tr> <td>Gateway</td><td>0.0.0.0</td></tr> <tr> <td>NTP server</td><td>0.0.0.0</td></tr> <tr> <td>IP port for setting tool</td><td>23</td></tr> <tr> <td>TCP keepalive interval</td><td>0 s</td></tr> <tr> <td>Enable FTP server</td><td>☐</td></tr> <tr> <td>FTP password</td><td>?</td></tr> <tr> <td>FTP max speed</td><td>4 kB/s</td></tr> <tr> <td>MAC address</td><td>001AD3006E8C</td></tr> </table> TCP PORT 1st INST <table> <tr> <td>Ethernet port protocol</td><td>None</td></tr> <tr> <td>IP port for protocol</td><td>44818</td></tr> <tr> <td>Message counter</td><td>0</td></tr> <tr> <td>Error counter</td><td>0</td></tr> <tr> <td>Timeout counter</td><td>0</td></tr> </table> TCP PORT 2nd INST <table> <tr> <td>Ethernet port protocol 2nd inst</td><td>EtherNetIP</td></tr> <tr> <td>IP port for protocol 2nd inst</td><td>44818</td></tr> <tr> <td>Message counter</td><td>9652</td></tr> <tr> <td>Error counter</td><td>0</td></tr> <tr> <td>Timeout counter</td><td>0</td></tr> </table>	Remote port protocol	None	-	9600/8N1	Message counter	0	Error counter	0	Timeout counter	0	Local port protocol	None	-	38400/8N1	Message counter	0	Error counter	0	Timeout counter	0	Extension port protocol	GetSet	-	38400/8N1	Message counter	0	Error counter	0	Timeout counter	0	IP Address	192.168.1.20	NetMask	255.255.255.0	Gateway	0.0.0.0	NTP server	0.0.0.0	IP port for setting tool	23	TCP keepalive interval	0 s	Enable FTP server	☐	FTP password	?	FTP max speed	4 kB/s	MAC address	001AD3006E8C	Ethernet port protocol	None	IP port for protocol	44818	Message counter	0	Error counter	0	Timeout counter	0	Ethernet port protocol 2nd inst	EtherNetIP	IP port for protocol 2nd inst	44818	Message counter	9652	Error counter	0	Timeout counter	0
Remote port protocol	None																																																																						
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+ EARTH-FAULT STAGE...	
+ DIRECTIONAL E/F...	
TRANSIENT INTERMITTENT E/F	67NI
+ OVERVOLTAGE STAGE...	
+ UNDERVOLTAGE STAGE...	
+ ZERO SEQ. VOLTAGE STAGE...	
+ FREQUENCY STAGE...	
+ UNDERFREQUENCY STAGE...	
FREQUENCY STAGE df/dt	81R
+ PROGRAMMABLE STAGE...	
CB FAILURE PROTECTION	50BF
2nd HARMONIC O/C STAGE If2>	51F2
5th HARMONIC O/C STAGE If5>	51F5
O B J E C T S	
AUTO RECLOSING	79
AR Shot settings	79
AR COUNTER TEXTS	
CBWEAR	
+ SUPERVISOR...	
RELEASE OUTPUT MATRIX LATCHES	
OUTPUT MATRIX	
BLOCK MATRIX	
AUTO-RECLOSING MATRIX	
OBJECT BLOCK MATRIX	
L O G I C	
M I M I C	
+ LOCAL...	
S C A L I N G	
STAGE EVENT ENABLING	
+ EVENT MASKS for...	
DI EVENT TEXTS	
+ EVENT ENABLING...	
CLOCK SYNC	
P R O T O C O L CONFIGURATION	
EtherNet/IP MAIN CONFIGURATION	
CIP I/O configuration	
DIAGNOSIS	

Multicast IP Address		239.0.0.1
Multicast TTL		1
Vendor ID		1
Device Type		43
Product Code		500
Major revision		1
Minor revision		1
Serial Number		1713
Product Name		857
Auto/Manual Header Detection		Manual

Target->Originator Conn Params	
Producing Instance	100
Include Run/Idle Header	☐
Producing Instance Size	32

Originator->Target Conn Params	
Consuming Instance	150
Include Run/Idle Header	☒
Consuming Instance Size	12

Configuration Assembly Params	
Configuration Instance	199
Configuration Instance Size	0

8. CONFIGURANDO PALAVRA DE LEITURA E ESCRITA

Clicando no nome é possível configurar qual variável será enviada para o controlador, a ordem das palavras são definidas pelo usuário.

DEVICE INFO
MEASUREMENTS
+ HARMONICS...
POWER
PQ-DIAGRAM
ENERGY
PHASOR DIAGRAM
RMS MEASURING
MONTH MAX
+ MINIMUMS and MAXIMUMS...
+ DEMAND VALUES...
+ DIGITAL INPUTS...
+ VIRTUAL INPUTS...
+ RELAYS...
+ VIRTUAL OUTPUTS...
EVENT BUFFER
+ DIST...
RUNNING HOUR COUNTER
+ VOLTAGE...
TIMERS
VALID PROTECTION STAGES
+ PRO...
COLD LOAD/INRUSH
+ OVERCURRENT STAGE...
+ DIRECTIONAL O/C STAGE...
+ REVERSE POWER STAGE...
UNDER CURRENT STAGE I< 37
UNBALANCE STAGE I2> 46
THERMAL OVERLOAD STAGE T> 49
+ EARTH-FAULT STAGE...
+ DIRECTIONAL E/F...
TRANSIENT INTERMITTENT E/F 67NI
+ OVERVOLTAGE STAGE...
+ UNDERVOLTAGE STAGE...
+ ZERO SEQ. VOLTAGE STAGE...
+ FREQUENCY STAGE...
+ UNDERFREQUENCY STAGE...
FREQUENCY STAGE df/dt 81R
+ PROGRAMMABLE STAGE...
CB FAILURE PROTECTION 50BF
2nd HARMONIC O/C STAGE If2> 51F2
5th HARMONIC O/C STAGE If5> 51F5
O B J E C T S
AUTO RECLOSING 79
AR Shot settings 79
AR COUNTER TEXTS
CBWEAR
+ SUPERVISOR...
RELEASE OUTPUT MATRIX LATCHES
OUTPUT MATRIX
BLOCK MATRIX
AUTO-RECLOSING MATRIX
OBJECT BLOCK MATRIX
L O G I C
M I M I C
+ LOCAL...
S C A L I N G
STAGE EVENT ENABLING
+ EVENT MASKS for...
DI EVENT TEXTS
+ EVENT ENABLING...
CLOCK SYNC
P R O T O C O L CONFIGURATION
EtherNet/IP MAIN CONFIGURATION
CIP I/O configuration
DIAGNOSIS
CMP RESULTS

Producing Assembly (Tx, T->O)

Name	Length	Scaling	Offset
Digital#169 / DevStatus	1	1 = 1	000
Control Supervisor#011 / Warning	1	1 = 1	001
Control Supervisor#003 / Run1	1	1 = 1	002
1 byte padding	1	1 = 1	003
Control Supervisor#013 / FaultCode	2	1 = 1	004
			005
Control Supervisor#014 / WarnCode	2	1 = 1	006
			007
Control Supervisor#022 / CycleCount	4	1 = 1	008
			009
			010
			011
Digital#001 / Digital inputs	4	1 = 1	012
			013
			014
			015
Analog#058 / Voltage mean	2	1000 Vrms = 1000	016
			017
Overload#005 / AvgCurrent	2	1.0 A = 10	018
			019
Overload#007 / %Thermal	1	1 % = 1	020
Analog#018 / Power factor	1	1.00 = 100	021
Analog#082 / RMS active power	2	1000 kW = 1000	022
			023
Analog#083 / RMS reactive power	2	1000 kvar = 1000	024
			025
Analog#084 / RMS apparent power	2	1000 kVA = 1000	026
			027
Analog#015 / Imported energy	4	1.000 MWh = 1000	028
			029
			030
			031
-	-	-	032

Consuming Assembly (Rx, O->T)

Name	Length	Scaling	Offset
Control Supervisor#012 / FaultRst	1	1 = 1	000
Digital#018 / Close select Obj2	1	1 = 1	001
Digital#019 / Execute operation Obj2	1	1 = 1	002
Digital#024 / Close select Obj3	1	1 = 1	003
Digital#025 / Execute operation Obj3	1	1 = 1	004
Digital#028 / Close select Obj4	1	1 = 1	005
Digital#029 / Execute operation Obj4	1	1 = 1	006
Digital#079 / Close select Obj5	1	1 = 1	007
Digital#080 / Execute operation Obj5	1	1 = 1	008
Digital#083 / Close select Obj6	1	1 = 1	009

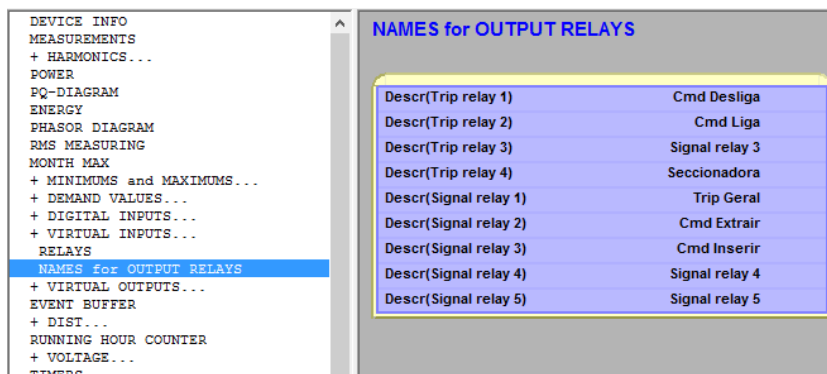
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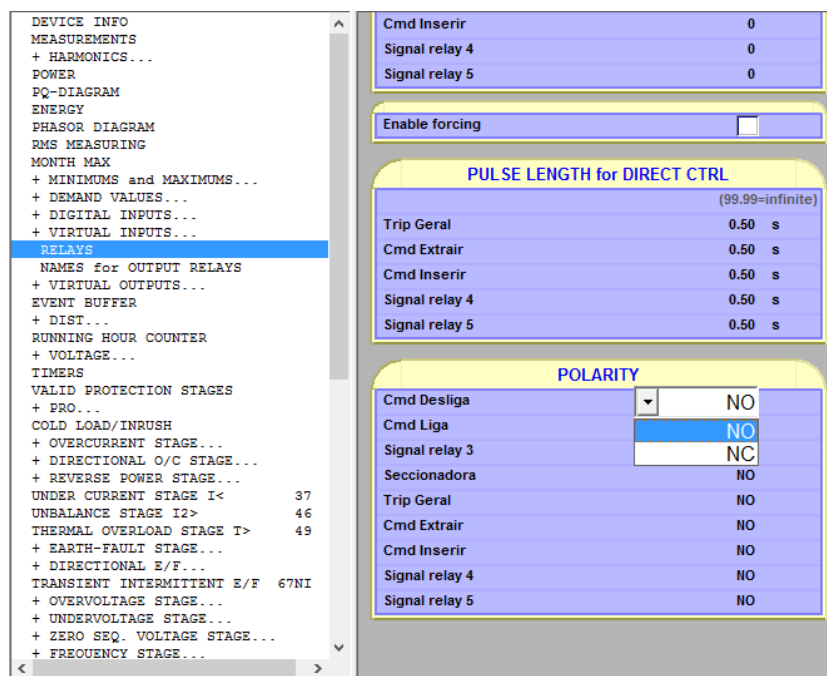
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10. CONFIGURANDO AS SAÍDAS

10.1 EDITANDO NOMES



A saída pode ser configurada como normalmente aberta (NO) ou normalmente fechada (NC).



11. CONFIGURANDO AS ENTRADAS

11.1 EDITANDO NOMES

DEVICE INFO

MEASUREMENTS

+ HARMONICS...

POWER

PQ-DIAGRAM

ENERGY

PHASOR DIAGRAM

RMS MEASURING

MONTH MAX

+ MINIMUMS and MAXIMUMS...

+ DEMAND VALUES...

DIGITAL INPUTS

NAMES for DIGITAL INPUTS

+ VIRTUAL INPUTS...

+ RELAYS...

+ VIRTUAL OUTPUTS...

EVENT BUFFER

+ DIST...

RUNNING HOUR COUNTER

+ VOLTAGE...

TIMERS

VALID PROTECTION STAGES

+ PRO...

COLD LOAD/INRUSH

+ OVERCURRENT STAGE...

+ DIRECTIONAL O/C STAGE...

+ REVERSE POWER STAGE...

UNDER CURRENT STAGE I< 37

UNBALANCE STAGE I2> 46

THERMAL OVERLOAD STAGE T> 49

+ EARTH-FAULT STAGE...

+ DIRECTIONAL E/F...

TRANSIENT INTERMITTENT E/F 67NI

+ OVERVOLTAGE STAGE...

+ UNDERVOLTAGE STAGE...

+ ZERO SEQ. VOLTAGE STAGE...

+ FREQUENCY STAGE...

NAMES for DIGITAL INPUTS

DIGITAL INPUTS

Input	Label	Description
1	DI1	Digital input 1
2	DI2	Digital input 2
3	DI3	Digital input 3
4	DI4	Digital input 4
5	DI5	Digital input 5
6	DI6	Digital input 6
7	DI7	Disj Teste/Extraido
8	DI8	Disj Inserido
9	DI9	Confirma Disj Ligado
10	DI10	Remoto
11	DI11	Desliga Disj
12	DI12	Liga Disj
13	DI13	Disj Inserido
14	DI14	Disj Extraido
15	DI15	Seccion Aterrada
16	DI16	Supervisao Bobina
17	DI17	Cmd Disj Energizado
18	DI18	Cmd Fonte FT2 Energ

12. CONFIGURANDO PROTEÇÃO

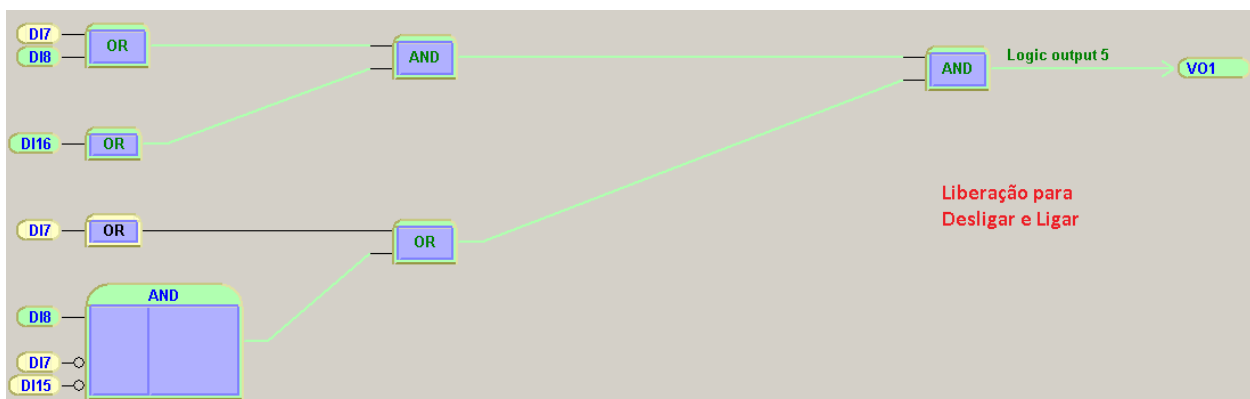
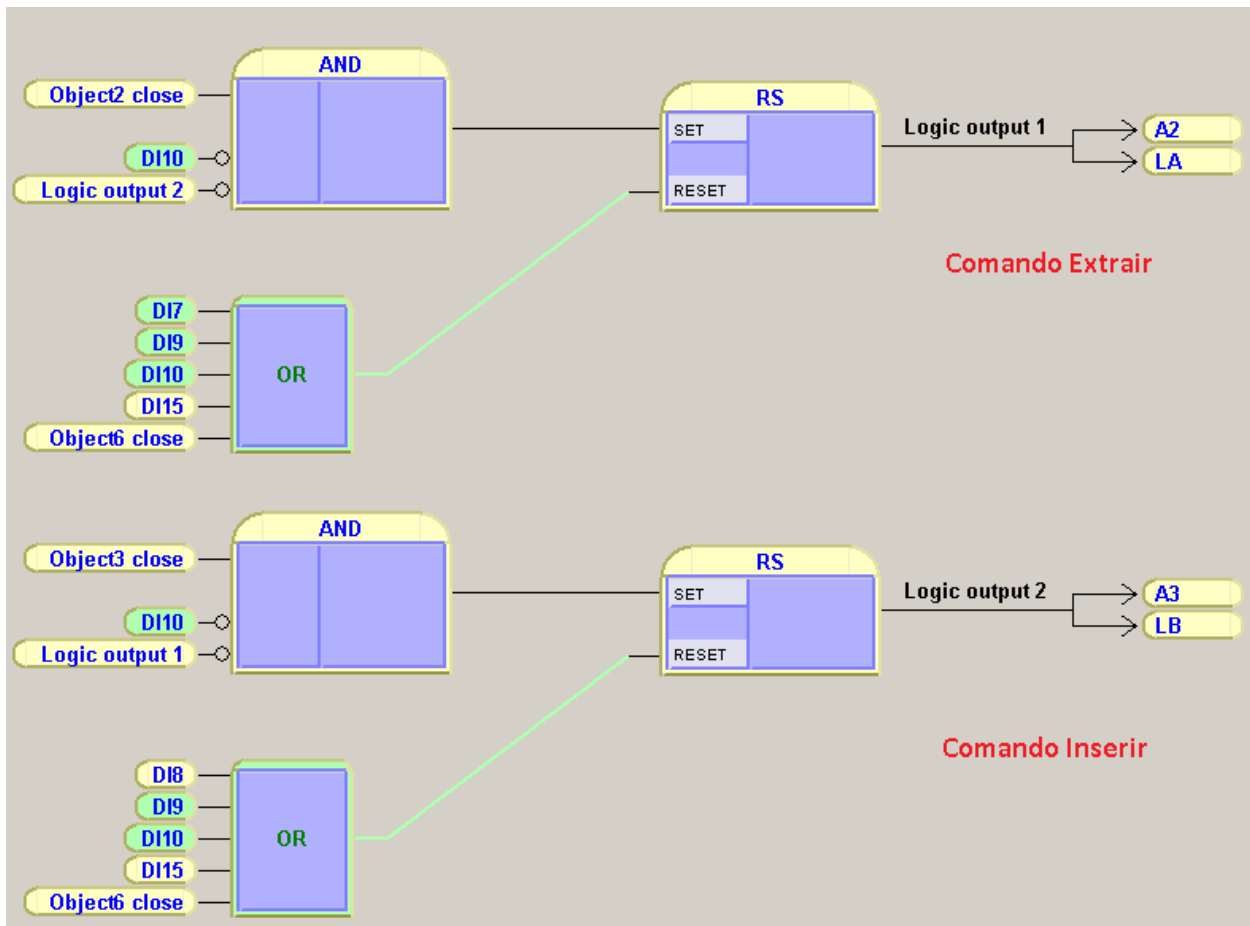
Para configurar uma proteção basta selecionar a proteção desejada e inserir os parâmetros, no caso abaixo temos a proteção de sobre-corrente.

DEVICE INFO MEASUREMENTS + HARMONICS... POWER PQ-DIAGRAM ENERGY PHASOR DIAGRAM RMS MEASURING MONTH MAX + MINIMUMS and MAXIMUMS... + DEMAND VALUES... + DIGITAL INPUTS... + VIRTUAL INPUTS... + RELAYS... + VIRTUAL OUTPUTS... EVENT BUFFER + DIST... RUNNING HOUR COUNTER + VOLTAGE... TIMERS VALID PROTECTION STAGES + PRO... COLD LOAD/INRUSH OVERCURRENT STAGE I> 50/51 OVERCURRENT STAGE I>> 50/51 OVERCURRENT STAGE I>>> 50/51 + DIRECTIONAL O/C STAGE... + REVERSE POWER STAGE... UNDER CURRENT STAGE I< 37 UNBALANCE STAGE I2> 46 THERMAL OVERLOAD STAGE T> 49 + EARTH-FAULT STAGE... + DIRECTIONAL E/F... TRANSIENT INTERMITTENT E/F 67NI + OVERVOLTAGE STAGE... + UNDERVOLTAGE STAGE...	OVERCURRENT STAGE I> 50/51 Enable for I> ☒ <table> <tr> <td>Max. of IL1 IL2 IL3</td> <td>0</td> <td>A</td> </tr> <tr> <td>Status</td> <td>-</td> <td></td> </tr> <tr> <td>Estimated time to trip</td> <td>0.0</td> <td>s</td> </tr> <tr> <td>Start counter</td> <td>0</td> <td></td> </tr> <tr> <td>Trip counter</td> <td>0</td> <td></td> </tr> </table> <table> <tr> <td>Set group DI control</td> <td>-</td> </tr> <tr> <td>Group</td> <td>1</td> </tr> <tr> <td></td> <td> <table> <tr> <th></th> <th>Group 1</th> <th>Group 2</th> </tr> <tr> <td>Pick-up setting</td> <td>420 A</td> <td>420 A</td> </tr> <tr> <td>Pick-up setting</td> <td>1.20 xIn</td> <td>1.20 xIn</td> </tr> <tr> <td>Delay curve family</td> <td>IEC</td> <td>IEC</td> </tr> <tr> <td>Delay type</td> <td>NI</td> <td>NI</td> </tr> <tr> <td>Inv. time coefficient k</td> <td>1.00</td> <td>1.00</td> </tr> <tr> <td>Inverse delay (20x)</td> <td>2.26 s</td> <td>2.26 s</td> </tr> <tr> <td>Inverse delay (4x)</td> <td>4.97 s</td> <td>4.97 s</td> </tr> <tr> <td>Inverse delay (1x)</td> <td>600.02 s</td> <td>600.02 s</td> </tr> </table> </td> </tr> <tr> <td colspan="2">Common settings</td> </tr> <tr> <td>Include harmonics</td> <td>Off</td> </tr> </table>	Max. of IL1 IL2 IL3	0	A	Status	-		Estimated time to trip	0.0	s	Start counter	0		Trip counter	0		Set group DI control	-	Group	1		<table> <tr> <th></th> <th>Group 1</th> <th>Group 2</th> </tr> <tr> <td>Pick-up setting</td> <td>420 A</td> <td>420 A</td> </tr> <tr> <td>Pick-up setting</td> <td>1.20 xIn</td> <td>1.20 xIn</td> </tr> <tr> <td>Delay curve family</td> <td>IEC</td> <td>IEC</td> </tr> <tr> <td>Delay type</td> <td>NI</td> <td>NI</td> </tr> <tr> <td>Inv. time coefficient k</td> <td>1.00</td> <td>1.00</td> </tr> <tr> <td>Inverse delay (20x)</td> <td>2.26 s</td> <td>2.26 s</td> </tr> <tr> <td>Inverse delay (4x)</td> <td>4.97 s</td> <td>4.97 s</td> </tr> <tr> <td>Inverse delay (1x)</td> <td>600.02 s</td> <td>600.02 s</td> </tr> </table>		Group 1	Group 2	Pick-up setting	420 A	420 A	Pick-up setting	1.20 xIn	1.20 xIn	Delay curve family	IEC	IEC	Delay type	NI	NI	Inv. time coefficient k	1.00	1.00	Inverse delay (20x)	2.26 s	2.26 s	Inverse delay (4x)	4.97 s	4.97 s	Inverse delay (1x)	600.02 s	600.02 s	Common settings		Include harmonics	Off
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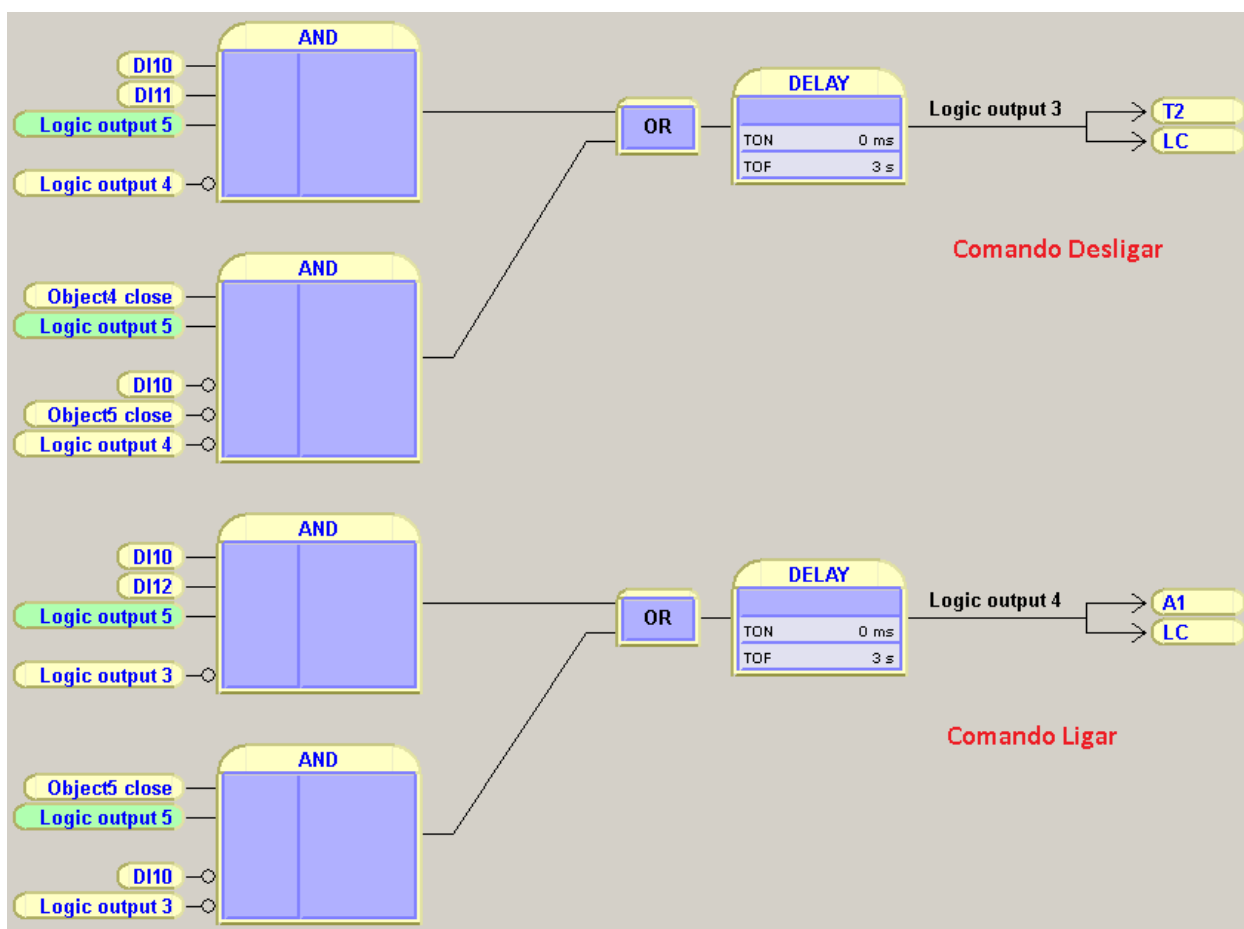
Ref :
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13. LÓGICA



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14. MATRIX DE SAÍDA

Todas as saídas e leds devem ser configurados nessa matrix, caso não seja feita essa configuração a saída não será atuada.

UNBALANCE STAGE I2> 46
THERMAL OVERLOAD STAGE T> 49
+ EARTH-FAULT STAGE...
+ DIRECTIONAL E/F...
TRANSIENT INTERMITTENT E/F 67NI
+ OVERVOLTAGE STAGE...
+ UNDERVOLTAGE STAGE...
+ ZERO SEQ. VOLTAGE STAGE...
+ FREQUENCY STAGE...
+ UNDERFREQUENCY STAGE...
FREQUENCY STAGE df/dt 81R
+ PROGRAMMABLE STAGE...
CB FAILURE PROTECTION 50BF
2nd HARMONIC O/C STAGE If2> 51F2
5th HARMONIC O/C STAGE If5> 51F5
O B J E C T S
AUTO RECLOSING 79
AR Shot settings 79
AR COUNTER TEXTS
CBWEAR
+ SUPERVISOR...
RELEASE OUTPUT MATRIX LATCHES
OUTPUT MATRIX
BLOCK MATRIX
AUTO-RECLOSING MATRIX
OBJECT BLOCK MATRIX
L O G I C
M I M I C
+ LOCAL...
S C A L I N G
STAGE EVENT ENABLING
+ EVENT MASKS for...
DI EVENT TEXTS
+ EVENT ENABLING...
CLOCK SYNC
P R O T O C O L CONFIGURATION
EtherNet/IP MAIN CONFIGURATION

OUTPUT MATRIX
● connected
● connected and latched

	T1	T2	T3	T4	A1	A2	A3	A4	A5	AI	Tr	LA	LB	LC	DR	VO1	VO2	VO3	VO4	VO5	VO6
I> start																					
I> trip																					
I>> start																					
I>> trip																					
I>>> start																					
I>>> trip																					
IDir> start																					
IDir> trip																					
IDir>> start																					
IDir>> trip																					
IDir>>> start																					
IDir>>> trip																					
I2> start																					
I2> trip																					
I< start																					
I< trip																					
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O B J E C T S
AUTO RECLOSING 79
AR Shot settings 79
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CBWEAR
+ SUPERVISOR...
RELEASE OUTPUT MATRIX LATCHES
OUTPUT MATRIX
BLOCK MATRIX
AUTO-RECLOSING MATRIX
OBJECT BLOCK MATRIX
L O G I C
M I M I C
+ LOCAL...
S C A L I N G
STAGE EVENT ENABLING
+ EVENT MASKS for...
DI EVENT TEXTS
+ EVENT ENABLING...
CLOCK SYNC
P R O T O C O L CONFIGURATION
EtherNet/IP MAIN CONFIGURATION

OUTPUT MATRIX
● connected
● connected and latched

	T1	T2	T3	T4	A1	A2	A3	A4	A5	AI	Tr	LA	LB	LC	DR	VO1	VO2	VO3	VO4	VO5	VO6
Local control enabled																					
CBWEAR alarm 1																					
CBWEAR alarm 2																					
CT supervisor																					
VT supervisor																					
Logic output 1																					
Logic output 2																					
Logic output 3																					
Logic output 4																					
Logic output 5																					
Logic output 6																					
Logic output 7																					
Logic output 8																					
Logic output 9																					
Logic output 10																					
Logic output 11																					
Logic output 12																					
Logic output 13																					
Logic output 14																					

15. MODIFICAÇÃO

Revision	Date	Author	Details
00	11 set 13	Rodolfo Cintra	Revisão inicial

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