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C					
B					
A					
Indice Index	Data Date	Modificare Modification/Revision	Proiectant Designer	Aprobat Consultant Approved Consultant	Aprobat CFR Approved CFR








C.N.C.F. "C.F.R." - S.A.

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Intocmit Elaborated	Proiectant Designer	P. Amodio	

SUBCONSULTANT / SUBCONSULTANT		Project/Project
Aprobat Approved	Responsabil Subconsultant Subconsultant Responsible	Reabilitarea liniei de cale ferata Braşov - Simeria, parte componentă a coridorului IV Pan European, pentru circulația trenurilor cu viteză maximă de 160 km/h. Sectiune 1 Brasov - Sighisoara Rehabilitation of the railway line Braşov - Simeria, component Part of the IV Pan-European Corridor, for the trains circulation with maximum speed of 160 km/h. Section 1 Brasov - Sighisoara
Intocmit Elaborated	Proiectant Designer	
		Project/Project 2004/RO/16/P/PA/003 Faza / Phase: P.Th. / T.D.

Denumire desen / Drawing Title : TUNNEL/TUNELUL ORMENIS
ORMENIS SIDE/INSPRE ORMENIS
Safety Tunnel Power Supply system /Sistem de alimentare de siguranță a tunelului
Single-line diagrams low-voltage electrical panels Q_MT/BT/Diagrame single-line cadrul electrice joasa tensiune Q_BT/PE

Codificare / Codification System: EA5101C10LXTS10260030

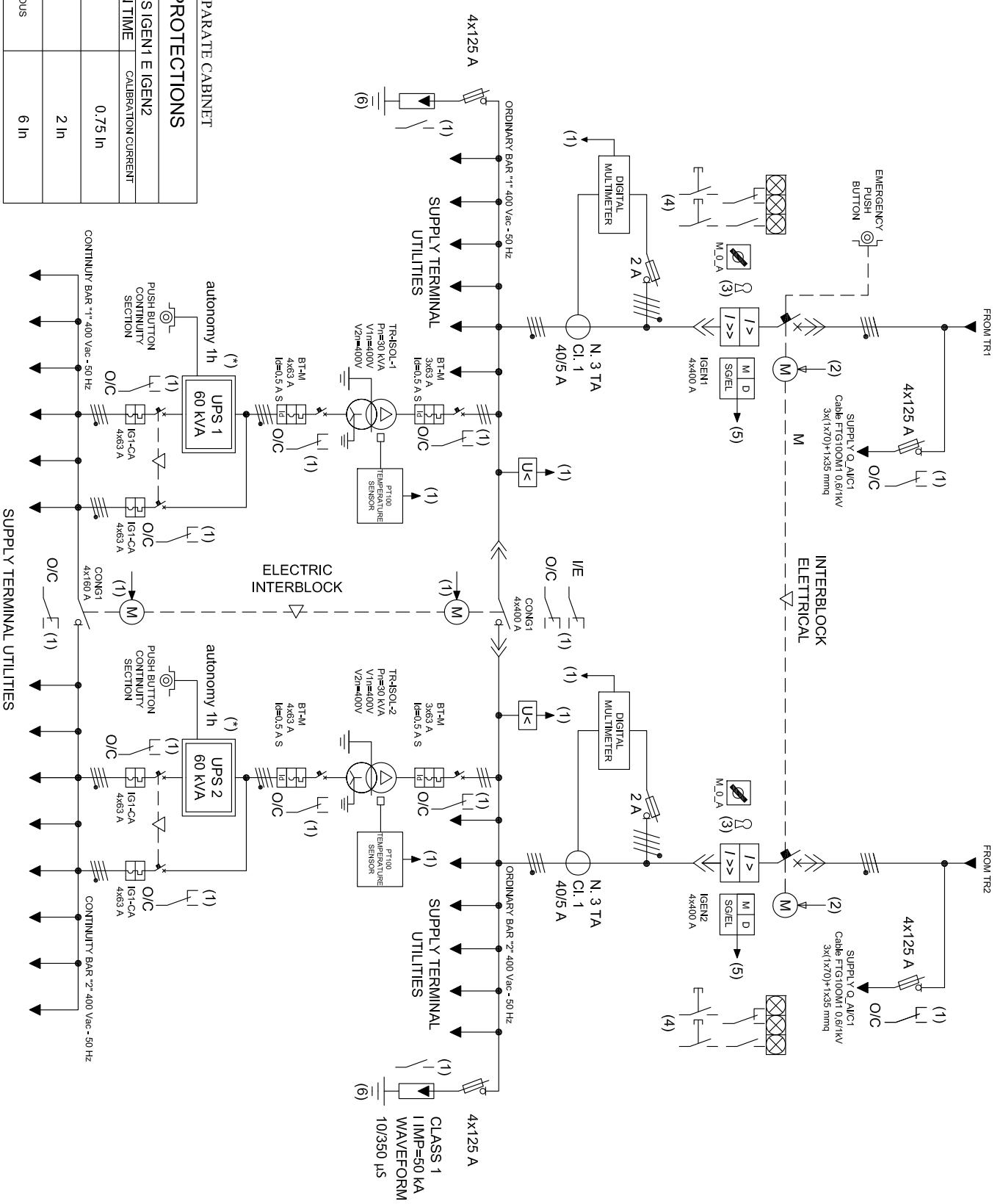
Scara / Scale: _____ LOT: _____ Nr. / No: _____

1	2	3	4	5	6	7	8	
ELECTRICAL CHARACTERISTICS/ CARACTERISTICILE ELECTRICE		MECHANICAL CHARACTERISTICS/ CARACTERISTICILE MECANICE		CONDITIONS OF SERVICE CONDITII DE SERVICE				
RATED INSULATION VOLTAGE/TENSIUNEA NOMINALA DE IZOLARE RATED WORKING VOLTAGE/TENSIUNEA DE LUCRU NOMINALA NOMINAL FREQUENCY/FRECVENTA NOMINALA ELECTRICAL SYSTEM/SISTEMUL ELECTRIC		1000 V 400/230 V 50 Hz TN-S	FORM OF SEGREGATION/FORMA DE SEGREGARE MATERIAL/MATERIALE EXTERIOR PANEL THICKNESS/ GROSIMEA PANOLULUI EXTERIOR		3A ACCIAIO ZINCATO E VERNICIATO 15/10 mm	TEMPERATURE MAX./TEMPERATURA MAX. MEDIA AMBIENT TEMPERATURE/TEMPERATURII IN CAMERA MEDIA MINIMUM AMBIENT TEMPERATURE/TEMPERATURA IN CAMERA MINIMA RELATED HUMIDITY MAX/UMIDITATE RELATIVA MAX		+40°C -5°C 83% (23°C)
MAXIMUM SHORT CIRCUIT CURRENT ALLEGED/Maximă Curent de scurt circuitului PRESUPUSA MAXIMUM SHORT CIRCUIT CURRENT ALLEGED/Maximă Curent de scurt circuitului PRESUPUSA RATED CURRENT (BAR MAIN)/CURENT NOMINAL (BARUL PRINCIPAL) ACCEPTABLE RATED CURRENT/CURENT NOMINAL ACCEPTABIL SHORT FOR 1 SEC./SCURT PENTRU 1 SEC. RATED CURRENT/CURENT NOMINAL ALLOWABLE PEAK/ADMISIBILE PEAK NOMINAL VOLTAGE AUXILIARY CIRCUITS/ TENSIUNEA NOMINAL CIRCUITELOR AUXILIARE		254 kA 400 A 105 kA 254 kA 230 Vac / 24 Vdc 2500 V 1500 V	DEGREE OF PROTECTION/ GRAD DE PROTECTIE IP41 ON THE EXTERNAL INVOLUCRE/ PE EXTERIOR LOCUNTE IP20 WITHIN THE PANEL AT OPEN DOORS/ IN CADRULA UN DESCHISE USI		COMPLIANCE WITH REGULATIONS/RESPECTAREA REGLEMENTARILOR CEI ITALIANE IEC INTERNAZIONALI OTHERS/ALTE		17-113 / EN61439 61439-1	
TEST VOLTAGE/TENSIUNEA DE TESTARE A 50 HZ FOR 1 MIN./A 50 HZ PENTRU 1 MIN. IMPULSE WITHSTAND VOLTAGE/TENSIUNEA DE REZISTA LA IMPULS		2500 V 1500 V 8 kV	PANEL ACCESSIBILITY/ACCES CADRU EXPANDABLE PANEL/EXTENSIBIL CADRU		FRONT/FATA BACK/INAPOI SIDE/LATERALE RIGHT SIDE/PARTEA DREAPTA LEFT SIDE/PARTEA STANGA		SI NO SI SI SI	
TESTING/TESTAREA SEC. CEI 17-113 <input checked="" type="checkbox"/> INDIVIDUAL TESTS/TESTE INDIVIDUALE <input type="checkbox"/> TYPE TESTS/TESTE DE TIP		FUND/PARTEA INFERIOARA FRAME OR BASIC IRON/ FRAME SAU FIER DE BASE		FONDO CHIUSO/BOTOLA ASPORTABILE ACCIAIO ZINCATO		NOTE		
SPECIFIC DESCRIPTION/DESCRIERE SPECIFICA: SBARRE PRINCIPALI E DERIVATE - IN PIATTO DI RAME E/O ALLUMINIO - ISOLAMENTO IN ARIA SBARRA DI TERRA - SEZIONE MINIMA 150 mmq		POWER/PUTERE ARRIVALS/SOSIRI DEPARTURES/PLECARI ENTRY/INTRARE OUTPUT/ESIRE		HIGH/TOPURI HIGH/TOPURI HIGH/TOPURI HIGH/TOPURI LOW/JOASA LOW/JOASA LOW/JOASA LOW/JOASA	LOW/JOASA LOW/JOASA LOW/JOASA LOW/JOASA LOW/JOASA LOW/JOASA LOW/JOASA	CAVO CAVO CAVO CAVO CAVO CAVO CAVO	CAVETTERIA PER CIRCUITI AUSILIARI: - TIPO N07G9-K - CAVETTERIA DI COLORE NERO SEZIONI: - CIRCUITI AMPEROMETRICI/VOLTIMETRICI >= 2.5 mmq - CIRCUITI DI COMANDO >= 1.5 mmq - CIRCUITI DI SEGNALAZIONE >= 1.5 mmq	
PAINTING/PICTURA (CYCLE NORMALIZED TGN-001)/ (CICLU NORMALIZAT TGN-001) SPESS. MIN. 50 MICRON ±10% OVERALL DIMENSIONS (mm)/ DIMENSUNI DE GABARIT (mm) SUBDIVISION SECTIONS/COMPARTIMENTARE SECTIUNI TOTAL MASS/TOTALE MASA		<input checked="" type="checkbox"/> EXTERNAL PANEL/ EXTERNE CADRU <input type="checkbox"/> INTERNAL PANEL/ INTERN CADRU RAL 7035 3950 LX 2231 HX 637 P		KG.				

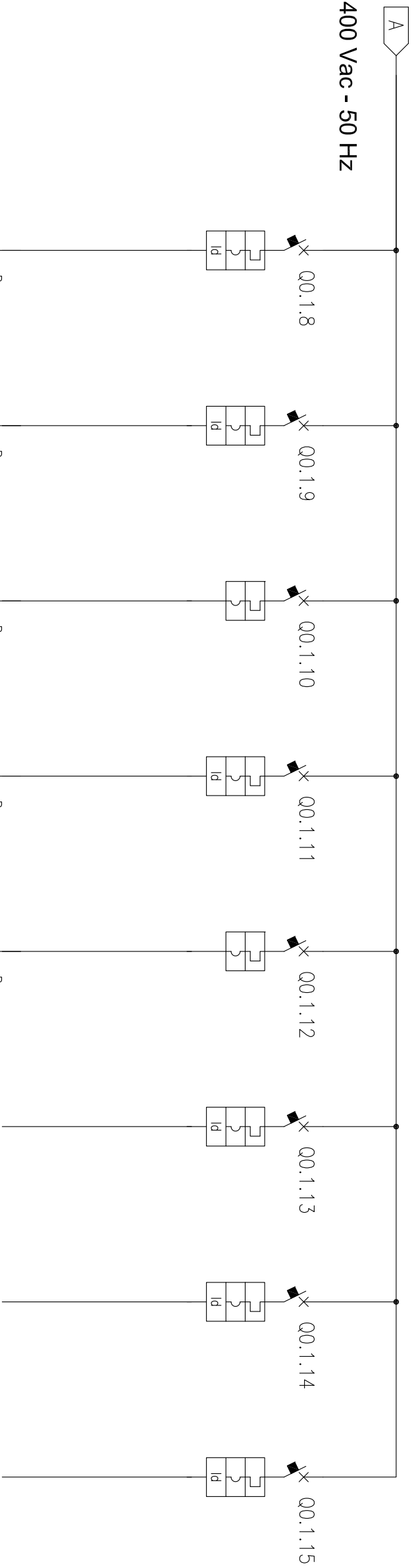
1	2	3	4	5	6	7	8
A	<p>NOTES NUMBER (SEE SUBSEQUENT SHEETS)</p> <p>(1) SIGNAL OR COMMAND FROM-TO SUPERVISION SYSTEM</p> <p>(2) INTERLOCK WITH RELATIVE SWITCH MV</p> <p>(3) BUTTON BLOCK WITH LOCK</p> <p>(4) BUTTON SWITCH OPENING AND CLOSING:</p> <p>• THE IGEN1 IGEN2 SWITCHES WILL BE ELECTRICAL INTERLOCKED SO ALLOW ONLY THE TEMPORARY PARALLEL BETWEEN TR1 AND TR2</p> <p>• THE MOTORIZED SWITCHES MAY BE CONTROLLED BY THE SUPERVISION SYSTEM</p> <p>(5) RS485 SERIAL COMMUNICATION SYSTEM TO SUPERVISION</p> <p>(6) THE LINKS BETWEEN THE SPD AND COLLECTOR TO LAND OF THE PANELS SHOULD HAVE A LENGTH LESS OR EQUAL TO 0.5 M</p> <p>(7) OPERATED BY LOCAL TEMPERATURE PROBE</p>			<p>NOTE NUMĂRUL (VEZI FIȘELE ULTERIOARE)</p> <p>(1) SEMNAL SAU DE COMANDĂ DE LA LA-SYSTEM DE SUPRAVEGHERE</p> <p>(2) INTERBLOCARE CU VM SWITCH RELATIVE</p> <p>(3) BLOCUL BUTON CU LOCK</p> <p>(4) SWITCH DESCHIDERE BUTON ȘI DE ÎNCHIDERE:</p> <p>• IGEN1 SWITCHES IGEN2 VOR FI ELECTRICE INTERBLOCATĂ PERMIT ACEST LUCRU NUMAI PARALEL TEMPORARE DINTRE TR1 ȘI TR2</p> <p>• COMUTATOR MOTORIZAT POATE FI CONTROLATĂ PRIN SISTEMUL DE SUPRAVEGHERE</p> <p>(5) SISTEM DE COMUNICĂȚII RS485 SERIAL DE SUPRAVEGHERE</p> <p>(6) LEGĂTURILE DINTRE SPD ȘI COLECTORUL DE PE SOL A PANOURI TREBUIE SĂ AIBĂ O LUNGIME MAI MICĂ SAU EGALĂ CU 0,5 M</p> <p>(7) OPERATE DE SONDA DE TEMPERATURA LOCAL</p>	A		
B	<p>KEY TO ABBREVIATIONS:</p> <p>- Ib: OPERATING CURRENT, CALCULATED ACCORDING TO THE SIZE OF POWER [A] SWITCH</p> <p>- In: PROTECTION OF RATED CURRENT [A]</p> <p>- Ith: SETTING THE CURRENT RESPONSE THERMAL PROTECTION [A]</p> <p>- Idn: CALIBRATION OF DIFFERENTIAL CURRENT [A]</p> <p>- Im: CALIBRATION OF MAGNETIC ACTION OF THE PROTECTION OF CURRENT [A] CONTACTOR</p> <p>- In: CONTACTOR SIZE [A]</p> <p>- Pn: SCOPE OF CONTACTOR [kW]</p> <p>TA</p> <p>- I1n/I2n: CONVERSION RATIO OF CURRENT [A / A]</p> <p>TV</p> <p>- V1n/V2n: CONVERSION RATIO OF NOMINAL [v / v]</p> <p>POWER LINE</p> <p>- Iz: PERMISSIBLE CURRENT CABLE, CALCULATED ON THE BASIS OF FLOW RATE AND COEFFICIENTS DERATING ARISING FROM THE INSTALLATION MODE [A]</p> <p>- Cdt in Ib: PARTIAL LOSS OF POWER (PIPELINE DUE TO USERS ONLY) AND THE CURRENT Ib cosj NOMINAL [%]</p> <p>- Cdt tot. in Ib: DROP VOLTAGE TOTAL (FROM THE VALLEY TO THE PROVISION OF USERS) AND THE CURRENT Ib cosj NOMINAL [%]</p> <p>- Zk: MINIMUM IMPEDANCE FAULT OR THREE-PHASE NEUTRAL DOWNSTREAM USERS [mW]</p> <p>- Zs: Minimal impedance of phase-earth fault DOWNSTREAM USERS [mW]</p> <p>- Ik trifas. / SINGLE-PHASE.: MAXIMUM SHORT CIRCUIT CURRENT PERMANENT NEUTRAL-PHASE OR DOWNSTREAM USERS [kA]</p> <p>- Ik1 phase / earth: MAXIMUM SHORT CIRCUIT CURRENT PHASE-GROUND DOWNSTREAM USERS [kA]</p>			<p>CHEIA ABBREVIERI:</p> <p>- Ib: Curent de operare, calculat în conformitate cu DIMENSIUNEA DE PUTERE [A] SWITCH</p> <p>- In: PROTECȚIA A Curent nominal [A]</p> <p>- Ith: STABILIRE PROTECȚIA RĂSPUNS ACTUAL termică [A]</p> <p>- Idn: CALIBRAREA DIFERENTIAL curent [A]</p> <p>- Im: CALIBRAREA DE ACȚIUNE MAGNETICE DE PROTECȚIE A curent [A] CONTACTOR</p> <p>- In: SIZE CONTACTOR [A]</p> <p>- Pn: DOMENIUL DE APLICARE A CONTACTOR [kW]</p> <p>TA</p> <p>- I1n/I2n: rata de conversie a curentului [A / A] televizor</p> <p>- V1n/V2n: rata de conversie nominală de [v / v]</p> <p>POWER LINE</p> <p>- Iz: CABLU ADMISE CURENT, calculată pe baza debitului și coeficienții de declasare REZULTATE DIN MODUL DE INSTALARE [A]</p> <p>- Cdt în Ib: pierderi porțiale de putere (PIPELINE CAUZA utilizatorilor numoi), iar curentul Ib cosj NOMINALE [%]</p> <p>- Cdt tot. în Ib: tensiunea totală DROP (DIN vale la dispoziție de utilizatori) și curentul Ib cosj NOMINALE [%]</p> <p>- ZK: FAULT impedanta MINIMUM sau trei faze UTILIZATORI NEUTRE DOWNSTREAM [mW]</p> <p>- Zs: impedanta minima de fază-pământ vină DOWNSTREAM Utilizatori [mW]</p> <p>- Trifas Ik / SINGLE-PHASE: MAXIM Curent de scurt CIRCUIT FAZA utilizatori permanenti NEUTRE-FAZA sau în oval [kA].</p> <p>- Ik1 faza / pământ: maximă a circuitului, Curent de scurt FAZA-SOL UTILIZATORII DIN AVAL [kA]</p>	B		
C					C		
D					D		
E					E		
F					F		

(*) DEVICE INSTALLED IN A SEPARATE CABINET

CALIBRATION PROTECTIONS		
CIRCUIT BREAKERS IGEN1 E IGEN2	CALIBRATION TIME	CALIBRATION CURRENT
LONG DELAY (L)	3s	0.75 In
SHORT DELAY (S)	0.5s	2 In
INSTANTANEOUS (I)	INSTANTANEOUS	6 In



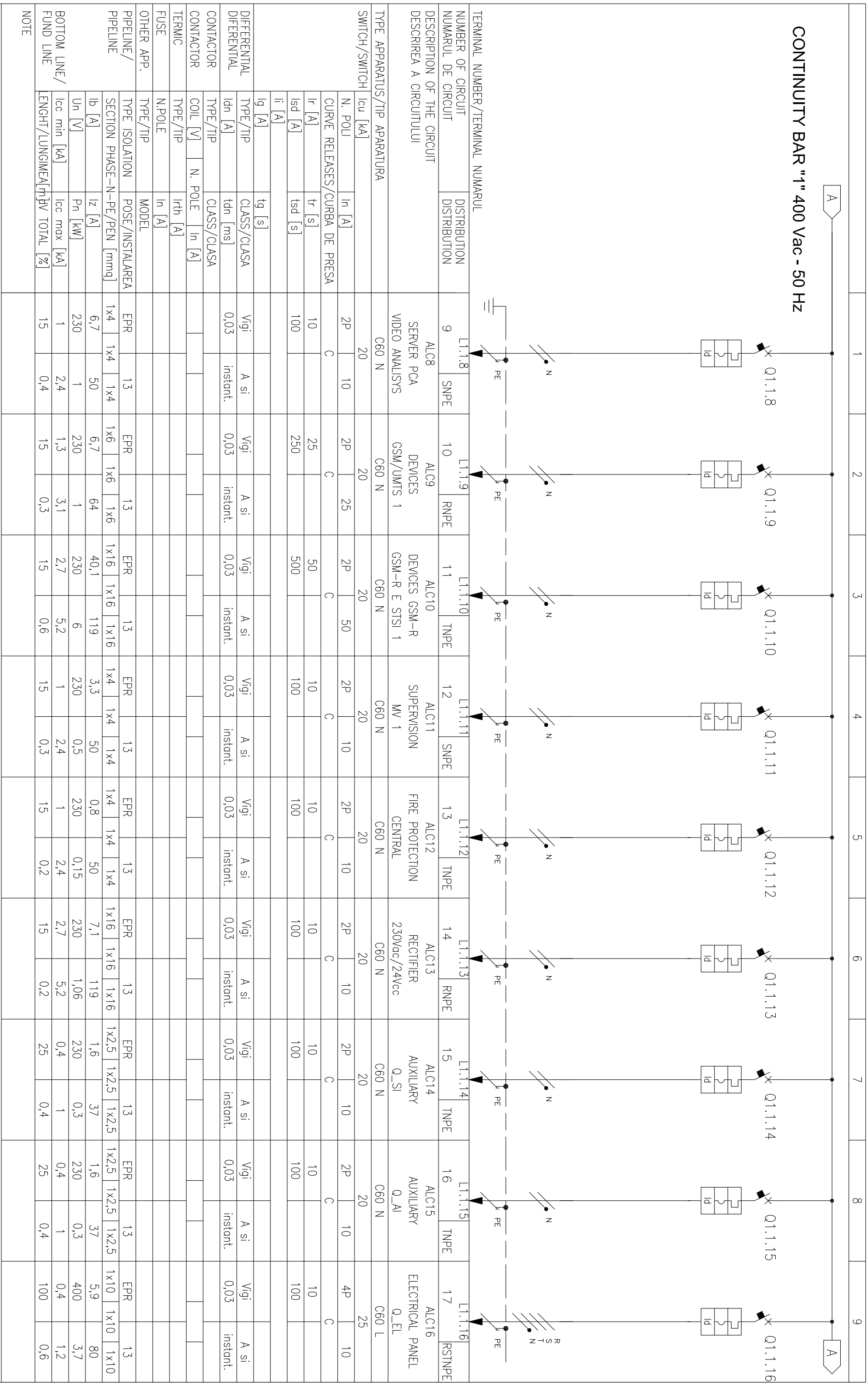
ORDINARY BAR "1" 400 Vac - 50 Hz



TERMINAL NUMBER/TERMINAL NUMARUL	DISTRIBUTION	DESCRIPTION OF THE CIRCUIT DESCRIBEA A CIRCUITULUI	TYPE APPARATUS/TIP APARATURA	N. POLI	In [A]	tr [s]	tsd [s]	ii [A]	tg [s]	CLASS/CLASA	Vigi	tdn [ms]	CLASS/CLASA	COIL [V]	N. POLE	In [A]	TYPE/TIP	MODEL	TYPE ISOLATION	SECTION PHASE-N-PE/PEN [mmq]	lb [A]	lz [A]	Un [V]	Pn [kW]	Icc min [kA]	Icc max [kA]	LENGHT/LUNGIME[m]	IPV TOTAL [%]		
1	L0.1.8	AL8 LV ROOMS SOCKETS AND RADIOCOM.	C60 L	4P	16	C	160			AC	0,03	instant.							EPR	1x4	1x4	1x4	3,3	42	400	1,8	2,8	15	0,2	
2	L0.1.9	AL9 POWER SUPPLY IS EQUIPMENT	NG125 N	4P	100	C	1000			A si	0,3	instant.							EPR	1x25	1x25	1x16	82,5	141	400	40	7,3	15	0,4	
3	L0.1.10	AL10 MEDICAL CARE BUILDING PANEL	NG125 N	4P	32	C	320												EPR	1x10	1x10	1x10	30,8	80	400	17,92	1,2	100	2,7	
4	L0.1.11	AL11 UPS POWER SUPPLY	NG125 N	4P	50	C	500			AC	0,03	instant.							EPR	1x35	1x35	1x16	49,6	176	400	1,76	6,4	9,1	0,1	
5	L0.1.12	AL12 POWER FACTOR CORRECTION PANEL 1	NG125 N	3P	100	D	1400												EPR	1x25		1x16	80,8		400		5,6	8	0,4	
6		RESERVE	C60 L	4P	10	C	100			A si	0,03	instant.																		
7		RESERVE	C60 L	4P	10	C	100			A si	0,03	Istantaneo																		
8		RESERVE	C60 L	4P	10	C	100			A si	0,03	Istantaneo																		
9																														

NOTE

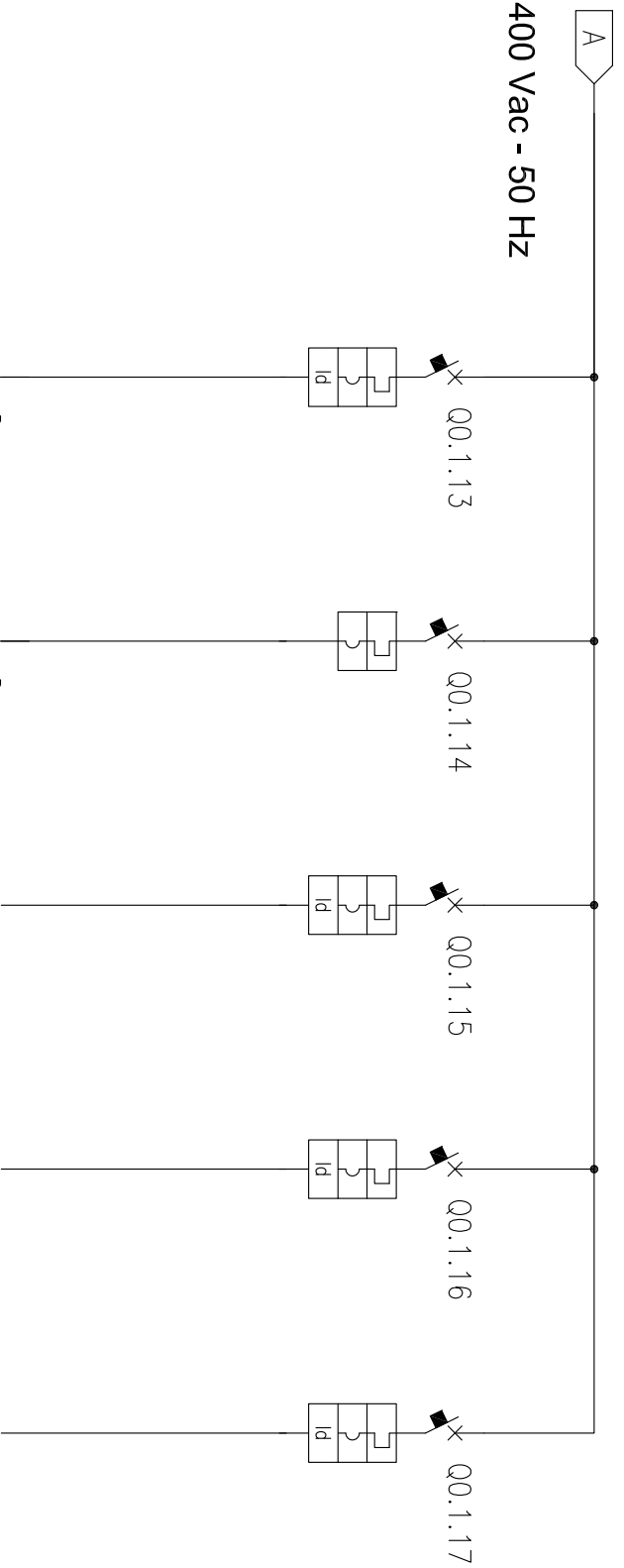
CONTINUITY BAR "1" 400 Vac - 50 HZ



TERMINAL NUMBER/TERMINAL NUMARUL	DISTRIBUTION	9	10	11	12	13	14	15	16	17
NUMBER OF CIRCUIT NUMARUL DE CIRCUIT	L1.1.8	L1.1.9	L1.1.10	L1.1.11	L1.1.12	L1.1.13	L1.1.14	L1.1.15	L1.1.16	L1.1.16
DESCRIPTION OF THE CIRCUIT DESCRIEREA A CIRCUITULUI	ALC8 SERVER PCA VIDEO ANALYSIS	ALC9 DEVICES GSM/UMTS 1	ALC10 DEVICES GSM-R GSM-R E STSI 1	ALC11 SUPERVISION MV 1	ALC12 FIRE PROTECTION CENTRAL	ALC13 RECTIFIER 230Vcc/24Vcc	ALC14 AUXILIARY Q_SI	ALC15 AUXILIARY Q_AI	ALC16 ELECTRICAL PANEL Q_EL	RSTNPE
TYPE APPARATUS/TIP APARATURA	C60 N	C60 N	C60 N	C60 N	C60 N	C60 N	C60 N	C60 N	C60 L	C60 L
SWITCH/SWITCH	20	20	20	20	20	20	20	20	20	25
N. POLE	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]
CURVE RELEASES/CURBA DE PRESA	2P	2P	2P	2P	2P	2P	2P	2P	2P	4P
I _r [A]	10	25	50	10	10	10	10	10	10	10
I _{sd} [A]	100	250	500	100	100	100	100	100	100	100
i _i [A]										
I _g [A]										
DIFFERENTIAL										
TYPE/TIP	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA
I _{dn} [A]	Vigi	Vigi	Vigi	Vigi	Vigi	Vigi	Vigi	Vigi	Vigi	Vigi
t _{dn} [ms]	A si	A si	A si	A si	A si	A si	A si	A si	A si	A si
CONTACTOR	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03	0,03
TYPE/TIP	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA	CLASS/CLASA
CONTACTOR										
COIL [V]	N. POLE	N. POLE	N. POLE	N. POLE	N. POLE	N. POLE	N. POLE	N. POLE	N. POLE	N. POLE
TYPE/TIP	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]
TERMIC	Irth [A]	Irth [A]	Irth [A]	Irth [A]	Irth [A]	Irth [A]	Irth [A]	Irth [A]	Irth [A]	Irth [A]
FUSE	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]	In [A]
N. POLE										
OTHER APP.	MODEL	MODEL	MODEL	MODEL	MODEL	MODEL	MODEL	MODEL	MODEL	MODEL
PIPELINE/PIPELINE	TYPE/TIP	TYPE/TIP	TYPE/TIP	TYPE/TIP	TYPE/TIP	TYPE/TIP	TYPE/TIP	TYPE/TIP	TYPE/TIP	TYPE/TIP
TYPE ISOLATION	POSE/INSTALAREA	POSE/INSTALAREA	POSE/INSTALAREA	POSE/INSTALAREA	POSE/INSTALAREA	POSE/INSTALAREA	POSE/INSTALAREA	POSE/INSTALAREA	POSE/INSTALAREA	POSE/INSTALAREA
SECTION PHASE-N-PE/PEN [mmq]	EPR	EPR	EPR	EPR	EPR	EPR	EPR	EPR	EPR	EPR
I _b [A]	1x4	1x4	1x6	1x16	1x4	1x4	1x16	1x16	1x16	1x10
I _z [A]	1x4	1x4	1x6	1x16	1x4	1x4	1x16	1x16	1x16	1x10
U _n [V]	6,7	6,7	40,1	119	3,3	50	119	119	119	5,9
P _n [kW]	230	230	230	230	230	230	230	230	230	80
I _{cc min} [kA]	1	1	6	1	1	1	1,06	0,3	0,3	400
I _{cc max} [kA]	2,4	2,4	2,7	2,4	2,4	2,4	2,7	0,4	0,4	0,4
I _{ENGHT/LUNGIMEA} [m]	15	15	15	15	15	15	15	25	25	100
ΔV TOTAL [%]	0,4	0,3	0,6	0,3	0,2	0,2	0,2	0,4	0,4	0,6

NOTE

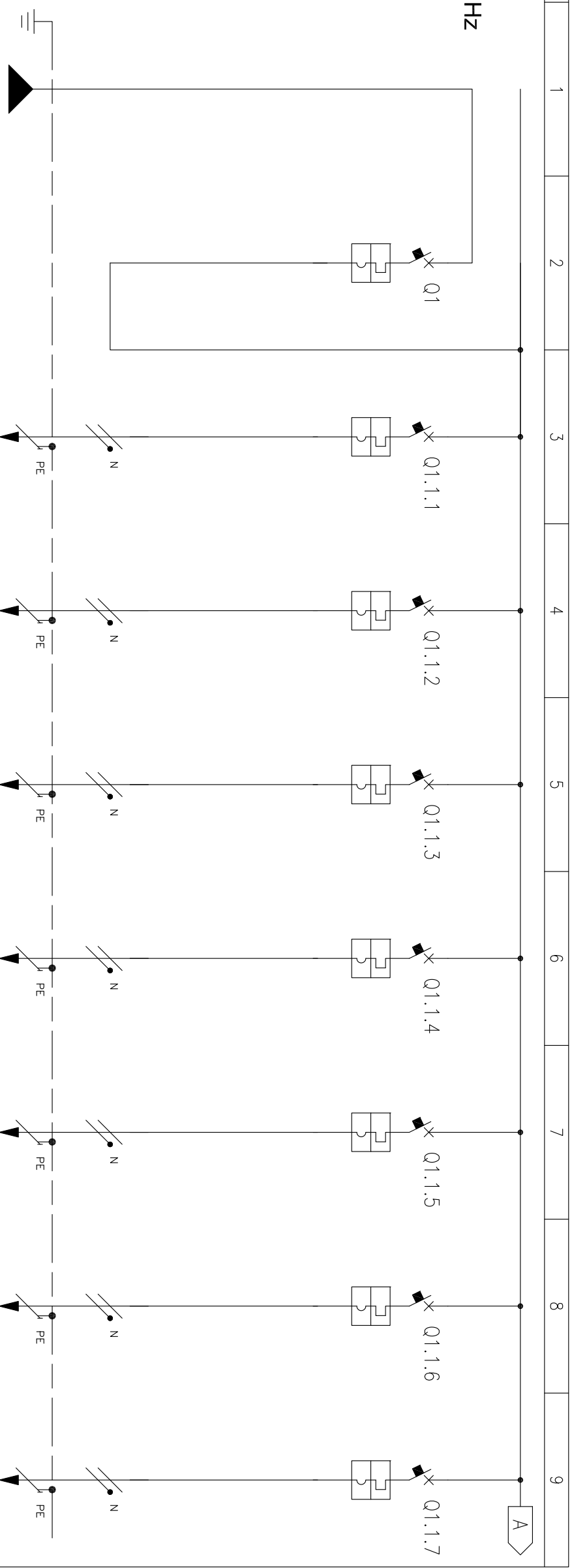
ORDINARY BAR "2" 400 Vac - 50 Hz



TERMINAL NUMBER/TERMINAL NUMARUL	DISTRIBUTION DISTRIBUTION	17	18	19	20	21														
NUMBER OF CIRCUIT NUMARUL DE CIRCUIT		L0.1.13	L0.1.14																	
DESCRIPTION OF THE CIRCUIT DESCRIEREA A CIRCUITULUI		AL12 POWER SUPPLY UPS AUX	AL13 POWER FACTOR CORRECTION PANEL 2	RESERVE	RESERVE	RESERVE														
TYPE APPARATUS/TIP APARATURA		NG125 N	NG125 N	C60 L	C60 L	C60 L														
SWITCH/SWITCH	Icu [kA]	25	25	25	25	25														
N. POLI	In [A]	4P	3P	4P	4P	4P														
CURVE RELEASES/CURBA DE PRESA		C	D	C	C	C														
Ir [A]	tr [s]	50	80	10	10	10														
Isd [A]	tsd [s]	500	1120	100	100	100														
Ii [A]																				
Ig [A]	tg [s]																			
DIFFERENTIAL DIFFERENTIAL	TYPE/TIP																			
CLASS/CLASA	tdn [ms]	Vigi		A si	A si	A si														
CONTACTOR	TYPE/TIP																			
CLASS/CLASA	COIL [V]																			
CONTACTOR	N. POLE																			
TERMIC	TYPE/TIP																			
CONTACTOR	Irth [A]																			
FUSE	N. POLE																			
CONTACTOR	In [A]																			
OTHER APP.	TYPE/TIP																			
CONTACTOR	MODEL																			
PIPELINE/ PIPELINE	TYPE/TIP																			
CONTACTOR	POSE/INSTALAREA																			
PIPELINE/ PIPELINE	SECTION PHASE-N-PE/PEN [mmq]	EPR	EPR																	
CONTACTOR	1x35	1x35	1x25	1x25	1x25	1x25														
PIPELINE/ PIPELINE	1z [A]	42,3	58,4																	
CONTACTOR	1z [A]	400	400																	
PIPELINE/ PIPELINE	Un [V]	400	400																	
CONTACTOR	Pn [kW]	400	400																	
PIPELINE/ PIPELINE	Icc min [kA]	6,4	5,6																	
CONTACTOR	Icc max [kA]	9,1	8																	
PIPELINE/ PIPELINE	IENGHT/LUNGIMEA [m]	5	10																	
CONTACTOR	dv TOTAL [%]	0,1	0,3																	

NOTE

CONTINUITY BAR "2" 400 Vac - 50 HZ



TERMINAL NUMBER/TERMINAL NUMARUL	DISTRIBUTION DISTRIBUTION	RSTNPE	1	2	3	4	5	6	7	8	9
NUMBER OF CIRCUIT NUMARUL DE CIRCUIT			1								
DESCRIPTION OF THE CIRCUIT DESCRIEREA A CIRCUITULUI		AE1 FROM UPS									
TYPE APPARATUS/TIP APARATURA			NG125 N								
SWITCH/SWITCH	Icu [kA]		25								
	N. POLE	In [A]	4P	63	2P	10	2P	10	2P	10	2P
	CURVE RELEASES/CURBA DE PRESA		C		C		C		C		C
	I _r [A]	tr [s]	63	10	10	10	10	10	10	10	25
	I _{sd} [A]	t _{sd} [s]	630	100	100	100	100	100	100	100	250
	I _i [A]										
	I _g [A]	t _g [s]									
DIFFERENTIAL DIFFERENTIAL	TYPE/TIP	CLASS/CLASA									
	I _{dn} [A]	t _{dn} [ms]									
CONTACTOR CONTACTOR	TYPE/TIP	CLASS/CLASA									
	COIL [V]	N. POLE	In [A]								
TERMIC TERMIC	TYPE/TIP	I _{rth} [A]									
FUSE FUSE	N. POLE	In [A]									
OTHER APP. OTHER APP.	TYPE/TIP	MODEL									
PIPELINE/PIPELINE	TYPE ISOLATION	POSE/INSTALAREA									
	SECTION PHASE-N-PE/PEN [mmq]										
	I _b [A]	I _z [A]									
	U _n [V]	P _n [kW]									
BOTTOM LINE/FUND LINE	I _{cc} min [kA]	I _{cc} max [kA]									
	LENGTH/LUNGIME[m]	ΔV TOTAL [%]									
NOTE											

AE1 FROM UPS

NG125 N

ALC1 SUPERVISION SERVER SUPPLY 2

ALC2 SERVER EMERGENCY PHONES, IPBOX 2

ALC3 POWER SUPPLY EMERG. SUBSTATION

ALC4 SOCKETS TELECOM ROOM

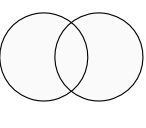
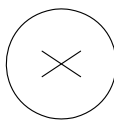
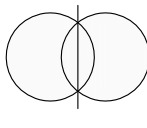
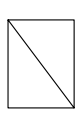
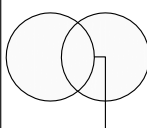
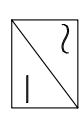
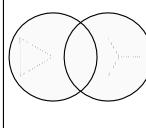
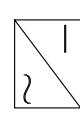
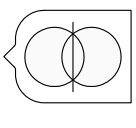
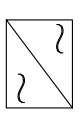
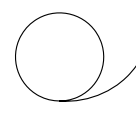

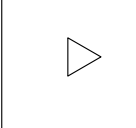

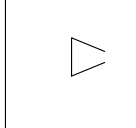

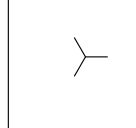
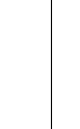
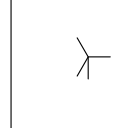
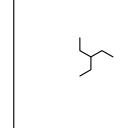
ALC5 SERVER PCA VIDEO ANALYSIS 2

ALC6 TELECAMERAS TELECOM ROOM



















ALC7 DEVICES GSM/UMTS 2

EPR

13

	1	2	3	4	5	6	7	8	
A		1	2	3	4	5	6	7	8
	GENERAL GRAPHIC SIGN TRANSFORMER/GENERAL GRAFIC INSCRIERE TRANSFORMER					ROTARY MACHINE OR SYSTEM WITH ROTARY MACHINE/MASINA ROTATIV SAU SISTEM CU MASINA ROTATIV G = GENERATOR/GENERATOR; M = MOTOR/MOTORE; GS = SYNCHRONOUS GENERATOR/SINCRON GENERATOR; MS = SYNCHRONOUS MOTOR/MOTOR SINCRON; GE = GENERATING SET/GENERATOR			
		TWO WINDING TRANSFORMER WITH SCREEN - ISOLATION TRANSFORMER/TRANSFORMATOR CU DOUA INTOARCEREA MONITOR-TRANSFORMER DE IZOLARE					POWER CONVERTER SIGN GRAPHIC GENERAL/CONVERTOR DE PUTERE SEMNUL GRAFIC GENERALE		
		CENTRAL WITH SOCKET TRANSFORMER ON A WINDING/transformator cu PRIZA CENTRALE PE O LICHIDAREA					RECTIFIER/RECTIFIER		
B		THREE-PHASE TRANSFORMER CONNECTIONS STAR TRIANGLE/TRIFAZAT TRANSFORMER CONEXIUNI STAR TRIANGLE					CURRENT CONVERTER IN ALTERNATING/CONVERTOR CURENT N ALTERNANTA (INVERTER)		
		TRANSFORMER SECURITY/TRANSFORMATOR SECURITATE					STATIC SWITCH/STATICE SWITCH		
C		AUTOTRANSFORMER/AUTOTRANSFORMATOR					GATEWAY		
		THREE-PHASE TRIANGLE WINDING/LICHIDARE TREI FAZE UN TRIUNGHI					SERIAL NETWORK RS485/SERIAL REȚEA RS485		
D		TRIANGLE OPEN PHASE WINDING/TRIANGLE OPEN PHASE WINDING OPEN					NETWORK OF LOGIC SELECTIVITY COMMUNICATION/REȚEAUA DE COMUNICARE SELECTIVITĂȚII LOGICĂ		
		STAR PHASE WINDING/LICHIDARE TREI FAZE STEA					WIRING DEVICES FOR PROTECTION/CABLARE DISPOZITIVE DE PROTECȚIE		
E		THREE PHASE STAR WIND WITH NEUTRAL ACCESSIBLE BY EXTERNAL/LICHIDARE TREI FAZE STEA CU NEUTRU ACCES EXTERNE							
		THREE-PHASE WINDING AT ZIG-ZAG/LICHIDARE TREI FAZE ZIG-ZAG							
F									
	1	2	3	4	5	6	7	8	

	1	2	3	4	5	6	7	8
A								
	CLOSING CONTACT (OPEN TO REPOSE)/CONTACT DE INCHIDERE (DESCHIS LA REPAUS)				CLOSING CONTACT SENSITIVE TO TEMPERATURE/CONTACT DE INCHIDEREA SENSIBILE LA TEMPERATURA			
	OPENING CONTACT (OPEN TO REPOSE)/CONTACT DE DESCHIDERE (DESCHIS LA REPAUS)				CLOSING CONTACT TO THERMIC RELAY/CONTACT DE INCHIDERE DE RELEU TERMICE			
	CONTACT EXCHANGE WITH MOMENTARY INTERRUPTION/DATE DE SCHIMB CU ÎNTRERUPERILOR MOMENTANE				THREE-WAY SWITCH/TREI-WAY SWITCH			
B								
	CONTACT A TWO-WAY THREE POSITIONS WITH CENTRAL POSITION OPENING/DATE DE A DOUA-WAY TREI POZITII, CU DESCHIDERE POZITIE CENTRALĂ				TWO-WAY SWITCH/DOUĂ-WAY SWITCH			
	CLOSING CONTACT WITH MANUAL DRIVE/CONTACT DE INCHIDERE CU COMANDA MANUAL				TWO-WAY SWITCH AT THREE POSITIONS WITH CENTRAL POSITION OPENING/DOUĂ-WAY SWITCH TREI POZITII CU DESCHIDERE POZITIE CENTRALĂ			
C								
	CLOSING CONTACT WITH CONTROL BUTTON/CONTACT DE INCHIDERE CU BUTONUL DE CONTROL				CONTACT N.A.-N.C. TIMED TO ACTION/CONTACT N.A.-N.C. CRONOMETRAT PENTRU A ACȚIUNE			
	OPENING CONTACT WITH CONTROL BUTTON/CONTACT DE DESCHIDERE CU BUTONUL DE CONTROL				CONTACT N.A.-N.C. THE TIMED RELEASE/CONTACT N.A.-N.C.CRONOMETRAT PENTRU A ELIBERAREA			
D								
	CLOSING CONTACT WITH CONTROL ROD/CONTACT DE INCHIDERE CU COMANDA ROD							
	CLOSING CONTACT WITH ROTARY CONTROL/CONTACT DE INCHIDERE CU CONTROL ROTATIV							
E								
	CLOSING POSITION CONTACT/POZITIA DE CONTACT DE INCHIDERE							
	OPENING POSITION CONTACT/POZITIA DE CONTACT DE DESCHIDERE (LIMIT/LIMITA)							
F								
	EXCHANGE CONTACT WITHOUT INTERRUPTION/CONTACT DE SCHIMB FĂRĂ ÎNTRERUPERE							

	1	2	3	4	5	6	7	8	
A		1	2	3	4	5	6	7	8
	INTERFACE MODULE FOR CONNECTING A SYSTEM OF SUPERVISION/MODULUL DE INTERFATA PENTRU CONECTAREA UNUI SISTEM DE SUPRAVEGHERE								
	  	1	2	3	4	5	6	7	8
	INDICATION SWITCH TYPE/INDICATIE SWITCH TIP: (M) MODULAR/MODULARE (D) BOXED/BOXED (A) OPEN/DESCHIS								
	  	1	2	3	4	5	6	7	8
	DIFFERENTIAL INDICATION OF TYPE AC (GENERAL OR SELECTIVE)/PRECIZAREA DIFFERENTIAL DE TIPULUI AC (GENERALA SAU SELECTIV)								
B	  	1	2	3	4	5	6	7	8
	DIFFERENTIAL INDICATION OF TYPE A (GENERAL OR SELECTIVE)/PRECIZAREA DIFFERENTIAL DE TIPULUI A (GENERALA SAU SELECTIV)								
	  	1	2	3	4	5	6	7	8
	DIFFERENTIAL INDICATION OF TYPE B (GENERAL OR SELECTIVE)/PRECIZAREA DIFFERENTIAL DE TIPULUI B (GENERALA SAU SELECTIV)								
C		1	2	3	4	5	6	7	8
	CONTROL COIL GENERAL SYMBOL/BOBINĂ DE CONTROL GENERAL SIMBOLUL								
		1	2	3	4	5	6	7	8
	CONTROL COIL (IE=OPENING COIL YO, YC=CLOSING COIL, YU0=COIL A POWER FAILURE)/BOBINĂ DE CONTROL(IE=BOBINĂ DESCHISE YO, YC=BOBINĂ ÎNCHIDERE, YU0=BOBINĂ PANĂ DE CURENT)								
D		1	2	3	4	5	6	7	8
	FREE RELEASE MECHANISM/MECANISMUL ELIBERAREA GRATUIT								
		1	2	3	4	5	6	7	8
	MOTOR FOR CONTROL SWITCH/MOTOR PENTRU CONTROL SWITCH								
E		1	2	3	4	5	6	7	8
	CONVERTER COPPER-FIBER OPTICS FOR SELECTIVITY LOGIC (TX TRANSMITTER, RECEIVER RX)/CONVERTOR CUPRU -FIBRA OPTICA PENTRU LOGICA SELECTIVITATEA (TX TRANSMITTER, RECEPTOR RX								
F	1	2	3	4	5	6	7	8	
	CONVERTER COPPER-FIBER OPTICS FOR SELECTIVITY LOGIC (TX TRANSMITTER, RECEIVER RX)/CONVERTOR CUPRU -FIBRA OPTICA PENTRU LOGICA SELECTIVITATEA (TX TRANSMITTER, RECEPTOR RX								

LOCK KEY/BLOCAREA CHEIE:
WITH INDICATION FREE KEY-TOSWITCH-SWITCH OPEN-EXTRACT/CU EXPUNE LIBERTATEA CHEIE DE SWITCH-SWITCH DESCHIS-EXTRACTUL
WITH INDICATION FREE KEY-TOSWITCH-SWITCH CLOSED/CU EXPUNE LIBERTATEA CHEIE DE SWITCH-SWITCH ÎNSCHIS

RINGED KEYS/CHEI ÎNELATI

DEVICE OF OPERATION AND CONTROL OF REMOVABLE TYPE/DISPOZITIV DE FUNCȚIONAREA ȘI CONTROLUL DE TIP AMOVIBIL

MECHANICAL INTERLOCK BETWEEN DEVICES (UNLESS OTHERWISE INDICATED)/CONECTARE MECANICĂ ÎNTRE DISPOZITIVE (CU EXCEPȚIA CAZULUI NU ESTE INDICAT)

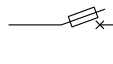
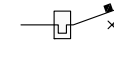
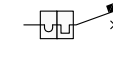
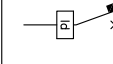
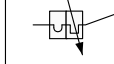
GROUNDING BARS SIGN WITHOUT POWER TO CLOSING/SEMNAL DE ÎMPAMANTAREA FĂRĂ PUTERE LA ÎNCHIDE

AUXILIARY SWITCH SIGNALS LEGEND (X)/SWITCH AUXILIARE LEGENDA MESAJE (X):
-I/O DEVICE CONNECTED/DISCONNECTED, A/C DEVICE OPEN/CLOSED; SR RELAY TRIPPED; M SOFT STATE
-I /O DISPOZITIV CONECTAT/DECONNECTAT, A/C DISPOZITIV ÎNCHIS/DESCHIS; SRRELAY DECLANȘAT; M STAT

LAMP (X = COLOR) FOR SWITCHES WITH MEANING OF COLORS: RED RD=(OPEN), GN=GREEN (CLOSED)
YE=YELLOW (TRIP), BU=Blue (connected/disconnected), WH=WHITE (springs charged) ; OG=ORANGE
LAMPĂ (X = COLOR) pentru switch-uri cu sensul de culori: ROȘU RD = (DESCHIS), GN = VERDE (ÎNCHIS) YE = GALBEN (TRIP), BU = Albastru (conectat / deconectat), WH = ALB (izvoare percept) ; OG = ORANGE

FLASHING SIGNAL LAMP/LAMPĂ DE SEMNALIZARE INTERMITENT

CROSS LAMP SWITCH STATE SIGNAL/LAMPĂ CRUCEA SEMNAL DE STAT SWITCH

	1	2	3	4	5	6	7	8				
A		SWITCH (POWER)/SWITCH (PUTERE)			<input type="checkbox"/> X	RELAY OF MEASURING OR SIMILAR DEVICE WITH INDICATION OF SECURITY FEATURES ENABLED IN ANSI CODES/RELEU PENTRU DISPOZITIV DE MĂSURARE SAU SIMILARE CU INDICĂȚIE DE CARACTERISTICI DE SECURITATE ESTE ACTIVAT ÎN CODURI ANSI						
		SWITCH WITH BUILT-IN FUSE/SWITCH CU BUILT-IN FUSE			<input type="checkbox"/>	THERMAL RELAY/RELEU TERMIC						
		POWER SWITCH FOR AUTOMATIC OPENING/BUTONUL DE PORNIRE DESCHIDEREA AUTOMATĂ			<input type="checkbox"/>	RELAY MAGNETIC/RELEU MAGNETIC						
B		POWER SWITCH OPENING AUTOMATIC, THERMIC/BUTONUL DE PORNIRE DESCHIDEREA AUTOMATĂ. TERMICE			<input type="checkbox"/> Id	CURRENT DIFFERENTIAL RELAY/RELEU CURENT DIFERENTIAL						
		POWER SWITCH OPENING AUTOMATIC, MAGNETOTHERMIC/BUTONUL DE PORNIRE DESCHIDEREA AUTOMATĂ. MAGNETOTERMICE			<input type="checkbox"/> I >	OVERCURRENT RELAY (LONG DELAY)/RELEU SUPRACURENT (ÎNȚĂRZIERII PRELUNGITE)						
C		POWER SWITCH FOR AUTOMATIC OPENING, DIFFERENTIAL MAGNETOTHERMIC/COMUTATORUL DE ALIMENTARE TIMP DESCHIDEREA AUTOMATĂ, DIFERENȚIAL MAGNETO TERMICE			<input type="checkbox"/> I >>	OVERCURRENT RELAY (SHORT DELAY)/RELEU SUPRACURENT (SCURTĂ ÎNȚĂRZIERE)						
		POWER SWITCH FOR AUTOMATIC OPENING, WORKING FOR CURENT DIFFERENTIAL/COMUTATORUL DE ALIMENTARE TIMP DESCHIDEREA AUTOMATĂ, LUCRU PENTRU DIFERENTIAL CURENT			<input type="checkbox"/> I ±	EARTH FAULT RELAY/RELEU FAULT PĂMÂNTULUI						
D		POWER SWITCH AT AUTOMATIC OPENING WITH ADJUSTABLE THERMIC/COMUTATORUL DE ALIMENTARE TIMP DESCHIDEREA AUTOMATĂ CU CĂLDURĂ REGLABIL			<input type="checkbox"/> U = 0	RELAY GROUND FAULT RELAY A LACK OF POWER/RELEU ÎMPĂMÂNTARE RELEU LIPSĂ DE PUTERE						
		POWER SWITCH AT AUTOMATIC OPENING REMOVABLE/COMUTATORUL DE ALIMENTARE TIMP DESCHIDEREA AUTOMATĂ AMOVIBIL			<input type="checkbox"/> U <	RELAY UNDERVOLT/RELEU UNDERVOLT						
E					<table border="1" data-bbox="577 1543 661 1632"> <tr> <td>M</td> <td>D</td> </tr> <tr> <td>Sf</td> <td>EL</td> </tr> </table>	M	D	Sf	EL	PROTECTION TRIP UNITS ELECTRIC UNIT OF MEASURE (M) AND DIALOGUE (D)/ ÎMPEDICAT DE UNITATI ELECTRICE CU UNITATEA DE MASURA (M) ȘI DIALOG (D)		
M	D											
Sf	EL											
F												
	1	2	3	4	5	6	7	8				

