

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







**CLIENT / CLIENT**



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



CONSULTANT / CONSULTANT			Data Date	Semnătură Signature
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SUBCONSULTANT / SUBCONSULTANT			Project/Project
Aprobat Approved	Responsabil Subconsultant Subconsultant Responsible		2004/RO/16/P/PA/003
Intocmit Elaborated	Proiectant Designer		
Reabilitarea liniei de cale ferata Brașov - Simeria, parte componentă a coridorului IV Pan European, pentru circulația trenurilor cu viteză maximă de 160 km/h. Sectiune 1 Brașov - Sighisoara			Faza / Phase: P.Th. / T.D.

**Denumire desen / Drawing Title : TUNNEL/TUNELUL HOMOROD**  
**RACOS SIDE/INSPRE RACOS**

**Safety Tunnel Power Supply system /Sistem de alimentare de siguranță a tunelului**  
 Single-line diagrams medium-voltage electrical panels Q\_MT/PE/Diagrame single-line cadru electrice medie tensiune Q\_MT/PE

Codificare / Codification System

Scara / Scale

LOT

Nr. / No

**E A 5 1 0 1 C 1 2 L X T S 2 0 7 6 0 0 2 A**





	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 ÎNCHIDEREA SENSIBILĂ LA TEMPERATURA			
	OPENING CONTACT (OPEN TO REPOSE)/CONTACT DE DESCHIDERE (DESCHIS LA REPAUS)				CLOSING CONTACT TO THERMIC RELAY/CONTACT DE ÎNCHIDERE DE RELEU TERMICE			
B								
	CONTACT EXCHANGE WITH MOMENTARY INTERRUPTION/DATE DE SCHIMB CU ÎNTRERUPERILOR MOMENTANE				THREE-WAY SWITCH/TREI-WAY SWITCH			
	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 ÎNCHIDERE 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 ÎNCHIDERE 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 ÎNCHIDERE CU COMANDA ROD							
	CLOSING CONTACT WITH ROTARY CONTROL/CONTACT DE ÎNCHIDERE CU CONTROL ROTATIV							
E								
	CLOSING POSITION CONTACT/POZITIA DE CONTACT DE ÎNCHIDERE							
	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	01 ELECTRICAL CHARACTERISTICS OF THE PANEL/CARACTERISTICILE ELECTRICE DE CADRU				04 MECHANICAL PROPERTIES OF PANEL/PROPRIETATIILOR MECANICE DE CADRU					
	A	LOSS CATEGORY OF CONTINUITY SERVICE/CATEGORIA DE PIERDERE A CONTINUITATE SERVICIULUI =	LSC 2A		A	DEGREE OF EXTERNAL PROTECTION/GRADE DE EXTERNE PROTECTIE	=	IP2XC		
	B	CLASS OF DIAPHRAGM/CLASA DE DIAPHRAGMA	=	PI	B	DEGREE OF INTERNAL PROTECTION/GRADE DE INTERNE PROTECTIE	=	IP2X		
	C	KEEPING THE INNER ARC/PASTRAREA ARC INTERIOR (IAC)	=	AFLR	C	ACCESSIBILITY/ACCESUL	=	ANTERIOR/FRONT		
	D	OPERATING VOLTAGE/TENSIUNE DE FUNCTIONARE Ue	=	20 kV	D	ARRIVAL CABLES/SOSIRE CABLURI	=	FROM BELOW/INFERIOARA		
	E	NOMINAL VOLTAGE/TENSIUNE NOMINALA Ui	=	24 kV	E	START CABLE/PORNIRE CABLU	=	FROM BELOW/INFERIOARA		
	F	NOMINAL FREQUENCY/FRECVENTA NOMINALA Fn	=	50 Hz	F	SLAB PANEL/BASE CADRU	=	CLOSED WITH GALVANIZED STEEL FLANGES/INCHIS CU OTEL ZINCAT FLANSE		
	G	NOMINAL CURRENT MAIN BARS/CURRENT NOMINAL BARE PRINCIPALE In	=	630 A	G	COLOR INT-EXT/COLOR INC-DISC	=	WHITE RAL 9002 EMBOSSED/ALBRAL 9002 gofrate		
	H	NOMINAL CURRENT DERIVATIVE BARS/CURRENT NOMINAL BARE DERIVATE In	=	630 A	H	TYPE OF PAINTING/TIP DE PICTURA	=	EPOXY POWDER/EPOXIDICE PULBERE (> 50 um)		
	I	CURRENT SHORT-TIME/CURRENTUL DE SCURT-TIMP(SIMM.) Icc	=	16 kA (1 s)	I	UNCOATED SURFACES/SUPRAFETELOR NEZOLATE	=	GALVANIZED OR TROPICAL/GALVANIZAT SAU TROPICAL		
L	CURRENT SHORT-TIME/CURRENTUL DE SCURT-TIMP (PICCO) Icc	=	40 kA (1 s)	L	RESISTANCE ANTICONDENSATION BIN/REZISTENTA ANTICONDENS BIN	=	YES/DA			
M	POWER TO BREAK THE SWITCHES/PUTEREA DE RUPE DE SWITCHES	=	16 kA	M	PLATE (ENGRAVED BY FRONT)/PLACA (GRAMATE DE FRONTALA)	=	YES/DA			
N	INTERNAL PROTECTION ARC/PROTECTIE INTERNA ARC	=	16 kA (1 s)	N	DEVELOPMENT PANEL/DEZVOLTAREA CADRU	=	SX > DX			
O	NUMBER OF STEPS/NUMAR DE PASI	=	3	O	STANDARDS/STANDARDE	=	IEC 62271-200 / RFI IFS300:2006			
P	IDENTIFICATION OF STEPS/IDENTIFICAREA DE ETAPE	=	L1 L2 L3	P						
Q	INSULATION LEVEL /NIVEL DE IZOLATIE F=50 Hz E T=1'	=	50 kV (F-1)	Q						
R	IMPULSE INSULATION LEVEL/IMPULSE NIVELUDE IZOLATIE 1.2/50µs (VDI PICCO)	=	125 kV (F-1)							
D	02 CONDITIONS OF SERVICE/CONDITII DE SERVICE				05 COPPER BARS/BARE CUPRU		07 SURFACE TREATMENT/TRATAMENT SUPRAFATA			
	A	CLIMATE/CLIMATICE	=	MEDITERRANEO	A	NAKED/NUDE	<input checked="" type="checkbox"/>	A	NAKED/NUDE	<input checked="" type="checkbox"/>
	B	ENVIRONMENT/AMBIANTA	=	INDUSTRIALE	B	ISOLATED RESIN/IZOLAT RESIN	<input type="checkbox"/>	B	TINNED/COSITORIT	<input type="checkbox"/>
	C	MAXIMUM TEMPERATURE/TEMPERATURA MAXIMA	=	40°C (-5 / +40)	C	INSULATING SHEATH THERMO-REACTIVE/IZOLARE TECII TERMO-REACTIVE	<input type="checkbox"/>	C	SILVER/ARGINT (> 6 um)	<input type="checkbox"/>
	D	HUMIDITY ON AIR/UMIDITATE ON AIR	=	95% (MIN 50% / MAX 100%)	LEADS AND TERMINALS FOR AUXILIARY CIRCUITS (UNLESS OTHERWISE INDICATED IN THE DIAGRAM) OPORTUNITATI SI TERMINALE PENTRU CIRCUITE AUXILIARE (EXCEPTIA CAZULUI IN CARE NU ESTE INDICAT ALTFEL IN DIAGRAMA)					
	E	ALTITUDE/ALTITUDINE	=	< 1000 m s.l.m.	A	COMMAND-SIGNAL-ALARM/COMANDA-SIGNAL-ALARM	=	N07G9-K 1x1.5mmq		
	F	PANEL INSTALLATION/INSTALARE DE PANOU	=	ALL'INTERNO	B	VOLTAGE CIRCUIT/TENSIUNEA CIRCUITULUI	=	N07G9-K 1x2.5mmq		
E	03 AUXILIARY VOLTAGE/TENSIUNE AUXILIAR				C	CURRENT CIRCUIT/CIRCUIT CURENTE	=	N07G9-K 1x2.5mmq		
	A	SPRINGS CHARGER/INCARCATOR-CONTROLS/CONTROALE-SIGNALS/SEMNALE-ALARMS/ALARMS	=	230Vac/24Vdc	D	TERMINAL TYPE-SIZE/TERMINAL TIP-SIZE	=	TERMOPLASTICO / = 4mmq		
	B	COMPARTMENT INTERIOR LIGHTING/COMPARTIMENTUL DE ILUMINAT INTERIOR	=	NO	E	ANTICONDENSATION RESISTANCE/CONDENS REZISTENTA	=	N07G9-K 1x4mmq		
F										
	1				2					

## CODES ANSI LEGEND/ LEGENDA CODURI ANSI

49T	MAXIMUM TEMPERATURE (TRANSFORMER)/TEMPERATURA MAXIMA (TRANSFORMATOR)
50	MAXIMUM PEAK CURRENT/CURRENTUL MAXIM INSTANTANEU
51	CURRENT MAXIMUM LATE/CURRENTUL MAXIM INTARZIERE
51N	MAXIMUM EARTH FAULT LATE CURRENT/CURRENT MAXIM DE DEFECTE PAMANTULUI INTARZIERE
67	MAXIMUM CURRENT DIRECTIONAL PHASE/CURRENTUL MAXIM DE DIRECTIONAL FAZA
67N	MAXIMUM CURRENT DIRECTIONAL EARTH FAULT/MAXIME DIRECTIONAL CURENT DE DEFECT PAMANTULUI
68	SELECTIVITY LOGIC (NETWORK LOCK)/SELECTIVITATEA LOGIC (RETEA BLOCK)
52	SWITCH/SWITCH
89	DISCONNECTOR/SEPARATOR

## NOTE (SEE FOLLOWING PAGES)

- (1) CONTROL THE RELEASE OF EMERGENCY BUTTON INSTALLED OUTSIDE THE CABIN
- (2) STATE REPORTING SYSTEM TO BE GIVEN AT SUPERVISION
- (3) CONNECTING AT SYSTEM OF SUPERVISION RS485
- (4) INTERLOCK SWITCH WITH CONCERNING BT (DRIVE)
- (5) STATE OF SIGNAL PROCESSOR WITH AUXILIARY CONTACTS OF MANAGED DISCONNECTOR UNIT OF LAND ON THE FUNCTIONAL (see point 8)
- (6) KEY ACCESS TO BOX TRANSFORMER
- (7) DEVICES INSTALLED OUTSIDE OF ACCESS TO THE TRANSFORMER BOX
- (8) CONTACT THE SIGNALS USED FOR TRANSFORMER BOX
- (9) STATUS OF THE SWITCH TO BE GIVEN AT SYSTEM OF SUPERVISION
- (10) CONNECTING TO ETHERNET SWITCH CAR
- (11) SIGNAL TRANSMISSION OF LOGIC BLOCK ADJACENT TO THE CABIN
- (12) RECEIVING SIGNAL FROM THE CABIN ADJACENT TO BLOCK LOGIC
- (13) DIGITAL INPUT ON TIME SYNCHRONIZATION PROTECTION, with signals from GPS clock
- (14) TENSION BETWEEN ELECTRICAL DISCONNECTOR GROUND AND THE PANEL MT and earthing UNDER THE SQUARE (PDO)
- ALL MOTORIZED EQUIPMENT SHOULD BE PROVIDED FOR THE REMOTE CONTROL SYSTEM OF CENTRAL
- THE ENABLE FUNCTION OF PROTECTION AND ADJUSTMENT WILL BE MADE IN ITS PLACE OF AGREEMENT WITH THE BODY IN DL SUPPLIER
- SCHEMES ARE REPRESENTED IN THE FOLLOWING CONDITIONS:
  - AUXILIARY CIRCUITS AND POWER IN THE ABSENCE OF TENSION
  - SWITCH OPEN AND ISOLATED
  - SHOCK SPRINGS CONTROL SWITCH
  - Earthing switch open
  - FUSE grounding Leave

## ACCESSORIES

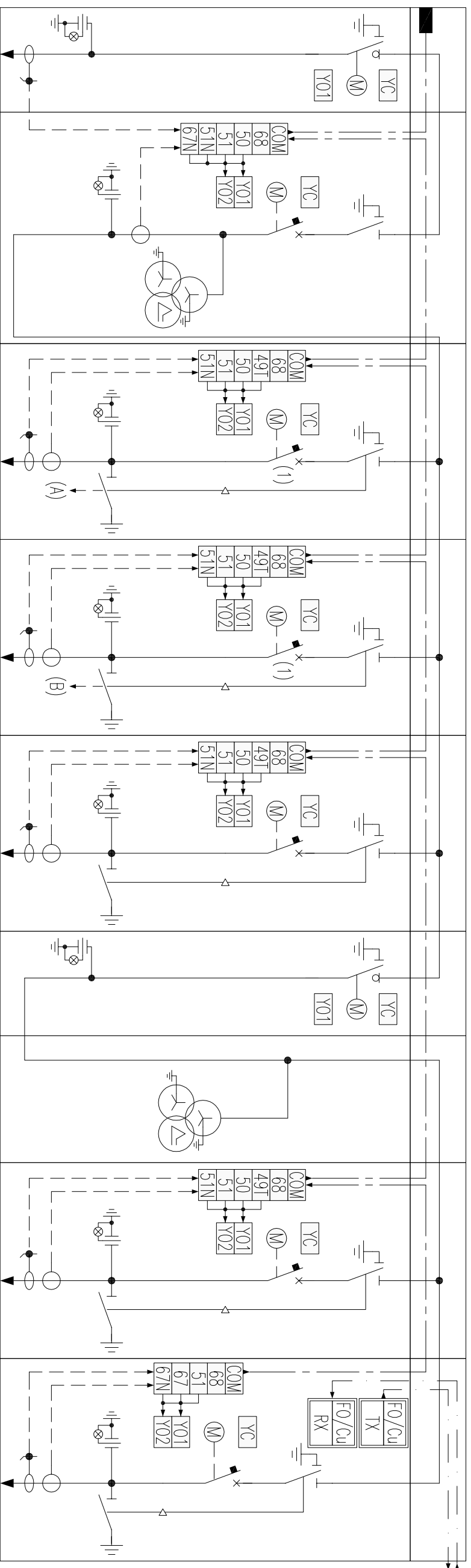
- 2x16A 230V OUTLET FOR EVERY CELL AUXILIARY + T
- TYPE OF REPORTING OF LAMPS LED
- TEST CIRCUIT LAMPS
- PROTECTION OF MAGNETIC MOTORS
- CONDENSATION HEATERS WITH THERMOSTAT
- Operation counter SWITCHES
- REPORTING OFFICERS SPRINGS
- TERMINAL (TA) SHORT AND TERMINAL (TV) DISCONNECT
- UPPER CHANNEL INTERPANNELLARE
- Optical signals is shown in FRAMEWORK FOR TERMINAL:
  - \* CLICK AUXILIARY SWITCHES
- Key lock and padlocks
- KEY SWITCH FOR LOC\_REM INHIBITION OF GENERAL COMMANDS FROM OUTSIDE
- DIAGRAM FRONT PANEL OVERVIEW

## NOTĂ (VEZI PAGINILE URMĂTOARE)

- (1) CONTROLA ELIBERAREA DE BUTON DE URGENȚĂ INSTALATE ÎN EXTERIORUL CABINEI
- (2) SISTEMUL DE RAPORTARE DE STAT CARE SE DE SUPRAVEGHERE
- (3) CONECTAREA UNUI SISTEM DE SUPRAVEGHERE 485
- (4) PORȚINEA INTERBLOCARE CU PRINTE BT (DRIVE)
- (5) DE STAT CU AUXILIARE PROCESOR DE SEMNAL DE UNITATE DE COMUTARE DE TEREN PE FUNCȚIONAL \*(A SE VEDEA PUNCTUL 8)
- (6) CHEIE DE ACCES LA CAȘTIA TRANSFORMATOR
- (7) DISPOZITIVELE INSTALATE AFARA DE ACCES LA CUTE TRANSFORMATOR
- (8) DATE DE SEMNALE UTILIZATE ÎN CUTE TRANSFORMATOR
- (9) STAREA DE SWITCH SĂ SE ACORDE O SISTEM DE SUPRAVEGHERE
- (10) CONECTAREA LA CAR SWITCH ETHERNET
- (11) DE TRANSMITERE A SEMNALULUI DE BLOCARE A LOGIC ADJACENTE DE MÂNĂ
- (12) SEMNAL DE PRIMIRE DIN CABINA ADJACENTE BLOCK LOGIC
- (13) INTRARE DIGITALĂ PRIND PROTECȚIA SINCRONIZAREA TIMPULUI, CU SEMNALE DE CEAS GPS
- (14) TION TRASCINAMRE ÎNRE SFOE ELECTRICE SOL DECONECTĂMNT PANEI ȘI DE LEGARE LA PĂMÂNT ÎN PIAȚĂ (PDO)
- TOATE ECHIPAMENTELE MOTORIZATE AR TREBUI SA FIE FURNIZATE PENTRU SISTEMUL DE CONTROL DE LA DISTANȚĂ CENTRALE
- FUNCȚIA ACTIVATI DE PROTECȚIE ȘI DE \*AJUSTAREA SE VA FACE ÎN LOCUL SAU DE COMUN ACORD CU ORGANISMUL ÎN FURNIZOR DL
- SISTEME SUNT REPREZENTATE ÎN URMĂTOARELE CONDȚII:
  - CIRCUITELE AUXILIARE ȘI PUTERE ÎN ABSENȚA DE TENSIUNE
  - SWITCH DESCHISE ȘI IZOLAT
  - SOC SPRINGS CONTROL SWITCH
  - DECONECTĂPI DECONECTĂPI DESCHIS
  - FUSE ÎMPĂMÂNTARE LĂSA

## ACCESORII

- 2x16A 230V PIAȚĂ DE DESFĂCERE PENTRU FIECARE CELULA AUXILIARE + T
- TIP DE RAPORTARE DE LĂMPI CU LED-URI
- CIRCUIT DE TEST LAMP
- PROTECȚIA MOTORILOR MAGNETIC
- ÎNCĂLZITOARE CONDENS CU THERMOSTAT
- CONȚOR DE OPERARE SWITCHES
- MANDATE RAPORTARE SPRINGS
- TERMINAL (TA) SCURT ȘI UN TERMINAL (TV) DECONECTATI
- SUPERIOR CHANNEL INTERPANNELLARE
- SEMNALELOR OPTICE ESTE PREZENTĂȚĂ ÎN CADRU PENTRU TERMINALE:
  - \* CLICK CONTACTE AUXILIARE
- BLOCARE CHEIE ȘI LĂCĂTE
- COMUTATOR CU CHEIE PENTRU ÎNHBAREA LOC\_REM DE COMENZI GENERAL DIN AFARA
- FRONT SCHEMA PREZENTARE GENERALĂ A PANOUULI



FUNCTIONAL UNIT / UNITATEA FUNCTIONALA N.	1	2	3	4	5	6	7	8	9
UNIT FUNCTIONAL / UNITATEA FUNCTIONALA N.	IMS 630	SWITCH/LIFT 630	SWITCH 630	SWITCH 630	SWITCH 630	IMS: 630	RISALITA	SWITCH 630	SWITCH 630
COMMAND/COMANDA	MOTORIZED/MOTORIZAT	MOTORIZED/MOTORIZAT	MOTORIZED/MOTORIZAT	MOTORIZED/MOTORIZAT	MOTORIZED/MOTORIZAT	MOTORIZED/MOTORIZAT	MOTORIZED/MOTORIZAT	MOTORIZED/MOTORIZAT	MOTORIZED/MOTORIZAT
FUSE/FUSE IMT	-	50 67	49T 51N	50 51N	49T 51N	-	-	49T 51N	51 67 67N
PROTECTIONS - RATINGS/PROTECTII/PUERII	-	N° 3 TA 300/5 A 2,5 VA SP30	N° 3 SENSOBI TOROIDALI - II - S430A - RA/PORCIO = 100A/2,5 mV CI, 0,5-SP250	N° 3 SENSOBI TOROIDALI - II - S430A - RA/PORCIO = 100A/2,5 mV CI, 0,5-SP250	N° 3 SENSOBI TOROIDALI - II - S430A - RA/PORCIO = 100A/2,5 mV CI, 0,5-SP250	-	-	N° 3 SENSOBI TOROIDALI - II - S430A - RA/PORCIO = 100A/2,5 mV CI, 0,5-SP250	N° 3 SENSOBI TOROIDALI - II - S430A - RA/PORCIO = 100A/2,5 mV CI, 0,5-SP250
FEATURES/CARACTERISTICI TA	-	-	-	-	-	-	-	-	-
FEATURES/CARACTERISTICI TOTAT	100/1A SP20	20000x3/100x3/100x3	100/1A SP20	100/1A SP20	100/1A SP20	-	20000x3/100x3	100/1A SP20	100/1A SP20
FEATURES/CARACTERISTICI TV	-	-	-	-	-	-	-	-	-
FEATURES TYPE CABLE/CARACTERISTICI TIP DE CABLU	RG7H1M1X - 12/20 KV	30 VA - CI, 0,5 / 50 VA CI, 3P	RG7H1M1X	RG7H1M1X	RG7H1M1X	-	30 VA - CI, 0,5	RG7H1M1X	RG7H1M1X
TRAINING CABLE/FORMARE CABLE	3x1x120	-	3x1x95	3x1x95	3x1x95	-	-	3x1x95	3x1x95
LENGTH/LUNGIMEA (M)	10	-	15	15	15	-	-	15	15
LINE DESTINATION/LINE DESTINATIE	CONTORE DE SUPRA TENSII DISTRIBUZIUNE CABLU DISTRIBUZIUNE CABLU	-	POWER TRANSFORMER/ALIMENTARE TRASORMATORE TRI/1P	POWER TRANSFORMER/ALIMENTARE TRASORMATORE TRI/1D	POWER TRANSFORMER/ALIMENTARE TRASORMATORE TRI/PE/1	CONNECTOR/ CONECTOR	POWER TRANSFORMER/ALIMENTARE TRASORMATORE TR/PE/2	TO EXTERNAL SUB STATION SAFE AREA TO HOMOROD	

SOCKETS, ENGINES AND RESISTANCE  
FROM ANTICONDENSATION FROM Q\_BT  
Vn=230 VAC/PRIZE, MOTOARELE SI  
REZISTENTA ANTICONDENS DE Q\_BT  
Vn=230 VAC

PROTECTION AND  
MEASURES FROM Q\_BT  
Vn=230 VAC/MASURILE  
SI PROTECTIE DE Q\_BT  
Vn=230 VAC

DISCONNECTORS installed in  
the FUNCTIONAL UNIT  
1/Separatoare instalate in  
UNITATEA FUNCTIONALA 1

2X32 A

2X32 A

SWITCHES INSTALLED IN AUXILIARY CELL  
OF THE CONCERNING BIN/CONTACTE  
INSTALATE IN CELA AUXILIARA  
PE BIN

FUNCTIONAL  
UNIT/FUNCTIONALE  
UNITATEA N°1

FUNCTIONAL  
UNIT/FUNCTIONALE  
UNITATEAN°2

FUNCTIONAL  
UNIT/FUNCTIONALE  
UNITATEAN°9

FUNCTIONAL  
UNIT/FUNCTIONALE  
UNITATEAN°2

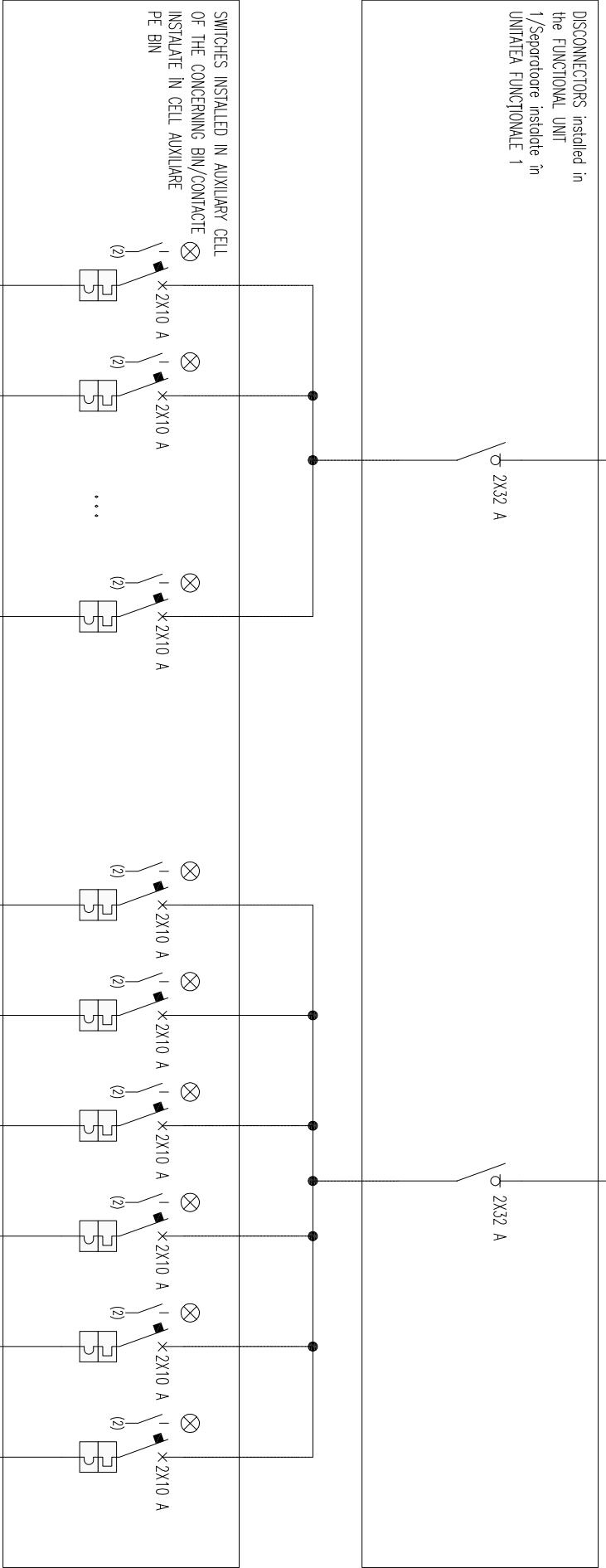
FUNCTIONAL  
UNIT/FUNCTIONALE  
UNITATEAN°3

FUNCTIONAL  
UNIT/FUNCTIONALE  
UNITATEA N°4

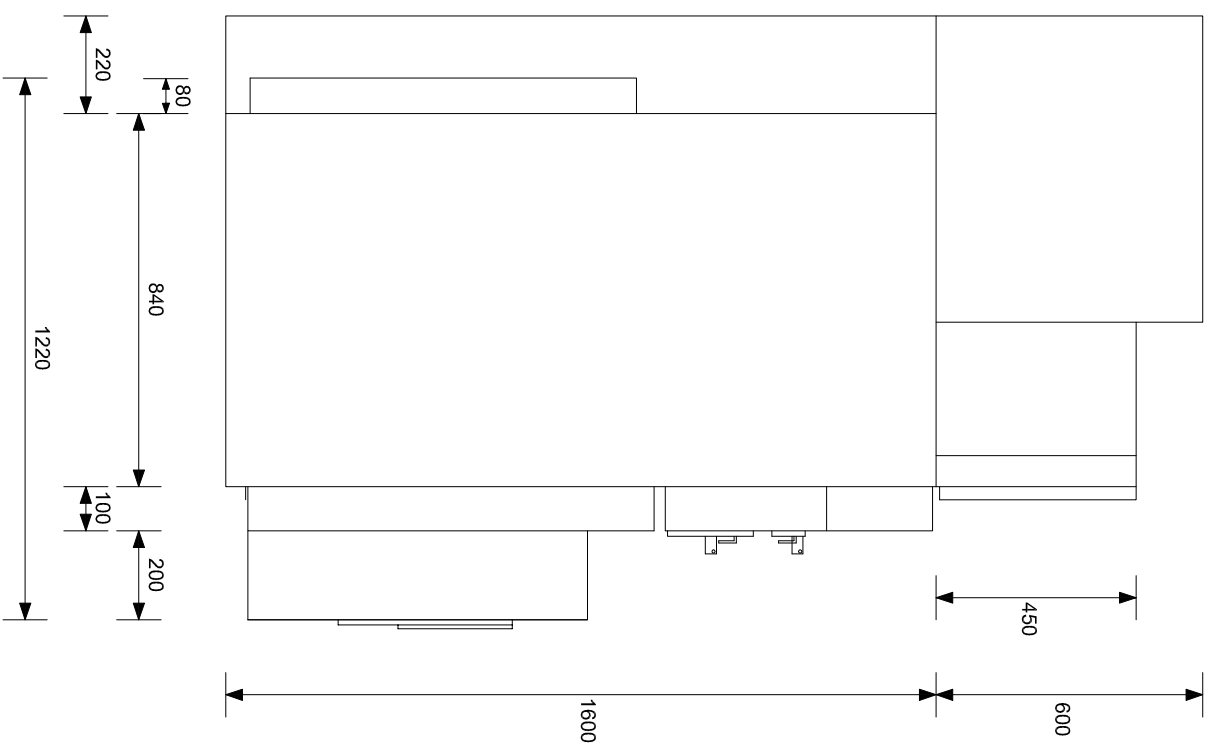
FUNCTIONAL  
UNIT/FUNCTIONALE  
UNITATEA N°5

FUNCTIONAL  
UNIT/FUNCTIONALE  
UNITATEA N°8

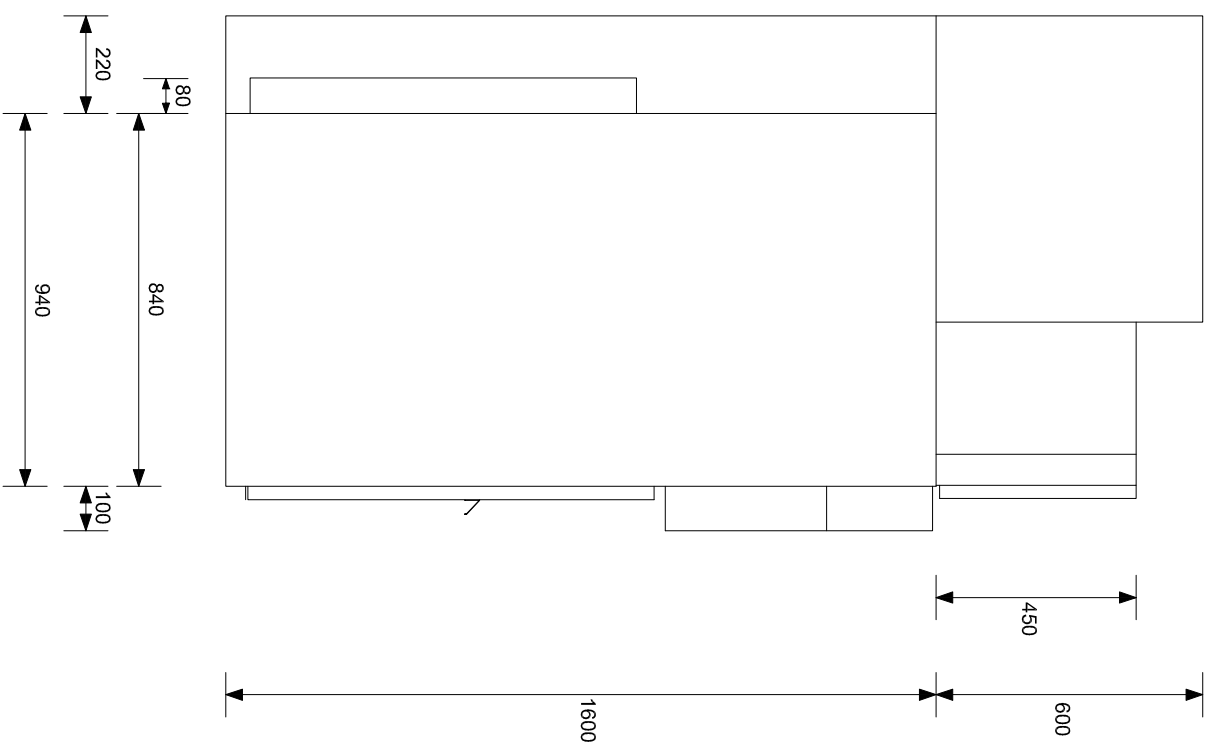
FUNCTIONAL  
UNIT/FUNCTIONALE  
UNITATEA N°9



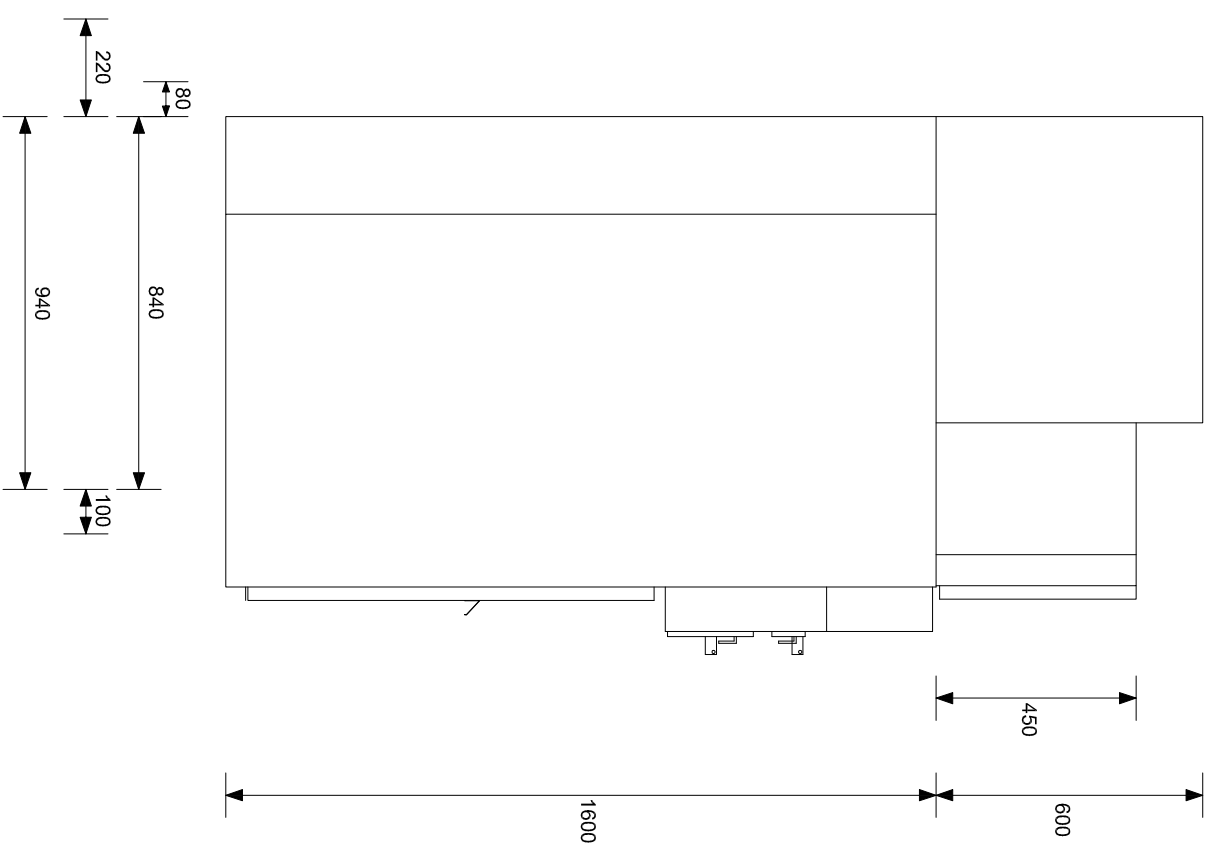
FUNCTIONAL UNIT /  
FUNCTIONALE UNITATEA  
2-3-4-5-8-9



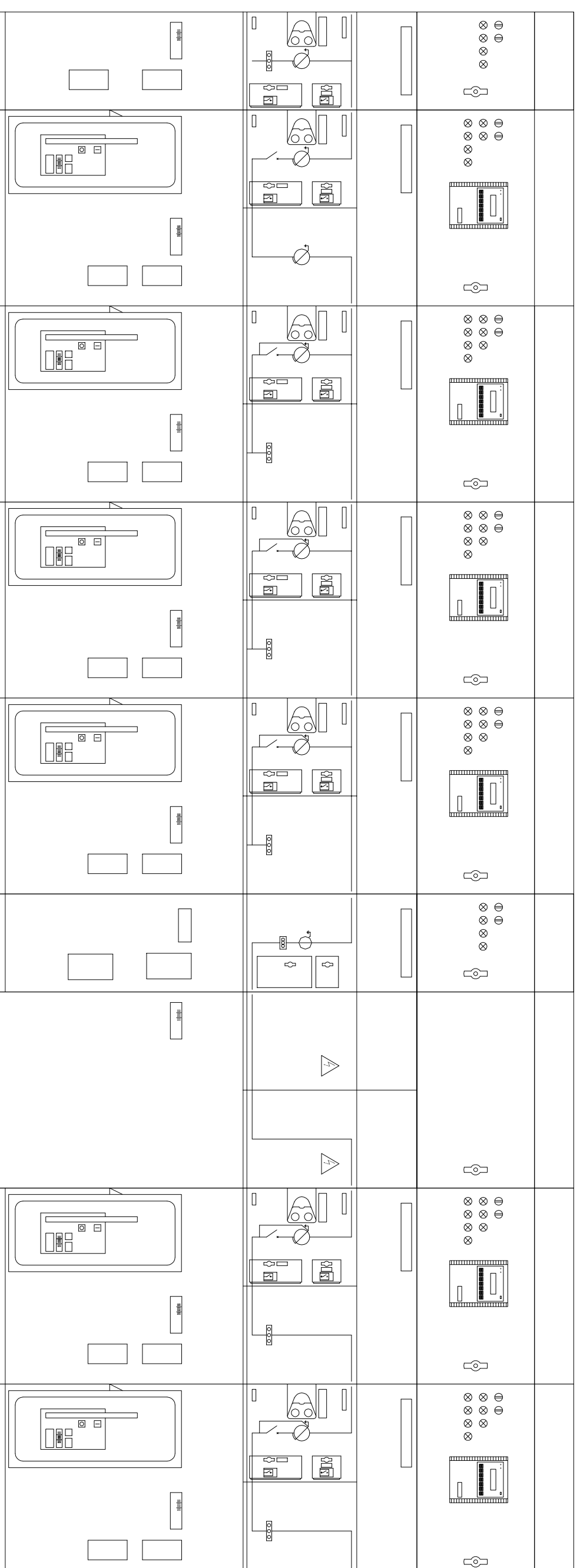
FUNCTIONAL UNIT /  
FUNCTIONALE  
UNITATEA 7



FUNCTIONAL UNIT /  
FUNCTIONALE  
UNITATEA 1-6



MINIMUM HIGH ROOM: 2800 mm



375 UNIT/UNITATEA 750 UNIT/UNITATEA 750 UNIT/UNITATEA 750 UNIT/UNITATEA 750 UNIT/UNITATEA 375 UNIT/UNITATEA 750 UNIT/UNITATEA 750 UNIT/UNITATEA 750 UNIT/UNITATEA

2200  
1400  
6000

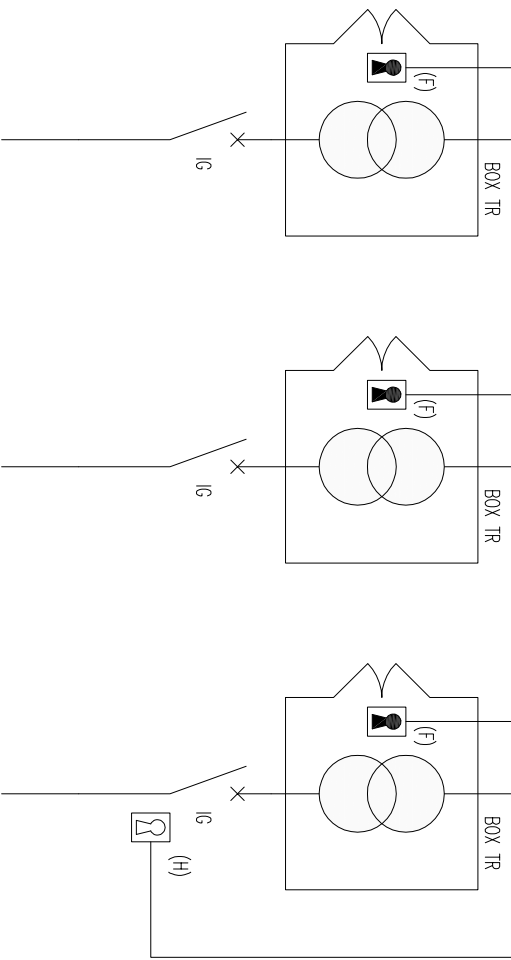
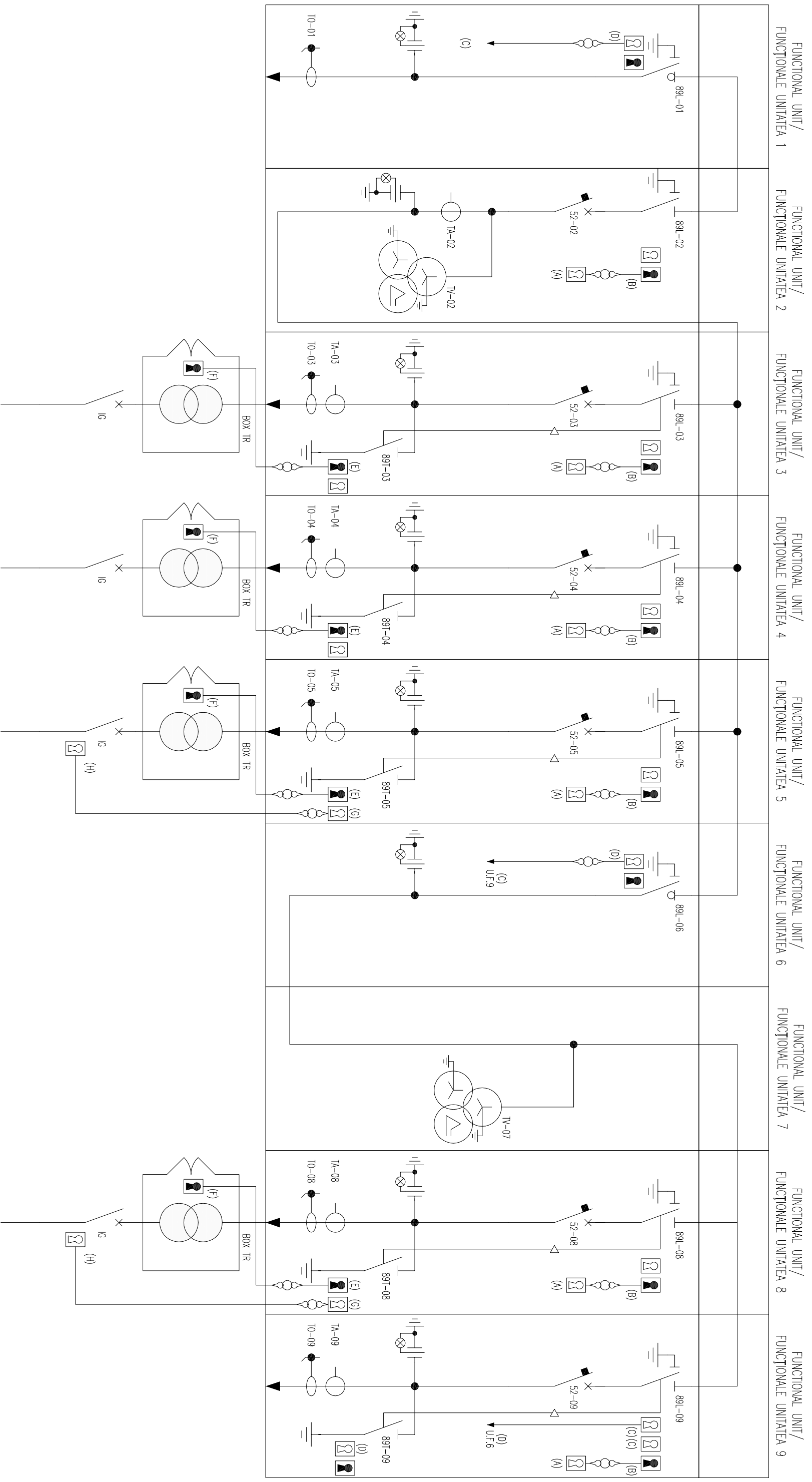
NOTES (SEE NEXT PAGE):

- (A) FREE KEY WITH OPEN SWITCH AND RINGED WITH KEY DISCONNECTOR LINE
- (B) FREE KEY WITH CLOSED LINE DISCONNECTOR AND RINGED WITH KEY SWITCH
- (C) FREE KEY WITH OPEN LINE DISCONNECTOR TO CLOSE THE GROUND  
THE FRAMEWORK DISCONNECTOR MT CONNECTED (OR OTHER OF THE SAME FRAMEWORK  
F. U. INDICATED LETTER FROM SPECIFIC)
- (D) FREE KEY WITH EARTHING SWITCH OPEN DISCONNECTOR FOR CLOSING OF  
LINE PANEL MT CONNECTED (OR OTHER OF THE SAME FRAMEWORK F. U. INDICATED  
LETTER FROM SPECIFIC)
- (S) FREE KEY WITH EARTHING SWITCH CLOSED AND RINGED WITH KEY FOR ACCESS TO  
BOX TRANSFORMER
- (F) KEY FOR ACCESS TO BOX TRANSFORMER
- (G) KEY FREE WITH EARTHING SWITCH OPEN AND RINGED WITH SWITCH KEY ON THE  
SIDE LV TRANSFORMER
- (H) RINGED WITH KEY DISCONNECTOR KEY OF THE LAND FOR BIN CONCERNING MT
- OTHER KEY SHOWN NOT TO BE FUNCTIONAL MOVES BUT THEY ONLY FUNCTION OF  
BLOCK EQUIPMENT REPRESENTED IN POSITION

NOTE (A SE VEDEA PAGINA URMĂTOARE):

- (A) CU UN COMUTATOR DE KEY LIBERE **ȘI** DESCHISE INELAT CU LINIA CHEIE DE SARCINĂ
- (B) LINE GRATUIT CHEIE CU INCHISA SI SEPARATOR INELAT CU ÎNTRERUPĂTOR CU CHEIE
- (C) GRATUIT CU LINIA OPEN CHEIE APROAPE DE SOL SEPARATOR CADRU MT DESCONECTORI  
CONNECTED (SAU ALTA DINTRE CADRU ACELA**ȘI** LUCRU SA SCRISOARE DIN INDICAT SPECIFICE)
- (D) CU UN COMUTATOR DE LEGARE LA PAMANT **FĂRĂ** CHEIE DESCHIS DESCONECTORI PENTRU  
INCHIDEREA MT PANULUI LINE CONNECTED (SAU ALTE ACELA**ȘI** CADRU F. U. SCRISOARE DIN  
INDICAT SPECIFICE)
- (S) CU UN COMUTATOR DE LEGARE LA PAMANT **FĂRĂ** CHEIE ÎNCHIS **ȘI** INELE CU CHEIA DE  
ACCES LA BOX TRANSFORMER
- (F), CHEIA DE ACCES LA BOX TRANSFORMER
- (G) -CHEIE CU COMUTATOR DE LEGARE LA **PĂMÂNT** GRATUIT DESCHISE **ȘI** INELE CU ÎNTRERUPATOR  
DE PE PARTEA LATERALĂ LV TRANSFORMER
- (H), INELE CU TASTĂ TERENULUI PENTRU SEPARATOR ÎN CEEA CE PRIVE**ȘTE** BIN MT
- NU CHEIE ALTE DOVEDIT A FI FUNCȚIONALE MUTARI DAR EI DOAR AU FUNCȚIA DE BLOC  
ECHIPAMENTE REPREZENTATE ÎN POZITIA



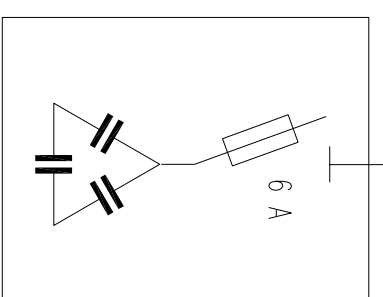


CONNECTION TO QdP/1  
CONEXIUNEA A QdP/1

CABLE /CABLU FG10M1 0.6/1 kV  
3x(1x240) mmq  
LENGHT/LUNGIMEA = 10 m

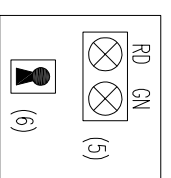
n°4 SCREENED CABLE/CABLU  
ECRANAT 2x1mmq

[04-A6]



UNIT FOR FIXED FACTOR/  
UNITATE PENTRU FIX FACTOR  
Pn = 5 KVAR

TR/1/P  
Pn = 200 kVA  
V1n = 20 kV  
V2n = 1 kV  
Dyn11  
Vcc = 6%



TO PROTECT THE  
51N-50N OF PANEL  
QdP/PENTRU A  
PROTEJA 51N-50N  
DE CADRU QdP

FROM FUNCTIONAL UNIT/DE  
FUNCTIONALE UNITATEA 3

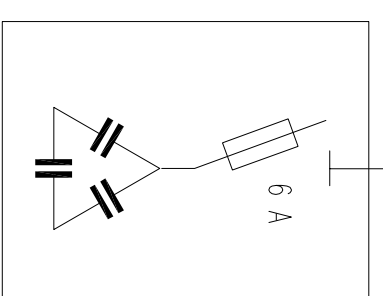
FROM FUNCTIONAL UNIT/DE  
FUNCTIONALE UNITATEA 4

CONNECTION/CONEXIUNE  
QdP/1

CABLE /CABLU FG10M1 0.6/1 kV  
3x(1x240) mmq  
LENGHT/LUNGIMEA = 10 m

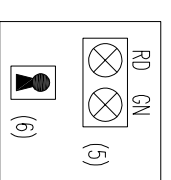
n°4 SCREENED CABLE/CABLU  
ECRANAT 2x1mmq

[04-A7]

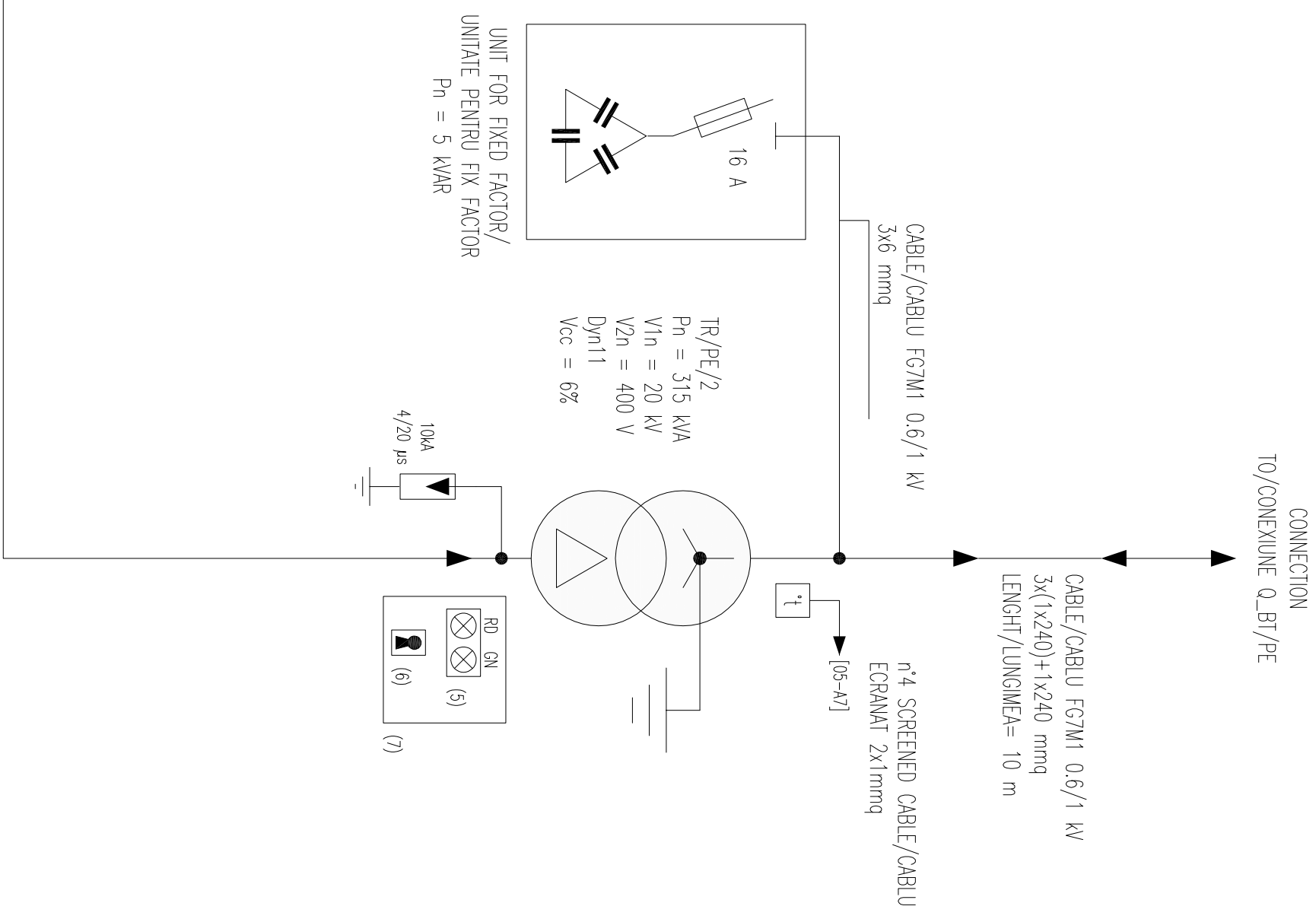
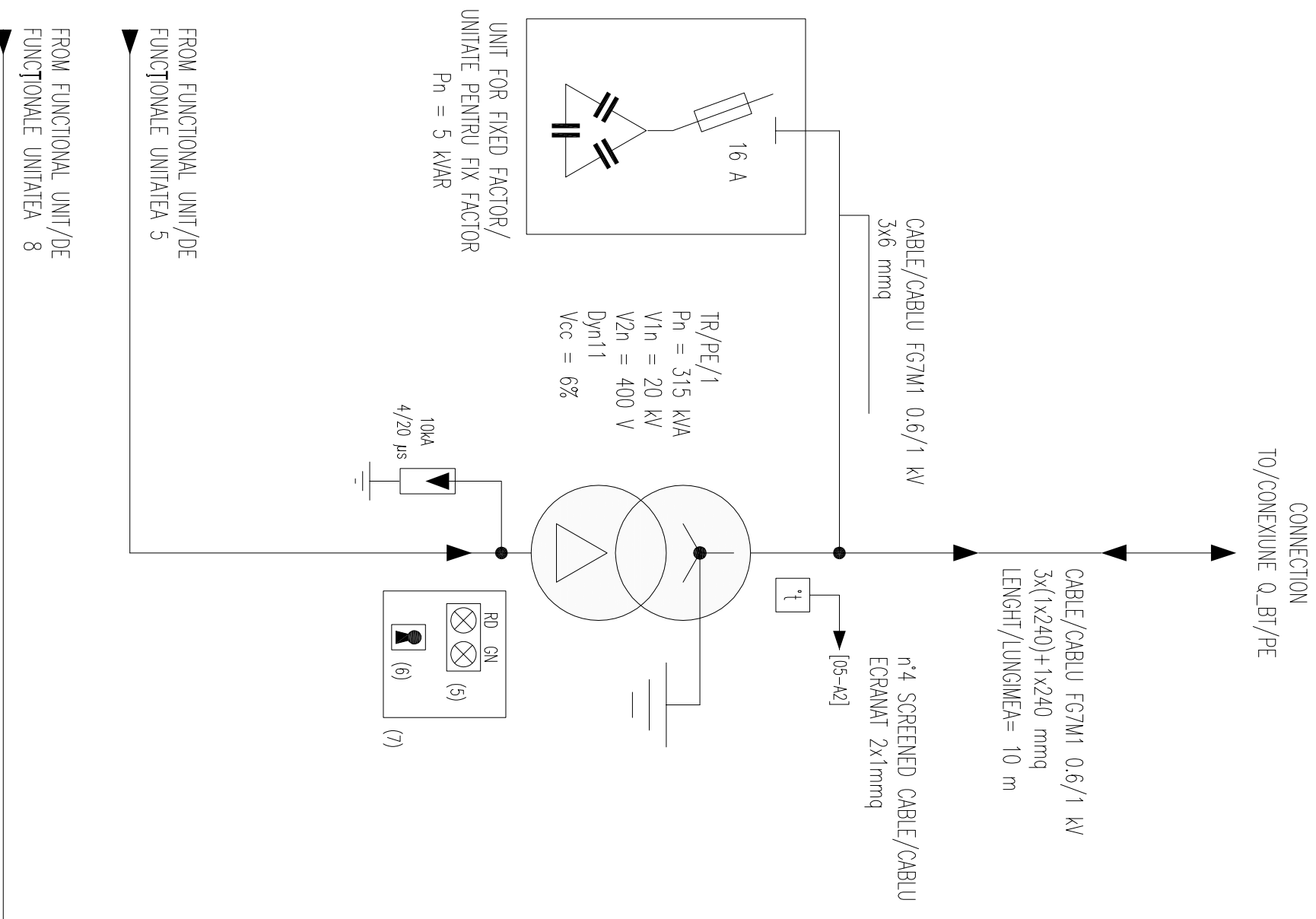


UNIT FOR FIXED FACTOR/  
UNITATE PENTRU FIX FACTOR  
Pn = 5 KVAR

TR/1/D  
Pn = 200 kVA  
V1n = 20 kV  
V2n = 1 kV  
Dyn11  
Vcc = 6%



TO PROTECT THE  
51N-50N OF PANEL  
QdP/PENTRU A  
PROTEJA 51N-50N  
DE CADRU QdP

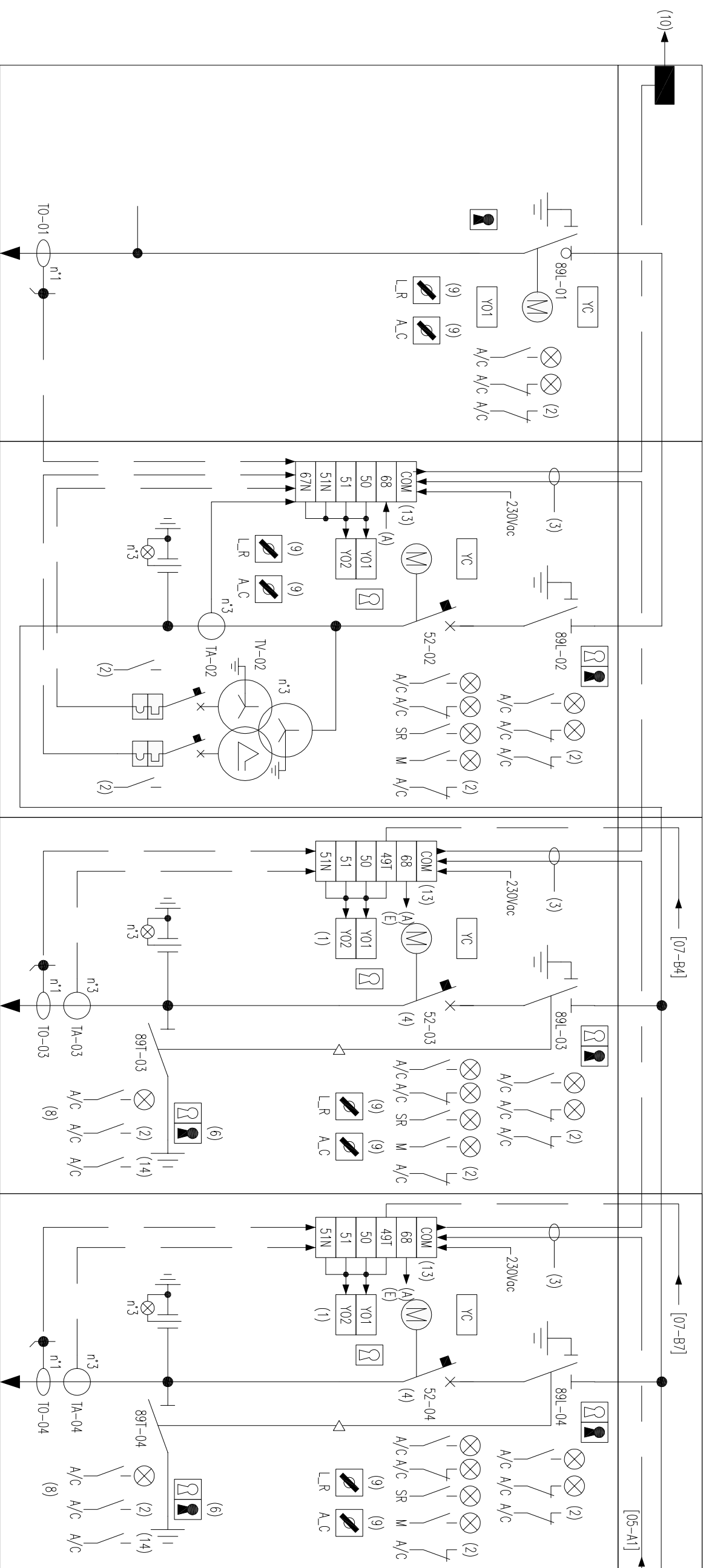


FUNCTIONAL UNIT/  
FUNCTIONALE UNITATEA 1

FUNCTIONAL UNIT/  
FUNCTIONALE UNITATEA 2

FUNCTIONAL UNIT/  
FUNCTIONALE UNITATEA 3

FUNCTIONAL UNIT/  
FUNCTIONALE UNITATEA 4

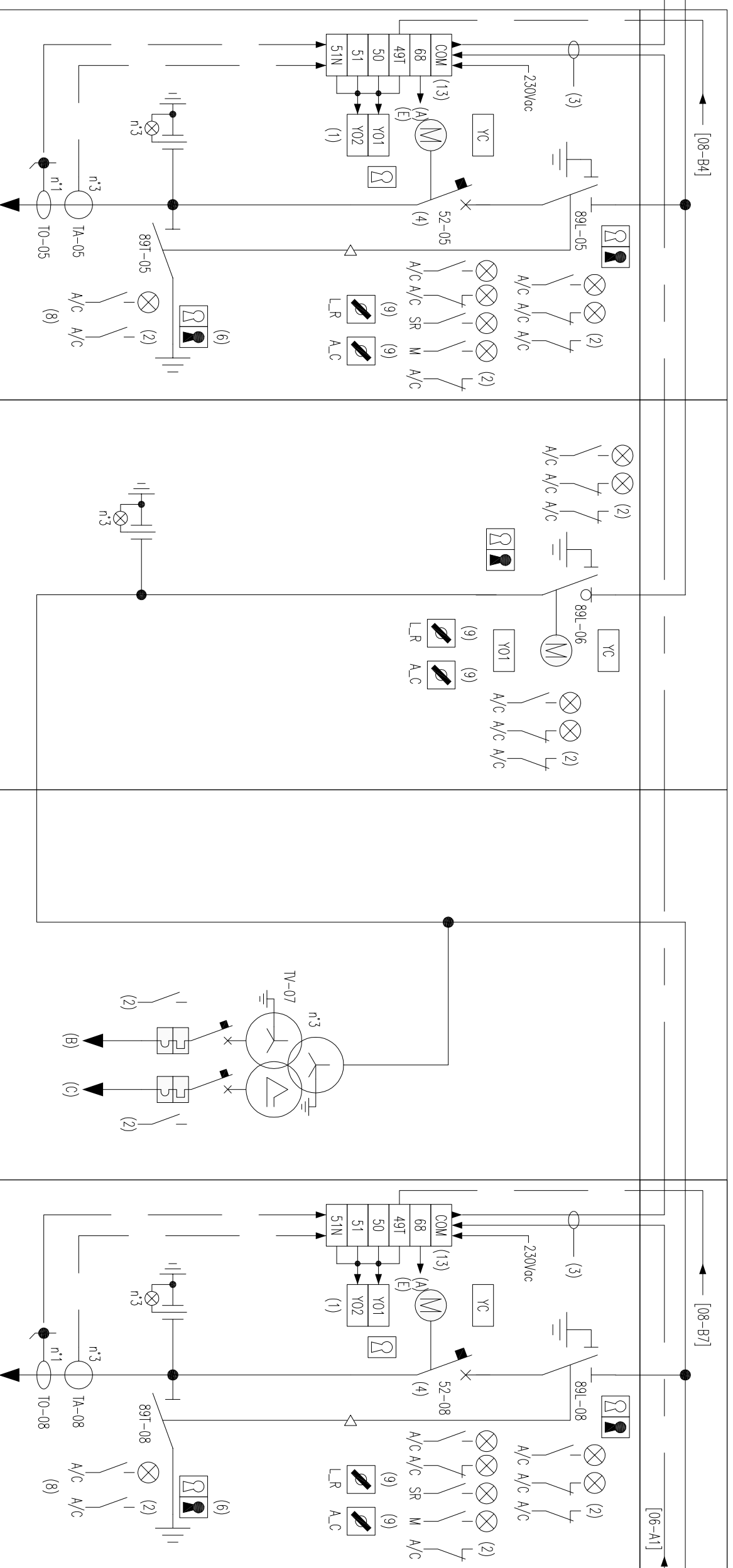


FUNCTIONAL UNIT/  
FUNCTIONALE UNITATEA 5

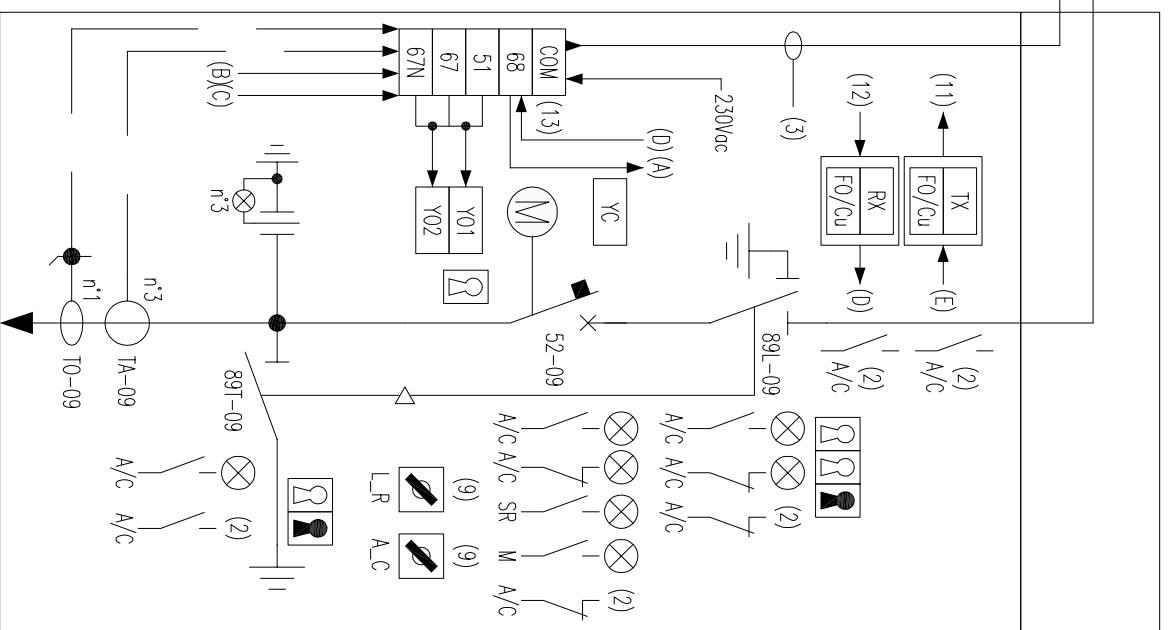
FUNCTIONAL UNIT/  
FUNCTIONALE UNITATEA 6

FUNCTIONAL UNIT/  
FUNCTIONALE UNITATEA 7

FUNCTIONAL UNIT/  
FUNCTIONALE UNITATEA 8



FUNCTIONAL UNIT/  
FUNCTIONALE UNITATEA 9



[05-A8]