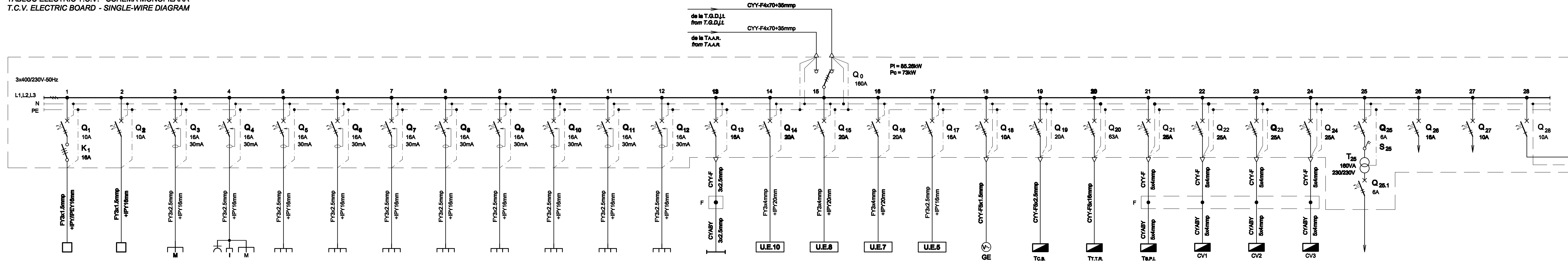
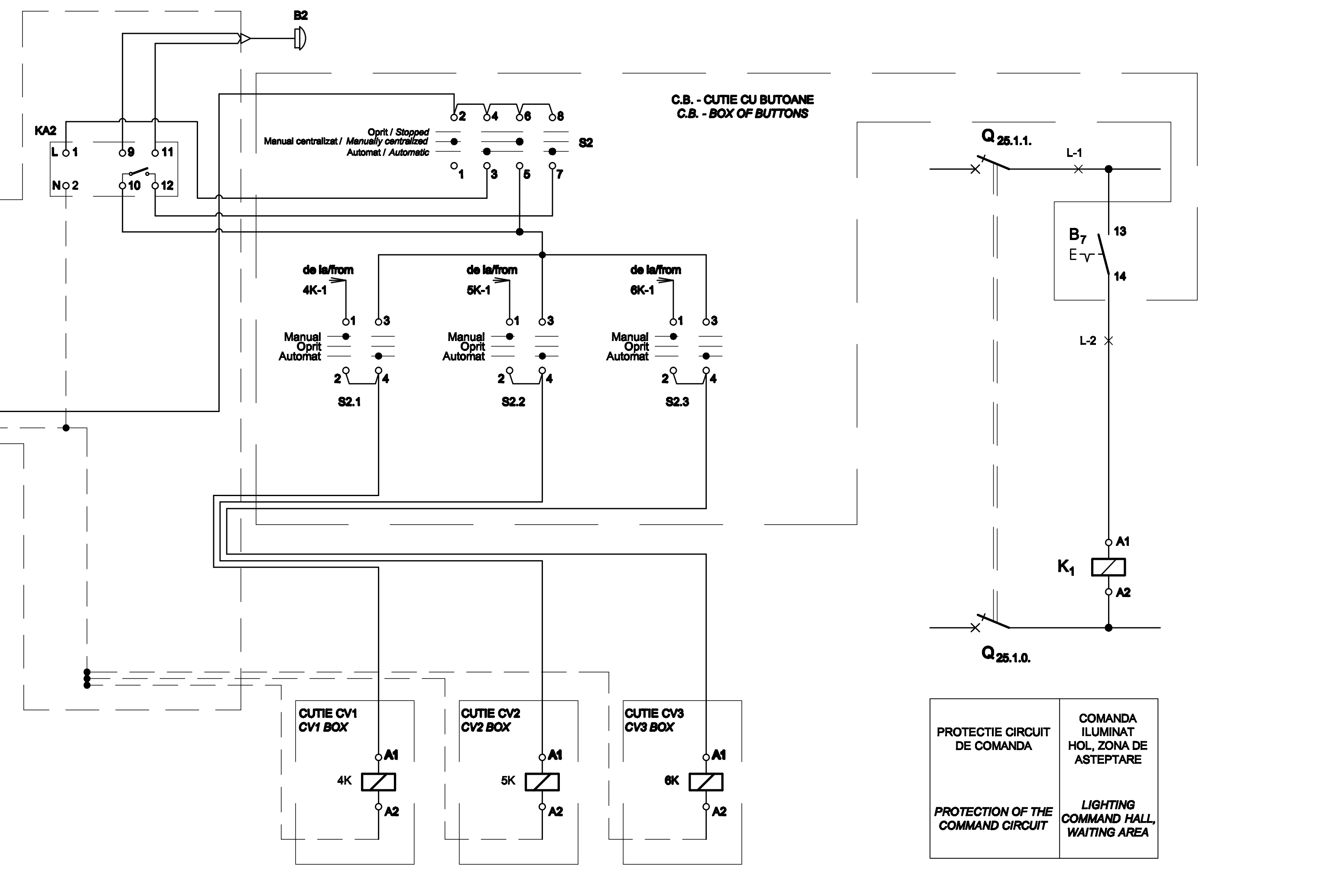
TABLOU ELECTRIC T.C.V. - SCHEMA MONOFILARA
T.C.V. ELECTRIC BOARD - SINGLE-WIRE DIAGRAM



Nr. circuit / *Circuit number*	Pi [kW]	Destinatia / *Destination*
1	0.4	HOL, ZONA DE ASTEPTARE / *HALL, WAITING AREA* / 7LL / *Lamps*
2	0.3	SEF STATIE, IDM / *STATION CHIEF, MOVEMENT OFFICE* / 4LL / *Lamps*
3	2	SEF STATIE, BIROU MISCARE, HOL CENTRAL / SALA DE ASTEPTARE / *STATION MASTER, MOVEMENT OFFICE, WAITING ROOM* / 3LP / *Sockets outlet*
4	2	ZONA DE ASTEPTARE, SEF STATIE, IDM / *WAITING AREA, STATION MASTER, MOVEMENT OFFICE* / 3LP / *Sockets outlet*
5	2	CASE BILETE, SEF STATIE / *TICKET OFFICE, STATION CHIEF* / 4LP / *Sockets outlet*
6	2	SEF STATIE, IDM / *STATION CHIEF, MOVEMENT OFFICE* / 4LP / *Sockets outlet*
7	2	IDM, REPATITOR / *MOVEMENT OFFICE, DISTRIBUTING FRAME ROOM* / 4LP / *Sockets outlet*
8	2	REPARTITOR, SALA COMPUTERE SI RELEE / *DISTRIBUTING FRAME ROOM, COMPUTER AND RELAY ROOM* / 4LP / *Sockets outlet*
9	2	SALA COMPUTERE SI RELEE, CAMERA SCB / *COMPUTER AND RELAY ROOM, SCB ROOM* / 4LP / *Sockets outlet*
10	2	SALA COMPUTERE SI RELEE, CAMERA SCB / *COMPUTER AND RELAY ROOM, SCB ROOM* / 4LP / *Sockets outlet*
11	2	SEF STATIE, IDM, TURANT CED / *STATION CHIEF, MOVEMENT OFFICE, IS SHIFTMAN* / 3LP / *Sockets outlet*
12	2	ATELIER CED, TURANT CED / *IS WORKSHOP, IS SHIFTMAN* / 4LP / *Sockets outlet*
13	1.75	ILUMINAT TUNEL PIETONAL / *PEDESTRIAN TUNNEL LIGHTING* / 35LL / *Lamps*
14	3	UNITATE EXTERIOARA DE CLIMATIZARE SISTEM MONOSPLIT / *OUTDOOR UNIT AIR CONDITIONING SYSTEM MONOSPLIT* / 1Buc. / *Piece*
15	3	UNITATE EXTERIOARA DE CLIMATIZARE SISTEM MONOSPLIT / *OUTDOOR UNIT AIR CONDITIONING SYSTEM MONOSPLIT* / 1Buc. / *Piece*
16	3	UNITATE EXTERIOARA DE CLIMATIZARE SISTEM MONOSPLIT / *OUTDOOR UNIT AIR CONDITIONING SYSTEM MONOSPLIT* / 1Buc. / *Piece*
17	2	UNITATE EXTERIOARA DE CLIMATIZARE SISTEM MONOSPLIT / *OUTDOOR UNIT AIR CONDITIONING SYSTEM MONOSPLIT* / 1Buc. / *Piece*
18	1.5	VENTILATOR GRUP ELECTROGEN / *FAN GENERATOR* / 1Buc. / *Piece*
19	6.1	CASE BILETE TABLOU ELECTRIC - T c.B. / *TICKET OFFICE ELECTRIC BOARD - T c.B.*
20	31.9	TABLOU ELECTRIC - T T.T.R. / *ELECTRIC BOARD - T T.T.R.*
21	2.8	STATIE POMPARE INCENDIU TABLOU ELECTRIC - Ts.P.I. / *FIRE PUMPING STATION ELECTRIC BOARD - T S.P.I.*
22	2.6	CUTIE ETANSA PENTRU COPERTINA - CV1 / *SEALED BOX FOR CANOPY - CV1*
23	2.6	CUTIE ETANSA PENTRU COPERTINA - CV2 / *SEALED BOX FOR CANOPY - CV2*
24	1.2	CUTIE ETANSA PENTRU COPERTINA - CV3 / *SEALED BOX FOR CANOPY - CV3*
25	0.16	CIRCUIT COMANDA ILUMINAT INTERIOR / *COMMAND CIRCUIT INDOOR LIGHTING*
26	2	REZERVA MONOFAZATA / *SINGLE-PHASE RESERVE*
27	1	REZERVA MONOFAZATA / *SINGLE-PHASE RESERVE*
28	-	CIRCUIT COMANDA ILUMINAT EXTERIOR / *COMMAND CIRCUIT OUTDOOR LIGHTING*



TABLOU ELECTRIC T.C.V. - SPECIFICATIE DE APARATAJ / *T.C.V. ELECTRIC BOARD - EQUIPMENT SPECIFICATION*

Nr. / *No.*	Simbol / *Symbol*	Denumirea aparatului / *Equipment denomination*	Caracteristici tehnice / *Technical data*	Buc. / *Pcs.*	Observatii / *Remarks*
0	1	2	3	4	5
1	Q0	Inversor de sursa tripolar / *Three-poles source change-over switch*	In=160A Un=400V Uimp=8kV f=50Hz Icm=2,2kA	1	
2	Q1,Q2	Intrerupator automat bipolar, curba B / *Two-poles circuit breaker, curve B*	In=10A Un=230V Icu=6kA f=50Hz	2	
3	Q3,...,Q12	Intrerupator automat bipolar cu protectie la curent diferential rezidual, curba C / *Two-poles circuit breaker with protection at residual differential current device, curve C*	In=16A Un=230V Icu=6kA f=50Hz IΔn=0,03A Tip A Nivel de imunitate 250A la forma de unda 8/20 μS *Level of immunity 250A to wave form 8/20 μS*	10	
4	Q14,Q15,Q16	Intrerupator automat bipolar, curba C / *Two-poles circuit breaker, curve C*	In=20A Un=230V Icu=6kA f=50Hz	3	
5	Q18	Intrerupator automat tripolar, curba C / *Three-poles circuit breaker, curve C*	In=10A Un=400V Icu=6kA f=50Hz	1	
6	Q19	Intrerupator automat tripolar, curba C / *Three-poles circuit breaker, curve C*	In=20A Un=400V Icu=6kA f=50Hz	1	
7	Q21,Q22, Q23,Q24	Intrerupator automat tripolar, curba C / *Three-poles circuit breaker, curve C*	In=25A Un=400V Icu=6kA f=50Hz	4	
8	Q20	Intrerupator automat tripolar, curba C / *Three-poles circuit breaker, curve C*	In=63A Un=400V Icu=6kA f=50Hz	1	
9	Q13,Q17,Q26	Intrerupator automat bipolar, curba C / *Two-poles circuit breaker, curve C*	In=16A Un=230V Icu=6kA f=50Hz	3	
10	Q27	Intrerupator automat bipolar, curba C / *Two-poles circuit breaker, curve C*	In=10A Un=230V Icu=6kA f=50Hz	1	
11	Q28	Intrerupator automat monopolar, curba D / *Single-pole circuit breaker, curve D*	In=10A Un=230V f=50Hz Icu=6kA	1	
12	KA2	Intrerupator crepuscular / *Twilight switch*	Un=230V In=10A E=2...60lx f=50Hz Tf=-25°C...+55°C	1	
13	B2	Celula fotoelectrica / *Photoelectric cell*	Tf=-40°C...+70°C IP66	1	
14	Q25,Q25.1	Intrerupatoare automate bipolare, curba D / *Two-poles circuit breaker, curve D*	In=6A Un=230V f=50Hz Icu=10kA	2	
15	T25	Transformator monofazat uscat de comanda / *Single-phase dry-type command transformer*	Sn=160VA U1n=230V U2n=230V f=50Hz	1	
16	B7	Buton de comanda luminos cu retinere / *Light command button with retainer*	Ui=500V In=6A f=50Hz IP67	1	Butonul se va monta in C.B. (cutia cu butoane) *Button will be installed in C.B.(box of buttons)*
17	L	Clema de racordare / *Connection clamp*	Un=660V In=16A f=50Hz	2	
18	S25	Comutator cu came cu doua pozitii si un etaj / *Cam switch with two positions and one floor*	Un=500V In=16A f=50Hz	1	
19	S2.1,S2.2,S2.3	Comutator cu came / *Cam switch*	Un=230V In=10A f=50Hz	3	Comutatoarele cu came se vor monta in C.B. (cutia cu butoane) *Cam switchs will be installed in C.B.(box of buttons)*
20	S2	Comutator cu came / *Cam switch*	Un=230V In=10A f=50Hz	1	Comutatorul cu came se va monta in C.B. (cutia cu butoane) *Cam switch will be installed in C.B.(box of buttons)*
21	K1	Contactor electromagnetic tripolar de curent alternativ / *Three-poles electromagnetic a.c. contactor*	In=16A Un=400A Uc=230V f=50Hz	1	
22	-	Cutie / *Box*	IP54, Clasa I / *Class I*	1	

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

GUVERNUL ROMANIEI
ROMANIAN GOVERNMENT

PROIECT FINANȚAT DE UNIUNEA EUROPEANĂ
EUROPEAN UNION FINANCED PROJECT

CLIENT / CLIENT

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

ITALFERR
GRUPPO FERROVIE DELLO STATO
Joint Venture leader

Scott Wilson

OBERMEYER
PLANEN + BERATEN GmbH

TECNIC
Consulting Engineers

CONSULTANT / CONSULTANT

			Data / Date	Semnătură / Signature
Aprobat / Approved	Şef proiect / Project manager	R. Liuzza	12.2011	
Aprobat / Approved	Coordonator Secţiune 1 / Section 1 Coordinator	C. Gambelli	12.2011	
Verificat / Checked	Expert Verificator / Checking Expert	G. Fioravanti	12.2011	

SUBCONTRACTANT / SUBCONTRACTOR

AREX COMPANY

Aprobat / Approved	Responsabil Subconsultant / Subconsultant Responsible	A.Stanciu - Dinulescu	12.2011	
Întocmit / Elaborated	Proiectant / Designer	D. Matei	12.2011	

Reabilitarea liniei de cale ferata Braşov - Simeria, parte componentă a coridorului IV Pan European, pentru circulaţia trenurilor cu viteza maximă de 160 km/h,
Tronsonul : Braşov - Sighişoara
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 : Braşov - Sighişoara

Proiect/Project
2004/RO/16/P/PA/003

Faza / Phase:
D.E. / E.D.

Denumire desen / Drawing Title :

Tablou electric T.C.V. - Staţia Apaţa;
Apata station - T.C.V. electric board

Codificare / Codification System	Scara / Scale	LOT / LOT	Nr. / No 01 / 01
E A 5 1 · 0 1 · E · 0 9 · B X · I E · 0 0 · 3 · 1 · 0 4 5 · 1			

A3(297x2100)