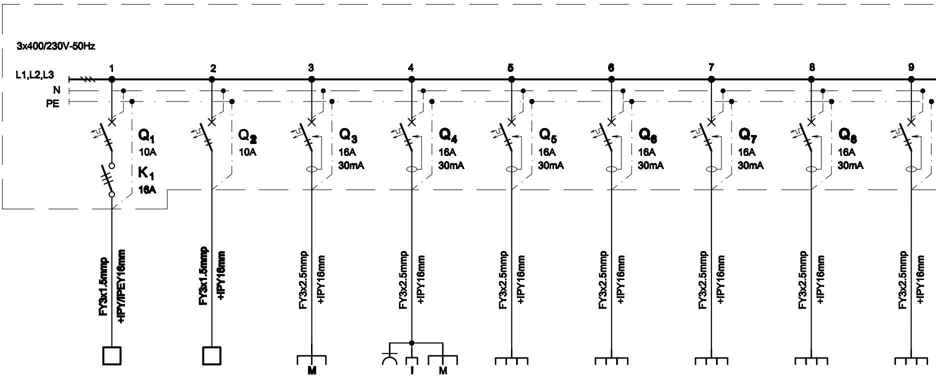
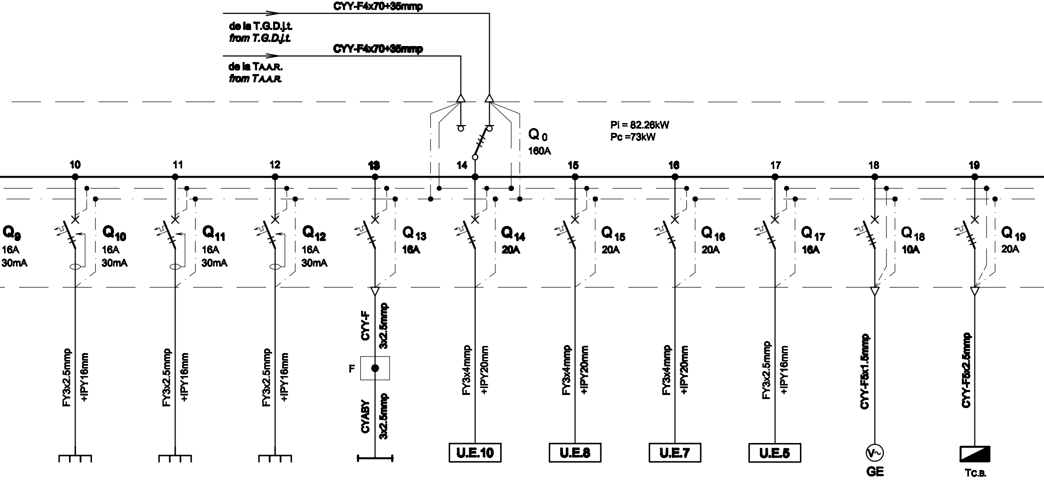
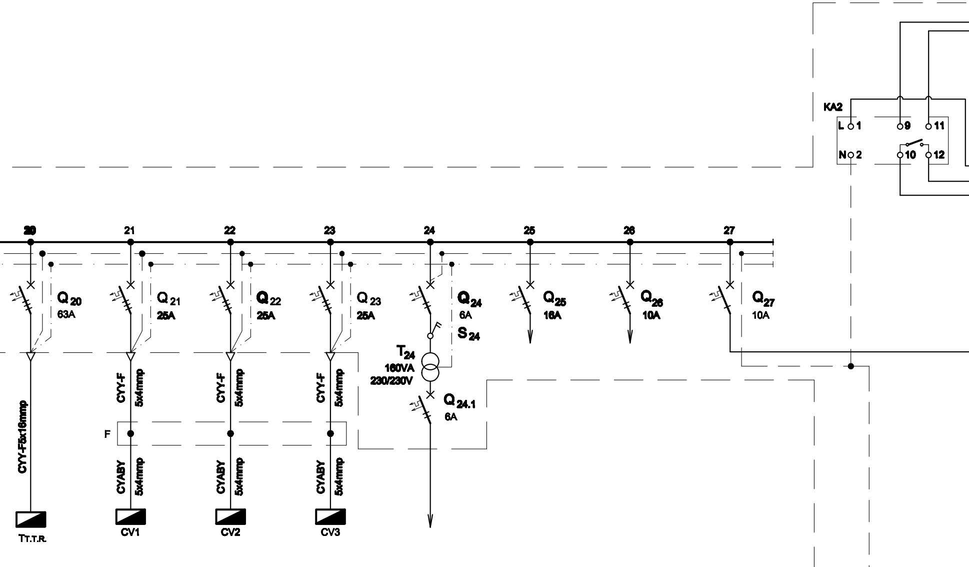
TABLOU ELECTRIC T.C.V. - SCHEMA MONOFILARA
T.C.V. ELECTRIC BOARD - SINGLE-WIRE DIAGRAM


3x400/230V-50Hz
L1,L2,L3
N
PE
1
2
3
4
5
6
7
8
9
Q1 10A
K1 16A
Q2 10A
Q3 16A 30mA
Q4 16A 30mA
Q5 16A 30mA
Q6 16A 30mA
Q7 16A 30mA
Q8 16A 30mA
FY3x1.5mmp +IPY/IPEY16mm
FY3x1.5mmp +IPY16mm
FY3x2.5mmp +IPY16mm
FY3x2.5mmp +IPY16mm
FY3x2.5mmp +IPY16mm
FY3x2.5mmp +IPY16mm
FY3x2.5mmp +IPY16mm
FY3x2.5mmp +IPY16mm
FY3x2.5mmp +IPY16mm
M
I
M

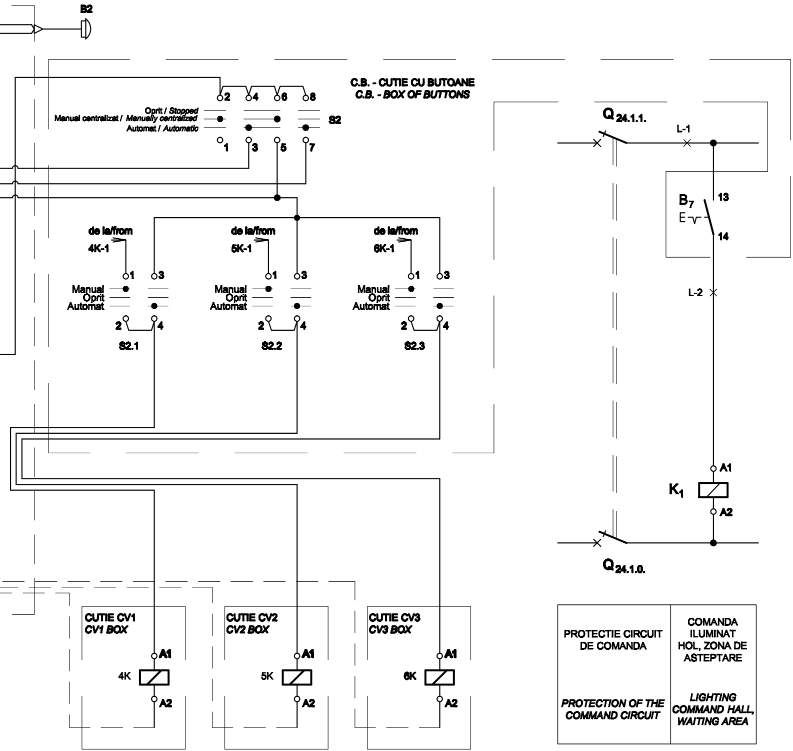
Nr. circuit ***Circuit number***	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Pi [kW]	**0.4**	0.3	**2**	**2**	**2**	**2**	**2**	**2**	**2**
Destinatia ***Destination***	**HOL, ZONA DE ASTEPTARE** ***HALL, WAITING AREA*** **7LL / *Lamps***	**SEF STATIE, IDM** *STATION CHIEF, MOVEMENT OFFICE* 4LL / *Lamps*	**SEF STATIE, BIROU MISCARE, HOL CENTRAL / SALA DE ASTEPTARE** ***STATION MASTER, MOVEMENT OFFICE, WAITING ROOM*** 3LP / *Sockets outlet*	ZONA DE ASTEPTARE, SEF STATIE, IDM *WAITING AREA, STATION MASTER, MOVEMENT OFFICE* 3LP / *Sockets outlet*	CASE BILETE, SEF STATIE *TICKET OFFICE, STATION CHIEF* 4LP / *Sockets outlet*	SEF STATIE, IDM *STATION CHIEF, MOVEMENT OFFICE* 4LP / *Sockets outlet*	**IDM, REPATITOR** ***MOVEMENT OFFICE, DISTRIBUTING FRAME ROOM*** 4LP / *Sockets outlet*	REPARTITOR, SALA COMPUTERE SI RELEE *DISTRIBUTING FRAME ROOM, COMPUTER AND RELAY ROOM* 4LP / *Sockets outlet*	SALA COMPUTERE SI RELEE, CAMERA SCB *COMPUTER AND RELAY ROOM, SCB ROOM*


CYY-F4x70+35mmp
de la T.G.D.j.t.
from T.G.D.j.t.
CYY-F4x70+35mmp
de la TA.A.R.
from TA.A.R.
Q 0
160A
Pi = 82.26kW
Pc =73kW
10
11
12
13
14
15
16
17
18
19
Q9
16A
30mA
Q10
16A
30mA
Q11
16A
30mA
Q12
16A
30mA
Q 13
16A
Q14
20A
Q 15
20A
Q 16
20A
Q 17
16A
Q 18
10A
Q 19
20A
FY3x2.5mmp
+IPY16mm
FY3x2.5mmp
+IPY16mm
FY3x2.5mmp
+IPY16mm
CYY-F
3x2.5mmp
F
CYABY
3x2.5mmp
FY3x4mmp
+IPY20mm
FY3x4mmp
+IPY20mm
FY3x4mmp
+IPY20mm
FY3x2.5mmp
+IPY16mm
CYY-F5x1.5mmp
CYY-F5x2.5mmp
U.E.10
U.E.8
U.E.7
U.E.5
V~
GE
Tc.B.

	10	11	12	13	14	15	16	17	18	19
	2	2	2	1.7	3	3	3	2	1.5	6.1
4LP / *Sockets outlet*	SALA COMPUTERE SI RELEE, CAMERA SCB *COMPUTER AND RELAY ROOM, SCB ROOM* 4LP / *Sockets outlet*	SEF STATIE, IDM, TURANT CED *STATION CHIEF, MOVEMENT OFFICE, IS SHIFTMAN* 3LP / *Sockets outlet*	ATELIER CED, TURANT CED *IS WORKSHOP, IS SHIFTMAN* 4LP / *Sockets outlet*	ILUMINAT TUNEL PIETONAL PEDESTRIAN TUNNEL LIGHTING 34LL / Lamps	UNITATE EXTERIOARA DE CLIMATIZARE SISTEM MONOSPLIT *OUTDOOR UNIT AIR CONDITIONING SYSTEM MONOSPLIT* 1Buc. / *Piece*	UNITATE EXTERIOARA DE CLIMATIZARE SISTEM MONOSPLIT *OUTDOOR UNIT AIR CONDITIONING SYSTEM MONOSPLIT* 1Buc. / *Piece*	UNITATE EXTERIOARA DE CLIMATIZARE SISTEM MONOSPLIT *OUTDOOR UNIT AIR CONDITIONING SYSTEM MONOSPLIT* 1Buc. / *Piece*	UNITATE EXTERIOARA DE CLIMATIZARE SISTEM MONOSPLIT *OUTDOOR UNIT AIR CONDITIONING SYSTEM MONOSPLIT* 1Buc. / *Piece*	VENTILATOR GRUP ELECTROGEN *FAN GENERATOR* 1Buc. / *Piece*	CASE BILETE TABLOU ELECTRIC - T c.B. *TICKET OFFICE ELECTRIC BOARD - T c.B.*


KA2
L 1
9
11
N 2
10
12
20
21
22
23
24
25
26
27
Q 20
63A
Q 21
25A
Q 22
25A
Q 23
25A
Q 24
6A
S 24
Q 25
16A
Q 26
10A
Q 27
10A
T 24
160VA
230/230V
Q 24.1
6A
CYY-F5x16mmp
CYY-F
5x4mmp
CYY-F
5x4mmp
CYY-F
5x4mmp
F
CYABY
5x4mmp
CYABY
5x4mmp
CYABY
5x4mmp
TT.T.R.
CV1
CV2
CV3

20	21	22	23	24	25	26	27
31.9	2.6	2.6	1.2	0.16	2	1	-
TABLOU ELCTRIC - T T.T.R. ***ELECTRIC BOARD - T T.T.R.***	**CUTIE ETANSA PENTRU COPERTINA - CV1** *SEALED BOX FOR CANOPY - CV1*	**CUTIE ETANSA PENTRU COPERTINA - CV2** *SEALED BOX FOR CANOPY - CV2*	CUTIE ETANSA PENTRU COPERTINA - CV3 *SEALED BOX FOR CANOPY - CV3*	CIRCUIT COMANDA ILUMINAT INTERIOR *COMMAND CIRCUIT INDOOR LIGHTING*	REZERVA MONOFAZATA *SINGLE-PHASE RESERVE*	REZERVA MONOFAZATA *SINGLE-PHASE RESERVE*	**CIRCUIT COMANDA ILUMINAT EXTERIOR** *COMMAND CIRCUIT OUTDOOR LIGHTING*


B2
C.B. - CUTIE CU BUTOANE
C.B. - BOX OF BUTTONS
2
4
6
8
Oprit / Stopped
Manual centralizat / Manually centralized
Automat / Automatic
S2
1
3
5
7
de la/from
4K-1
de la/from
5K-1
de la/from
6K-1
Manual
Oprit
Automat
S2.1
S2.2
S2.3
Q 24.1.1.
L-1
B7
E
13
14
L-2
A1
K1
A2
Q 24.1.0.
CUTIE CV1
CV1 BOX
CUTIE CV2
CV2 BOX
CUTIE CV3
CV3 BOX
4K
5K
6K

PROTECTIE CIRCUIT DE COMANDA *PROTECTION OF THE COMMAND CIRCUIT*	COMANDA ILUMINAT HOL, ZONA DE ASTEPTARE *LIGHTING COMMAND HALL, WAITING AREA*

Nr. *No.*	Simbol *Symbol*
0	1
1	Q0
2	Q1,Q2
3	Q3,...,Q12
4	Q13,Q17,Q25
5	Q14,Q15,Q16
6	Q18
7	Q19
8	Q20
9	Q21,Q22,Q23
10	Q26

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

Denumirea aparatului *Equipment denomination*	Caracteristici tehnice *Technical data*	Buc. *Pcs.*	Observatii *Remarks*
2	3	4	5
Inversor de sursa tripolar *Three-poles source change-over switch*	In=160A Un=400V Uimp=8kV f=50Hz Icm=2,2kA	1	
Intrerupator automat bipolar, curba B *Two-poles circuit breaker, curve B*	In=10A Un=230V Icu=6kA f=50Hz	2	
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	
Intrerupator automat bipolar, curba C *Two-poles circuit breaker, curve C*	In=16A Un=230V Icu=6kA f=50Hz	3	
Intrerupator automat bipolar, curba C ***Two-poles circuit breaker, curve C***	**In=20A** **Un=230V** **Icu=6kA** **f=50Hz**	3	
Intrerupator automat tripolar, curba C *Three-poles circuit breaker, curve C*	In=10A Un=400V Icu=6kA f=50Hz	1	
Intrerupator automat tripolar, curba C *Three-poles circuit breaker, curve C*	In=20A Un=400V Icu=6kA f=50Hz	1	
Intrerupator automat tripolar, curba C *Three-poles circuit breaker, curve C*	In=63A Un=400V Icu=6kA f=50Hz	1	
Intrerupator automat tripolar, curba C *Three-poles circuit breaker, curve C*	In=25A Un=400V Icu=6kA f=50Hz	3	
Intrerupator automat bipolar, curba C ***Two-poles circuit breaker, curve C***	**In=10A** **Un=230V** **Icu=6kA** **f=50Hz**	1	

0	1	2	3	4	5
11	KA2	Intrerupator crepuscular *Twilight switch*	Un=230V In=10A E=2...60lx f=50Hz Tf=-25°C...+55°C	1	
12	B2	Celula fotoelectrica *Photoelectric cell*	Tf=-40°C...+70°C IP66	1	
13	Q24,Q24.1	Intrerupator automat bipolar, curba D *Two-poles circuit breaker, curve D*	In=6A Un=230V f=50Hz Icu=10kA	2	
14	Q27	Intrerupator automat monopolar, curba D / *Single-pole circuit breaker, curve D*	In=10A Un=230V f=50Hz Icu=6kA	1	
15	T24	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	S24	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

CFR

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

CLIENT / CLIENT

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 Bod;
Bod 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 5 | B X | I E | 0 0 | 2 | 1 | 0 4 5 | 1

A3(297x1995)