NOTA: Acest desen nu constituie o obligatie de aplicare de către contractor.
El reprezintă doar un exemplu de circuit de cale utilizat la CFR si nu trebuie aplicat ca atare.

NOTE: It is not compulsory for the contractor to apply this drawing.
It is only an example of track circuit in use at CFR and shall be not applied as such.

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

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 Secțiune 1 Section 1 Coordinator	C. Gambelli	12.2011	
Verificat Checked	Expert Cheie Key Expert	P. Amodio	12.2011	

SUBCONTRACTANT / SUBCONTRACTOR

AREX COMPANY

Aprobat Approved	Responsabil Subconsultant Subconsultant Responsible	A. Stanciu - Dinulescu	12.2011	
Întocmit Elaborated	Proiectant Designer	Angelescu Sergiu	12.2011	

Reabilitarea liniei de cale ferata Brașov - Simeria, parte componentă a coridorului IV Pan European, pentru circulația trenurilor cu viteza maximă de 160 km/h,
Tronsonul : Brașov - Sighișoara
Rehabilitation of the railway line Brașov - Simeria, component Part of the IV Pan-European Corridor, for the trains circulation with maximum speed of 160 km/h,
Section : Brașov - Sighișoara

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

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

Denumire desen / Drawing Title :

Statia / Station FELDIOARA
Fise de montaj rama alimentare in secvente circuite de cale
Wiring diagrams for track circuits sequence-supply frame

Codificare / Codification System	Scara / Scale Fără / No scale	LOT / LOT	Nr. / No 01 / 9

EA51 01 E 07 BX SE 00 7 2 012 1

	1	2	3	4	5	6
6		NF1−2000 ASA5 VS1−3	NF1−2000 VS1−4	NF1−2000 ASA5 VS2−4	NF1−2000 VS2−1	NF1−2000 ASA5 VS3−1
5	2x0,5A	VS1B−CI	VS1B−BD	VS2B−CI	VS2B−BD	VS3B−CI
4	4x0,5A	VS1A−CI	VS1A−BD	VS2A−CI	VS2A−BD	VS3A−CI

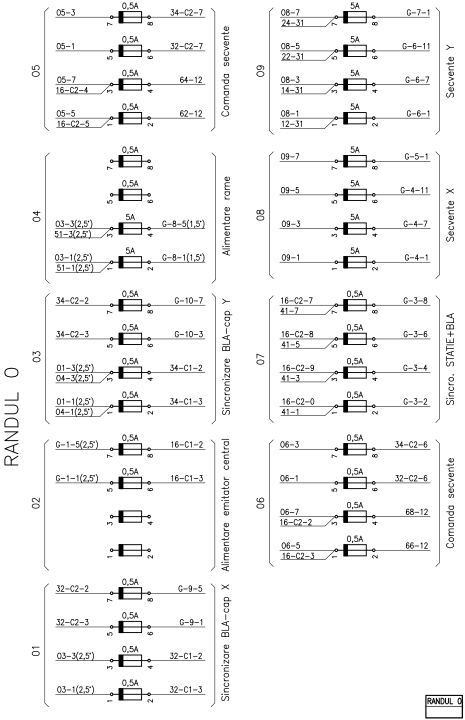
	1	2	3	4	5
3		GENERATOR IMPULSURI DE SINCRONIZARE X1−3		GENERATOR IMPULSURI DE SINCRONIZARE Y2−4	
2		CONTACTOR STATIC CSP−3X		CONTACTOR STATIC CSP−4Y	
1		CONTACTOR STATIC CSP−1X		CONTACTOR STATIC CSP−2Y	

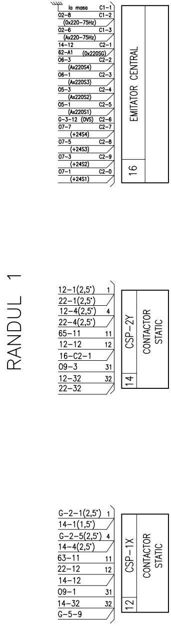
	1	2	3	4	5	6
0	4x0,5A Sincronizare BLA−X (S1,S3)	2x0,5A Alim. emitator	4x0,5A Sincronizare BLA−Y (S2,S4)	2x5A Alim. rame	4x0,5A Comanda secvente (S1,S2)	4x0,5A Comanda secvente (S3,S4)

7	8	9
NF1-2000	NF1-2000	NF1-2000
	ASA5	
VS3-2	VS4-2	VS4-3
VS3B-BD	VS4B-CI	VS4B-BD
VS3A-BD	VS4A-CI	VS4A-BD

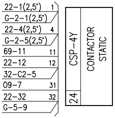
6	7
EMITATOR CENTRAL	

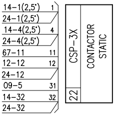
7	8	9
4x0,5A Sincronizare STATIE+BLA	4x5A SECV. X	4x5A SECV. Y


RANDUL 0
05
05-3 0,5A 34-C2-7 7 8
05-1 0,5A 32-C2-7 5 6
05-7 16-C2-4 0,5A 64-12 3 4
05-5 16-C2-5 0,5A 62-12 1 2
Comanda secvente
04
0,5A 7 8
0,5A 5 6
03-3(2,5') 51-3(2,5') 5A G-8-5(1,5') 3 4
03-1(2,5') 51-1(2,5') 5A G-8-1(1,5') 1 2
Alimentare rame
03
34-C2-2 0,5A G-10-7 7 8
34-C2-3 0,5A G-10-3 5 6
01-3(2,5') 04-3(2,5') 0,5A 34-C1-2 3 4
01-1(2,5') 04-1(2,5') 0,5A 34-C1-3 1 2
Sincronizare BLA-cap Y
02
G-1-5(2,5') 0,5A 16-C1-2 7 8
G-1-1(2,5') 0,5A 16-C1-3 5 6
3 4
1 2
Alimentare emitator central
01
32-C2-2 0,5A G-9-5 7 8
32-C2-3 0,5A G-9-1 5 6
03-3(2,5') 0,5A 32-C1-2 3 4
03-1(2,5') 0,5A 32-C1-3 1 2
Sincronizare BLA-cap X
09
08-7 24-31 5A G-7-1 7 8
08-5 22-31 5A G-6-11 5 6
08-3 14-31 5A G-6-7 3 4
08-1 12-31 5A G-6-1 1 2
Secvente Y
08
09-7 5A G-5-1 7 8
09-5 5A G-4-11 5 6
09-3 5A G-4-7 3 4
09-1 5A G-4-1 1 2
Secvente X
07
16-C2-7 41-7 0,5A G-3-8 7 8
16-C2-8 41-5 0,5A G-3-6 5 6
16-C2-9 41-3 0,5A G-3-4 3 4
16-C2-0 41-1 0,5A G-3-2 1 2
Sincro. STATIE+BLA
06
06-3 0,5A 34-C2-6 7 8
06-1 0,5A 32-C2-6 5 6
06-7 16-C2-2 0,5A 68-12 3 4
06-5 16-C2-3 0,5A 66-12 1 2
Comanda secvente
RANDUL 0


RANDUL 1
la masa C1-1
02-8 C1-2
(0x220-75Hz)
02-6 C1-3
(Ax220-75Hz)
14-12 C2-1
62-A1 (0x220SG)
06-3 C2-2
(Ax220S4)
06-1 C2-3
(Ax220S3)
05-3 C2-4
(Ax220S2)
05-1 C2-5
(Ax220S1)
G-3-12 (OVS) C2-6
07-7 C2-7
(+24S4)
07-5 C2-8
(+24S3)
07-3 C2-9
(+24S2)
07-1 C2-0
(+24S1)
EMITATOR CENTRAL
16
12-1(2,5') 1
22-1(2,5')
12-4(2,5') 4
22-4(2,5')
65-11 11
12-12 12
16-C2-1
09-3 31
12-32 32
22-32
CSP-2Y
CONTACTOR STATIC
14
G-2-1(2,5') 1
14-1(1,5')
G-2-5(2,5') 4
14-4(2,5')
63-11 11
22-12 12
14-12
09-1 31
14-32 32
G-5-9
CSP-1X
CONTACTOR STATIC
12

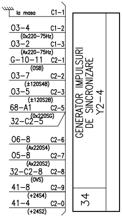
RANDUL 2

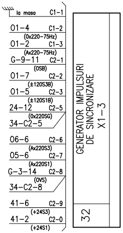

22-1(2,5') 1
G-2-1(2,5')
22-4(2,5') 4
G-2-5(2,5')
69-11 11
22-12 12
32-C2-5
09-7 31
22-32 32
G-5-9
CSP-4Y
24
CONTACTOR STATIC


14-1(2,5') 1
24-1(2,5')
14-4(2,5') 4
24-4(2,5')
67-11 11
12-12 12
24-12
09-5 31
14-32 32
24-32
CSP-3X
22
CONTACTOR STATIC

RANDUL1+2

RANDUL 3


la masa C1-1
03-4 C1-2
(0x220-75Hz)
03-2 C1-3
(Ax220-75Hz)
G-10-11 C2-1
(OSB)
03-7 C2-2
(±120S4B)
03-5 C2-3
(±120S2B)
68-A1 C2-5
(0x220SG)
32-C2-5
06-8 C2-6
(Ax220S4)
05-8 C2-7
(Ax220S2)
32-C2-8 C2-8
(OVS)
41-8 C2-9
(+24S4)
41-4 C2-0
(+24S2)
GENERATOR IMPULSURI DE SINCRONIZARE Y2-4
34


la masa C1-1
01-4 C1-2
(0x220-75Hz)
01-2 C1-3
(Ax220-75Hz)
G-9-11 C2-1
(OSB)
01-7 C2-2
(±120S3B)
01-5 C2-3
(±120S1B)
24-12 C2-5
(0x220SG)
34-C2-5
06-6 C2-6
(Ax220S3)
05-6 C2-7
(Ax220S1)
G-3-14 C2-8
(OVS)
34-C2-8
41-6 C2-9
(+24S3)
41-2 C2-0
(+24S1)
GENERATOR IMPULSURI DE SINCRONIZARE X1-3
32

RANDUL 3

Statia: FELDIOARA

	59		58
	VS4B-BD		VS4B-CI
12	**0x220**		
11	69-1	11	48-11 68-A12
		13	**OVS**
32	8-33		
31	8-53		
		33	9-32
52	**+24S3**		
51	**Ax220**		
		53	9-31
72	**OVS**		
71	69-4	71	48-71 68-A11

	49		48
	VS4A-BD		VS4A-CI
12	**0x220**		
11	68-1	11	58-11
		13	**OVS**
32	8-33		
31	8-53		
		33	9-32
52	**+24S2**		
51	**Ax220**		
		53	9-31
72	**OVS**		
71	68-4	71	58-71

Statia: FELDIOARA

RANDUL 5

57		56		55		54		53		52		51	
	VS3B-BD		VS3B-CI		VS2B-BD		VS2B-CI		VS1B-BD		VS1B-CI		2x0,5A
12	**0x220**			12	**0x220**			12	**0x220**			1	04-1(2,5') G-1-1(2,5')
11	67-1	11	46-11 66-A12	11	65-1	11	44-11 64-A12	11	63-1	11	42-11 62-A12	2	43-51 53-51
		13	**OVS**			13	**OVS**			13	**OVS**	3	04-3(2,5') G-1-5(2,5')
32	6-33			32	4-33			32	2-33			4	43-12 53-12
31	6-53			31	4-53			31	2-53				
		33	7-32			33	5-32			33	3-32		
52	**+24S2**			52	**+24S1**			52	**+24S4**				
51	**Ax220**			51	**Ax220**			51	**Ax220**				
		53	7-31			53	5-31			53	3-31		
72	**OVS**			72	**OVS**			72	**OVS**				
71	67-4	71	46-71 66-A11	71	65-4	71	44-71 64-A11	71	63-4	71	42-71 62-A11		

RANDUL 4

47		46		45		44		43		42		41	
	VS3A-BD		VS3A-CI		VS2A-BD		VS2A-CI		VS1A-BD		VS1A-CI		4x0,5A
12	**0x220**			12	**0x220**			12	**0x220**			1	07-1
11	66-1	11	56-11	11	64-1	11	54-11	11	62-1	11	52-11	2	32-C2-0
		13	**OVS**			13	**OVS**			13	**OVS**	3	07-3
32	6-33			32	4-33			32	2-33			4	34-C2-0
31	6-53			31	4-53			31	2-53			5	07-5
		33	7-32			33	5-32			33	3-32	6	32-C2-9
52	**+24S1**			52	**+24S4**			52	**+24S3**			7	07-7
51	**Ax220**			51	**Ax220**			51	**Ax220**			8	34-C2-9
		53	7-31			53	5-31			53	3-31		
72	**OVS**			72	**OVS**			72	**OVS**				
71	66-4	71	56-71	71	64-4	71	54-71	71	62-4	71	52-71		

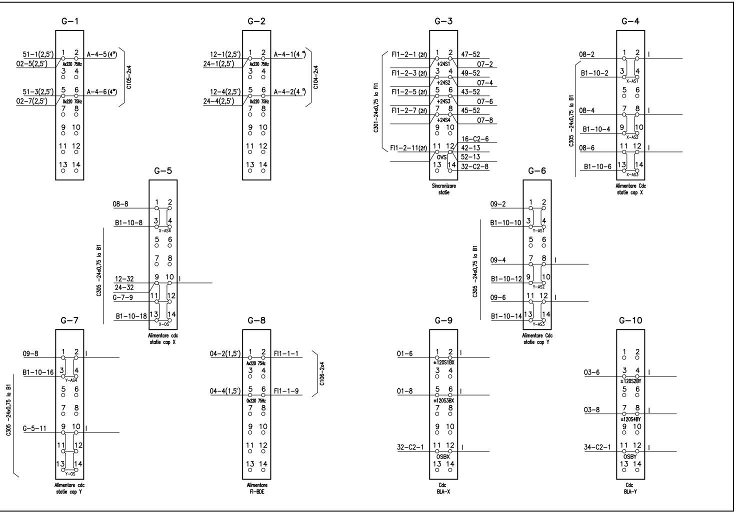
RANDUL 4+5

RANDUL 6

	9		8		7		6		5		4		3		2		1
Nr. crt.	VS4-3	Nr. crt.	VS4-2	Nr. crt.	VS3-2	Nr. crt.	VS3-1	Nr. crt.	VS2-1	Nr. crt.	VS2-4	Nr. crt.	VS1-4	Nr. crt.	VS1-3	Nr. crt.	
1	59-11	1	49-11	1	57-11	1	47-11	1	55-11	1	45-11	1	53-11	1	43-11		
2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3		
3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2		
4	59-71	4	49-71	4	57-71	4	47-71	4	55-71	4	45-71	4	53-71	4	43-71		
12	8-11	12	A3 06-4	12	6-11	12	A3 06-2	12	4-11	12	A3 05-4	12	2-11	12	A3 05-2		
11	24-11	11	9-12	11	22-11	11	7-12	11	14-11	11	5-12	11	12-11	11	3-12		
13		13		13		13		13		13		13		13			
22		22		22		22		22		22		22		22			
21		21		21		21		21		21		21		21			
23		23		23		23		23		23		23		23			
32		32		32		32		32		32		32		32			
31		31		31		31		31		31		31		31			
33		33		33		33		33		33		33		33			
42		42		42		42		42		42		42		42			
41		41		41		41		41		41		41		41			
43		43		43		43		43		43		43		43			
52		52		52		52		52		52		52		52			
51		51		51		51		51		51		51		51			
53		53		53		53		53		53		53		53			
62		62		62		62		62		62		62		62			
61		61		61				61		61		61		61			
63		63		63		63		63		63		63		63			
72		72		72		72		72		72		72		72			
71		71		71		71		71		71		71		71			
73		73		73		73		73		73		73		73			
82		82		82		82		82		82		82		82			
81		81		81		81		81		81		81		81			
83		83		83		83		83		83		83		83			
		A1	6-A1 34-C2-5			A1	4-A1 8-A1			A1	2-A1 6-A1			A1	4-A1 16-C2-1		
		A3	12			A3	12			A3	12			A3	12		
		A11	58-71			A11	56-71			A11	54-71			A11	52-71		
		A12	58-11			A12	56-11			A12	54-11			A12	52-11		

RANDUL 6

Statia: FELDIOARA


G-1
51-1(2,5')
02-5(2,5')
Ax220 75Hz
A-4-5(4")
51-3(2,5')
02-7(2,5')
0x220 75Hz
A-4-6(4")
C105-2x4
G-2
12-1(2,5')
24-1(2,5')
Ax220 75Hz
A-4-1(4")
12-4(2,5')
24-4(2,5')
0x220 75Hz
A-4-2(4")
C104-2x4
G-3
C301-24x0,75 la FI1
FI1-2-1 (2f)
FI1-2-3 (2f)
FI1-2-5 (2f)
FI1-2-7 (2f)
FI1-2-11(2f)
+24S1
+24S2
+24S3
+24S4
OVS
47-52
07-2
49-52
07-4
43-52
07-6
45-52
07-8
16-C2-6
42-13
52-13
32-C2-8
Sincronizare statie
G-4
C305 -24x0,75 la B1
08-2
B1-10-2
X-AS1
08-4
B1-10-4
X-AS2
08-6
B1-10-6
X-AS3
Alimentare Cdc statie cap X
G-5
C305 -24x0,75 la B1
08-8
B1-10-8
X-AS4
12-32
24-32
G-7-9
B1-10-18
X-OS
Alimentare cdc statie cap X
G-6
C305 -24x0,75 la B1
09-2
B1-10-10
Y-AS1
09-4
B1-10-12
Y-AS2
09-6
B1-10-14
Y-AS3
Alimentare Cdc statie cap Y
G-7
C305 -24x0,75 la B1
09-8
B1-10-16
Y-AS4
G-5-11
Y-OS
Alimentare cdc statie cap Y
G-8
04-2(1,5')
Ax220 75Hz
FI1-1-1
04-4(1,5')
0x220 75Hz
FI1-1-9
C106-2x4
Alimentare FI-BDE
G-9
01-6
±120S1BX
01-8
±120S3BX
32-C2-1
OSBX
Cdc BLA-X
G-10
03-6
±120S2BY
03-8
±120S4BY
34-C2-1
OSBY
Cdc BLA-Y

EA51 01 E 07 BX SE 007 2 012 1 8/9

+24S1	+24S2	+24S3	+24S4
G-3-2	G-3-4	G-3-6	G-3-8
47-52	49-52	43-52	45-52
55-52	57-52	59-52	53-52

Statia: FELDIOARA

BUCLE TENSIUNI

Ax220	0x220	0VS	0S		0x220SG
51–2	51–4	G–3–12	G–5–9		16–C2–1
43–51	43–12	42–13	12–32		14–12
45–51	45–12	43–72	14–32		12–12
47–51	47–12	44–13	22–32		22–12
49–51	49–12	45–72	24–32		24–12
59–51	59–12	46–13			32–C2–5
57–51	57–12	47–72			34–C2–5
55–51	55–12	48–13			68–A1
53–51	53–12	49–72			66–A1
		59–72			64–A1
		58–13			62–A1
		57–72			
		56–13			
		55–72			
		54–13			
		53–72			
		52–13			
51–2	51–4	G–3–12	G–5–9		16–C2–1