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 considered as such.

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 FINANŢAT DE UNIUNEA EUROPEANĂ
EUROPEAN UNION FINANCED PROJECT

CLIENT / CLIENT

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

GRUPPO FERROVIE DELLO STATO
Joint Venture leader

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 Cheie Key Expert	P. Amodio	12.2011	

SUBCONTRACTANT / SUBCONTRACTOR

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

Denumire desen / Drawing Title :

Statia / Station FELDIOARA
Fise de montaj rama de aparataj receptie 2
Wiring diagrams for receiving equipment frame 2

Codificare / Codification System

Scara / Scale
Fără / No scale

LOT / LOT

Nr. / No
01 / 9

EA51 01 E 07 BX SE 00 7 2 015 1

RAMA APARATAJ RECEPTIE 2 (FI2)

	1	2	3	4	5	6	7	8
8								
7	18-20-Sil	④ 18-20-BDE	02-CI	④ 02-BDE				
6	10-Sil	② 10-BDE	(12-16)a-Sil	④ (12-16)a-BDE	(12-16)b-Sil	④ (12-16)b-BDE	14-Sil	③ 14-BDE
5	034-CI	② 034-BDE	044-CI	④ 044-BDE	2-8-Sil	③ 2-8-BDE	4-6-Sil	② 4-6-BDE
	FI2—FATA					FI2—SPATE		
4	41 FC-B 10	42 FC-B (12-16)a	43 FC-B (12-16)b	44 FC-B 14		44A	43A	42A
3	31 FC-B 034	32 FC-B 044	33 FC-B 2-8	34 FC-B 4-6		34A	33A	32A FC-B 02
2	2x1A				VOLTMETRU ELECTRONIC PENTRU MASURAREA CICLICA A CIRCUITELOR DE CALE			
1	11 IP-2 034/044	12 IP-2 2-8/4-6	13 IP-2 10/(12-16)a	14 IP-2 (12-16)b/14		16 IP-2 18-20/02	17	18

01	02	03	04	05	06	07	08	09	010	011	012	013	014	015	016
10x180Ω /0,3A															

Statia: Feldioara

EA51 01 E 07 BX SE 007 2 015 1

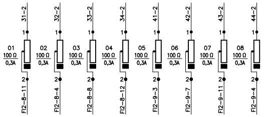
9
41A
31A FC-B 18-20
19

FI2-FATA

41	10	42	(12-16)a	43	(12-16)b	44	14
1	FI2-9-1	1	FI2-9-5	1	FI2-9-9	1	FI2-9-2
2	05-1	2	06-1	2	07-1	2	08-1
3	13-1 61-11	3	13-5 63-11	3	14-1 65-11	3	14-5 67-11
4	13-2 61-71	4	13-6 63-71	4	14-2 65-71	4	14-6 67-71

31	034	32	044	33	2-8	34	4-6
1	FI2-8-9	1	FI2-8-2	1	FI2-8-6	1	FI2-8-10
2	01-1	2	02-1	2	03-1	2	04-1
3	11-1 51-11	3	11-5 53-11	3	12-1 55-11	3	12-5 57-11
4	11-2 51-71	4	11-6 53-71	4	12-2 55-71	4	12-6 57-71

11	034/044	12	2-8/4-6	13	10/(12-16)a	14	(12-16)b/14
1	31-3	1	33-3	1	41-3	1	43-3
2	31-4	2	33-4	2	41-4	2	43-4
3	24-T1-B3	3	24-T1-C6	3	24-T1-A5	3	24-T1-B6
4	8 FI2-5-2	4	8 11-8	4	8 12-8	4	8 13-8
5	32-3	5	34-3	5	42-3	5	44-3
6	32-4	6	34-4	6	42-4	6	44-4
7	24-T1-A4	7	24-T1-B5	7	24-T1-A6	7	24-T1-C7
8	4 12-4	8	4 13-4	8	4 14-4	8	4 16-4


31-2
32-2
33-2
34-2
41-2
42-2
43-2
44-2
1
2
01
100 Ω
0,3A
02
100 Ω
0,3A
03
100 Ω
0,3A
04
100 Ω
0,3A
05
100 Ω
0,3A
06
100 Ω
0,3A
07
100 Ω
0,3A
08
100 Ω
0,3A
FI2-8-11
FI2-8-4
FI2-8-8
FI2-8-12
FI2-9-3
FI2-9-7
FI2-9-11
FI2-9-4

FI2-RANDUL 2

4							
VOLTMETRU ELECTRONIC PENTRU cdc							
CUPLA T1		CUPLA T2		CUPLA T3		CUPLA T4	
CANAL	ADRESA	CANAL	ADRESA	CANAL	ADRESA	CANAL	ADRESA
0-0	C3	2-0 19-7	C3	4-0	C3	6-0	C3
0-1 11-3	B3	2-1 FI2-3-1	B3	4-1	B3	6-1	B3
0-2 11-7	A4	2-2 FI2-3-3	A4	4-2	A4	6-2	A4
0-3 12-3	C6	2-3 FI2-3-5	C6	4-3	C6	6-3	C6
0-4 12-7	B5	2-4 FI2-3-7	B5	4-4	B5	6-4	B5
0-5 13-3	A5	2-5 FI2-3-9	A5	4-5	A5	6-5	A5
0-6 13-7	A6	2-6 FI2-3-11	A6	4-6	A6	6-6	A6
0-7 14-3	B6	2-7 FI2-3-13	B6	4-7	B6	6-7	B6
1-0 14-7	C7	3-0 FI2-3-2	C7	5-0	C7	7-0	C7
1-1 16-3	B7	3-1 FI2-3-4	B7	5-1	B7	7-1	B7
1-2 16-7	A8	3-2 FI2-3-6	A8	5-2	A8	7-2	A8
	A10	3-3 FI2-3-8	A10	5-3	A10	7-3	A10
	C9	3-4 FI2-3-10	C9	5-4	C9	7-4	C9
	B9	3-5 FI2-3-12	B9	5-5	B9	7-5	B9
	C10	3-6 FI2-3-14	C10	5-6	C10	7-6	C10
	B10		B10	5-7	B10	7-7	B10
MASA CUPLA 11-4	A1-B1-C1 A2-B2-C2	MASA CUPLA	A1-B1-C1 A2-B2-C2	MASA CUPLA	A1-B1-C1 A2-B2-C2	MASA CUPLA 19-8	A1-B1-C1 A2-B2-C2

	3		2		1
crt		Nr crt		Nr crt	
1		1		S1	**Ax220** FI2-1-1
2		2		S2	24-TG-C1 FI2-1-2
3		3		S3	**0x220** FI2-1-9
4		4		S4	24-TG-B3 FI2-1-10
12		12			
11		11			
13		13			
22		22			
21		21			
23		23			
32		32			
31		31			
33		33			
42		42			
41		41			
43		43			
52		52			
51		51			
53		53			
62		62			
61		61			
63		63			
72		72			
71		71			
73		73			
82		82			
81		81			
83		83			

FI2-24-

CUPLA TG	
ROL	ADRESA
Ax220	C1 1-S2
0x220	B3 1-S4
Protectie	A1

FI2-2

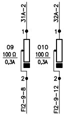
75Hz

FI2-SPATE

44A		43A		42A		41A	
1		1		1		1	
2		2		2		2	
3		3		3		3	
4		4		4		4	

34A		33A		32A	02	31A	18-20
1		1		1	FI2-9-10	1	FI2-9-6
2		2		2	010-1	2	09-1
3		3		3	16-5 73-11	3	16-1 71-11
4		4		4	16-6 73-71	4	16-2 71-71

16	18-20/02	17		18		19	
1	31A-3	1		1		1	
2	31A-4	2		2		2	
3	24-T1-B7	3		3		3	
4	8 14-8	4		4		4	
5	32A-3	5		5		5	
6	32A-4	6		6		6	
7	24-T1-A8	7		7		7	
8	4 FI2-5-4	8		8		8	


31A-2
32A-2
1
1
09
100 Ω
0,3A
010
100 Ω
0,3A
2
2
FI2-9-8
FI2-9-12

FI2-RANDUL 6

69		68		67		66		65		64		63		62		61	
			14-BDE		14-Sil		(12-16)b-BDE		(12-16)b-Sil		(12-16)a-BDE		(12-16)a-Sil		10-BDE		10-Sil
		12	0x220			12	0x220			12	0x220			12	0x220		
		11	FI2-6-11	11	44-3	11	FI2-6-9	11	43-3	11	FI2-6-7	11	42-3	11	FI2-6-5	11	41-3
				13	OS			13	OS			13	OS			13	OS
		32	7-33			32	5-33			32	3-33			32	1-33		
		31	7-53			31	5-53			31	3-53			31	1-53		
				33	8-32			33	6-32			33	4-32			33	2-32
		52	+24S3			52	+24S4			52	+24S4			52	+24S2		
		51	Ax220			51	Ax220			51	Ax220			51	Ax220		
				53	8-31			53	6-31			53	4-31			53	2-31
		72	OS			72	OS			72	OS			72	OS		
		71	FI2-6-12	71	44-4	71	FI2-6-10	71	43-4	71	FI2-6-8	71	42-4	71	FI2-6-6	71	41-4

FI2-RANDUL 5

59		58		57		56		55		54		53		52		51	
			4-6-BDE		4-6-Sil		2-8-BDE		2-8-Sil		044-BDE		044-CI		034-BDE		034-CI
		12	0x220			12	0x220			12	0x220			12	0x220		
		11	FI2-6-3	11	34-3	11	FI2-6-1	11	33-3	11	FI2-5-13	11	32-3	11	FI2-5-11	11	31-3
				13	OS			13	OS			13	OS			13	OS
		32	7-33			32	5-33			32	3-33			32	1-33		
		31	7-53			31	5-53			31	3-53			31	1-53		
				33	8-32			33	6-32			33	4-32			33	2-32
		52	+24S2			52	+24S3			52	+24S4			52	+24S2		
		51	Ax220			51	Ax220			51	Ax220			51	Ax220		
				53	8-31			53	6-31			53	4-31			53	2-31
		72	OS			72	OS			72	OS			72	OS		
		71	FI2-6-4	71	34-4	71	FI2-6-2	71	33-4	71	FI2-5-14	71	32-4	71	FI2-5-12	71	31-4

FI2–RANDUL 8

89	88	87	86	85	84	83	82	81
	12		12		12		12	
	11	11	11	11	11	11	11	11
		13		13		13		13
	32		32		32		32	
	31		31		31		31	
		33		33		33		33
	52		52		52		52	
	51		51		51		51	
		53		53		53		53
	72		72		72		72	
	71	71	71	71	71	71	71	71

FI2–RANDUL 7

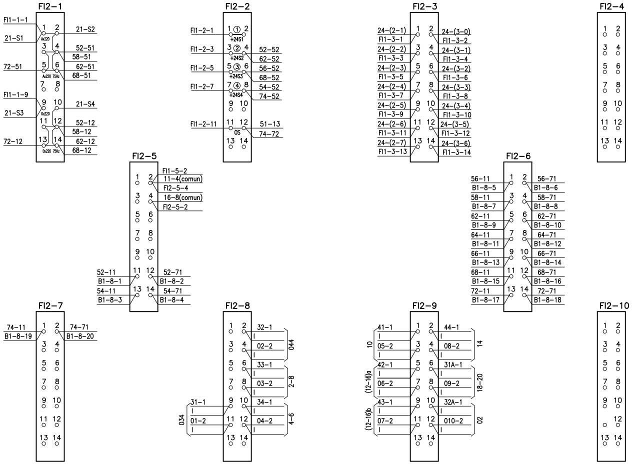
79	78	77	76	75	74	73	72	71
					02–BDE	02–CI	18–20–BDE	18–20–Sil
	12		12		12 0x220		12 0x220	
	11	11	11	11	11 FI2–7–1	11 32A–3	11 FI2–6–13	11 31A–3
		13		13		13 OS		13 OS
	32		32		32 3–33		32 1–33	
	31		31		31 3–53		31 1–53	
		33		33		33 4–32		33 2–32
	52		52		52 +24S4		52 +24S4	
	51		51		51 Ax220		51 Ax220	
		53		53		53 4–31		53 2–31
	72		72		72 OS		72 OS	
	71	71	71	71	71 FI2–7–2	71 32A–4	71 FI2–6–14	71 31A–4

RAMA FI2

BUCLE TENSIUNI

+24S1	+24S2	+24S3	+24S4	Ax220	0x220	0S
FI2–2–2	FI2–2–4	FI2–2–6	FI2–2–8	FI2–1–4	FI2–1–12	FI2–2–12
	52–52	56–52	54–52	52–51	52–12	51–13
	58–52	68–52	64–52	54–51	54–12	52–72
	62–52		66–52	56–51	56–12	53–13
			72–52	58–51	58–12	54–72
			74–52	FI2–1–4	FI2–1–12	55–13
				FI2–1–6	FI2–1–14	56–72
				62–51	62–12	57–13
				64–51	64–12	58–72
				66–51	66–12	68–72
				68–51	68–12	67–13
				FI2–1–6	FI2–1–14	66–72
				FI2–1–5	FI2–1–13	65–13
				72–51	72–12	64–72
				74–51	74–12	63–13
						62–72
						61–13
						71–13
						72–72
						73–13
						74–72
FI2–2–2	FI2–2–4		FI2–2–8			FI2–2–12

Statia: Feldioara


FI2-1
FI1-1-1
21-S1
72-51
FI1-1-9
21-S3
72-12
Ax220
Ax220 75Hz
0x220
0x220 75Hz
21-S2
52-51
58-51
62-51
68-51
21-S4
52-12
58-12
62-12
68-12
FI2-2
FI1-2-1
FI1-2-3
FI1-2-5
FI1-2-7
FI1-2-11
①
②
③
④
+24S1
+24S2
+24S3
+24S4
0S
52-52
62-52
56-52
68-52
54-52
74-52
51-13
74-72
FI2-3
24-(2-1)
FI1-3-1
24-(2-2)
FI1-3-3
24-(2-3)
FI1-3-5
24-(2-4)
FI1-3-7
24-(2-5)
FI1-3-9
24-(2-6)
FI1-3-11
24-(2-7)
FI1-3-13
24-(3-0)
FI1-3-2
24-(3-1)
FI1-3-4
24-(3-2)
FI1-3-6
24-(3-3)
FI1-3-8
24-(3-4)
FI1-3-10
24-(3-5)
FI1-3-12
24-(3-6)
FI1-3-14
FI2-4
FI2-5
FI1-5-2
11-4(comun)
FI2-5-4
16-8(comun)
FI2-5-2
52-11
B1-8-1
54-11
B1-8-3
52-71
B1-8-2
54-71
B1-8-4
FI2-6
56-11
B1-8-5
58-11
B1-8-7
62-11
B1-8-9
64-11
B1-8-11
66-11
B1-8-13
68-11
B1-8-15
72-11
B1-8-17
56-71
B1-8-6
58-71
B1-8-8
62-71
B1-8-10
64-71
B1-8-12
66-71
B1-8-14
68-71
B1-8-16
72-71
B1-8-18
FI2-7
74-11
B1-8-19
74-71
B1-8-20
FI2-8
32-1
02-2
044
33-1
03-2
2-8
34-1
04-2
4-6
31-1
01-2
034
FI2-9
41-1
05-2
10
42-1
06-2
(12-16)a
43-1
07-2
(12-16)b
44-1
08-2
14
31A-1
09-2
18-20
32A-1
010-2
02
FI2-10

EA51 01 E 07 BX SE 007 2 015 1 9/9