

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



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

**CLIENT / CLIENT**



**CONSULTANT / CONSULTANT**

		Șef proiect Project manager	R. Liuzza	Data Date	Semnătură Signature
Aprobat Approved	Proiect manager				
Aprobat Approved	Coordonator Secțiune 1 Section 1 Coordinator	C. Gambelli			
Verificat Checked	Tunel Expert Tunnel Expert	C. Gambelli			
Intocmit Elaborated	Proiectant Designer	P. Amodio			

**SUBCONSULTANT / SUBCONSULTANT**

Aprobat Approved	Responsabil Subconsultant Subconsultant Responsible		
Intocmit Elaborated	Proiectant Designer		
Reabilitarea liniei de cale ferată Brașov - Simeria, parte componentă a coridorului IV Pan European, pentru circulația trenurilor cu viteză maximă de 160 km/h. Secțiune 1 Brașov - Sighisoara		<b>Project/Project</b> 2004/RO/16/P/PA/003	
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 1 Brasov - Sighisoara		Faza / Phase: P.Th. / T.D.	

**Denumire desen / Drawing Title : TUNNEL/TUNELUL ORMENIS**  
ORMENIS SIDE/INSPRE ORMENIS

**Emergency and fire protection systems/Sisteme de urgență și de incendiu**  
Electrical diagram fire protection panel central C1 (Q\_A1/C1)/Electrice Diagrame cadru foc centrale C1 (Q\_A1/C1)

Codificare / Codification System

Scara / Scale

LOT

Nr. / No

**E A 5 1 0 1 C 1 0 L X T S 1 0 2 3 0 0 2 0**

## CHARACTERISTICS PANEL/CARACTERISTICI CADRU


























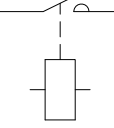
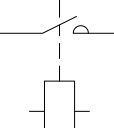
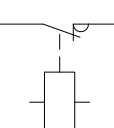
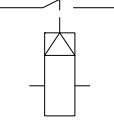



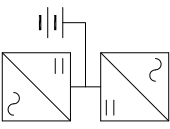
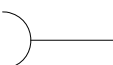
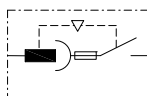

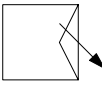

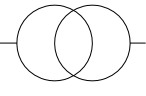

### SYSTEM/SISTEM

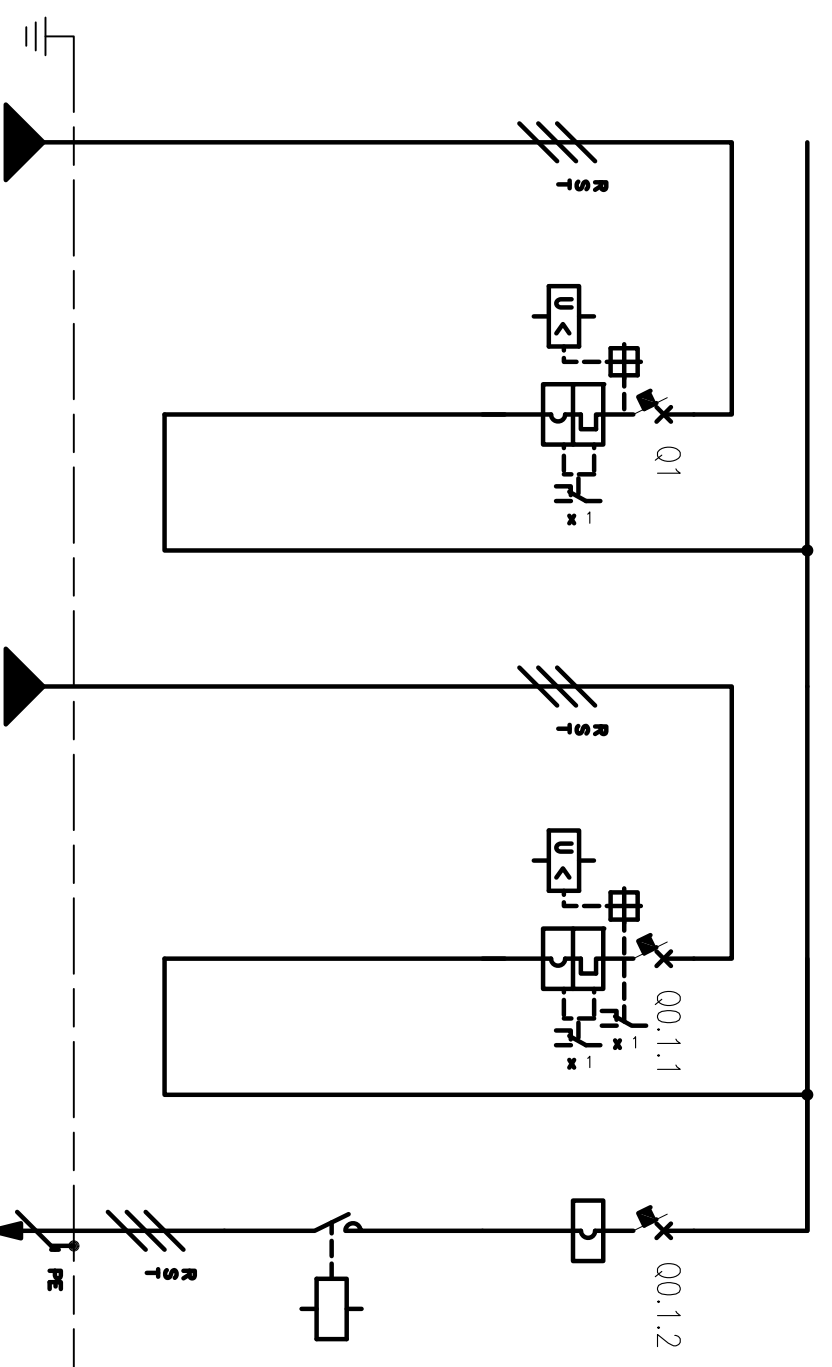
VOLTAGE/TENSIUNE [V] 400 FREQUENCY/FRECVENTA [Hz] 50  
 RETED CURRENT PANEL/CURENT NOMINAL CADRU [A] \_\_\_\_\_  
 SHORT CIRCUIT CURRENT ON PANEL [kA] 16  
 DISTRIBUTION SYSTEM/SISTEMUL DE DISTRIBUTIE TNS  
 SIZE BARS/DIMENSIUNEA BARS \_\_\_\_\_  
 $I_n$  [A] \_\_\_\_\_  $S_{cc}$  [kA] \_\_\_\_\_  
 CARPENTRY/TAMPLARIE METALLIC  
 INSULATION CLASS/CLASA DE IZOLARE \_\_\_\_\_ IP \_\_\_\_\_

### REFERENCE STANDARDS/STANDARDELE DE REFERINTA

BREAKERS SWITCHES/CIRCUITUL CONCASOARE  — EN 60947-2  
 MODULAR SWITCHES/CIRCUITUL MODULAR  — EN 60947-2  
 — EN 60898  
 CARPENTRY/TAMPLARIE  — EN 60439-1

# SYMBOLS LEGEND CHEIA SIMBOLURI

	CIRCUIT BREAKER INTERRUPTOR		SWITCH SWITCH		SWITCH OPERATION SWITCH OPERATIUNEA		THERMAL PROTECTION PROTECTIE TERMICA		MAGNETIC PROTECTION PROTECTIE MAGNETICA		DIFFERENTIAL PROTECTION PROTECTIE DIFERENTIALA		MOTOR MOTOR		FUSE ELEMENT FUZE ELEMENT		TOROID		MANUAL DRIVE MANUAL
	MOTORIZED CONTROL DE REGLAJ MOTORIZATE		FREE TRIP CALATORIE GRATUITA		ROTARY HANDLE INTERLOCKING MANER ROTATIV CENTRALIZARE		INTERLOCK INTERBLOCARE		REMOVABLE EQUIPMENT AMOVIBIL ECHIPAMENTE		LOCK KEY (LOCKED WITH APPLIANCE IN PLACE OF REST) LOCK (BLOCAT CU APARATULUI IN POZITIA DE ODHINA)		LOCK KEY (FREE WITH APPLIANCE IN PLACE OF REST) LOCK (GRATUIT CU APARATULUI IN POZITIA DE ODHINA)		AUX CONTACT (N=NUMBER OF INSTALLED CONTACTS, THE HATCH INDICATES WHICH EQUIPMENT PART ACT ON THE CONTACT) DATE DE CONTACT AUX (N=NUMARUL DE DATE INSTALATE, ACT HATCH CU PRIMIRE LA EQUIPAMENTUL INDICA PARTUL CA DATE)		COIL A MINIMUM VOLTAGE COIL UN VOLTAJ MINIM		COIL A LAUNCH OF CORRENT COIL UN CANSAREA DE CURENT
	CHANGEOVER SWITCH FOR INSTRUMENT (VOLTMETRIC/AMPEROMETRIC) SWITCH PENTRU INSTRUMENT (VOLTMETRIC/AMPEROMETRIC)		AMPEROMETER AMPEROMETRU		VOLTMETER VOLTMETRU		FREQUENCYMETER FRECVENTA		INSTRUMENT INTEGRATOR (CONTACTOR) INSTRUMENT INTEGRATOR (CONTACTOR)		CONTACTOR WITH NO CONTACT CONTACTOR CU DATE DE NO CONTACT		CONTACTOR WITH POSSIBILITY OF MANUAL CONTACT WITH NO CONTACT CONTACTOR CU POSIBILITATEA DE DATE MANUAL CU DE CONTACT NO		CONTACTOR NORMALLY CLOSED CONTACT CONTACTOR CU DATE IN MOD NORMAL INCHIS		CONTACTOR (RELAY / STEP / STEP) CONTACTOR (RELEU PAS CU PAS)		CLOCK CEASUL
	TWILIGHT CREPUSCULAR		ASTRONOMIC CLOCK CEASUL ASTRONOMIC		UPS UPS		SOCKET (GENERAL SYMBOL) SOCKET (GENERAL SIMBOLURI)		PLUG AND SWITCH FUSE BLOCK SOCKET CU INTERBLOCATA EA SIGURANTI		SOFT STARTER STARTER		INVERTER INVERTOR		STAR STARTER STAR STARTER		TRASFORMER TRASFORMER		SPD VAL



TERMINAL NUMBER/TERMINAL NUMARUL	DISTRIBUTION DISTRIBUTION	ARRIVAL/SOSIRE TRAF0 1	ARRIVAL/SOSIRE TRAF0 2	NS160 N	NS160 N	NG125 LMA	6	7	8	9
NUMBER OF CIRCUIT NUMARUL DE CIRCUIT										
DESCRIPTION OF THE CIRCUIT DESCRIBEA A CIRCUITULUI						ELECTRIC PUMP/POMPA ELECTRICA				
TYPE APPARATUS/TIP APARATURA SWITCH/SWITCH				NS160 N	NS160 N	NG125 LMA				
				36	36	50				
				4P	4P	3P				
				TMD <= 63	TMD <= 63	MA				
CURVE RELEASES/CURBA DE PRESA										
I <sub>r</sub> [A]				56,7	56,7					
t <sub>r</sub> [s]				0,9x	0,9x					
I <sub>sd</sub> [A]				500	500	756				
t <sub>sd</sub> [s]										
I <sub>i</sub> [A]										
I <sub>g</sub> [A]										
t <sub>g</sub> [s]										
TYPE/TIP										
CLASS/CLASA										
I <sub>dn</sub> [A]										
t <sub>dn</sub> [ms]										
TYPE/TIP										
CLASS/CLASA										
CONTACTOR										
COIL [V]										
N. POLE										
I <sub>th</sub> [A]										
TYPE/TIP										
FUSE										
N. POLE										
I <sub>n</sub> [A]										
MODEL										
OTHER APP.										
PIPELINE/PIPELINE										
TYPE ISOLATION										
POSE/INSTALAREA										
EPR										
SECTION PHASE-N-PE/PEN [mm <sup>2</sup> ]										
1x70										
1x35										
I <sub>b</sub> [A]										
56,3										
279										
Un [V]										
400										
P <sub>n</sub> [kW]										
400										
I <sub>cc min</sub> [kA]										
9,3										
I <sub>cc max</sub> [kA]										
1869										
I <sub>ENGHT/LUNGIMEA</sub> [m]										
10										
I <sub>ENGHT/LUNGIMEA</sub> [m] TOTAL [%]										
10										

NOTE



