

TEOREMA vertical platformlift characteristics

Platformlift for disabled persons complyng with:	European Machine Directive 98/37 European Elecytomagnetic Compatibilità Directive 89/336 Disabled vertical elevators standard ISO 9386-1 Disabled vertical elevators standard TUV 103-A Italian Ministry Decree DM 89/236 Electric system complying with standards EN 60204
Capacity	300 daN max
Lifting Height	1.6 m max
Lifting speed	0.05~ m/sec.
Feed	230 V 50 Hz - 0.75 kW
Structure	scissor arms, platform and body steel made; body fixing with mechanical or chemical bolt.
Pit	215 mm
Installation	in inner and outer environment (with hydraulic and electric gearbox positioned in a protected place); use field -10°C $+60^{\circ}\text{C}$
Floor doors	right or left drummed door standard panoramic , manual opening, semiautomatic lockup with skock absorber, automatic door opening/lockup device optional standard dimensions 2000x750 – 2000x800 – 2000x850 – 2000x900 optional and other on request; optional only for upper floor h=1100 door dimension
Platform	dimension min. 900 w. x 1200 d , max. 1200 w. x 1500 d; handrail h=1100 min. with panel board std; on request vertical wall on board; antislip platform surface
Controls	constant pressure version, low tension and controlled by extractable key switch; on request waterproof pushbuttons for external site
Lifting system	hydraulic cylinder directly connected with scissor
Safety devices	mechanical: door lockers with external release, artificial pit hydraulic: manual emergency descent; max. pressure valve; downward speed control valve; nonreturn valve; safety valve on cylinder electric: low-tension auxiliary circuit and safety devices; electric door presence control; electric door lock control; emergency stop; emergency descent on board (blackout safe)
Prescription	the customer must prepare a dedicated feed line at 230 V~, with grounded neutral phase, with min. section = 2.5 mm^2 , protected by 16 A differential magnetothermic switch with sensitivity 0.03 A; check the pit strenght and the compliance to domestic safety electric rules (according CE laws) are under the responsibility of customers



**VERTICAL PANTOGRAPH PLATFORM
TEOREMA**

INSTALLATION MANUAL



GENERAL SAFETY RULES

These safety rules are an integral part of the product. Read the information in this manual carefully since it provides important instructions for safety during installation of the system. Keep these instructions in a safe place and ensure that anyone doing any work on the machinery is familiar with them. Operators must read this manual in full before proceeding with installation of the system.

Failure to comply with the above may generate hazards

General Table of Contents :

1. System components
2. Installing the platform frame
3. Installing the electrical cabinet and hydraulic power pack
4. Installing the compartment guards (if applicable)
5. Installing the doors
6. Installing the lock kit
7. Installing the platform connection cables
8. Installing the hydraulic hoses
9. Anchoring the platform base
10. Installing the footplate
11. Installing the side guard with controls
12. Adjusting the floor cams
13. Setting the maximum pressure valve
14. Adjustments and final testing

1) System components

- § Platform frame assembly
- § Floor doors (complete with electric locks) with build-in frames
- § Automatic door kit (if applicable)
- § Lock kit (if applicable)
- § Hydraulic power pack and hoses
- § Electrical cabinet and platform cables
- § Set of sheathes for floor door connections
- § Platform, guard with control panel
- § Side guards (if applicable)
- § Compartment guard (if applicable)

2) Installing the platform frame

- § Check the alignment of the base
- § Centre the structure in the elevator shaft.
- § Level the structure in such a way that the footplate travels absolutely vertically.

3) Installing the electrical cabinet and hydraulic power pack

- § Mount the electrical cabinet and power pack in their intended positions using the supplied materials.
- § Make the electrical connections of the motor and solenoid valve with the supplied sheathes, observing the numbering of the cables – refer to the provided wiring diagrams.
- § Connect the electrical cabinet to the mains using the customer's power cable. The customer must provide a dedicated power cable rated at 230 V~, with live/neutral/ground wires and minimum cross section = 2.5 mm², equipped with a 16 A differential circuit breaker rated at 0.03 A.
- § Charge the hydraulic power pack with hydraulic fluid.

4) Installing the compartment guards (if applicable)

- § Position the vertical guards in alignment with the elevator shaft walls.
- § Check that they are vertical and correctly aligned in all directions before completing the installation.
- § Mount the guards to each other and fix them to the masonry.

5) Installing the doors

- § Build in or mount the door frames within the elevator shaft walls and aligned in all directions.
- § Check that the door opening is not blocked in any way.

CAUTION – check that ducting is present for floor button panel / lock connections.

6) Installing the lock kit

- § Fit the electric locks to the door frames using the provided bolts.
- § Install the key to the door with its mount correctly adjusted so that it fits the lock.
- § Install the floor button panel and make the electrical connections, making sure to pass the cables through ducts.

CAUTION – check that ducting is present for floor button panel / lock connections.



WARNING:

Trapping hazard! The electric locks can only be opened from outside; release the electric locks with the provided triangular key before fitting them.

7) Installing the platform connection cables

- § Position the electrical cabinet / junction box connecting cable.
- § Check that the cable is not crushed or sheared by moving parts during operation.
- § Secure the cable to guard against accidental displacement which may result in its being caught between moving parts.
- § Hook up the cable, observing the numbering of the cables – refer to the provided wiring diagrams.

CAUTION – check that ducting is present for the electrical cabinet / junction box connections.

8) Installing the hydraulic hoses

- § Position the delivery hose (black rubber hose with press-mounted fittings).
- § Position the return hose (transparent hose with press-mounted fittings).
- § Check that the hoses cannot be crushed or sheared by moving parts during operation.
- § Secure the hoses to guard against accidental displacement which may result in their being caught between moving parts.
- § Connect the hoses to their fittings – refer to the hydraulic circuit diagrams supplied with the machine.

CAUTION – check that ducting is present for the hydraulic hoses.



WARNING:

Failure to comply with the following safety instructions may create hazards.

BLEEDING THE CIRCUIT:

Before operating the machine, the hydraulic circuit must be purged of air.

PURGING MUST BE DONE WHEN THE POWER PACK IS FIRST POWERED UP:

- Delivery hose:
- Slacken off the cylinder base fitting (both if 2 cylinders are installed).
 - Position a suitable container beneath the slackened off fitting to avoid hazardous spillage of the hydraulic fluid.
 - Start up the power pack for brief periods of time, until oil without froth issues from the hose.
 - Tighten down the cylinder base fitting (both if 2 cylinders are installed).

**WARNING:**

Falling hazard! Before slacking off or removing the fittings to purge the circuit, make sure the platform is resting on its mechanical limit stops.

Return hose:

- Run a few cycles of the platform, and verify that the transparent hose fills with fluid.
- Move the platform to the bottom floor.
- Detach the return hose from the cylinder by extracting it from the pressure fitting (both if 2 cylinders are installed).
- Position a suitable container beneath the open fitting to avoid hazardous spillage of the hydraulic fluid.
- Start up the power pack for brief periods of time, until oil without froth issues from the hose.
- Reconnect the return hose and tighten down the fitting (both if 2 cylinders are installed).
- Run a few cycles of the platform, and verify that the hoses are free of air bubbles.
- Top up the oil whenever required.

9) Anchoring the platform base

- § Check that the machine is level.
- § Run a few cycles to check that the machine is correctly centred in the elevator shaft.
- § Raise the platform to access the holes in the base frame.
- § Anchor the machine with the provided fastenings.

**WARNING:**

Crushing hazard! Before entering the elevator shaft, fit the provided safety spacers.

10) Installing the footplate

- § Position the foot plate and centre it in the elevator shaft with the adjuster screws.
- § Check that it is correctly centred for the entire length of its travel.
- § Tighten down the retainer screws.

**WARNING:**

Falling hazard! Check that the footplate retainer screws are fully tightened down.

11) Installing the side guard with controls

- § Fit the side guard to the correct side with the control panel facing inwards.
- § Fit the control panel cable into the guard's tubular duct.
- § Fit the control panel cable into the control panel using the cable clamp and fix the panel to its mount.
- § Make the electrical connections – refer to the provided wiring diagrams.
- § Install the other footplate guards, if provided.

12) Adjusting the floor cams

- § Adjust the cams so that the foot plate halts within ± 10 mm of the floor threshold.
- § To adjust the height of a halt, move the cam and its mount along the slots in the mounting plate.



WARNING:

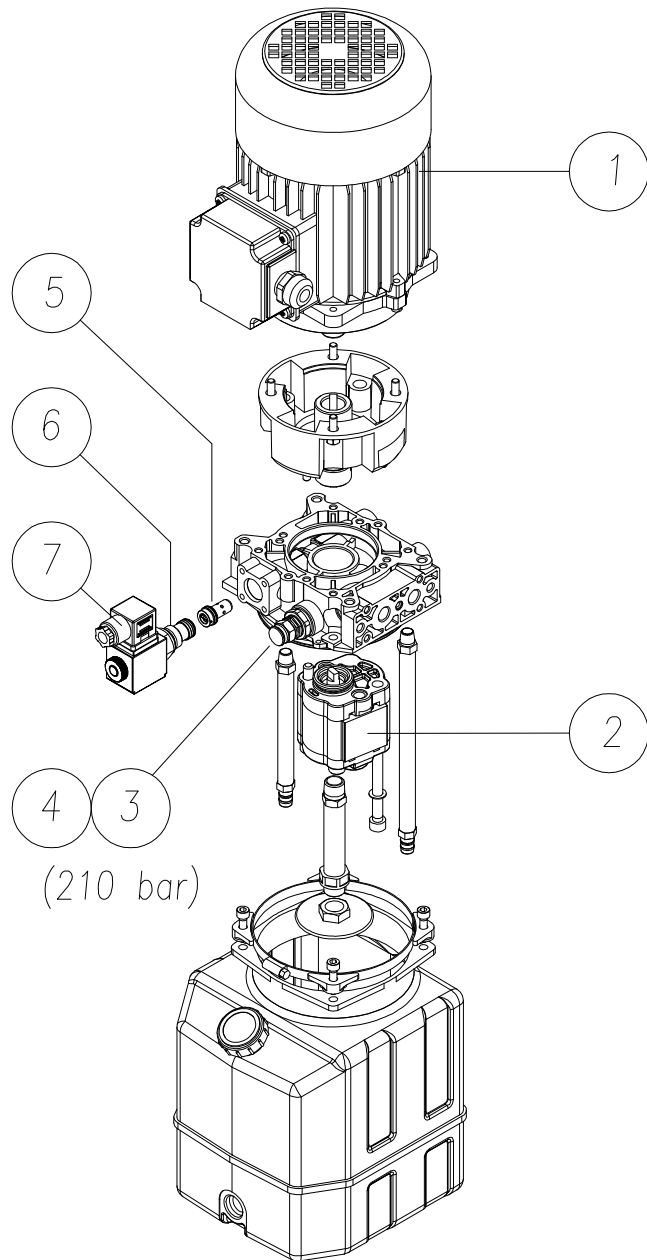
Crushing hazard! Before entering the elevator shaft, fit the provided safety spacers.

13) Setting the maximum pressure valve

- § Move the platform to the bottom floor.
- § Ballast the platform with the weight given on the dataplate and check that the machine can raise the platform as specified.
- § Increase the ballast weight by 50-70 daN and adjust the maximum pressure valve so that the platform will not raise when loaded to this extent.
- § Remove the additional weight and check that the platform raises correctly when weighted with a full load.

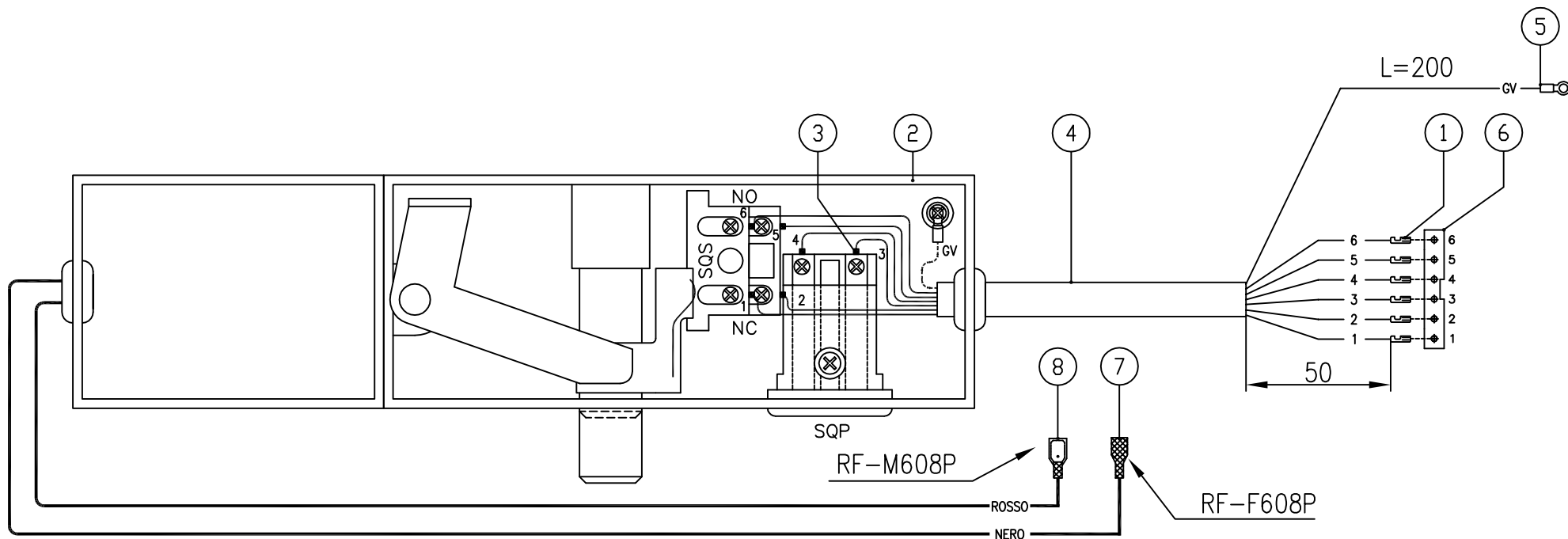
14) Adjustments and final testing

- § Check that all installed fastenings are fully tightened down.
- § Grease the sliding surfaces along the entire length of the rails.
- § Run a number of raise and lower cycles and check the operation of the mechanical, hydraulic and electrical components, and that no moving parts come into contact with fixed parts, sheathes or hoses.
- § Adjust the position of the floor cams to ensure the platform stops correctly.
- § Test the lift and fill in the test certificate, checking the following points:
 - 1) All operating and control devices are working properly.
 - 2) All locks, floor and on-lift controls are working properly.
 - 3) All contacts and electrical safety equipment are working properly.
 - 4) There is a adequate gap between the footplate / vertical wall and the surrounding structure for the entire length of the platform's travel.
 - 5) The insulation resistance is more than 1000 ohms per Volt (perform this test following the instructions provided in the electric system diagram, using suitable instruments).
 - 6) The live and neutral wires in the main power supply connection correspond.
 - 7) The manual emergency down device is operating correctly
 - 8) The alarm (if supplied) is operating correctly.
 - 9) All warning signs, dataplates, etc. are properly fitted and visible.



7	Solenoid	Solenoid	Solenoid	23S200002	1
6	Elettrovalvola	Solenoid valve	Elektroventil	22E060005	1
5	Valvola 2 l/min	Valve 2 l/min	Ventil 2 l/min	22V010017	1
4	Valvola ritegno	Non-return valve	Rückschlagventil	22V010016	1
3	Valvola max.	Max pressure valve	Überdruckventil	22V010015	1
2	Pompa	Pump	Pumpe	22P120006	1
1	Motore elett.	El. motor	El. motor	23M120003	1
Pos.	Descrizione	Description	Beschreibung	Codice	N°pz.

PRELIEVO CODICE	DESCRIZIONE	MATERIALE	
TRATTAMENTO		SCALA	DISEGNATO S. Lui
SUPERFICI E LAVORAZIONI		PESO kg	DATA 17/09/01
VIETATE LE RIPRODUZIONI NON AUTORIZZATE REPRODUCTION NOT PERMITTED AL RIGHT RESERVED		LQ	extrisma
DESCRIZIONE Centralina On-Off TEOREMA		TOLLERANZE GENERALI LINEARI h12 - h12 ANGOLARI ±1° DIAMETRO FORI 0 +0,2 RACCORDI R 1,2 SMUSSI 0,5x45°	
GRUPPO Versione OS		CODICE 22C120200	

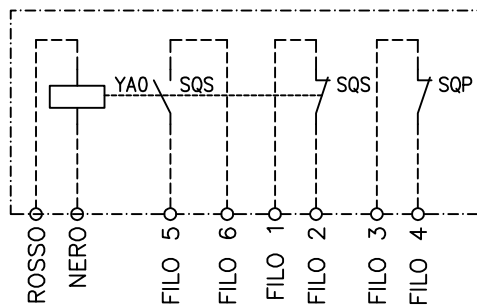


Schema contatti serratura
 Scheme contact lock
 Schloß Verdrahtungsplan
 Schéma contacts serrure
 Esquema contactos cerradura

YAS = Comando elettromagnete
 Comando elettromagnete
 Comando elettromagnete
 Commande électro-aimant
 Mando electroimã

SQS = Contatti del chiavistello
 Contacts of the latch
 Riegelkontakte
 Contacts de verrou
 Contacto de clavija

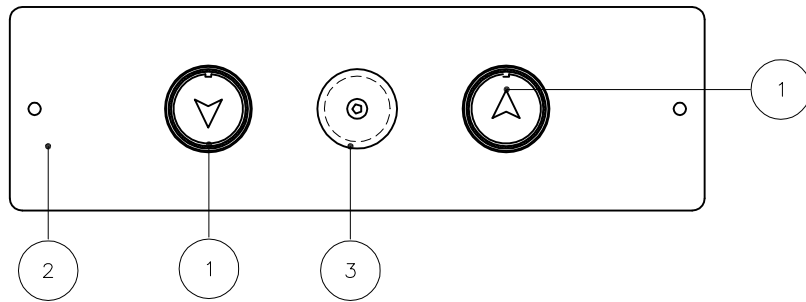
SQP = Contatto porta chiusa
 Contact door closed
 Angelehnt tür Kontakt
 Contact porte fermée
 Contacto puerta cerrada



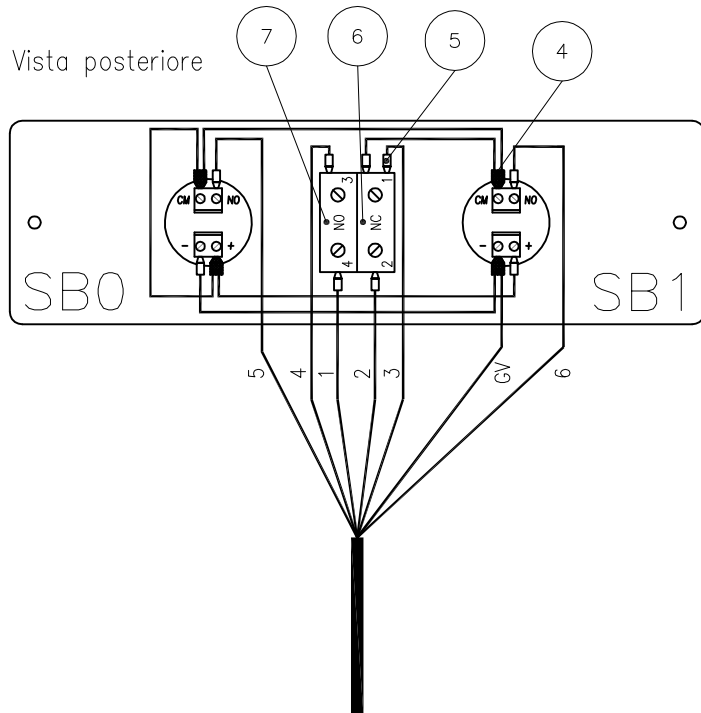
POS.	N.Pz	Descrizione	Codice
8	1	Fastom maschio total. isolato CEMBRE RF-M 608P	23C070022
7	1	Fastom femm. total. isolato CEMBRE RF-F 608P	23C070021
6	1	Connettore femm. 6 vie art. AMP MODU 1	23C240002
5	2	Capocorda ad occhio ø 4 CEMBRE art. RF-M4	23C070007
4	0,7m	Cavo 7x0,75 REITER DLFLEX-110/03 art.0019013	23C400015
3	6	Capocorda a tubetto CEMBRE art.PKC7508	23C070005
2	1	Elettroserratura per porta a battente TF 2000	23S130002
1	6	Contatto femm. per conn. AMP MODU 1	23C250000

PRELIEVO CODICE	DESCRIZIONE	MATERIALE	
Composto			
TRATTAMENTO	SCALA 1:1	DISEGNATO Alberti D.	DATA 02/04/03
SUPERFICIE E LAVORAZIONI	PESO kg	LQ	extrisma
VIETATE LE RIPRODUZIONI NON AUTORIZZATE REPRODUCTION NOT PERMITTED AL RIGHT RESERVED		TOLLERANZE GENERALI	
DESCRIZIONE		LINEARI H12 - H12 ± 1'	CODICE 33G090130/a
GRUPPO		ANGOLARI ± 1'	
Porta		DIAMETRO FORI 0 +0,2	
		RACCORDI R 1,2	
		SAUSSI 0,5x45°	

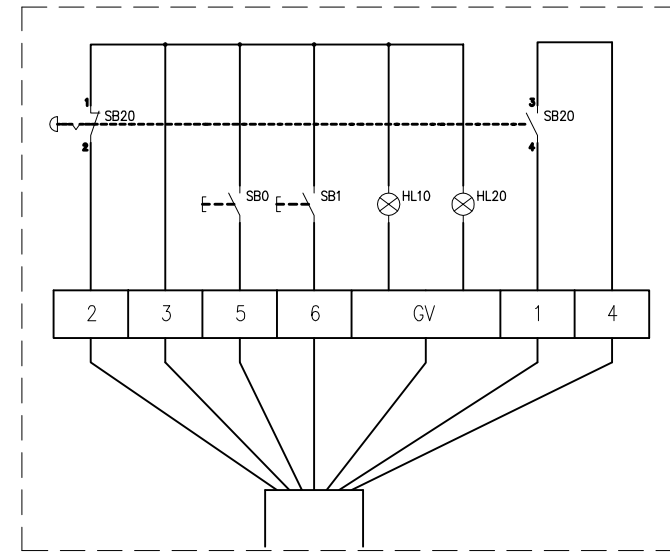
Vista frontale



Vista posteriore



Collegamenti elettrici interni alla pulsantiera



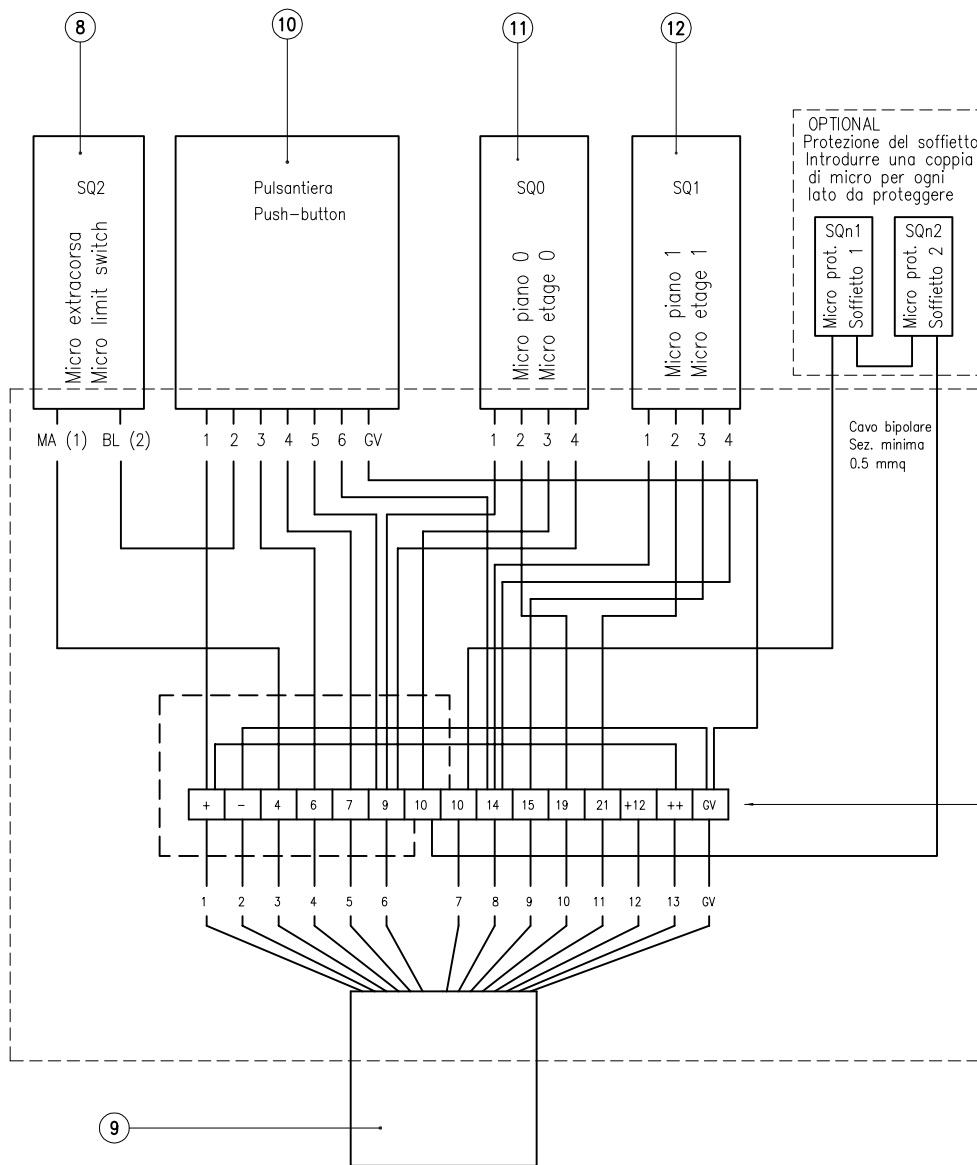
7	Elemento di contatto NO Elfin Mod. 020E10		1
6	Elemento di contatto NC Elfin Mod. 020E01		1
5	Tubetto preisolato 0,7 mmq CEMBRE art. PKC-7508	23C070005	8
4	Tubetto preisolato doppio CEMBRE art. PKT-7508		4
3	Pulsante emergenza ELFIN Mod. 020PTAR		1
2	Piastra pulsantiera di bordo Teorema INOX	31P070283	1
1	Pulsante @30 Robertelli mod. METAL 2000		2
POS.	Descrizione	Codice	N.Pz

Gruppo collegamento pulsantiera a bordo
per elevatore Teorema

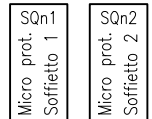
Versione per esterni Robertelli

GRUPPO
Imp.Elettrico
DATA
11/10/07
DISEGNATO
Mecenero P.
SCALA
1:2
FOGLIO
1/1

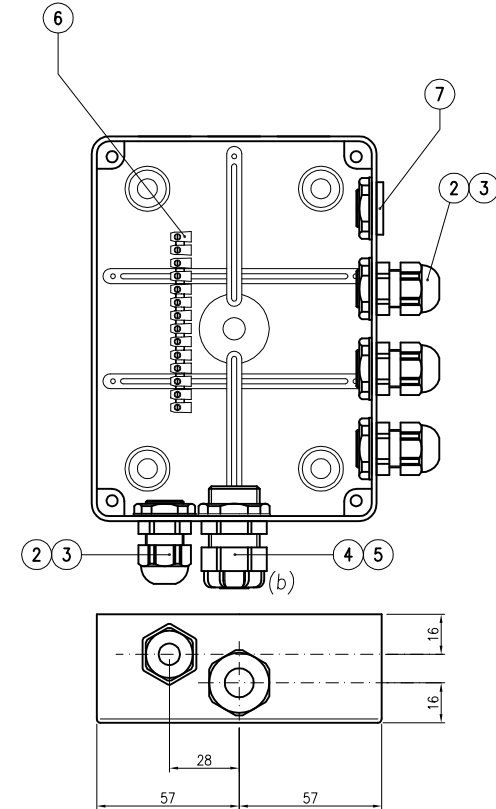
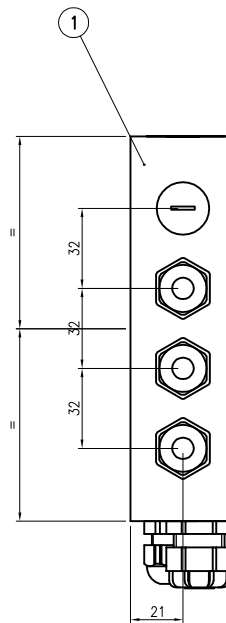
extrisma
CODICE
43P370106



OPTIONAL
 Protezione del soffietto
 Introdurre una coppia
 di micro per ogni
 lato da proteggere



Cavo bipolare
 Sez. minima
 0.5 mmq



Per il fissaggio
 dei fili usare i
 morsetti indicati
 al punto 6

For the wires
 fastening use
 the terminals
 given on point 6

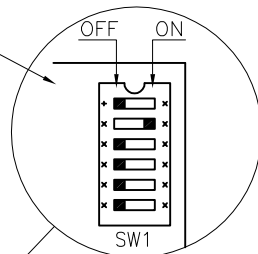
12	1	Guaina collegamento microinterruttore piano 1 SQ1	33G090050
11	1	Guaina collegamento microinterruttore piano 0 SQ0	33G090049
10	1	Guaina collegamento pulsantiera di bordo	33G090046
9	1	Guaina collegamento Quadro el.- cass. derivazione	33G090054
8	1	Guaina collegamento microinterruttore extracorsa SQ2	33G090051
7	1	Tappo chiusura GMK9 REITER art.SKINDICHT 52000120	23T010000
6	15	Morsetto 6mmq ELECO Forbox art.E27	23M100000
5	1	Controdado per ST13,5 REITER art.SKINTOP 53019030	23C440000
4	1	Pressacavo ST13,5 REITER art. SKINTOP 53015030	23P390002
3	5	Controdado REITER art.SKINTOP 53019010	23D020001
2	4	Pressacavo ST9 REITER art.SKINTOP 53015010	23P390000
1	1	Scatola GEWISS art. GW44206	23S010001
POS. N.Pz	DESCRIZIONE		Codice

E' VIETATA OGNI RIPRODUZIONE NON ESPRESSAMENTE AUTORIZZATA EVERY REPRODUCTION NOT EXPRESSING AUTHORIZED IT'S FORBIDDEN IL EST INTERDIT TOUTS LES REPRODUCTIONS NE PAS EXPRESSEMENT AUTORISE		GRUPPO Impianto Elettrico	DATA 28/03/01	
DESCRIZIONE Gruppo scatola derivazione		DESIGNATO Cuccarolo M.	SCALA 1: 1	
Teorema standard		FOLGIO 1 di 1	CODICE 43S010001/b	

b	Modificata la composizione della scatola di derivazione	C.M.	13/02/08 Mecenero P.
a	Introdotta l' opzione per la protezione del soffietto	C.M.	11/04/05 Mecenero P.

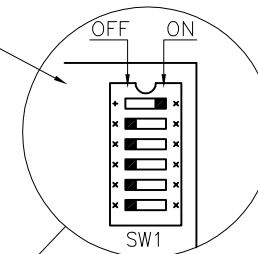
Piano 1

Posizionare i deep-switch come in figura



Piano 0

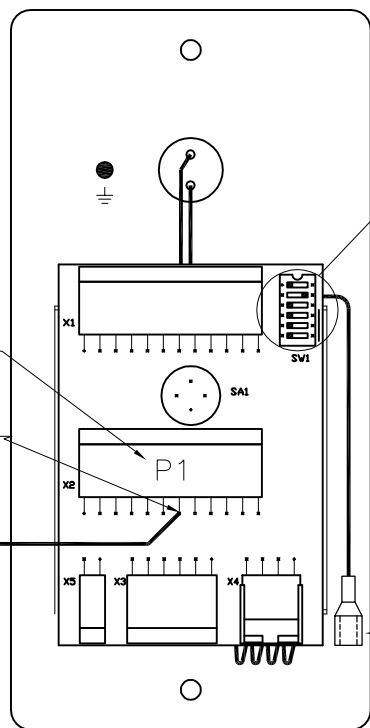
Posizionare i deep-switch come in figura



Marcare il connettore con la sigla P1

Saldare a stagno nella posizione n° 7 del connettore X2

Positivo elettroserratura L=200

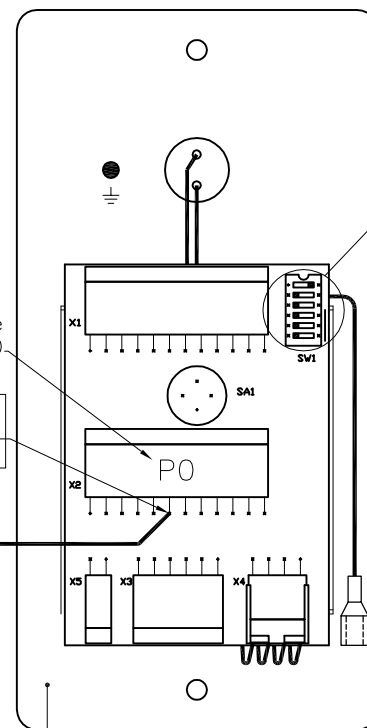


Negativo elettroserratura

Marcare il connettore con la sigla P0

Saldare a stagno nella posizione n° 6 del connettore X2

Positivo elettroserratura L=200



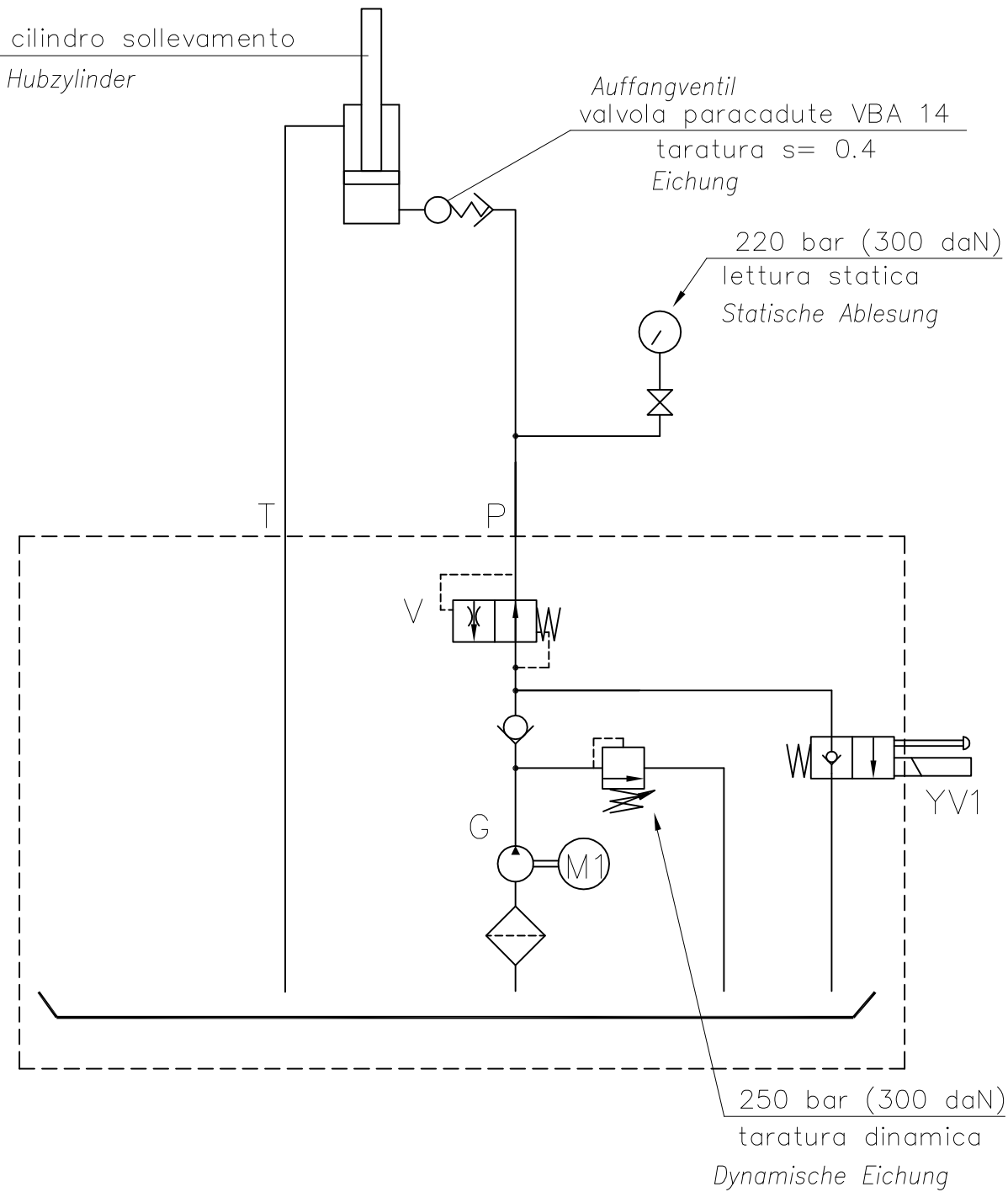
Negativo elettroserratura

3 2 1

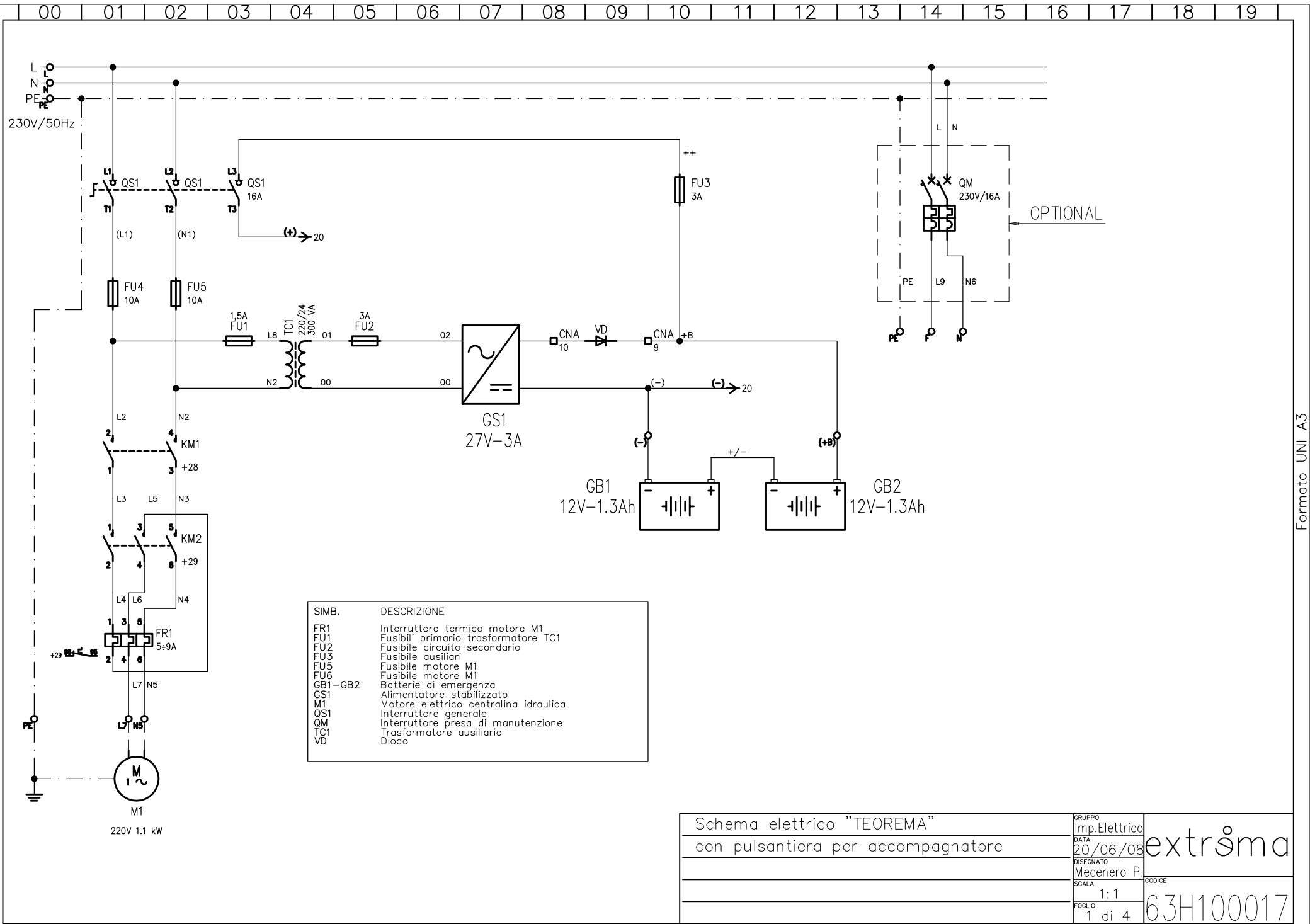
NOTA: Preparare le pulsantiere come in figura. Saldare i fili e posizionare i deep-switch nella corretta posizione.

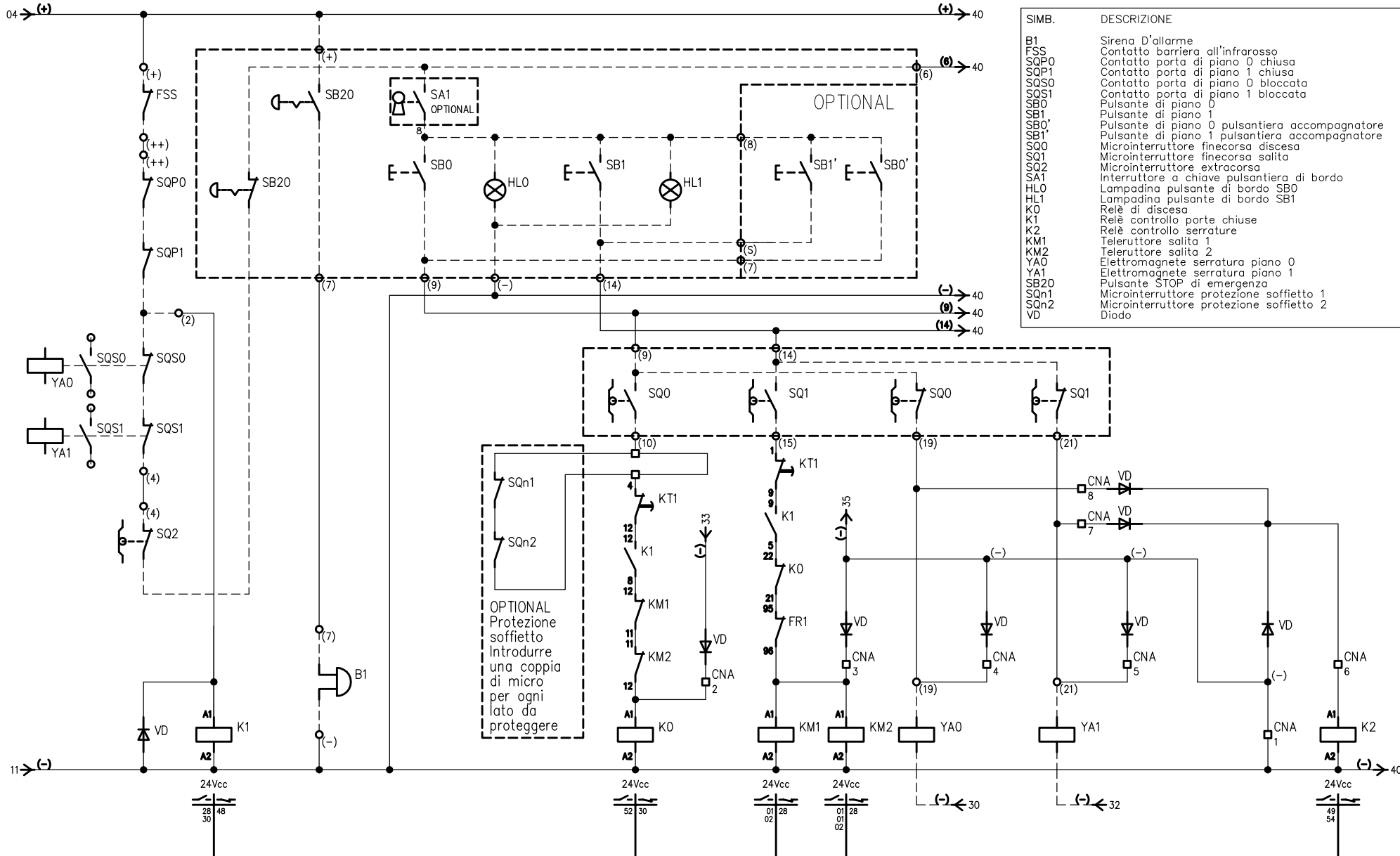
3	2	Faston femmina total. isolato CEMBRE RF-F 608P	
2	0.4m	Cavo unipolare 1mmq rosso	23C400028
1	2	Pulsantiera di piano cablata per elevatore Sirio	43P370007
POS.	N.Pz	DESCRIZIONE	Codice
Kit pulsantiera per interni con scheda			GRUPPO
TEOREMA			Imp.Elettrico
			DATA
			30/09/03
			DISEGNATO
			Vignoli R.
			SCALA
			1:1
			FOLIO
			1 di 1
			53P370000.

extrisma



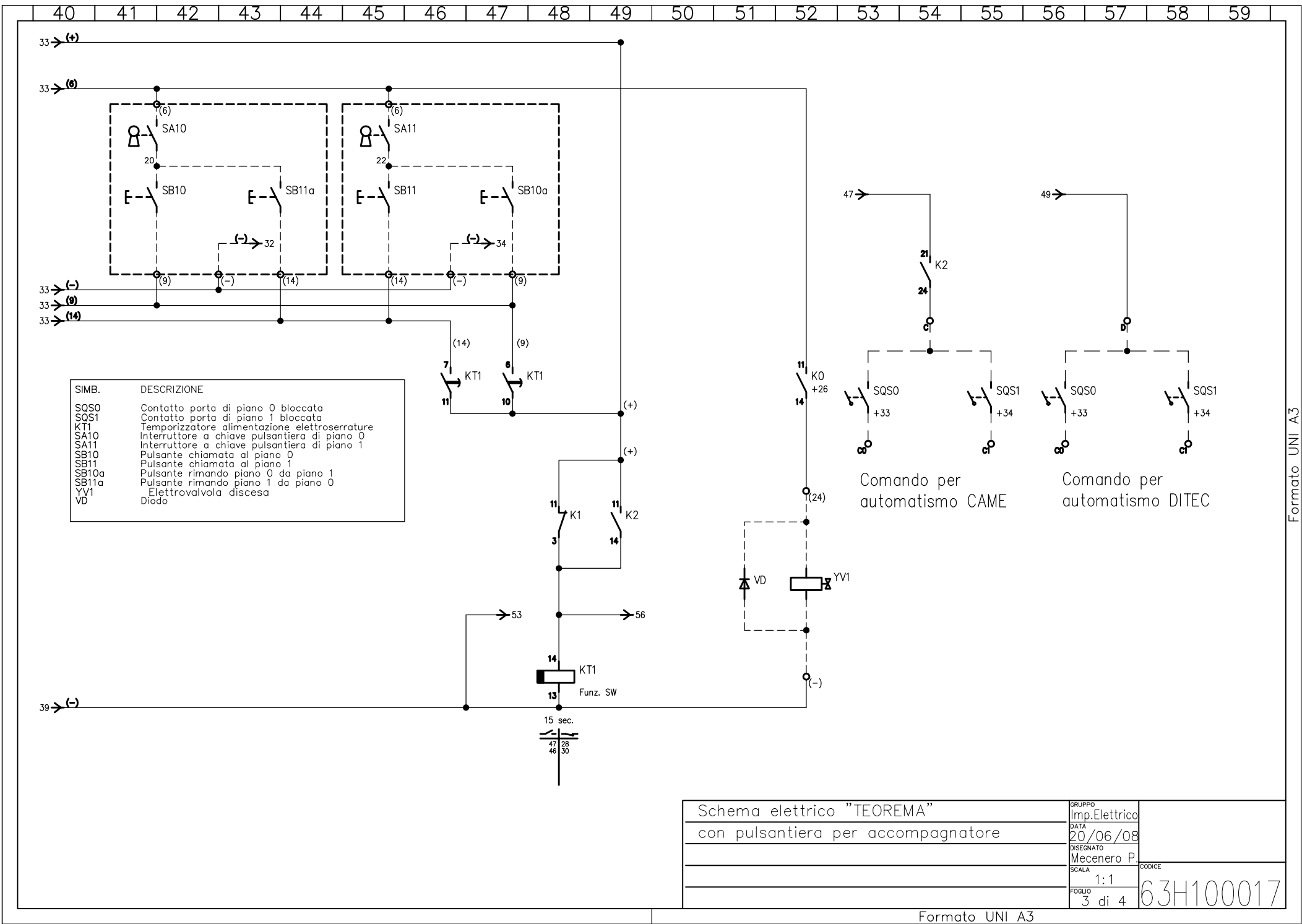
PRELIEVO CODICE	DESCRIZIONE	MATERIALE	
TRATTAMENTO	SCALA	DISEGNATO S. Lui	DATA 09/05/01
SUPERFICI E LAVORAZIONI	PESO kg	LQ	extrisma
VIETATE LE RIPRODUZIONI NON AUTORIZZATE REPRODUCTION NOT PERMITTED AL RIGHT RESERVED		TOLLERANZE GENERALI LINEARI H12 - h12 ANGOLARI $\pm 1'$ DIAMETRO FORI 0 +0,2 RACCORDI R 1,2 SMUSSI 0,5x45°	
DESCRIZIONE	Schema impianto idraulico		CODICE
GRUPPO	Impianto idraulico Teorema 1.6 mt		62C120101





SIMB.	DESCRIZIONE
B1	Sirena D'allarme
FSS	Contatto barriera all'infrarosso
SQP0	Contatto porta di piano 0 chiusa
SQP1	Contatto porta di piano 1 chiusa
SQS0	Contatto porta di piano 0 bloccata
SQS1	Contatto porta di piano 1 bloccata
SB0	Pulsante di piano 0
SB1	Pulsante di piano 1
SB0'	Pulsante di piano 0 pulsantiera accompagnatore
SB1'	Pulsante di piano 1 pulsantiera accompagnatore
SQ0	Microinterruttore finecorsa discesa
SQ1	Microinterruttore finecorsa salita
SQ2	Microinterruttore extracorsa
SA1	Interruttore a chiave pulsantiera di bordo
HL0	Lampadina pulsante di bordo SB0
HL1	Lampadina pulsante di bordo SB1
K0	Relè di discesa
K1	Relè controllo porte chiuse
K2	Relè controllo serrature
KM1	Teleruttore salita 1
KM2	Teleruttore salita 2
YA0	Elettromagnete serratura piano 0
YA1	Elettromagnete serratura piano 1
SB20	Pulsante STOP di emergenza
SQn1	Microinterruttore protezione soffietto 1
SQn2	Microinterruttore protezione soffietto 2
VD	Diodo

Schema elettrico "TEOREMA"		GRUPPO	Imp.Elettrico
con pulsantiera per accompagnatore		DATA	
		DISEGNATO	Mecenero P.
		SCALA	1:1
		FOGLIO	2 di 4
			63H100017



SIMB.	DESCRIZIONE
SQS0	Contatto porta di piano 0 bloccata
SQS1	Contatto porta di piano 1 bloccata
KT1	Temporizzatore alimentazione elettroserrature
SA10	Interruttore a chiave pulsantiera di piano 0
SA11	Interruttore a chiave pulsantiera di piano 1
SB10	Pulsante chiamata al piano 0
SB11	Pulsante chiamata al piano 1
SB10a	Pulsante rimando piano 0 da piano 1
SB11a	Pulsante rimando piano 1 da piano 0
YV1	Elettrovalvola discesa
VD	Diode

Schema elettrico "TEOREMA"		GRUPPO	Imp.Elettrico
con pulsantiera per accompagnatore		DATA	20/06/08
		DISEGNATO	Mecenero P.
		SCALA	1:1
		FOGLIO	3 di 4
			COOICE 63H100017

Formato UNI A3

Numerazione cablaggio
Morsettiera

PE	L	N	PE	L7	N5	24	(-)	(-)	9	14	19	21	6	4	2	++	C	D	L-	L+	PE	+	(-)	4	6	7	9	10	14	15	19	21	PE	+	(-)	PE	(-)	7	L-	L+	PE	L9	N6
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Numero/Colore filo

GV	MA	BL	GV	MA	BL	MA	BL	PE	(-)	2	3	6	7	27	40	4	2	46	52	59	59	GV	1	2	3	4	5	6	7	8	9	10	11	GV	RO	NE	GV	NE	RO	GV	MA	BL
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Sigla del cavo

W0	W1a	W1c	W3	W2																																								
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Ingresso linea 230 V

Motore centralina

Valvola discesa

Comandi piano 0/1

Comandi di bordo

Batterie di emergenza

Suoneria allarme (optional)

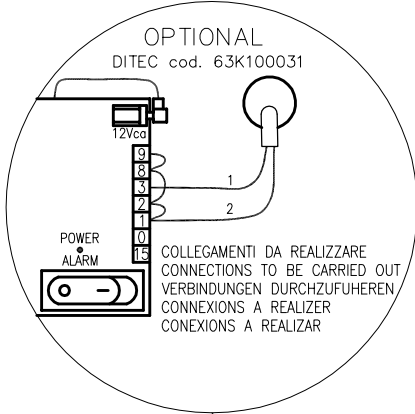
Presa di manutenzione (Optional)

ATTENZIONE:
Collegare filo 59
su morsetto C
per autom. CAME
Collegare filo 59
su morsetto D
per autom. DITEC

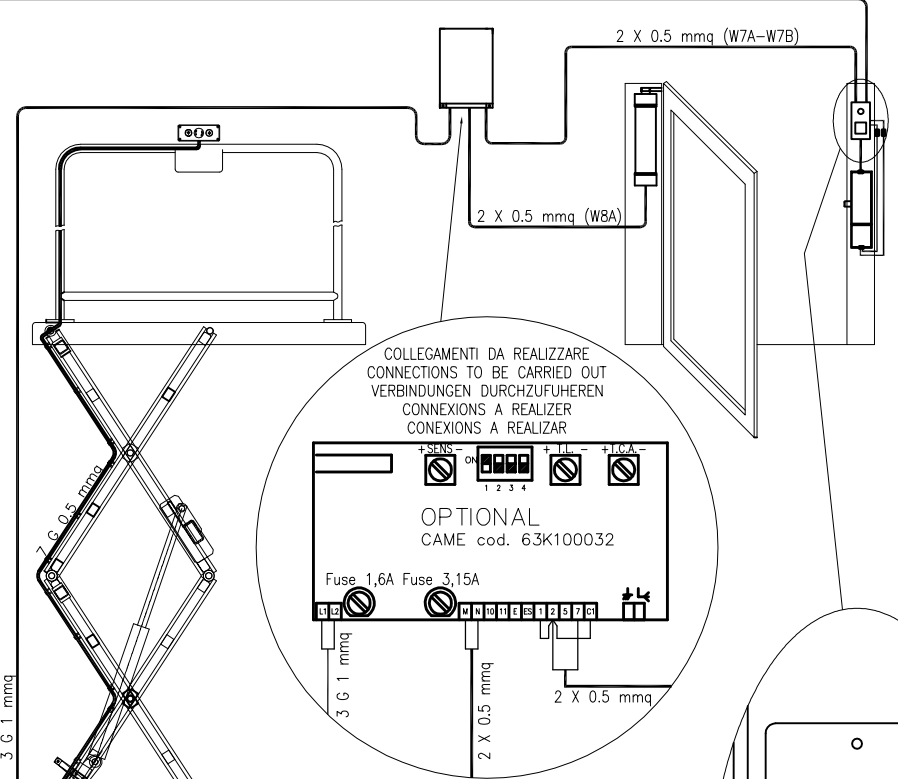
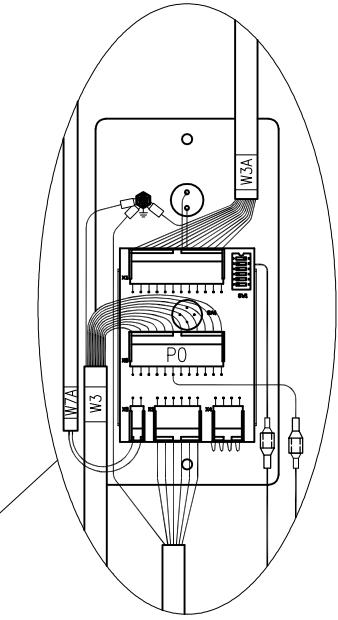
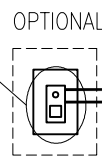
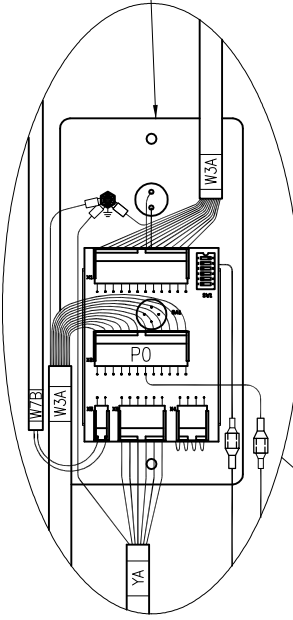
Istruzioni per eseguire le prove di isolamento

- A) Fermare la cabina tra le due fermate;
- B) Mettere l' interruttore generale su OFF;
- C) Scollegare il filo di terra relativo al cavo di alimentazione:
 Circuito ausiliario: verificare l' isolamento verso massa del morsetto "(+)";
 Circuito alimentazione pulsantiera: verificare l' isolamento verso massa del morsetto "6"
 Circuito alimentazione discesa: verificare l' isolamento verso massa del morsetto "9"
 Circuito alimentazione salita: verificare l' isolamento verso massa del morsetto "14"
- D) Chiudere a mano i due teleruttori KM1 e KM2
 Circuito motore di sollevamento: verificare l' isolamento verso massa del morsetto "L7"
 Verificare l' isolamento reciproco tra i morsetti "(+)" e "L7", "6" e "L7", "9" e "L7", "14" e "L7".

Schema elettrico "TEOREMA"	GRUPPO	extrisma
con pulsantiera per accompagnatore	Imp.Elettrico	
	DATA 20/06/08	
	DISEGNATO Mecenero P.	
	SCALA 1:1	CODICE 63H1000017
	FOGLIO 4 di 4	

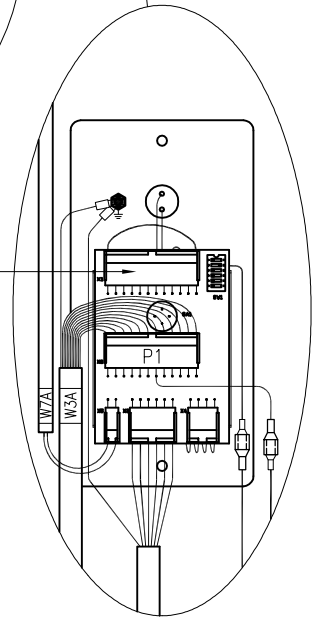


Installazione x interno Indoor installation Innerer installation Installation pour intérieur Instalacion por interior	43P370007 31S010001
Installazione x esterno Outdoor installation Äußerer installation Installation pour extérieur Instalacion por exterior	43P370040 31S010002



INSERIRE CONNETTORE cod. 33C240000
INSERT CONNECTOR cod. 33C240000
INSERIRE CONNETTORE cod. 33C240000
INSERER LIAISON cod. 33C240000
INSERTAR CONECTOR cod. 33C240000

W1a	33G090002
W1c	33G090003
W2	33G090054
W3	33G090098
W3A	33G090094 (L=4m)
	33G090095 (L=6m)
	33G090096 (L=8m)
	33G090097 (L=10m)
W7A	33G090041 (L=2.3m)
W7B (optional)	33G090152 (L=10m)
W8A	33G090045
YA	33G090037



E' VIETATA OGNI RIPRODUZIONE NON ESPRESSAMENTE AUTORIZZATA
EVERY REPRODUCTION NOT EXPRESSING AUTHORIZED IT'S FORBIDDEN
IL EST INTERDIT TOUTS LES REPRODUCTIONS NE PAS EXPRESSMENT AUTORISE

GRUPPO Imp.Elettrico

DATA 20/10/03

DESCRIZIONE Schema installazione impianto elettrico

TEOREMA 2 piani

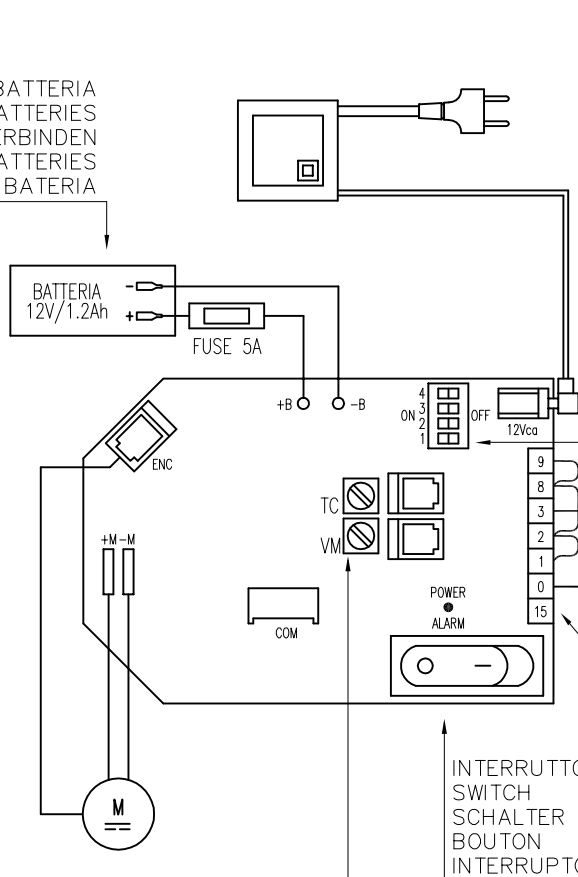
DESIGNATO Vignoli R.

SCALA 1:1

FOGLIO 1 di 1

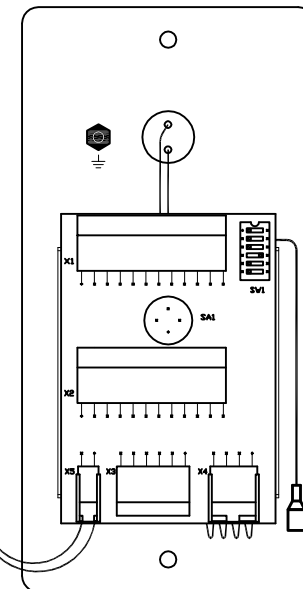
CODICE 63H100011/a.

COLLEGARE BATTERIA
TO CONNECT BATTERIES
DIE BATTER VERBINDEN
CONNECTER LES BATTERIES
CONECTAR LA BATERIA



DIP/A	DIP/B
PORTA SINISTRA LEFT DOOR LINKE TÜR PORTE GAUCHE PUERTA IZQUIERDA	PORTA DESTRA RIGHT DOOR RECHTE TÜR PORTE DROITE PUERTA DERECHA

COLLEGAMENTI DA REALIZZARE
CONNECTIONS TO BE CARRIED OUT
VERBINDUNGEN DURCHFÜHREN
CONNEXIONS A REALIZER
CONEXIONS A REALIZAR



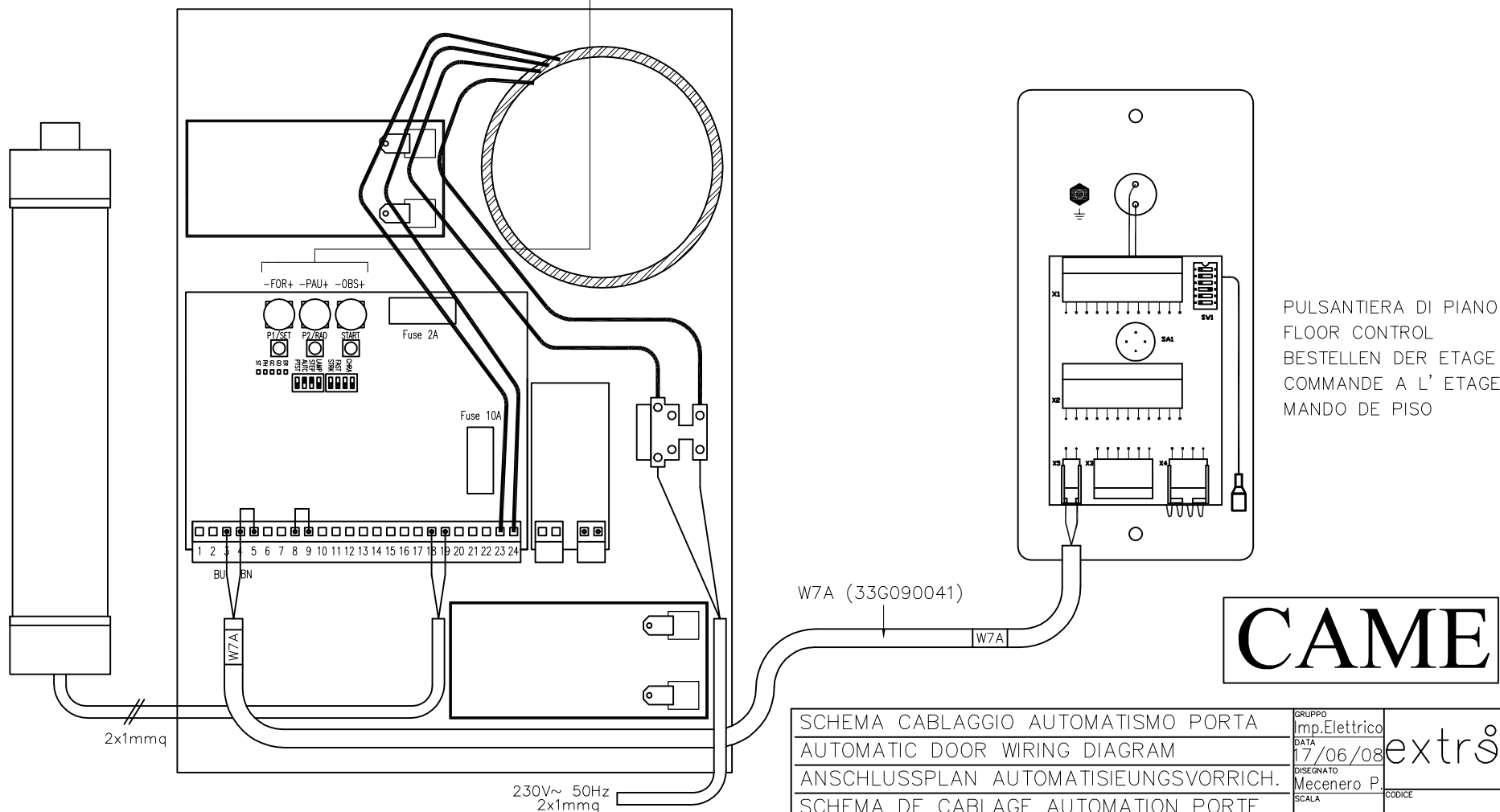
PULSANTIERA DI PIANO
FLOOR CONTROL
BESTELLEN DER ETAGE
COMMANDE A L' ETAGE
MANDO DE PISO

VM	TC
REGOLAZIONE VELOCITA' MOVIMENTO MOVEMENT SPEED ADJUSTMENT REGULIERUNG DER LAUFGESCHWINDIGKEIT REGLAGE VITESSE DU MOUVEMENT REGULACION VELOCIDAD DE MOVIMIENTO	TEMPO CHIUSURA AUTOMATICA AUTOMATIC CLOSURE TIME AUTOMATISCHE SCHLIEBZEIT TEMPS DE FERMETURE AUTOMATIQUE TIEMPO DE CIERRE AUTOMATICO

DITEC

SCHEMA CABLAGGIO AUTOMATISMO PORTA	GRUPPO Imp. Elettrico	extrisma
AUTOMATIC DOOR WIRING DIAGRAM	DATA 16/06/08	
ANSCHLUSSPLAN AUTOMATISIEUNGSVORRICH.	DISEGNATO Mecenero P.	CODICE
SCHEMA DE CABLAGE AUTOMATION PORTE	SCALA	
ESQUEMA ALAMBRICO AUTOMACION PUERTAS	FOGLIO 1/1	63H100018

FOR	PAU	OBS
REGOLAZIONE FORZA DI SPINTA THRUST FORCE ADJUSTMENT DRUKKRAFTSEINSTELLUNG REGLAGE DE LA FORCE DE FERMETURE GRABACION DE LA FUERZA DE CIERRE	TEMPO CHIUSURA AUTOMATICA AUTOMATIC CLOSING TIME AUTOMATISCHE SCHLIESSZEIT TEMPS DE FERMETURE AUTOMATIQUE TIEMPO DE CIERRE AUTOMATICO	RILEVAMENTO SENSIBILITA' OSTACOLO OBSTACLE SENSIVITY DETECTION ERFASSUNG HINDERNISEMPFINDLICHKEIT DETECTION SENSIBILITE' OBSTACLE DETECCION SENSIBILIDAD A OBSTACULOS
- REGOLARE IL TRIMMER PARTENDO DAL MASSIMO (-) - ADJUST THE TRIMMER STARTING FROM MAXIMUM (-) - TRIMMER VON HÖCHSTWERT NACH UNTEN EINSTELLEN (-) - REGLER LE TRIMMER A PARTIR DU MAXIMUM (-) - MANDAR EL TRIMMER DAL MAXIMO (-)	- REGOLARE IL TRIMMER PER TEMPO PORTA APERTA - ADJUSTING THE TRIMMER FOR TIME OPENING DOOR - TRIMMER FÜR TÜRÖFFNUNGSZEIT EINSTELLEN - REGLER LE TRIMMER POUR LE TEMP DE PORTE OUVERTE - MANDAR EL TRIMMER POR TIEMPO DE PUERTA ABIERTA	- REGOLARE IL TRIMMER AL MASSIMO (+) - ADJUSTING THE TRIMMER AT THE MAXIMUM (+) - TRIMMER BIS HÖCHSTWERT EINSTELLEN (+) - REGLER LE TRIMMER AU MAXIMUM (+) - MANDAR EL TRIMMER AL MAXIMO (+)



SCHEMA CABLAGGIO AUTOMATISMO PORTA	GRUPPO Imp. Elettrico	extrisma
AUTOMATIC DOOR WIRING DIAGRAM	DATA 17/06/08	
ANSCHLUSSPLAN AUTOMATISIEUNGSVORRICH.	DISEGNATO Mecenero P.	CODICE 63H100019
SCHEMA DE CABLAGE AUTOMATION PORTE	SCALA	
ESQUEMA ALAMBRICO AUTOMACION PUERTAS	FOGLIO 1/1	

Procedura di programmazione quadro di comando PRASTEL per automatismo CAME

1. Porre l'anta in posizione intermedia;
2. RESET: Premere il pulsante P1/SET per 2 sec. Il LED giallo lampeggia;
3. Entro 5 secondi, premere il pulsante P1/SET per 1 sec. Il LED giallo si accende fisso;
4. La centrale esegue una breve apertura. NB: se i motori girano al contrario, invertire i fili del motore e ricominciare la procedura da RESET;
5. La centrale esegue la chiusura dell'anta; premere il pulsante P1/SET al momento in cui si richiede l'arresto dell'anta;
6. La centrale esegue l'apertura dell'anta dopo 1 secondo di pausa: premere il pulsante P1/SET al momento in cui si richiede l'arresto dell'anta;
7. La centrale esegue la chiusura dell'anta dopo 1 secondo di pausa; premere il pulsante P1/SET al momento in cui si richiede l'arresto dell'anta;
8. Il LED giallo si spegne.

Learning procedure for control unit PRASTEL driving power doors CAME

1. Position the gate half open;
2. RESET: press and hold the programming button P1/SET for 2 seconds; yellow LED flashes;
3. Within 5 seconds, press the programming button P1/SET for 1 second; yellow LED stays on;
4. The leaf briefly opens; ATT: if motor turns in reverse, invert wires and start procedure again from RESET;
5. The leaf closes; press the button P1/SET when you want to stop the leaf.
6. After 1 second, the leaf opens; press the button P1/SET when you want to stop the leaf;
7. After 1 second, the leaf closes; press the button P1/SET when you want to stop the leaf.
8. The yellow LED switches off.

Procédure d'apprentissage pour armoire de commande PRASTEL pour automatisme CAME

1. Mettre le vantail en position intermédiaire;
2. RESET: presser le bouton P1/SET pendant 2 sec.; le LED jaune clignote;
3. Dans les 5 sec., presser le bouton P1/SET pendant 1 sec.; le LED jaune s'allume au fixe;
4. La centrale effectue une brève ouverture; ATT: si le moteur tourne en sens contraire, inverser les fils du moteur et recommencer la procédure de RESET;
5. La centrale effectue la fermeture du vantail ; appuyer sur le bouton P1/SET quand la vantail doit s'arrêter;
6. La centrale effectue l'ouverture du vantail; appuyer sur le bouton P1/SET quand la vantail doit s'arrêter;
7. La centrale effectue la fermeture du vantail ; appuyer sur le bouton P1/SET quand la vantail doit s'arrêter;
8. Le LED jaune s'éteint

Programmierprozedur der Schalttafel PRASTEL für CAME Türöffner

1. Stellen Sie den Flügel in die mittlere Position;
2. RESET: Drücken Sie die Taste P1/SET 2 Sekunden, die gelbe LED blinkt;
3. Drücken Sie innerhalb von 5 Sekunden die Taste P1/SET 1 Sekunde; die gelbe LED leuchtet auf;
4. Die Zentrale führt eine kurze Öffnung aus. Wenn die Motoren in entgegengesetzter Richtung drehen, kehren Sie die Drähte des Motors um und beginnen erneut mit der RESET Prozedur;
5. Die Zentrale schließt den Flügel; die Taste P1/SET drücken, wenn der Flügel halten muß.
6. Die Zentrale öffnet den Flügel nach 1 Sekunde; die Taste P1/SET drücken, wenn der Flügel halten muß.
7. Die Zentrale schließt den Flügel nach 1 Sekunde; die Taste P1/SET drücken, wenn der Flügel halten muß.
8. Die gelbe LED leuchtet zu.



VERTICAL PANTOGRAPH PLATFORM

TEOREMA

USER AND MAINTENANCE MANUAL

SPARE PARTS CATALOGUE



GENERAL SAFETY RULES

These safety rules are an integral part of the product. Read the information in this manual carefully since it provides important instructions for safety during use and maintenance of the system. Keep these instructions in a safe place and ensure that anyone operating the machinery is familiar with them. This product should be used only for the specific purpose for which it is designed: any other use is improper and hazardous.

The manufacturer will not be held liable for damages caused by improper, incorrect or unreasonable use. Do not allow children to play or stand about in the area of action of the floor doors; do not allow unaccompanied children to use the elevator. In case of failure or malfunction of the product, disconnect the power switch and do not attempt to repair the machine yourself; contact authorised professional technicians for this purpose. All maintenance and repairs must be done only by professional technicians, authorised for the purpose. To ensure the efficient and correct operation of the plant, observe the manufacturer's instruction regarding scheduled maintenance by authorised technicians; in particular, all safety equipment must be regularly checked. All installation, maintenance and repair work must be registered and the registers made available to the user.

Failure to comply with the above may generate hazards

Contents of the manual

- 1/ Conformity
- 2/ Characteristics and description of the machine
- 3/ Identification plate data
- 4/ Technical service
- 5/ Commissioning
- 6/ Proper and improper use
- 7/ Correct use of the elevator
- 8/ Safety systems
- 9/ Emergency operation by the user
- 10/ Vibration and noise
- 11/ Wiring and hydraulic circuit diagrams
- 12/ Maintenance and inspections
- 13/ Disposal of substances and waste materials

1) CONFORMITY

With the aim of ensuring the highest levels of safety for the user, the design of the machinery and the installation of the TEOREMA vertical pantograph platform have been executed in accordance with the following safety regulations and legislation.

Machine: European Machinery Directive 98/37
European Electromagnetic Compatibility Directive 86/336
Italian Ministerial Decree 89/236
Standard Governing Vertical Elevators For Disabled Persons ISO 9386 - 1
Standard Governing Vertical Elevators For Disabled Persons TUV 103 - A
Machinery Safety Standard EN 292 - 1 - 2
Machinery Safety Standard EN 418
Standard Governing Electrical Equipment Of Machinery EN 60204

2) CHARACTERISTICS

Components of the plant:

Fixed parts: Base frame
floor doors
fixed guards
Moving parts: footplate
lift cylinder
pantograph framework
Control parts: hydraulic power pack
electrical cabinet
control panel

Specifications:

Direction of travel: up/down – hydraulically driven
Speed: 0.05 -0 .1 m/sec.
Capacity: 1 person in wheelchair plus 1 attendant
Load: 300 daN max
Normal duty cycle: 30 cycles per hour
Ambient conditions: -10°C to +60°C - max. humidity 70%
On-board controls: floor selection buttons
locking emergency stop button
Floor controls: lift call button
key-switch

With a similar operating principle as a lift, the TEOREMA vertical platform differs due to its limited travel (max. 1.6 m) and for its intended use as transport for disabled persons and their attendants. The footplate is moved by one or more hydraulic cylinders and a pantograph lever mechanism, in either single (travel 0.8 m) or double (travel 1.6 m) versions. The footplate is composed of a platform with slip-resistant surface, and a side guard which mounts the control panel. Due to its low travel speed, hold down controls and the smooth, continuous walls of the shaft, whether pre-existing or installed using specific guard panels, the platform can be used in conformity with established legislation without the need for further (optionally available) guards. The floor doors, which are equipped with electrical locks, permit access to the footplate only when the platform is present at the floor in question (as an option, the 2000 mm high doors can be provided automatic opening/closing mechanisms); only the upper floor can be equipped with a gate of height 1100 mm, which can only be operated manually. The floor doors are equipped with lift call buttons which are key-switch operated.

3) IDENTIFICATION PLATE DATA

-manufacturer	Extrema srl via dell' Industria 2 – 46031 Bagnolo S.Vito (MN) tel. 039 / 0376 / 252443 fax 039 / 0376 / 251091
-model	see data plate
-year of manufacture	see data plate
-serial number	see data plate
-load	300 daN max
-capacity	1 person in wheelchair plus 1 attendant
-speed	0.05 -0 .1 m/sec.
-operating voltage	230 V AC - 50 Hz
-control voltage	24 V DC
-consumption	1 kW max

4) TECHNICAL SERVICE

Stamp of retailer or authorised service agent



5) COMMISSIONING

After installation, final testing and hand-over to the customer, done by authorised technicians, the vertical platform is put into service by moving the mains switch on the electrical cabinet to ON.
In case of lengthy inactivity, we recommend switching off the plant. Move the switch to OFF to switch it off.

6) PROPER AND IMPROPER USE

6.1) Proper use

INSTALLATION:

Internal, in existing shaft, or external with wall-mounted, smooth and continuous guard panels with support frame (if required). The customer is provided with the installation drawings including the static and dynamic load specifications for the plant's operation required for verifying the shaft.



WARNING:

Failure to observe the specifications of the installation design drawings can be the cause of hazard.

USE:

The plant is to be operated by persons physically and psychologically capable of doing so in safety, and who are familiar with the operation of the plant, its user and maintenance instructions, and its associated equipment.



WARNING:

If the plant is to be used by a person who is not self-sufficient, it must be operated by an attendant.

6.1) Improper use

INSTALLATION:

Do not install the plant in areas subject to the risk of flooding or explosion.



WARNING:

The Manufacturer declines all responsibility for damages and injury to animals or persons if he is not informed of the above risks.

USE:

Use of the plant by unauthorised persons.
Transporting loads on the platform.
Overloading the machine.



WARNING:

Do not pour liquids or insert foreign bodies into the holes or slots and do not make unauthorised modifications.

7) CORRECT USE OF THE ELEVATOR



WARNING:

Use the plant in accordance with the proper use specifications of paragraph 6. Read this manual thoroughly before operating the system. Store this manual on the machine.

FLOOR CONTROLS

Button control panel located next to the floor door:

- key-switch for enabling the controls
turn the key clockwise to enable the call button
(red light on button)
- hold-down call button
when pressed, moves the footplate automatically to the floor

After having enabled the control panel with the key-switch, hold down the button until the footplate arrives at the floor where it will automatically halt and release the electric door lock to permit access to the platform. An optional motor is available to automatically open and close the 2000 mm high doors.



WARNING:

Check that in the range of operation of the floor door there are no obstacles or impediments which may cause damage or personal injury.

ON-BOARD CONTROLS

Button control panel located on one of the footplate's side guards:

- hold-down travel button
when pressed, moves the footplate automatically to the floor marked on the button itself
(floor 0 is always the lowest floor)
- red emergency STOP button
when pressed, locks down and instantly halts the footplate in position whatever the direction of travel;
to reset the controls, turn clockwise until it releases

After the door has completely closed, hold down the button until the footplate arrives at the chosen floor where it will automatically halt and release the electric door lock to permit disembarkation.



WARNING:

The position of the wheelchair occupant must allow for access to the on-board controls and must be as far away as possible from areas not protected by the vertical shaft walls. Avoid accidental movements by applying the wheelchair brakes.



WARNING:

Do not introduce parts of the body or other objects through the gaps between the fixed and moving parts (footplate/guards).



WARNING:

Do not operate the vertical platform unless there is someone in the vicinity who is familiar with the operation of the manual emergency controls.

IN GENERAL

Holding down the control button once the floor has been reached releases the electric door lock so that it can be opened.

The lock release is timed and times out after the footplate has been stationary at the floor for 15 seconds. If the passenger does not open the door within this period, he must press the button for the floor in question a second time to release the door lock anew.



WARNING:

The system may be used only by authorised persons equipped with the floor control enable key, which must be removed from the key switch after each use.

8) SAFETY SYSTEMS

MECHANICAL SAFETIES

Size of structure = designed as required by technical standards

Doors unlockable from outside = use the provided triangular key to open the door with the platform not present at the floor in question, for maintenance purposes; an electrical contact detects the manual lock release and deactivates the plant, to reactivate the plant the lock must be returned to its previous state.



WARNING:

**Falling hazard!
This operation is only for personnel authorised to service the plant.**

Artificial pit = created by fitting spacers into the lift shaft so as to provide adequate space for the maintenance personnel to work in safety.



WARNING:

**Crushing hazard!
Use of the pit and the spacers is permitted only to personnel authorised to service the plant (see data plate).**

HYDRAULIC SAFETIES

Size of components = designed as required by technical standards

Check valve = in the hydraulic circuit, prevents hydraulic fluid overflows from the pump

Speed control valve = ensures, independently of the load, that the downwards speed of the platform remains within the limits established by the technical specifications

Max. pressure valve = disables upwards travel of the platform with the footplate overloaded: to reset the valve, remove the excess load from the platform

Mechanical safety brake valve = in the lift cylinder, cuts in if the hydraulic hoses rupture to prevent the platform falling


Emergency down valve = actuated manually, permits descent of the footplate when operated by a trained technician from outside the platform, and also serves for maintenance operations



WARNING:

Fall, crushing, shearing hazard! Before operating the manual emergency down valve, make sure that all floor doors are closed and that no-one/nothing is inside the elevator shaft (see data plate).

ELECTRICAL SAFETIES

Size of components =	designed as required by technical standards
Safety/control circuit =	low operating voltage
Overtravel cam =	stops upwards travel of the platform after the footplate itself has passed the top floor, and deactivates the plant.
 WARNING:	For rescue of the passengers, refer to the preceding section “Emergency down valve”. In order to reactivate the plant, contact your authorised service centre.
Door sensor =	checks that the floor doors are closed so as to enable footplate travel.
Lock closure sensor =	enables operation of the footplate only if the locks are closed.
Emergency stop button =	when pressed, locks down and immediately halts the footplate in position, whatever the direction of travel; to reset, turn clockwise until it releases.
On-board alarm beeper =	connected, according to the customer’s specifications, to an alarm device (optional).

9) EMERGENCY OPERATION BY THE USER

OPERATION FROM THE FLOORS

If, when the call button is released, the platform continues to travel, disable the control by turning the key-switch key counterclockwise to OFF.



WARNING:

If this is not done as soon as may be, the footplate will continue to travel (up or down) until it engages the safety sensors which deactivate the entire plant and require the intervention of an authorised technician to be reset. To rescue any passengers who may have been trapped on board the platform, refer to the previous section “Emergency down valve”. This operation is only necessary when the control circuit is malfunctioning: immediately contact an authorised service technician to have the plant overhauled.

ON-BOARD OPERATION

If, when the travel button is released, the platform continues to travel, disable the control by pressing the emergency STOP button.



WARNING:

If this is not done as soon as may be, the footplate will continue to travel (up or down) until it engages the safety sensors which deactivate the entire plant. To rescue any passengers who may have been trapped on board the platform, refer to the previous section “Emergency down valve”. This operation is only necessary when the control circuit is malfunctioning: immediately contact an authorised service technician to have the plant overhauled.

In case of electrical power failure, the downwards travel of the platform can be continued by pressing the down button.



WARNING:

Do not do this if there is the possibility that the bottom of the elevator shaft is flooded. The manufacturer is not liable for any damage or personal injury due to failure to observe this precaution.

10) VIBRATION AND NOISE

The body and limbs of the user are subject to low frequency vibrations with very limited accelerations and for short cycles:

These factors are negligible as regards safety.

Noise level measured in the air: **less than 70 dB(A).**

11) WIRING AND HYDRAULIC CIRCUIT DIAGRAMS

The wiring and hydraulic circuit diagrams are provided as attachments to the documentation supplied with the machine.

12) MAINTENANCE AND INSPECTIONS



WARNING:

To ensure an adequate level of safety, observe the specified maintenance intervals and use original spare parts.

Maintenance is divided into two types:

USER MAINTENANCE

- Normal cleaning (use a cloth with biodegradable detergent)



WARNING:

Before cleaning the plant, always disable the system by turning the mains switch on the electrical cabinet to OFF.

MONTHLY INSPECTIONS:

- Check the operation of the floor control panel enabling keys
turning the key to OFF should disable the controls
- Check the operation of the emergency STOP button
pressing the button should disable the on-board and floor controls



WARNING:

If the plant does not pass these checks, disable the system by turning the mains switch on the electrical cabinet to OFF and contact your authorised service centre immediately.

MAINTENANCE TO BE DONE BY AUTHORISED TECHNICIANS

SIX-MONTHLY INSPECTIONS:

- Check the operation of the mechanical safeties:
(unlocking the doors from outside, stability of rails and fastenings, grease rails).
- Check the operation of the hydraulic safeties:
(max. pressure valve, mechanical safety brake valve on cylinder, emergency down valve, check power pack oil level).
- Check the operation of the electrical safeties:
(overtravel cam, doors, footplate at floor, door lock operation, emergency STOP, on-board and floor controls)



WARNING:

Before entering the interior of the elevator shaft, disable the system by turning the mains switch on the electrical cabinet to OFF.

13) DISPOSAL OF SUBSTANCES AND WASTE MATERIALS

- The plant does not contain toxic substances in need of special disposal.
- All spare parts, such as cables, cams, etc. in rubber and plastic, should be delivered to authorised collection and disposal centres as provided by established legislation
- Exhausted oils and greases should be delivered to authorised collection and disposal centres as provided by established legislation.