FROMM

ELS FS360 FROMM
TURNTABLE STRETCH MACHINE
ELS.1129 Motorized Carriage
V01 Machines
from Serial Number 01.00961

Website : www.fromm-stretch.com

Print date / © 08/20

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MODEL : FROMM FS360 Motorized Carriage Custom Board

KIND OF CIRCUIT		COLORS CONDUCTORS	MINIMUM SECTION
POWER CONDUCTORS AC		BLACK	N07V-K/1,5mm²
NEUTRAL CONDUCTORS		LIGHT BLUE	N07V-K/1,5mm²
POWER CONDUCTORS DC		GRAY	N07V-K/0,75mm²
CONTROLS / SIGNALS DIRECTING CURRENT	24V DC	BLUE	N07V-K/0,75mm²
GROUND CONDUCTORS		YELLOW-GREEN	N07V-K/1,5mm²

TENSIONE POWER SUPPLY	230V ac
POTENZA INSTALLATA INSTALLED POWER	1kW
CORRENTE CURRENT	5,5A

FROMM ITALIANA s.r.l.
Caprino Veronese (VR)
ITALY

FROMM

ELS.1129

FOGLIO 1
T.F. 17

FILE : ELS.1129.dwg

PROGETTO
BANCA DIS.
TIPICO

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REV.	MODIFICA	DATA	FIRMA

DATA 13/01/2020
DISEGN. SCIENZA S.
VISTO
APPR.

FROMM

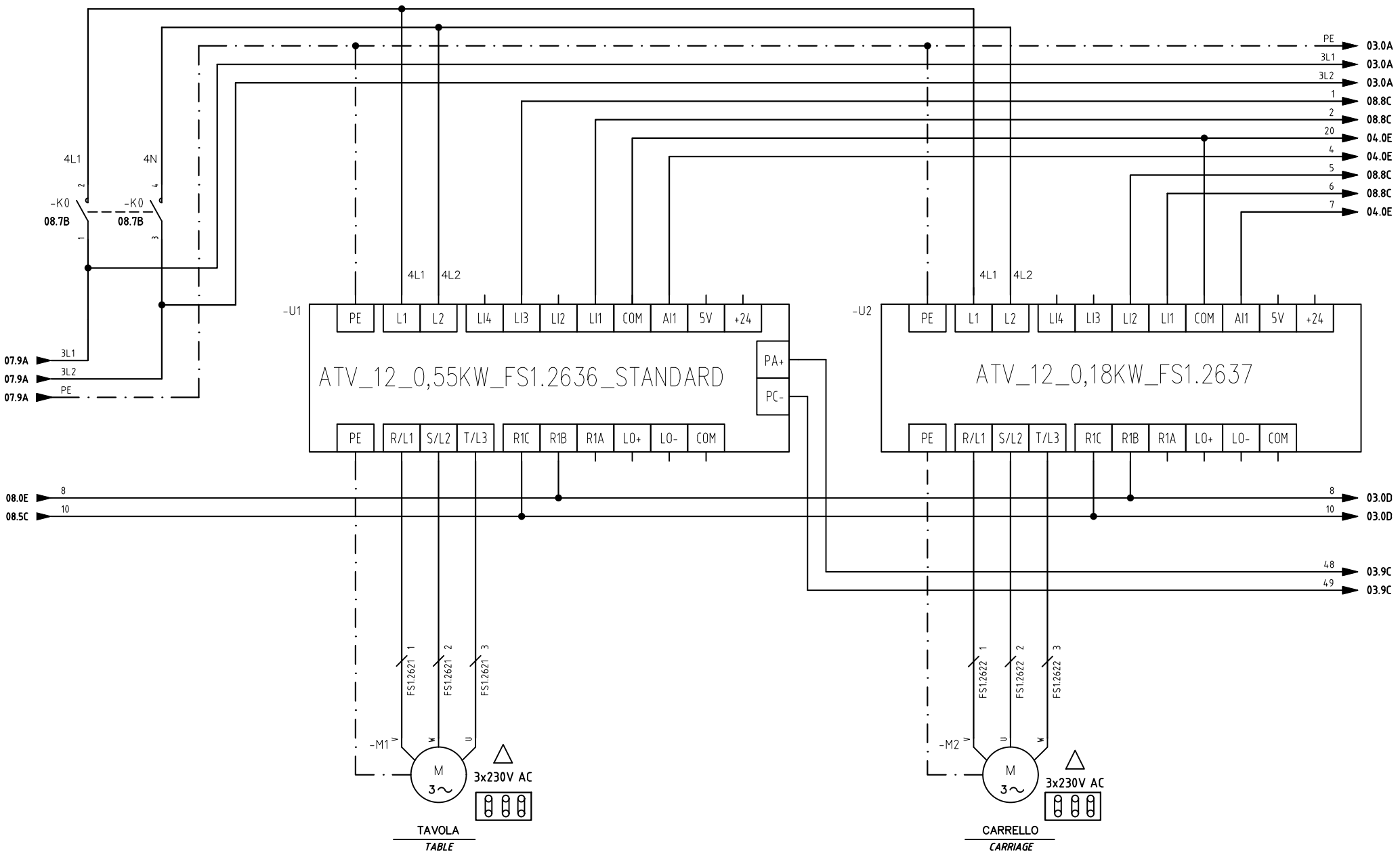
SOST. IL :
SOST. DA :
FILE : ELS.1129.dwg

FS360 motorized carriage
rev2 Custom Board

ELS.1129

=
+

FG. 01 F.S. 02
F.T. 17



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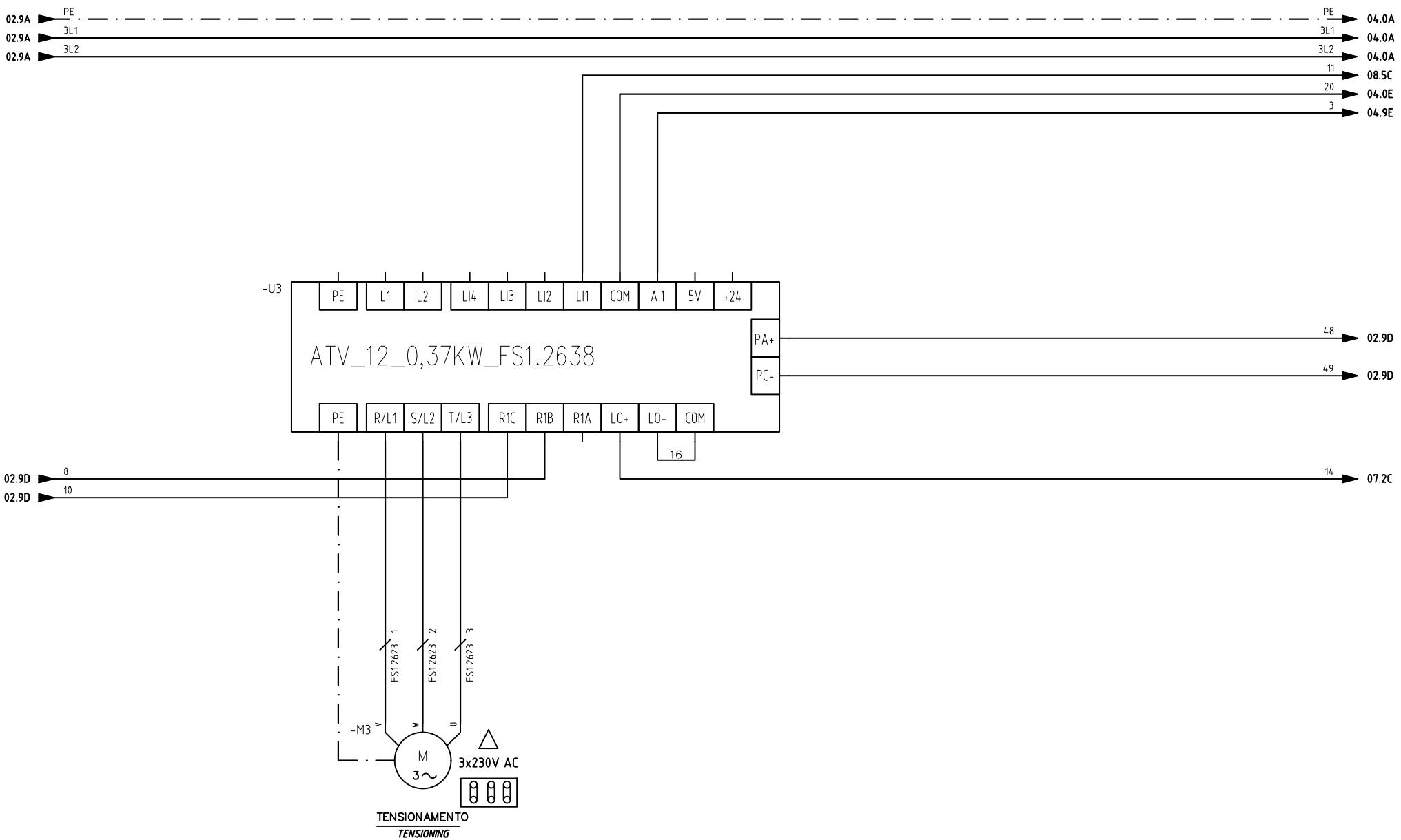
				VISTO						FG. 02 / F.S. 03
REV.	MODIFICA	DATA	FIRMA	APPR.		SOST. IL :	SOST. DA :	FILE : ELS.1129.dwg		F.T. 17



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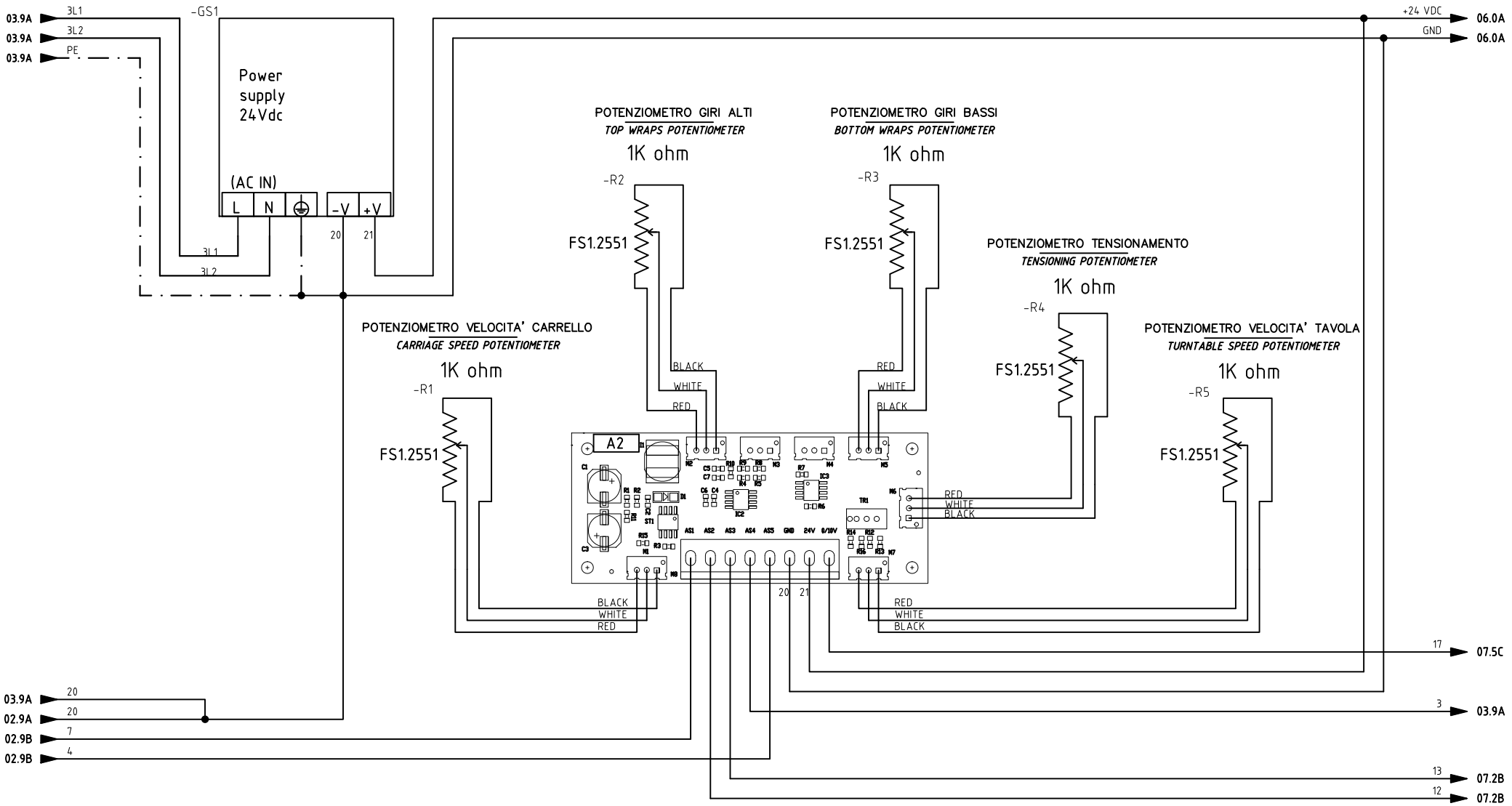

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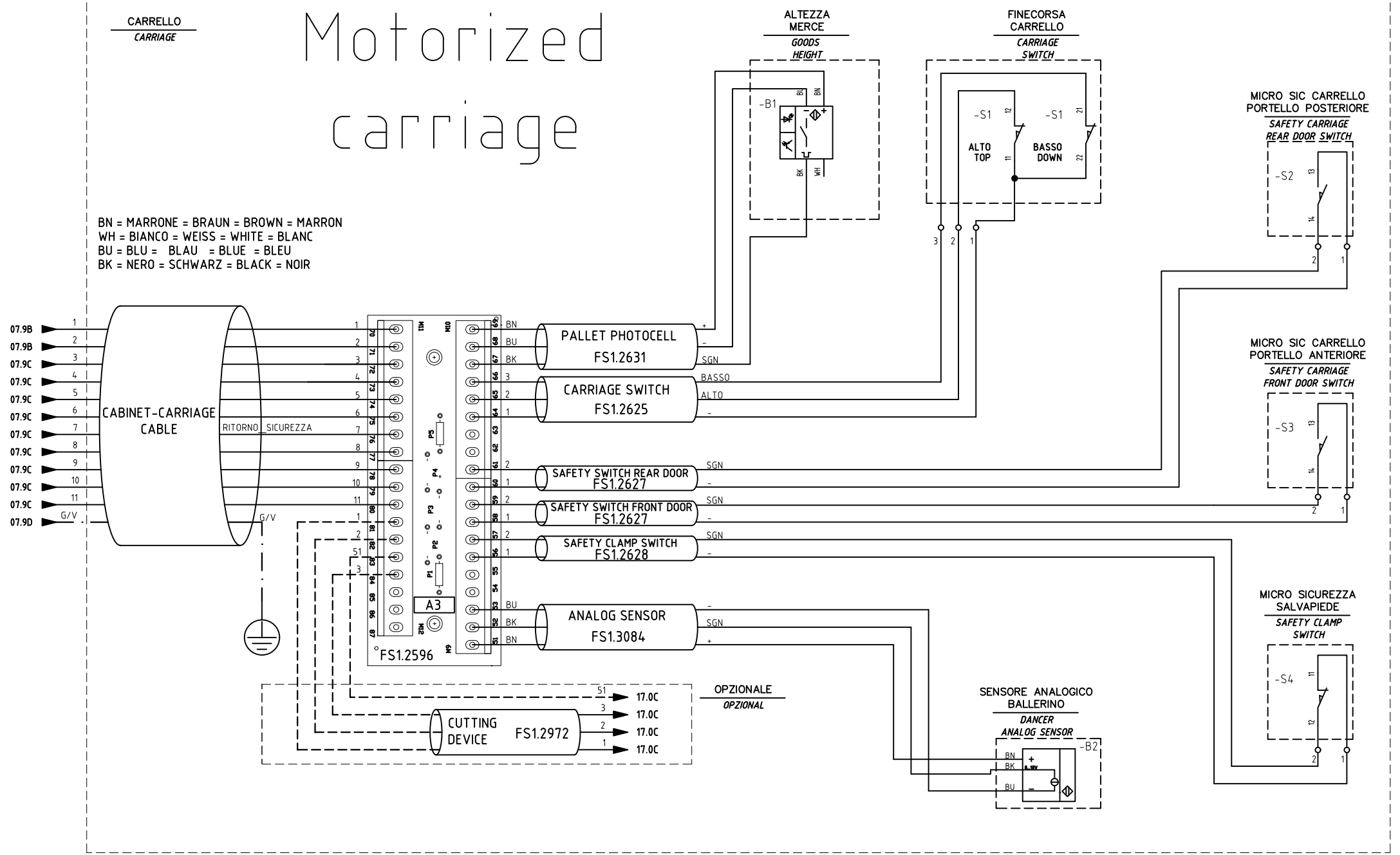
REV.	MODIFICA	DATA	FIRMA	APPR.		SOST. IL :	SOST. DA :	FILE : ELS.1129.dwg		F.T. 17

CARRELLO
CARRIAGE

Motorized carriage

BN = MARRONE = BRAUN = BROWN = MARRON
WH = BIANCO = WEISS = WHITE = BLANC
BU = BLU = BLAU = BLUE = BLEU
BK = NERO = SCHWARZ = BLACK = NOIR



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				VISTO					
REV.	MODIFICA	DATA	FIRMA	APPR.		SOST. IL :	SOST. DA :	FILE : ELS.1129.dwg	

=	
+	
FG. 05	F.S. 06
	F.T. 17

04.9A 21
04.9A 20
+24VDC 07.0A
GND 07.0A

COMANDO CARRELLO
CARRIAGE COMAND
STOP
UP 1 DOWN
0 1 2
S10-1 -S10-2

SELETTORE MODALITA'
MODE SELECTOR
ONLY
UP UP MAN
DOWN 0 1 2
-S11-2 -S11-1

PULSANTE DI MARCIA
START BUTTON
-S12

PULSANTE DI STOP
STOP BUTTON
-S13

CONTATTO AUX TELERUTTORE
AUXILIARY CONTACT
-K0
08.7B
02.0B
02.0B
06.8A

18
19
23
24
26
27
28

A1

DISPLAY GIRI ALTI
TOP WRAPS DISPLAY
-P1
RED WHITE BLACK

DISPLAY GIRI BASSI
BOTTOM WRAPS DISPLAY
-P2
RED WHITE BLACK

POTENZIOMETRO OVERLAP
OVERLAP POTENTIOMETER
1K ohm
-R6
FS1.2551
RED WHITE BLACK

BLACK
WHITE
RED

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REV.	MODIFICA	DATA	FIRMA
		DATA	13/01/2020
		DISEGN.	SCIENZA S.
		VISTO	
		APPR.	

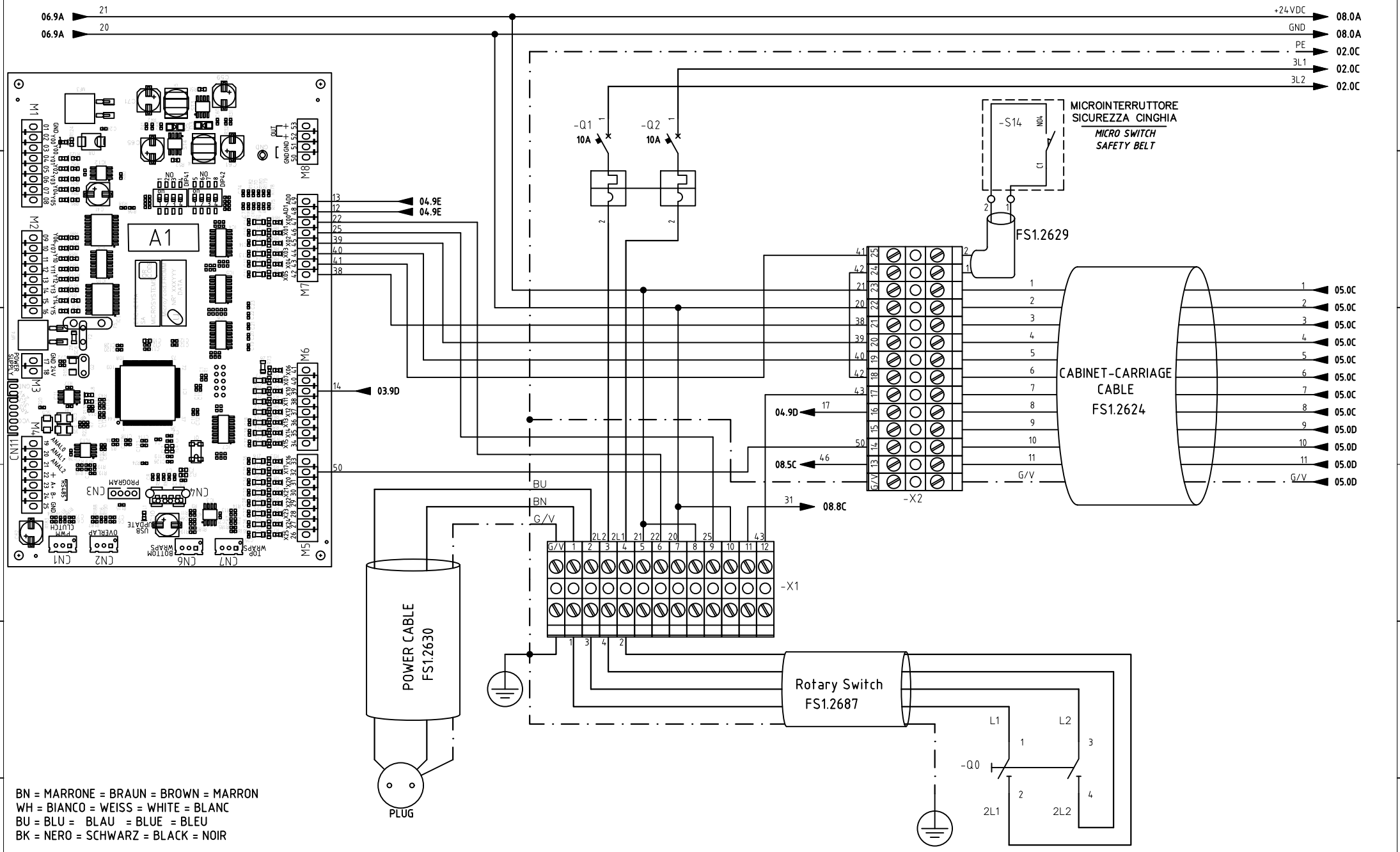
FROMM

SOST. IL : | SOST. DA : | FILE : ELS.1129.dwg

FS360 motorized carriage rev2 Custom Board

ELS.1129

FG. 06 | F.S. 07 | F.T. 17



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				VISTO				
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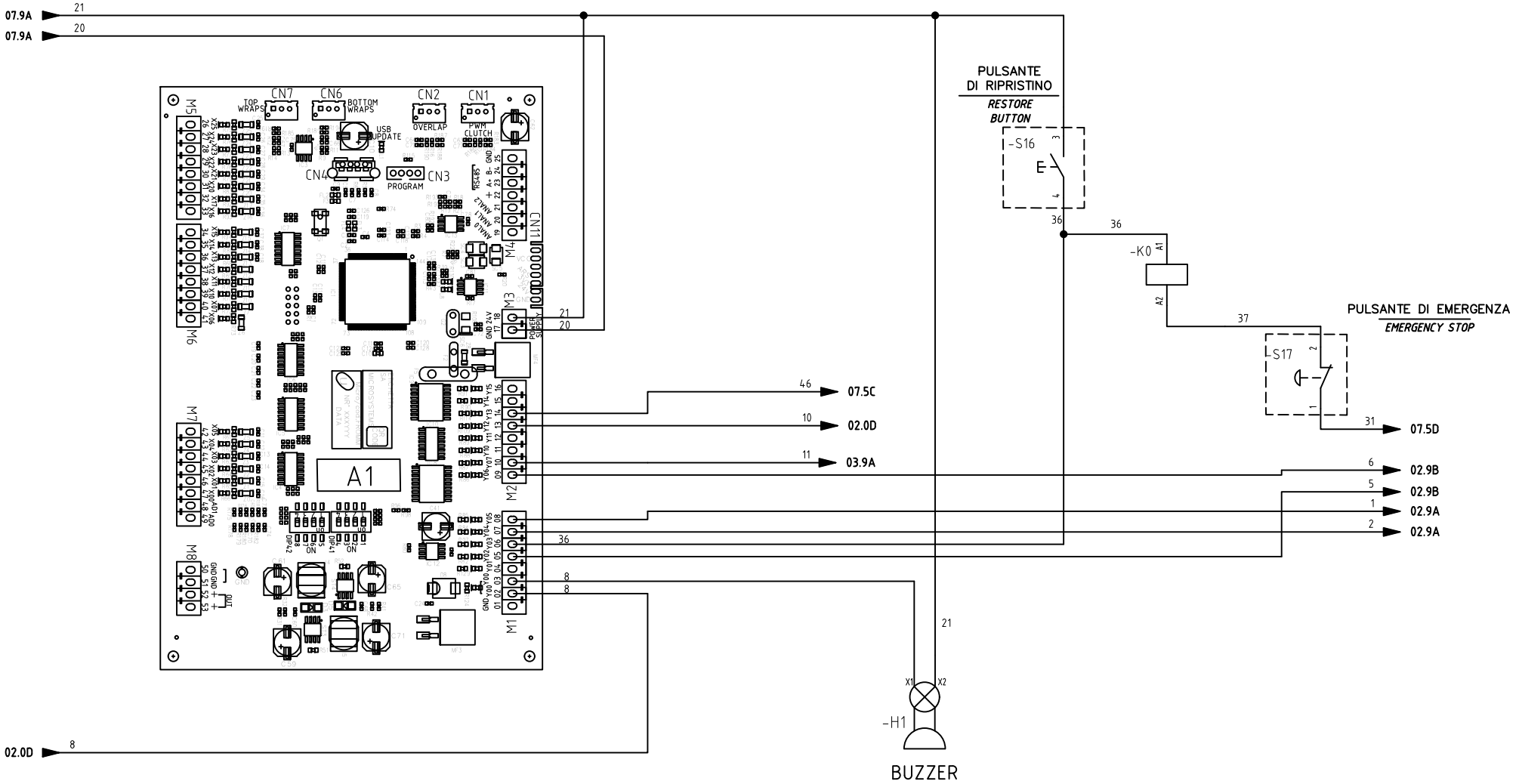
FG. 07 F.S. 08 F.T. 17



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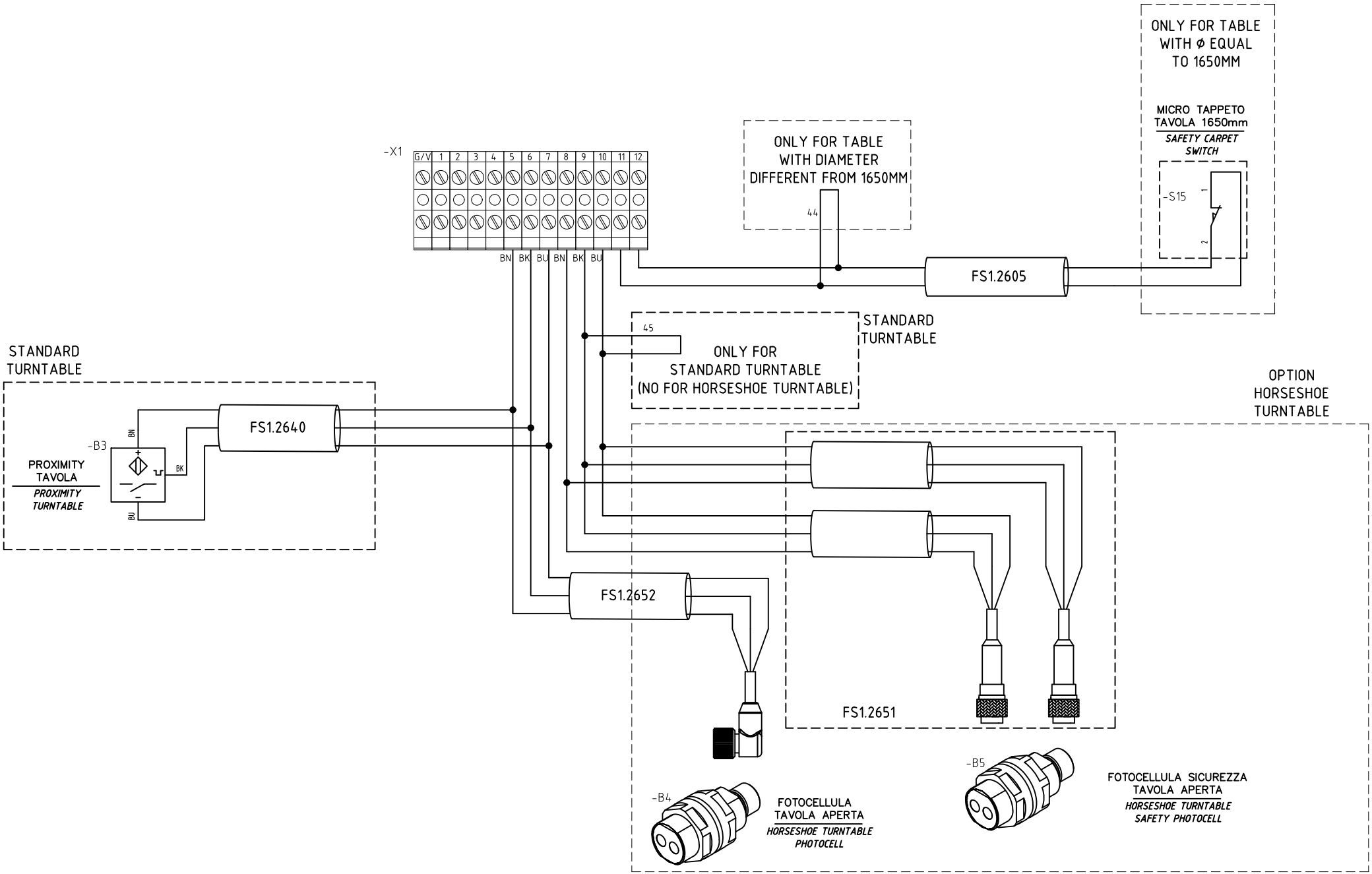
REV.	MODIFICA	DATA	FIRMA	APPR.		SOST. IL :	SOST. DA :	FILE : ELS.1129.dwg			F.T. 17



REV.	MODIFICA	DATA	FIRMA

DATA	13/01/2020
DISEGN.	SCIENZA S.
VISTO	
APPR.	

FROMM

SOST. IL :

SOST. DA :

FILE : ELS.1129.dwg

FS360 motorized carriage rev2 Custom Board

ELS.1129

=

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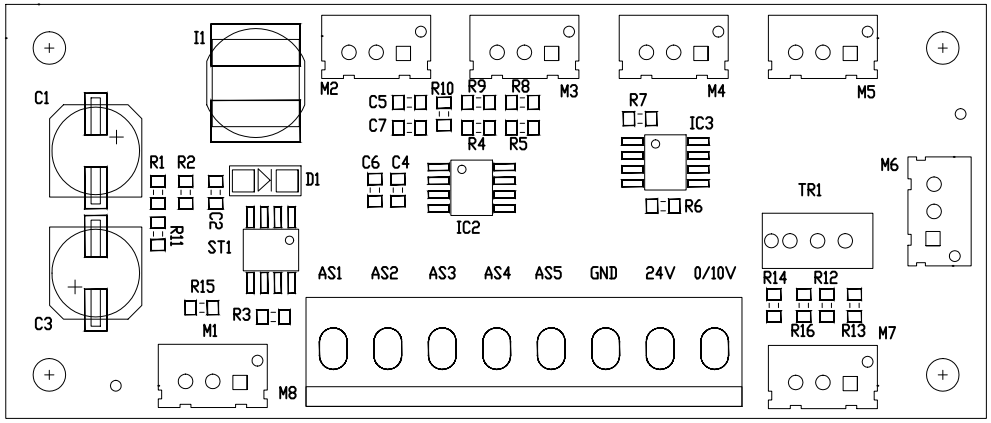
FG. 09 F.S. 10

F.T. 17

FS1.2583



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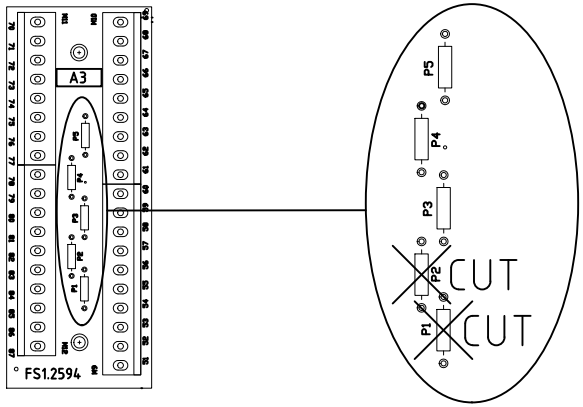
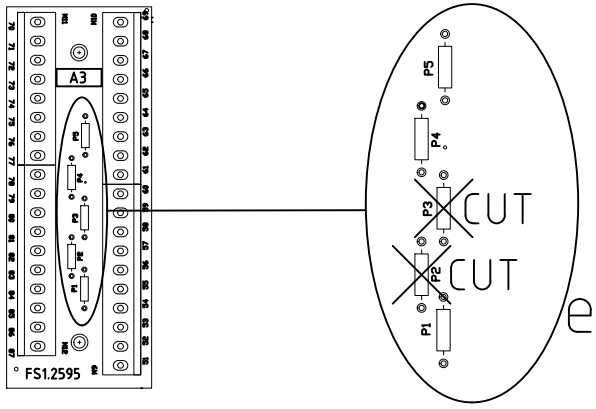
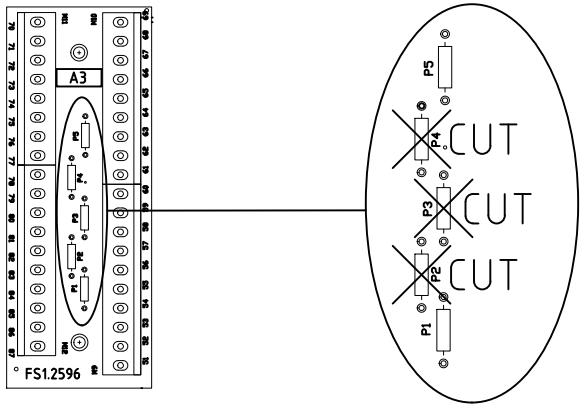
				VISTO						FG. 10 / F.S. 11
REV.	MODIFICA	DATA	FIRMA	APPR.		SOST. IL :	SOST. DA :	FILE : ELS.1129.dwg		F.T. 17



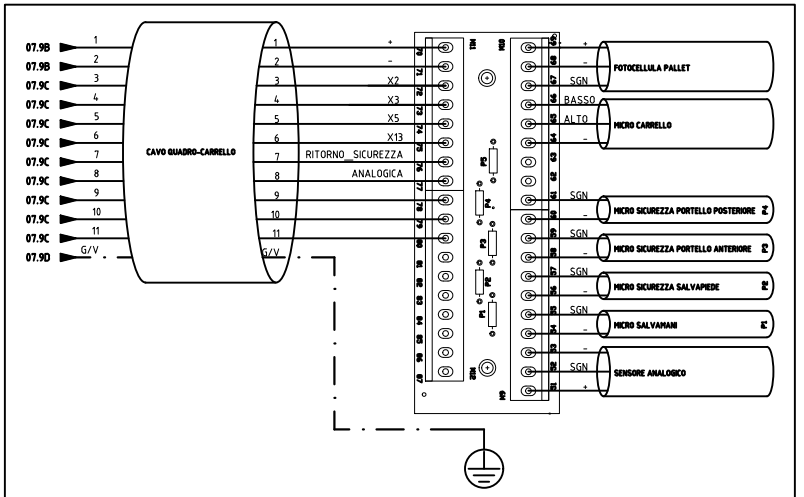
Mechanical carriage
film coil brake

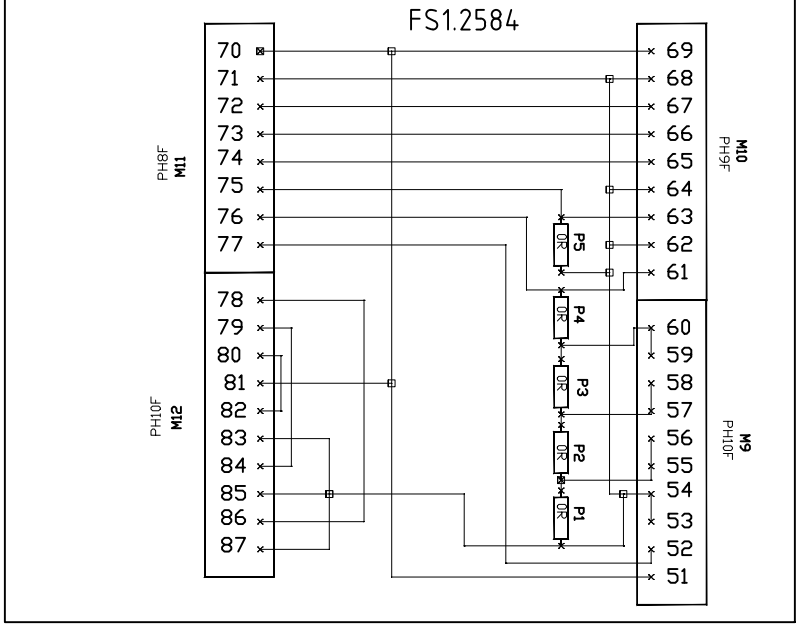


Mechanical carriage
film roll brake or
electromagnetic clutch



Motorized carriage





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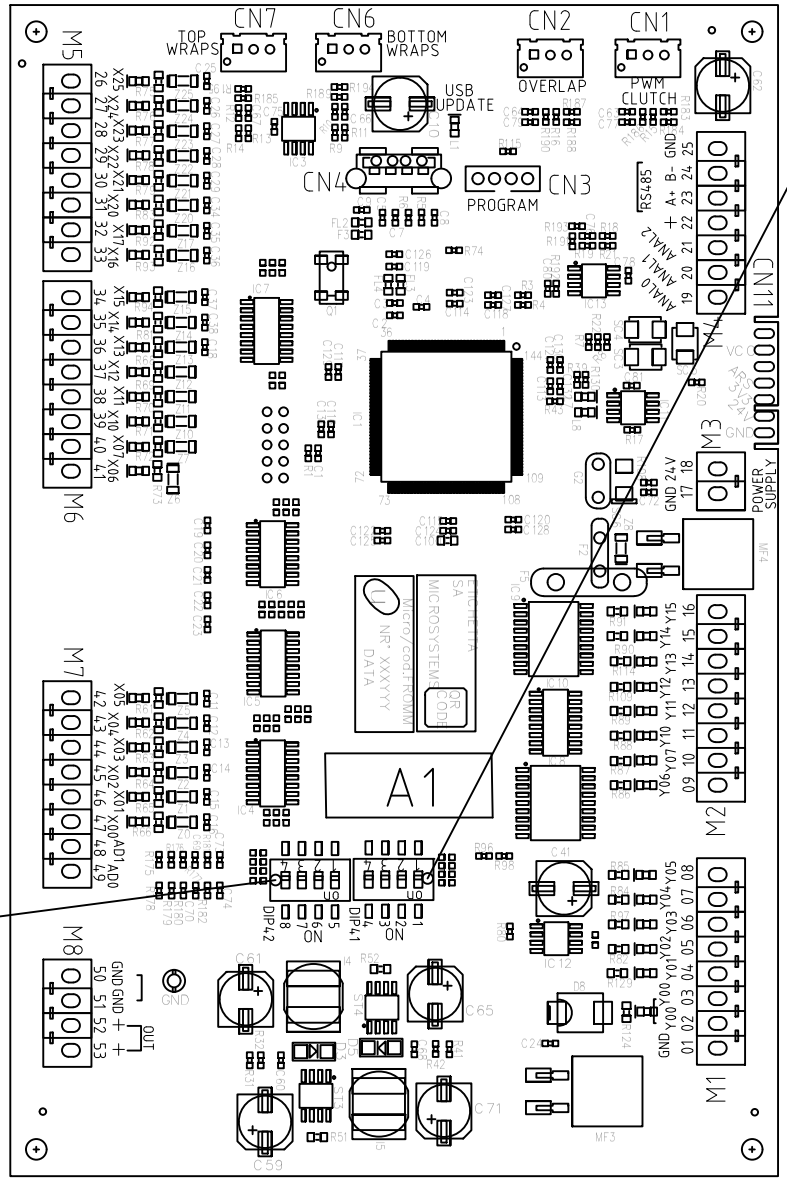
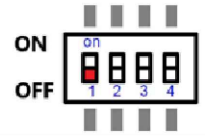
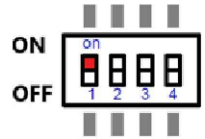
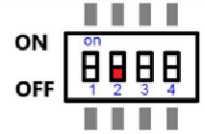
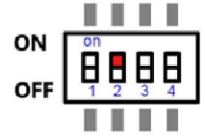
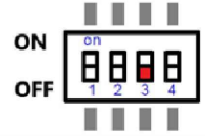
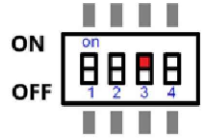
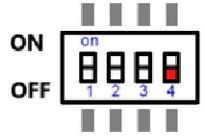
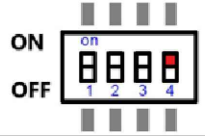
				VISTO					FG. 11	F.S. 12
REV.	MODIFICA	DATA	FIRMA	APPR.		SOST. IL :	SOST. DA :	FILE : ELS.1129.dwg		F.T. 17

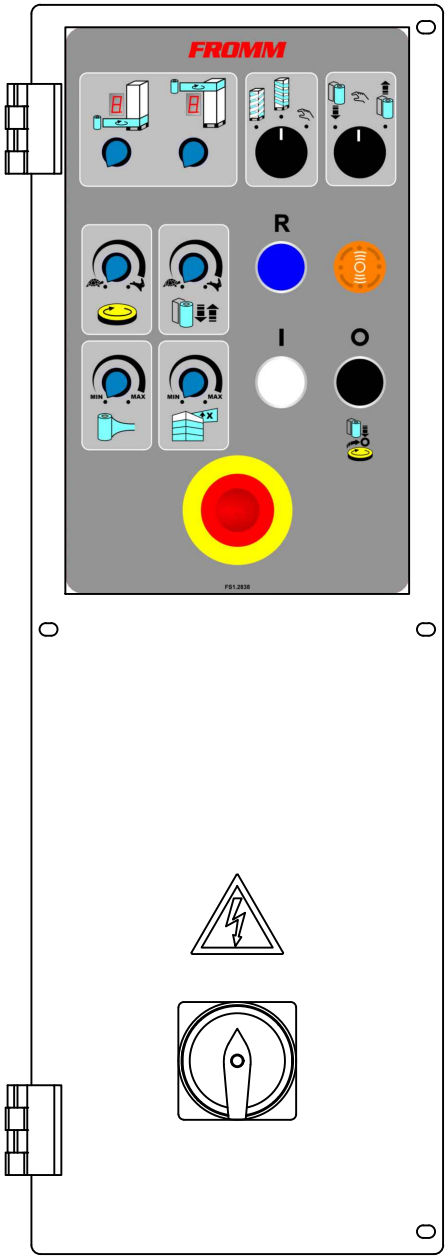


DIP42 DipSwitch not used at the moment

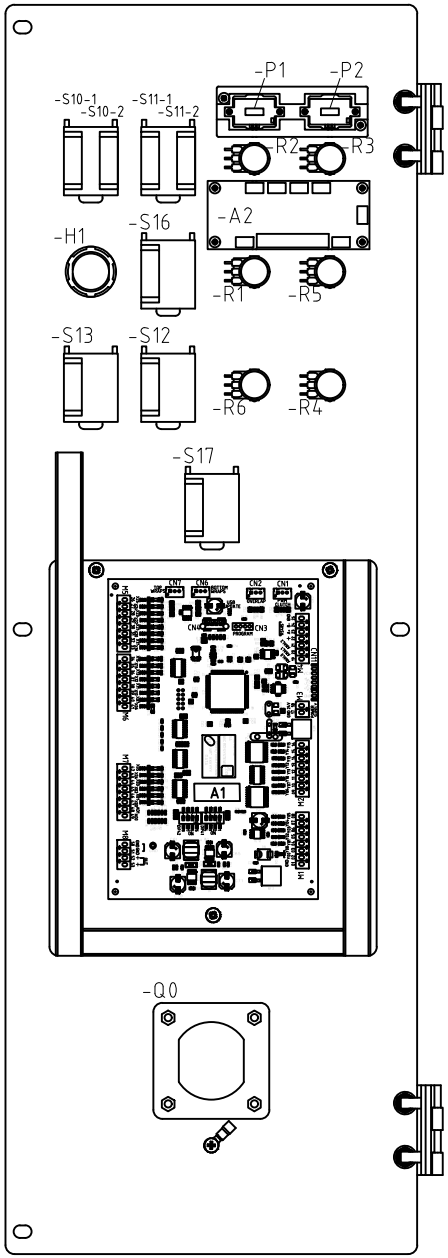
FS360 Main Board – DipSwitch settings

DipSwitch settings	*DipSwitch number*	*Corresponding settings*
	DIP41-1	Range Bottom Wraps and Top Wraps 0...9 (displays connected to the mainboard directly, connectors CN6 CN7)
	DIP41-1	Range Bottom Wraps and Top Wraps 0...5 (displays connected to the display/potentiometers interface board, FS12583)
	DIP41-2	Overlap potentiometer connected to the CN2 connector
	DIP41-2	Overlap output board connected to the X13 input on the Mainboard
	DIP41-3	E4 error control (no pallet detect) ENABLED
	DIP41-3	E4 error control (no pallet detect) DISABLED
	DIP41-4	Top Press DISABLED
	DIP41-4	Top Press ENABLED

				DATA	13/01/2020	FROMM		FS360 motorized carriage rev2 Custom Board	ELS.1129	=
				DISEGN.	SCIENZA S.					+
				VISTO						FG. 12 / F.S. 13
REV.	MODIFICA	DATA	FIRMA	APPR.		SOST. IL :	SOST. DA :	FILE : ELS.1129.dwg		F.T. 17



CONTROL PANEL-FRONT VIEW

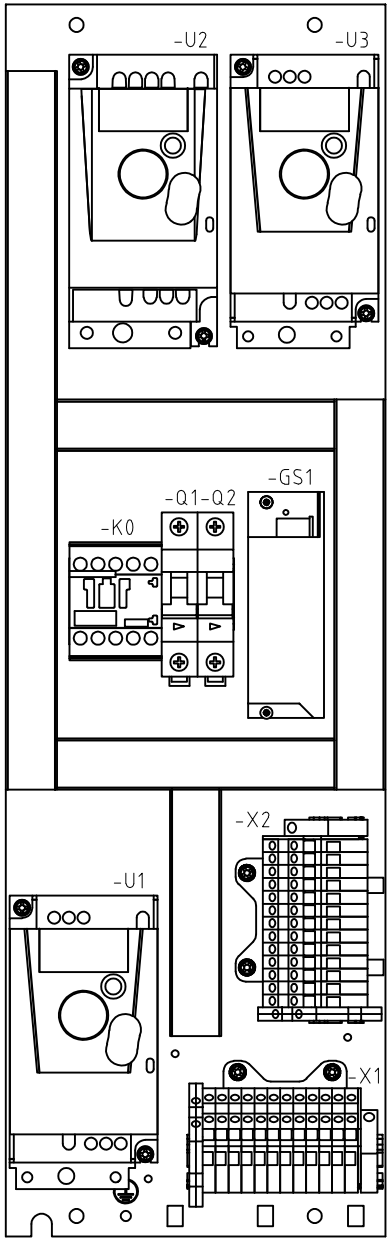


CONTROL PANEL-REAR VIEW

ITEM	DESCRIPTION	CODE
A1	Main Board	FS1.3078
A2	Interface board	FS1.2583
H1	Buzzer	N53.2221
P1	Top Wraps Display	FS1.3079
P2	Bottom Wraps Display	FS1.3079
Q.0	Rotary Switch	N53.2222
R1	Carriage Speed Potentiometer	FS1.2551
R2	Top Wraps Potentiometer	FS1.2551
R3	Bottom Wraps Potentiometer	FS1.2551
R4	Tensioning Potentiometer	FS1.2551
R5	Turntable Speed Potentiometer	FS1.2551
R6	Overlap Potentiometer	FS1.2551
S10-1	Carriage Comand - UP	N53.2227
S10-2	Carriage Comand - DOWN	
S11-1	Mode Selector - MAN	N53.2226
S11-2	Mode Selector - UP DOWN	
S12	Start Button	N53.2223
S13	Stop Button	N53.2224
S16	Restore Button	N53.2225
S17	Emergency Button	N53.2228

				DATA	13/01/2020	FROMM		FS360 motorized carriage rev2 Custom Board	ELS.1129	=
				DISEGN.	SCIENZA S.					+
				VISTO						FG. 13 / F.S. 14
REV.	MODIFICA	DATA	FIRMA	APPR.		SOST. IL :	SOST. DA :	FILE : ELS.1129.dwg		F.T. 17

ELECTRIC CABINET



ELECTRIC CABINET

ITEM	DESCRIPTION	CODE
GS1	Power Supply	N5.1490
K0	Contactor	N53.5210
Q1	Circuit Breaker	N53.5209
Q2	Circuit Breaker	N53.5209
U1	Turntable Inverter	FS1.2636
U2	Carriage Inverter	FS1.2637
U3	Tensioning Inverter	FS1.2638
X1	Terminal	
X2	Terminal	

ON THE MACHINE

ITEM	DESCRIPTION	CODE
A3	Motorized Carriage Terminal Board	FS1.2596
A4	Relay 1 channel Low Trigger	AP1.8085
A5	Relay 1 channel Low Trigger	AP1.8085
B1	Good Height Photocell	FS1.2631
B2	Dancer Analog Sensor	FS1.3084
B3	Proximity Turntable	FS1.2640
B4	Horseshoe Turntable Photocell	N51.2619
B5	Horseshoe Turntable Safety Photocell	N51.2619
M1	Turntable Motor	N51.1131
M2	Carriage Motor	N51.1130
M3	Tensioning Motor	N51.1147
M4	DC Motor Gear-Cutting Device	N51.1166
S1	Carriage Limit Switch	N5.2387
S2	Safety Carriage Rear Door Limit Switch	N5.2388
S3	Safety Carriage Front Door Limit Switch	N5.2388
S4	Safety Clamp Limit Switch	N5.2388
S14	Safety Belt Limit Switch	N5.2390
S15	Safety Carpet Limit Switch	N5.2377
S18	On-Off Switch Cutting Device	N53.2238
S19	Top Switch Cutting Device	N5.2367
S20	Bottom Switch Cutting Device	N5.2367
V1	Diode	N5.5434
V2	Diode	N5.5434
X3	Terminal	N5.6726

REV.	MODIFICA	DATA	FIRMA

DATA 13/01/2020
DISEGN. SCIENZA S.
VISTO
APPR.

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SOST. IL :
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FS360 motorized carriage
rev2 Custom Board

ELS.1129

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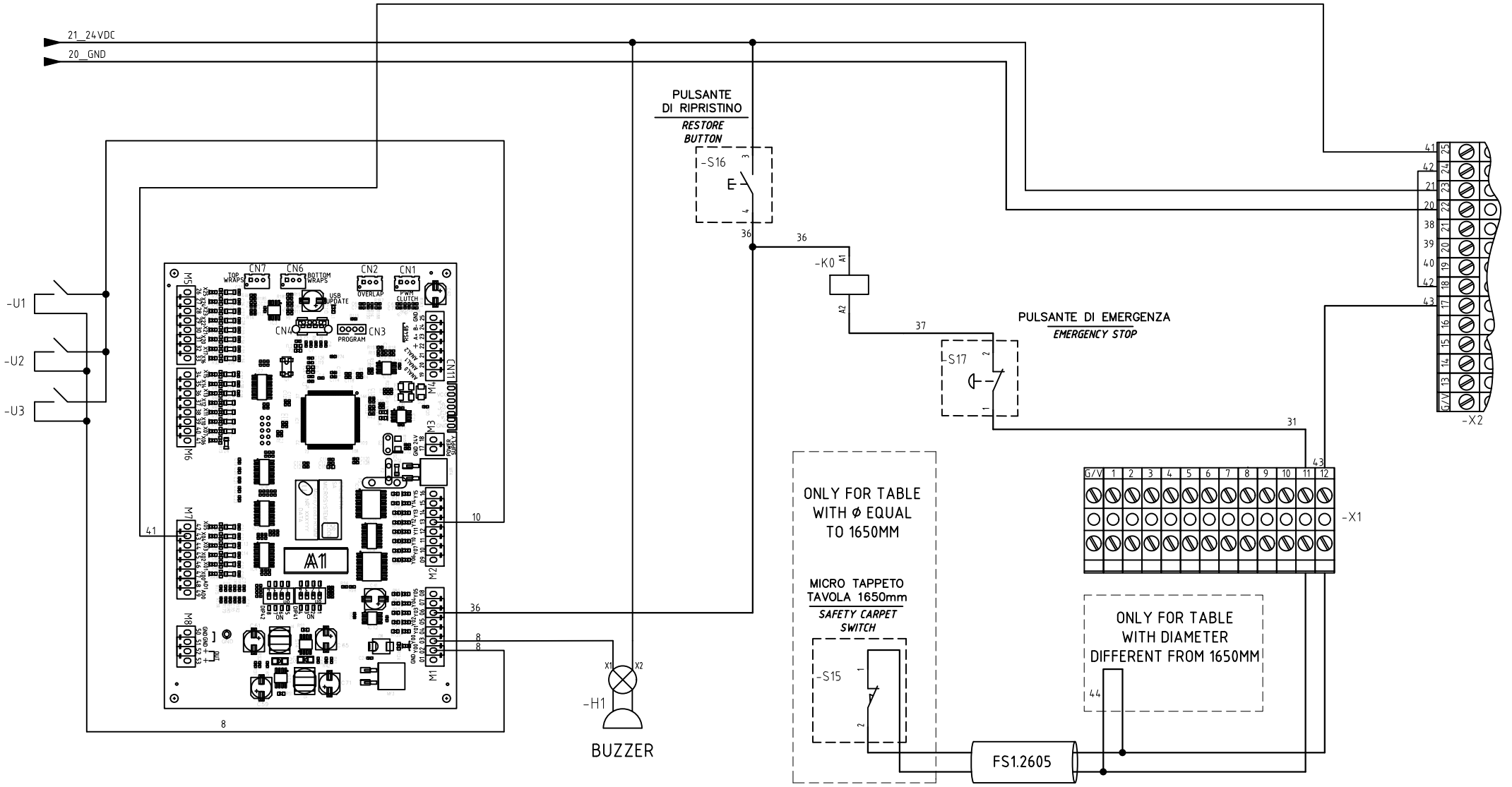
FG. 14
F.S. 15
F.T. 17

FS360 Safety Line: E3 Error (1/2)



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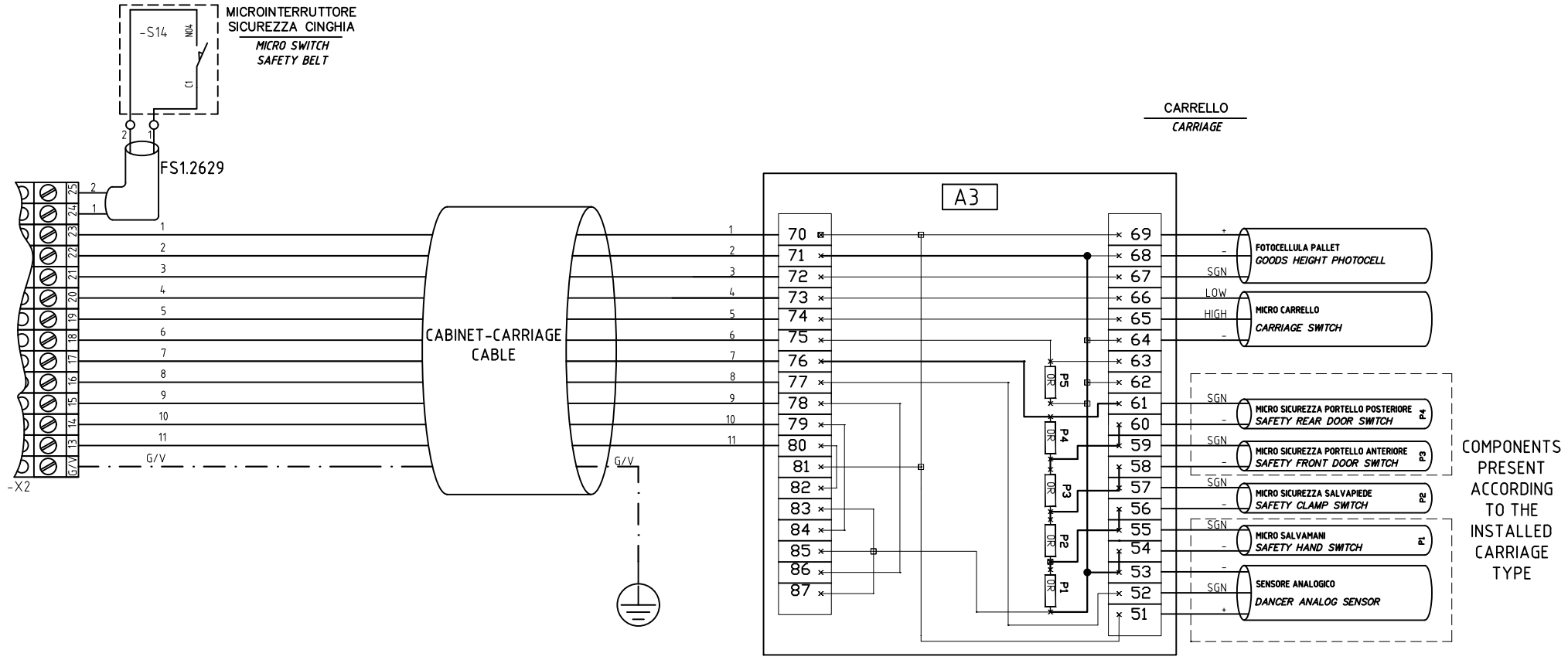
				VISTO						FG. 15 / F.S. 16
REV.	MODIFICA	DATA	FIRMA	APPR.		SOST. IL :	SOST. DA :	FILE : ELS.1129.dwg		F.T. 17

FS360 Safety Line: E3 Error (2/2)



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				VISTO						FG. 16	F.S. 17
REV.	MODIFICA	DATA	FIRMA	APPR.		SOST. IL :	SOST. DA :	FILE : ELS.1129.dwg			F.T. 17

OPZIONALE
OPZIONAL

KIT TAGLIO FILM
FILM CUTTING DEVICE

ON/OFF TAGLIO FILM
ON/OFF FILM CUTTING DEVICE

TOOTH

-S18

CONTROL THAT THE JUMPER IS IN "L" POSITION

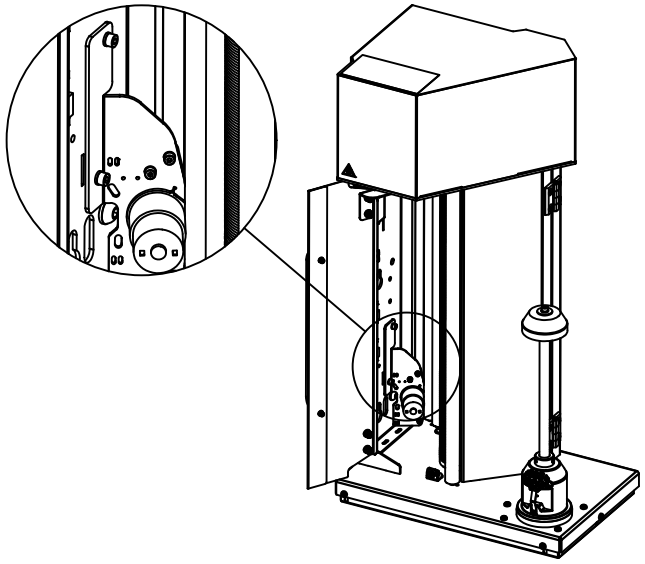
05.4E 1
05.4E 51
05.4E 2
05.4E 3

FS1.2972

-X3

-A4

-A5



FS1.2977

-M4

DC MOTOR GEAR

COLTELLO
KNIFE

MICRO SUPERIORE TAGLIO FILM
TOP SWITCH CUTTING DEVICE

-S19

MICRO INFERIORE TAGLIO FILM
BOTTOM SWITCH CUTTING DEVICE

-S20

FS1.2976

-V1

-V2

FS1.2978

BN = MARRONE = BRAUN = BROWN = MARRON
WH = BIANCO = WEISS = WHITE = BLANC
BU = BLU = BLAU = BLUE = BLEU
BK = NERO = SCHWARZ = BLACK = NOIR

REV.	MODIFICA	DATA	FIRMA
D			
C			
B			
A			

DATA 13/01/2020
DISEGN. SCIENZA S.
VISTO
APPR.

FROMM

SOST. IL :
SOST. DA :
FILE : ELS.1129.dwg

FS360 motorized carriage rev2 Custom Board

ELS.1129

FG. 17
F.S. 17
F.T. 17