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47892 Gualdicciolo  
Tel +378 0549 941426 Fax +378 0549 941426  
Repubblica di San Marino

Modello Macchina  
Machine Model  
Maschine Modell  
Modele de la Machine  
Modelo Maquina

**Freesby 212/214**

Numero Matricola  
Machine Serial Number  
Maschine Kennummer  
Numero de Matricule  
Numero de Matricula

Tensione di alimentazione  
Power Supply Voltage  
Spannungsversorgung  
Voltage electrique  
Tension de Alimentacion

**230 V      50 Hz**  
**1 Ph + N**

Potenza Installata  
Installed Power  
Installierte Leistung  
Puissance installée  
Potencia Instalada

**1.9/2.3 kW**

Corrente Assorbita  
Absorbed Current  
Stromaufnahme  
Absorption Electrique  
Absorcion

**11.4/14 A**

Codice Quadro Elettrico

**7450305367R7040B**

Indice Modifica

**R0**

Numero Bolla

**01561**

Costruire secondo specifica tecnica 50.1.1  
Controllare con scheda di collaudo

PVS\_7450305367

Elaborato da

**Brizi A.**

Verificato da

**Ingrosso D.**

Approvato da

**Laghi P.**



Description

**Copertina  
Cover sheet**

Code 3709302719

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|                                   |   | 2              | Sommario delle pagine : /1 - /95<br>Table of contents : /1 - /95       |   | 18/04/2017   | abrizi                   |
|                                   |   | 2.1            | Sommario delle pagine : /100 - /124<br>Table of contents : /100 - /124 |   | 13/04/2017   | abrizi                   |
|                                   |   | 4              | Targhetta quadro elettrico<br>Plate control cabinet                    |   | 12/04/2017   | abrizi                   |
|                                   |   | 5              | Distinta articoli<br>Parts list  |   | 13/04/2017   | abrizi                   |
|                                   |   | 5.1            | Distinta articoli<br>Parts list  |   | 18/04/2017   | abrizi                   |
|                                   |   | 10             | Alimentazione<br>Power supply  |   | 13/04/2017   | abrizi                   |
|                                   |   | 20             | Circuito di potenza<br>Power circuit                                   |   | 13/04/2017   | abrizi                   |
|                                   |   | 30             | Circuito di potenza<br>Power circuit                                   |   | 13/04/2017   | abrizi                   |
|                                   |   | 40             | Circuito di potenza<br>Power circuit                                   |   | 18/04/2017   | abrizi                   |
|                                   |   | 50             | Circuito emergenza<br>Emergency circuit                                |   | 13/04/2017   | abrizi                   |
|                                   |   | 60             | Circuito Ausiliario<br>Auxiliary Circuit                               |   | 13/04/2017   | abrizi                   |
|                                   |   | 70             | Circuito Ausiliario<br>Auxiliary Circuit                               |   | 13/04/2017   | abrizi                   |
|                                   |   | 80             | Circuito Ausiliario<br>Auxiliary Circuit                               |   | 13/04/2017   | abrizi                   |
|                                   |   | 90             | Circuito Ausiliario<br>Auxiliary Circuit                               |   | 18/04/2017   | abrizi                   |
|                                   |   | 95             | Circuito Ausiliario<br>Auxiliary Circuit                               |   | 12/04/2017   | abrizi                   |



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|                                   |   | 110            | Layout  |   | 13/04/2017   | abrizi                   |
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|-------------|---|----------------------|---|--|
|             |   | <b>S/N</b>           | 7450305367R7040B                          |  |
|             |   | <b>Mod.</b>          | Freesby 212/214                           |  |
|             |   | <b>w.d.</b>          | <input type="text"/>                      | <input type="text"/>   |
| <b>N.</b>   | <input type="text"/>                          | <b>Ref.</b>          | <input type="text"/>                      |  <input type="text"/> <b>Kg</b> |
| <b>Un</b>   | <input type="text" value="230 V"/> <b>V</b>   | <b>Ph</b>            | <input type="text" value="1 Ph + N"/>     | <b>f</b> <input type="text" value="50 Hz"/> <b>Hz</b>  |
| <b>In</b>   | <input type="text" value="11.4/14"/> <b>A</b> | <b>Ik</b>            | <input type="text" value="10"/> <b>Ka</b> | <input type="text"/>   |
| <b>Data</b> | <input type="text"/>                          | <input type="text"/> | <b>By</b>                                 | <input type="text"/>   |



Description

Targhetta quadro elettrico  
Plate control cabinet

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**Distinta articoli**  
**Parts list**

F01\_ART\_0000

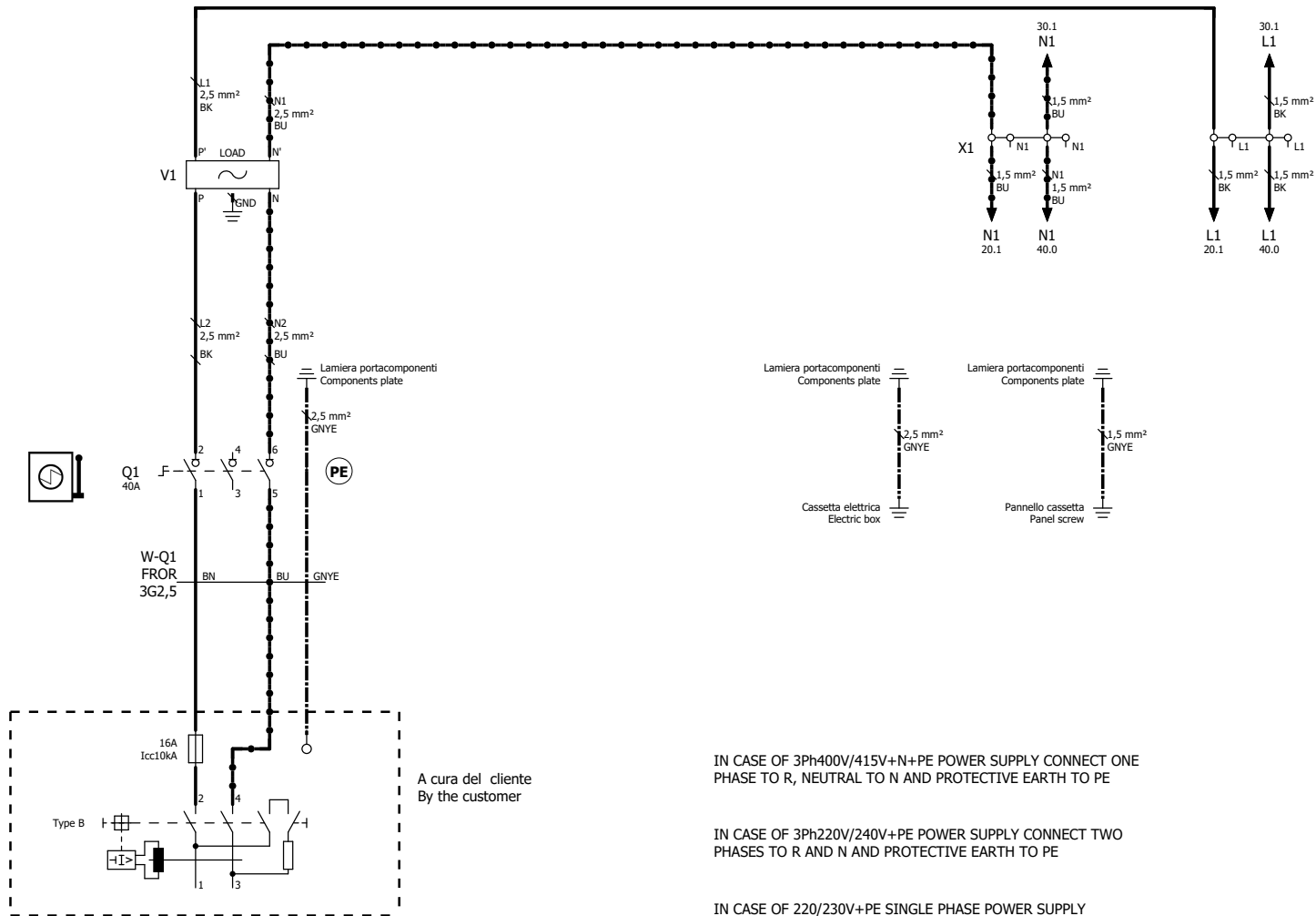
| SEF     | Designazione<br>Designation   | Numero tipo<br>Type number | Produttore<br>Manufacturer | Quantità<br>Quantity | Codice<br>Code | Pagina<br>Page |
|---------|---|----------------------------|----------------------------|----------------------|----------------|----------------|
| -V1     | Filtro alimentazione Main filter  | 10S4-2E1054724.5224C2-Q    | Comestero Sistemi          | 1                    | 00L0287639     | /10.2          |
| -Q1     | Sezionatore 600V 40A 3P Switch-disconnector 600V 40A 3P   | OT40FT3                    | ABB                        | 1                    | 0099000193H    | /10.2          |
| -Q1     | Maniglia retroquadro GRI-NER Handle for door mounted GY-BK  | OHBS2RJ                    | ABB                        | 1                    | 0001310774     | /10.2          |
| -Q1     | Polo aggiuntivo di terra 40A Protective earth terminal 40A  | OTPE40FD                   | ABB                        | 1                    | 0099000398     | /10.2          |
| -T1     | Inverter Variable speed drives  | INV01ROB_2                 | Robopac                    | 1                    | 1430300271     | /20.1          |
| -S5     | Selettori a chiave, 2 posizioni, ad impulso Selector switch actuator, 2 Pos., spring-return                     | M22-WS                     | Eaton Moeller              | 1                    | 0001300015G    | /20.4          |
| -S5     | Supporto per contatti Fixing adapter  | M22-A                      | Eaton Moeller              | 1                    | 0001300700A    | /20.4          |
| -S5     | Elementi di contatto, 1NA, Fissaggio frontale, Cage clamp Contact element, 1N/O, Front fixing, Cage clamp       | M22-CK10                   | Eaton Moeller              | 1                    | 0001300024F    | /20.4          |
| -S5     | Elementi di contatto, 1NC, Fissaggio frontale, Cage clamp Contact element, 1N/C, Front fixing, Cage clamp       | M22-CK01                   | Eaton Moeller              | 2                    | 0001300027C    | /20.4          |
| -T2     | Inverter Variable speed drives  | INV01ROB_2                 | Robopac                    | 1                    | 1430300271     | /30.1          |
| -U10    | Logica Programmabile PLC  | PLC01ROB_1                 | Robopac                    | 1                    | 1430300238     | /40.0          |
| -U8     | Modulo di sicurezza Safety relay  | CS-AT-10V024-TF1           | Pizzato                    | 1                    | 1400300008     | /50.1          |
| -S1     | Pulsanti per arresto d'emergenza, Sblocco a rotazione Emergency-Stop actuator, non-illuminated, turn to release | M22-PVT                    | Eaton Moeller              | 1                    | 0001300005F    | /50.2          |
| -S1     | Supporto per contatti Fixing adapter  | M22-A                      | Eaton Moeller              | 1                    | 0001300700A    | /50.2          |
| -S1     | Elementi di contatto, 1NC, Fissaggio frontale, Cage clamp Contact element, 1N/C, Front fixing, Cage clamp       | M22-CK01                   | Eaton Moeller              | 2                    | 0001300027C    | /50.2          |
| -S2     | Pulsante, piatto, blu, ad impulso Pushbutton actuator, flush, blue, spring return                               | M22-D-B                    | Eaton Moeller              | 1                    | 0001300696B    | /50.5          |
| -S2     | Supporto per contatti Fixing adapter  | M22-A                      | Eaton Moeller              | 1                    | 0001300700A    | /50.5          |
| -S2     | Elementi di contatto, 1NA, Fissaggio frontale, Cage clamp Contact element, 1N/O, Front fixing, Cage clamp       | M22-CK10                   | Eaton Moeller              | 2                    | 0001300024F    | /50.5          |
| -S3     | Pulsante, piatto, bianco, ad impulso Pushbutton actuator, flush, white, spring-return                           | M22-D-W                    | Eaton Moeller              | 1                    | 0001307116L    | /60.4          |
| -S3     | Supporto per contatti Fixing adapter  | M22-A                      | Eaton Moeller              | 1                    | 0001300700A    | /60.4          |
| -S3     | Elementi di contatto, 1NA, Fissaggio frontale, Cage clamp Contact element, 1N/O, Front fixing, Cage clamp       | M22-CK10                   | Eaton Moeller              | 1                    | 0001300024F    | /60.4          |
| -S4     | Pulsante, piatto, nero, ad impulso Pushbutton actuator, flush, black, spring-return                             | M22-D-S                    | Eaton Moeller              | 1                    | 0001300762B    | /60.4          |
| -S4     | Supporto per contatti Fixing adapter  | M22-A                      | Eaton Moeller              | 1                    | 0001300700A    | /60.4          |
| -S4     | Elementi di contatto, 1NC, Fissaggio frontale, Cage clamp Contact element, 1N/C, Front fixing, Cage clamp       | M22-CK01                   | Eaton Moeller              | 1                    | 0001300027C    | /60.4          |
| -X3.1   | Custodia con leva Mobile case   | MK-VG20                    | Ilme                       | 1                    | 0001357358D    | /60.7          |
| -X3.1   | Frutto Femmina, 4poli + Gnd Female insert, 4P+GND   | CKF 04                     | Ilme                       | 1                    | 0001353016D    | /60.7          |
| -X3.2   | Custodia con piolini Mobile case  | MK-V20                     | Ilme                       | 1                    | 0001357351H    | /60.7          |
| -X3.2   | Frutto Maschio, 4poli + Gnd Male insert, 4P+GND   | CKM 04                     | Ilme                       | 1                    | 0001353017F    | /60.7          |
| -W20    | Cavo M12 4Poli Fem 5,0m M12 Cable 4P Fem 5,0m   | M12 4P FEM 5,0M            |                            | 1                    | 0001313474     | /60.7          |
| -SQ7    | Sensore induttivo, M12 PNP NO Proximity switch, M12 PNP NO  | AM6/AP-2H                  | Microdetectors             | 1                    | 0202300001     | /60.7          |
| -SQ1    | Finecorsa Limit switch  | FR-1630-M1                 | Pizzato                    | 1                    | 0001309638L    | /70.0          |
| -U11    | Scheda Card   | PRES03ROB                  | Robopac                    | 1                    | 1430300220     | /80.0          |
| -SQ3    | Cella di carico Loading cell  | FFL 2K 0250AF              | Nbc Elettronica            | 1                    | 0204300004     | /80.1          |
| -B1     | Fotocellula Light barrier   | S6-5-C200                  | Datalogic                  | 1                    | 0001310154D    | /80.3          |
| -B1 Opt | Fotocellula Light barrier   | S62-PA-2-M31-PP SV4761     | Datalogic                  | 1                    | 00L0162782     | /80.3          |
| -S7     | Pulsante, piatto, nero, ad impulso Pushbutton actuator, flush, black, spring-return                             | M22-D-S                    | Eaton Moeller              | 1                    | 0001300762B    | /80.7          |
| -S7     | Supporto per contatti Fixing adapter  | M22-A                      | Eaton Moeller              | 1                    | 0001300700A    | /80.7          |
| -S7     | Elementi di contatto, 1NA, Fissaggio frontale, Cage clamp Contact element, 1N/O, Front fixing, Cage clamp       | M22-CK10                   | Eaton Moeller              | 1                    | 0001300024F    | /80.7          |



Description

**Distinta articoli**  
**Parts list**





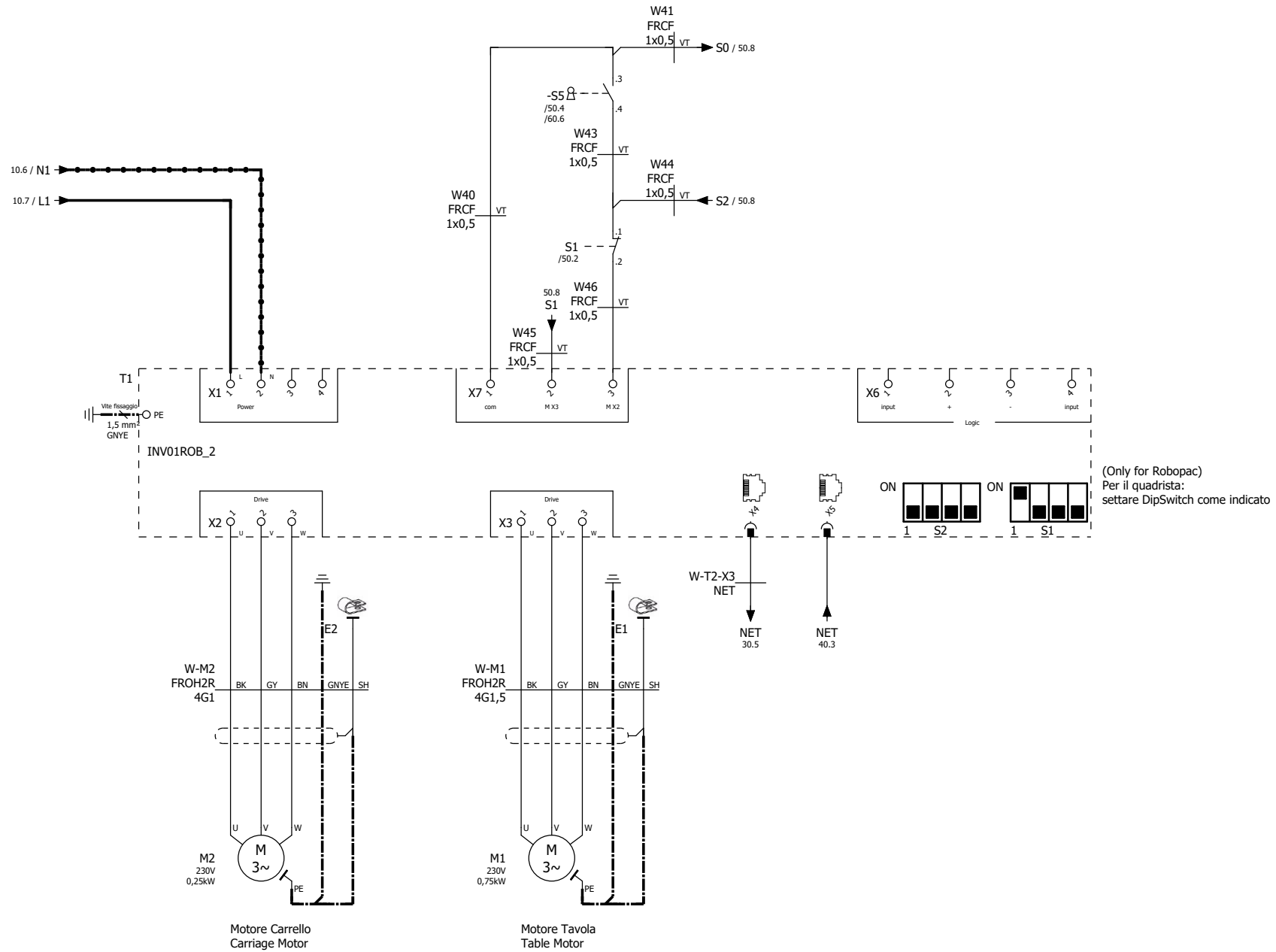
A cura del cliente  
By the customer

IN CASE OF 3Ph400V/415V+N+PE POWER SUPPLY CONNECT ONE PHASE TO R, NEUTRAL TO N AND PROTECTIVE EARTH TO PE

IN CASE OF 3Ph220V/240V+PE POWER SUPPLY CONNECT TWO PHASES TO R AND N AND PROTECTIVE EARTH TO PE

IN CASE OF 220/230V+PE SINGLE PHASE POWER SUPPLY CONNECT TO R/N/PE





Description

Circuito di potenza  
Power circuit

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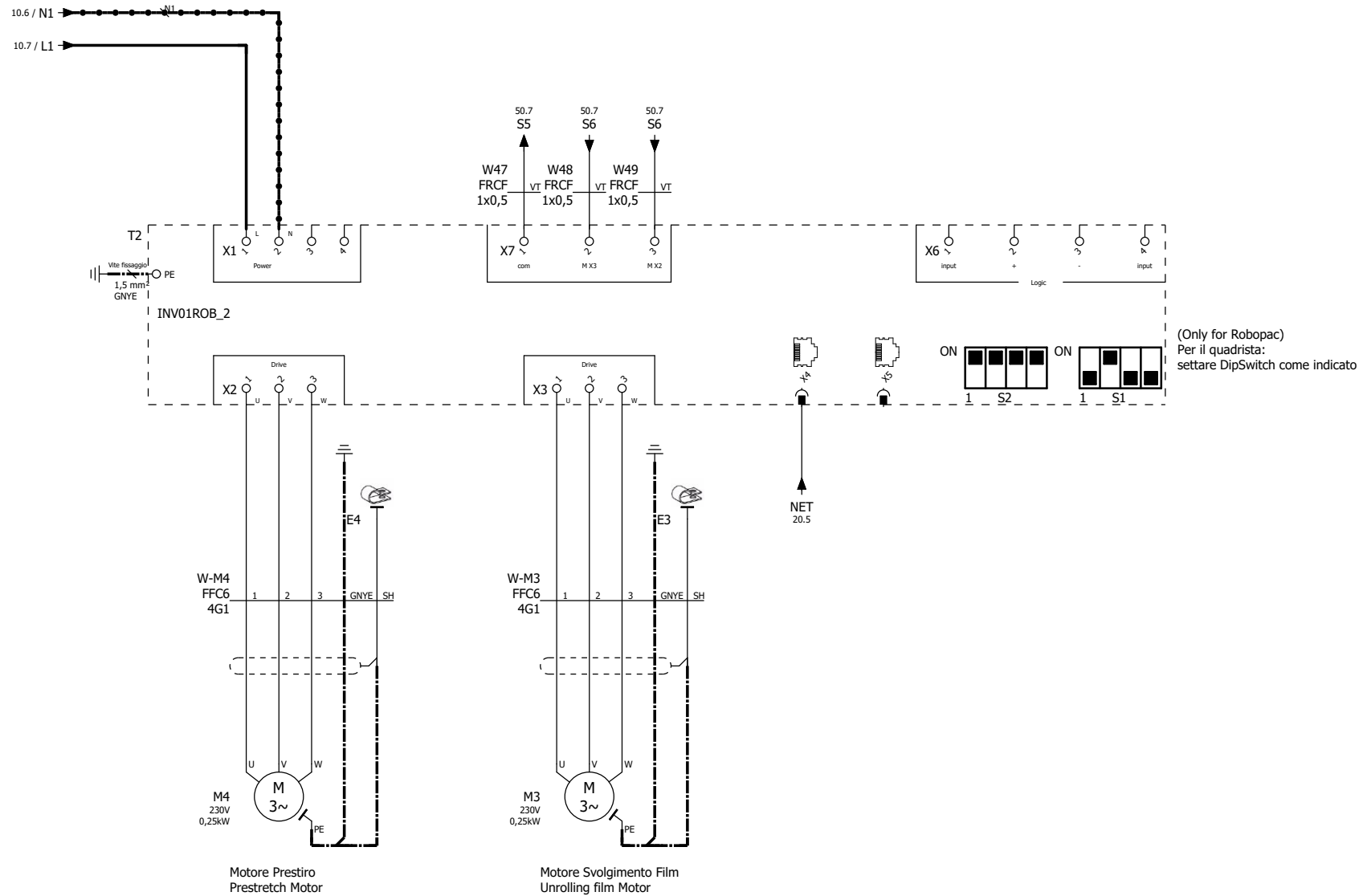
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Circuito di potenza  
Power circuit

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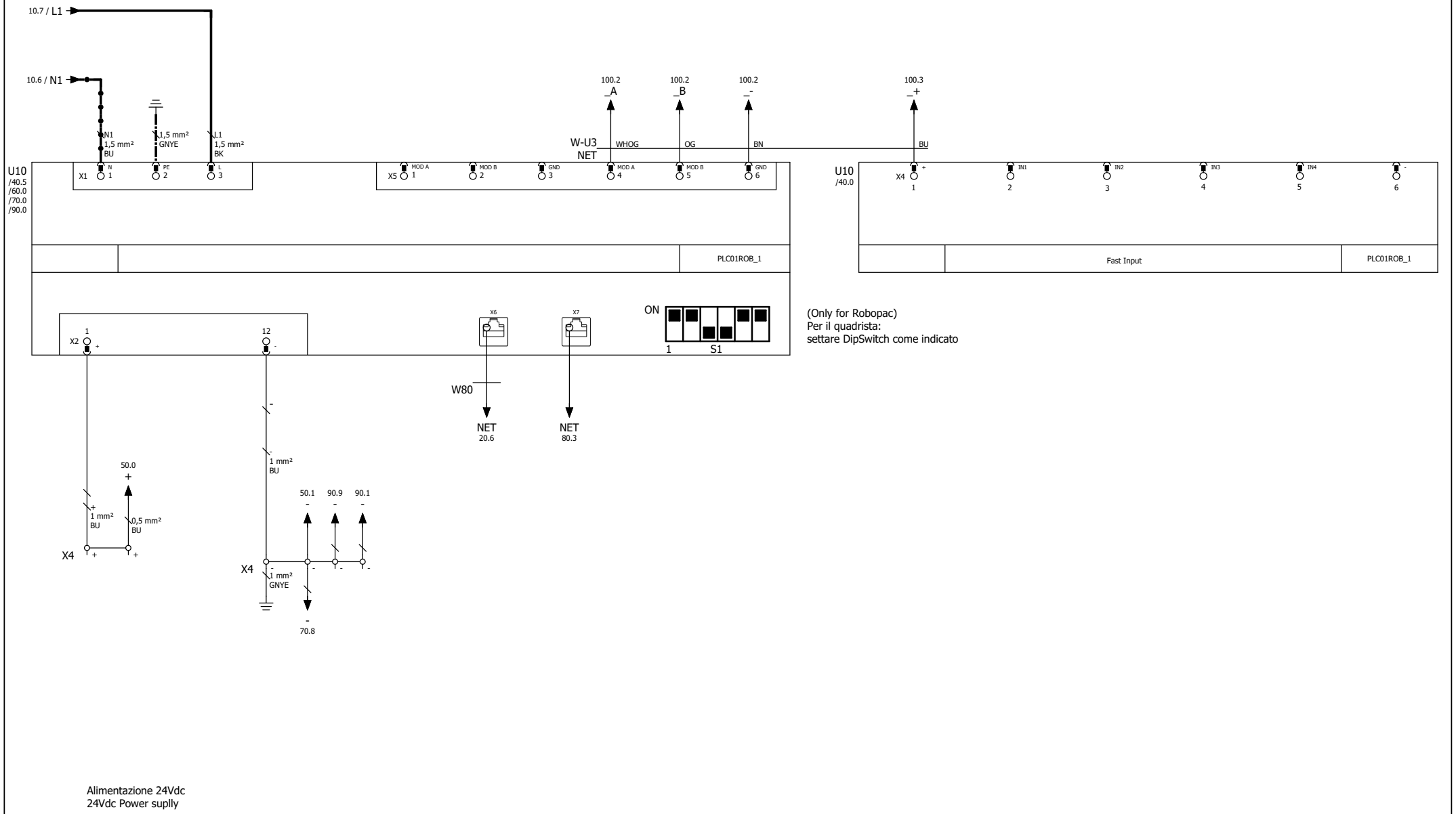
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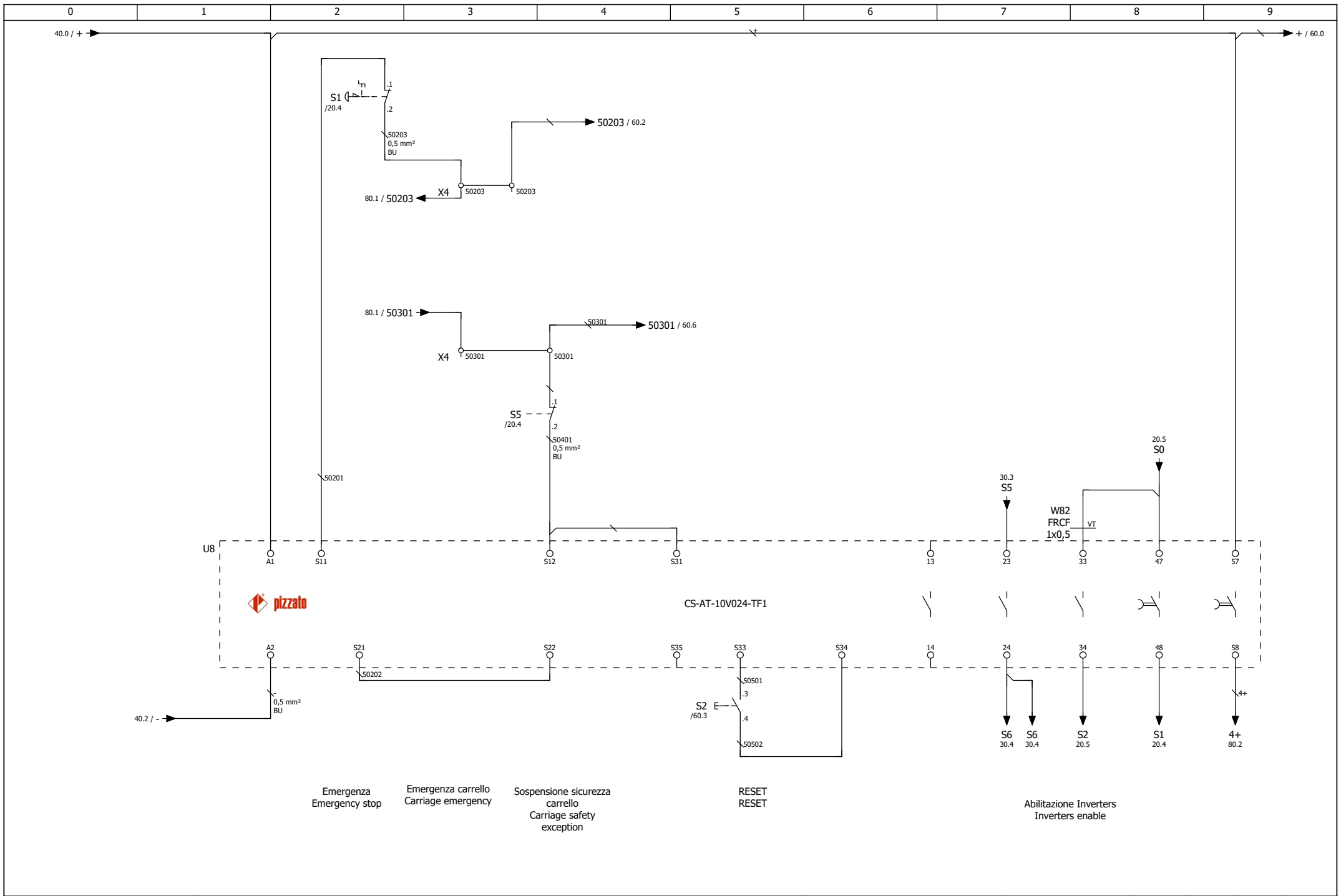
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Description

Circuito di potenza  
Power circuit

|         |                 |      |            |       |    |      |    |      |    |      |    |
|---------|-----------------|------|------------|-------|----|------|----|------|----|------|----|
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Emergenza  
Emergency stop

Emergenza carrello  
Carriage emergency

Sospensione sicurezza  
carrello  
Carriage safety  
exception

RESET  
RESET

Abilitazione Inverters  
Inverters enable



Description

Circuito emergenza  
Emergency circuit

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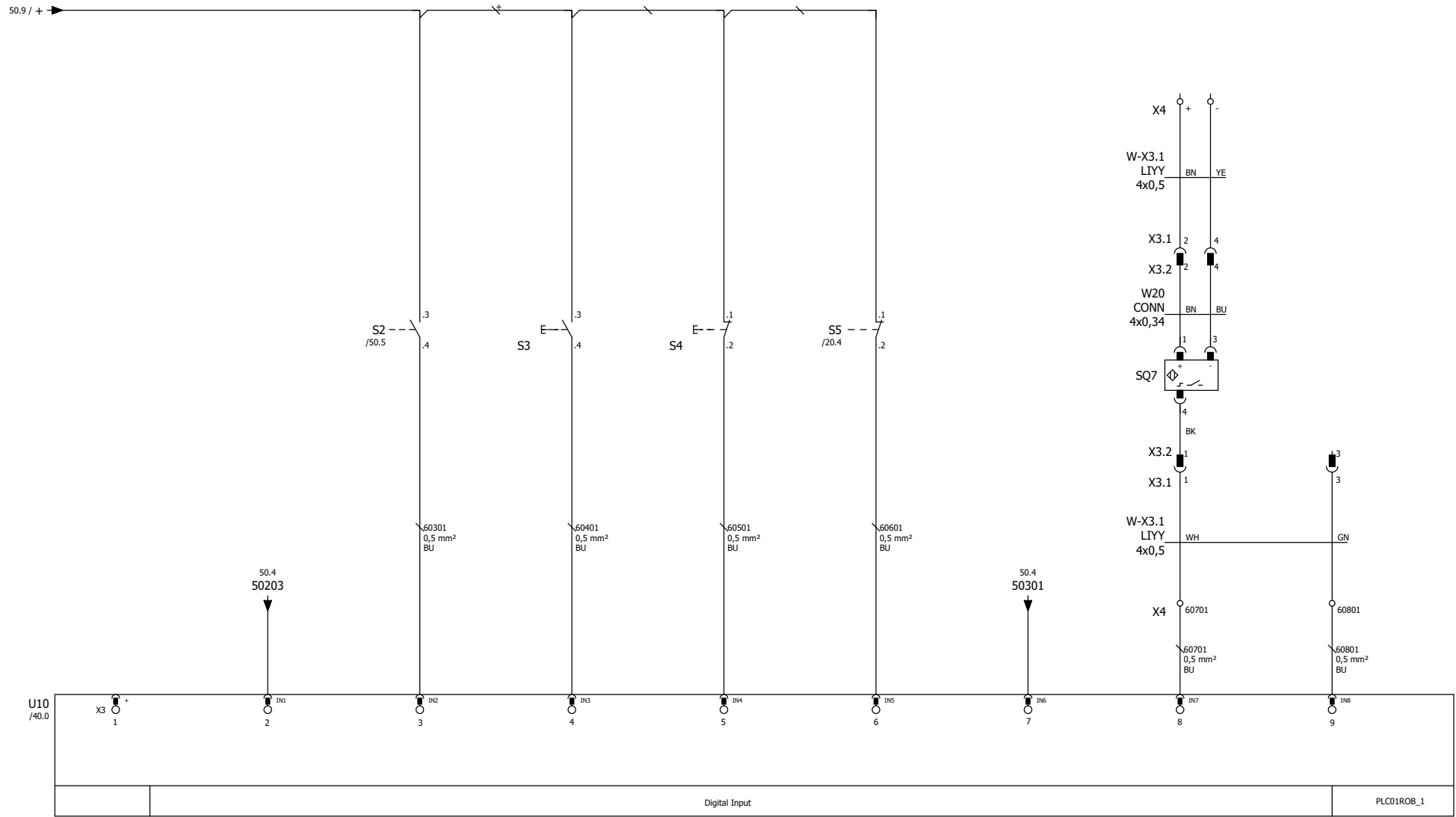
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Emergenza  
Emergency stop

RESET  
RESET

Start

STOP  
STOP

Sospensione sicurezza  
carrello  
Carriage safety  
exception

Emergenza carrello  
Carriage emergency

Fase tavola  
Table phase



Description

Circuito Ausiliario  
Auxiliary Circuit

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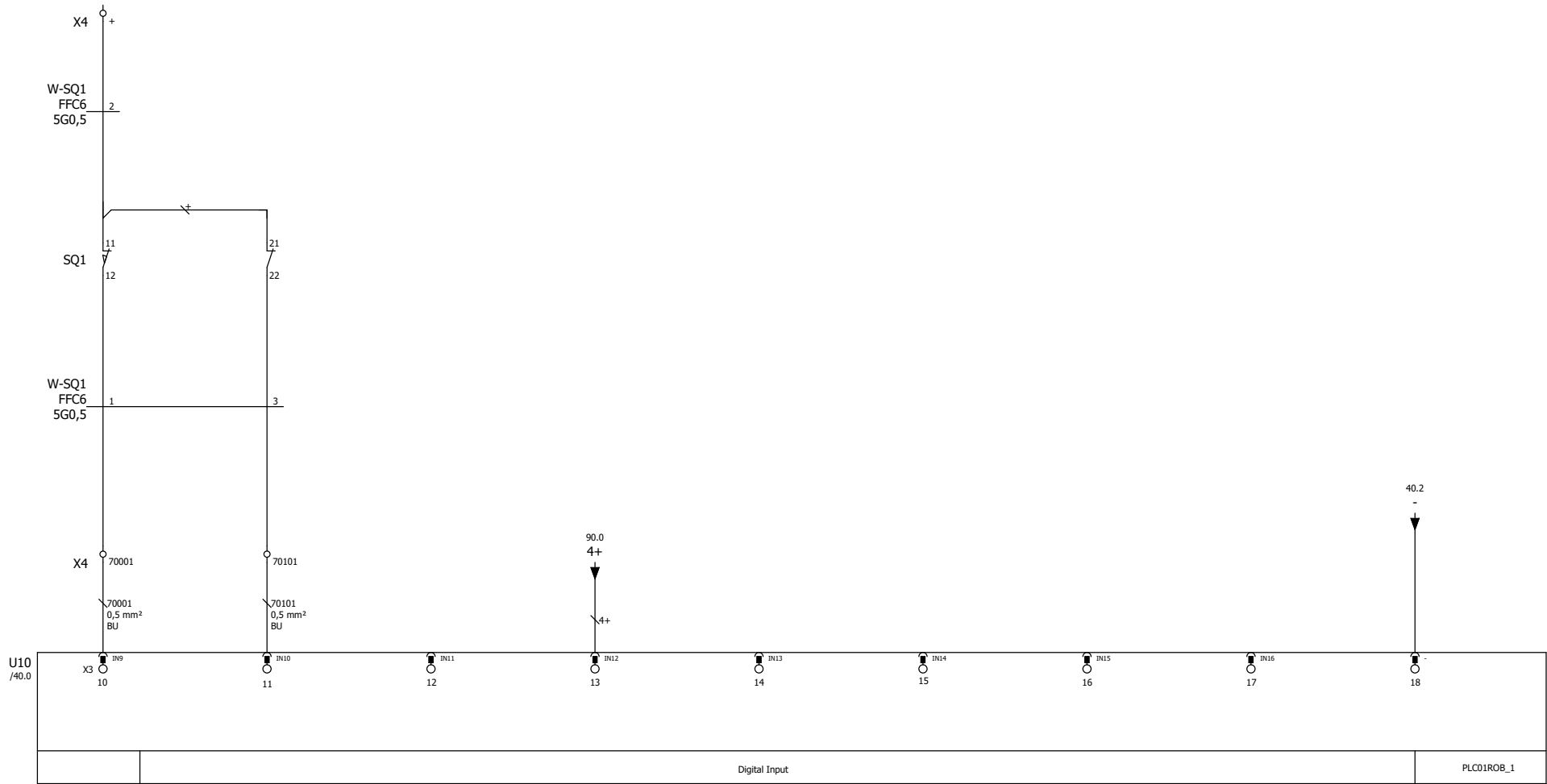
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Finecorsa alto  
High Limit switch

Finecorsa basso  
Down Limit switch

Retroazione emergenza  
Emergency feedback



Description

Circuito Ausiliario  
Auxiliary Circuit

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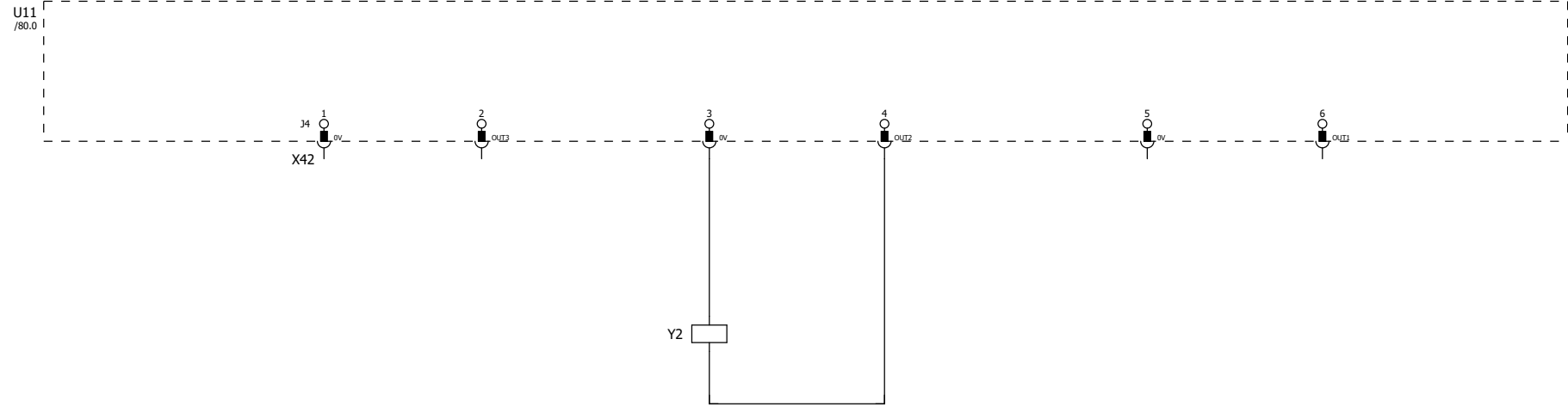
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Taglio  
Cut  
(Optional)



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Circuito Ausiliario  
Auxiliary Circuit

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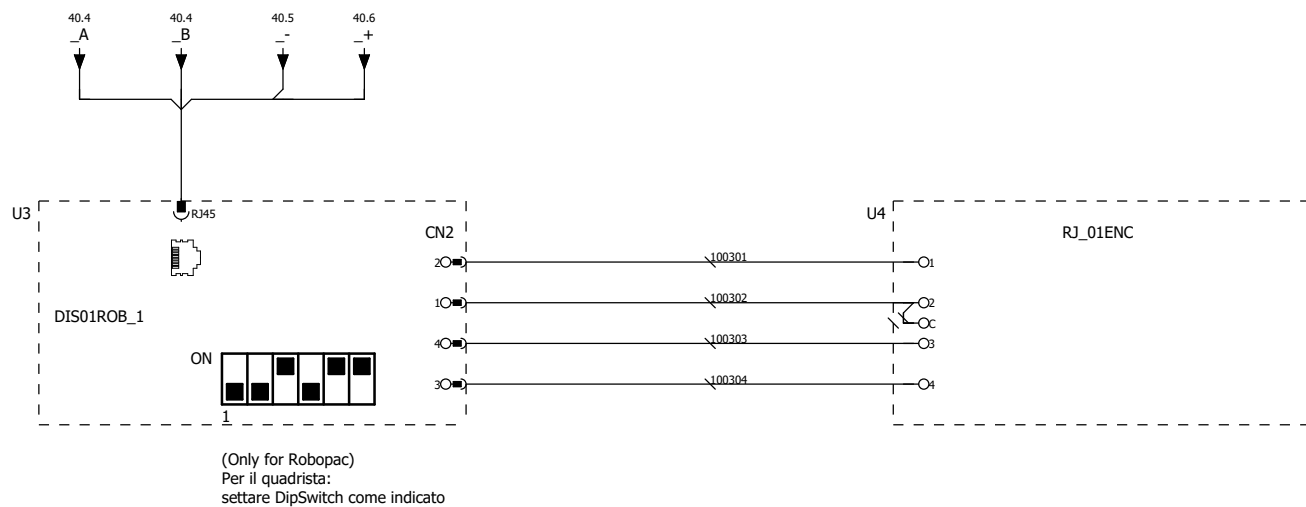
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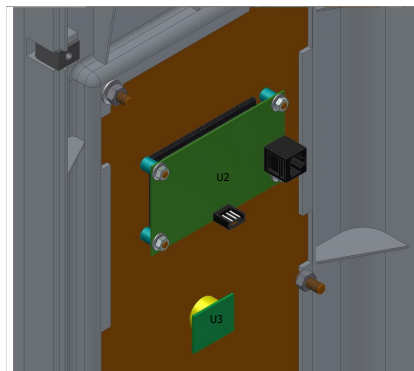
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Montaggio display

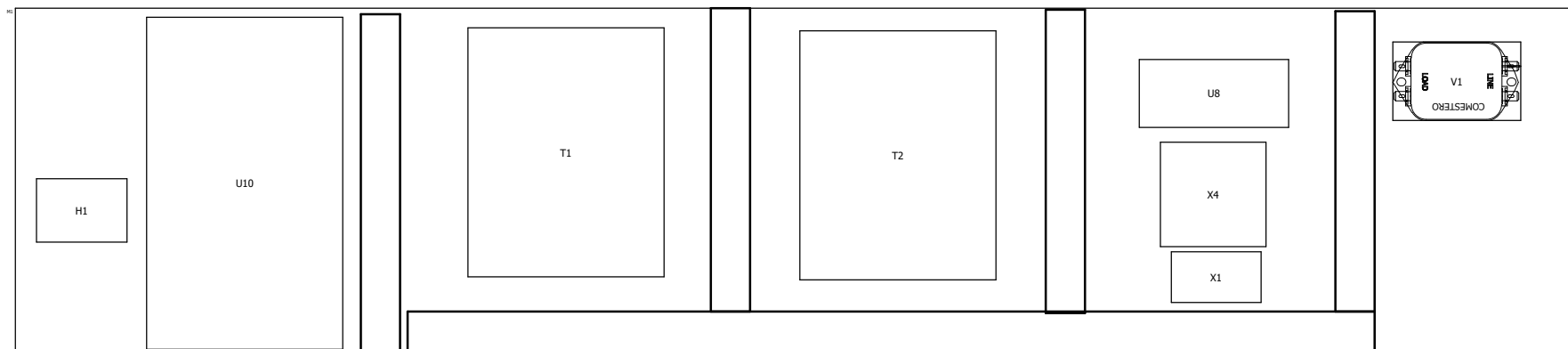
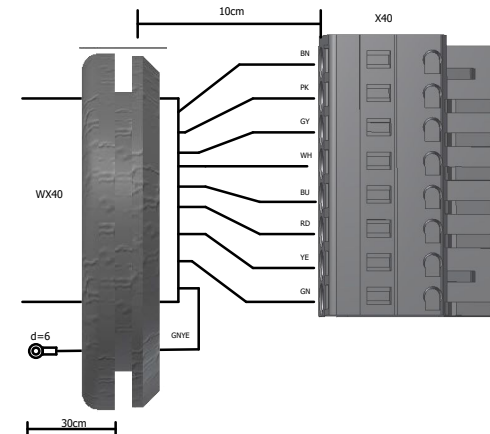


Fincorsa alto/basso



Posizionare la leva 90° a sinistra.

- 11 - Filo 2
- 12 - Filo 1
- 21 - Ponte con contatto 11
- 22 - Filo 3



Parte bassa



Description

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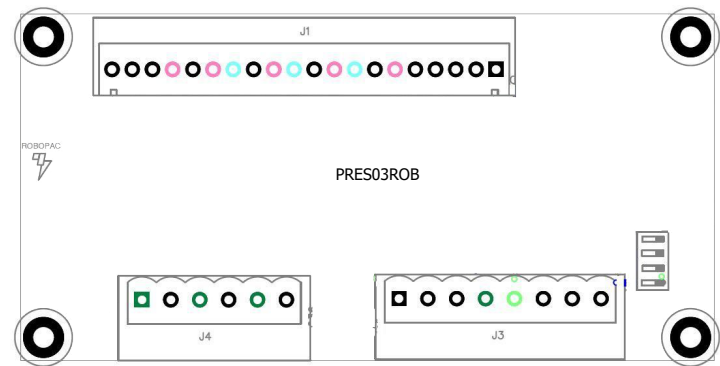
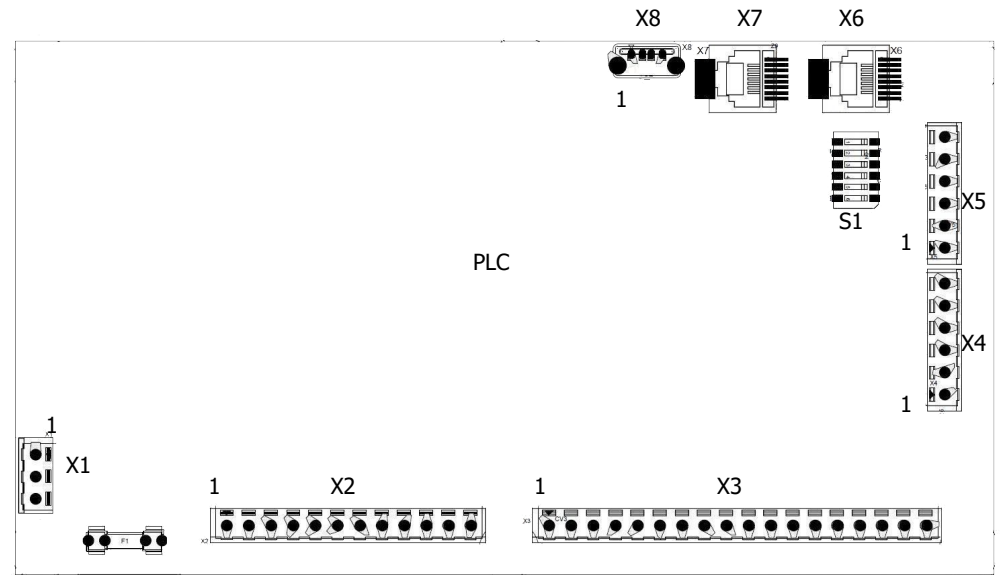
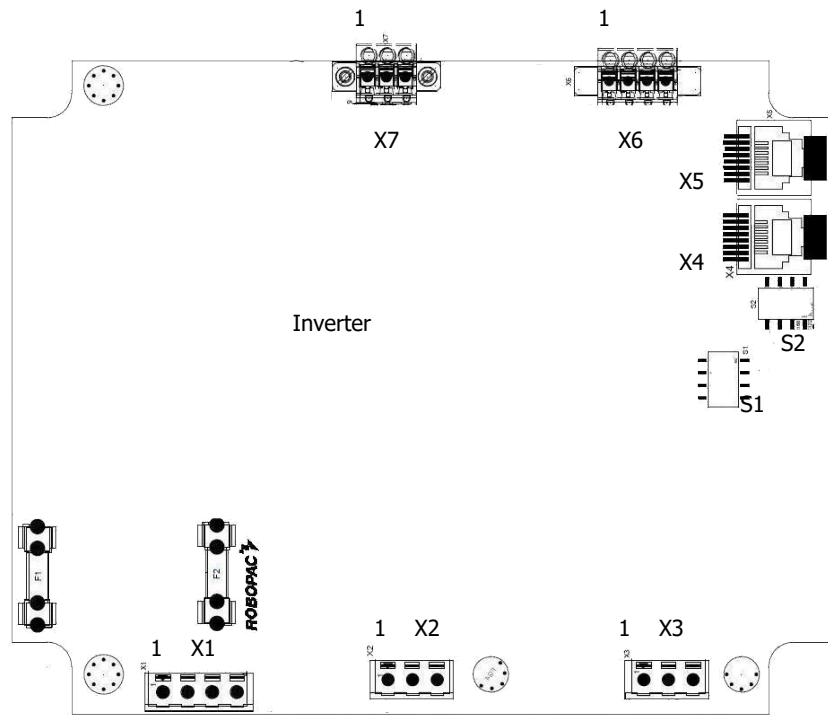
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## Sommario cavi

| Cavo    | Origine | N° Conduttori | Sezione             | Capicorda origine | Spelatura origine (cm) | Lunghezza fuori cassetta (m) | Spelatura destinazione (cm) | Capicorda destinazione                             | Destinazione | Note                |
|---------|---------|---------------|---------------------|-------------------|------------------------|------------------------------|-----------------------------|--|--------------|---------------------|
| -W-M1   | -T1;-E1 | 4G            | 1,5 mm <sup>2</sup> | --                | 10                     | 2,8                          | 7                           | Occhiello d=4, Gnd e sch d=5                       | -M1          |                     |
| -W-M2   | -T1;-E2 | 4G            | 1 mm <sup>2</sup>   | --                | 10                     | 2,6                          | 7                           | Occhiello d=4, Gnd e sch d=5                       | -M2          |                     |
| -W-M3   | -T2;-E3 | 4G            | 1 mm <sup>2</sup>   | --                | 10                     | 3,4                          | 7                           | Occhiello d=4, Gnd e sch d=5                       | -M3          | In catena portacavo |
| -W-M4   | -T2;-E4 | 4G            | 1 mm <sup>2</sup>   | --                | 10                     | 3,4                          | 7                           | Isolare conduttori cavo con guaina termoretraibile | -M4          | In catena portacavo |
| -W-Q1   |         | 3G            | 2,5 mm <sup>2</sup> |                   | 15                     | 2,8                          | 7                           | Puntalino  | -Q1          |                     |
| -W-SQ1  | -X4     | 5G            | 0,5 mm <sup>2</sup> | --                | 15                     | 2,85                         | 5                           | Puntalino  | -SQ1         | In catena portacavo |
| -W-X3.1 | -X4     | 4             | 0,5 mm <sup>2</sup> | --                | 15                     | 2,5                          | 7                           | Puntalino  | -X3.1        |                     |
| -W-X40  | -X4;-E5 |               |                     | --                | 10                     | 3,3                          | 7                           | --   | -X40         | In catena portacavo |



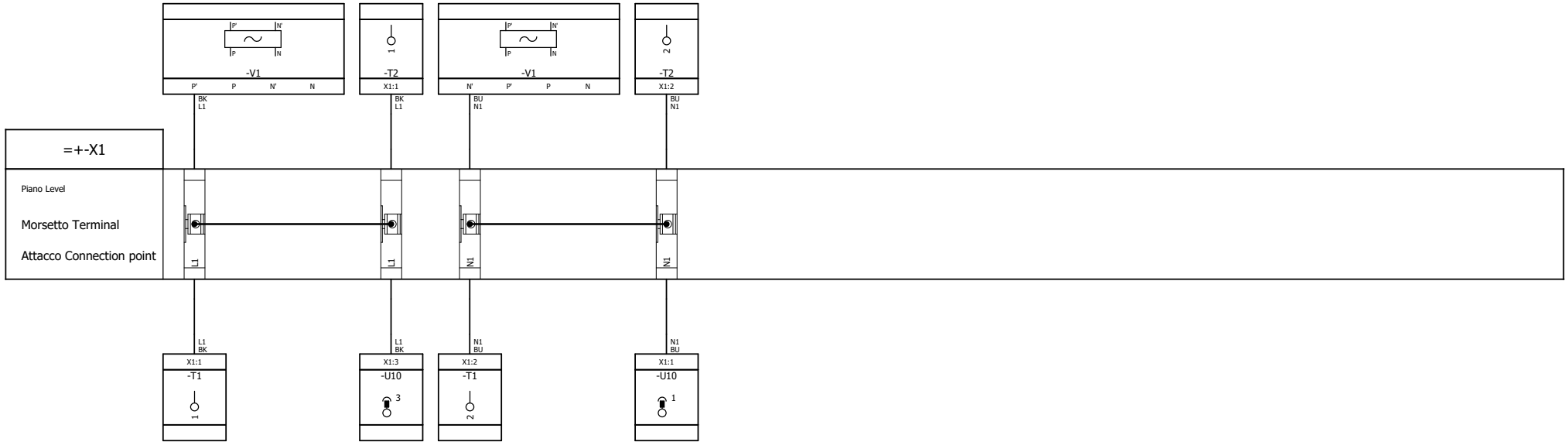
Description

Sommario cavi  
Cable overview

# Schema allacciamento morsetti

## Terminal-connection diagram

Destinazioni interne  
Internal targets



Destinazioni esterne  
External targets



Description

Morsettiera alimentazione  
Power supply terminalboard

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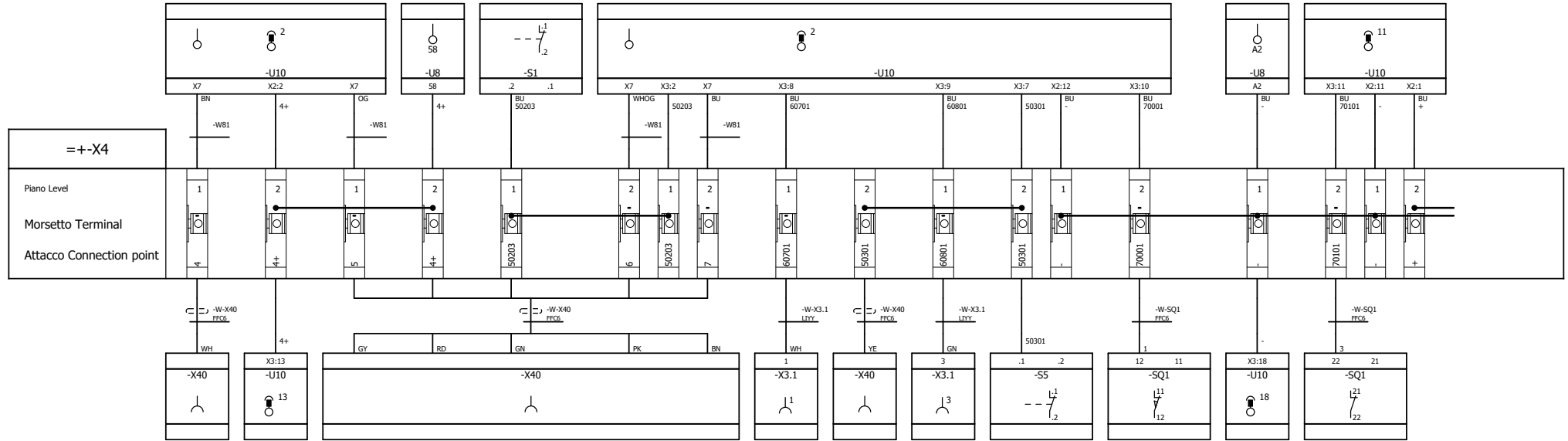
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# Schema allacciamento morsetti

## Terminal-connection diagram

Destinazioni interne  
Internal targets



Destinazioni esterne  
External targets

Fotocella altezza prodotto  
Product height sensor

Fotocella altezza prodotto  
Product height sensor

Culla di carico  
Loading cell

Emergenza carrello  
Carrriage emergency

Fotocella altezza prodotto  
Product height sensor

Emergenza carrello  
Carrriage emergency

Fotocella altezza prodotto  
Product height sensor

Fase tavolo  
Table phase

Emergenza carrello  
Carrriage emergency

Fase tavolo  
Table phase

Emergenza carrello  
Carrriage emergency

Fotocella altezza prodotto  
Product height sensor

Fotocella altezza prodotto  
Product height sensor



Description

Morsettiera ausiliari  
Aux Terminal strip

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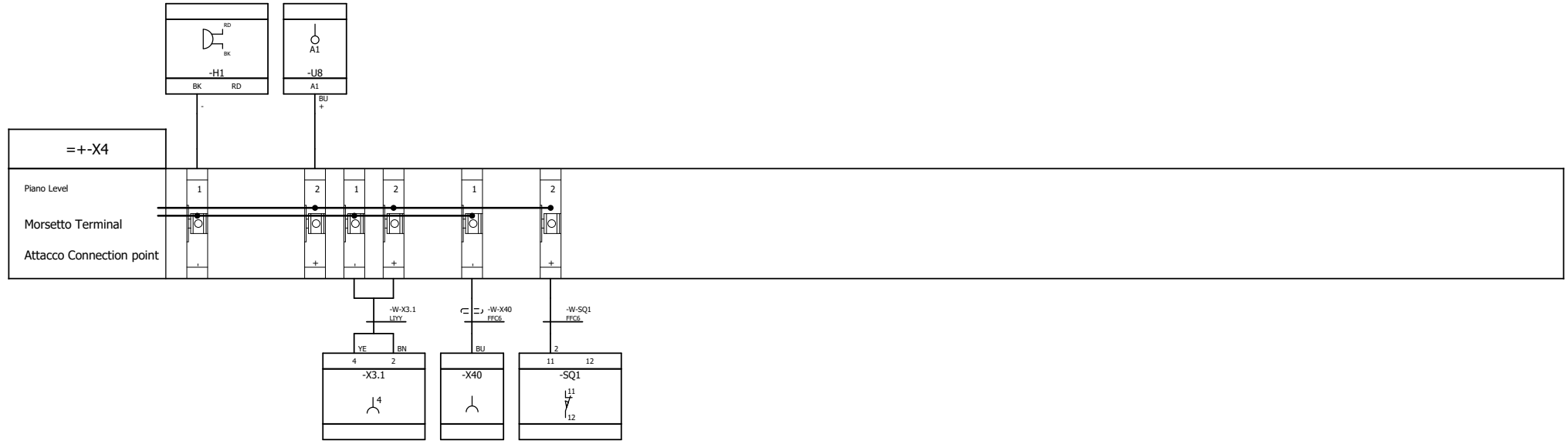
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# Schema allacciamento morsetti

## Terminal-connection diagram

Destinazioni interne  
Internal targets



Destinazioni esterne  
External targets

Fase tavolo  
Table phase

Cella di carico  
Loading cell

Finconca alto  
High Limit switch



Description

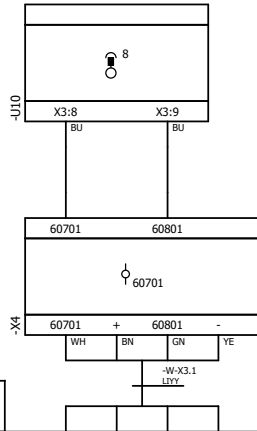
Morsettiera ausiliari  
Aux Terminal strip

|         |                 |      |            |       |    |      |     |      |     |      |     |
|---------|-----------------|------|------------|-------|----|------|-----|------|-----|------|-----|
| Code    | 3709302719      | Date | 12/04/2017 | Total | 28 | Prev | 118 | Subs | 120 | Page | 119 |
| Machine | Freesby 212/214 |      |            |       |    |      |     |      |     |      |     |

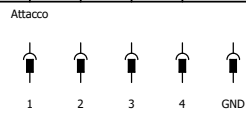
# Schema allacciamento connettori

## Pin-connection diagram

Destinazioni interne



= +-X3.1



Destinazioni esterne

Frise tavola  
Table please  
" " "



Description  
**Connettore basamento**  
**Base connector**

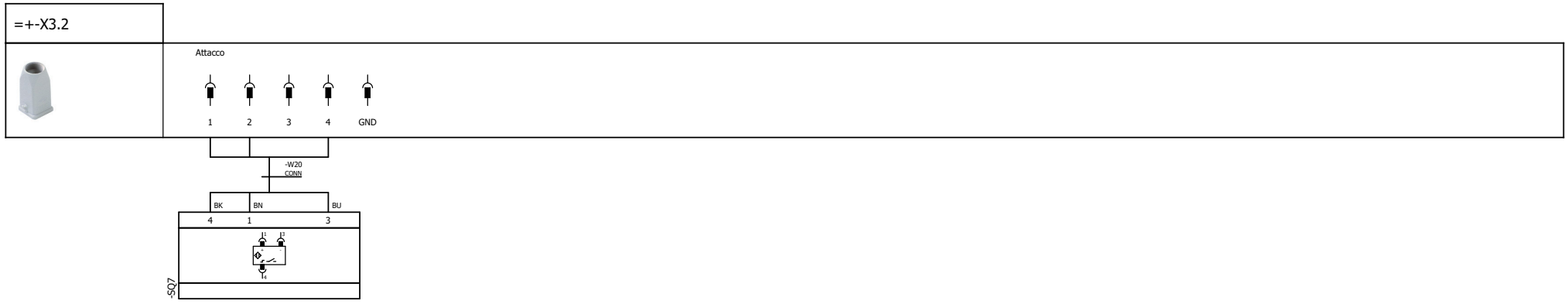
|         |                 |      |            |       |    |      |     |      |     |      |     |
|---------|-----------------|------|------------|-------|----|------|-----|------|-----|------|-----|
| Code    | 3709302719      | Date | 12/04/2017 | Total | 28 | Prev | 119 | Subs | 121 | Page | 120 |
| Machine | Freesby 212/214 |      |            |       |    |      |     |      |     |      |     |



# Schema allacciamento connettori

## Pin-connection diagram

Destinazioni interne



Destinazioni esterne

Frise tavola  
Table please  
|| || ||

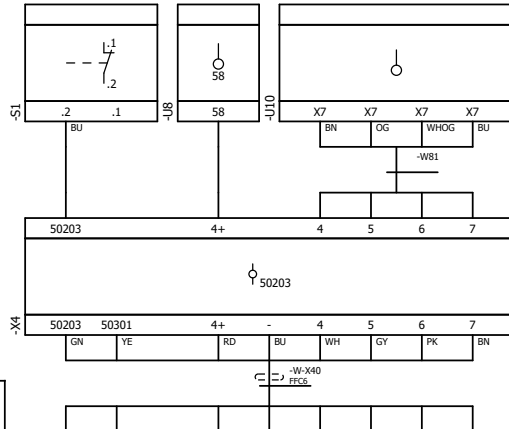


Description  
**Connettore basamento**  
**Base connector**

|         |                 |      |            |       |    |      |     |      |     |      |     |
|---------|-----------------|------|------------|-------|----|------|-----|------|-----|------|-----|
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| Machine | Freesby 212/214 |      |            |       |    |      |     |      |     |      |     |

# Schema allacciamento connettori Pin-connection diagram

Destinazioni interne



= + -X40



Attacco



Destinazioni esterne

Cella di carico  
Loading cell

Forcella altezza prodotto  
Product height sensor



Description

Connettore scheda prestiro  
Prestretch card connector

Code

3709302719

Date

12/04/2017

Total

28

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121

Subs

123

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122

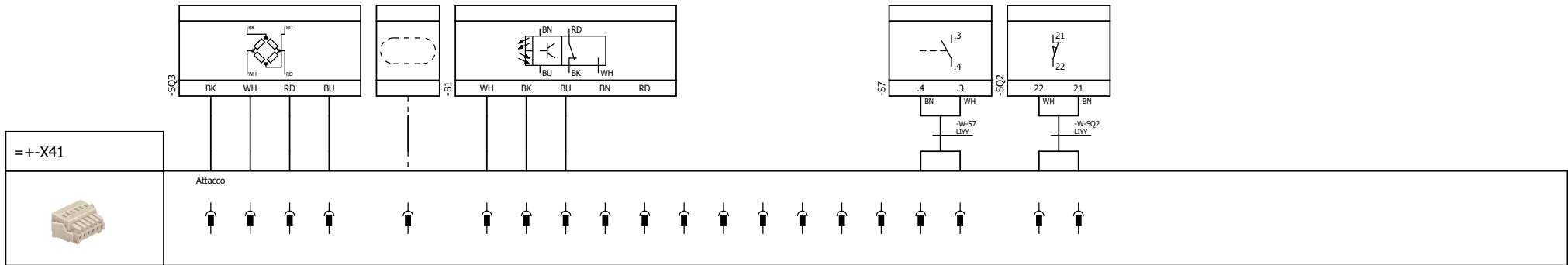
Machine

Freesby 212/214

# Schema allacciamento connettori

## Pin-connection diagram

Destinazioni interne



Destinazioni esterne

Cella di carico  
Loading cell

==

==

==

Fotocellula altezza prodotto  
Product height sensor

==

==

==

==

==

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==

==

==

==

Svolgimento Film  
Film Unrolling

==

Finescorsa emergenza carrello  
Carriage emergency EndStroke

==



Description

Connettore scheda prestiro  
Prestretch card connector

Code

3709302719

Date

12/04/2017

Total

28

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123

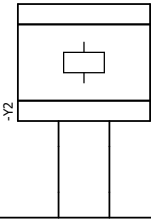
Machine

Freesby 212/214

# Schema allacciamento connettori

## Pin-connection diagram

Destinazioni interne



= + -X42



Attacco



Destinazioni esterne

Taglio  
Cut  
|| || ||



Description

|         |                 |      |            |       |    |      |     |      |  |      |     |
|---------|-----------------|------|------------|-------|----|------|-----|------|--|------|-----|
| Code    | 3709302719      | Date | 12/04/2017 | Total | 28 | Prev | 123 | Subs |  | Page | 124 |
| Machine | Freesby 212/214 |      |            |       |    |      |     |      |  |      |     |